

June 29, 2021

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Transmittal of the Progress of Phase 2 of the Project Lands Evaluation

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Dear Secretary Bose,

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC or Commission) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628-065). On April 12, 2019, FERC issued its Study Plan Determination¹ (SPD) for the Harris Project, approving Alabama Power's ten relicensing studies with FERC modifications. On May 13, 2019, Alabama Power filed Final Study Plans to incorporate FERC's modifications and posted the Final Study Plans on the Harris relicensing website at www.harrisrelicensing.com. Consistent with FERC's April 12, 2019 SPD, Alabama Power filed the Final Phase 1 Project Lands Evaluation Study Report on October 2, 2020, as well as the Project Lands Evaluation Consultation Record from May 2019 through September 2020².

On April 12, 2021, pursuant to the Commission's Integrated Licensing Process (ILP) and 18 CFR § 5.15(f), Alabama Power filed the Harris Project Updated Study Report (USR)³. On June 9, 2021, FERC staff filed comments on the USR and USR Meeting Summary⁴. Attachment A, item 9 of FERC's comments on the USR included the request that Alabama Power file documentation that all of the Phase 2 tasks of the Project Lands Evaluation have been completed for the Shoreline Management Plan (SMP) and Wildlife Management Plan (WMP) and provide the information that was collected in Phase 2 of the Project Lands Evaluation Study with the Preliminary Licensing Proposal (PLP). Additionally, Attachment A, item 10 requests that Alabama Power file the geographic information system (GIS) data associated with the approved study plan to the Commission's eLibrary system with the PLP, including GIS data layers that have been provided on Alabama Power's relicensing website and all other GIS data layers that were developed

¹ Accession No. 20190412-3000

² Accession No. 20201002-5139

³ Accession No. 20210412-5737

⁴ Accession No. 20210609-3045

or collected as part of the approved study plan. FERC requested further that all of the GIS data layers use the same coordinate system and projection to facilitate accurate review of the data.

Alabama Power is filing, concurrently with the PLP, documentation regarding the status of the Phase 2 tasks of the Project Lands Evaluation for the SMP and WMP (Attachment 1). As stated by FERC in its comments on the USR, Alabama Power has not filed a draft SMP or a draft WMP with the Commission. As outlined in the FERC-approved Project Lands Evaluation Study Plan, Phase 2 includes developing a SMP and a WMP to file with the final license application (FLA). As further stated by FERC in its comments, there is no documentation in the record showing that some of the approved tasks associated with Phase 2 of the study have occurred, because as outlined in the FERC-approved Study Plan, the draft SMP and draft WMP and the associated consultation records are to be filed with the final license application. However, in accordance with FERC's request, Alabama Power is filing documentation regarding the status of the Phase 2 tasks, which, in accordance with the FERC-approved study plan, continue to be ongoing. Additional updates regarding the status and progress of the Project Lands Evaluation Study since the October 2, 2020 Phase 1 Final Report filing have also been provided in the October 30, 2020 Progress Report⁵ and in the USR Meeting Summary.

As noted throughout the status update included in Attachment 1, Alabama Power has previously filed GIS data associated with the Project Lands Evaluation. Alabama Power is refiling the following GIS data previously provided on the record for the purpose of providing GIS data that is in the same coordinate systems and projection as well as updating attribute information and data updates:

File Name	Contents
Baseline Classifications.zip	Baseline Project Lands
Proposed Changes.zip	Proposed Changes to Project Lands
LakeHarrisWetlands.zip	Lake Harris Wetlands Data
LakeHarrisTimber.zip	Lake Harris Forest Stand Types
SkylineTimber.zip	Skyline Forest Stand Types

Additionally, the project lands files (baseline and proposed changes) have been updated to incorporate changes and/or corrections to the data since the July 10, 2020 filing, including changes to the project lands proposal. Please note that these files are subject to change following this filing based on comments received on the PLP. GIS files reflecting the project lands proposal to be outlined in the FLA will be included as part of the FLA. As communicated throughout the Harris Relicensing process, please note that the Project Lands shapefiles were created with aerial photography and LiDAR information in order to provide a more accurate depiction of the project boundary. As such, the baseline shapefile is not the same as the FERC-approved boundary but is intended to depict the same information in a more accurate manner. Additionally, data created using other information as a base map (i.e. USGS quad maps) may appear shifted when overlaid.

⁵ Accession No. 20201030-5215

The consultation record (October 2020 – July 2021) documenting the ongoing Phase 2 tasks is included at Attachment 2. Documentation of consultation conducted during Phase 1 of the Project Lands Evaluation Study (May 2019 – October 2020) was filed on the record on October 2, 2020 as part of the Final Phase 1 Project Lands Evaluation Study Report.

If there are any questions concerning this filing, please contact me at arsegars@southernco.com or 205-257-2251.

Sincerely,



Angie Anderegg
Harris Relicensing Project Manager

Attachment 1 – Status of the Phase 2 tasks of the Project Lands Evaluation
Attachment 2 – Consultation Record (October 2020 – June 2021)

cc: Harris Action Team 4 Stakeholder List

Attachment 1
Status of the Phase 2 tasks of the Project Lands Evaluation

Phase 2A – SMP

1. Form a HAT 4 work group for persons interested in working on the SMP.
 - *See consultation record - October 5, 2020 email to HAT 4: “Please note that the Project Lands Evaluation Study Plan outlines the development of WMP and SMP work groups within HAT 4. However, due to the small number of members of HAT 4, Alabama Power anticipates that the majority of HAT 4 members will participate in the development of both plans. Therefore, no HAT 4 work groups will be formed, and both documents will be developed in consultation with all of HAT 4.”*
2. Review existing and develop new, if applicable, Best Management Practices (BMPs) and evaluate how these BMPs would apply to the different land classifications.
 - *See consultation record for drafts of the SMP (which incorporate shoreline BMPs) as emailed to HAT 4 on various occasions, as well as meeting notes from HAT 4 meetings discussing the drafts.*
3. Review the Harris Guidelines for Shoreline Permitting; discuss potential modifications.
 - *See consultation record for drafts of the SMP (which incorporate the “General Guidelines for Residential Shoreline Permitting and Permit Terms and Conditions”) as emailed to HAT 4 on various occasions, as well as meeting notes from HAT 4 meetings discussing the drafts.*
4. Alabama Power will incorporate information regarding northern long-eared and Indiana bats by referencing the Alabama Natural Heritage Program and the U.S. Fish and Wildlife Service (USFWS) Alabama Ecological Services Field Office to determine locations of known maternity roost trees and hibernacula within the Project Vicinity (including determining buffer zones within a 150-foot radius of known maternity roost trees and buffer zones of 0.25 mile from known, occupied hibernacula that overlap with the Project Boundary) in order to develop provisions for regular and planned tree-removal activities (e.g., associated with timber management, shoreline management, recreation site maintenance or enhancement, etc.).
 - *See consultation record for drafts of the SMP (which incorporate a sensitive resources designation used in conjunction with the shoreline classifications for the protection of sensitive resources, including threatened and endangered species) as emailed to HAT 4 on various occasions, as well as meeting notes from HAT 4 meetings discussing the drafts.*
 - *Alabama Power, in consultation with the U.S. Fish and Wildlife Service, is evaluating tree-removal activities, potential impacts to the Northern Long-eared Bat and Indiana Bat, and necessary protection, mitigation, and enhancement measures in the development of the Wildlife Management Plan.*
5. Incorporate the Aquatic Nuisance Vegetation and Vector Control Program into the SMP.
 - *As outlined in the USR, Alabama Power conducted a Nuisance Aquatic Vegetation Survey as part of the Erosion and Sedimentation Study. The results of this survey were provided in appendix F of the Final Erosion and Sedimentation Study Report (Accession No. 20210412-5752). Because the management of Aquatic Nuisance Vegetation and Vector Control extends beyond shoreline management practices, Alabama Power will develop a separate plan rather than incorporate the program into the SMP. The development of this additional plan is included as a separate Protection, Mitigation, and Enhancement measure within the Preliminary Licensing Proposal (being filed concurrently with this update).*

6. Alabama Power will develop a detailed description of existing vegetation management practices throughout the Project Area, which will include information on such practices at the project recreation sites, access roads, transmission line rights-of-way, and other project facilities. Additionally, information about the goals, objectives, and methods (e.g., manual, mechanical, or chemical treatments, regular plantings) used in each area, frequency of treatments, and any monitoring that is conducted will be compiled and included in the Final Project Lands Evaluation Study Report.
 - *Because these vegetation management practices extend beyond shoreline management to include recreation sites, access roads, and transmission line rights-of-way, this information will not be included in the SMP but will be provided within Exhibit E of the final license application.*
7. Include existing Alabama Power policies for the Harris Project (i.e., dredging, primitive camping);
 - *See consultation record for drafts of the SMP (which incorporate Alabama Power's Shoreline Management Policies) as emailed to HAT 4 on various occasions, as well as meeting notes from HAT 4 meetings discussing the drafts.*
8. Incorporate results of the botanical inventory of a 20-acre parcel at Flat Rock Park (Inventory completed by February 2020) into the Draft SMP.
 - *The results of the 20-acre and the 35-acre botanical inventories have been incorporated into the Project Lands proposal to support the proposed reclassification of the area from Recreation to Natural Undeveloped. See the consultation record for drafts of the SMP (which incorporate provisions for the protection of environmentally sensitive areas under the Natural Undeveloped definition) as emailed to HAT 4 on various occasions, as well as meeting notes from HAT 4 meetings discussing the drafts.*
9. Develop a Draft SMP to file with the final license application.
 - *As discussed throughout this update, Alabama Power continues to work on the draft SMP and will include it as part of the final license application.*

Phase 2B - WMP

1. Form a HAT 4 work group for persons interested in working on the WMP. This HAT will likely include agency representatives from Alabama Department of Conservation and Natural Resources (ADCNR), ADEM, USFWS, and other interested groups/individuals.
 - *See consultation record - October 5, 2020 email to HAT 4: "Please note that the Project Lands Evaluation Study Plan outlines the development of WMP and SMP work groups within HAT 4. However, due to the small number of members of HAT 4, Alabama Power anticipates that the majority of HAT 4 members will participate in the development of both plans. Therefore, no HAT 4 work groups will be formed, and both documents will be developed in consultation with all of HAT 4."*
2. In preparation for facilitated meetings, Alabama Power will prepare GIS overlays that depict the following:
 - lands within the Project Boundary and current land use classifications for those lands (from Phase 1);
 - *GIS data was previously provided in Alabama Power's response to ISR Disputes or Requests for Modifications of Study Plan (Accession No.*

- 20200710-5122). This data is the same as the data also provided on the Harris Relicensing website. Alabama Power provided this data on its website in addition to filing it on eLibrary in order to provide an easier method for stakeholder download.
- Two GIS files regarding the land use classifications (baseline and proposal) are being provided as part of this response for the purpose of providing GIS data that is in the same coordinate systems and projection as other GIS data files included within this filing. Additionally, these GIS files have been updated to incorporate changes and/or corrections to the data since the July 10, 2020 filing, including changes to the project lands proposal. Please note that these files are subject to change following this filing based on comments received on the PLP. GIS files reflecting the project lands proposal to be outlined in the final license application (FLA) will be included as part of the FLA.
 - As communicated throughout the Harris Relicensing process, please note that the Project Lands shapefiles were created with aerial photography and LiDAR information in order to provide a more accurate depiction of the project boundary. As such, the baseline shapefile is not the same as the FERC-approved boundary but is intended to depict the same information in a more accurate manner. Additionally, data created using other information as a base map (i.e. USGS quad maps) may appear shifted when overlaid.
 - forest stand data showing cover type, composition, and age of forest stands within the Project Boundary;
 - GIS data was previously provided on the record as part of Alabama Power's response to FERC's request for additional information on the Harris Preliminary Application Document (Accession No. 20181113-0016, item #6). More recently, forest stand data was also provided on the record as part of the Final Threatened and Endangered Species Report (Accession No. 20210129-5393). The data within the T&E Report is the same as the data also provided on the Harris Relicensing website. Alabama Power provided this data on its website in addition to filing it on eLibrary in order to provide an easier method for stakeholder download.
 - Two GIS files regarding forest stand data (Lake Harris and Skyline) are being provided as part of this response for the purpose of providing GIS data that is in the same coordinate systems and projection as other GIS data files included within this filing. Additionally, the attributes within these GIS files have been updated to provide more detail.
 - As communicated throughout the Harris Relicensing process, please note that the Project Lands shapefiles were created with aerial photography and LiDAR information in order to provide a more accurate depiction of the project boundary. Additionally, data created using other information as a base map (i.e. USGS quad maps) may appear shifted when overlaid.
 - current timber management objectives and any existing BMPs;
 - not applicable; GIS data was not necessary to develop these items.

- locations of known populations of T&E species; Alabama Power will incorporate information regarding northern long-eared and Indiana bats by referencing the Alabama Natural Heritage Program and the USFWS Alabama Ecological Services Field Office to determine locations of known maternity roost trees and hibernacula within the Project Vicinity (including determining buffer zones within a 150-foot radius of known maternity roost trees and buffer zones of 0.25 mile from known, occupied hibernacula that overlap with the Project Boundary) in order to develop provisions for regular and planned tree-removal activities (e.g., associated with timber management, shoreline management, recreation site maintenance or enhancement, etc.);
 - *There are no known populations of T&E species within the Harris Project Boundary. Information and GIS data regarding habitat ranges of T&E species that overlap with the Harris Project Boundary was provided as part of the Final Threatened and Endangered Species Report (Accession No. 20210129-5393). Because there are no known populations within the Harris Project Boundary, no T&E GIS data was utilized in developing the WMP.*
 - *See consultation record for drafts of the WMP (as emailed to agencies and HAT 4), as well as meeting notes from meetings discussing the various components of the draft WMP, including consultation with USFWS regarding tree-removal activities and federally listed bat species. Alabama Power continues to work on the WMP and will file the final draft with the FLA. .*
- acreage at Skyline that may be suitable for bobwhite quail habitat (if such habitat exists);
 - *Not applicable, as stated in Section 4.0 of the Final Phase 1 Project Lands Evaluation Report filed on October 2, 2020 (Accession No. 20201002-5139). An evaluation to identify potential habitat sites within the Skyline Project Boundary was conducted, and the qualitative assessment of the site indicated that it would not currently support bobwhite quail.*
- impaired waters list; and
 - *Alabama's 303(d) Impaired Waters List (ADEM 2020) was referenced, which is tabular data and is not in GIS format.*
- characterization and composition of riparian, wetland, and littoral habitats within the Project Boundary.
 - *The consideration of riparian and littoral habitats in relation to the Project Lands Evaluation was qualitative. No GIS data was created for these types of habitats.*
 - *Wetlands GIS data was previously provided as part of Alabama Power's response to FERC's request for additional information on the Harris Preliminary Application Document (Accession No. 20181113-0016, item #9). This data is being provided again as part of this response for the purpose of providing GIS data that is in the same coordinate systems and projection as other GIS data files included within this filing.*
 - *As communicated throughout the Harris Relicensing process, please note that the Project Lands shapefiles were created with aerial photography and LiDAR information in order to provide a more accurate depiction of the*

project boundary. Additionally, data created using other information as a base map (i.e. USGS quad maps) may appear shifted when overlayed.

3. Alabama Power will facilitate HAT 4 work group meetings to collaborate on developing a WMP using information obtained during this study.
 - *See consultation record for drafts of the WMP (as emailed to agencies and HAT 4), as well as meeting notes from meetings discussing the various components of the draft WMP.*
4. Develop provisions for regular and planned tree-removal activities (e.g., associated with timber management, shoreline management, recreation site maintenance or enhancement, etc.).
 - *See consultation record for drafts of the WMP (as emailed to agencies and HAT 4), as well as meeting notes from meetings discussing the various components of the draft WMP.*
5. Develop a WMP to file with the license application.
 - *Alabama Power continues to work on the WMP and will include it as part of the final license application.*

Attachment 2
Consultation Record (October 2020 – June 2021)

HAT 4 - Final Phase 1 Project Lands Evaluation Study Report and Upcoming HAT 4 meeting

APC Harris Relicensing <ARSEGARS@southernco.com>

on behalf of

APC Harris Relicensing <g2apchr@southernco.com>

Mon 10/5/2020 4:59 PM

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>

 2 attachments (951 KB)

2020-10-05 DRAFT Harris SMP.pdf; 2020-10-05 DRAFT Annotated Outline Harris WMP.pdf;

HAT 4,

Last Friday, Alabama Power filed the Final Phase 1 Project Lands Evaluation Study Report with FERC. This final report can be found on the Harris relicensing website in the [HAT 4 folder](#) and on [FERC elibrary](#).

Additionally, please join us for a HAT 4 meeting on October 19th, from 09:00 to 11:00 (call in information is provided below) to discuss the Shoreline Management Plan and the Wildlife Management Plan. Please note that the Project Lands Evaluation Study Plan outlines the development of WMP and SMP work groups within HAT 4. However, due to the small number of members of HAT 4, Alabama Power anticipates that the majority of HAT 4 members will participate in the development of both plans. Therefore, no HAT 4 work groups will be formed, and both documents will be developed in consultation with all of HAT 4.

Please review the attached documents, and comments or questions will be discussed during the October 19th call. In addition, written comments or questions can be submitted to harrisrelicensing@southernco.com by November 2, 2020.

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Thanks,

Angie Anderegg

10/7/2020

Mail - APC Harris Relicensing - Outlook

Hydro Services
(205)257-2251
arsegars@southernco.com

WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

ANNOTATED OUTLINE

Prepared by:



Birmingham, Alabama

September 2020

WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
(FERC No. 2628)
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power Company (Alabama Power) is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations.

[Additional information describing the development of the WMP, including stakeholder consultation, will be added here.](#)

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary (Figure 1-1). This



Commented [TLM1]: Note to HAT 4:

All acreages will be updated in the final version to reflect any changes included in the license proposal.

includes land to 795 feet mean sea level (msl)¹, as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama (Figure 1-2). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan. These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only; Harris Dam refers to the dam, spillway, and powerhouse. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

Lake Harris and Skyline are located within two river basins: the Tallapoosa and Tennessee River Basins, respectively. The only waterbody managed by Alabama Power as part of their FERC license for the Harris Project is the Harris Reservoir.

¹ Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

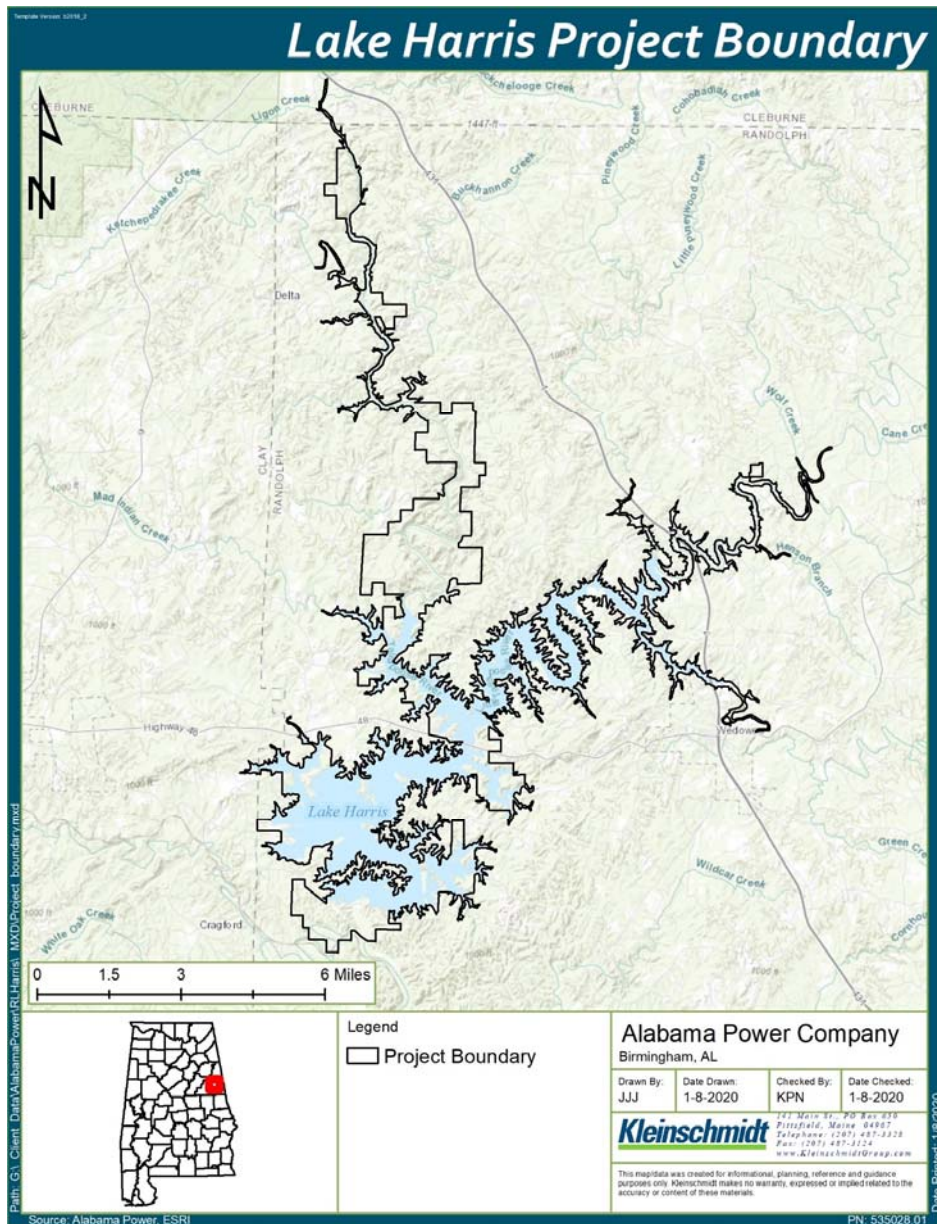


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

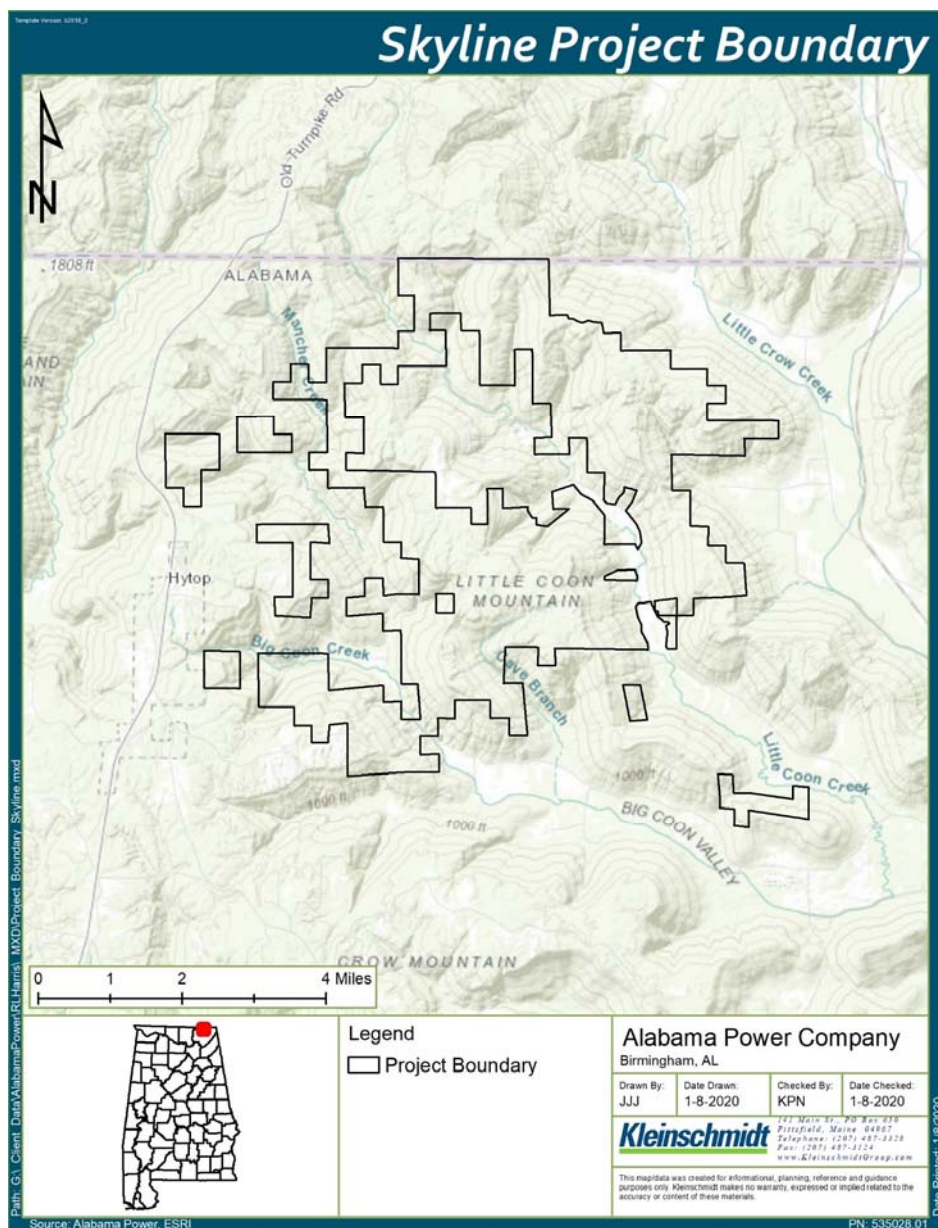


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities currently in place in the Project into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

This section will discuss the history of FERC-approved plans (1988 Wildlife Mitigation Plan and 1989 Skyline Wildlife Management Plan) under the previous license.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

This section will include a description of resources at Lake Harris (i.e. typical upland and semi-aquatic wildlife species and habitat).

3.2.1 WILDLIFE RESOURCES

3.2.2 BOTANICAL RESOURCES

3.2.3 RIPARIAN AND LITTORAL HABITAT

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

This section will include a description of resources at Skyline (i.e. typical upland and semi-aquatic wildlife species and habitat).

3.3.1 WILDLIFE RESOURCES

3.3.2 BOTANICAL RESOURCES

3.3.3 RIPARIAN AND LITTORAL HABITAT

4.0 WILDLIFE MANAGEMENT OBJECTIVES

This section will outline the plan's objectives. Each objective will be discussed in detail within subsequent sections of this document. Examples of possible objectives are included below. Additional objectives may be identified during consultation.

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of project lands as wildlife habitat;
- 3) Management of public hunting areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

This section will discuss the protection and enhancement of shoreline habitat that will be accomplished through the implementation of the proposed SMP.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

This section will discuss the implementation of a GIS-based shoreline classification system to guide future management actions and to protect natural resources, including wildlife habitat.

5.1.2 SHORELINE BUFFERS

This section will discuss the BMPs pertaining to the preservation or establishment of shoreline buffer zones of unmanaged vegetation around the reservoir, as discussed in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

This section will discuss the planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization, as specified in the SMP.

6.0 TIMBER MANAGEMENT

This section will discuss historic and current timber management practices for both Lake Harris and Skyline, including selective cutting, natural regeneration, and planting.

Additionally, timber stand composition for both Lake Harris and Skyline will be outlined, including percent cover and acreage.

6.1 MANAGEMENT ACTIONS

This section will discuss continuing timber management practices (for both Lake Harris and Skyline), including selective cutting, natural regeneration, and planting.

This section will also incorporate information regarding northern long-eared and Indiana bats.

This section will also discuss information regarding impaired waters, if applicable.

7.0 HARRIS PHYSICALLY DISABLED HUNTING AREAS

This section will discuss the background information regarding physically disabled hunting areas at Harris.

7.1 MANAGEMENT ACTIONS

This section will outline management actions, such as planting/maintaining greenfields and the construction/maintenance of shooting houses and access roads.

8.0 REFERENCES

[This section will include citations for any references used within this Plan.](#)

SHORELINE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

August 2020

SHORELINE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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GLOSSARY OF SHORELINE TERMS AND DEFINITIONS

TERM	DEFINITION
Abandoned structure	A dock, walkway, or other shoreline structure which is free floating, unidentified, and unpermitted and has drifted onto Alabama Power Company shoreline property.
Alabama Power	Alabama Power Company (APC)
Alabama Power Fee Simple Lands	Lands owned wholly by the Alabama Power Company.
Bank / shoreline stabilization	Any activity intended to reduce the amount of erosion on the reservoir boundary (<i>e.g.</i> , installation of sea walls, riprap, and vegetation).
BMP	Best Management Practice(s) – On-site actions generally taken by property owners to lessen impacts to a particular resource which is the result of direct or indirect use of that resource.
Boat dock	A facility for storing or mooring watercraft.
Boat ramp	A boat launch used to back a trailer into the water in order to float a vessel.
Boat slip	A fixed or floating unroofed structure, confined on three sides, used for temporary or permanent storage and/or mooring of a watercraft.
Boathouse	A fixed or floating roofed structure on Project lands and waters designed for permanent or temporary watercraft storage.
Buffer	A naturally managed vegetative filter strip designed to minimize the impacts of developed areas on natural resources.
Buffer Zone	An area of land specifically designed to separate one zoning use from another, such as separating a residential neighborhood from an industrial area.
Causeways	A man-made connection between the reservoir shoreline and an island.
Channelization	The process of diverting project waters to create an artificial waterway.
Commercial recreation facilities	Shoreline facilities operated for profit (<i>e.g.</i> , marinas, boat ramps/launches).
Cultural resources	Sites, items, and structures of historical, archaeological, or architectural significance.
Dilapidated structure	Privately-owned shoreline structures and/or facilities affixed to an adjoining landowner's property that are no longer serviceable.

TERM	DEFINITION
Dredging	The process of removing silt, soil or other rock material from within the full pool elevation of the Project as authorized by the Federal Energy Regulatory Commission.
Encroachment	Any use or occupancy of Project lands for which the user does not have the necessary rights or permission.
Erosion	The scouring of land or soil by the action of wind, water, or ice.
FERC	Federal Energy Regulatory Commission - An independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC is responsible for licensing non-federal hydropower Projects in the U.S.
Filling	The process of depositing soil or other materials in an area.
Gabion	Construction technique using wire mesh forms filled with rock, or concrete that often is used on shorelines and in streams to prevent erosion and provide foundational or structural support for nearby structures or soils.
Habitat	The locality or external environment in which a plant or animal normally lives and grows.
Legacy structures	Structures that predate Alabama Power's current shoreline permitting program that may or may not conform to current "General Guidelines for Shoreline Permitting".
Natural vegetation management	Preserving native trees, shrubs, and other plants in their natural state by limiting removal, trimming, and clearing. The intent of this set of practices is to improve soil retention, slow and filter storm water, and provide cover and forage for native species.
Non-conforming structure	A structure that does not meet Alabama Power's current "General Guidelines for Shoreline Permitting."
Operating license	The terms and conditions in which Alabama Power is granted permission by FERC to operate its hydroelectric Projects.
Permit	The written authorization from Alabama Power to an individual or entity, allowing performance of a specific activity, placement, or use of a structure and/or facility on Project lands.
Permitted facilities	Structures and/or facilities that have been approved and permitted by Alabama Power.
Permittee	The holder of a permit approved and issued by Alabama Power.
Pier	A structure, generally providing recreational access from land to water.
Project	The lands, equipment and facilities necessary to operate a FERC licensed hydroelectric facility.
Project boundary	A line established by FERC to define the lands, waters, and structures needed to operate a licensed hydroelectric Project.

TERM	DEFINITION
Project lands	Lands within the FERC-designated Project Boundary.
Project operations	A shoreline classification that allows for limited public use. May also refer to the actual operation of the hydroelectric facility.
Rain garden	A perennial garden planted with locally adapted plants and flowers that are positioned between storm water runoff sources (roofs, driveways, parking lots) and destinations (storm drains, streets, and creeks). Rain gardens are designed to capture, retain and provide infiltration opportunities for storm water runoff, while plants and flowers remove pollutants from runoff.
Reservoir	A man-made lake into which water flows and is stored for future use and is controlled in accordance with the FERC license and U.S. Army Corps of Engineers manual, if appropriate.
Relicensing	The administrative proceeding in which FERC, in consultation with other federal and state agencies and interested stakeholders, decides whether and on what terms to issue a new license for an existing hydroelectric Project.
Riprap	Layer of large, durable materials (usually rocks) used to protect the reservoir shoreline boundary from erosion; may also refer to the materials used.
Runoff	Water from rain, melted snow, landscaping irrigation, and other sources that flows over land and into local creeks, streams, and waterways.
Seawall	A structure of stone, concrete, wood or other sturdy material built along the shoreline to prevent erosion and/or to hold back soil on steep slopes (also known as “bulkhead”).
SMP	Shoreline Management Plan.
Shoreline classification	A system of land use categories based on existing and potential future land use, ownership, and resource value. Used as a planning tool to help provide an overall framework for long-term shoreline management activities and development.
Shoreline Compliance Program (SCP)	A program initiated by Alabama Power to ensure compliance of activities that occur on Project shorelines and to implement the SMP. The six-component program includes (1) a shoreline permitting program; (2) structure identification, assessment, and resolution; (3) public education and communication; (4) a surveillance program; (5) shoreline litigation; and (6) shoreline preservation initiatives.
Shoreline development	A general reference to the many structures and uses which may be present along reservoir shorelines including homes and commercial, industrial, private philanthropic and recreational developments.

TERM	DEFINITION
Stakeholders	Private citizens, community groups, non-governmental organizations, and State and Federal agency representatives with interest in shoreline management activities.
Use and Occupancy	A license article, also referred to as the Standard Land Use Article, in Alabama Power's existing operating license(s) guiding Alabama Power's authority to grant permission for certain types of use and occupancy of Project lands and waters and convey certain interests in Project lands and waters.

SHORELINE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
(FERC No. 2628)
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

1.0 INTRODUCTION

The Alabama Power Company (Alabama Power) manages its hydroelectric reservoir shorelines and project lands to comply with its Federal Energy Regulatory Commission (FERC) operating licenses and to serve the greater public interest by providing recreational access, protecting wildlife habitat, producing low cost electricity, and preserving cultural as well as aesthetic resources. In an effort to guide existing and future management actions within the boundary established by FERC for the R.L. Harris Hydroelectric Project (“the Harris Project” or “the Project”), Alabama Power developed this Shoreline Management Program (SMP). This SMP was developed in accordance with established FERC guidelines for developing Shoreline Management Programs and in cooperation with relicensing stakeholders, including federal and state regulatory agencies, interested non-governmental organizations (NGOs), and concerned citizens. The SMP is submitted as a part of Alabama Power’s R.L. Harris Hydroelectric Project Application for a New License, (License Application) filed with FERC in 2021. The SMP was developed in consultation with the Harris Action Team (HAT) 4. A detailed listing of those individuals, their affiliation, and meeting dates, along with a list of their comments on the draft SMP, is provided in Appendix A. Along with developing the SMP, HAT 4 members also reviewed Alabama Power’s proposal for adding, removing, and reclassifying lands within the Project Boundary as well as the draft Wildlife Management Plan. The results of adding, removing, and reclassifying lands are detailed in Exhibit E of the License Application, and the draft Wildlife Management Plan is provided as well.

The Harris SMP is modeled after the Martin Dam Project (FERC No. 349) and Warrior River Project (FERC No. 2165) SMPs with the overall objective for Alabama Power to have a uniform system for managing the Project shorelines across all Alabama Power hydroelectric projects.

1.1 PROJECT DESCRIPTION

Alabama Power owns and operates the Harris Project, FERC Project No. 2628, licensed by FERC. Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam. The lands adjoining the reservoir total approximately 7,392 acres, comprised of 367 miles of shoreline, and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)¹, as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of project lands within the James D. Martin-Skyline Wildlife Management Area located in Jackson County, Alabama. These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan.

The only waterbody managed by Alabama Power as part of its FERC license for the Harris Project is the Harris Reservoir. Therefore, because the project lands at Skyline are not on a waterbody, these lands are not a part of this SMP. Management of these Project lands is outlined in the Harris Wildlife Management Plan, and the term “Project Boundary” within this document refers to only those Project lands located at Lake Harris.



Commented [TLM1]: Note to HAT 4:

All acreages will be updated in the final version to reflect any changes included in the license proposal.

¹ Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

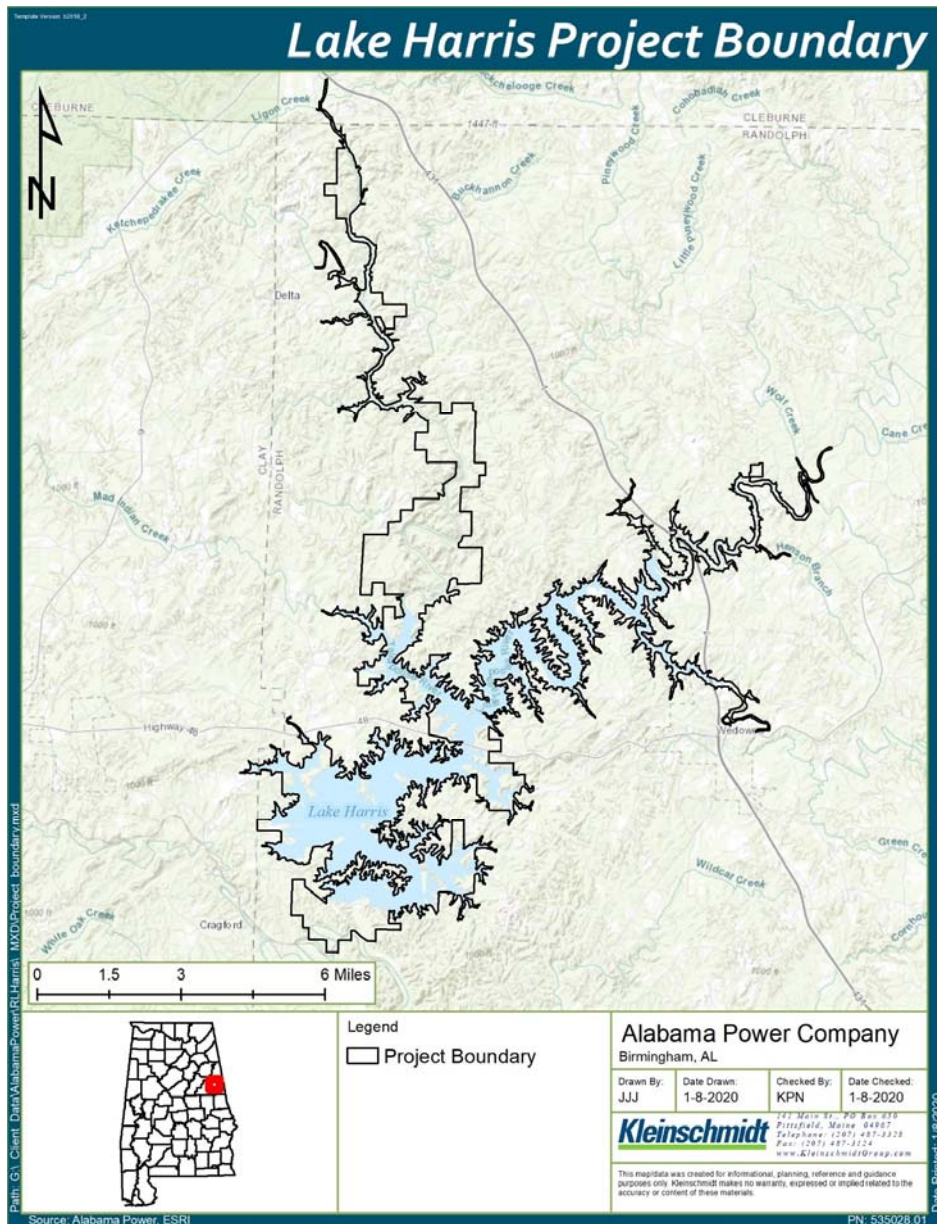


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

2.0 PURPOSE AND GOALS OF THE SHORELINE MANAGEMENT PLAN

This SMP serves as a comprehensive guide for managing Project shoreline lands consistent with license requirements and Project purposes. The overarching goal of the SMP is to ensure that shoreline development is consistent with the protection and enhancement of environmental, scenic, cultural, and recreational values, while ensuring the continued safe and reliable production of hydroelectric power at the Project.

General goals discussed under this SMP include the following:

- facilitate compliance with license articles;
- provide for reasonable public access;
- protect fish and wildlife habitat;
- protect cultural resources;
- protect operational needs;
- minimize adverse impacts to water quality;
- minimize erosion;
- minimize sedimentation
- minimize adverse scenic effects; and
- guide shoreline development.

The above goals are achieved through the implementation of this SMP as well as through the implementation of several related relicensing management plans. A variety of protection, mitigation, and enhancement measures agreed to by Alabama Power and the HATs as well as the enforcement of applicable federal, state, and local laws and regulations also serve to achieve the goals outlined in this plan².

² The SMP itself, along with its proposed BMPs, land classifications, and changes to the permitting program, all encompass protection, mitigation, and enhancement measures. There are also many proposals being put forth in the License Application that protect, mitigate, and enhance, directly or indirectly, shoreline resources.

3.0 SHORELINE MANAGEMENT POLICIES

The overarching Shoreline Conservation Policy and the following shoreline management policies are designed to guide existing and future shoreline management actions at the Project.

3.1 SHORELINE CONSERVATION POLICY

Alabama Power created the following policy to help guide future shoreline management actions. This policy provides a general statement affirming Alabama Power's position on shoreline resources, as follows:

Alabama Power Company actively promotes the conservation and protection of Project shoreline lands and their associated scenic, cultural, recreational, and environmental values.

Working cooperatively with other parties, Alabama Power will implement this policy through a combination of regulatory and voluntary actions. Regulatory actions include the enforcement of existing state and federal regulations including, but not limited to, the Clean Water Act, Endangered Species Act, Wetlands Protection Act, National Historic Preservation Act, and the Federal Power Act. Regulations under these statutes are enforced by the appropriate state and federal resource agencies working in cooperation with Alabama Power and Alabama Power's Shoreline Compliance Program (SCP), which is discussed in Section 5.0. Alabama Power will work with other parties, including private property owners, to promote a set of shoreline best management practices (BMPs) designed to protect and enhance valuable shoreline resources in addition to resources specifically protected by existing laws and regulations.

In addition to the overall policy to guide shoreline management actions, several other key policies have been incorporated to support and uphold management decisions concerning the Project.

3.2 SHORELINE MANAGEMENT POLICIES

Bank Stabilization: Considerable concern has been expressed regarding the use of seawalls for bank stabilization on Alabama Power lakes. Such structures typically impact aquatic habitat (and provide little aquatic habitat value), often increase run-off (particularly if all woody vegetation is removed), and are not sustainable without continued, long-term maintenance. In many cases, such structures can degrade bank stability over time, either at the site of construction or adjacent to it.

Riprap and natural bank stabilization are the preferred methods of erosion control; however, use of seawalls will be evaluated and may be approved on a case-by-case basis. Alabama Power generally restricts the use of new seawalls to areas where there is:

- evidence of significant active erosion,
- high potential for substantial wave action (due to the area's location on open waters),
- heavy and/or frequent boat traffic,
- a previously installed seawall which has failed,
- a combination of the above.

Alabama Power Company encourages the use of alternative bank stabilization techniques other than seawalls. Such alternatives include, but are not limited to, riprap, bioengineering techniques, natural vegetation with riprap, and gabions. Alabama Power requires, as a condition of a permit, that any future seawall proposals include the placement of riprap, for fish and other semi-aquatic species habitat and increased stability, in front of the seawall. Only in very limited cases where the Alabama Power regional coordinator is convinced that riprap would not be an effective source of bank stabilization, or would be economically unfeasible, would seawalls without riprap be permitted.

Dredging: Alabama Power conducts its dredging activities in accordance with the July 6, 2011 FERC-approved Dredge Permit Program (Appendix B) and its operating licenses. The Dredge Permit Program was developed in consultation with the U.S. Army Corps of Engineers (USACE) and other agencies and covers all of Alabama Power's hydroelectric Projects on the Warrior,

Coosa, and Tallapoosa Rivers. The program establishes the process and procedures for permittees seeking to obtain direct authorization from Alabama Power for dredging activities up to 500 cubic yards (CY) of material (below the full pool elevation). The Program is not intended to cover applications for dredging on lands determined to be “sensitive” as described in Section 4.2 and as noted within each Project’s respective SMP.

Dredging may be allowed but will be restricted in and around sensitive resource areas. Requests for dredging will be considered on a case-by-case basis and must be approved by Alabama Power prior to the initiation of any dredging activities.

Channelization: Alabama Power receives numerous inquiries from property owners adjacent to its reservoirs concerning the excavation of channels and sloughs to create additional shoreline. Typically, these proposals involve removal of soil adjacent to the reservoir in order to divert Project waters onto non-project land for developmental purposes. Any such changes to the shoreline constitute a deviation from Alabama Power's FERC-approved project boundary maps and can have significant impacts to fish and wildlife habitat. In addition, allowing channelization can lead to uncontrolled development of Project lands and waters and can create conflict between adjoining property owners.

It is the policy of Alabama Power to prohibit channelization on its reservoirs. This general prohibition includes channelization proposals by both private and commercial interests. Alabama Power's channelization policy is an important element of Alabama Power's efforts to best manage Project lands and waters consistent with its FERC-issued licenses, to control shoreline development, and to protect habitat and other natural resource features of these Projects.

Water Withdrawals: Alabama Power impounds a substantial amount of water in its project reservoirs and, as a result, various entities seek permission to use these reservoirs to meet municipal, industrial, and agricultural water supply needs. Since these withdrawals require the use of Alabama Power's Project lands and waters, FERC has jurisdiction over these "joint uses." For this reason, FERC has included provisions in Alabama Power's license that require Alabama Power to obtain FERC authorization before permitting a water withdrawal greater than 1 million

gallons per day (mgd) from a Project reservoir. FERC has delegated approval authority to Alabama Power for joint uses of 1 mgd or less. Furthermore, the license states that Alabama Power may receive reasonable compensation for the impacts of the withdrawal of water from the Project. Through either specific FERC authorization or through its delegated authority, Alabama Power has approved numerous water withdrawals from its Project reservoirs and has charged withdrawers a reasonable cost for the resulting impacts on Alabama Power's hydroelectric lands and operations, consistent with these license provisions. Among other things, the compensation policy is intended to encourage conservative use of water and promote the development of additional water storage facilities in Alabama.

It is the policy of Alabama Power to evaluate each application for permission to withdraw water from its Project reservoirs, and, in appropriate circumstances, seek FERC authorization to permit water withdrawals on Project lands. In accordance with the provisions of its licenses, Alabama Power will receive reasonable compensation, as applicable, for water withdrawals. This reasonable compensation may include administrative costs, the replacement cost of the energy lost as a result of the withdrawal and the replacement cost of the storage in the reservoir allocated to the withdrawer. Adjacent single-family home uses, such as lawn/garden watering or other similar de minimus uses are excluded from this policy.

Causeways: Many of Alabama Power's reservoirs have islands which lie relatively close to the shore of the mainland or other islands. From time to time, Alabama Power receives a request for permission to construct a causeway to connect an island to the mainland or other islands to facilitate development or some other use. In most cases, creating a causeway involves placing fill material within Alabama Power's reservoir. Filling of Project lands and waters may destroy fish habitat, impair navigability, and reduce the available storage in the reservoir for power generation and flood control. In addition, changes to the shoreline caused by the construction of causeways constitute a deviation from FERC-approved Project maps and exhibits.

It is the policy of Alabama Power to prohibit the creation of causeways on its reservoirs to connect islands to the mainland or to other islands. This policy is

intended to protect the integrity of the existing Project features and shoreline, as well as fish habitat, navigation, and Project operations. When Alabama Power receives an inquiry concerning the construction of a causeway, Alabama Power will work with the property owner to investigate potential alternatives that may be acceptable to Alabama Power and FERC.

4.0 SHORELINE MANAGEMENT CLASSIFICATIONS

Alabama Power’s shoreline classifications for the Project are based on an evaluation of existing land use, land ownership, and knowledge regarding shoreline resource values. Descriptions of the shoreline classifications, descriptions of allowable and prohibited uses for each of the classifications, and a table depicting the acreage in each classification are described in detail below.

4.1 SHORELINE CLASSIFICATION SYSTEM

In consultation with stakeholders and agencies, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary. The shoreline classifications are based on an evaluation of existing and potential land use. Information about current use of land abutting the Project Boundary provided a baseline for determining the most appropriate designations for shoreline property within the Project Boundary. For example, the presence of a residential area immediately outside of an undeveloped strip of land within the Project Boundary generally would preclude classifying that Project land as Natural/Undeveloped. Appendix C provides the shoreline classification maps for each Project development.

The eight shoreline classifications for the Project lands are defined below.

4.1.1 PROJECT OPERATIONS

This classification includes Project lands reserved for current and potential future operational activities. This includes all Project lands used for hydroelectric generation, switchyards, transmission facilities, rights-of-way, security, and other operational uses. Alabama Power owns these lands in fee simple title. For security, the allowable uses in this classification are primarily restricted to Alabama Power personnel; however, in some cases, such as guided public tours, limited public access is available. XXXX acres of land are classified for Project Operations.

4.1.2 RECREATION

This classification includes Project lands managed by Alabama Power for existing or potential future recreational activities. This includes land that is developed for public recreation, open space, water access, and future recreational development. Alabama Power typically owns these lands in fee simple title, but they may be operated by a third party under a lease agreement with Alabama Power. The allowable uses in the Recreation classification include public access and day and evening recreational use. This classification may allow facilities/structures, such as parks with boat slips, beach areas, dry boat storage facilities, trails etc. XXXX acres of land are classified for Recreation.

4.1.3 COMMERCIAL RECREATION

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis. Structures on these lands are generally subject to approval by FERC through the process outlined in Section 5.1.1.3. XX acres of lands are classified as Commercial Recreation.

Commented [TLM2]: Note to HAT 4:

This definition differs slightly from the definition included in the Phase 1 report. While drafting this document, it was discovered that a portion of the lands currently proposed to be reclassified as Commercial Recreation are not currently developed. Those lands are proposed to be reclassified to permit this type of development. Therefore, "existing" has been replaced by "contain or are designated for"

4.1.4 FLOOD STORAGE

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour (Figure 4-1). These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

These lands...XX acres of lands are classified as Flood Storage.

Commented [TLM3]: Note to HAT 4:

This definition differs slightly from the definition included in the Phase 1 report. While drafting this document, it was determined that the phrase "where the back acreage is non-project lands" is inaccurate and misleading. All of the lands within this classification are adjacent to project lands classified as Scenic Buffer Zone.

Additionally, the word "all" has been struck from this definition, because the areas where this strip is backed by project lands of a different classification (i.e. natural/undeveloped), this strip will be classified to match the back acreage.

4.1.5 SCENIC EASEMENT

This classification includes lands located between the 795' msl contour and the 800'³ msl contour (Figure 4-1). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

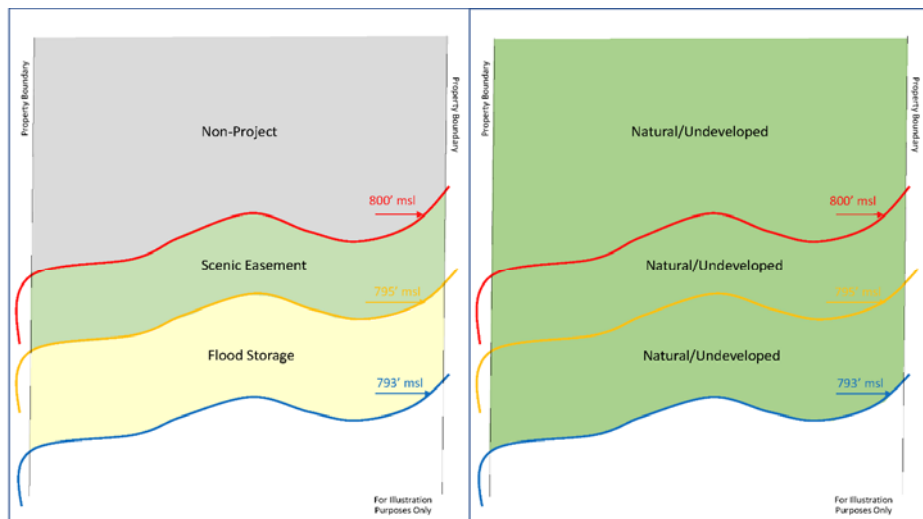
These lands...XX acres of lands are classified as Scenic Easement.

Commented [TLM4]: Note to HAT 4:

This definition differs slightly from the definition included in the Phase 1 report. While drafting this document, it was determined that the name "Scenic Buffer Zone" did not accurately reflect the lands included within this classification. For example, lands owned by APC within this strip will be classified to match the project back acreage. Therefore, the lands within this classification will be only those controlled by APC by easement. As such, "which includes lands either owned by Alabama Power in fee simple or areas" has also been removed from this draft version.

Additionally, the word "all" has been struck from this definition for the reasons discussed above.

³ Or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl.



4-1 ILLUSTRATION OF CLASSIFICATIONS

4.1.6 HUNTING

This classification includes lands that are managed to provide hunting opportunities (either through hunting leases or individual permits) as prescribed in accordance with the existing Harris Project Wildlife Management Plan⁴. Non-hunting related public access is allowed from May 1 until September 30 of each year for activities such as hiking, backpacking, camping, wildlife observation, and bank fishing opportunities. XX acres of land are classified as Hunting.

4.1.7 NATURAL/UNDEVELOPED

Lands included in the Natural/Undeveloped classification include Project lands which will remain undeveloped for the following specific Project purposes:

- protecting environmentally sensitive areas;
- preserving natural aesthetic qualities;
- serving as buffer zones around public recreation areas; and
- preventing overcrowding of partially developed shoreline.

⁴ Harris Project lands located at Skyline are leased to and managed by the State of Alabama for wildlife management and public hunting. Because these lands do not have shoreline, management of these Project lands is outlined in the Harris Wildlife Management Plan

This classification allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry management practices (as outlined in the Harris Wildlife Management Plan). Alabama Power typically owns these Project lands in fee simple title and manages them for effective protection of associated resource values. XX acres of lands are classified as Natural/Undeveloped.

4.1.8 FLAT ROCK BOTANICAL AREA

The need for a new classification for this area as well as the definition, if needed, will be developed in consultation with HAT 4.

4.2 SENSITIVE RESOURCES DESIGNATION

“Sensitive Resources” is a **designation** used in conjunction with the shoreline classifications (e.g., Recreation, Natural/Undeveloped, etc.), as appropriate. For example, a portion of an area classified as “Recreation” may also be designated as “Sensitive Resources.” This designation is used on Project lands managed for the protection and enhancement of resources which are protected by state and/or federal law, executive order, or where other natural features are present which are considered important to the area or natural environment. This may include cultural resources, sites and structures listed on, or eligible for listing on, the National Register of Historic Places (NRHP); wetlands; Rare, Threatened, and Endangered species (RTE) habitat protection areas; significant scenic areas; and other sensitive ecological areas. Federal and state regulations require some information concerning the Sensitive Resources designation to remain confidential or proprietary.

Permitted activities in these areas, if applicable, may be highly restrictive or prohibited in order to avoid potential impacts to sensitive resources. A geographic information system (GIS) data layer that includes all known sensitive resource areas has been developed that provides information to Alabama Power Shoreline Representatives on the areas designated as Sensitive Resources. This GIS data layer is continuously updated as new information becomes available and Alabama Power will continue to use this GIS layer to record areas designated as Sensitive. Additionally, the SMP map included in Appendix C generally illustrate areas that are designated

as sensitive. As stated above, the information depicted on this map is continuously updated; therefore, this map is accurate as of the filing of this updated SMP.

When a permit application is received for an area that is designated as Sensitive Resources, an environmental review by Alabama Power's Environmental Affairs Department (EA) is triggered. This review must be completed prior to permitting. Of the 367 miles of shoreline within the Project Boundary, XX miles are currently designated as Sensitive Resources.

The allowable uses in the Sensitive Resources designation are described below.

4.2.1 ALLOWABLE USES IN AREAS DESIGNATED AS SENSITIVE RESOURCES

Alabama Power has developed guidelines for permitting activities on lands designated as Sensitive Resources within the Project Boundary. These guidelines for residential shoreline permits⁵ will expedite the Alabama Power permitting process and will at the same time ensure the protection of cultural resources and wetlands.

4.2.1.1 WETLANDS

The Sensitive Resources GIS data layer contains information on Project wetlands taken from surveys completed by Alabama Power's wetlands experts and/or areas identified on National Wetland Inventory (NWI) maps.

In addition, Alabama Power Shoreline Management Representatives receive training on the more common features of wetlands. If they suspect wetlands are present in an area where a permit has been requested, they will forward the permit to EA for review just as they would if the area had been designated as Sensitive Resources.

Any disturbance within wetlands is discouraged; however, if permittee wishes to pursue a Project within wetlands, EA will review all permit requests in areas sensitive for potential wetlands and will make a determination of impacts in consideration of all applicable rules and regulations.

⁵ Non-residential permits are reviewed in a separate process. Alabama Power evaluates the non-residential permits based on shoreline classification and agency review is required.

USACE granted Alabama Power permission to issue permits under the auspices of the USACE Mobile District Office under a Programmatic General Permit (PGPs) (Appendix D). However, the PGP does not authorize APC to permit dredge or fill in wetlands. Fill may include, but is not limited to, boat ramps, shoreline stabilization measures and spoil activity.

4.2.1.2 CULTURAL RESOURCES

Cultural resources include archaeological and historic sites. When approved by FERC, Alabama Power will use the the R.L. Harris Hydroelectric Project Historic Properties Management Plan (HPMP) and Programmatic Agreement (PA), which are the governing documents, contain guidance on managing the Project in relation to the presence, or potential presence, of archeological and historic properties. No disturbance is allowed on the site of any known cultural resources prior to consulting with Alabama Power's EA Department. EA personnel will determine if a known site is present and if further testing is required. Upon completion of all required consultations, EA will contact Alabama Power's Shoreline Management Representative with notice that the permitted activity may proceed. In addition, if human remains, historic resources, or archaeological resources are discovered during any construction, all activities shall cease, and the permittee or its contractor shall contact Alabama Power immediately.

Alabama Power Shoreline Management Representatives are trained annually on how to identify areas with a high potential to contain archaeological properties and how to spot looting. If the Alabama Power Shoreline Management Representative encounters any possible cultural resources or looting, they will notify EA. EA will visit the site and conduct the appropriate level of archeological/historic testing and/or evaluation, if necessary.

TABLE 4-1 EVALUATION MATRIX FOR R.L. HARRIS SENSITIVE RESOURCE AREAS - CULTURAL RESOURCES

SMP PERMITTED ACTIVITY	IF CULTURAL RESOURCES PRESENT
Piers and walkways – construction and maintenance	<p>According to the HPMP, if known cultural resources are present:</p> <ol style="list-style-type: none"> 1. Determine if the activity will affect cultural resources. If yes, move to Step 2. If no, proceed with permitting process. 2. Determine if the cultural resources are significant. <ul style="list-style-type: none"> o Check Alabama State Site File. o Contact State Historic Preservation Office (SHPO), if needed. If yes, move to Step 3. If no, proceed with permitting process. 3. If cultural resources are significant, one or more of the following actions will occur. <ul style="list-style-type: none"> o Contact SHPO. o Conduct a field survey. o Avoid the area, relocate the permitted activity. o Conduct additional testing.
Floating and Stationary Boathouses, Wetslips, and Boatslips with anchoring – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Marine Rails – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Boat Ramps – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure. If the boat ramp construction requires excavation, see procedure listed for spoil.
Shoreline Stabilization – new construction and extension of existing shoreline stabilization structures	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Dredging/Spoil Area	All dredging requires review by EA. All spoil area determination requires consultation with SHPO, unless spoil will be located behind an existing seawall or in an approved landfill.

SMP PERMITTED ACTIVITY	IF CULTURAL RESOURCES PRESENT
Repair of an existing erosion site	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.

4.3 SUMMARY OF ACRES IN EACH CLASSIFICATION

Table 4-4 shows the acreages associated with each SMP classification as well as the Sensitive Resources designation.

TABLE 4-4 R.L. HARRIS HYDROELECTRIC PROJECT SHORELINE CLASSIFICATIONS

CLASSIFICATION	ACRES	SHORELINE MILES	SHORELINE MILES SENSITIVE
Project Operations	XX	XX	XX
Recreation	XX	XX	XX
Commercial Recreation	XX	XX	XX
Flood Storage	XX	XX	XX
Scenic Buffer Zone	XX	XX	XX
Hunting	XX	XX	XX
Natural/Undeveloped	XX	XX	XX
Flat Rock Botanical Area	XX	XX	XX
TOTAL⁶	XX	XX	XX

⁶ Totals based upon updated calculations using LiDAR data and may not match totals reported in the past.

5.0 ALABAMA POWER'S SHORELINE COMPLIANCE PROGRAM

FERC is responsible for issuing licenses for the construction, operation, and maintenance of non-federal hydropower projects. Alabama Power, as the licensee, is responsible for operating and maintaining its FERC-licensed Projects in accordance with the license requirements and Project purposes (e.g., power generation, public recreation, environmental protection, aesthetic values). According to the provisions of its license, Alabama Power may authorize specific uses and occupancies of the Project reservoir's shoreline that are not related to hydroelectric power production or other Project purposes. Such uses of project lands and waters are typically referred to as "non-project uses."

During the mid-1980s, Alabama Power initiated a formal permitting program on Harris, and in 1992, it initiated a formal permitting program for its remaining 11 hydroelectric reservoirs. The USACE granted Alabama Power permission to issue permits under the auspices of the USACE Mobile District Office under a Programmatic General Permit (PGPs) (Appendix D). Alabama Power has continued working with the USACE to update the PGPs as necessary as well as to ensure compliance with its regulations.

In 2006, Alabama Power instituted an enhanced Shoreline Permitting Program, and in 2009 Alabama Power began identifying both permitted and unpermitted structures around its reservoirs and conducting surveillance quarterly and increased the frequency of reservoir surveillance as needed to reduce the number of new encroachments. On March 14, 2012, Alabama Power filed a Shoreline Compliance Plan (SCP) with FERC that incorporates Alabama Power's existing programs and processes along with a method to assess and resolve unpermitted structures on each of its reservoirs. FERC acknowledged that the SCP is consistent with Alabama Power's overall responsibilities under its project licenses to oversee and control shoreline development at the projects in a letter issued on August 17, 2012. The SCP includes six components:

- (1) shoreline permitting;
- (2) structure identification, assessment, and resolution;
- (3) public education and communication;
- (4) surveillance program;

- (5) shoreline litigation; and
- (6) shoreline preservation initiatives.

5.1 SHORELINE PERMITTING

A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary. Activities requiring permits include, but are not limited to, construction or modification of boat docks, boathouses, boat ramps, piers, shoreline stabilization materials (e.g., sea walls, riprap), and any activity that requires conveying an interest in, on, or across Project lands. Any development or construction along reservoir shorelines and within the Project Boundary must be permitted before work can begin. Depending on the nature, size, and location of the proposed activity, Alabama Power may implement a phased approach for permitting in which permits are issued sequentially for phases/components of large developments. Compliance with all initial conditions of existing permits is required before subsequent permits can be issued. Certain activities may be restricted or prohibited on shorelines designated as Sensitive Resources.

FERC has defined three levels of use in the Use and Occupancy Article. Uses covered in Paragraph (b) of the article typically involve residential piers, boat docks, and retaining walls. FERC has delegated the authority to review and approve these types of uses to Alabama Power. Uses covered in Paragraph (c) involve the conveyance of easements, rights-of-way, or leases and typically include activities such as replacement or maintenance of bridges and roads and structures such as: storm drains and water mains; telephone, gas, and electric distribution lines; minor access roads, and other similar structures. These requests require consultation with the appropriate state and federal agencies and stakeholders and ultimately can be permitted by Alabama Power after its review is complete. Paragraph (c) permits are reported to FERC on an annual basis. Uses covered in Paragraph (d) involve the conveyance of fee title, easements or right-of-ways, and leases, for activities such as the construction of new roads and bridges, sewer lines that discharge into Project waters, marinas, and other similar structures. These requests also require review by Alabama Power and consultation with the appropriate local, state, and federal agencies and stakeholders and also must be submitted to FERC for review and approval. Alabama Power generally considers all activities in paragraphs (c) and (d) and those activities not specifically defined in the Use and Occupancy article, as Non-Residential Permits.

Whether the non-project use is approved under the delegated authority described in the Use and Occupancy article or through formal FERC approval, Alabama Power is responsible for ensuring that the use is consistent with the purposes of protecting or enhancing the scenic, recreational, and other environmental values of the Project. Alabama Power has a responsibility under the license articles to supervise and control the use and occupancies for which it seeks or grants permission and to ensure compliance with the permits and instruments of conveyance that are executed.

In addition to these federally mandated review processes, the shoreline land classifications outlined in Section 4.1 will also be considered prior to permitting a requested activity, to ensure that the proposed land use activity is a permissible use within the applicable land-use classification. For example, permits requested on shorelines designated as Sensitive Resources will automatically trigger a review by EA who will decide if the proposed activity will significantly affect these sensitive resources; therefore, certain activities may be restricted or prohibited on some properties so designated.

5.1.1 PERMITTING GUIDELINES

Alabama Power has developed the “General Guidelines for Residential Shoreline Permitting and Permit Terms and Conditions” (guidelines) (Appendix E) for various types of activities. These guidelines are considered general, since each reservoir and lot is unique, and permitting policies may need to be adjusted periodically for various situations. As guidelines change (see Section 7.0), the most current guidelines will be attached to the SMP as it is updated over the term of the new license.

Alabama Power monitors new applications (and existing permits) through GIS and Records Management System, or RMS, latest software system. This information is used during regular surveillance activities to assess compliance with the terms and conditions of the applicable permit. Alabama Power uses the GPS coordinates of new permit applications to analyze the exact location of the proposed activity and identify any permit stipulations that may be required as a result of the associated land classification.

Alabama Power does not approve the design, engineering, etc. of structures within the Project, but instead approves the types, sizes, locations, and uses. The ownership, construction, operation, and maintenance of any permitted facility are the responsibility of the applicant, who is subject to and solely responsible for complying with all applicable federal, state, and local laws and regulations, including any applicable building or electrical codes. The applicant is responsible for all expenses related to obtaining any necessary federal, state, local permits or approvals.

Permit approval and acceptance by the applicant releases Alabama Power, its officers, agents and employees from any and all causes of action, suits at law or equity, or claims or demands, or from any liability of any nature whatsoever for or on account of any damages to persons or property, including the permitted facility, arising out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities.

5.1.1.1 RESIDENTIAL PERMITTING

A shoreline property owner generally initiates the permit process by contacting Alabama Power to request information about how to obtain a “Lakeshore Use Permit” (permit). During this initial contact, an Alabama Power Shoreline Management Representative explains the general permitting process and reviews the guidelines with the applicant. These guidelines do not attempt to address every specific situation that may exist on Alabama Power reservoirs but are provided as a general guide to assist property owners and their contractors with development and construction actions. Recognizing that site-specific circumstances may warrant special consideration, Alabama Power may make exceptions and modify these guidelines at its discretion.

Following the initial contact, an appointment may be made for an Alabama Power Shoreline Management Representative to visit and/or discuss the proposed activity/use, within the Project, with the property owner. During this meeting, the Alabama Power Shoreline Management Representative reviews drawings of the proposed activity or facility and examines the shoreline. After the Alabama Power Shoreline Management Representative reviews the applicable

guidelines with the property owner, the “Request for Lakeshore Use Permit,” is completed and provided to Alabama Power for review⁷.

As part of the review process, the application is reviewed to determine if the proposed project meets the General Guidelines for Residential Shoreline Permitting (Appendix E), the USACE PGP Conditions (Appendix D), and the Dredge Permit Program (Appendix B). If the application meets the PGP parameters (as well as other respective guidelines), the activity is authorized according to the applicable PGP(s) in the form of an approval letter⁸ to the applicant and a copy of the letter is saved at the respective Shoreline office. Upon approval of the permit, the permittee is required to complete all facility construction within 1 year. If construction is not completed within the time allotted, the permit will become null and void unless the property owner obtains an extension of time from Alabama Power.

If the permit application is not approved or is found insufficient, Alabama Power’s Shoreline Management Representative will explain the deficiencies to the property owner. Insufficient applications generally require an additional site inspection to review and discuss possible adjustments necessary to obtain approval. Alabama Power’s Shoreline Management Representative makes the final permit decision.

5.1.1.2 NON-RESIDENTIAL PERMITS (NRPs)

Non-Residential Permit applications corresponding to the appropriate paragraphs in the Use and Occupancy article are initiated through the local Alabama Power Shoreline Management Representative. Alabama Power generally conducts an on-site meeting with the applicant to discuss the guidelines and permitting process. The process to apply for and obtain a permit from Alabama Power for certain uses of the lands associated with each hydroelectric Project, including lake shorelines, consists of three phases:

- **PHASE 1 (INITIAL REVIEW)** – The period of time from an Applicant’s receipt of the NRP Application Phase 1 Information Checklist (usually distributed at, or soon after, the initial

⁷ If the proposed activity lies within a Sensitive Resource area, the procedures outlined in Section 4.2 apply.

⁸ Approval letters are valid for a period of one year from issuance; if construction requiring both an approval letter and a permit is not completed within the one-year timeframe, the property owner must obtain an extension of time from Alabama Power on both the letter and the permit.

onsite meeting) until Alabama Power determines the Application is complete and ready for stakeholder consultation.

- **PHASE 2 (AGENCY/STAKEHOLDER CONSULTATION)** – The period of time from Alabama Power determining the Phase 1 Information is complete until Alabama Power determines agency/stakeholder consultation is complete. Upon completion of Phase 2, the Application is ready for filing for FERC authorization or issuance of a conveyance.
- **PHASE 3 (FERC REVIEW)** – The period of time from Alabama Power’s filing of the Application with FERC until FERC issues its approval.

Alabama Power places NRPs into three groups: Non-Residential, Multiple Single-Family Type Dwellings, and Easements. Non-Residential permits cover marinas, and may also cover parks, overnight campgrounds and other similar facilities depending upon project details. Multi-Family permits⁹ may be used for condominiums, planned residential facilities, long-term campgrounds, etc. Easement requests are often used for utility and road crossings as allowed for in Paragraphs (c) and (d) of the Use and Occupancy Article. Some developments may have a combination of the above-mentioned groups and may also include residential permits depending upon facility details. Alabama Power’s guidelines for Non-Residential facilities and Multiple Single-Family Type Dwellings are provided in Appendix F.

5.1.2 PERMIT ENFORCEMENT

Alabama Power closely monitors activities along the shoreline to ensure that they are permitted and are being performed in accordance with the conditions outlined in the applicable permit.

Alabama Power’s surveillance program monitors each development on a regular basis.

Unauthorized or unpermitted activities within the Project Boundary are treated as encroachments or violations. Alabama Power works with the responsible property owner to bring the activity into compliance with its permitting guidelines and terms and conditions. This may involve modification or removal of the structure(s) and restoration of disturbed shoreline at the owner’s expense, permitting after completion of corrective actions, remediation, mitigation, litigation, or any combination of these. When unauthorized work is discovered, Alabama Power may seek a

⁹ Certain multi-family permits may be permitted using Alabama Power’s residential permitting process depending upon the facility details. For information regarding which multi-family permits will require the NRP process, reference Alabama Power’s guidelines for Non-Residential facilities in Appendix F.

temporary restraining order to stop further construction work within the project, which can result in unwanted construction delays and additional expense for the owner.

A construction permit tag is issued with each approved permit, and a permanent permit tag is issued upon completion. These tags aid in the monitoring and surveillance of the reservoirs. Permit tags are posted on the permitted facility or on the land areas covered by the permit so that they can be visually checked with ease from the water.

The assistance of reservoir stakeholders in shoreline surveillance should not be overlooked. Stakeholders are encouraged to report possible permitting violations by calling the local Alabama Power Shoreline Management office or by calling 1-800-LAKES11 and following the prompts for the appropriate reservoir.

5.1.3 PERMIT TRANSFERABILITY

Permits are transferable by the permittee upon approval by Alabama Power. When a property is sold, or ownership is transferred, the new owner and permittee must contact Alabama Power to receive a permit transfer issued in their name. Alabama Power is available to consult with permittees prior to the sale or transfer of property to determine whether the permitted facilities are in compliance with Alabama Power permitting guidelines.

5.1.4 PERMIT REVOCATION

If a permittee fails to comply with any of the conditions of a permit, or with any additional conditions imposed by Alabama Power, or any federal, state or local agency, the permittee shall be required to take appropriate action to correct the violation. If the violation is not corrected within 60 days after written notification, Alabama Power may cancel the permit and require the removal of any facilities that were formerly permitted. Alabama Power may revoke a permit whenever it determines that the public interest necessitates such revocation or when it determines that the permittee has failed to comply with the conditions of the permit. The revocation notice, mailed by registered or certified letter, shall specify the reasons for such action. Alabama Power may summarily revoke a permit in emergency circumstances. Alabama Power will consider extensions of the noted time frames on a case-by-case basis.

5.1.5 DILAPIDATED, ABANDONED AND UNPERMITTED STRUCTURES

Because the Project reservoirs have developed at different rates due to factors such as locality, population density, and age of development, the design and condition of structures on the reservoirs varies. Some structures do not meet current permit requirements, and some structures are in disrepair. Unpermitted structures are discussed in Section 5.2.

A dilapidated structure is one that is anchored or otherwise affixed to a piece of property and can no longer be considered serviceable due to its poor state of repair. Several structures on Alabama Power's reservoirs are considered dilapidated because of inadequate flotation or failing structural integrity, or both. Abandoned structures are free floating and not associated with any particular property.

Through the SCP, Alabama Power has established a program to address dilapidated and abandoned structures. Alabama Power removes abandoned structures from the reservoir in coordination with Renew Our Rivers and the Alabama Law Enforcement Agency - Marine Patrol. In the case of a dilapidated structure, a notice is issued to the property owner, asking the owner to contact Alabama Power. Alabama Power explains the issue and requests cooperative action from the owner to repair or remove the dilapidated structure. Alabama Power may pursue removal of these structures when it deems removal appropriate or when the Alabama Law Enforcement Agency - Marine Patrol determines a safety hazard exists.

5.2 STRUCTURE IDENTIFICATION, ASSESSMENT AND RESOLUTION

In 2009, Alabama Power began identifying all existing permitted structures and unpermitted legacy structures within the boundaries of its Projects. Each structure was assessed based on physical attributes, legal status, permitting status and the Project purpose of the occupied lands. Alabama Power began working with unpermitted legacy structure owners and other stakeholders to reach resolutions for non-conforming structures so that they can be brought within Alabama Power's Shoreline Permitting program.

5.3 SURVEILLANCE PROGRAM

Alabama Power began its formal surveillance program in 1992 and initiated a revamped surveillance program in 2006. In 2009, Alabama Power continued improving its surveillance program by beginning to survey each reservoir on a quarterly basis in order to document emerging issues and track them to resolution. Beginning in 2011, Alabama Power further upgraded its surveillance program by increasing the frequency of reservoir surveillance and began utilizing newly developed RMS/surveillance tracking software to document potential compliance issues and to track them to resolution. Alabama Power surveys the 367 miles of shoreline associated with the Project on a regular basis.

6.0 BEST MANAGEMENT PRACTICES AND EROSION AND SEDIMENTATION CONTROL

6.1 BEST MANAGEMENT PRACTICES

Best management practices are on-site actions implemented by an individual or group to lessen the potential direct or indirect effects of the use of a particular resource. For example, if a property owner chooses to cut vegetation from his or her shoreline property to improve access or to improve the view-shed, the property owner may choose to clear selectively, replant low-lying vegetation that will help maintain the stability of the bank, or both. Selective clearing and replanting would be considered to be BMPs because they are on-site actions that would lessen the potential effects of clearing vegetation. Although the use of BMPs is not required by regulations, regulatory agencies throughout Alabama and the country actively promote the use of BMPs on shoreline projects to reduce potential adverse effects and assist in the conservation and protection of valuable shoreline resources.

Alabama Power, with assistance from relicensing stakeholders and other interested parties, supports public education efforts to encourage the adoption of shoreline BMPs as well as any other BMPs promoted by state and regulatory authorities. In addition, Alabama Power is committed to implementing applicable BMPs on Alabama Power fee simple owned lands classified as Recreation and Natural/Undeveloped. Alabama Power recommends that adjoining property owners adopt shoreline BMPs to maintain and preserve qualities associated with naturally vegetated shorelines, including water quality protection, shoreline stabilization, aesthetics, and wildlife habitat.

In addition to the information on the Alabama Power web site, Alabama Power developed an illustrated brochure entitled *Shoreline Management Practices* (Appendix G) that discusses general and historical information about each development and its reservoir. The *Shoreline Management Practices* brochure includes sections explaining BMPs, recommendations for implementing these practices, and diagrams that educate prospective permittees. Alabama Power's *Shorelines* publication also periodically features educational information regarding

erosion control and BMPs. Information regarding BMP's can be found at:

<https://apcshorelines.com/shoreline-management/>.

6.1.1 BUFFERS AND VEGETATION MANAGEMENT

Vegetated shorelines are an important component of a healthy reservoir ecosystem. Naturally vegetated shorelines, including wetlands, can act as natural filters, facilitating the absorption and processing of runoff pollutants. This filtering ultimately reduces the amount of potentially harmful contaminants that enter a particular reservoir and contribute to water quality degradation. In addition to filtering potentially harmful pollutants, shorelines vegetated with native species also work to preserve the physical integrity of the shoreline. The root systems of naturally vegetated shorelines provide a structure that helps to maintain shoreline integrity and reduce excessive erosion that can lower water quality, and in some cases, adversely affect aquatic habitat. Naturally vegetated shorelines also improve the aesthetic integrity of the reservoir as well as the amount of habitat available to aquatic and terrestrial species.

Alabama Power recommends that property owners adopt the following shoreline BMPs to maintain and preserve those qualities associated with naturally vegetated shorelines:

1. Plant native trees, shrubs, and flowers for landscaping and gardens in order to reduce watering as well as chemical and pesticide use. Reference information can be found in Appendix G.
2. Preserve or establish a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum. Alabama Power recommends a buffer set back of at least 15 feet measured horizontally from the full pool elevation¹⁰.
3. Plant a low maintenance, slow growing grass that is recommended for your soil conditions and climate. Reference information can be found in Appendix G.
4. Maintain the grass as high as possible in order to shade out weeds and improve rooting so less fertilizing and watering are required.
5. Avoid dumping leaves or yard debris on or near the shoreline.

¹⁰ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

6.1.2 WATER QUALITY

Water quality is an important indicator of the overall health of the reservoir. Water quality not only affects aquatic and terrestrial wildlife, but also the health and well-being of individuals and communities that surround the reservoir.

Alabama Power recommends that property owners adopt the following BMPs to preserve and improve the water quality of the Project's reservoir:

1. Use permeable paving materials and reduce the amount of impervious surfaces, particularly driveways, sidewalks, walkways, and parking areas.
2. Avoid or minimize the use of pesticides, insecticides, and herbicides whenever possible.
3. Dispose of vehicle fluids, paints, or household chemicals as indicated on their respective labels and do not deposit these products into storm drains, project waters, or onto the ground.
4. Use soap sparingly when washing your car and wash your car on a grassy area so the ground can filter the water naturally. Use a hose nozzle with a trigger to save water and pour your bucket of used soapy water down the sink and not on the ground.
5. Avoid or minimize applying any fertilizer. Apply fertilizers and pesticides according to the label and never just before a heavy precipitation event. Fertilizer use can also be avoided by using native vegetation in a landscape.
6. Maintain septic tanks and drain fields according to the guidelines and/or regulations established by the appropriate regulatory authority.
7. Discourage livestock from entering project waters or tributaries.
8. Create and maintain a rain garden in the landscape to naturally filter runoff.

6.1.3 PROPERTY DEVELOPMENT AND MANAGEMENT

Alabama Power's R.L. Harris Hydroelectric Project includes approximately 367 miles of shoreline. Private residential property occupies a considerable amount of that shoreline and has a significant effect on the shoreline as well as the reservoir itself. Individually, one property does not normally have a large effect upon the shoreline or the reservoir. Cumulatively however, residential activities can have a pronounced effect on reservoirs and their shorelines.

Alabama Power's existing permitting program includes guidelines to follow when considering a shoreline use permit request. These guidelines are specifically designed to minimize impacts to shoreline resources associated with property development. In addition to the existing permit guidelines, Alabama Power recommends that property owners adopt the following shoreline BMPs to help conserve and protect valuable shoreline resources.

1. Deposit excavated materials in an upland area and properly secure them to prevent them from entering the waterway, adjacent wetlands, or bottomland hardwoods through erosion and sedimentation. (required when dredging).
2. Place riprap along the base of existing seawalls.¹¹
3. Maintain natural drainage to the maximum extent possible and do not direct concentrated runoff directly into the reservoir.
4. Divert rain gutters/drain pipes and other sources of household runoff, including driveways, to unpaved areas where water can soak into the ground and be naturally filtered before reaching the reservoir.
5. Dispose of yard debris and other biological waste in a compost pile located outside of the 800' msl or at least 50 horizontal feet away from the shoreline, whichever is less.
6. Avoid excessive watering of lawns and water either in the morning and/or in evening.
7. Plant native species to reduce watering.

In addition to the preceding shoreline BMPs, Alabama Power recommends that all activities on lands adjacent to each reservoir follow existing state BMPs (e.g., Alabama's Best Management Practices for Forestry, Alabama Clean Water Partnership BMPs, Alabama Handbook for Erosion Control, Sediment Control and Storm-water Management on Construction Sites and Urban Areas). For a list of references regarding these BMPs, as well as additional sources of information, see Appendix G. Although applicable BMPs are required on Alabama Power owned Project lands classified as Recreation and Natural/Undeveloped Lands, not all BMPs will be practicable on specific sites. BMPs will be required at these sites on a case by case basis.

6.2 EROSION AND SEDIMENT CONTROL

Alabama Power's permitting process and BMPs include numerous provisions for controlling soil erosion and sedimentation, including bio-engineering techniques such as planting willow and wetland species.

Bioengineering techniques involving marsh creation and vegetative bank stabilization (soil bioengineering) may be effective at sites with limited exposure to erosion forces (e.g., strong currents, wind-generated waves, etc.). In cases with increased erosional forces an integrated approach that employs structural systems (e.g., seawalls) in combination with soil bioengineering techniques may be more appropriate.

Basic principles of soil bioengineering include the following (USDA-NRCS, 1992):

- fitting the soil bioengineering system to the site;
- evaluating topography and exposure (e.g., note the degree of slope, presence of moisture);
- characterizing geology and soils (e.g., determine soil depth and type);
- studying the hydrology (e.g., calculate peak flows in the Project area);
- retaining existing vegetation whenever possible;
- limiting removal of vegetation;
- stockpiling and protecting topsoil;
- protecting areas exposed during construction; and
- diverting, draining, or storing excess water

Some appropriate bioengineering practices include installing coconut fiber rolls or live fascines, live staking, restoring or creating marsh, and preserving or creating vegetative buffers. Some appropriate integrated practices include bank shaping and planting; joint planting; and installing live crib-walls, vegetated gabions, vegetated reinforced soil slopes, or vegetated geogrids.

7.0 SHORELINE MANAGEMENT PLAN (SMP) REVIEW PROCESS

In order for the SMP to remain relevant in the coming years, Alabama Power intends to review this document every 10 years with continued input from interested parties. Information related to Sensitive Resources (e.g., wetlands, threatened and endangered species and cultural resource locations) will be updated continuously as new information becomes available (e.g. as new federally listed species and/or federally designated critical habitat are designated). Due to the pace at which conditions around the reservoir will change over the foreseeable future, the 10-year time frame allows for Alabama Power to assess new issues that may arise as a result of development. A shorter time frame would preclude any meaningful analysis of cumulative effects; however, Alabama Power is always willing to listen to concerned stakeholders if unforeseeable circumstances warrant an interim review of particular sections of the SMP. This review process will provide the means for the permitting program to change, if necessary, or for additional BMPs to be adopted or replaced as their effectiveness is tested.

Alabama Power will meet with consulting agencies by December 31 of the ninth year of the 10-year cycle to determine the progress of implementing the SMP and to address any suggested modifications to the SMP. Additionally, Alabama Power will issue a report through various media outlets (e.g., the Alabama Power shoreline management web site, the *Shorelines* newsletter) with the number of permits it has processed on each shoreline classification type on each reservoir. Any request for this information in the intervening time will be considered on a case-by-case basis. A public workshop is then held to provide concerned stakeholders a forum to address any modifications. The public workshop is advertised in various media formats (e.g., website, Shorelines, contact with homeowner associations) one month before it begins. After the public workshop, the SMP review process will culminate by December 31 of each 10-year cycle in a filing that describes the agency consultation, any recommended modifications, and how Alabama Power addressed any proposed modifications to the SMP.

Alabama Power will host annual public education workshops to address SMP questions, especially with regard to permitting, during the ten-year review process.

8.0 LITERATURE CITED

USDA-NRCS (United States Department of Agriculture, Natural Resource Conservation Service). 1992. Engineering Field Handbook, Chapter 18 Soil Bioengineering for Upland Slope Protection and Erosion Reduction.

RE: HAT 4 - Final Phase 1 Project Lands Evaluation Study Report and Upcoming HAT 4 meeting

APC Harris Relicensing <g2apchr@southernco.com>

Fri 10/16/2020 4:21 PM

To: APC Harris Relicensing <g2apchr@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>

 1 attachments (991 KB)

2020-10-19 HAT4 meeting presentation.pdf;

HAT 4,

We will be using Microsoft Teams for the HAT 4 meeting on Monday, October 19th. For those of you who are planning to join the meeting via phone rather than computer, the meeting presentation is attached for your reference.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

From: APC Harris Relicensing

Sent: Monday, October 5, 2020 12:00 PM

Subject: HAT 4 - Final Phase 1 Project Lands Evaluation Study Report and Upcoming HAT 4 meeting

HAT 4,

Last Friday, Alabama Power filed the Final Phase 1 Project Lands Evaluation Study Report with FERC. This final report can be found on the Harris relicensing website in the [HAT 4 folder](#) and on [FERC elibrary](#).

Additionally, please join us for a HAT 4 meeting on October 19th, from 09:00 to 11:00 (call in information is provided below) to discuss the Shoreline Management Plan and the Wildlife Management Plan. Please note that the Project Lands Evaluation Study Plan outlines the development of WMP and SMP work groups within HAT 4. However, due to the small number of members of HAT 4, Alabama Power anticipates that the majority of HAT 4 members will participate in the development of both plans. Therefore, no HAT 4 work groups will be formed, and both documents will be developed in consultation with all of HAT 4.

Please review the attached documents, and comments or questions will be discussed during the October 19th call. In addition, written comments or questions can be submitted to harrisrelicensing@southernco.com by November 2, 2020.

Join Microsoft Teams Meeting

[+1 470-705-0860](tel:+14707050860) United States, Atlanta (Toll)

Conference ID: 937 397 892#

[Local numbers](#) | [Reset PIN](#) | [Learn more about Teams](#) | [Meeting options](#)



Southern Company

[Help](#) | [Legal](#)

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com



HAT 4

Project Lands

- SMP & WMP

Phone Etiquette



- ☐ Be patient with any technology issues
- ☐ Follow the facilitator's instructions
- ☐ Phones will be muted during presentations
- ☐ Follow along with PDF of presentations
- ☐ Write down any questions you have for the designated question section
- ☐ Clearly state name and organization when asking questions
- ☐ Facilitator will ask for participant questions following the presentation and as applicable during the presentation

Health & Safety Moment



Aim for seven to eight hours of sleep each night.

- Sleep is when the body repairs itself.
 - Build muscle and restore energy
 - Release hormones that assist in cellular repair
 - Consolidation = brain processes everything you have learned and experienced
- Consolidation = brain processes everything you have learned and experienced
- New neural pathways are built while you sleep

Daytime habits were often the culprit for trouble sleeping

- Sleep schedule and environment
- Bedtime ritual
- Eating and drinking habits
- Exercise patterns
- Stress management
- Medication routine
- Nicotine use

PROJECT LANDS EVALUATION



Goals and Objectives

- Identify lands around Lake Harris and at Skyline that are needed for Harris Project purposes and to classify these lands.
- Evaluate the land use classifications for Harris and determine if any changes are needed to conform to Alabama Power's current land classification system and other Alabama Power FERC-approved Shoreline Management Plans
- Identify lands to be added to, or removed from, the current Harris Project Boundary and/or be reclassified.
- Develop a Shoreline Management Plan (SMP).
- Develop a Wildlife Management Plan (WMP).

STATUS OF PHASE 1 ACTION ITEMS



Status – Phase 1: Complete

- ✓ Meet with HAT 4 to discuss potential changes to the Harris Project lands (add, delete, or reclassify); include tract by tract description, rationale for change, and present in GIS format; consider potential resources impacts; draft a map showing all changes.
 - ✓ HAT 4 meeting was held on 09/11/19; tract by tract discussion, including maps, background information, and rationale for change; overview map of all proposed changes provided.
 - ✓ Meeting summary provided on www.harrisrelicensing.com
- ✓ Conduct a botanical inventory of a 20-acre parcel at Flat Rock
 - Report included in Final Phase 1 Report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
 - Evaluation of adjacent, additional 20-acre tract currently underway; report will be provided upon completion
- ✓ Evaluate acreage at Skyline to determine suitability for bobwhite quail habitat
 - Results of evaluation included in Final Phase 1 Report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
- ✓ Develop a Draft and Final Phase 1 Project Lands Evaluation Study Report
 - 04/10/20: Draft Phase 1 report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
 - 10/02/20: Final Phase 1 report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com

PHASE 2 ACTION ITEMS



Phase 2:

Phase 2 includes developing a Shoreline Management Plan (SMP) and a Wildlife Management Plan (WMP) to file with the final license application. In addition to the results from the Phase 1 Land Use Evaluation, Alabama Power will also integrate information collected during other relicensing studies (e.g., T&E, water quality, and recreation studies), as appropriate, to the SMP and WMP.

Status – Shoreline Management Plan & Wildlife Management Plan

☐ ~~Form a HAT 4 work groups~~

- ✓ Create a Draft Shoreline Management Plan in consultation with HAT 4
 - Draft version provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20

- ✓ Create a Draft Wildlife Management Plan in consultation with HAT 4
 - Annotated outline provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20

SHORELINE MANAGEMENT PLAN (SMP)



Why develop a Shoreline Management Plan?

FERC issues licenses for non-federal hydropower projects.

(This includes Harris.)

Each project is unique. The license identifies all project purposes (such as operation and maintenance, flowage, public recreation, public access, etc.) and specifies any requirements.

(Harris = power generation, navigation, public recreation, etc.)

Typically a licensee will own or have the necessary rights to all submerged lands and any lands that fall within the operating levels of the reservoir...

(Harris = 795' msl)

...as well as a shoreline buffer.

(Harris = scenic easement up to 800' msl or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl).

“...a licensee may authorize specific uses and occupancies of the project shoreline that are not related to hydroelectric power or other project purposes...” a.k.a. non-project uses

(In other words, permits for residential boat docks, boathouses, boat ramps, piers, shoreline stabilization materials, etc. as well as commercial marinas)



SHORELINE MANAGEMENT PLAN (SMP)



Thus, ultimately...

Licensees have a responsibility to ensure that shoreline development activities that occur within a project boundary are consistent with project license requirements, purposes, and operations.

How is this accomplished?

An SMP is a comprehensive plan to manage the multiple resources and uses of the project's shorelines in a manner that is consistent with license requirements and project purposes and addresses the needs of the public.



SHORELINE MANAGEMENT PLAN (SMP)



So, we need an SMP...what should it include?

- 1.0 Introduction
- 2.0 Purpose and Goals
- 3.0 Shoreline Management Policies
- 4.0 Shoreline Management Classifications
- 5.0 Alabama Power's Shoreline Compliance Program
- 6.0 Best Management Practices & Erosion and Sedimentation Control
- 7.0 SMP Review Process

SHORELINE MANAGEMENT PLAN (SMP)



2.0 Purpose and Goals

Purpose:

...serve as a comprehensive guide for managing Project shoreline lands consistent with license requirements and Project purposes.

Overarching Goal:

...ensure that shoreline development is consistent with the protection and enhancement of environmental, scenic, cultural, and recreational values, while ensuring the continued safe and reliable production of hydroelectric power at the Project.

SHORELINE MANAGEMENT PLAN (SMP)



General Goals:

- facilitate compliance with license articles;
- provide for reasonable public access;
- protect fish and wildlife habitat;
- protect cultural resources;
- protect operational needs;
- minimize adverse impacts to water quality;
- minimize erosion;
- minimize sedimentation
- minimize adverse scenic effects; and
- guide shoreline development.

SHORELINE MANAGEMENT PLAN (SMP)



3.0 Shoreline Management Policies

...designed to guide existing and future shoreline management actions at the Project.

SHORELINE MANAGEMENT PLAN (SMP)



3.1 Shoreline Conservation Policy

Alabama Power Company actively promotes the conservation and protection of Project shoreline lands and their associated scenic, cultural, recreational, and environmental values.

- Enforcement of enforcement of existing state and federal regulations including, but not limited to, the Clean Water Act, Endangered Species Act, Wetlands Protection Act, National Historic Preservation Act, and the Federal Power Act.

SHORELINE MANAGEMENT PLAN (SMP)



3.2 Shoreline Management Policies

- Bank Stabilization
.... Riprap and natural bank stabilization are the preferred methods of erosion control; however, use of seawalls will be evaluated and may be approved on a case-by-case basis
- Dredging
...in accordance with FERC-approved Dredge Permit Program...developed in consultation with USACE...for dredging activities up to 500 cubic yards of material...

Dredging may be allowed but will be restricted in and around sensitive resource areas. Requests Will be considered on a case-by-case basis...

SHORELINE MANAGEMENT PLAN (SMP)



3.2 Shoreline Management Policies

- Channelization
It is the policy of Alabama Power to prohibit channelization on its reservoirs.
- Water Withdrawals
...obtain FERC authorization before permitting a water withdrawal greater than 1 million gallons per day

...delegated authority to Alabama Power to permit water withdrawal of 1 million gallons per day or less
- Causeways
...prohibit the creation of causeways...to connect islands to the mainland or to other islands.

SHORELINE MANAGEMENT PLAN (SMP)



4.0 Shoreline Management Classifications

...shoreline classification system to guide management and permitting activities within the Project Boundary.

...based on an evaluation of existing and potential land use.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.1 Project Operations

...Project lands reserved for current and potential future operational activities. This includes all Project lands used for

- hydroelectric generation,
- switchyards,
- transmission facilities,
- rights-of-way,
- security, and
- other operational uses.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.2 Recreation

...Project lands managed by Alabama Power for existing or potential future recreational activities. This includes land

- developed for public recreation,
- open space,
- water access, and
- future recreational development.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.3 Commercial Recreation

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.3 Commercial Recreation

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

Edits from previously discussed/drafted definitions:

~~Lands containing existing~~ **contain or are designated for** concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.4 Flood Storage

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour. These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

SHORELINE MANAGEMENT PLAN (SMP)

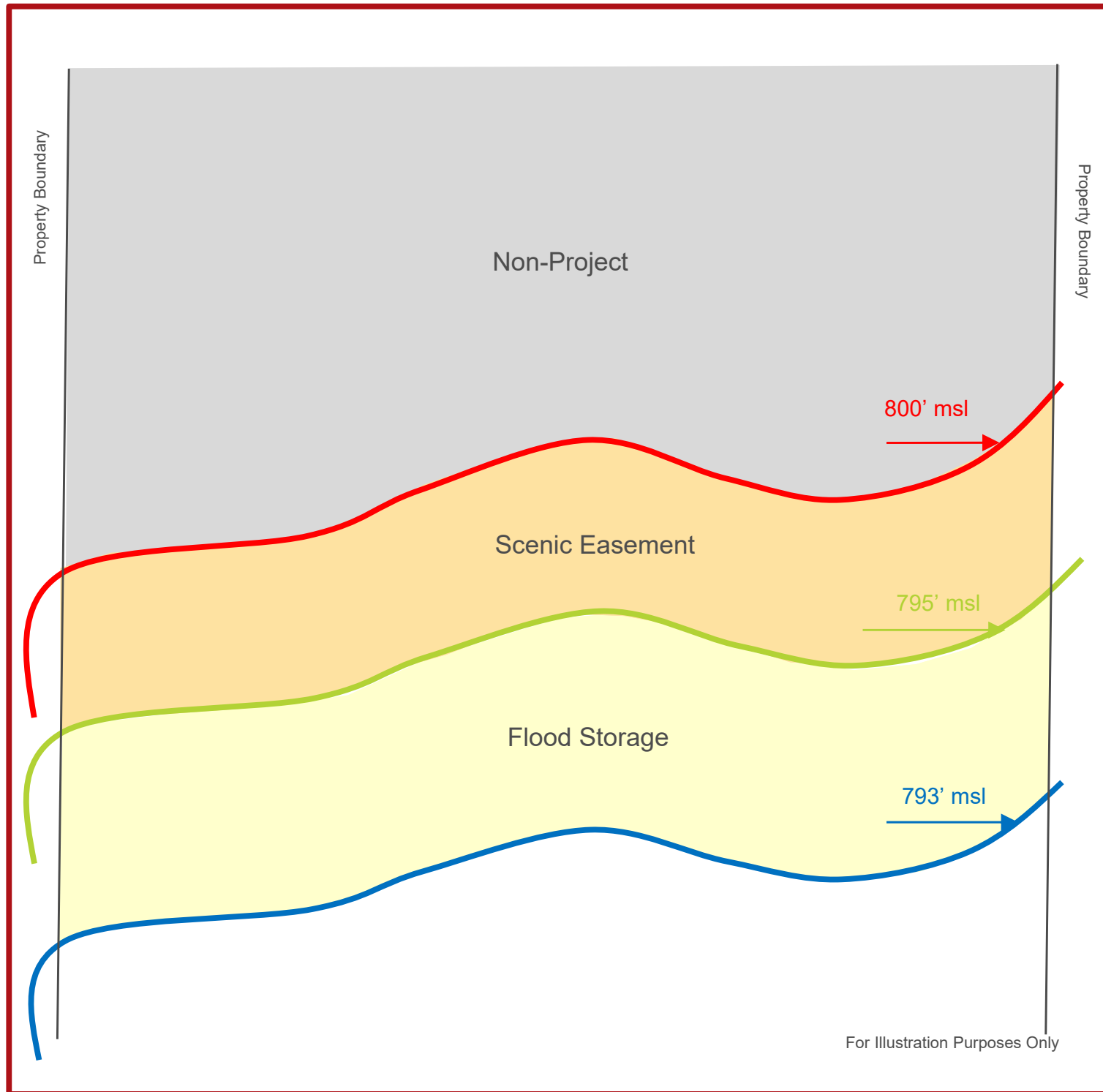


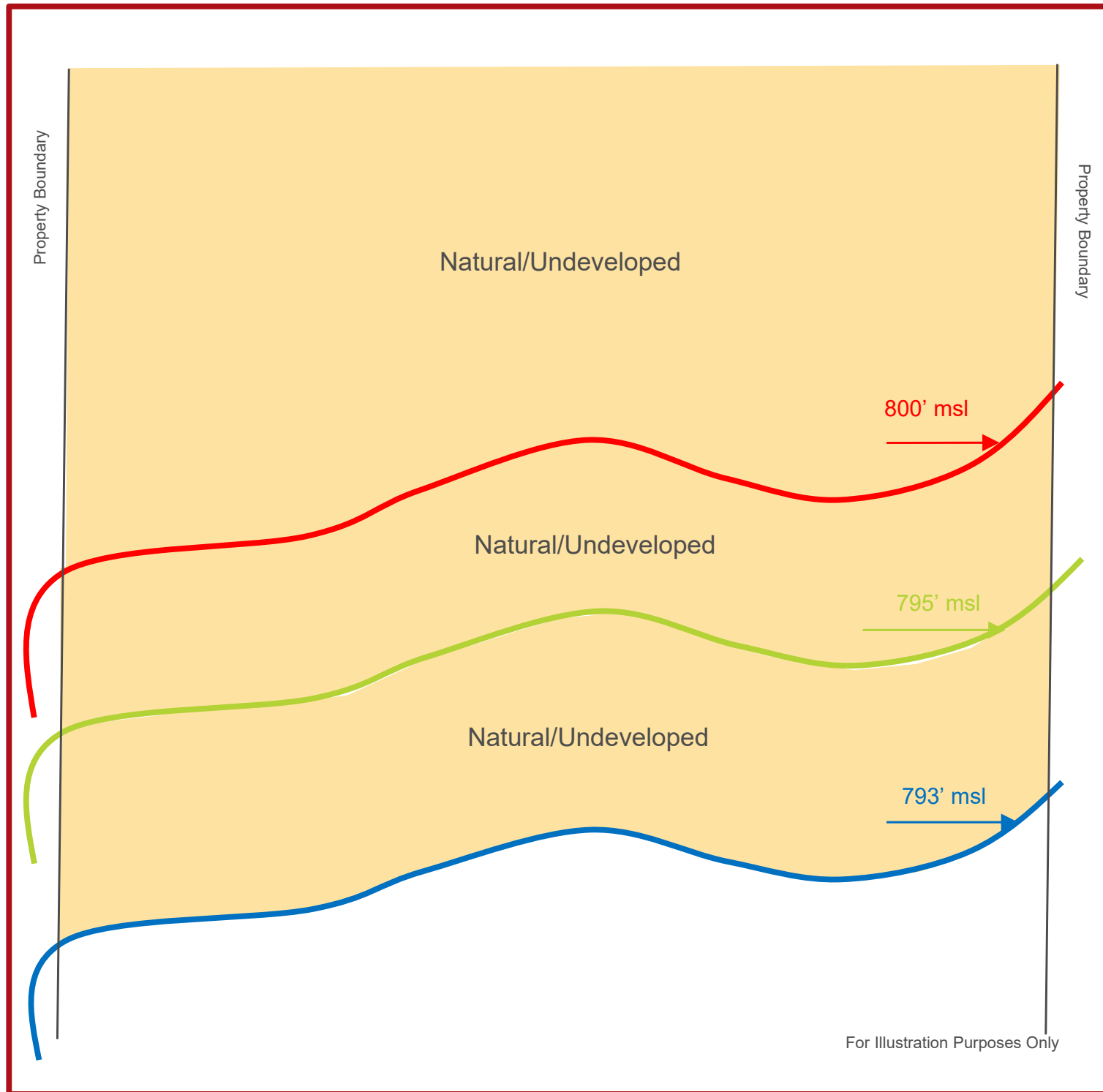
4.1.4 Flood Storage

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour. These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

Edits from previously discussed/drafted definitions:

...all lands located between the 793' mean sea level (msl) contour and the 795' msl contour, which are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time ~~and where the back acreage is non-project lands.~~





SHORELINE MANAGEMENT PLAN (SMP)



4.1.5 Scenic Easement

This classification includes lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.5 Scenic Easement

This classification includes lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

Edits from previously discussed/drafted definitions:

~~Scenic Buffer Zone~~ **Scenic Easement**

...~~all~~ lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl) which includes lands ~~either owned by Alabama Power in fee simple or areas controlled by easement~~ for the project purpose of protecting scenic and environmental values.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.6 Hunting

This classification includes lands that are managed to provide hunting opportunities...

Non-hunting related public access is allowed from May 1 until September 30 of each year for activities such as hiking, camping, wildlife observation, and bank fishing opportunities.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.7 Natural/Undeveloped

...will remain undeveloped for the following specific Project purposes:

- protecting environmentally sensitive areas;
- preserving natural aesthetic qualities;
- serving as buffer zones around public recreation areas; and
- preventing overcrowding of partially developed shoreline.

...allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry practices...

SHORELINE MANAGEMENT PLAN (SMP)



4.1.8 Flat Rock Botanical Area

HAT 4 Discussion

SHORELINE MANAGEMENT PLAN (SMP)



4.2 Sensitive Resources Designation

- Used in conjunction with shoreline classifications (i.e. overlay)
- Used on Project lands managed for the protection and enhancement of resources which are protected by state and/or federal law, executive order, or where other natural features are present which are considered important to the area or natural environment.

SHORELINE MANAGEMENT PLAN (SMP)



4.2.1 Allowable Uses in Areas Designated as Sensitive Resources

4.2.1.1 Wetlands

- Any disturbance is discouraged.
- If permitted wishes to pursue, permit requests will be reviewed, and a determination of impacts will be made considering all applicable rules and regulations.
- PGPs grant Alabama Power permission to issue permits but do not authorize Alabama Power to permit dredge or fill in wetlands.

4.2.1.2 Cultural Resources

- Alabama Power will use HPMP and PA for guidance

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1 Shoreline Permitting

- A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary.

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1 Shoreline Permitting

- A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary.

5.1.1 Permitting Guidelines

- ...developed the “General Guidelines for Residential Shoreline Permitting and Permit Terms and Conditions
- ...considered general, since each reservoir and lot is unique...

5.1.1.1 Residential Guidelines

5.1.1.2 Non-Residential Permits



SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1.1.1 Residential Permitting

- Shoreline property owner generally initiates the permit process to obtain a “Lakeshore Use Permit” (permit).
- Alabama Power reviews the application to determine if the proposed project meets the General Guidelines for Residential Shoreline Permitting, the USACE PGP Conditions, and the Dredge Permit Program.

5.1.1.2 Non-Residential Permits (NRPs)

- Non-Residential (marinas, and may also cover parks, overnight campgrounds, etc.)
- Multiple Single-Family Type Dwellings (condos, planned residential facilities, long-term campgrounds, etc.)
- Easements (i.e. roads, utilities, etc.)

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1.2 Permit Enforcement

5.1.3 Permit Transferability

5.1.4 Permit Revocation

5.1.5 Dilapidated, Abandoned, and Unpermitted Structures

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.2 Structure Identification, Assessment, and Resolution

- Alabama Power began identifying all existing permitted structures and unpermitted legacy structures
- Worked with unpermitted legacy structure owner for non-conforming structures

5.3 Surveillance Program

- Alabama Power surveys the shorelines to document emerging issues and track them to resolution

SHORELINE MANAGEMENT PLAN (SMP)



6.0 Best Management Practices & Erosion and Sedimentation Control

6.1 Best Management Practices

- BMPs are on-site actions implemented by an individual or group to lessen the potential direct or indirect effects of the use of a particular resource.

6.1.1 Buffers and Vegetation Management

6.1.2 Water Quality

6.1.3 Property Development and Management

6.2 Erosion and Sediment Control

SHORELINE MANAGEMENT PLAN (SMP)



7.0 Shoreline Management Plan Review Process

- Review every ten years with continued input from interested parties
- Continuously update information related to sensitive resources
- Begin review process with consulting agencies by December 31 of the ninth year of the 10-year cycle
- Issue report with number of permits processed on each shoreline classification type
- Host public workshop
- By December 31st of tenth year of cycle – filing that describes consultation, and proposed modifications

PHASE 2 ACTION ITEMS



Phase 2:

Phase 2 includes developing a Shoreline Management Plan (SMP) and a Wildlife Management Plan (WMP) to file with the final license application. In addition to the results from the Phase 1 Land Use Evaluation, Alabama Power will also integrate information collected during other relicensing studies (e.g., T&E, water quality, and recreation studies), as appropriate, to the SMP and WMP.

Status – Shoreline Management Plan & Wildlife Management Plan

☐ ~~Form a HAT 4 work groups~~

- ✓ Create a Draft Shoreline Management Plan in consultation with HAT 4
 - Draft version provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20

- ✓ Create a Draft Wildlife Management Plan in consultation with HAT 4
 - Annotated outline provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20

WILDLIFE MANAGEMENT PLAN (WMP)



1.0 Introduction

2.0 Purpose of the Plan

...to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project

3.0 Background and Existing Information

- History of FERC-approved plans
- Description of resources (i.e. typical upland and semi-aquatic wildlife species and habitat)

WILDLIFE MANAGEMENT PLAN (WMP)



4.0 Wildlife Management Objectives

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of project lands as wildlife habitat;
- 3) Management of public hunting areas for the physically disabled.

5.0 Shoreline Management

6.0 Timber Management

7.0 Harris Physically Disabled Hunting Areas



WILDLIFE MANAGEMENT PLAN (WMP)



5.0 Shoreline Management

- GIS system to guide future management actions and protect natural resources.
- BMPs pertaining to the preservation or establishment of shoreline buffer zones of unmanaged vegetation around the reservoir, as discussed in the SMP.
- Planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization, as specified in the SMP.

WILDLIFE MANAGEMENT PLAN (WMP)



6.0 Timber Management

- Historic and current timber management practices for Lake Harris and Skyline, including selective cutting, natural regeneration, and planting.
- Timber stand composition for Lake Harris and Skyline, including percent cover and acreage
- Information regarding northern long-eared and Indiana bats.
- If applicable, information regarding impaired waters.

7.0 Harris Physically Disabled Hunting Areas

- Background information and management actions regarding physically disabled hunting areas at Harris.

SHORELINE MANAGEMENT PLAN (SMP)

Next Steps



- Shoreline Management Plan
 - Written comments due no later than 11/02/20
 - Alabama Power will incorporate comments written comments and well as comments from today's meeting as applicable
 - As needed, a revised draft SMP will be provided to HAT 4 for review and comment

- Wildlife Management Plan
 - Written comments due no later than 11/02/20
 - Alabama Power will incorporate comments written comments and well as comments from today's meeting, as applicable, into a draft WMP
 - A draft WMP will be provided to HAT 4 for review and comment

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Monday, October 19, 2020 4:50 PM
To: APC Harris Relicensing; ken.wills@jcdh.org
Subject: Comments of Flat Rock BackcountryClassifications/Management

Hello all,

On behalf of the Alabama Glade Conservation Coalition, I wanted to follow up on this mornings HAT 4 discussions with some written comments regarding the reclassification of the Flat Rock backcountry area aka Flat Rock botanical conservation area as part of the FERC relicensing process for the Harris Hydro project. While our coalition strongly approves the backcountry area being reclassified from Recreation to the more protective Natural Undeveloped, HAT discussions over the last year along with the results from the initial botanical inventory illustrate the need for a special management plan for this unique natural area whether it be under the Natural Undeveloped land use classification or a special Botanical Area land use classification.

National Forests use Botanical Area as one of their land use classifications to recognize and address special management requirements for areas with unique and/or diverse plant species. Considering the initial botanical survey has found at least 10 plant species of state and global conservation concern in and around a rare habitat (Piedmont granite outcrops) as well as a good overall representation of plant communities found with Alabama's Piedmont region, this backcountry area should certainly be recognized/managed as a botanical conservation area whether or not a special botanical land use designation is added to the land use plan.

In regards to management, I am currently unable to access some of my computer files, but I believe some specific land protection/management recommendations were included within the cover letter that was sent by our botanical survey team to Alabama Power along the results from the initial botanical survey. I will submit that information when I can regain access or obtain a replacement. In the meantime, I can in more detail describe the special management that would be beneficial for conservation and enhancement of the rare as well as more common native botanical resources of the Flat Rock backcountry area.

1. Minimize heavy recreational/vehicle impacts- The wooded buffer between the backcountry granite outcrops and the main portion of Flat Rock Park continues to filter out heavy foot traffic while allowing the truly interested members of the public, educators and researches to still access the rare granite habitats. Considering the wooded buffer is part of the proposed conservation land use change, maintaining it should be relatively easy. In contrast, illegal ATV use is one of the greatest threats to the rare and sensitive plans of the area. Alabama Power has made great progress in blocking ATVs from accessing these sensitive habitats, but our botanical research team has recently found that the ATV users are finding new ways around the vehicle barriers into the track. Preventing ATVs from accessing the track and running over the rare plants of the granite outcrop habitats will be an ongoing issue that will require management.

2. Removal and reduction of exotic invasive plants- Like many glade habitats across the Southeast, the backcountry area of Flat Rock has a significant infestation of exotic invasive plants, especially Chinese Privet. The problem of removal and subsequent control can tackled in part through the use of supervised volunteers in the sensitive habitats along the edges of the granite habitats. However, more extensive control efforts may be needed in some of the less sensitive fully forested habitats where some of the largest privet infestations are found. Exotic plants control involves initial removal and treatments, but controlling their resprout/return is an ongoing issue that will require management. The Alabama Glade Conservation Coalition will be happy to assist in this process in part by providing and supervising volunteers in removal and control of exotics such as privet.

3. Controlled reintroduction of fire to the natural community- Like many of the drier habitats of Southeast, the ridge top and upper slope habitats surrounding granite outcrops were historically subject to frequent natural and aboriginal fire which help keep them open and diverse. Some of the lands that were recently added to the proposed conservation area even contain longleaf pine which is very fire dependent. If controlled burns could be safely reintroduced to the lands within the proposed botanical conservation area, it would help to open up habitats including some of the granite based rare plant habitats that have become choked with shading overgrowth as well as restore more diversity to the herbaceous layer in other upland habitats such as pine hardwood forest. Controlled burns are also very beneficial for reducing fuel loads that could result in more catastrophic wildfires. The suitability of the area for controlled burns will require evaluation in relation to dwellings/structures on adjacent properties. The Alabama Glade Conservation Coalition

includes such groups as the Nature Conservancy of Alabama that have experience in evaluating the potential for as well as supervising controlled burns in landscapes of various states of development, and those groups may be willing to help evaluate the potential for controlled burns in the proposed botanical conservation area. If controlled burns can be safely reintroduced into this area, then ongoing management will be required to maintain a program of periodic controlled burns.

In related matters, considering the proposed botanical conservation area contains at least 10 plants of state and global conservation concern and many of those plants are very sensitive to certain impacts, it would seem the Sensitive land use classification overlay should be considered for the proposed Flat Rock backcountry conservation lands whether they are is reclassified as Natural Undeveloped or a special Botanical Area designation. However, if the Sensitive land use classification overlay would restrict/prohibit walk in public access to the area for those who want to appreciate the plants and other natural features and/or restrict/prohibit any of the above forms of active management needed to help maintain the botanical resources of the area then the Sensitive land use classification overlay would not be appropriate for the proposed botanical conservation area.

In summary, we respect the ability of the decision makers for the Harris Project land management plan to evaluate and determine the best protective land use classification for the proposed botanical conservation area, but we do feel that the lands should be recognized as a botanical conservation area (at least within the land management plan) and a specific management plan should be developed for the botanical conservation area. If the specific botanical area management plan can be developed and added as an appendix to the final overall land management plan, that would be great, but we realize that development of such a plan may take time beyond the deadlines of this FERC relicensing process. The Alabama Glade Conservation Coalition will be happy to assist the development of a management plan for the proposed Flat Rock backcountry botanical conservation area as well as assist in the ongoing management of this unique and special area.

Thanks,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition
(205) 515-9412

HAT 4 - October 19 meeting summary

APC Harris Relicensing <g2apchr@southernco.com>

Tue 10/27/2020 8:03 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jabeason@southernco.com <jabeason@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>

Hat 4,

The meeting summary, along with the presentation, from our meeting on October 19, 2020 can be found in the [HAT 4](#) folder on the Harris relicensing website.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com



R. L. Harris Hydroelectric Project

FERC No. 2628

Meeting Summary Harris Action Team 4 – Project Lands October 19, 2020 9:00 am to 10:30 am Conference Call

Participants:

Angie Anderegg – Alabama Power Company (Alabama Power)
Dave Anderson – Alabama Power
Jeff Baker – Alabama Power
Jeff Beason – Alabama Power
Jason Carlee – Alabama Power
Keith Chandler – Alabama Power
Alan Creamer – Federal Energy Regulatory Commission (FERC)
Jim Crew – Alabama Power
Colin Dinken – Kleinschmidt Associates
Amanda Fleming – Kleinschmidt Associates
Todd Fobian – Alabama Department of Conservation and Natural Resources (ADCNR)
Chris Goodman – Alabama Power
Keith Henderson – ADCNR
Martha Hunter – Alabama Rivers Alliance (ARA)
Lydia Mayo – Environmental Protection Agency (EPA)
Rachel McNamara – FERC
Ashley McVicar – Alabama Power
Tina Mills – Alabama Power
Brad Mitchell – Stakeholder
Jason Moak – Kleinschmidt Associates
Kelly Schaeffer – Kleinschmidt Associates
Brian Seale – Alabama Power
Sheila Smith – Alabama Power
Thomas St. John – Alabama Power
Stacey Thompson – Alabama Power
Sandra Wash – Kleinschmidt Associates
Jack West – ARA
Ken Wills – Alabama Glade Conservation Coalition

Action Items:

- Develop a summary comparing the current Harris Land Use Plan to the draft Shoreline Management Plan (SMP); include this summary as part of the Final License Application (FLA).
- Develop a summary comparing the current Harris Wildlife Management Plan (WMP) to the draft WMP; include this summary as part of the FLA.

Summary:

Angie Anderegg (Alabama Power) opened the meeting by introducing everyone. Following a safety briefing, Tina Mills (Alabama Power) reviewed the goals and objectives of the Project

Lands Evaluation Study. Additionally, she reviewed the progress of Phase 1, including the September 11, 2019 Harris Action Team (HAT) 4 meeting and the botanical inventory at Flat Rock Park and bobwhite quail habitat survey, which were included in the Draft *Phase 1 Project Lands Evaluation Report*. Currently, an additional adjacent 20-acre tract at Flat Rock is being inventoried. Alabama Power received comments on the Draft *Phase 1 Project Lands Evaluation Report* and filed a Final *Phase 1 Project Lands Evaluation Report* with FERC on October 2, 2020.

For Phase 2, Alabama Power is developing the draft SMP and draft WMP for the Harris Project. Although the Project Lands Evaluation Study Plan called for organizing work groups to develop these two draft documents, both plans are being discussed and developed with the entire HAT 4. Both documents will be filed with the FLA.

Alabama Power provided the Draft SMP and an annotated outline of the WMP to HAT 4 on October 5, 2020, and the purpose of this meeting was to solicit feedback and respond to questions on both documents. Written comments must be provided to Alabama Power on or before November 2, 2020.

Tina presented the SMP outline and discussed the purpose of an SMP. Attachment A contains the presentation. Tina noted that while the Harris Project includes lands at Skyline, those lands are not included in the SMP. Since there is no shoreline at Skyline, management of those lands will be included in WMP.

Ken Wills (Glade Association) asked if the definition of the botanical area was something Alabama Power wanted the Glade Association to develop. Tina asked Ken if the definition for natural/undeveloped land use classification would provide the protections that the Glade Association is interested in for the botanical area. Ken said yes, it is a good classification but may need some specific designation that would provide purpose for the area's protection and potentially a management plan. Tina said that Alabama Power would consider the recommendations from the botanical report and determine if the natural /undeveloped land use classification will be adequate.

Rachel McNamara (FERC) noted that the draft SMP was very thorough. Rachel suggested that Alabama Power include in the FLA a summary that describes the differences between the existing Harris Land Use Plan and the proposed SMP. Angie noted that this SMP will resemble other Alabama Power hydro projects SMPs. Rachel said that FERC prefers to limit site-specific land use classifications but specify additional restrictions within a land use classification. Ken Wills asked if FERC would allow a management plan for a specific area as part of an SMP. Rachel indicated that that is a possibility.

Martha Hunter (ARA) asked how often the flood storage classification is used. Martha noted that downstream property owners have identified flooding as an issue, and she wondered if these lands could be used to address downstream flooding. Tina recommended that operations issues, including flood control, be best addressed in HAT 1 - Project Operations.

Tina then reviewed the presentation regarding the WMP annotated outline): Introduction, Purpose and Plan, Background and Existing Information, Wildlife Management Objectives, Shoreline Management, Timber Management, and Harris Physically Disabled Hunting Areas.

Following the presentation, Rachel asked at what point in the process would Alabama Power submit the WMP. Tina indicated that a Draft WMP is tentatively scheduled to be distributed to the HAT 4 in November/December 2020. Rachel reiterated that it would be helpful to FERC staff to see, within the FLA, a summary of the differences between the current WMP and the Draft WMP. Ken asked if Alabama Power would use the current WMP as a template. Tina suggested that Ken look at other Alabama Power WMPs. Tina reminded HAT 4 participants that written comments on the Draft annotated outline of the WMP are due on or before November 2, 2020.

The meeting adjourned.

Attachment A – Presentation from October 19, 2020 HAT 4 Meeting



HAT 4

Project Lands

- SMP & WMP

Phone Etiquette



- ☐ Be patient with any technology issues
- ☐ Follow the facilitator's instructions
- ☐ Phones will be muted during presentations
- ☐ Follow along with PDF of presentations
- ☐ Write down any questions you have for the designated question section
- ☐ Clearly state name and organization when asking questions
- ☐ Facilitator will ask for participant questions following the presentation and as applicable during the presentation

Health & Safety Moment



Aim for seven to eight hours of sleep each night.

- Sleep is when the body repairs itself.
 - Build muscle and restore energy
 - Release hormones that assist in cellular repair
 - Consolidation = brain processes everything you have learned and experienced
- Consolidation = brain processes everything you have learned and experienced
- New neural pathways are built while you sleep

Daytime habits were often the culprit for trouble sleeping

- Sleep schedule and environment
- Bedtime ritual
- Eating and drinking habits
- Exercise patterns
- Stress management
- Medication routine
- Nicotine use

PROJECT LANDS EVALUATION



Goals and Objectives

- Identify lands around Lake Harris and at Skyline that are needed for Harris Project purposes and to classify these lands.
- Evaluate the land use classifications for Harris and determine if any changes are needed to conform to Alabama Power's current land classification system and other Alabama Power FERC-approved Shoreline Management Plans
- Identify lands to be added to, or removed from, the current Harris Project Boundary and/or be reclassified.
- Develop a Shoreline Management Plan (SMP).
- Develop a Wildlife Management Plan (WMP).

STATUS OF PHASE 1 ACTION ITEMS



Status – Phase 1: Complete

- ✓ Meet with HAT 4 to discuss potential changes to the Harris Project lands (add, delete, or reclassify); include tract by tract description, rationale for change, and present in GIS format; consider potential resources impacts; draft a map showing all changes.
 - ✓ HAT 4 meeting was held on 09/11/19; tract by tract discussion, including maps, background information, and rationale for change; overview map of all proposed changes provided.
 - ✓ Meeting summary provided on www.harrisrelicensing.com
- ✓ Conduct a botanical inventory of a 20-acre parcel at Flat Rock
 - Report included in Final Phase 1 Report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
 - Evaluation of adjacent, additional 20-acre tract currently underway; report will be provided upon completion
- ✓ Evaluate acreage at Skyline to determine suitability for bobwhite quail habitat
 - Results of evaluation included in Final Phase 1 Report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
- ✓ Develop a Draft and Final Phase 1 Project Lands Evaluation Study Report
 - 04/10/20: Draft Phase 1 report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com
 - 10/02/20: Final Phase 1 report filed with FERC, emailed to HAT 4, and available at www.harrisrelicensing.com

PHASE 2 ACTION ITEMS



Phase 2:

Phase 2 includes developing a Shoreline Management Plan (SMP) and a Wildlife Management Plan (WMP) to file with the final license application. In addition to the results from the Phase 1 Land Use Evaluation, Alabama Power will also integrate information collected during other relicensing studies (e.g., T&E, water quality, and recreation studies), as appropriate, to the SMP and WMP.

Status – Shoreline Management Plan & Wildlife Management Plan

☐ ~~Form a HAT 4 work groups~~

- ✓ Create a Draft Shoreline Management Plan in consultation with HAT 4
 - Draft version provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20
- ✓ Create a Draft Wildlife Management Plan in consultation with HAT 4
 - Annotated outline provided to HAT 4 via email on 10/05/20
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SHORELINE MANAGEMENT PLAN (SMP)



Why develop a Shoreline Management Plan?

FERC issues licenses for non-federal hydropower projects.

(This includes Harris.)

Each project is unique. The license identifies all project purposes (such as operation and maintenance, flowage, public recreation, public access, etc.) and specifies any requirements.

(Harris = power generation, navigation, public recreation, etc.)

Typically a licensee will own or have the necessary rights to all submerged lands and any lands that fall within the operating levels of the reservoir...

(Harris = 795' msl)

...as well as a shoreline buffer.

(Harris = scenic easement up to 800' msl or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl).

“...a licensee may authorize specific uses and occupancies of the project shoreline that are not related to hydroelectric power or other project purposes...” a.k.a. non-project uses

(In other words, permits for residential boat docks, boathouses, boat ramps, piers, shoreline stabilization materials, etc. as well as commercial marinas)



SHORELINE MANAGEMENT PLAN (SMP)



Thus, ultimately...

Licensees have a responsibility to ensure that shoreline development activities that occur within a project boundary are consistent with project license requirements, purposes, and operations.

How is this accomplished?

An SMP is a comprehensive plan to manage the multiple resources and uses of the project's shorelines in a manner that is consistent with license requirements and project purposes and addresses the needs of the public.



SHORELINE MANAGEMENT PLAN (SMP)



So, we need an SMP...what should it include?

- 1.0 Introduction
- 2.0 Purpose and Goals
- 3.0 Shoreline Management Policies
- 4.0 Shoreline Management Classifications
- 5.0 Alabama Power's Shoreline Compliance Program
- 6.0 Best Management Practices & Erosion and Sedimentation Control
- 7.0 SMP Review Process

SHORELINE MANAGEMENT PLAN (SMP)



2.0 Purpose and Goals

Purpose:

...serve as a comprehensive guide for managing Project shoreline lands consistent with license requirements and Project purposes.

Overarching Goal:

...ensure that shoreline development is consistent with the protection and enhancement of environmental, scenic, cultural, and recreational values, while ensuring the continued safe and reliable production of hydroelectric power at the Project.

SHORELINE MANAGEMENT PLAN (SMP)



General Goals:

- facilitate compliance with license articles;
- provide for reasonable public access;
- protect fish and wildlife habitat;
- protect cultural resources;
- protect operational needs;
- minimize adverse impacts to water quality;
- minimize erosion;
- minimize sedimentation
- minimize adverse scenic effects; and
- guide shoreline development.

SHORELINE MANAGEMENT PLAN (SMP)



3.0 Shoreline Management Policies

...designed to guide existing and future shoreline management actions at the Project.

SHORELINE MANAGEMENT PLAN (SMP)



3.1 Shoreline Conservation Policy

Alabama Power Company actively promotes the conservation and protection of Project shoreline lands and their associated scenic, cultural, recreational, and environmental values.

- Enforcement of enforcement of existing state and federal regulations including, but not limited to, the Clean Water Act, Endangered Species Act, Wetlands Protection Act, National Historic Preservation Act, and the Federal Power Act.

SHORELINE MANAGEMENT PLAN (SMP)



3.2 Shoreline Management Policies

- Bank Stabilization
.... Riprap and natural bank stabilization are the preferred methods of erosion control; however, use of seawalls will be evaluated and may be approved on a case-by-case basis
- Dredging
...in accordance with FERC-approved Dredge Permit Program...developed in consultation with USACE...for dredging activities up to 500 cubic yards of material...

Dredging may be allowed but will be restricted in and around sensitive resource areas. Requests Will be considered on a case-by-case basis...

SHORELINE MANAGEMENT PLAN (SMP)



3.2 Shoreline Management Policies

- Channelization
It is the policy of Alabama Power to prohibit channelization on its reservoirs.
- Water Withdrawals
...obtain FERC authorization before permitting a water withdrawal greater than 1 million gallons per day

...delegated authority to Alabama Power to permit water withdrawal of 1 million gallons per day or less
- Causeways
...prohibit the creation of causeways...to connect islands to the mainland or to other islands.

SHORELINE MANAGEMENT PLAN (SMP)



4.0 Shoreline Management Classifications

...shoreline classification system to guide management and permitting activities within the Project Boundary.

...based on an evaluation of existing and potential land use.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.1 Project Operations

...Project lands reserved for current and potential future operational activities. This includes all Project lands used for

- hydroelectric generation,
- switchyards,
- transmission facilities,
- rights-of-way,
- security, and
- other operational uses.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.2 Recreation

...Project lands managed by Alabama Power for existing or potential future recreational activities. This includes land

- developed for public recreation,
- open space,
- water access, and
- future recreational development.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.3 Commercial Recreation

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.3 Commercial Recreation

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

Edits from previously discussed/drafted definitions:

~~Lands containing existing~~ **contain or are designated for** concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.4 Flood Storage

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour. These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

SHORELINE MANAGEMENT PLAN (SMP)

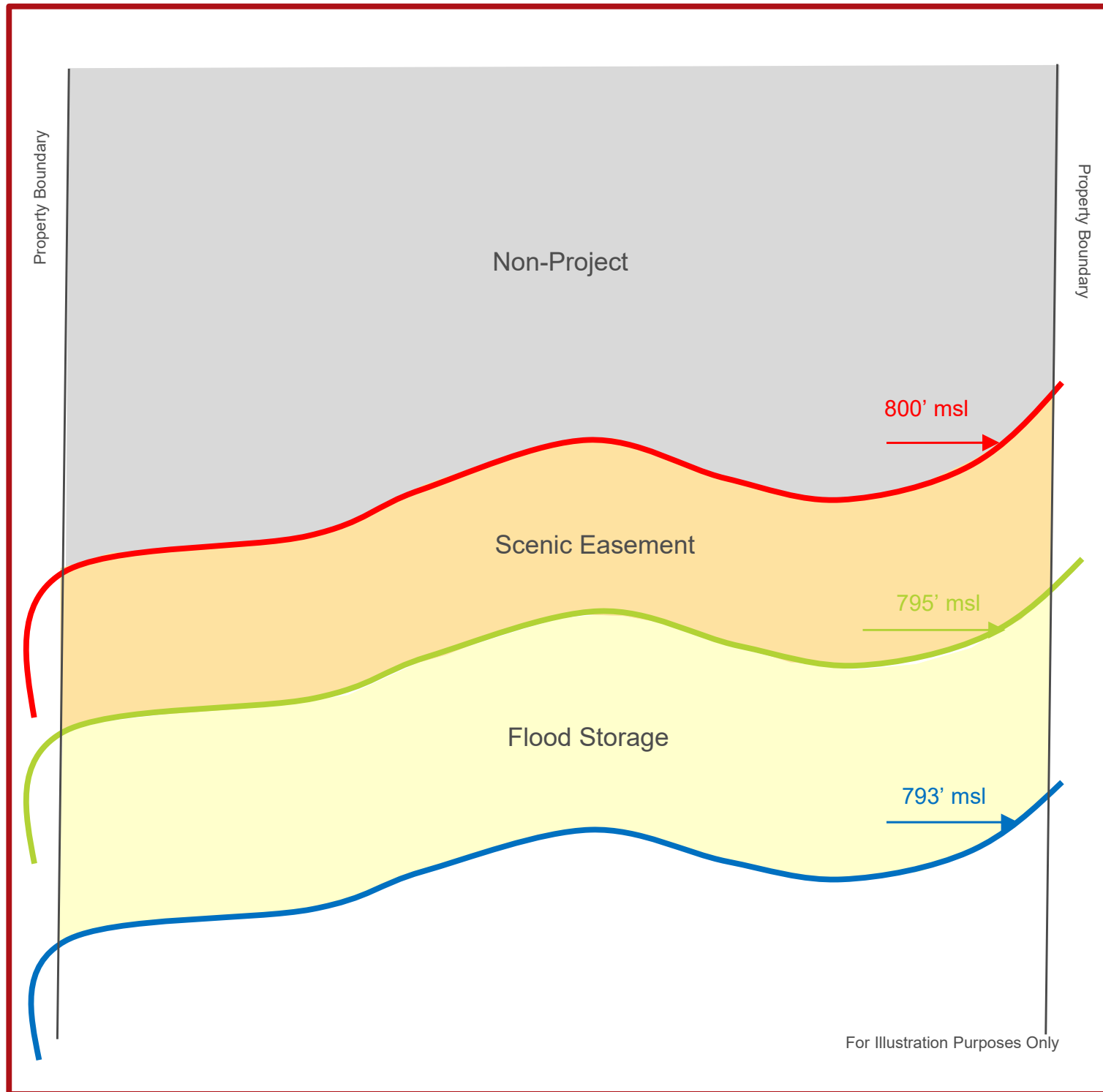


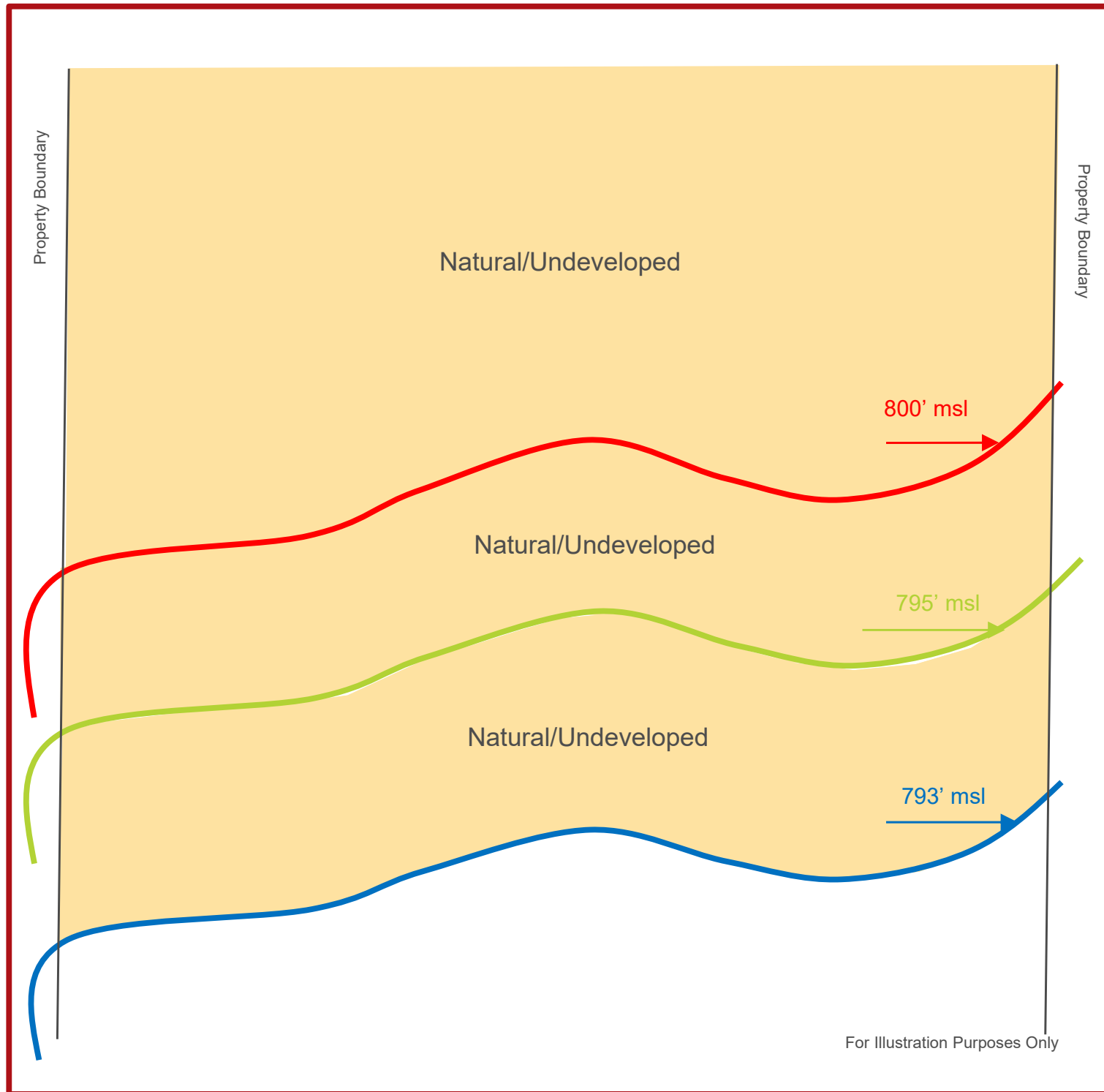
4.1.4 Flood Storage

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour. These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

Edits from previously discussed/drafted definitions:

...all lands located between the 793' mean sea level (msl) contour and the 795' msl contour, which are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time ~~and where the back acreage is non-project lands.~~





SHORELINE MANAGEMENT PLAN (SMP)



4.1.5 Scenic Easement

This classification includes lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.5 Scenic Easement

This classification includes lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

Edits from previously discussed/drafted definitions:

~~Scenic Buffer Zone~~ **Scenic Easement**

...~~all~~ lands located between the 795' msl contour and the 800' msl contour (or 50 horizontal feet from 793' msl, whichever is less, but never less than 795' msl) which includes lands ~~either owned by Alabama Power in fee simple or areas controlled by easement~~ for the project purpose of protecting scenic and environmental values.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.6 Hunting

This classification includes lands that are managed to provide hunting opportunities...

Non-hunting related public access is allowed from May 1 until September 30 of each year for activities such as hiking, camping, wildlife observation, and bank fishing opportunities.

SHORELINE MANAGEMENT PLAN (SMP)



4.1.7 Natural/Undeveloped

...will remain undeveloped for the following specific Project purposes:

- protecting environmentally sensitive areas;
- preserving natural aesthetic qualities;
- serving as buffer zones around public recreation areas; and
- preventing overcrowding of partially developed shoreline.

...allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry practices...

SHORELINE MANAGEMENT PLAN (SMP)



4.1.8 Flat Rock Botanical Area

HAT 4 Discussion

SHORELINE MANAGEMENT PLAN (SMP)



4.2 Sensitive Resources Designation

- Used in conjunction with shoreline classifications (i.e. overlay)
- Used on Project lands managed for the protection and enhancement of resources which are protected by state and/or federal law, executive order, or where other natural features are present which are considered important to the area or natural environment.

SHORELINE MANAGEMENT PLAN (SMP)



4.2.1 Allowable Uses in Areas Designated as Sensitive Resources

4.2.1.1 Wetlands

- Any disturbance is discouraged.
- If permitted wishes to pursue, permit requests will be reviewed, and a determination of impacts will be made considering all applicable rules and regulations.
- PGPs grant Alabama Power permission to issue permits but do not authorize Alabama Power to permit dredge or fill in wetlands.

4.2.1.2 Cultural Resources

- Alabama Power will use HPMP and PA for guidance

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1 Shoreline Permitting

- A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary.

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1 Shoreline Permitting

- A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary.

5.1.1 Permitting Guidelines

- ...developed the “General Guidelines for Residential Shoreline Permitting and Permit Terms and Conditions
- ...considered general, since each reservoir and lot is unique...

5.1.1.1 Residential Guidelines

5.1.1.2 Non-Residential Permits



SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1.1.1 Residential Permitting

- Shoreline property owner generally initiates the permit process to obtain a “Lakeshore Use Permit” (permit).
- Alabama Power reviews the application to determine if the proposed project meets the General Guidelines for Residential Shoreline Permitting, the USACE PGP Conditions, and the Dredge Permit Program.

5.1.1.2 Non-Residential Permits (NRPs)

- Non-Residential (marinas, and may also cover parks, overnight campgrounds, etc.)
- Multiple Single-Family Type Dwellings (condos, planned residential facilities, long-term campgrounds, etc.)
- Easements (i.e. roads, utilities, etc.)

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.1.2 Permit Enforcement

5.1.3 Permit Transferability

5.1.4 Permit Revocation

5.1.5 Dilapidated, Abandoned, and Unpermitted Structures

SHORELINE MANAGEMENT PLAN (SMP)



5.0 Alabama Power's Shoreline Compliance Program

5.2 Structure Identification, Assessment, and Resolution

- Alabama Power began identifying all existing permitted structures and unpermitted legacy structures
- Worked with unpermitted legacy structure owner for non-conforming structures

5.3 Surveillance Program

- Alabama Power surveys the shorelines to document emerging issues and track them to resolution

SHORELINE MANAGEMENT PLAN (SMP)



6.0 Best Management Practices & Erosion and Sedimentation Control

6.1 Best Management Practices

- BMPs are on-site actions implemented by an individual or group to lessen the potential direct or indirect effects of the use of a particular resource.

6.1.1 Buffers and Vegetation Management

6.1.2 Water Quality

6.1.3 Property Development and Management

6.2 Erosion and Sediment Control

SHORELINE MANAGEMENT PLAN (SMP)



7.0 Shoreline Management Plan Review Process

- Review every ten years with continued input from interested parties
- Continuously update information related to sensitive resources
- Begin review process with consulting agencies by December 31 of the ninth year of the 10-year cycle
- Issue report with number of permits processed on each shoreline classification type
- Host public workshop
- By December 31st of tenth year of cycle – filing that describes consultation, and proposed modifications

PHASE 2 ACTION ITEMS



Phase 2:

Phase 2 includes developing a Shoreline Management Plan (SMP) and a Wildlife Management Plan (WMP) to file with the final license application. In addition to the results from the Phase 1 Land Use Evaluation, Alabama Power will also integrate information collected during other relicensing studies (e.g., T&E, water quality, and recreation studies), as appropriate, to the SMP and WMP.

Status – Shoreline Management Plan & Wildlife Management Plan

☐ ~~Form a HAT 4 work groups~~

- ✓ Create a Draft Shoreline Management Plan in consultation with HAT 4
 - Draft version provided to HAT 4 via email on 10/05/20
 - Solicit stakeholder feedback during meeting on 10/19/20
 - Written comments due no later than 11/02/20
- ✓ Create a Draft Wildlife Management Plan in consultation with HAT 4
 - Annotated outline provided to HAT 4 via email on 10/05/20
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WILDLIFE MANAGEMENT PLAN (WMP)



1.0 Introduction

2.0 Purpose of the Plan

...to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project

3.0 Background and Existing Information

- History of FERC-approved plans
- Description of resources (i.e. typical upland and semi-aquatic wildlife species and habitat)

WILDLIFE MANAGEMENT PLAN (WMP)



4.0 Wildlife Management Objectives

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of project lands as wildlife habitat;
- 3) Management of public hunting areas for the physically disabled.

5.0 Shoreline Management

6.0 Timber Management

7.0 Harris Physically Disabled Hunting Areas



WILDLIFE MANAGEMENT PLAN (WMP)



5.0 Shoreline Management

- GIS system to guide future management actions and protect natural resources.
- BMPs pertaining to the preservation or establishment of shoreline buffer zones of unmanaged vegetation around the reservoir, as discussed in the SMP.
- Planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization, as specified in the SMP.

WILDLIFE MANAGEMENT PLAN (WMP)



6.0 Timber Management

- Historic and current timber management practices for Lake Harris and Skyline, including selective cutting, natural regeneration, and planting.
- Timber stand composition for Lake Harris and Skyline, including percent cover and acreage
- Information regarding northern long-eared and Indiana bats.
- If applicable, information regarding impaired waters.

7.0 Harris Physically Disabled Hunting Areas

- Background information and management actions regarding physically disabled hunting areas at Harris.

SHORELINE MANAGEMENT PLAN (SMP)

Next Steps



- Shoreline Management Plan
 - Written comments due no later than 11/02/20
 - Alabama Power will incorporate comments written comments and well as comments from today's meeting as applicable
 - As needed, a revised draft SMP will be provided to HAT 4 for review and comment

- Wildlife Management Plan
 - Written comments due no later than 11/02/20
 - Alabama Power will incorporate comments written comments and well as comments from today's meeting, as applicable, into a draft WMP
 - A draft WMP will be provided to HAT 4 for review and comment

Harris Relicensing Progress Update

APC Harris Relicensing <g2apchr@southernco.com>

Fri 10/30/2020 5:37 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; 9sling@charter.net <9sling@charter.net>; abnoel@southernco.com <abnoel@southernco.com>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; alpeeples@southernco.com <alpeeples@southernco.com>; amanda.fleming@kleinschmidtgroup.com <amanda.fleming@kleinschmidtgroup.com>; amanda.mcbride@ahc.alabama.gov <amanda.mcbride@ahc.alabama.gov>; amccartn@blm.gov <amccartn@blm.gov>; ammcvica@southernco.com <ammcvica@southernco.com>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; andrew.nix@dcnr.alabama.gov <andrew.nix@dcnr.alabama.gov>; arsegars@southernco.com <arsegars@southernco.com>; athall@fujifilm.com <athall@fujifilm.com>; aubie84@yahoo.com <aubie84@yahoo.com>; awhorton@corblu.com <awhorton@corblu.com>; bart_robby@msn.com <bart_robby@msn.com>; baxterchip@yahoo.com <baxterchip@yahoo.com>; bboozzer6@gmail.com <bboozzer6@gmail.com>; bdavis081942@gmail.com <bdavis081942@gmail.com>; Beason, Jeffrey A. <JABEASON@southernco.com>; 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Harris Relicensing stakeholders,

In the Harris Project Final Study Plans, filed with FERC on May 13, 2019, Alabama Power agreed to file voluntary Progress Updates with FERC in October 2019 and October 2020. The purpose of the Progress Update is to ensure that stakeholders and FERC can review the study progress to date and plan for future reports, meetings, and overall relicensing activities. This is a voluntary action that is not required under the ILP. Alabama Power has filed the October 2020 Progress Update with FERC and posted it to the Harris Project relicensing website: www.harrisrelicensing.com [harrisrelicensing.com] (in the Relicensing Documents folder).

Thanks,

Angie Anderegg

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October 30, 2020

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Progress Update

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street N.
Washington, DC 20426

Dear Secretary Bose,

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628). On March 13, 2019¹, Alabama Power filed 10 study plans for FERC approval as part of the Integrated Licensing Process (ILP) for the Harris Project. On April 12, 2019², FERC approved Alabama Power's study plans with FERC modifications. Alabama Power filed the Final Study Plans with FERC on May 13, 2019³ and posted the Final Study Plans to the Harris Project relicensing website at www.harrisrelicensing.com. Alabama Power filed the Initial Study Report along with six Draft Study Reports and two cultural resources documents on April 10, 2020⁴.

As part of the May 13, 2019 filing, Alabama Power recognized the complexity of tracking the 10 relicensing studies and committed to filing a voluntary Progress Update with FERC in October 2019 and October 2020. Alabama Power filed the 2019 Progress Update on October 30, 2019⁵. The purpose of this Progress Update (Attachment A) is to ensure that stakeholders and FERC can review the study progress to date and plan for future reports, meetings, and overall relicensing activities. This is a voluntary action that is not required under the ILP. A summary of the Harris Project relicensing activities for the six established Harris Action Teams (HAT) and their associated studies from April 10, 2020 to date is outlined in the Progress Update. Alabama Power will post this 2020 Progress Update to the Harris Project relicensing website. The current HAT distribution lists are included as Attachment B.

¹ Accession No. 20190313-5060

² Accession No. 20190412-3000

³ Accession No. 20190513-5093

⁴ Accession No. 20200410-5084

⁵ Accession No. 20191030-5053

Page 2
October 30, 2020

If there are any questions concerning this filing, please contact me at arsegars@southernco.com or 205-257-2251.

Sincerely,

A handwritten signature in blue ink that reads "Angie Anderegg". The signature is written in a cursive, flowing style.

Angie Anderegg
Harris Relicensing Project Manager

Attachments (2)

cc: Harris Stakeholder List

Attachment A
October 2020 Harris Project Progress Update

HARRIS PROGRESS UPDATE REPORT

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628



Prepared for:
Alabama Power Company

Prepared by:
Kleinschmidt Associates
October 2020



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1.0 INTRODUCTION

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628). On June 1, 2018, Alabama Power filed a Pre-Application Document and began the Integrated Licensing Process (ILP) for the Harris Project¹.

On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project. FERC issued a Study Plan Determination on April 12, 2019, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019². Based upon FERC's prior comments and as part of the Final Study Plans, Alabama Power incorporated within each study plan's schedule a milestone to file a voluntary Progress Update in October 2019 and October 2020. This Progress Update is designed to inform stakeholders and FERC of the study progress, future reports, Harris Action Team (HAT) meetings, and overall relicensing activities.

Three activities apply to all the HATs that are described here: the Initial Study Report (ISR), ISR Meeting, and the ISR Meeting Summary. On April 10, 2020, Alabama Power filed the ISR³ along with six Draft Study Reports and two cultural resources documents. Alabama Power held an ISR Meeting with stakeholders and FERC on April 28, 2020 and filed the ISR Meeting Summary on May 12, 2020⁴. Comments on the ISR and ISR Meeting Summary were due June 11, 2020. On July 10, 2020, Alabama Power filed its response to questions/comments on the ISR and additional studies/study modifications for the Harris Project.⁵

On August 10, 2020, FERC sent a letter to Alabama Power discussing the Determination on Requests for Study Modifications for the R.L. Harris Hydroelectric Project⁶. In that letter, FERC recommended that Alabama Power conduct a new study titled Battery Energy Storage System (BESS). FERC recommended that the BESS study be conducted with the

¹ Accession No. 20180601-5125

² Accession No. 20190513-5093

³ Accession No. 20200410-5084

⁴ Accession No. 20200512-5083

⁵ Accession No. 20200710-5122

⁶ Accession No. 20200810-3007

Downstream Release Alternative Study and include at least two new release alternatives: (a) a 50 percent reduction in peak releases associated with installing one 60 MW battery unit, and (b) a proportionately smaller reduction in peak releases associated with installing a smaller MW battery unit (i.e., 5, 10 or 20 MW battery). FERC further recommended that Alabama Power include in its cost estimates for installing a BESS, any specific structural changes, any changes in turbine-generator units, and costs needed to implement each battery storage type. Finally, FERC recommended that, consistent with the Downstream Release Alternative Study Plan, Alabama Power evaluate how each of the release alternatives (i.e., items (a) and (b) above) would affect recreation and aquatic resources in the Harris Project reservoir and downstream. Alabama Power is conducting the BESS study as recommended by FERC and will prepare and file a BESS report in first quarter 2021.

Sections 2-7 of this Progress Report summarize the relicensing activities of the six established HATs from the ISR filing to date.

2.0 HAT 1 – PROJECT OPERATIONS

2.1 DOWNSTREAM RELEASE ALTERNATIVES STUDY PLAN

- Alabama Power downloaded the lever logger data and incorporated these data into the HEC-RAS (Hydrologic Engineering Center's River Analysis System) model.
- Alabama Power filed the Draft *Downstream Release Alternatives Phase 1 Report* on April 10, 2020⁷ with comments due June 11, 2020. This report was also distributed to the HAT 1 (Project Operations) participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power filed the Final *Downstream Release Alternatives Phase 1 Report* on July 27, 2020⁸. This report was also distributed to the HAT 1 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- As noted in the Alabama Power Response to ISR Disputes or Requests for Modifications of Study Plan filed on July 10, 2020 and recommended in FERC's August 10, 2020 Determination on Study Modifications, Alabama Power is analyzing additional downstream releases and using qualitative and quantitative data to identify potential resource impacts from changes in the downstream releases. Alabama Power will present this information in the Phase 2 Report. The Draft Phase 2 report will be filed on or before April 12, 2021.

2.2 OPERATING CURVE CHANGE FEASIBILITY ANALYSIS STUDY PLAN

- Alabama Power filed the Draft *Operating Curve Change Feasibility Analysis Phase 1 Report* on April 10, 2020⁹ with comments due June 11, 2020. This report was also distributed to the HAT 1 (Project Operations) participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power hosted a HAT 1 meeting on June 4, 2020, to present the methodologies for analyzing how structures on Lake Harris and downstream

⁷ Accession No. 20200410-5069

⁸ Accession No. 20200727-5088

⁹ Accession No. 20200410-5086

of Harris Dam might be affected by the proposed winter operating curve alternatives and posted the meeting summary on the Harris Relicensing website at www.harrisrelicensing.com.

- Alabama Power filed the *Final Operating Curve Change Feasibility Analysis Phase 1 Report* on August 31, 2020¹⁰. This report was also distributed to the HAT 1 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power is analyzing qualitative and quantitative data in Phase 2 to identify potential resource impacts from a change in the operating curve. The Draft Phase 2 report will be filed on or before April 12, 2021.

¹⁰ Accession No. 20200831-5339

3.0 HAT 2 – WATER QUALITY AND USE

3.1 EROSION AND SEDIMENTATION STUDY PLAN

- Alabama Power distributed the Draft *Erosion and Sedimentation Study Report* to HAT 2 (Water Quality and Use) participants for review on March 18, 2020. Alabama Power provided this report to HAT 2 participants prior to the official ISR comment period to allow additional time for review.
- Alabama Power filed the Draft *Erosion and Sedimentation Study Report* on April 10, 2020¹¹ with comments due June 11, 2020. This report was also distributed to the HAT 2 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power posted the videos associated with the *Tallapoosa River High Definition Stream Survey Final Report* on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power facilitated obtaining from a stakeholder copies of various images of the Tallapoosa River pre-Harris Dam and post-construction. Alabama Power filed these images as Consultation Regarding Historic Photographs of the Tallapoosa River with FERC on August 4, 2020¹². These photos were also posted to the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power performed additional reconnaissance at identified sedimentation sites on Lake Harris during full (summer) pool conditions to determine if any nuisance aquatic vegetation is present and will provide the results of that assessment to HAT 2 participants in the form of a technical memorandum on or before April 12, 2021.
- Alabama Power will file the Final *Erosion and Sedimentation Study Report* on or before April 12, 2021.

¹¹ Accession No. 20200410-5091

¹² Accession No. 20200804-5252

3.2 WATER QUALITY STUDY PLAN

- Alabama Power distributed the *Draft Water Quality Study Report* to HAT 2 participants for review on March 11, 2020. Alabama Power provided this report to HAT 2 participants prior to the official ISR comment period to allow additional time for review.
- Alabama Power filed the *Draft Water Quality Study Report* on April 10, 2020¹³ with comments due June 11, 2020. This report was also distributed to the HAT 2 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- As filed in the Response to ISR Disputes or Requests for Modifications of Study Plan on July 10, 2020, Alabama Power is collecting additional water quality data in 2020 and 2021 as requested by Alabama Rivers Alliance and other stakeholders.
- To collect dissolved oxygen and water temperature data in 2020, Alabama Power installed the continuous monitor on May 4, 2020, following the ISR meeting. The generation monitor was installed on June 1, 2020, to align with the monitoring season start date in the Water Quality Study Plan.
- Alabama Power will collect water quality data at both locations in 2021 (from March 1 – June 30, 2021 at the continuous monitor and June 1 – June 30, 2021 at the generation monitor) to include in the Final License Application (FLA).
- Alabama Power will file the Final *Water Quality Study Report* on or before April 12, 2021.

¹³ Accession No. 20200410-5095

4.0 HAT 3 – FISH AND WILDLIFE

4.1 AQUATIC RESOURCES STUDY PLAN

- Alabama Power hosted a HAT 3 (Fish and Wildlife) meeting on June 2, 2020. Auburn University presented its research to date and informed meeting participants of remaining work on the Aquatic Resources Study. Alabama Power posted the June 2, 2020 HAT 3 meeting summary on the Harris Relicensing website at www.harrisrelicensing.com.
- Auburn has conducted fish sampling in May, July, and September 2020 and will also sample in November 2020.
- Auburn deployed eight acoustic receivers from Harris Dam to Malone to detect overall fish movement and responses and two acoustic receivers at Wadley. Auburn tagged 13 Alabama Bass and 3 Tallapoosa Bass and has also performed manual tracking of these fish. Results of this tagging will be compiled and presented in Auburn's report in 2021.
- Auburn continues to perform static and swimming respirometry testing of target fish species.
- Auburn continues to analyze temperature data and work on the bioenergetics modeling protocols.
- Alabama Power filed the Draft *Aquatic Resources Report* on July 28, 2020¹⁴ with comments due August 28, 2020. This report was also distributed to the HAT 3 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power will host a HAT 3 meeting on November 5, 2020; a meeting agenda was provided to HAT 3 participants on October 16, 2020.
- Alabama Power will file the Final *Aquatic Resources Report* on or before April 12, 2021.

¹⁴ Accession No. 20200728-5120

4.2 DOWNSTREAM AQUATIC HABITAT STUDY PLAN

- Alabama Power filed the Draft *Downstream Aquatic Habitat Study Report* on June 30, 2020¹⁵ with comments due August 1, 2020. This report was also distributed to the HAT 3 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power will host a HAT 3 meeting on November 5, 2020; a meeting agenda was provided to HAT 3 participants on October 16, 2020.
- Alabama Power will file the Final *Downstream Aquatic Habitat Report*, including all Geographic Information System (GIS) Shapefiles and HEC-RAS model outputs on or before April 12, 2021.

4.3 THREATENED AND ENDANGERED (T&E) SPECIES STUDY PLAN

- Alabama Power filed the Draft *Threatened and Endangered Species Desktop Assessment* on April 10, 2020¹⁶ with comments due June 11, 2020. This report was also distributed to the HAT 3 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- In accordance with FERC's Determination on Requests for Study Modifications for the R.L. Harris Hydroelectric Project, Alabama Power conducted additional field surveys for Threatened & Endangered species and/or their potentially suitable habitat based on ongoing consultation with the United States Fish and Wildlife Service (USFWS), Alabama Department of Conservation and Natural Resources (ADCNR), and Alabama Natural Heritage Program.
- Alabama Power will host a HAT 3 meeting on November 5, 2020; a meeting agenda was provided to HAT 3 participants on October 16, 2020.

Alabama Power will provide documentation of consultation in the Final *Threatened and Endangered Species Report*, which will be filed in January 2021.

¹⁵ Accession No. 20200630-5200

¹⁶ Accession No. 20200410-5094

5.0 HAT 4 – PROJECT LANDS

5.1 PROJECT LANDS EVALUATION STUDY PLAN

- Alabama Power filed the Draft *Phase 1 Project Lands Evaluation Study Report* on April 10, 2020¹⁷ with comments due June 11, 2020. This report was also distributed to the HAT 4 (Project Lands) participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power filed the Final *Phase 1 Project Lands Evaluation Study Report* on October 2, 2020¹⁸. This report was also distributed to the HAT 3 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Spring and summer fieldwork at the Flat Rock botanical area was completed, and researchers are planning one additional site visit to document any remaining plant species that bloom in late autumn. To date, 403 species have been documented from the Flat Rock botanical area. Researchers will submit a draft report in December 2020 on the additional research at the Flat Rock Botanical area, and a final report in Q1 2021; this report will be included in the Updated Study Report.
- On October 5, 2020, Alabama Power distributed the Final *Project Lands Evaluation Study Report* as well as a Draft Shoreline Management Plan (SMP) and Draft Wildlife Management Plan (WMP) Annotated Outline to HAT 4 for review and comment.
- Alabama Power held a HAT 4 meeting on October 19, 2020 to review and discuss the Draft SMP and WMP outline. A meeting summary was distributed to HAT 4 participants and posted on the Harris relicensing website at www.harrisrelicensing.com.
- Phase 2 of the Project Lands Evaluation Study will use the Phase 1 evaluation information, as well as results from other studies, to develop a WMP and a SMP, and draft versions of both plans will be filed with the FLA.

¹⁷ Accession No. 20200410-5092

¹⁸ Accession No. 20201002-5139

6.0 HAT 5 – RECREATION

6.1 RECREATION EVALUATION STUDY PLAN

- In the April 10, 2020 ISR, Alabama Power noted a variance in the Recreation Evaluation Study Plan due to the additional study elements and an extended deadline for landowners and the public to participate in the recreation surveys. Alabama Power noted a variance for filing the Draft *Recreation Evaluation Study Report* in August 2020 rather than in April 2020. FERC concurred with this variance on August 10, 2020.
- Alabama Power held a HAT 5 (Recreation) meeting on June 4, 2020 to present the methodologies for analyzing how structures on Lake Harris might be affected by the proposed winter operating curve alternatives and posted the HAT 5 meeting summary on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power filed the Draft *Recreation Evaluation Study Report* on August 24, 2020¹⁹ with comments due September 30, 2020. This report was also distributed to the HAT 5 participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power hosted a HAT 5 meeting on October 19, 2020 to present the methodology for analyzing boatable flows in the Tallapoosa River and present initial recreation protection, mitigation and enhancement measures and posted the meeting summary on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power will file the Final *Recreation Evaluation Study Report* in November 2020.

¹⁹ Accession No. 20200824-5241

7.0 HAT 6 – CULTURAL RESOURCES

7.1 CULTURAL RESOURCES PROGRAMMATIC AGREEMENT AND HISTORIC PROPERTIES MANAGEMENT PLAN STUDY PLAN

- Alabama Power filed the Inadvertent Discovery Plan (IDP) and Traditional Cultural Properties (TCP) Identification Plan on April 10, 2020²⁰ with comments due June 11, 2020. These documents were also distributed to the HAT 6 (Cultural Resources) participants and posted on the Harris Relicensing website at www.harrisrelicensing.com.
- In the April 10, 2020 ISR, Alabama Power noted a variance in the Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study Plan to finalize and file the Area of Potential Effects (APE) and associated consultation by June 30, 2020 (revised from April 2020).
- Alabama Power distributed the Draft *Harris Project Area of Potential Effects Report* to HAT 6 on May 15, 2020 and posted the report on the Harris Relicensing website at www.harrisrelicensing.com.
- Alabama Power held a HAT 6 meeting on May 28, 2020, to discuss the Draft *Harris Project Area of Potential Effects Report* and review the status of the cultural resources surveys. Stakeholders comments were due June 15, 2020.
- Alabama Power posted a public version of the May 28, 2020 HAT 6 meeting summary on the Harris Relicensing website at www.harrisrelicensing.com; however, due to the privileged information discussed in the meeting, distribution of some of the meeting materials were limited.
- On June 18, 2020, the Alabama State Historic Preservation Office (SHPO) concurred with the Harris Project APE as defined by Alabama Power.
- Alabama Power filed the Final *Harris Project Area of Potential Effects Report* on June 29, 2020²¹.
- On August 11, 2020, FERC found Alabama Power's proposed APE for the Harris Project appropriate²².

²⁰ Accession Nos. 20200410-5067, 20200410-5068

²¹ Accession No. 20200629-5328

²² Accession No. 20200811-3007

- Alabama Power and the Office of Archeological Research (OAR) completed approximately 80 percent of all of the preliminary archeological assessments (96 sites) around Lake Harris. The remaining 20 percent will be completed as the water level of Lake Harris lowers in the winter months of 2020-2021 and the necessary shoreline is accessible.
- Alabama Power and OAR completed cultural resources assessments at Skyline (30 sites). In addition, OAR finished approximately 90 percent of the cave art survey sample in Skyline (14 caves were investigated, and OAR will reevaluate 3 cave sites).
- Alabama Power and OAR continue TCP consultation with the Muscogee (Creek) Nation. To date, there have been seven discussions.

OAR identified known cultural resources sites in the Tallapoosa River downstream of Harris Dam. Alabama Power and OAR are evaluating effects on cultural resources due to any changes in Harris Project operations.

Attachment B
Harris Action Team Distribution Lists

HAT 1 – Project Operations

Full Name	Company
Damon Abernethy	Alabama Department of Conservation and Natural Resources
Bob Allen	U.S. Army Corps of Engineers
Brian Atkins	Alabama Department of Economic and Community Affairs
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Richard Bronson	Stakeholder
Steve Bryant	Alabama Department of Conservation and Natural Resources
Nancy Burnes	Lake Wedowee Property Owners Association
Richard Burnes	Property Owner
Matt and Ann Campbell	Stakeholder
Kristie Coffman	Auburn University
Allan Creamer	Federal Energy Regulatory Commission
Doug & Jan Crisp	Stakeholder
Robin Crockett	Stakeholder
Gene Crouch	Keller Williams Realty Group; Lake Wedowee
Jesse Cunningham	Lake Martin HOBO
Dennis Devries	Auburn University
Mike Dollar	Lake Martin HOBO
Jeff Duncan	U.S. National Park Service
Albert Eiland	Property Owner
Todd Fobian	Alabama Department of Conservation and Natural Resources
Steve Forehand	Lake Martin Resource Association
Sylvia French	Lake Wedowee Property Owners Association
Tom Garland	Lake Wedowee Property Owners Association
Lisa Perras Gordon	U.S. Environmental Protection Agency
Chris Greene	Alabama Department of Conservation and Natural Resources
Jennifer Grunewald	U.S. Fish and Wildlife
Andrew Hall	Property Owner
Randall Harvey	U.S. Army Corps of Engineers
Jennifer Haslbauer	Alabama Department of Environmental Management
James Hathorn	U.S. Army Corps of Engineers
Dave Heinzen	Lake Martin HOBO
Keith Henderson	Alabama Department of Conservation and Natural Resources
Mike Holley	Alabama Department of Conservation and Natural Resources
Dan Holliman	U.S. Environmental Protection Agency
Sonja Hollomon	Stakeholder
Martha Hunter	Alabama Rivers Alliance
Elise Irwin	Auburn University
Butch Jackson	Stakeholder

Full Name	Company
Gerrit Jobsis	American Rivers
Chris Johnson	Alabama Department of Environmental Management
Evan Lawrence	Alabama Department of Conservation and Natural Resources
Michael Len	Alabama Department of Environmental Management
Fred Leslie	Alabama Department of Environmental Management
Tom Littlepage	Alabama Department of Economic and Community Affairs
Cindy Lowry	Alabama Rivers Alliance
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Lydia Mayo	U.S. Environmental Protection Agency
Rachel McNamara	Federal Energy Regulatory Commission
David Moore	Alabama Department of Environmental Management
Barry Morris	Lake Wedowee Property Owners Association
Ginny Oxford	Stakeholder
Erin Padgett	U.S. Fish and Wildlife
Mellie Parrish	Stakeholder
Ira Parsons	Lake Wedowee Property Owners Association
Jeff Powell	U.S. Fish and Wildlife
Becky Rainwater	ReMax Lakefront
Mitch Reid	Nature Conservancy
Sarah Salazar	Federal Energy Regulatory Commission
Jerrel Shell	Stakeholder
Barry Smith	Stakeholder
David Smith	Stakeholder
Paul Smith	Stakeholder
Linda Stone	Stakeholder
Chuck Sumner	U.S. Army Corps of Engineers
Monte Terhaar	Federal Energy Regulatory Commission
David Thomas	Stakeholder
David Thompson	Property Owner
John Thompson	Lake Martin Resource Association
George Traylor	Property Owner
Jimmy Traylor	Stakeholder
Steve Traylor	Stakeholder
Jack West	Alabama Rivers Alliance
Jonas White	U.S. Army Corps of Engineers
Russell Wright	Auburn University

HAT 2 – Water Quality and Use

Full Name	Company
Damon Abernethy	Alabama Department of Conservation and Natural Resources
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Steve Bryant	Alabama Department of Conservation and Natural Resources
Nancy Burnes	Lake Wedowee Property Owners Association
Richard Burnes	Property Owner
Matt and Ann Campbell	Stakeholder
Maria Clark	U.S. Environmental Protection Agency
Kristie Coffman	Auburn University
Allan Creamer	Federal Energy Regulatory Commission
Jan and Doug Crisp	Stakeholder
Robin Crockett	Stakeholder
Jesse Cunningham	Lake Martin HOBO
Chris Decker	U.S. Environmental Protection Agency
Chuck Denman	Stakeholder
Jeff Duncan	U.S. National Park Service
Albert Eiland	Property Owner
Todd Fobian	Alabama Department of Conservation and Natural Resources
Steve Forehand	Lake Martin Resource Association
Tom Garland	Lake Wedowee Property Owners Association
Lisa Perras Gordon	U.S. Environmental Protection Agency
Chris Greene	Alabama Department of Conservation and Natural Resources
Evelyn Hammrick	Property Owner
Jennifer Haslbauer	Alabama Department of Environmental Management
Keith Henderson	Alabama Department of Conservation and Natural Resources
Mike Holley	Alabama Department of Conservation and Natural Resources
Dan Holliman	U.S. Environmental Protection Agency
Martha Hunter	Alabama Rivers Alliance
Elise Irwin	Auburn University
Gerrit Jobsis	American Rivers
Chris Johnson	Alabama Department of Environmental Management
Carol Knight	Stakeholder
Michael Len	Alabama Department of Environmental Management
Fred Leslie	Alabama Department of Environmental Management
Cindy Lowry	Alabama Rivers Alliance
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Lydia Mayo	U.S. Environmental Protection Agency
Rachel McNamara	Federal Energy Regulatory Commission

Full Name	Company
Harry Merrill	Stakeholder
David Moore	Alabama Department of Environmental Management
Barry Morris	Lake Wedowee Property Owners Association
Mellie Parrish	Stakeholder
Jerry & Mary Lee Poss	Stakeholder
Mitch Reid	Nature Conservancy
Eric Reutebuch	Auburn University
Sarah Salazar	Federal Energy Regulatory Commission
Amy Silvano	Alabama Department of Conservation and Natural Resources
David Smith	Stakeholder
Monte Terhaar	Federal Energy Regulatory Commission
John Thompson	Lake Martin Resource Association
Jack West	Alabama Rivers Alliance

HAT 3 – Fish and Wildlife

Full Name	Company
Damon Abernethy	Alabama Department of Conservation and Natural Resources
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Steve Bryant	Alabama Department of Conservation and Natural Resources
Matt and Ann Campbell	Stakeholder
Kristie Coffman	Auburn University
Evan Collins	U.S. Fish and Wildlife
Allan Creamer	Federal Energy Regulatory Commission
Robin Crockett	Stakeholder
Chris Decker	U.S. Environmental Protection Agency
Dennis Devries	Auburn University
Jeff Duncan	U.S. National Park Service
Todd Fobian	Alabama Department of Conservation and Natural Resources
Steve Forehand	Lake Martin Resource Association
Tom Garland	Lake Wedowee Property Owners Association
Chris Greene	Alabama Department of Conservation and Natural Resources
Jennifer Grunewald	U.S. Fish and Wildlife
Keith Henderson	Alabama Department of Conservation and Natural Resources
Mike Holley	Alabama Department of Conservation and Natural Resources
Dan Holliman	U.S. Environmental Protection Agency
Martha Hunter	Alabama Rivers Alliance
Elise Irwin	Auburn University
Gerrit Jobsis	American Rivers
Evan Lawrence	Alabama Department of Conservation and Natural Resources
Cindy Lowry	Alabama Rivers Alliance
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Lydia Mayo	U.S. Environmental Protection Agency
Rachel McNamara	Federal Energy Regulatory Commission
Barry Morris	Lake Wedowee Property Owners Association
Chris Oberholster	Birmingham Audubon
Erin Padgett	U.S. Fish and Wildlife
Mellie Parrish	Stakeholder
Bill Pearsons	U.S. Fish and Wildlife
Jeff Powell	U.S. Fish and Wildlife
Mitch Reid	Nature Conservancy
Sarah Salazar	Federal Energy Regulatory Commission
Amy Silvano	Alabama Department of Conservation and Natural Resources
Tricia Stearns	Stakeholder

Full Name	Company
Monte Terhaar	Federal Energy Regulatory Commission
Jimmy Traylor	Stakeholder
Steve Traylor	Stakeholder
Jack West	Alabama Rivers Alliance
Pace Wilber	National Oceanic and Atmospheric Administration
Ken Wills	Alabama Glade Conservation Coalition
Russell Wright	Auburn University

HAT 4 – Project Lands

Full Name	Company
Damon Abernethy	Alabama Department of Conservation and Natural Resources
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Matt Brooks	Alabama Law Enforcement Agency
Coty Brown	Alabama Law Enforcement Agency
Steve Bryant	Alabama Department of Conservation and Natural Resources
Matt and Ann Campbell	Stakeholder
Kristie Coffman	Auburn University
Evan Collins	U.S. Fish and Wildlife
Allan Creamer	Federal Energy Regulatory Commission
Robin Crockett	Stakeholder
Gene Crouch	Keller Williams Realty Group; Lake Wedowee
Todd Fobian	Alabama Department of Conservation and Natural Resources
Steve Forehand	Lake Martin Resource Association
Tom Garland	Lake Wedowee Property Owners Association
Keith Gauldin	Alabama Department of Conservation and Natural Resources
Chris Greene	Alabama Department of Conservation and Natural Resources
Jennifer Grunewald	U.S. Fish and Wildlife
Keith Henderson	Alabama Department of Conservation and Natural Resources
Mike Holley	Alabama Department of Conservation and Natural Resources
Martha Hunter	Alabama Rivers Alliance
Elise Irwin	Auburn University
Gerrit Jobsis	American Rivers
Bruce Knapp	Stakeholder
Evan Lawrence	Alabama Department of Conservation and Natural Resources
Cindy Lowry	Alabama Rivers Alliance
Diane Lunsford	Lake Wedowee Property Owners Association
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Lydia Mayo	U.S. Environmental Protection Agency
Allison McCartney	U.S. Bureau of Land Management
Rachel McNamara	Federal Energy Regulatory Commission
Harry Merrill	Stakeholder
Brad Mitchell	Lake Wedowee Property Owners Association
Barry Morris	Lake Wedowee Property Owners Association
Stan Nelson	Nelson and Company
Chris Oberholster	Birmingham Audubon
Erin Padgett	U.S. Fish and Wildlife
Mellie Parrish	Stakeholder

Full Name	Company
Jerry & Mary Lee Poss	Stakeholder
Jeff Powell	U.S. Fish and Wildlife
Mark Prestridge	Randolph County Water Authority
Mitch Reid	Nature Conservancy
Sarah Salazar	Federal Energy Regulatory Commission
Amy Silvano	Alabama Department of Conservation and Natural Resources
Chris Smith	Alabama Department of Conservation and Natural Resources
David Smith	Stakeholder
Glenell Smith	Stakeholder
Paul Smith	Stakeholder
John Sullivan	U.S. Bureau of Land Management
Monte Terhaar	Federal Energy Regulatory Commission
John Thompson	Stakeholder
Jack West	Alabama Rivers Alliance
Ken Wills	Alabama Glade Conservation Coalition

HAT 5 – Recreation

Full Name	Company
Damon Abernethy	Alabama Department of Conservation and Natural Resources
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Matt Brooks	Alabama Law Enforcement Agency
Coty Brown	Alabama Law Enforcement Agency
Matt and Ann Campbell	Stakeholder
Kristie Coffman	Auburn University
Allan Creamer	Federal Energy Regulatory Commission
Robin Crockett	Stakeholder
Jesse Cunningham	Lake Martin HOBO
Mike Dollar	Lake Martin HOBO
Jeff Duncan	U.S. National Park Service
Todd Fobian	Alabama Department of Conservation and Natural Resources
Steve Forehand	Lake Martin Resource Association
Sylvia French	Stakeholder
Tom Garland	Stakeholder
Keith Gauldin	Alabama Department of Conservation and Natural Resources
Chris Greene	Alabama Department of Conservation and Natural Resources
Dave Heinzen	Lake Martin HOBO
Keith Henderson	Alabama Department of Conservation and Natural Resources
Mike Holley	Alabama Department of Conservation and Natural Resources
Sonja Hollomon	Stakeholder
Kevin Hunt	Consultant
Martha Hunter	Alabama Rivers Alliance
Elise Irwin	Auburn University
Butch Jackson	Property Owner
Gerrit Jobsis	American Rivers
Gerry Knight	Stakeholder
Evan Lawrence	Alabama Department of Conservation and Natural Resources
Cindy Lowry	Alabama Rivers Alliance
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Lydia Mayo	U.S. Environmental Protection Agency
Rachel McNamara	Federal Energy Regulatory Commission
Harry Merrill	Stakeholder
Brad Mitchell	Lake Wedowee Property Owners Association
Barry Morris	Lake Wedowee Property Owners Association
Chris Oberholster	Birmingham Audubon
Ginny Oxford	Stakeholder

Full Name	Company
Mellie Parrish	Stakeholder
Ira Parsons	Lake Wedowee Property Owners Association
Jerry and Mary Lee Poss	Stakeholder
Mitch Reid	Nature Conservancy
Sarah Salazar	Federal Energy Regulatory Commission
Chris Smith	Alabama Department of Conservation and Natural Resources
Paul Smith	Stakeholder
Jim Sparrow	Alabama Bass Federation
Tricia Stearns	Stakeholder
Monte Terhaar	Federal Energy Regulatory Commission
Jack West	Alabama Rivers Alliance
Bryant Whaley	Randolph County Economic / Industrial Development

HAT 6 – Cultural Resources

Full Name	Company
Nathan Aycock	Alabama Department of Conservation and Natural Resources
Steve Bryant	Alabama Department of Conservation and Natural Resources
Nancy Burnes	Lake Wedowee Property Owners Association
RaeLynn Butler	Muscogee (Creek) Nation of Oklahoma
Rae-Lynn Butler	Muscogee (Creek) Nation of Oklahoma
Bryant Celestine	Alabama-Coushatta Tribe of Texas
Kristie Coffman	Auburn University
Allan Creamer	Federal Energy Regulatory Commission
Robin Crockett	Stakeholder
Jeff Duncan	U.S. National Park Service
Todd Fobian	Alabama Department of Conservation and Natural Resources
Matthew Gage	Office of Archaeological Research
Chris Greene	Alabama Department of Conservation and Natural Resources
Larry Haikey	Poarch Band of Creek Indians
Evelyn Hamrick	Property Owner
Mike Holley	Alabama Department of Conservation and Natural Resources
Martha Hunter	Alabama Rivers Alliance
Gerrit Jobsis	American Rivers Alliance
Dr. Linda Langley	Coushatta Tribe of Louisiana
Janice Lowe	Alabama Quassarte Tribe
Matthew Marshall	Alabama Department of Conservation and Natural Resources
Donna Matthews	Stakeholder
Janet Maylen	Thlopthlocco Tribal Town
Lydia Mayo	U.S. Environmental Protection Agency
Amanda McBride	Alabama Historical Commission
Allison McCartney	U.S. Bureau of Land Management
Rachel McNamara	Federal Energy Regulatory Commission
Barry Morris	Lake Wedowee Property Owners Association
Karen Pritchett	United Keetoowah Band of Cherokee Indians
Mitch Reid	Nature Conservancy
Sarah Salazar	Federal Energy Regulatory Commission
Eric D. Sipes	Alabama Historical Commission
Barry Smith	Stakeholder
Robin Soweka	Muscogee (Creek) Nation of Oklahoma
John Sullivan	U.S. Bureau of Land Management
Monte Terhaar	Federal Energy Regulatory Commission
Elizabeth Toombs	Tribal Historic Preservation Office Cherokee Nation
Russ Townsend	Eastern Band of Cherokee Indians

Full Name	Company
Jack West	Alabama Rivers Alliance
Lee Anne Wofford	Alabama Historical Commission

Document Content(s)

2020-10-30 Harris Progress Update.PDF.....1

APC Harris Relicensing

From: Tom Diggs <Tom.Diggs@ung.edu>
Sent: Friday, October 30, 2020 4:03 PM
To: Dan Spaulding; Anderegg, Angela Segars
Cc: Smith, Sheila C.
Subject: Re: Dangerous issue at Flat Rock Park

EXTERNAL MAIL: Caution Opening Links or Files

Thanks. Just wanted you to know someone us shooting into AL Power property. As for the ATV, I know where it came in. I'll shoot you a map and photos when I get power back from Zeta.

Get [Outlook for Android \[aka.ms\]](#)

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Friday, October 30, 2020 4:56:24 PM
To: Tom Diggs <Tom.Diggs@ung.edu>; Dan Spaulding <dspaulding@annistonmuseum.org>
Cc: Smith, Sheila C. <SCSMITH@southernco.com>
Subject: RE: Dangerous issue at Flat Rock Park

Hi Tom,

Unfortunately, there's not much we can do. From the map you sent, it appears the shooting was coming from private property. However, we have alerted the Game Warden to tell him what's going on. He said he will patrol the area.

Sheila's folks checked out the "rock barricade" and it is still in place. They're going to look around to see where the ATV came in, but it may be that it came in from private property around the lake bed since the lake is down 4 feet.

Thanks again for bringing this to our attention.

Have a great weekend,

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

From: Tom Diggs <Tom.Diggs@ung.edu>
Sent: Tuesday, October 27, 2020 12:40 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; Dan Spaulding <dspaulding@annistonmuseum.org>
Subject: Dangerous issue at Flat Rock Park

EXTERNAL MAIL: Caution Opening Links or Files

Hi Angela,

I'm writing you because I wasn't sure who else to contact about it. Dan Spaulding and I were doing the botanical survey at Flat Rock Park this past Sunday, and after we wrapped up work for the day, he left. I decided to go back into the park and check on one of the really rare plants we documented last year. As I was walking down the power line cut toward the lake, I started hearing shots being fired. I wasn't too concerned, since it's out in the country. But as I got to the top of the rise where I could see out over the lake, I saw a white truck parked on the other side, with three or four guys around it. I heard a really loud shot from that direction, and heard a bullet hit the rock not far (maybe 25-30 feet) from where I was standing and ricochet off into the underbrush.

I jumped up and down and started screaming my head off, then ducked back to the right into the woods. I assume they packed up and left, because I didn't hear any more shooting, although I wasn't going to stick around to find out.

Almost immediately, I heard the sound of an engine in the woods ahead of me. A family was driving a Gator down the road into the preserve which has been marked "no motorized vehicles". There were three children and in the vehicle with their parents and I guess a grandparent. I immediately warned them about the shooters across the lake (and told them that this was a protected area) and turned them back up the track.

I followed them out, and at the entrance to the trail encountered another couple walking their dogs. I warned them about the shooters as well.

I did not call the police (although I probably should have.)

Beyond the immediate danger of shooting in my direction, the whole thing was just dangerous and irresponsible. Blake's Ferry Road is WELL within the range of their guns from where they were shooting. They could have hit anybody driving there, including me, the Gator full of kids, the dog walkers, or anyone just casually driving by, or service trucks in the power line cut itself. I'm sure they thought no one would be there that day, but it's still dangerous.

I've included a map showing their approximate location and where I was when the bullet hit the rock near me below. I'm not sure what you can do about it, but I thought you should know what happened. The water was much higher than what is shown in the satellite photo.

Thank you,
Tom Diggs



APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Saturday, October 31, 2020 2:50 PM
To: APC Harris Relicensing; ken.wills@jcdh.org
Subject: Wildlife Management Plan for Lake Harris

Hello all,

As a participant in the FERC relicensing process for the Harris Hydro Project, I would like to make comments as an individual relating to the revision of the wildlife management plan.

Wildlife habitat on the project lands in both the Lake Harris area and the Skyline area are largely forested so improving the natural quality of those forests is key to improving wildlife habitat in the project. Much of the project lands in the Lake Harris Area are loblolly pine plantations and there may be some pine plantations on the naturally pure hardwood lands of the Skyline properties as well. Restoring these areas to a more natural open savanna like state will greatly improve habitat for both plants and animals in these areas. Thick pine plantations should be heavily thinned to create a more historically natural savanna like environment that will allow more light to reach the forest floor thus fostering a diversity of grasses and wildflowers beneficial to wildlife such as Eastern Cottontail Rabbit, Whitetail Deer, Bobwhite Quail, Wild Turkey, and a variety songbirds including Yellow Breasted Chats, Prairie Warbler, and the currently somewhat rare to significantly rare Fox Sparrow, Fox Squirrel and Northern Pine Snakes. Regular controlled burns especially growing season burns will help foster this herbaceous diversity by keeping woody undergrowth at bay and fostering reproduction of fire dependent plants. Also, the overall forest stand health and quality of the pine saw timber produced by such thinning and controlled burning should improve as well as stands mature prior to harvest.

When the hopefully savanna like mature loblolly stands are ready for harvest in the Lake Harris area, they should be replanted with pine species that historically covered such upland Piedmont sites such as longleaf or shortleaf pine. While such stands should be managed to maintain their open savanna like character as they mature between harvests, some more fire tolerant upland hardwoods such as oak and hickory should be allowed to naturally mingle with shortleaf pine especially on the upper slopes. The more cool and moist slope and ravine lands that were converted to loblolly plantations should be allowed to revert to pine hardwood or hardwood forest following the harvest of the mature loblolly plantations as well.

The upper slopes of the project lands around the Lake Harris area contain some high quality shortleaf/hardwood forest which should be maintained largely in the current composition, but those stands would benefit from controlled burns of a less frequent nature as would ridge top upland oak-hickory stands including those in the Skyline area, thus helping to restore them to a more natural open savanna like state to those habitats as well.

The more moist hardwood forests of lower slopes, north facing slopes, limestone slopes, coves and riparian areas should be maintained in their current composition because of their hard mast production for wildlife, denning/nesting sites associated with hollow hardwoods, spring ephemeral wildflower diversity as well as their buffering/filtering value to protect water quality. The project lands in the Skyline area contain some excellent lower slope Mixed Mesophytic forests including Yellow Buckeye, true Sugar Maple and Basswood which are state level uncommon species/forest associations that just barely reach Alabama from the north, and extra efforts should be made to maintain these sites in their current forest composition.

The project lands in the Skyline area may contain some exposed dry sloped/outcrops of limestone dominated by Eastern Red Cedar and calcium loving hardwoods of the xeric type. Such sites should be considered for controlled burns and possibly thinnings to remove some of the scrubby overstory and allow the historic diversity of native grasses and wildflowers that occupied such limestone "barrens" to flourish.

Granite outcrops are very limited on project lands around Lake Harris with most if not all being located in the proposed Flat Rock backcountry conservation/botanical area. The rare plant habitats of the more pristine granite outcrops should be protected from heavy foot traffic and all vehicle traffic, and the surrounding upland forests should be considered for controlled burns where practical. Control of exotic invasive such as Chinese Privet in and around the granite outcrops is important for maintaining/improving these rare habitats as well. There are opportunities for collaborative work with

scientists, volunteers and associated groups to help maintain and improve these very rare granite outcrop related natural communities on project lands in the Lake Harris area.

Please consider these suggestions for forestry/wildlife habitat management when revising the wildlife management plan for the Lake Harris Project.

Thanks,
Kenneth Wills
2253 Rockcreek Trail
Hoover, AL 35226
(205) 515-9412

Comments on Draft Shoreline Management Plan and the Draft Annotated Outline for the Wildlife Management Plan

APC Harris Relicensing <g2apchr@southernco.com>

Wed 11/4/2020 9:04 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jabeason@southernco.com <jabeason@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>; Fleming, Amanda <afleming@southernco.COM>; cggoodma@southernco.com <cggoodma@southernco.com>; ammcvica@southernco.com <ammcvica@southernco.com>; tlmills@southernco.com <tlmills@southernco.com>; abnoel@southernco.com <abnoel@southernco.com>; btseale@southernco.com <btseale@southernco.com>; scsmith@southernco.com <scsmith@southernco.com>; twstjohn@southernco.com <twstjohn@southernco.com>; mhunter@alabamarivers.org <mhunter@alabamarivers.org>; clowry@alabamarivers.org <clowry@alabamarivers.org>; jwest@alabamarivers.org <jwest@alabamarivers.org>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; kmo0025@auburn.edu <kmo0025@auburn.edu>; irwiner@auburn.edu <irwiner@auburn.edu>; chris@alaudubon.org <chris@alaudubon.org>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; rachel.mcnamara@ferc.gov <rachel.mcnamara@ferc.gov>; sarah.salazar@ferc.gov <sarah.salazar@ferc.gov>; monte.terhaar@ferc.gov <monte.terhaar@ferc.gov>; gene@wedoweelakehomes.com <gene@wedoweelakehomes.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; kelly.schaeffer@kleinschmidtgroup.com <kelly.schaeffer@kleinschmidtgroup.com>; sandra.wash@kleinschmidtgroup.com <sandra.wash@kleinschmidtgroup.com>; sforehand@russelllands.com <sforehand@russelllands.com>; lgarland68@aol.com <lgarland68@aol.com>; johndiane@sbcglobal.net <johndiane@sbcglobal.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; rbmorris222@gmail.com <rbmorris222@gmail.com>; mitchell.reid@tnc.org <mitchell.reid@tnc.org>; snelson@nelsonandco.com <snelson@nelsonandco.com>; mprandolphwater@gmail.com <mprandolphwater@gmail.com>; wmcampbell218@gmail.com <wmcampbell218@gmail.com>; robinwaldrep@yahoo.com <robinwaldrep@yahoo.com>; bruce@bruceknapp.com <bruce@bruceknapp.com>; donnamat@aol.com <donnamat@aol.com>; harry.merrill47@gmail.com <harry.merrill47@gmail.com>; mhpwedowee@gmail.com <mhpwedowee@gmail.com>; midwaytreasures@bellsouth.net <midwaytreasures@bellsouth.net>; inspector_003@yahoo.com <inspector_003@yahoo.com>; gardenergirl04@yahoo.com <gardenergirl04@yahoo.com>; paul.trudine@gmail.com <paul.trudine@gmail.com>; 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; amccartn@blm.gov <amccartn@blm.gov>; j35sullivan@blm.gov <j35sullivan@blm.gov>; mayo.lydia@epa.gov <mayo.lydia@epa.gov>; evan_collins@fws.gov <evan_collins@fws.gov>; jennifer_grunewald@fws.gov <jennifer_grunewald@fws.gov>; erin_padgett@fws.gov <erin_padgett@fws.gov>; jeff_powell@fws.gov <jeff_powell@fws.gov>

 2 attachments (213 KB)

2020-10-19 Ken Wills SMP comments.pdf; 2020-10-31 Ken Wills WMP comments.pdf;

HAT 4,

Attached are the comments we received on the Draft Shoreline Management Plan and the Draft Annotated Outline for the Wildlife Management Plan. As appropriate, comments will be incorporated into future drafts of these documents, and revised drafts will be provided to HAT 4 for additional review.

Thanks,

11/4/2020

Mail - APC Harris Relicensing - Outlook

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Monday, October 19, 2020 4:50 PM
To: APC Harris Relicensing; ken.wills@jcdh.org
Subject: Comments of Flat Rock BackcountryClassifications/Management

Hello all,

On behalf of the Alabama Glade Conservation Coalition, I wanted to follow up on this mornings HAT 4 discussions with some written comments regarding the reclassification of the Flat Rock backcountry area aka Flat Rock botanical conservation area as part of the FERC relicensing process for the Harris Hydro project. While our coalition strongly approves the backcountry area being reclassified from Recreation to the more protective Natural Undeveloped, HAT discussions over the last year along with the results from the initial botanical inventory illustrate the need for a special management plan for this unique natural area whether it be under the Natural Undeveloped land use classification or a special Botanical Area land use classification.

National Forests use Botanical Area as one of their land use classifications to recognize and address special management requirements for areas with unique and/or diverse plant species. Considering the initial botanical survey has found at least 10 plant species of state and global conservation concern in and around a rare habitat (Piedmont granite outcrops) as well as a good overall representation of plant communities found with Alabama's Piedmont region, this backcountry area should certainly be recognized/managed as a botanical conservation area whether or not a special botanical land use designation is added to the land use plan.

In regards to management, I am currently unable to access some of my computer files, but I believe some specific land protection/management recommendations were included within the cover letter that was sent by our botanical survey team to Alabama Power along the results from the initial botanical survey. I will submit that information when I can regain access or obtain a replacement. In the meantime, I can in more detail describe the special management that would be beneficial for conservation and enhancement of the rare as well as more common native botanical resources of the Flat Rock backcountry area.

1. Minimize heavy recreational/vehicle impacts- The wooded buffer between the backcountry granite outcrops and the main portion of Flat Rock Park continues to filter out heavy foot traffic while allowing the truly interested members of the public, educators and researches to still access the rare granite habitats. Considering the wooded buffer is part of the proposed conservation land use change, maintaining it should be relatively easy. In contrast, illegal ATV use is one of the greatest threats to the rare and sensitive plans of the area. Alabama Power has made great progress in blocking ATVs from accessing these sensitive habitats, but our botanical research team has recently found that the ATV users are finding new ways around the vehicle barriers into the track. Preventing ATVs from accessing the track and running over the rare plants of the granite outcrop habitats will be an ongoing issue that will require management.

2. Removal and reduction of exotic invasive plants- Like many glade habitats across the Southeast, the backcountry area of Flat Rock has a significant infestation of exotic invasive plants, especially Chinese Privet. The problem of removal and subsequent control can tackled in part through the use of supervised volunteers in the sensitive habitats along the edges of the granite habitats. However, more extensive control efforts may be needed in some of the less sensitive fully forested habitats where some of the largest privet infestations are found. Exotic plants control involves initial removal and treatments, but controlling their resprout/return is an ongoing issue that will require management. The Alabama Glade Conservation Coalition will be happy to assist in this process in part by providing and supervising volunteers in removal and control of exotics such as privet.

3. Controlled reintroduction of fire to the natural community- Like many of the drier habitats of Southeast, the ridge top and upper slope habitats surrounding granite outcrops were historically subject to frequent natural and aboriginal fire which help keep them open and diverse. Some of the lands that were recently added to the proposed conservation area even contain longleaf pine which is very fire dependent. If controlled burns could be safely reintroduced to the lands within the proposed botanical conservation area, it would help to open up habitats including some of the granite based rare plant habitats that have become choked with shading overgrowth as well as restore more diversity to the herbaceous layer in other upland habitats such as pine hardwood forest. Controlled burns are also very beneficial for reducing fuel loads that could result in more catastrophic wildfires. The suitability of the area for controlled burns will require evaluation in relation to dwellings/structures on adjacent properties. The Alabama Glade Conservation Coalition

includes such groups as the Nature Conservancy of Alabama that have experience in evaluating the potential for as well as supervising controlled burns in landscapes of various states of development, and those groups may be willing to help evaluate the potential for controlled burns in the proposed botanical conservation area. If controlled burns can be safely reintroduced into this area, then ongoing management will be required to maintain a program of periodic controlled burns.

In related matters, considering the proposed botanical conservation area contains at least 10 plants of state and global conservation concern and many of those plants are very sensitive to certain impacts, it would seem the Sensitive land use classification overlay should be considered for the proposed Flat Rock backcountry conservation lands whether they are is reclassified as Natural Undeveloped or a special Botanical Area designation. However, if the Sensitive land use classification overlay would restrict/prohibit walk in public access to the area for those who want to appreciate the plants and other natural features and/or restrict/prohibit any of the above forms of active management needed to help maintain the botanical resources of the area then the Sensitive land use classification overlay would not be appropriate for the proposed botanical conservation area.

In summary, we respect the ability of the decision makers for the Harris Project land management plan to evaluate and determine the best protective land use classification for the proposed botanical conservation area, but we do feel that the lands should be recognized as a botanical conservation area (at least within the land management plan) and a specific management plan should be developed for the botanical conservation area. If the specific botanical area management plan can be developed and added as an appendix to the final overall land management plan, that would be great, but we realize that development of such a plan may take time beyond the deadlines of this FERC relicensing process. The Alabama Glade Conservation Coalition will be happy to assist the development of a management plan for the proposed Flat Rock backcountry botanical conservation area as well as assist in the ongoing management of this unique and special area.

Thanks,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition
(205) 515-9412

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Saturday, October 31, 2020 2:50 PM
To: APC Harris Relicensing; ken.wills@jcdh.org
Subject: Wildlife Management Plan for Lake Harris

Hello all,

As a participant in the FERC relicensing process for the Harris Hydro Project, I would like to make comments as an individual relating to the revision of the wildlife management plan.

Wildlife habitat on the project lands in both the Lake Harris area and the Skyline area are largely forested so improving the natural quality of those forests is key to improving wildlife habitat in the project. Much of the project lands in the Lake Harris Area are loblolly pine plantations and there may be some pine plantations on the naturally pure hardwood lands of the Skyline properties as well. Restoring these areas to a more natural open savanna like state will greatly improve habitat for both plants and animals in these areas. Thick pine plantations should be heavily thinned to create a more historically natural savanna like environment that will allow more light to reach the forest floor thus fostering a diversity of grasses and wildflowers beneficial to wildlife such as Eastern Cottontail Rabbit, Whitetail Deer, Bobwhite Quail, Wild Turkey, and a variety songbirds including Yellow Breasted Chats, Prairie Warbler, and the currently somewhat rare to significantly rare Fox Sparrow, Fox Squirrel and Northern Pine Snakes. Regular controlled burns especially growing season burns will help foster this herbaceous diversity by keeping woody undergrowth at bay and fostering reproduction of fire dependent plants. Also, the overall forest stand health and quality of the pine saw timber produced by such thinning and controlled burning should improve as well as stands mature prior to harvest.

When the hopefully savanna like mature loblolly stands are ready for harvest in the Lake Harris area, they should be replanted with pine species that historically covered such upland Piedmont sites such as longleaf or shortleaf pine. While such stands should be managed to maintain their open savanna like character as they mature between harvests, some more fire tolerant upland hardwoods such as oak and hickory should be allowed to naturally mingle with shortleaf pine especially on the upper slopes. The more cool and moist slope and ravine lands that were converted to loblolly plantations should be allowed to revert to pine hardwood or hardwood forest following the harvest of the mature loblolly plantations as well.

The upper slopes of the project lands around the Lake Harris area contain some high quality shortleaf/hardwood forest which should be maintained largely in the current composition, but those stands would benefit from controlled burns of a less frequent nature as would ridge top upland oak-hickory stands including those in the Skyline area, thus helping to restore them to a more natural open savanna like state to those habitats as well.

The more moist hardwood forests of lower slopes, north facing slopes, limestone slopes, coves and riparian areas should be maintained in their current composition because of their hard mast production for wildlife, denning/nesting sites associated with hollow hardwoods, spring ephemeral wildflower diversity as well as their buffering/filtering value to protect water quality. The project lands in the Skyline area contain some excellent lower slope Mixed Mesophytic forests including Yellow Buckeye, true Sugar Maple and Basswood which are state level uncommon species/forest associations that just barely reach Alabama from the north, and extra efforts should be made to maintain these sites in their current forest composition.

The project lands in the Skyline area may contain some exposed dry sloped/outcrops of limestone dominated by Eastern Red Cedar and calcium loving hardwoods of the xeric type. Such sites should be considered for controlled burns and possibly thinnings to remove some of the scrubby overstory and allow the historic diversity of native grasses and wildflowers that occupied such limestone "barrens" to flourish.

Granite outcrops are very limited on project lands around Lake Harris with most if not all being located in the proposed Flat Rock backcountry conservation/botanical area. The rare plant habitats of the more pristine granite outcrops should be protected from heavy foot traffic and all vehicle traffic, and the surrounding upland forests should be considered for controlled burns where practical. Control of exotic invasive such as Chinese Privet in and around the granite outcrops is important for maintaining/improving these rare habitats as well. There are opportunities for collaborative work with

scientists, volunteers and associated groups to help maintain and improve these very rare granite outcrop related natural communities on project lands in the Lake Harris area.

Please consider these suggestions for forestry/wildlife habitat management when revising the wildlife management plan for the Lake Harris Project.

Thanks,
Kenneth Wills
2253 Rockcreek Trail
Hoover, AL 35226
(205) 515-9412

HAT 4 - Revised Draft Shoreline Management Plan based on comments received

APC Harris Relicensing <g2apchr@southernco.com>

Tue 1/5/2021 7:37 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jabeason@southernco.com <jabeason@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>

 2 attachments (770 KB)

2021-01-05 DRAFT Harris SMP.pdf; 20201019A.pdf;

HAT 4,

Alabama Power provided a draft Shoreline Management Plan (SMP) to HAT 4 on October 5, 2020. Comments regarding the draft document were discussed during a HAT 4 meeting on October 19th, 2020 and could also be submitted in writing no later than November 2, 2020. A revised draft SMP is attached to this email based upon the written and verbal comments received. Please review the attached draft and provide any comments no later than February 6, 2021.

The Alabama Glade Conservation Coalition (AGCC) provided verbal comments during the October 19th HAT 4 meeting as well as submitted written comments on October 19, 2020 (attached for reference). Verbal comments received during the October 19th HAT 4 meeting are summarized within the meeting notes as previously provided to HAT 4 participants, which can be found in the [HAT 4](#) folder on the Harris relicensing website.

No other comments on the draft SMP were received.

Alabama Power has included within its Project Land proposal the reclassification of +/- 57 acres of existing Project lands (identified as RC7 within the Final Phase 1 Project Lands Evaluation Report) from Recreation to Natural/Undeveloped due to the presence of the rare Blake's Ferry Pluton.

Comments on the draft SMP as submitted by AGCC pertained to the reclassification and/or the use of a sensitive designation of the Flat Rock backcountry area, aka Flat Rock Botanical Conservation Area, as part of the FERC relicensing process for the Harris Project. Specifically, the following recommendations were included in the comments:

1. Minimize heavy recreational/vehicle impacts
2. Removal and reduction of exotic invasive plants
3. Controlled reintroduction of fire to the natural community

Alabama Power has reviewed the recommendations submitted by AGCC and is proposing that the Natural/Undeveloped land use classification meets the recommendations to protect this area. Therefore, no additional land use classification is being proposed. As currently outlined in the draft SMP (Section 4.1.7), the Natural/Undeveloped land use classification ensures that Project lands remain undeveloped for, among other purposes, the purpose of protecting environmentally sensitive areas. As such, management of lands within this

classification in a manner to minimize heavy recreational/vehicle impacts in order to protect the area is consistent with the current proposal. Reclassifying the area from Recreation to Natural/Undeveloped supports the future possible need to take such management actions.

Further, Alabama Power manages land within the Natural/Undeveloped classification in accordance with normal forestry management practices, as outlined in the Draft Harris Wildlife Management Plan being developed in conjunction with the SMP, and the Natural/Undeveloped classification does not preclude the future removal and reduction of exotic invasive plants and/or controlled reintroduction of fire to the natural community as deemed necessary and as determined to be in accordance with Alabama Power's overall timber management practices.

Lastly, Alabama Power does not believe that that a sensitive designation is needed to provide the protections recommended by AGCC. As described in Section 4.2 of the draft SMP, designations are used in conjunction with the shoreline classifications in order to highly restrict or prohibit permitted activities in areas designated as sensitive. For example, a homeowner who submits a permit application for the construction of a boat ramp will be subject to additional requirements and could possibly be denied a permit if the area designated as sensitive. However, the Flat Rock botanical area will not be subject to permitting applications since the land is owned by Alabama Power and will be classified as Natural/Undeveloped.

Therefore, the attached draft has been modified to eliminate the separate land classification for the botanical area as it will be protected under the Natural/Undeveloped classification. Additionally, minor edits have been made within Section 5.1.2 in order to add the Alabama Power website as a method for reporting possible permitting violations.

Thank you,

Angie Anderegg

Hydro Services

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SHORELINE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

January 2021

SHORELINE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT

ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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GLOSSARY OF SHORELINE TERMS AND DEFINITIONS

TERM	DEFINITION
Abandoned structure	A dock, walkway, or other shoreline structure which is free floating, unidentified, and unpermitted and has drifted onto Alabama Power Company shoreline property.
Alabama Power	Alabama Power Company (APC)
Alabama Power Fee Simple Lands	Lands owned wholly by the Alabama Power Company.
Bank / shoreline stabilization	Any activity intended to reduce the amount of erosion on the reservoir boundary (<i>e.g.</i> , installation of sea walls, riprap, and vegetation).
BMP	Best Management Practice(s) – On-site actions generally taken by property owners to lessen impacts to a particular resource which is the result of direct or indirect use of that resource.
Boat dock	A facility for storing or mooring watercraft.
Boat ramp	A boat launch used to back a trailer into the water in order to float a vessel.
Boat slip	A fixed or floating unroofed structure, confined on three sides, used for temporary or permanent storage and/or mooring of a watercraft.
Boathouse	A fixed or floating roofed structure on Project lands and waters designed for permanent or temporary watercraft storage.
Buffer	A naturally managed vegetative filter strip designed to minimize the impacts of developed areas on natural resources.
Buffer Zone	An area of land specifically designed to separate one zoning use from another, such as separating a residential neighborhood from an industrial area.
Causeways	A man-made connection between the reservoir shoreline and an island.
Channelization	The process of diverting project waters to create an artificial waterway.
Commercial recreation facilities	Shoreline facilities operated for profit (<i>e.g.</i> , marinas, boat ramps/launches).
Cultural resources	Sites, items, and structures of historical, archaeological, or architectural significance.
Dilapidated structure	Privately-owned shoreline structures and/or facilities affixed to an adjoining landowner's property that are no longer serviceable.

TERM	DEFINITION
Dredging	The process of removing silt, soil or other rock material from within the full pool elevation of the Project as authorized by the Federal Energy Regulatory Commission.
Encroachment	Any use or occupancy of Project lands for which the user does not have the necessary rights or permission.
Erosion	The scouring of land or soil by the action of wind, water, or ice.
FERC	Federal Energy Regulatory Commission - An independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC is responsible for licensing non-federal hydropower Projects in the U.S.
Filling	The process of depositing soil or other materials in an area.
Gabion	Construction technique using wire mesh forms filled with rock, or concrete that often is used on shorelines and in streams to prevent erosion and provide foundational or structural support for nearby structures or soils.
Habitat	The locality or external environment in which a plant or animal normally lives and grows.
Legacy structures	Structures that predate Alabama Power's current shoreline permitting program that may or may not conform to current "General Guidelines for Shoreline Permitting".
Natural vegetation management	Preserving native trees, shrubs, and other plants in their natural state by limiting removal, trimming, and clearing. The intent of this set of practices is to improve soil retention, slow and filter storm water, and provide cover and forage for native species.
Non-conforming structure	A structure that does not meet Alabama Power's current "General Guidelines for Shoreline Permitting."
Operating license	The terms and conditions in which Alabama Power is granted permission by FERC to operate its hydroelectric Projects.
Permit	The written authorization from Alabama Power to an individual or entity, allowing performance of a specific activity, placement, or use of a structure and/or facility on Project lands.
Permitted facilities	Structures and/or facilities that have been approved and permitted by Alabama Power.
Permittee	The holder of a permit approved and issued by Alabama Power.
Pier	A structure, generally providing recreational access from land to water.
Project	The lands, equipment and facilities necessary to operate a FERC licensed hydroelectric facility.
Project boundary	A line established by FERC to define the lands, waters, and structures needed to operate a licensed hydroelectric Project.

TERM	DEFINITION
Project lands	Lands within the FERC-designated Project Boundary.
Project operations	A shoreline classification that allows for limited public use. May also refer to the actual operation of the hydroelectric facility.
Rain garden	A perennial garden planted with locally adapted plants and flowers that are positioned between storm water runoff sources (roofs, driveways, parking lots) and destinations (storm drains, streets, and creeks). Rain gardens are designed to capture, retain and provide infiltration opportunities for storm water runoff, while plants and flowers remove pollutants from runoff.
Reservoir	A man-made lake into which water flows and is stored for future use and is controlled in accordance with the FERC license and U.S. Army Corps of Engineers manual, if appropriate.
Relicensing	The administrative proceeding in which FERC, in consultation with other federal and state agencies and interested stakeholders, decides whether and on what terms to issue a new license for an existing hydroelectric Project.
Riprap	Layer of large, durable materials (usually rocks) used to protect the reservoir shoreline boundary from erosion; may also refer to the materials used.
Runoff	Water from rain, melted snow, landscaping irrigation, and other sources that flows over land and into local creeks, streams, and waterways.
Seawall	A structure of stone, concrete, wood or other sturdy material built along the shoreline to prevent erosion and/or to hold back soil on steep slopes (also known as “bulkhead”).
SMP	Shoreline Management Plan.
Shoreline classification	A system of land use categories based on existing and potential future land use, ownership, and resource value. Used as a planning tool to help provide an overall framework for long-term shoreline management activities and development.
Shoreline Compliance Program (SCP)	A program initiated by Alabama Power to ensure compliance of activities that occur on Project shorelines and to implement the SMP. The six-component program includes (1) a shoreline permitting program; (2) structure identification, assessment, and resolution; (3) public education and communication; (4) a surveillance program; (5) shoreline litigation; and (6) shoreline preservation initiatives.
Shoreline development	A general reference to the many structures and uses which may be present along reservoir shorelines including homes and commercial, industrial, private philanthropic and recreational developments.

TERM	DEFINITION
Stakeholders	Private citizens, community groups, non-governmental organizations, and State and Federal agency representatives with interest in shoreline management activities.
Use and Occupancy	A license article, also referred to as the Standard Land Use Article, in Alabama Power’s existing operating license(s) guiding Alabama Power’s authority to grant permission for certain types of use and occupancy of Project lands and waters and convey certain interests in Project lands and waters.

SHORELINE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT (FERC No. 2628)

ALABAMA POWER COMPANY BIRMINGHAM, ALABAMA

1.0 INTRODUCTION

The Alabama Power Company (Alabama Power) manages its hydroelectric reservoir shorelines and project lands to comply with its Federal Energy Regulatory Commission (FERC) operating licenses and to serve the greater public interest by providing recreational access, protecting wildlife habitat, producing low cost electricity, and preserving cultural as well as aesthetic resources. In an effort to guide existing and future management actions within the boundary established by FERC for the R.L. Harris Hydroelectric Project (“the Harris Project” or “the Project”), Alabama Power developed this Shoreline Management Program (SMP). This SMP was developed in accordance with established FERC guidelines for developing Shoreline Management Programs and in cooperation with relicensing stakeholders, including federal and state regulatory agencies, interested non-governmental organizations (NGOs), and concerned citizens. The SMP is submitted as a part of Alabama Power’s R.L. Harris Hydroelectric Project Application for a New License, (License Application) filed with FERC in 2021. The SMP was developed in consultation with the Harris Action Team (HAT) 4. A detailed listing of those individuals, their affiliation, and meeting dates, along with a list of their comments on the draft SMP, is provided in Appendix A. Along with developing the SMP, HAT 4 members also reviewed Alabama Power’s proposal for adding, removing, and reclassifying lands within the Project Boundary as well as the draft Wildlife Management Plan. The results of adding, removing, and reclassifying lands are detailed in Exhibit E of the License Application, and the draft Wildlife Management Plan is provided as well.

The Harris SMP is modeled after the Martin Dam Project (FERC No. 349) and Warrior River Project (FERC No. 2165) SMPs with the overall objective for Alabama Power to have a uniform system for managing the Project shorelines across all Alabama Power hydroelectric projects.

1.1 PROJECT DESCRIPTION

Alabama Power owns and operates the Harris Project, FERC Project No. 2628, licensed by FERC. Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam. The lands adjoining the reservoir total approximately XXXX acres, comprised of 367 miles of shoreline, and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)¹, as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.



The Harris Project also contains 15,063 acres of project lands within the James D. Martin-Skyline Wildlife Management Area located in Jackson County, Alabama. These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan.

The only waterbody managed by Alabama Power as part of its FERC license for the Harris Project is the Harris Reservoir. Therefore, because the project lands at Skyline are not on a waterbody, these lands are not a part of this SMP. Management of these Project lands is outlined in the Harris Wildlife Management Plan, and the term “Project Boundary” within this document refers to only those Project lands located at Lake Harris.

¹ Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).



FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

2.0 PURPOSE AND GOALS OF THE SHORELINE MANAGEMENT PLAN

This SMP serves as a comprehensive guide for managing Project shoreline lands consistent with license requirements and Project purposes. The overarching goal of the SMP is to ensure that shoreline development is consistent with the protection and enhancement of environmental, scenic, cultural, and recreational values, while ensuring the continued safe and reliable production of hydroelectric power at the Project.

General goals discussed under this SMP include the following:

- facilitate compliance with license articles;
- provide for reasonable public access;
- protect fish and wildlife habitat;
- protect cultural resources;
- protect operational needs;
- minimize adverse impacts to water quality;
- minimize erosion;
- minimize sedimentation
- minimize adverse scenic effects; and
- guide shoreline development.

The above goals are achieved through the implementation of this SMP as well as through the implementation of several related relicensing management plans. A variety of protection, mitigation, and enhancement measures agreed to by Alabama Power and the HATs as well as the enforcement of applicable federal, state, and local laws and regulations also serve to achieve the goals outlined in this plan².

² The SMP itself, along with its proposed BMPs, land classifications, and changes to the permitting program, all encompass protection, mitigation, and enhancement measures. There are also many proposals being put forth in the License Application that protect, mitigate, and enhance, directly or indirectly, shoreline resources.

3.0 SHORELINE MANAGEMENT POLICIES

The overarching Shoreline Conservation Policy and the following shoreline management policies are designed to guide existing and future shoreline management actions at the Project.

3.1 SHORELINE CONSERVATION POLICY

Alabama Power created the following policy to help guide future shoreline management actions. This policy provides a general statement affirming Alabama Power's position on shoreline resources, as follows:

Alabama Power Company actively promotes the conservation and protection of Project shoreline lands and their associated scenic, cultural, recreational, and environmental values.

Working cooperatively with other parties, Alabama Power will implement this policy through a combination of regulatory and voluntary actions. Regulatory actions include the enforcement of existing state and federal regulations including, but not limited to, the Clean Water Act, Endangered Species Act, Wetlands Protection Act, National Historic Preservation Act, and the Federal Power Act. Regulations under these statutes are enforced by the appropriate state and federal resource agencies working in cooperation with Alabama Power and Alabama Power's Shoreline Compliance Program (SCP), which is discussed in Section 5.0. Alabama Power will work with other parties, including private property owners, to promote a set of shoreline best management practices (BMPs) designed to protect and enhance valuable shoreline resources in addition to resources specifically protected by existing laws and regulations.

In addition to the overall policy to guide shoreline management actions, several other key policies have been incorporated to support and uphold management decisions concerning the Project.

3.2 SHORELINE MANAGEMENT POLICIES

Bank Stabilization: Considerable concern has been expressed regarding the use of seawalls for bank stabilization on Alabama Power lakes. Such structures typically impact aquatic habitat (and provide little aquatic habitat value), often increase run-off (particularly if all woody vegetation is removed), and are not sustainable without continued, long-term maintenance. In many cases, such structures can degrade bank stability over time, either at the site of construction or adjacent to it.

Riprap and natural bank stabilization are the preferred methods of erosion control; however, use of seawalls will be evaluated and may be approved on a case-by-case basis. Alabama Power generally restricts the use of new seawalls to areas where there is:

- evidence of significant active erosion,
- high potential for substantial wave action (due to the area's location on open waters),
- heavy and/or frequent boat traffic,
- a previously installed seawall which has failed,
- a combination of the above.

Alabama Power Company encourages the use of alternative bank stabilization techniques other than seawalls. Such alternatives include, but are not limited to, riprap, bioengineering techniques, natural vegetation with riprap, and gabions. Alabama Power requires, as a condition of a permit, that any future seawall proposals include the placement of riprap, for fish and other semi-aquatic species habitat and increased stability, in front of the seawall. Only in very limited cases where the Alabama Power regional coordinator is convinced that riprap would not be an effective source of bank stabilization, or would be economically unfeasible, would seawalls without riprap be permitted.

Dredging: Alabama Power conducts its dredging activities in accordance with the July 6, 2011 FERC-approved Dredge Permit Program (Appendix B) and its operating licenses. The Dredge Permit Program was developed in consultation with the U.S. Army Corps of Engineers (USACE) and other agencies and covers all of Alabama Power's hydroelectric Projects on the Warrior,

Coosa, and Tallapoosa Rivers. The program establishes the process and procedures for permittees seeking to obtain direct authorization from Alabama Power for dredging activities up to 500 cubic yards (CY) of material (below the full pool elevation). The Program is not intended to cover applications for dredging on lands determined to be “sensitive” as described in Section 4.2 and as noted within each Project’s respective SMP.

Dredging may be allowed but will be restricted in and around sensitive resource areas. Requests for dredging will be considered on a case-by-case basis and must be approved by Alabama Power prior to the initiation of any dredging activities.

Channelization: Alabama Power receives numerous inquiries from property owners adjacent to its reservoirs concerning the excavation of channels and sloughs to create additional shoreline. Typically, these proposals involve removal of soil adjacent to the reservoir in order to divert Project waters onto non-project land for developmental purposes. Any such changes to the shoreline constitute a deviation from Alabama Power's FERC-approved project boundary maps and can have significant impacts to fish and wildlife habitat. In addition, allowing channelization can lead to uncontrolled development of Project lands and waters and can create conflict between adjoining property owners.

It is the policy of Alabama Power to prohibit channelization on its reservoirs. This general prohibition includes channelization proposals by both private and commercial interests. Alabama Power's channelization policy is an important element of Alabama Power's efforts to best manage Project lands and waters consistent with its FERC-issued licenses, to control shoreline development, and to protect habitat and other natural resource features of these Projects.

Water Withdrawals: Alabama Power impounds a substantial amount of water in its project reservoirs and, as a result, various entities seek permission to use these reservoirs to meet municipal, industrial, and agricultural water supply needs. Since these withdrawals require the use of Alabama Power's Project lands and waters, FERC has jurisdiction over these "joint uses." For this reason, FERC has included provisions in Alabama Power's license that require Alabama Power to obtain FERC authorization before permitting a water withdrawal greater than 1 million

gallons per day (mgd) from a Project reservoir. FERC has delegated approval authority to Alabama Power for joint uses of 1 mgd or less. Furthermore, the license states that Alabama Power may receive reasonable compensation for the impacts of the withdrawal of water from the Project. Through either specific FERC authorization or through its delegated authority, Alabama Power has approved numerous water withdrawals from its Project reservoirs and has charged withdrawers a reasonable cost for the resulting impacts on Alabama Power's hydroelectric lands and operations, consistent with these license provisions. Among other things, the compensation policy is intended to encourage conservative use of water and promote the development of additional water storage facilities in Alabama.

It is the policy of Alabama Power to evaluate each application for permission to withdraw water from its Project reservoirs, and, in appropriate circumstances, seek FERC authorization to permit water withdrawals on Project lands. In accordance with the provisions of its licenses, Alabama Power will receive reasonable compensation, as applicable, for water withdrawals. This reasonable compensation may include administrative costs, the replacement cost of the energy lost as a result of the withdrawal and the replacement cost of the storage in the reservoir allocated to the withdrawer. Adjacent single-family home uses, such as lawn/garden watering or other similar de minimus uses are excluded from this policy.

Causeways: Many of Alabama Power's reservoirs have islands which lie relatively close to the shore of the mainland or other islands. From time to time, Alabama Power receives a request for permission to construct a causeway to connect an island to the mainland or other islands to facilitate development or some other use. In most cases, creating a causeway involves placing fill material within Alabama Power's reservoir. Filling of Project lands and waters may destroy fish habitat, impair navigability, and reduce the available storage in the reservoir for power generation and flood control. In addition, changes to the shoreline caused by the construction of causeways constitute a deviation from FERC-approved Project maps and exhibits.

It is the policy of Alabama Power to prohibit the creation of causeways on its reservoirs to connect islands to the mainland or to other islands. This policy is

intended to protect the integrity of the existing Project features and shoreline, as well as fish habitat, navigation, and Project operations. When Alabama Power receives an inquiry concerning the construction of a causeway, Alabama Power will work with the property owner to investigate potential alternatives that may be acceptable to Alabama Power and FERC.

4.0 SHORELINE MANAGEMENT CLASSIFICATIONS

Alabama Power's shoreline classifications for the Project are based on an evaluation of existing land use, land ownership, and knowledge regarding shoreline resource values. Descriptions of the shoreline classifications, descriptions of allowable and prohibited uses for each of the classifications, and a table depicting the acreage in each classification are described in detail below.

4.1 SHORELINE CLASSIFICATION SYSTEM

In consultation with stakeholders and agencies, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary. The shoreline classifications are based on an evaluation of existing and potential land use. Information about current use of land abutting the Project Boundary provided a baseline for determining the most appropriate designations for shoreline property within the Project Boundary. For example, the presence of a residential area immediately outside of an undeveloped strip of land within the Project Boundary generally would preclude classifying that Project land as Natural/Undeveloped. Appendix C provides the shoreline classification maps for each Project development.

The seven shoreline classifications for the Project lands are defined below.

4.1.1 PROJECT OPERATIONS

This classification includes Project lands reserved for current and potential future operational activities. This includes all Project lands used for hydroelectric generation, switchyards, transmission facilities, rights-of-way, security, and other operational uses. Alabama Power owns these lands in fee simple title. For security, the allowable uses in this classification are primarily restricted to Alabama Power personnel; however, in some cases, such as guided public tours, limited public access is available. XXXX acres of land are classified for Project Operations.

4.1.2 RECREATION

This classification includes Project lands managed by Alabama Power for existing or potential future recreational activities. This includes land that is developed for public recreation, open space, water access, and future recreational development. Alabama Power typically owns these lands in fee simple title, but they may be operated by a third party under a lease agreement with Alabama Power. The allowable uses in the Recreation classification include public access and day and evening recreational use. This classification may allow facilities/structures, such as parks with boat slips, beach areas, dry boat storage facilities, trails etc. XXXX acres of land are classified for Recreation.

4.1.3 COMMERCIAL RECREATION

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis. Structures on these lands are generally subject to approval by FERC through the process outlined in Section 5.1.1.3. XX acres of lands are classified as Commercial Recreation.

4.1.4 FLOOD STORAGE

This classification includes lands located between the 793' mean sea level (msl) contour and the 795' msl contour (Figure 4-1). These lands are owned in fee simple by Alabama Power and are used for the project purpose of storing flood waters from time to time.

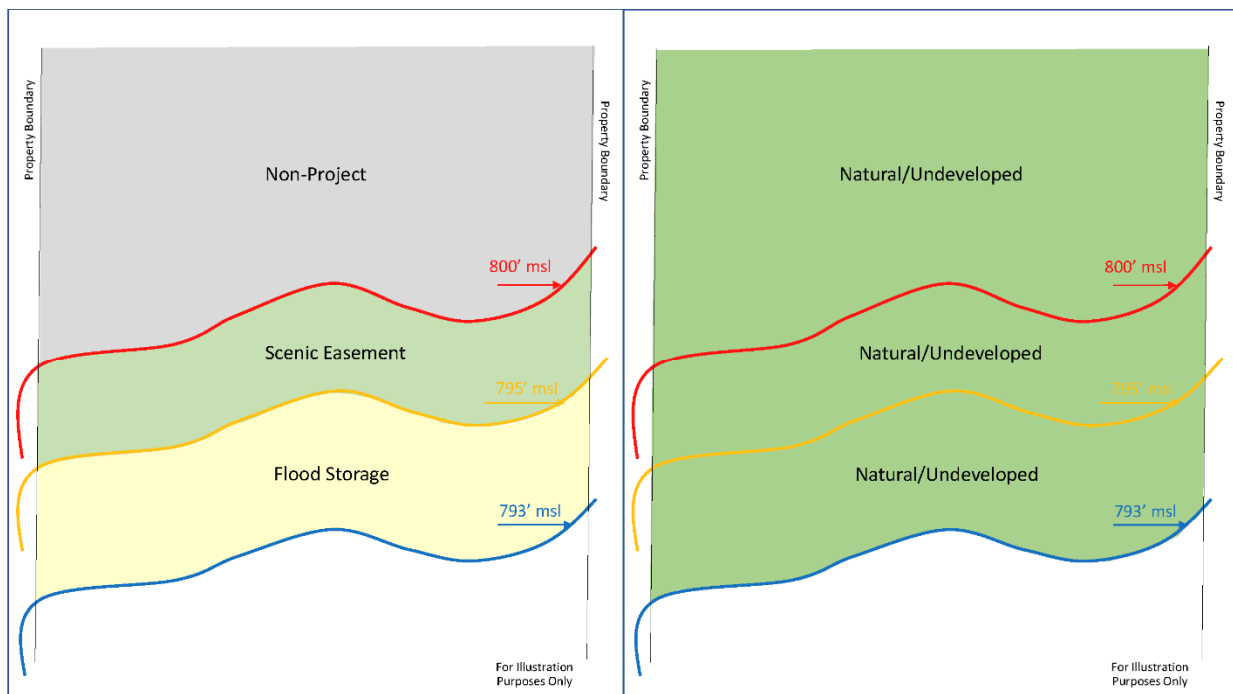
These lands...XX acres of lands are classified as Flood Storage.

4.1.5 SCENIC EASEMENT

This classification includes lands located between the 795' msl contour and the 800'³ msl contour (Figure 4-1). These lands are controlled by easement for the project purpose of protecting scenic and environmental values.

These lands...XX acres of lands are classified as Scenic Easement.

³ Or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl.



4-1 ILLUSTRATION OF CLASSIFICATIONS

4.1.6 HUNTING

This classification includes lands that are managed to provide hunting opportunities (either through hunting leases or individual permits) as prescribed in accordance with the existing Harris Project Wildlife Management Plan⁴. Non-hunting related public access is allowed from May 1 until September 30 of each year for activities such as hiking, backpacking, camping, wildlife observation, and bank fishing opportunities. XX acres of land are classified as Hunting.

4.1.7 NATURAL/UNDEVELOPED

Lands included in the Natural/Undeveloped classification include Project lands which will remain undeveloped for the following specific Project purposes:

- protecting environmentally sensitive areas;
- preserving natural aesthetic qualities;
- serving as buffer zones around public recreation areas; and
- preventing overcrowding of partially developed shoreline.

⁴ Harris Project lands located at Skyline are leased to and managed by the State of Alabama for wildlife management and public hunting. Because these lands do not have shoreline, management of these Project lands is outlined in the Harris Wildlife Management Plan

This classification allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry management practices (as outlined in the Harris Wildlife Management Plan). Alabama Power typically owns these Project lands in fee simple title and manages them for effective protection of associated resource values. XX acres of lands are classified as Natural/Undeveloped.

4.2 SENSITIVE RESOURCES DESIGNATION

“Sensitive Resources” is a **designation** used in conjunction with the shoreline classifications (e.g., Recreation, Natural/Undeveloped, etc.), as appropriate. For example, a portion of an area classified as “Recreation” may also be designated as “Sensitive Resources.” This designation is used on Project lands managed for the protection and enhancement of resources which are protected by state and/or federal law, executive order, or where other natural features are present which are considered important to the area or natural environment. This may include cultural resources, sites and structures listed on, or eligible for listing on, the National Register of Historic Places (NRHP); wetlands; Rare, Threatened, and Endangered species (RTE) habitat protection areas; significant scenic areas; and other sensitive ecological areas. Federal and state regulations require some information concerning the Sensitive Resources designation to remain confidential or proprietary.

Permitted activities in these areas, if applicable, may be highly restrictive or prohibited in order to avoid potential impacts to sensitive resources. A geographic information system (GIS) data layer that includes all known sensitive resource areas has been developed that provides information to Alabama Power Shoreline Representatives on the areas designated as Sensitive Resources. This GIS data layer is continuously updated as new information becomes available and Alabama Power will continue to use this GIS layer to record areas designated as Sensitive. Additionally, the SMP map included in Appendix C generally illustrate areas that are designated as sensitive. As stated above, the information depicted on this map is continuously updated; therefore, this map is accurate as of the filing of this updated SMP.

When a permit application is received for an area that is designated as Sensitive Resources, an environmental review by Alabama Power’s Environmental Affairs Department (EA) is triggered.

This review must be completed prior to permitting. Of the 367 miles of shoreline within the Project Boundary. XX miles are currently designated as Sensitive Resources.

The allowable uses in the Sensitive Resources designation are described below.

4.2.1 ALLOWABLE USES IN AREAS DESIGNATED AS SENSITIVE RESOURCES

Alabama Power has developed guidelines for permitting activities on lands designated as Sensitive Resources within the Project Boundary. These guidelines for residential shoreline permits⁵ will expedite the Alabama Power permitting process and will at the same time ensure the protection of cultural resources and wetlands.

4.2.1.1 WETLANDS

The Sensitive Resources GIS data layer contains information on Project wetlands taken from surveys completed by Alabama Power's wetlands experts and/or areas identified on National Wetland Inventory (NWI) maps.

In addition, Alabama Power Shoreline Management Representatives receive training on the more common features of wetlands. If they suspect wetlands are present in an area where a permit has been requested, they will forward the permit to EA for review just as they would if the area had been designated as Sensitive Resources.

Any disturbance within wetlands is discouraged; however, if permittee wishes to pursue a Project within wetlands, EA will review all permit requests in areas sensitive for potential wetlands and will make a determination of impacts in consideration of all applicable rules and regulations. USACE granted Alabama Power permission to issue permits under the auspices of the USACE Mobile District Office under a Programmatic General Permit (PGPs) (Appendix D). However, the PGP does not authorize APC to permit dredge or fill in wetlands. Fill may include, but is not limited to, boat ramps, shoreline stabilization measures and spoil activity.

⁵ Non-residential permits are reviewed in a separate process. Alabama Power evaluates the non-residential permits based on shoreline classification and agency review is required.

4.2.1.2 CULTURAL RESOURCES

Cultural resources include archaeological and historic sites. When approved by FERC, Alabama Power will use the the R.L. Harris Hydroelectric Project Historic Properties Management Plan (HPMP) and Programmatic Agreement (PA), which are the governing documents, contain guidance on managing the Project in relation to the presence, or potential presence, of archeological and historic properties. No disturbance is allowed on the site of any known cultural resources prior to consulting with Alabama Power's EA Department. EA personnel will determine if a known site is present and if further testing is required. Upon completion of all required consultations, EA will contact Alabama Power's Shoreline Management Representative with notice that the permitted activity may proceed. In addition, if human remains, historic resources, or archaeological resources are discovered during any construction, all activities shall cease, and the permittee or its contractor shall contact Alabama Power immediately.

Alabama Power Shoreline Management Representatives are trained annually on how to identify areas with a high potential to contain archaeological properties and how to spot looting. If the Alabama Power Shoreline Management Representative encounters any possible cultural resources or looting, they will notify EA. EA will visit the site and conduct the appropriate level of archeological/historic testing and/or evaluation, if necessary.

TABLE 4-1 EVALUATION MATRIX FOR R.L. HARRIS SENSITIVE RESOURCE AREAS - CULTURAL RESOURCES

SMP PERMITTED ACTIVITY	IF CULTURAL RESOURCES PRESENT
Piers and walkways – construction and maintenance	<p>According to the HPMP, if known cultural resources are present:</p> <ol style="list-style-type: none"> 1. Determine if the activity will affect cultural resources. If yes, move to Step 2. If no, proceed with permitting process. 2. Determine if the cultural resources are significant. <ul style="list-style-type: none"> ○ Check Alabama State Site File. ○ Contact State Historic Preservation Office (SHPO), if needed. If yes, move to Step 3. If no, proceed with permitting process. 3. If cultural resources are significant, one or more of the following actions will occur. <ul style="list-style-type: none"> ○ Contact SHPO. ○ Conduct a field survey. ○ Avoid the area, relocate the permitted activity. ○ Conduct additional testing.
Floating and Stationary Boathouses, Wetslips, and Boatslips with anchoring – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Marine Rails – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Boat Ramps – construction and maintenance	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure. If the boat ramp construction requires excavation, see procedure listed for spoil.
Shoreline Stabilization – new construction and extension of existing shoreline stabilization structures	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.
Dredging/Spoil Area	All dredging requires review by EA. All spoil area determination requires consultation with SHPO, unless spoil will be located behind an existing seawall or in an approved landfill.

SMP PERMITTED ACTIVITY	IF CULTURAL RESOURCES PRESENT
Repair of an existing erosion site	This activity may be allowed or restricted based on coordination with SHPO, in accordance with the HPMP. See piers and walkways procedure.

4.3 SUMMARY OF ACRES IN EACH CLASSIFICATION

Table 4-4 shows the acreages associated with each SMP classification as well as the Sensitive Resources designation.

TABLE 4-4 R.L. HARRIS HYDROELECTRIC PROJECT SHORELINE CLASSIFICATIONS

CLASSIFICATION	ACRES	SHORELINE MILES	SHORELINE MILES SENSITIVE
Project Operations	XX	XX	XX
Recreation	XX	XX	XX
Commercial Recreation	XX	XX	XX
Flood Storage	XX	XX	XX
Scenic Buffer Zone	XX	XX	XX
Hunting	XX	XX	XX
Natural/Undeveloped	XX	XX	XX
TOTAL⁶	XX	XX	XX

⁶ Totals based upon updated calculations using LiDAR data and may not match totals reported in the past.

5.0 ALABAMA POWER'S SHORELINE COMPLIANCE PROGRAM

FERC is responsible for issuing licenses for the construction, operation, and maintenance of non-federal hydropower projects. Alabama Power, as the licensee, is responsible for operating and maintaining its FERC-licensed Projects in accordance with the license requirements and Project purposes (e.g., power generation, public recreation, environmental protection, aesthetic values). According to the provisions of its license, Alabama Power may authorize specific uses and occupancies of the Project reservoir's shoreline that are not related to hydroelectric power production or other Project purposes. Such uses of project lands and waters are typically referred to as "non-project uses."

During the mid-1980s, Alabama Power initiated a formal permitting program on Harris, and in 1992, it initiated a formal permitting program for its remaining 11 hydroelectric reservoirs. The USACE granted Alabama Power permission to issue permits under the auspices of the USACE Mobile District Office under a Programmatic General Permit (PGPs) (Appendix D). Alabama Power has continued working with the USACE to update the PGPs as necessary as well as to ensure compliance with its regulations.

In 2006, Alabama Power instituted an enhanced Shoreline Permitting Program, and in 2009 Alabama Power began identifying both permitted and unpermitted structures around its reservoirs and conducting surveillance quarterly and increased the frequency of reservoir surveillance as needed to reduce the number of new encroachments. On March 14, 2012, Alabama Power filed a Shoreline Compliance Plan (SCP) with FERC that incorporates Alabama Power's existing programs and processes along with a method to assess and resolve unpermitted structures on each of its reservoirs. FERC acknowledged that the SCP is consistent with Alabama Power's overall responsibilities under its project licenses to oversee and control shoreline development at the projects in a letter issued on August 17, 2012. The SCP includes six components:

- (1) shoreline permitting;
- (2) structure identification, assessment, and resolution;
- (3) public education and communication;
- (4) surveillance program;

- (5) shoreline litigation; and
- (6) shoreline preservation initiatives.

5.1 SHORELINE PERMITTING

A permit is needed when an activity proposed by an entity, often a shoreline property owner, could affect lands within the Project Boundary. Activities requiring permits include, but are not limited to, construction or modification of boat docks, boathouses, boat ramps, piers, shoreline stabilization materials (e.g., sea walls, riprap), and any activity that requires conveying an interest in, on, or across Project lands. Any development or construction along reservoir shorelines and within the Project Boundary must be permitted before work can begin. Depending on the nature, size, and location of the proposed activity, Alabama Power may implement a phased approach for permitting in which permits are issued sequentially for phases/components of large developments. Compliance with all initial conditions of existing permits is required before subsequent permits can be issued. Certain activities may be restricted or prohibited on shorelines designated as Sensitive Resources.

FERC has defined three levels of use in the Use and Occupancy Article. Uses covered in Paragraph (b) of the article typically involve residential piers, boat docks, and retaining walls. FERC has delegated the authority to review and approve these types of uses to Alabama Power. Uses covered in Paragraph (c) involve the conveyance of easements, rights-of-way, or leases and typically include activities such as replacement or maintenance of bridges and roads and structures such as: storm drains and water mains; telephone, gas, and electric distribution lines; minor access roads, and other similar structures. These requests require consultation with the appropriate state and federal agencies and stakeholders and ultimately can be permitted by Alabama Power after its review is complete. Paragraph (c) permits are reported to FERC on an annual basis. Uses covered in Paragraph (d) involve the conveyance of fee title, easements or right-of-ways, and leases, for activities such as the construction of new roads and bridges, sewer lines that discharge into Project waters, marinas, and other similar structures. These requests also require review by Alabama Power and consultation with the appropriate local, state, and federal agencies and stakeholders and also must be submitted to FERC for review and approval. Alabama Power generally considers all activities in paragraphs (c) and (d) and those activities not specifically defined in the Use and Occupancy article, as Non-Residential Permits.

Whether the non-project use is approved under the delegated authority described in the Use and Occupancy article or through formal FERC approval, Alabama Power is responsible for ensuring that the use is consistent with the purposes of protecting or enhancing the scenic, recreational, and other environmental values of the Project. Alabama Power has a responsibility under the license articles to supervise and control the use and occupancies for which it seeks or grants permission and to ensure compliance with the permits and instruments of conveyance that are executed.

In addition to these federally mandated review processes, the shoreline land classifications outlined in Section 4.1 will also be considered prior to permitting a requested activity, to ensure that the proposed land use activity is a permissible use within the applicable land-use classification. For example, permits requested on shorelines designated as Sensitive Resources will automatically trigger a review by EA who will decide if the proposed activity will significantly affect these sensitive resources; therefore, certain activities may be restricted or prohibited on some properties so designated.

5.1.1 PERMITTING GUIDELINES

Alabama Power has developed the “General Guidelines for Residential Shoreline Permitting and Permit Terms and Conditions” (guidelines) (Appendix E) for various types of activities. These guidelines are considered general, since each reservoir and lot is unique, and permitting policies may need to be adjusted periodically for various situations. As guidelines change (see Section 7.0), the most current guidelines will be attached to the SMP as it is updated over the term of the new license.

Alabama Power monitors new applications (and existing permits) through GIS and Records Management System, or RMS, latest software system. This information is used during regular surveillance activities to assess compliance with the terms and conditions of the applicable permit. Alabama Power uses the GPS coordinates of new permit applications to analyze the exact location of the proposed activity and identify any permit stipulations that may be required as a result of the associated land classification.

Alabama Power does not approve the design, engineering, etc. of structures within the Project, but instead approves the types, sizes, locations, and uses. The ownership, construction, operation, and maintenance of any permitted facility are the responsibility of the applicant, who is subject to and solely responsible for complying with all applicable federal, state, and local laws and regulations, including any applicable building or electrical codes. The applicant is responsible for all expenses related to obtaining any necessary federal, state, local permits or approvals.

Permit approval and acceptance by the applicant releases Alabama Power, its officers, agents and employees from any and all causes of action, suits at law or equity, or claims or demands, or from any liability of any nature whatsoever for or on account of any damages to persons or property, including the permitted facility, arising out of the ownership, construction, operation or maintenance by the permittee of the permitted facilities.

5.1.1.1 RESIDENTIAL PERMITTING

A shoreline property owner generally initiates the permit process by contacting Alabama Power to request information about how to obtain a “Lakeshore Use Permit” (permit). During this initial contact, an Alabama Power Shoreline Management Representative explains the general permitting process and reviews the guidelines with the applicant. These guidelines do not attempt to address every specific situation that may exist on Alabama Power reservoirs but are provided as a general guide to assist property owners and their contractors with development and construction actions. Recognizing that site-specific circumstances may warrant special consideration, Alabama Power may make exceptions and modify these guidelines at its discretion.

Following the initial contact, an appointment may be made for an Alabama Power Shoreline Management Representative to visit and/or discuss the proposed activity/use, within the Project, with the property owner. During this meeting, the Alabama Power Shoreline Management Representative reviews drawings of the proposed activity or facility and examines the shoreline. After the Alabama Power Shoreline Management Representative reviews the applicable

guidelines with the property owner, the “Request for Lakeshore Use Permit,” is completed and provided to Alabama Power for review⁷.

As part of the review process, the application is reviewed to determine if the proposed project meets the General Guidelines for Residential Shoreline Permitting (Appendix E), the USACE PGP Conditions (Appendix D), and the Dredge Permit Program (Appendix B). If the application meets the PGP parameters (as well as other respective guidelines), the activity is authorized according to the applicable PGP(s) in the form of an approval letter⁸ to the applicant and a copy of the letter is saved at the respective Shoreline office. Upon approval of the permit, the permittee is required to complete all facility construction within 1 year. If construction is not completed within the time allotted, the permit will become null and void unless the property owner obtains an extension of time from Alabama Power.

If the permit application is not approved or is found insufficient, Alabama Power’s Shoreline Management Representative will explain the deficiencies to the property owner. Insufficient applications generally require an additional site inspection to review and discuss possible adjustments necessary to obtain approval. Alabama Power’s Shoreline Management Representative makes the final permit decision.

5.1.1.2 NON-RESIDENTIAL PERMITS (NRPs)

Non-Residential Permit applications corresponding to the appropriate paragraphs in the Use and Occupancy article are initiated through the local Alabama Power Shoreline Management Representative. Alabama Power generally conducts an on-site meeting with the applicant to discuss the guidelines and permitting process. The process to apply for and obtain a permit from Alabama Power for certain uses of the lands associated with each hydroelectric Project, including lake shorelines, consists of three phases:

- **PHASE 1 (INITIAL REVIEW)** – The period of time from an Applicant’s receipt of the NRP Application Phase 1 Information Checklist (usually distributed at, or soon after, the initial

⁷ If the proposed activity lies within a Sensitive Resource area, the procedures outlined in Section 4.2 apply.

⁸ Approval letters are valid for a period of one year from issuance; if construction requiring both an approval letter and a permit is not completed within the one-year timeframe, the property owner must obtain an extension of time from Alabama Power on both the letter and the permit.

onsite meeting) until Alabama Power determines the Application is complete and ready for stakeholder consultation.

- **PHASE 2 (AGENCY/STAKEHOLDER CONSULTATION)** – The period of time from Alabama Power determining the Phase 1 Information is complete until Alabama Power determines agency/stakeholder consultation is complete. Upon completion of Phase 2, the Application is ready for filing for FERC authorization or issuance of a conveyance.
- **PHASE 3 (FERC REVIEW)** – The period of time from Alabama Power’s filing of the Application with FERC until FERC issues its approval.

Alabama Power places NRPs into three groups: Non-Residential, Multiple Single-Family Type Dwellings, and Easements. Non-Residential permits cover marinas, and may also cover parks, overnight campgrounds and other similar facilities depending upon project details. Multi-Family permits⁹ may be used for condominiums, planned residential facilities, long-term campgrounds, etc. Easement requests are often used for utility and road crossings as allowed for in Paragraphs (c) and (d) of the Use and Occupancy Article. Some developments may have a combination of the above-mentioned groups and may also include residential permits depending upon facility details. Alabama Power’s guidelines for Non-Residential facilities and Multiple Single-Family Type Dwellings are provided in Appendix F.

5.1.2 PERMIT ENFORCEMENT

Alabama Power closely monitors activities along the shoreline to ensure that they are permitted and are being performed in accordance with the conditions outlined in the applicable permit.

Alabama Power’s surveillance program monitors each development on a regular basis.

Unauthorized or unpermitted activities within the Project Boundary are treated as encroachments or violations. Alabama Power works with the responsible property owner to bring the activity into compliance with its permitting guidelines and terms and conditions. This may involve modification or removal of the structure(s) and restoration of disturbed shoreline at the owner’s expense, permitting after completion of corrective actions, remediation, mitigation, litigation, or any combination of these. When unauthorized work is discovered, Alabama Power may seek a

⁹ Certain multi-family permits may be permitted using Alabama Power’s residential permitting process depending upon the facility details. For information regarding which multi-family permits will require the NRP process, reference Alabama Power’s guidelines for Non-Residential facilities in Appendix F.

temporary restraining order to stop further construction work within the project, which can result in unwanted construction delays and additional expense for the owner.

A construction permit tag is issued with each approved permit, and a permanent permit tag is issued upon completion. These tags aid in the monitoring and surveillance of the reservoirs. Permit tags are posted on the permitted facility or on the land areas covered by the permit so that they can be visually checked with ease from the water.

The assistance of reservoir stakeholders in shoreline surveillance should not be overlooked. Stakeholders are encouraged to report possible permitting violations by calling the local Alabama Power Shoreline Management office, by calling 1-800-LAKES11 and following the prompts for the appropriate reservoir, or by visiting Alabama Power's Shoreline Management website located at: <https://apcshorelines.com>.

5.1.3 PERMIT TRANSFERABILITY

Permits are transferable by the permittee upon approval by Alabama Power. When a property is sold, or ownership is transferred, the new owner and permittee must contact Alabama Power to receive a permit transfer issued in their name. Alabama Power is available to consult with permittees prior to the sale or transfer of property to determine whether the permitted facilities are in compliance with Alabama Power permitting guidelines.

5.1.4 PERMIT REVOCATION

If a permittee fails to comply with any of the conditions of a permit, or with any additional conditions imposed by Alabama Power, or any federal, state or local agency, the permittee shall be required to take appropriate action to correct the violation. If the violation is not corrected within 60 days after written notification, Alabama Power may cancel the permit and require the removal of any facilities that were formerly permitted. Alabama Power may revoke a permit whenever it determines that the public interest necessitates such revocation or when it determines that the permittee has failed to comply with the conditions of the permit. The revocation notice, mailed by registered or certified letter, shall specify the reasons for such action. Alabama Power

may summarily revoke a permit in emergency circumstances. Alabama Power will consider extensions of the noted time frames on a case-by-case basis.

5.1.5 DILAPIDATED, ABANDONED AND UNPERMITTED STRUCTURES

Because the Project reservoirs have developed at different rates due to factors such as locality, population density, and age of development, the design and condition of structures on the reservoirs varies. Some structures do not meet current permit requirements, and some structures are in disrepair. Unpermitted structures are discussed in Section 5.2.

A dilapidated structure is one that is anchored or otherwise affixed to a piece of property and can no longer be considered serviceable due to its poor state of repair. Several structures on Alabama Power's reservoirs are considered dilapidated because of inadequate flotation or failing structural integrity, or both. Abandoned structures are free floating and not associated with any particular property.

Through the SCP, Alabama Power has established a program to address dilapidated and abandoned structures. Alabama Power removes abandoned structures from the reservoir in coordination with Renew Our Rivers and the Alabama Law Enforcement Agency - Marine Patrol. In the case of a dilapidated structure, a notice is issued to the property owner, asking the owner to contact Alabama Power. Alabama Power explains the issue and requests cooperative action from the owner to repair or remove the dilapidated structure. Alabama Power may pursue removal of these structures when it deems removal appropriate or when the Alabama Law Enforcement Agency - Marine Patrol determines a safety hazard exists.

5.2 STRUCTURE IDENTIFICATION, ASSESSMENT AND RESOLUTION

In 2009, Alabama Power began identifying all existing permitted structures and unpermitted legacy structures within the boundaries of its Projects. Each structure was assessed based on physical attributes, legal status, permitting status and the Project purpose of the occupied lands. Alabama Power began working with unpermitted legacy structure owners and other stakeholders to reach resolutions for non-conforming structures so that they can be brought within Alabama Power's Shoreline Permitting program.

5.3 SURVEILLANCE PROGRAM

Alabama Power began its formal surveillance program in 1992 and initiated a revamped surveillance program in 2006. In 2009, Alabama Power continued improving its surveillance program by beginning to survey each reservoir on a quarterly basis in order to document emerging issues and track them to resolution. Beginning in 2011, Alabama Power further upgraded its surveillance program by increasing the frequency of reservoir surveillance and began utilizing newly developed RMS/surveillance tracking software to document potential compliance issues and to track them to resolution. Alabama Power surveys the 367 miles of shoreline associated with the Project on a regular basis.

6.0 BEST MANAGEMENT PRACTICES AND EROSION AND SEDIMENTATION CONTROL

6.1 BEST MANAGEMENT PRACTICES

Best management practices are on-site actions implemented by an individual or group to lessen the potential direct or indirect effects of the use of a particular resource. For example, if a property owner chooses to cut vegetation from his or her shoreline property to improve access or to improve the view-shed, the property owner may choose to clear selectively, replant low-lying vegetation that will help maintain the stability of the bank, or both. Selective clearing and replanting would be considered to be BMPs because they are on-site actions that would lessen the potential effects of clearing vegetation. Although the use of BMPs is not required by regulations, regulatory agencies throughout Alabama and the country actively promote the use of BMPs on shoreline projects to reduce potential adverse effects and assist in the conservation and protection of valuable shoreline resources.

Alabama Power, with assistance from relicensing stakeholders and other interested parties, supports public education efforts to encourage the adoption of shoreline BMPs as well as any other BMPs promoted by state and regulatory authorities. In addition, Alabama Power is committed to implementing applicable BMPs on Alabama Power fee simple owned lands classified as Recreation and Natural/Undeveloped. Alabama Power recommends that adjoining property owners adopt shoreline BMPs to maintain and preserve qualities associated with naturally vegetated shorelines, including water quality protection, shoreline stabilization, aesthetics, and wildlife habitat.

In addition to the information on the Alabama Power web site, Alabama Power developed an illustrated brochure entitled *Shoreline Management Practices* (Appendix G) that discusses general and historical information about each development and its reservoir. The *Shoreline Management Practices* brochure includes sections explaining BMPs, recommendations for implementing these practices, and diagrams that educate prospective permittees. Alabama Power's *Shorelines* publication also periodically features educational information regarding

erosion control and BMPs. Information regarding BMP's can be found at:

<https://apcshorelines.com/shoreline-management/>.

6.1.1 BUFFERS AND VEGETATION MANAGEMENT

Vegetated shorelines are an important component of a healthy reservoir ecosystem. Naturally vegetated shorelines, including wetlands, can act as natural filters, facilitating the absorption and processing of runoff pollutants. This filtering ultimately reduces the amount of potentially harmful contaminants that enter a particular reservoir and contribute to water quality degradation. In addition to filtering potentially harmful pollutants, shorelines vegetated with native species also work to preserve the physical integrity of the shoreline. The root systems of naturally vegetated shorelines provide a structure that helps to maintain shoreline integrity and reduce excessive erosion that can lower water quality, and in some cases, adversely affect aquatic habitat. Naturally vegetated shorelines also improve the aesthetic integrity of the reservoir as well as the amount of habitat available to aquatic and terrestrial species.

Alabama Power recommends that property owners adopt the following shoreline BMPs to maintain and preserve those qualities associated with naturally vegetated shorelines:

1. Plant native trees, shrubs, and flowers for landscaping and gardens in order to reduce watering as well as chemical and pesticide use. Reference information can be found in Appendix G.
2. Preserve or establish a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum. Alabama Power recommends a buffer set back of at least 15 feet measured horizontally from the full pool elevation¹⁰.
3. Plant a low maintenance, slow growing grass that is recommended for your soil conditions and climate. Reference information can be found in Appendix G.
4. Maintain the grass as high as possible in order to shade out weeds and improve rooting so less fertilizing and watering are required.
5. Avoid dumping leaves or yard debris on or near the shoreline.

¹⁰ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

6.1.2 WATER QUALITY

Water quality is an important indicator of the overall health of the reservoir. Water quality not only affects aquatic and terrestrial wildlife, but also the health and well-being of individuals and communities that surround the reservoir.

Alabama Power recommends that property owners adopt the following BMPs to preserve and improve the water quality of the Project's reservoir:

1. Use permeable paving materials and reduce the amount of impervious surfaces, particularly driveways, sidewalks, walkways, and parking areas.
2. Avoid or minimize the use of pesticides, insecticides, and herbicides whenever possible.
3. Dispose of vehicle fluids, paints, or household chemicals as indicated on their respective labels and do not deposit these products into storm drains, project waters, or onto the ground.
4. Use soap sparingly when washing your car and wash your car on a grassy area so the ground can filter the water naturally. Use a hose nozzle with a trigger to save water and pour your bucket of used soapy water down the sink and not on the ground.
5. Avoid or minimize applying any fertilizer. Apply fertilizers and pesticides according to the label and never just before a heavy precipitation event. Fertilizer use can also be avoided by using native vegetation in a landscape.
6. Maintain septic tanks and drain fields according to the guidelines and/or regulations established by the appropriate regulatory authority.
7. Discourage livestock from entering project waters or tributaries.
8. Create and maintain a rain garden in the landscape to naturally filter runoff.

6.1.3 PROPERTY DEVELOPMENT AND MANAGEMENT

Alabama Power's R.L. Harris Hydroelectric Project includes approximately 367 miles of shoreline. Private residential property occupies a considerable amount of that shoreline and has a significant effect on the shoreline as well as the reservoir itself. Individually, one property does not normally have a large effect upon the shoreline or the reservoir. Cumulatively however, residential activities can have a pronounced effect on reservoirs and their shorelines.

Alabama Power's existing permitting program includes guidelines to follow when considering a shoreline use permit request. These guidelines are specifically designed to minimize impacts to shoreline resources associated with property development. In addition to the existing permit guidelines, Alabama Power recommends that property owners adopt the following shoreline BMPs to help conserve and protect valuable shoreline resources.

1. Deposit excavated materials in an upland area and properly secure them to prevent them from entering the waterway, adjacent wetlands, or bottomland hardwoods through erosion and sedimentation. (required when dredging).
2. Place riprap along the base of existing seawalls.¹¹
3. Maintain natural drainage to the maximum extent possible and do not direct concentrated runoff directly into the reservoir.
4. Divert rain gutters/drain pipes and other sources of household runoff, including driveways, to unpaved areas where water can soak into the ground and be naturally filtered before reaching the reservoir.
5. Dispose of yard debris and other biological waste in a compost pile located outside of the 800' msl or at least 50 horizontal feet away from the shoreline, whichever is less.
6. Avoid excessive watering of lawns and water either in the morning and/or in evening.
7. Plant native species to reduce watering.

In addition to the preceding shoreline BMPs, Alabama Power recommends that all activities on lands adjacent to each reservoir follow existing state BMPs (e.g., Alabama's Best Management Practices for Forestry, Alabama Clean Water Partnership BMPs, Alabama Handbook for Erosion Control, Sediment Control and Storm-water Management on Construction Sites and Urban Areas). For a list of references regarding these BMPs, as well as additional sources of information, see Appendix G. Although applicable BMPs are required on Alabama Power owned Project lands classified as Recreation and Natural/Undeveloped Lands, not all BMPs will be practicable on specific sites. BMPs will be required at these sites on a case by case basis.

6.2 EROSION AND SEDIMENT CONTROL

Alabama Power's permitting process and BMPs include numerous provisions for controlling soil erosion and sedimentation, including bio-engineering techniques such as planting willow and wetland species.

Bioengineering techniques involving marsh creation and vegetative bank stabilization (soil bioengineering) may be effective at sites with limited exposure to erosion forces (e.g., strong currents, wind-generated waves, etc.). In cases with increased erosional forces an integrated approach that employs structural systems (e.g., seawalls) in combination with soil bioengineering techniques may be more appropriate.

Basic principles of soil bioengineering include the following (USDA-NRCS, 1992):

- fitting the soil bioengineering system to the site;
- evaluating topography and exposure (e.g., note the degree of slope, presence of moisture);
- characterizing geology and soils (e.g., determine soil depth and type);
- studying the hydrology (e.g., calculate peak flows in the Project area);
- retaining existing vegetation whenever possible;
- limiting removal of vegetation;
- stockpiling and protecting topsoil;
- protecting areas exposed during construction; and
- diverting, draining, or storing excess water

Some appropriate bioengineering practices include installing coconut fiber rolls or live fascines, live staking, restoring or creating marsh, and preserving or creating vegetative buffers. Some appropriate integrated practices include bank shaping and planting; joint planting; and installing live crib-walls, vegetated gabions, vegetated reinforced soil slopes, or vegetated geogrids.

7.0 SHORELINE MANAGEMENT PLAN (SMP) REVIEW PROCESS

In order for the SMP to remain relevant in the coming years, Alabama Power intends to review this document every 10 years with continued input from interested parties. Information related to Sensitive Resources (e.g., wetlands, threatened and endangered species and cultural resource locations) will be updated continuously as new information becomes available (e.g. as new federally listed species and/or federally designated critical habitat are designated). Due to the pace at which conditions around the reservoir will change over the foreseeable future, the 10-year time frame allows for Alabama Power to assess new issues that may arise as a result of development. A shorter time frame would preclude any meaningful analysis of cumulative effects; however, Alabama Power is always willing to listen to concerned stakeholders if unforeseeable circumstances warrant an interim review of particular sections of the SMP. This review process will provide the means for the permitting program to change, if necessary, or for additional BMPs to be adopted or replaced as their effectiveness is tested.

Alabama Power will meet with consulting agencies by December 31 of the ninth year of the 10-year cycle to determine the progress of implementing the SMP and to address any suggested modifications to the SMP. Additionally, Alabama Power will issue a report through various media outlets (e.g., the Alabama Power shoreline management web site, the *Shorelines* newsletter) with the number of permits it has processed on each shoreline classification type on each reservoir. Any request for this information in the intervening time will be considered on a case-by-case basis. A public workshop is then held to provide concerned stakeholders a forum to address any modifications. The public workshop is advertised in various media formats (e.g., website, Shorelines, contact with homeowner associations) one month before it begins. After the public workshop, the SMP review process will culminate by December 31 of each 10-year cycle in a filing that describes the agency consultation, any recommended modifications, and how Alabama Power addressed any proposed modifications to the SMP.

Alabama Power will host annual public education workshops to address SMP questions, especially with regard to permitting, during the ten-year review process.

8.0 LITERATURE CITED

USDA-NRCS (United States Department of Agriculture, Natural Resource Conservation Service). 1992. Engineering Field Handbook, Chapter 18 Soil Bioengineering for Upland Slope Protection and Erosion Reduction.

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Monday, October 19, 2020 4:50 PM
To: APC Harris Relicensing; ken.wills@jcdh.org
Subject: Comments of Flat Rock BackcountryClassifications/Management

Hello all,

On behalf of the Alabama Glade Conservation Coalition, I wanted to follow up on this mornings HAT 4 discussions with some written comments regarding the reclassification of the Flat Rock backcountry area aka Flat Rock botanical conservation area as part of the FERC relicensing process for the Harris Hydro project. While our coalition strongly approves the backcountry area being reclassified from Recreation to the more protective Natural Undeveloped, HAT discussions over the last year along with the results from the initial botanical inventory illustrate the need for a special management plan for this unique natural area whether it be under the Natural Undeveloped land use classification or a special Botanical Area land use classification.

National Forests use Botanical Area as one of their land use classifications to recognize and address special management requirements for areas with unique and/or diverse plant species. Considering the initial botanical survey has found at least 10 plant species of state and global conservation concern in and around a rare habitat (Piedmont granite outcrops) as well as a good overall representation of plant communities found with Alabama's Piedmont region, this backcountry area should certainly be recognized/managed as a botanical conservation area whether or not a special botanical land use designation is added to the land use plan.

In regards to management, I am currently unable to access some of my computer files, but I believe some specific land protection/management recommendations were included within the cover letter that was sent by our botanical survey team to Alabama Power along the results from the initial botanical survey. I will submit that information when I can regain access or obtain a replacement. In the meantime, I can in more detail describe the special management that would be beneficial for conservation and enhancement of the rare as well as more common native botanical resources of the Flat Rock backcountry area.

1. Minimize heavy recreational/vehicle impacts- The wooded buffer between the backcountry granite outcrops and the main portion of Flat Rock Park continues to filter out heavy foot traffic while allowing the truly interested members of the public, educators and researches to still access the rare granite habitats. Considering the wooded buffer is part of the proposed conservation land use change, maintaining it should be relatively easy. In contrast, illegal ATV use is one of the greatest threats to the rare and sensitive plans of the area. Alabama Power has made great progress in blocking ATVs from accessing these sensitive habitats, but our botanical research team has recently found that the ATV users are finding new ways around the vehicle barriers into the track. Preventing ATVs from accessing the track and running over the rare plants of the granite outcrop habitats will be an ongoing issue that will require management.

2. Removal and reduction of exotic invasive plants- Like many glade habitats across the Southeast, the backcountry area of Flat Rock has a significant infestation of exotic invasive plants, especially Chinese Privet. The problem of removal and subsequent control can tackled in part through the use of supervised volunteers in the sensitive habitats along the edges of the granite habitats. However, more extensive control efforts may be needed in some of the less sensitive fully forested habitats where some of the largest privet infestations are found. Exotic plants control involves initial removal and treatments, but controlling their resprout/return is an ongoing issue that will require management. The Alabama Glade Conservation Coalition will be happy to assist in this process in part by providing and supervising volunteers in removal and control of exotics such as privet.

3. Controlled reintroduction of fire to the natural community- Like many of the drier habitats of Southeast, the ridge top and upper slope habitats surrounding granite outcrops were historically subject to frequent natural and aboriginal fire which help keep them open and diverse. Some of the lands that were recently added to the proposed conservation area even contain longleaf pine which is very fire dependent. If controlled burns could be safely reintroduced to the lands within the proposed botanical conservation area, it would help to open up habitats including some of the granite based rare plant habitats that have become choked with shading overgrowth as well as restore more diversity to the herbaceous layer in other upland habitats such as pine hardwood forest. Controlled burns are also very beneficial for reducing fuel loads that could result in more catastrophic wildfires. The suitability of the area for controlled burns will require evaluation in relation to dwellings/structures on adjacent properties. The Alabama Glade Conservation Coalition

includes such groups as the Nature Conservancy of Alabama that have experience in evaluating the potential for as well as supervising controlled burns in landscapes of various states of development, and those groups may be willing to help evaluate the potential for controlled burns in the proposed botanical conservation area. If controlled burns can be safely reintroduced into this area, then ongoing management will be required to maintain a program of periodic controlled burns.

In related matters, considering the proposed botanical conservation area contains at least 10 plants of state and global conservation concern and many of those plants are very sensitive to certain impacts, it would seem the Sensitive land use classification overlay should be considered for the proposed Flat Rock backcountry conservation lands whether they are is reclassified as Natural Undeveloped or a special Botanical Area designation. However, if the Sensitive land use classification overlay would restrict/prohibit walk in public access to the area for those who want to appreciate the plants and other natural features and/or restrict/prohibit any of the above forms of active management needed to help maintain the botanical resources of the area then the Sensitive land use classification overlay would not be appropriate for the proposed botanical conservation area.

In summary, we respect the ability of the decision makers for the Harris Project land management plan to evaluate and determine the best protective land use classification for the proposed botanical conservation area, but we do feel that the lands should be recognized as a botanical conservation area (at least within the land management plan) and a specific management plan should be developed for the botanical conservation area. If the specific botanical area management plan can be developed and added as an appendix to the final overall land management plan, that would be great, but we realize that development of such a plan may take time beyond the deadlines of this FERC relicensing process. The Alabama Glade Conservation Coalition will be happy to assist the development of a management plan for the proposed Flat Rock backcountry botanical conservation area as well as assist in the ongoing management of this unique and special area.

Thanks,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition
(205) 515-9412

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Monday, February 8, 2021 8:19 AM
To: erin_padgett@fws.gov; 'Evan Collins'
Cc: Chandler, Keith Edward; Baker, Jeffery L.; Fleming, Amanda
Subject: Harris relicensing - WMP language
Attachments: 2021-1-22 FWS Harris Project Overview and GTK.pdf; 2021-1 DRAFT Harris WMP.docx

Good morning,

As discussed in our meeting on January 22, 2011 (meeting summary attached), the only listed species that may be impacted by Harris Project operations include endangered and threatened bat species that potentially inhabit the James D. Martin-Skyline Wildlife Management Area (WMA). However, Alabama Power's implementation of appropriate Best Management Practices (BMPs) for timber management and tree removal, as well as adherence to USFWS guidance concerning any future known hibernacula and maternity roost trees, should avoid impacts to any listed bats in the area. Our goal is that the implementation of the BMP's included in the attached draft Wildlife Management Plan will result in a not likely to adversely affect determination.

Please review the attached draft WMP (specifically Section 6.1.2) and send us comments or concurrence by **February 12**. If you'd like to discuss, please let me know and I can set up a call.

Thanks!

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com



R. L. Harris Hydroelectric Project

FERC No. 2628

Meeting with USFWS – Harris Project Overview, T&E Report Review, Potential Wildlife Management Plan Effects on Listed Species

January 22, 2021 9-10:30
Teams Meeting

Participants:

- Evan Collins (USFWS)
- Erin Padgett (USFWS)
- Angie Anderegg (APC)
- Jeff Baker (APC)
- Keith Chandler (APC)
- Amanda Fleming (APC)

Action Items:

Angie Anderegg will send Alabama Power's draft Harris Project Wildlife Management Plan (WMP), which includes timber management Best Management Practices (BMPs) that are protective of bat species, to the USFWS for their review.

Meeting Summary:

The meeting began with introductions among all the meeting attendees. Next, Angie Anderegg (APC) presented an overview of the Harris Project and the relicensing process to date. After the overview, the group discussed the Threatened and Endangered Species Study Report (T&E Report). The group noted that northern long-eared and Indiana bats at the Skyline portion of the Harris Project are the only T&E species that may potentially be affected within the Harris Project. Additionally, no critical habitat units are within the boundary. The group discussed that Alabama Power planned to protect the bat species through timber management practices that will be included in the WMP. Jeff Baker (APC) noted the Alabama Power forestry group was already voluntarily implementing best management practices (BMPs) to protect all bats and is working to formalize the description of these practices.

Erin Padgett and Evan Collins (USFWS) explained that Shannon Holbrook (USFWS) will also be involved in the consultation process. Finally, the group discussed sending a draft of the WMP to the USFWS for their review with a goal of developing timber management BMPs that would result in a "not likely to adversely affect" determination.

Angie concluded the meeting.

R.L. Harris Dam Relicensing – FERC No. 2628

January 21, 2021



Alabama Power Company's Hydroelectric Developments



14 Developments

Warrior River

Coosa River

Tallapoosa River

Generation – 1,600 MW

Project Waters – 155,700 Acres

Project Lands – 119,500 Acres

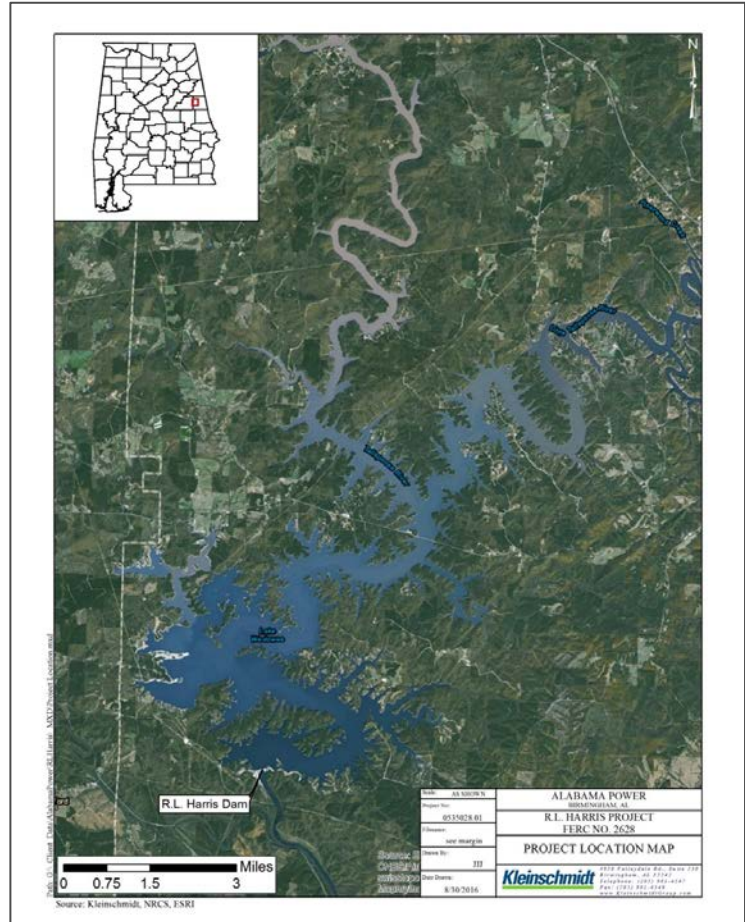
Shoreline – 3,100 Miles

River Miles – 430 Miles

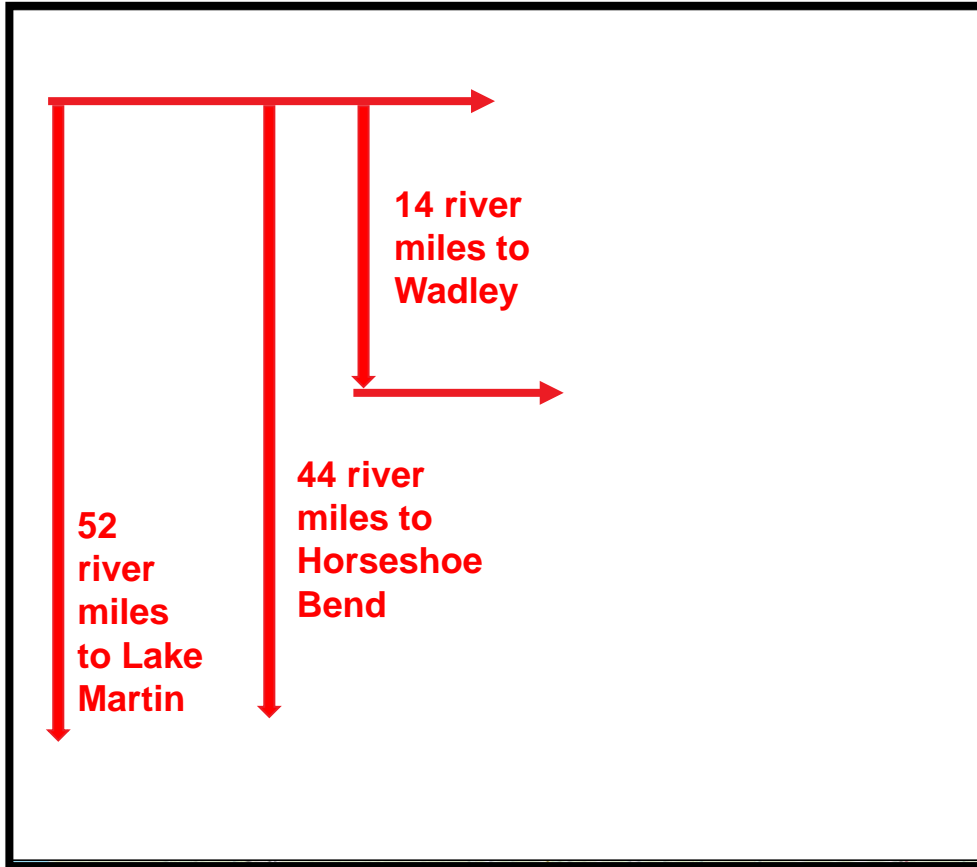
*All numbers approximate

Location

- Tallapoosa River
- Randolph County in east-central Alabama
- Dam is located 10 miles SW of Wedowee



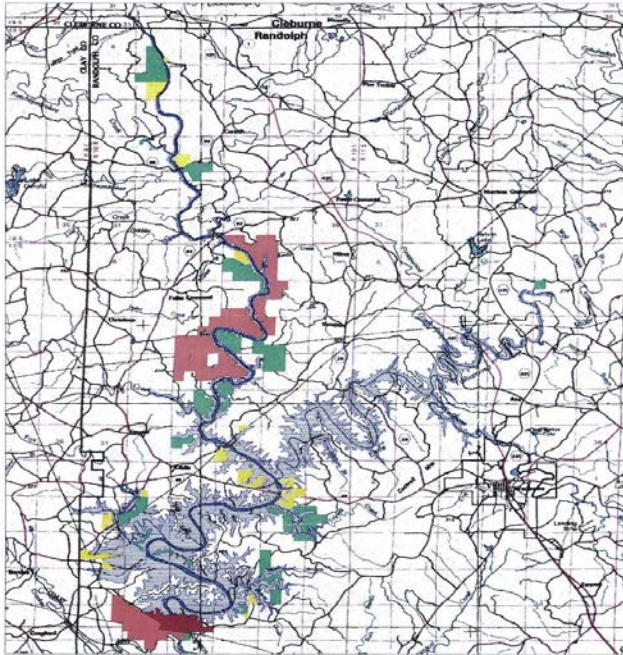
Tallapoosa River Downstream of Harris Dam



Lake Harris Overview



R. L. Harris Project **1995 Land Use Plan**



Copyright 1995
Alabama Power Company
All Rights Reserved

LEGEND:

- Recreational Use Area
- Natural Undeveloped Area
- Prohibited Access Area

Hunting Lands



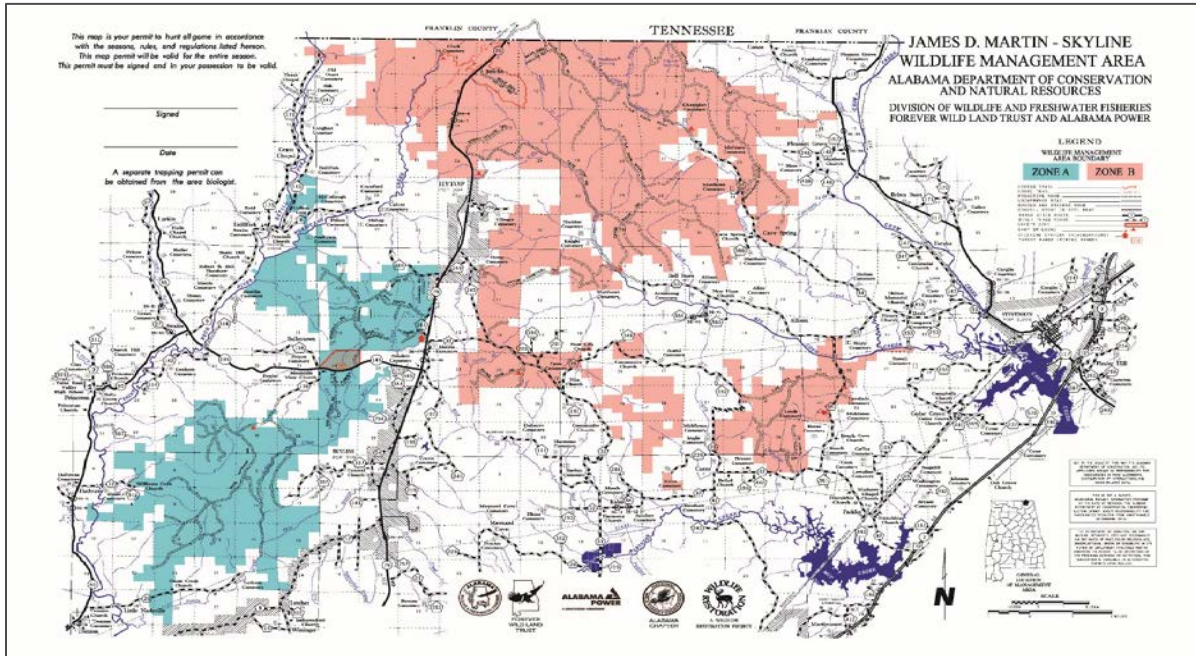
Figure 3

CHARACTERISTICS

- 9,870-acre reservoir
- 367 miles of shoreline
- 7,411 acres of Project lands around Harris Reservoir
- Scenic easement



Skyline Overview



CHARACTERISTICS

- 15,063 acres of Project lands in the Skyline Wildlife Management Area
- Located approximately 110 miles NW of Harris Reservoir
- Jackson County, AL
- Added to the project post-inundation as a mitigation measure for original impacts

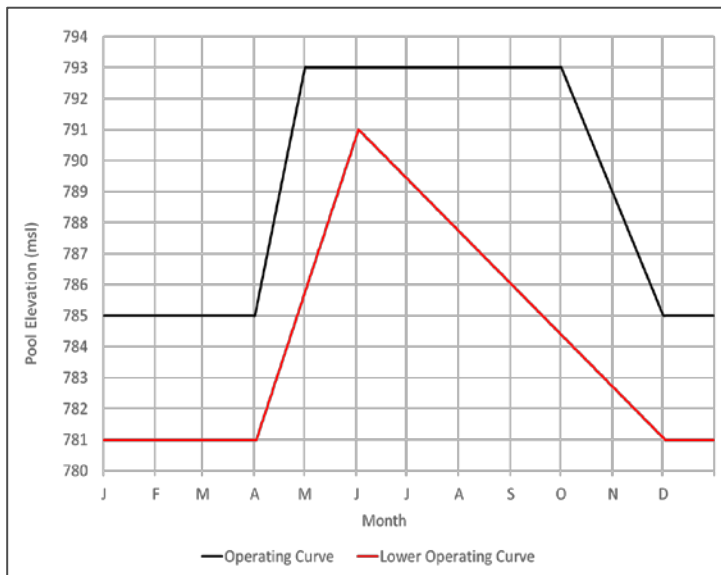
Harris Project Components



- powerhouse and its headworks
- the spillway structure
- 2 non-overflow gravity dam sections
- skimmer weir
- earth embankments at the east and west banks
- 2 vertical Francis turbines (95,000 hp each)
- 135 MW installed capacity



Harris Project Operations



RULE CURVE

- May 1st - October 1st: pool level at or near EL 793 feet
- October 1st to December 1st: pool level is gradually lowered to EL 785 feet
- Pool level remains at EL 785 feet until April 1st, at which point it is gradually raised back to full pool at EL 793 feet.

Harris Project Operations



There are 2 primary ways to pass water from the project:

1. Hydroelectric Generating Unit Operation
 - Electricity is generated
2. Spillway Gate Operation
 - No electricity is generated, only passing water

Under normal conditions, spill gates are not operated until all the available generating units are at full gate flow

Harris Project Operations



- Hydraulic capacity is the flow, cubic feet per second (cfs), that a hydroelectric generating unit is designed to pass
 - Best Gate flow – amount of flow from the unit at the most efficient wicket gate position
 - Where the unit is operated under normal conditions
 - ~6500 cfs
 - ~60 MW
 - Optimum balance between power and flow
 - Full Gate flow – amount of flow from the unit with wicket gates in the 100% (wide open) position
 - ~8000 cfs
 - ~67.5 MW
 - Moves the most water but not most efficient generating point, less energy production
 - Operated when there is a greater need to move larger quantities of water
 - High flow situations
- Harris is a peaking project

The Green Plan – Daily Release Schedule



Prior Day's Heflin Flow (DSF)	Generation @ 6 AM	Generation @ 12 PM	Generation as needed	Total Machine Time	Total Harris Discharge (DSF)
0 – 150	10 min	10 min	10 min	30 min	133
150 – 300	15 min	15 min	30 min	1 hr	267
300 – 600	30 min	30 min	1 hr	2 hrs	533
600 – 900	30 min	30 min	2 hrs	3 hrs	800
>900	30 min	30 min	3 hrs	4 hrs	1,067

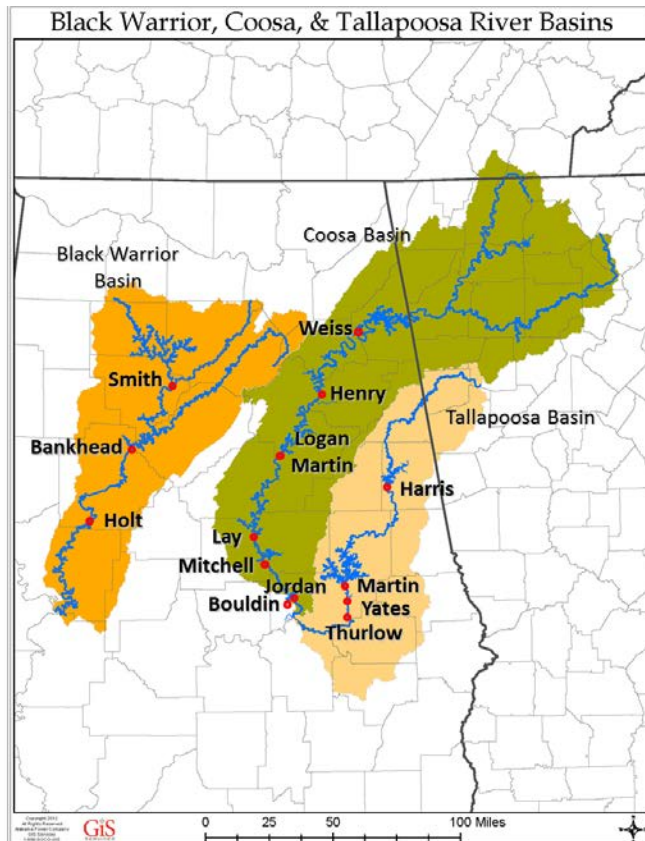
DSF = day second feet

The **volume** of water represented by a flow of 1 cubic foot per second for 24 hours; equal to 86,400 cubic feet and approximately 2 acre feet.

Coosa/Tallapoosa



- Lake level requirements
- Release requirements
 - Jordan
 - Thurlow
- Navigation
- ADROP (drought operations)



PROJECT HISTORY



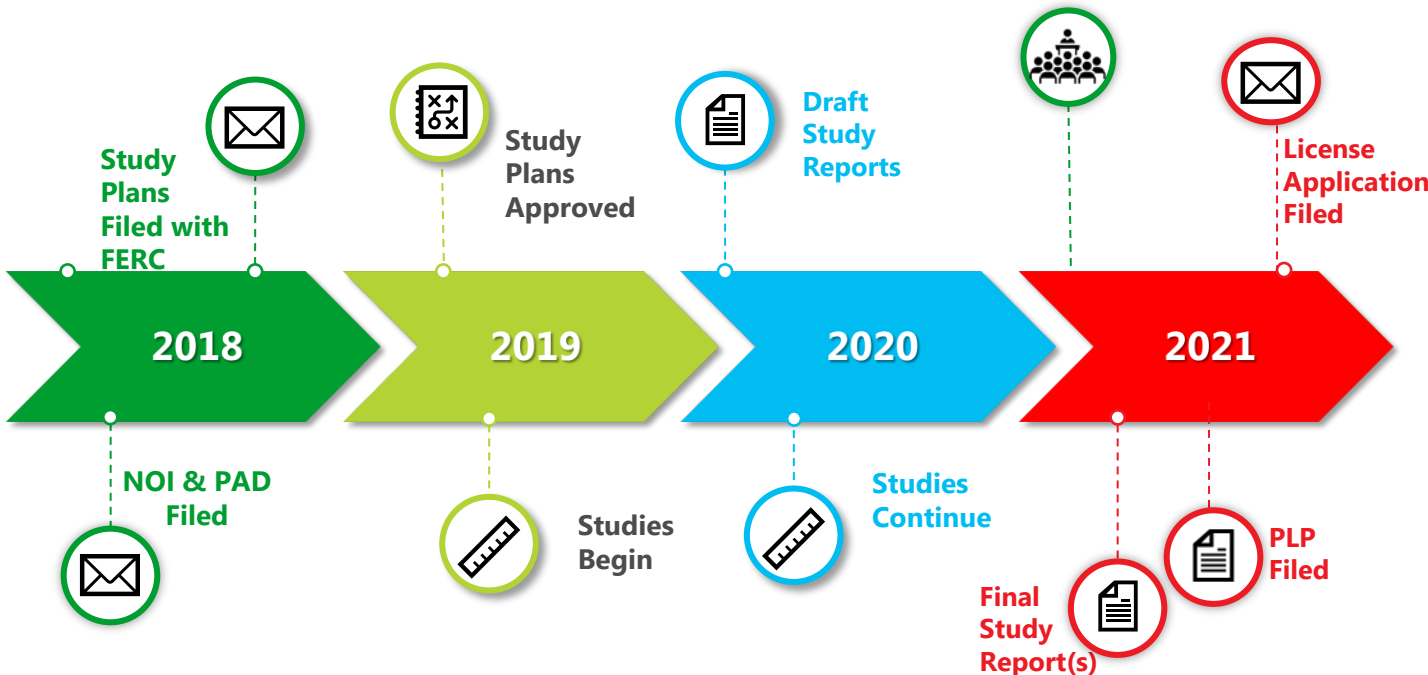
1973	License Issued
1983	Project Began Operating
1998	Discussions about mitigating effects of operations began
2003	First Adaptive Management Process Workshop
2005	Alabama Power Implements Green Plan
2005-2017	Alabama Power continues Green Plan implementation and funds Tallapoosa River research
2017	Issue Identification Workshop
2018	HAT formation and Study Plan Development
2019	Resource studies begin



2018 – 2021: Relicensing Process



WE ARE HERE



THREATENED AND ENDANGERED SPECIES



- Study Goal – assess the probability of populations of currently listed T&E species or their CH occurring within the Harris Project Boundary or Project Area and determine if there are project related impacts
 - Lake fluctuations
 - Downstream flows
 - Recreation and shoreline management activities
 - Timber management
- April 2020 - Filed Draft T&E Desktop Assessment
- Conducted field surveys for:
 - Red-cockaded Woodpecker
 - Palezone Shiner
 - Finelined Pocketbook
 - White Fringeless Orchid
 - Price's Potato-bean
- By January 31, 2020 – file Final T&E Species Study Report

WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

January 2021

WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
(FERC No. 2628)
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan (Study Plan).

¹ Accession Number 20190412-3000

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)², as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama (Figure 1-2). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan. These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only; Harris



Commented [TLM1]: All acreages will be updated in the final version to reflect any changes included in the license proposal.

² Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

Dam refers to the dam, spillway, and powerhouse. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

Lake Harris and Skyline are located within two river basins: the Tallapoosa and Tennessee River Basins, respectively. The only waterbody managed by Alabama Power as part of their FERC license for the Harris Project is the Harris Reservoir.

Within Section 3.0 of this report, Alabama Power describes the Lake Harris resource first, followed by the Skyline resource. Specific references to the Harris Reservoir will be identified as Harris Reservoir; specific reference to the dam will be identified as Harris Dam. The “Project Area” refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary. The “Project Vicinity” refers to a larger geographic area near a hydroelectric project, such as a county.

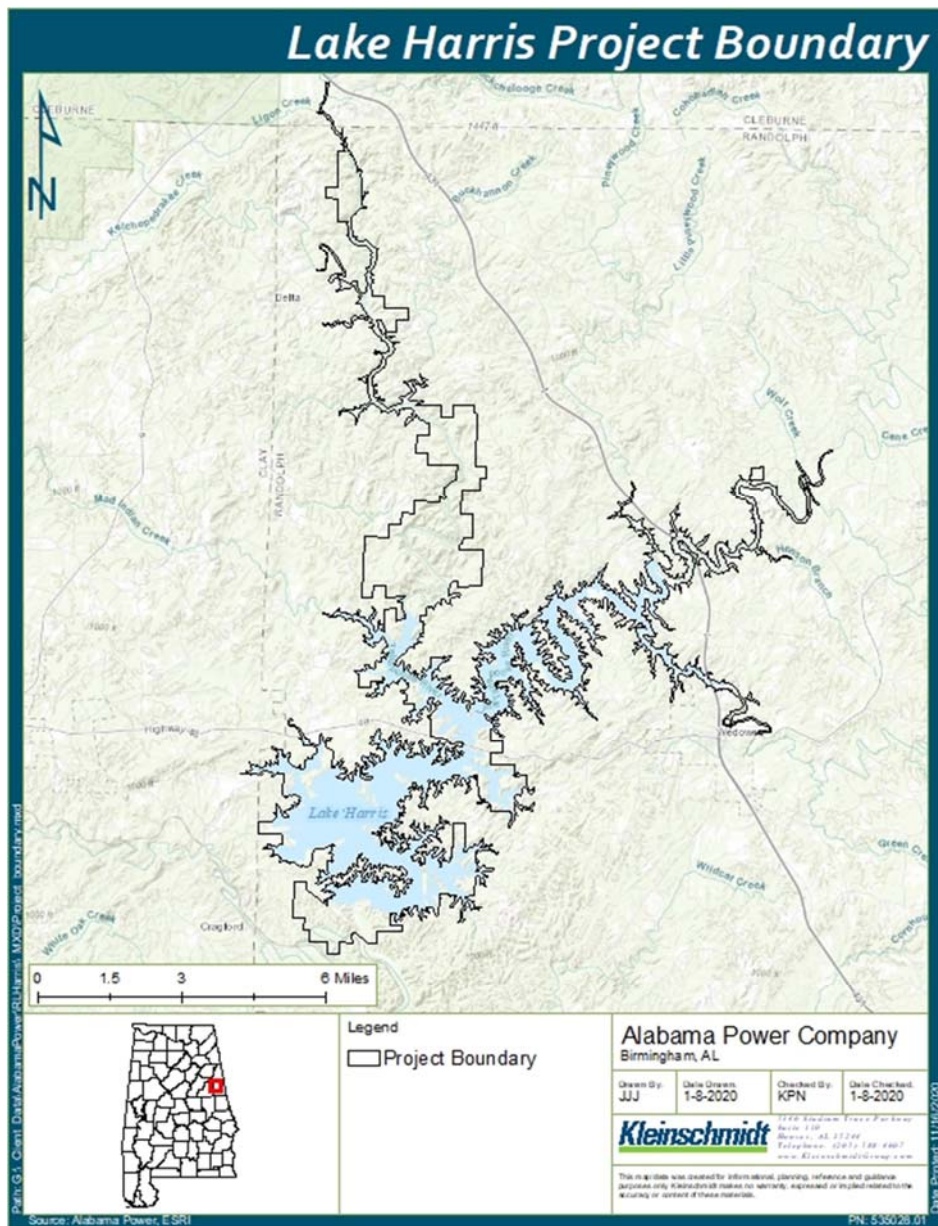


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

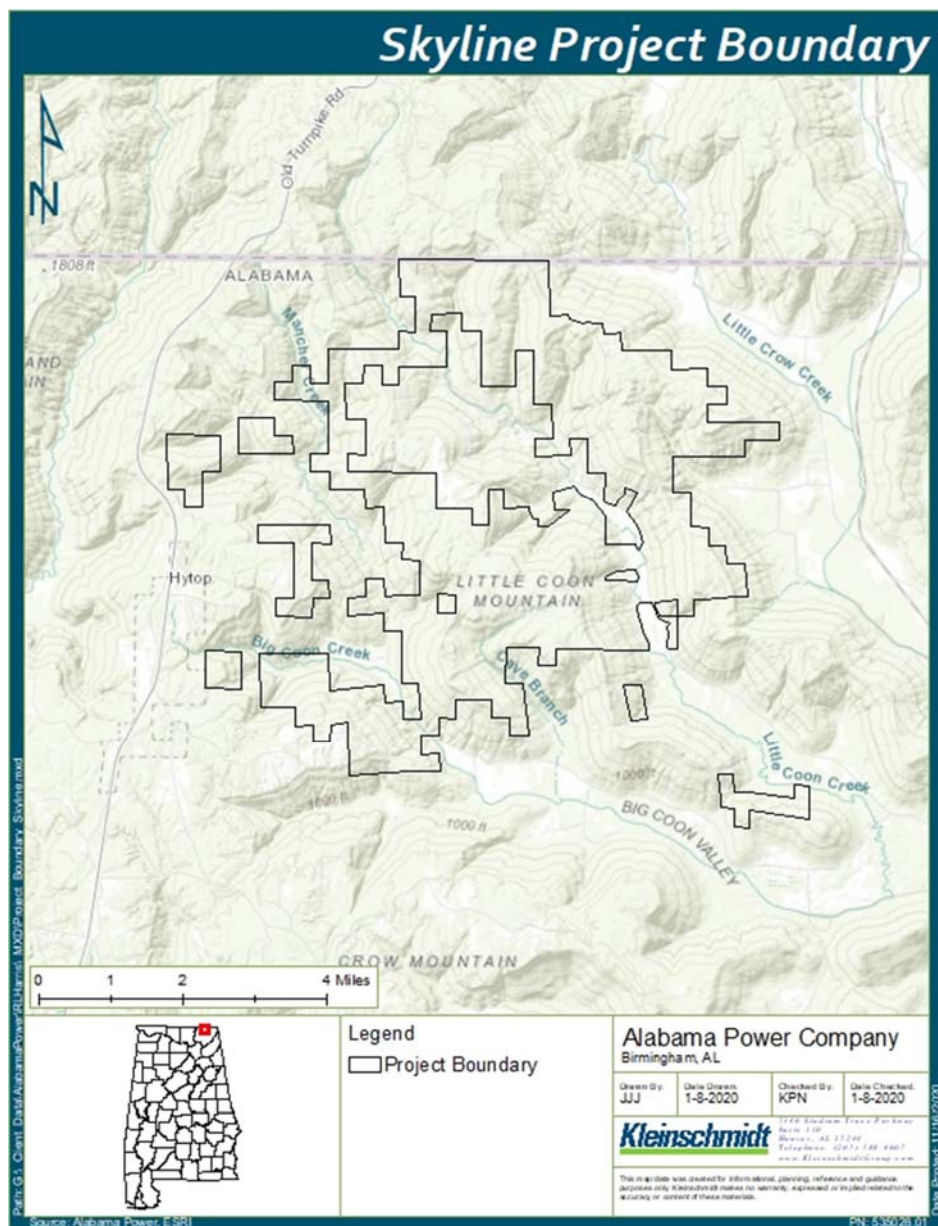


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

As part of the original license, Alabama Power developed a Wildlife Mitigation Plan (Alabama Power 1988) in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS) that FERC approved on July 29, 1988. The Wildlife Mitigation Plan outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project. The Wildlife Mitigation Plan included provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The Wildlife Mitigation Plan required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the Wildlife Mitigation Plan included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (Skyline WMP) (Alabama Power 1989) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990.

As part of the management activities conducted under the 1988 Wildlife Management Plan, Alabama Power identified 263 acres of suitable Wood Duck habitat and installed over 100 Wood Duck boxes. Alabama Power also released Canada Geese to establish a population in and around Lake Harris. Additionally, Alabama Power constructed Osprey nesting platforms along the reservoir shoreline. Finally, Alabama Power managed forest lands within the Lake Harris Project Area and established 105 acres of permanent openings to provide diverse habitat that benefits both game and nongame species.

Alabama Power conducts annual monitoring and maintenance of 104 Wood Duck boxes installed around Lake Harris. Maintenance activities include repair and replacement of broken boxes, as well as the relocation of underutilized boxes. Double boxes were installed in higher use areas. Since 2000, an average of 33 Wood Ducks have been hatched from the Wood Duck boxes per

year. Annual Wood Duck hatchlings ranged from 17 hatchlings in 2000 to 47 hatchlings in 2017. Although Wood Ducks have utilized the artificial boxes, these structures were installed as a mitigative measure for lost habitat associated with the initial impoundment of Harris Reservoir. Wood Ducks using the area have had time to adapt to the surrounding habitat, and likely have demonstrated tolerance, or the ability to habituate, to existing human presence, activities, and infrastructure at Lake Harris. Therefore, Alabama Power will not continue monitoring and maintenance of the Wood Duck box program under this WMP. Wood Duck boxes will be left in place until they are no longer usable. This will allow wildlife using the structures to transition to the surrounding suitable habitat.

Alabama Power installed Osprey platforms around Lake Harris. The platforms are constructed of concrete poles with a galvanized steel ring at the top to serve as a nesting platform. Due to construction materials, the platforms require minimal maintenance. While many of the platforms have been used by Osprey, they are not included in a monitoring program. Further, no additional platforms are planned for construction as the currently installed platforms are adequate for the Osprey population at Lake Harris and will last for years to come.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Gray Squirrel (*Sciurus carolinensis*), the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris gallapavo silvestris*), and Mourning Dove (*Zenaida macroura*); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of

neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrooki holbrooki*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megasceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power 2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter (*Pseudemys concinna*), and Red-eared slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks; pines may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks (*Quercus* spp.) such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboretum*). The herb layer is typically sparse (NatureServe 2009).

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus*

pagoda). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. Alabama Power leases Skyline lands to ADCNR and provides funding for the wildlife management activities on Skyline lands. ADCNR is responsible for the wildlife management activities (Alabama Power 1988). In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite (*Colinus virginianus*), and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types. The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardii*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine (Pinaceae), Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina* ssp. *asplenoides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak (*Quercus prinus*), Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by

fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry (*Vaccinium stamineum*), Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflorum*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat;
- 3) Management of public hunting areas, including areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources such as, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum³. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff, and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed

³ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Planting of native species will be required on all lands within the SMP Recreation and Commercial Recreation classifications and recommended as a BMP on all other Project lands. Specific management actions associated with native plantings can be found in the SMP.

6.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber would be harvested on 16 year cutting cycles and pulpwood would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were then being used. As a result, more volume was being cut per acre and more reseedling was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several rare and endangered species of plants and animals.

Alabama Power continues to manage Project forest lands according to the existing all or uneven-aged management schemes, with a saw timber cycle of 20 years and an overall forest rotation of 60 years. Prescribed burning and/or use of herbicides are considered on stands within Project forest lands; such use is based on conditions and characteristics of the individual stands. Although not specifically designed to benefit rare species, this practice has potential to benefit potentially occurring Red-cockaded Woodpeckers (*Picoides borealis*) by reducing hardwood mid-story, which can block access to cavity and foraging trees in Longleaf Pine (*Pinus palustris*) ecosystems.

Alabama Power continues to utilize selective cutting as the primary means of timber harvest on

Project lands, with those trees that are mature or of poor quality being removed. Natural regeneration is the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees are harvested, the site prepared, and the stand planted with genetically improved seedling stock.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 6,269 acres within the Harris Project Boundary at Lake Harris is summarized in Table 6-1. Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily of various upland species of red and white oak, yellow poplar, hard and soft maple, and hickory. There is a small component of shortleaf, loblolly, and Virginia pine. Historically, past harvesting practices have focused on removing higher value red and white oak timber, resulting in many stands that are dominated by maple, hickory, yellow poplar and chestnut oak. Most stands have closed canopies resulting in little or no desirable understory species to provide the potential for future stands. Timber stand composition on the 15,188 acres within the Harris Project Boundary at Skyline is summarized in Table 6-2.

TABLE 6-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>47</u>	<u>2938</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>18</u>	<u>1109</u>
Upland Hardwood	<u>21</u>	<u>1343</u>
Planted Pines	<u>8</u>	<u>476</u>
Other	<u>6</u>	<u>403</u>
Total	<u>100</u>	<u>6269</u>

TABLE 6-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>0.15</u>	<u>23</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>0</u>	<u>0</u>
Upland Hardwood	<u>99</u>	<u>14,922</u>
Planted Pines	<u>0</u>	<u>0</u>
Other	<u>0.85</u>	<u>118</u>
Total	<u>100</u>	<u>15,063</u>

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below.

6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

Alabama Power will continue to manage Project forest lands according to the existing all or uneven-aged management schemes, with a sawtimber cycle of 20 years and an overall forest rotation of 60 years (see above description). Prescribed burning and/or use of herbicides will be considered on stands within the Project forest lands, and such use will be based on conditions and characteristics of the individual stands.

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest on Project lands, with those trees that are mature or of poor quality being removed. Natural regeneration will continue to be the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees will be harvested, the site prepared, and the stand planted with genetically improved seedling stock.

To avoid and minimize potential impacts to federally listed summer roosting bats, Alabama Power will continue to utilize BMPs associated with timber management and tree removal, including retention of snags, 10 inches diameter at breast height (dbh) and greater, where

possible. Although rare in timber stands at Lake Harris, high quality live roost trees, specifically all shag bark hickory and white oak 12-inch dbh and less, will be retained. In addition, live trees with basal openings or hollowing of the bole, when detected, will be left where possible.

Occasionally streamside management zones (SMZ) are selectively harvested. Harvest within these SMZs is comprised of mature pine and the occasional white oak with other high-quality roost trees such as shag bark hickory being retained. Although potential roost trees selected for retention may occasionally be inadvertently damaged, every attempt is made to avoid these trees during harvest. Particular emphasis is placed on avoiding high quality snags (10-inch dbh and greater) during the pupping season (June 1-July 31).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (*Myotis septentrionalis*) or Indiana Bat (*Myotis grisescens*) hibernacula or maternity roost trees occurring within the Lake Harris Project Boundary, no known hibernacula occur within 0.25 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 150 feet of the Project Boundary (collectively, “areas within or adjacent to the Project Boundary”).

Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS’s Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Lake Harris Project Boundary, Alabama Power will adhere to the most up-to-date USFWS guidance and BMPs, which currently include limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula and 150 feet of known maternity roosts, to the period of October 15 through March 31 with the exception of removal of hazardous or fallen trees for protection of human life.

6.1.2 SKYLINE

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal.

The active management of the timber on Skyline WMA represents responsible stewardship of the land. Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics. At least two harvest unit will be targeted annually for harvest, and Alabama Power will be responsible for administering the timber sale.

Because of myriad past disturbances to these timber stands, many are a complicated mix of species, ages, and diameter distributions. Stands will be treated in a manner conducive to promoting natural advance oak regeneration, while ensuring vertical canopy composition and facilitating species biodiversity. Harvesting will follow a shelterwood prescription (regeneration method), as well as addressing intermediate management objectives of thinning. For the regeneration harvests, less desirable species across all size classes will be targeted for removal, and over-mature oak timber ($\geq 19"$ dbh) will also be removed. This type of harvesting will allow for at least two age classes to become established in treated stands, increasing options for future management. It will also change the light levels reaching the forest floor, in an attempt to favor the intermediately shade tolerant oak over less shade tolerant species such as red maple and yellow-poplar. By carefully selecting residual trees, growth will be concentrated on desirable species and choices can be made to retain trees that will contribute to other objectives (wildlife, aesthetics, biodiversity).

A follow-up harvest of the residual stand after 5 to 10 years may be necessary to release the young oak seedlings and saplings. In some instances, narrow strips or small patch clear cuts (no larger than 1 acre each) would be recommended across a targeted area to promote natural oak regeneration by creating light conditions on the perimeter of the cut areas that are conducive to regenerating oak. This type of harvesting would also create a mosaic of habitats across the landscape.

In stands where there is little or no oak in the pre-merchantable understory, a vegetative clear-cut is recommended. No more than five of these clear-cuts are proposed, and they should be scattered across the entire landscape. (This would not prevent clear cutting on the tops of the plateaus to facilitate wildlife openings requested by the ADCNR).

Where practical, no adjacent harvest units be targeted for at least 2 years, providing adequate time for stand recovery. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Following these management actions will ensure a sustainable, healthy, mature forest, and will serve to maintain or increase the oak component. These prescriptions would also provide and maintain optimal ecological diversity and improved wildlife habitat. It is intended that the management actions at Skyline be a cooperative effort between the APC Forestry Team and the ADCNR, with coordination and communication between the two groups. These management actions are based on general guidelines developed through research and on-site observations by the U. S. Forest Service for the management of upland hardwood systems in the Cumberland Plateau region.

To avoid and minimize potential impacts to federally listed summer roosting bats, Alabama Power will continue to utilize BMPs associated with timber management and tree removal, including retention of snags, 10 inches dbh and greater, where possible. Harvest units at Skyline are comprised of upland hardwoods, including white oak and shag bark hickory. However, regarding oak harvest specifically, only oak trees ≥ 19 inches dbh are harvested, and most shag bark hickories are retained resulting in a residual stand of high-quality potential roost trees. In addition, live trees with basal openings or hollowing of the bole, when detected, will be left where possible. Clear cuts at Skyline occur infrequently, rarely exceed 1 acre in size, and would only occur to achieve the timber management goals as described above. Although potential roost trees selected for retention may occasionally be inadvertently damaged, every attempt is made to avoid these trees during harvest. Particular emphasis is placed on avoiding high quality snags (10-inch DBH and greater) during the pupping season (June 1-July 31).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (*Myotis septentrionalis*) or Indiana Bat (*Myotis grisescens*) hibernacula or maternity roost trees occurring within the Skyline Project Boundary, no known hibernacula occur within 0.25 miles of the Skyline Project Boundary, and no known maternity roosts occur within 150 feet of the Skyline Project Boundary (collectively, “areas within or adjacent to the Skyline Project Boundary”). Alabama Power will continue consulting the Alabama Natural Heritage Program

and USFWS's Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Skyline Project Boundary, Alabama Power will adhere to the most up-to-date USFWS guidance and BMPs, which currently include limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula and 150 feet of known maternity roosts, to the period of October 15 through March 31 with the exception of removal of hazardous or fallen trees for protection of human life.

7.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed. Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the project boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands located at Lake Harris provide hunting opportunities through either hunting leases or individual permits. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields.

Hunting opportunities provided at Skyline are managed by ADCNR as outlined in the 1990 Skyline WMP, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1 MANAGEMENT ACTIONS

7.1.1 LAKE HARRIS

Alabama Power will continue to provide hunting opportunities on lands located at Lake Harris through either hunting leases or individual permit.

7.1.2 SKYLINE

Hunting opportunities provided at Skyline will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREAS

Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained.

8.0 REFERENCES

- Alabama Department of Conservation and Natural Resources. 2016. Wildlife Management Areas. Available at: <http://www.outdooralabama.com/wildlife-management-areas>. Accessed November 2016.
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- Alabama Power Company. 1989. R.L. Harris Project FERC Project No. 2628 Wildlife Management Plan for the Skyline Tract. July 1989.
- Alabama Power Company. 2018. Pre-Application Document for the Harris Hydroelectric Project (FERC No. 2628). Alabama Power Company, Birmingham, AL.
- DeGraff, R.M., and D.D. Rudis. 1986. New England Wildlife: habitat, natural history, and distribution. Gen. Tech. Report NE-108. U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, Broomall, Pennsylvania.
- NatureServe. 2009. International Ecological Classification Standard: Terrestrial Ecological Classifications. NatureServe Central Databases. Arlington, VA, U.S.A. Data current as of 06 February 2009. Available at: http://downloads.natureserve.org/get_data/data_sets/veg_data/nsDescriptions.pdf. Accessed November 11, 2016.

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Tuesday, February 16, 2021 10:08 AM
To: erin_padgett@fws.gov; 'Evan Collins'
Cc: Chandler, Keith Edward; Baker, Jeffery L.; Fleming, Amanda
Subject: FW: Harris relicensing - WMP language
Attachments: 2021-1-22 FWS Harris Project Overview and GTK.pdf; 2021-1 DRAFT Harris WMP.docx

Just checking in to see if you have had the opportunity to review the attached WMP language. Please let me know if you have any question or would like to discuss.

Thanks!

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: Anderegg, Angela Segars
Sent: Monday, February 8, 2021 8:19 AM
To: erin_padgett@fws.gov; 'Evan Collins' <evan_collins@fws.gov>
Cc: Chandler Keith <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>
Subject: Harris relicensing - WMP language

Good morning,

As discussed in our meeting on January 22, 2011 (meeting summary attached), the only listed species that may be impacted by Harris Project operations include endangered and threatened bat species that potentially inhabit the James D. Martin-Skyline Wildlife Management Area (WMA). However, Alabama Power's implementation of appropriate Best Management Practices (BMPs) for timber management and tree removal, as well as adherence to USFWS guidance concerning any future known hibernacula and maternity roost trees, should avoid impacts to any listed bats in the area. Our goal is that the implementation of the BMP's included in the attached draft Wildlife Management Plan will result in a not likely to adversely affect determination.

Please review the attached draft WMP (specifically Section 6.1.2) and send us comments or concurrence by **February 12**. If you'd like to discuss, please let me know and I can set up a call.

Thanks!

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

APC Harris Relicensing

From: Collins, Evan R <evan_collins@fws.gov>
Sent: Wednesday, February 17, 2021 3:55 PM
To: Anderegg, Angela Segars; Padgett, Erin R
Cc: Chandler, Keith Edward; Baker, Jeffery L.; Fleming, Amanda
Subject: Re: [EXTERNAL] FW: Harris relicensing - WMP language
Attachments: 2021-1 DRAFT Harris WMP_erc_erp.docx

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Angie. Attached is your draft WMP with our comments. In general, we recommend that proposed tree clearing that involves suitable roost trees be conducted between October 15 and March 31 to avoid impacts to bats while they are in summer roost and maternity habitats. If it is not possible to clear during that period, we would then recommend habitat or acoustic/mist net surveys to document species presence. Emergence counts may also be utilized when feasible. While the management described in the draft seems to address the northern long-eared bats, the impacts to Indiana bats seems uncertain. Let us know if you'd like to schedule a meeting to discuss the comments further!

Best,
Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
1208-B Main Street
Daphne, AL 36526
251-441-5837 (phone)
251-441-6222 (fax)
evan_collins@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Tuesday, February 16, 2021 10:08 AM
To: Padgett, Erin R <erin_padgett@fws.gov>; Collins, Evan R <evan_collins@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>
Subject: [EXTERNAL] FW: Harris relicensing - WMP language

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Just checking in to see if you have had the opportunity to review the attached WMP language. Please let me know if you have any question or would like to discuss.

Thanks!

Angie Anderegg

Hydro Services

(205)257-2251

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From: Anderegg, Angela Segars

Sent: Monday, February 8, 2021 8:19 AM

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Cc: Chandler Keith <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>

Subject: Harris relicensing - WMP language

Good morning,

As discussed in our meeting on January 22, 2011 (meeting summary attached), the only listed species that may be impacted by Harris Project operations include endangered and threatened bat species that potentially inhabit the James D. Martin-Skyline Wildlife Management Area (WMA). However, Alabama Power's implementation of appropriate Best Management Practices (BMPs) for timber management and tree removal, as well as adherence to USFWS guidance concerning any future known hibernacula and maternity roost trees, should avoid impacts to any listed bats in the area. Our goal is that the implementation of the BMP's included in the attached draft Wildlife Management Plan will result in a not likely to adversely affect determination.

Please review the attached draft WMP (specifically Section 6.1.2) and send us comments or concurrence by **February 12**. If you'd like to discuss, please let me know and I can set up a call.

Thanks!

Angie Anderegg

Hydro Services

(205)257-2251

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WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

January 2021

WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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R.L. HARRIS HYDROELECTRIC PROJECT
(FERC No. 2628)
ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan (Study Plan).

¹ Accession Number 20190412-3000

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary (Figure 1-1~~Figure 1-1~~). This includes land to 795 feet mean sea level (msl)², as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama (Figure 1-2~~Figure 1-2~~). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan. These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only; Harris



Commented [TLM1]: All acreages will be updated in the final version to reflect any changes included in the license proposal.

² Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

Dam refers to the dam, spillway, and powerhouse. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

Lake Harris and Skyline are located within two river basins: the Tallapoosa and Tennessee River Basins, respectively. The only waterbody managed by Alabama Power as part of their FERC license for the Harris Project is the Harris Reservoir.

Within Section 3.0 of this report, Alabama Power describes the Lake Harris resource first, followed by the Skyline resource. Specific references to the Harris Reservoir will be identified as Harris Reservoir; specific reference to the dam will be identified as Harris Dam. The “Project Area” refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary. The “Project Vicinity” refers to a larger geographic area near a hydroelectric project, such as a county.

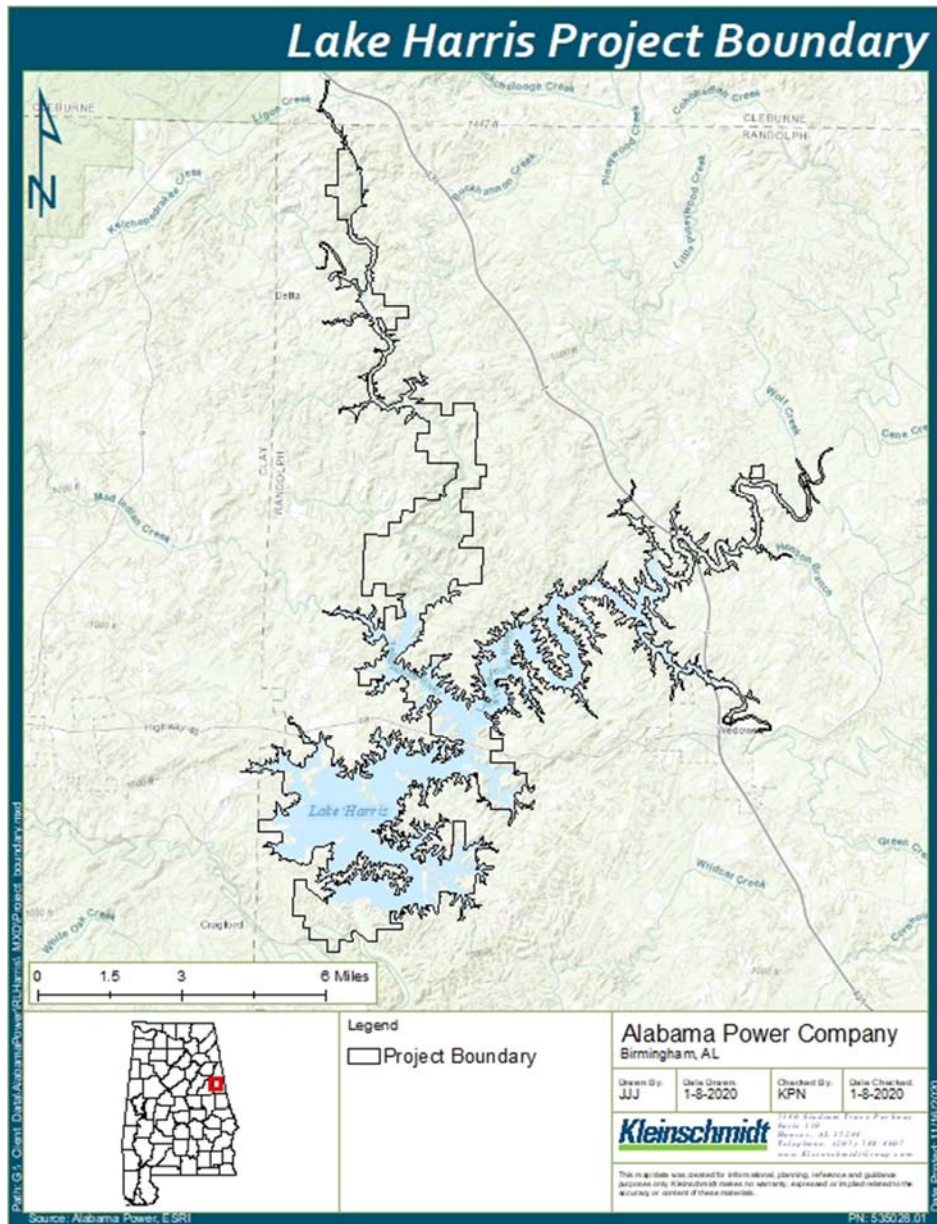


FIGURE 1-14 LAKE HARRIS PROJECT BOUNDARY

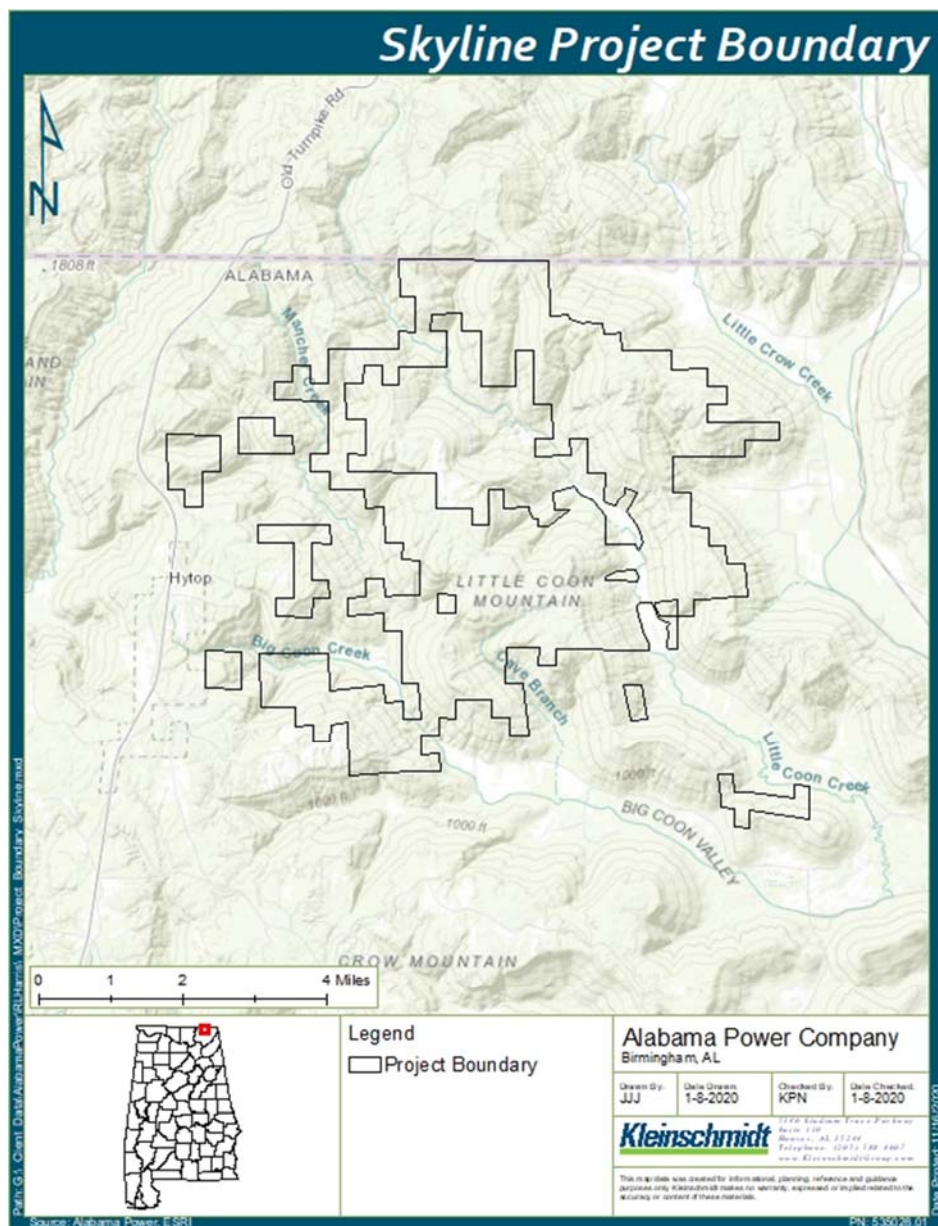


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

As part of the original license, Alabama Power developed a Wildlife Mitigation Plan (Alabama Power 1988) in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS) that FERC approved on July 29, 1988. The Wildlife Mitigation Plan outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project. The Wildlife Mitigation Plan included provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The Wildlife Mitigation Plan required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the Wildlife Mitigation Plan included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (Skyline WMP) (Alabama Power 1989) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990.

As part of the management activities conducted under the 1988 Wildlife Management Plan, Alabama Power identified 263 acres of suitable Wood Duck habitat and installed over 100 Wood Duck boxes. Alabama Power also released Canada Geese to establish a population in and around Lake Harris. Additionally, Alabama Power constructed Osprey nesting platforms along the reservoir shoreline. Finally, Alabama Power managed forest lands within the Lake Harris Project Area and established 105 acres of permanent openings to provide diverse habitat that benefits both game and nongame species.

Alabama Power conducts annual monitoring and maintenance of 104 Wood Duck boxes installed around Lake Harris. Maintenance activities include repair and replacement of broken boxes, as well as the relocation of underutilized boxes. Double boxes were installed in higher use areas. Since 2000, an average of 33 Wood Ducks have been hatched from the Wood Duck boxes per

year. Annual Wood Duck hatchlings ranged from 17 hatchlings in 2000 to 47 hatchlings in 2017. Although Wood Ducks have utilized the artificial boxes, these structures were installed as a mitigative measure for lost habitat associated with the initial impoundment of Harris Reservoir. Wood Ducks using the area have had time to adapt to the surrounding habitat, and likely have demonstrated tolerance, or the ability to habituate, to existing human presence, activities, and infrastructure at Lake Harris. Therefore, Alabama Power will not continue monitoring and maintenance of the Wood Duck box program under this WMP. Wood Duck boxes will be left in place until they are no longer usable. This will allow wildlife using the structures to transition to the surrounding suitable habitat.

Commented [CER2]: What was ADCNR's opinion of this proposal? Are natural nesting sites available?

Alabama Power installed Osprey platforms around Lake Harris. The platforms are constructed of concrete poles with a galvanized steel ring at the top to serve as a nesting platform. Due to construction materials, the platforms require minimal maintenance. While many of the platforms have been used by Osprey, they are not included in a monitoring program. Further, no additional platforms are planned for construction as the currently installed platforms are adequate for the Osprey population at Lake Harris and will last for years to come.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Gray Squirrel (*Sciurus carolinensis*), the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris gallapavo silvestris*), and Mourning Dove (*Zenaida macroura*); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of

neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrooki holbrooki*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megasceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power 2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter (*Pseudemys concinna*), and Red-eared slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks; pines may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks (*Quercus* spp.) such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboretum*). The herb layer is typically sparse (NatureServe 2009).

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus*

pagoda). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. Alabama Power leases Skyline lands to ADCNR and provides funding for the wildlife management activities on Skyline lands. ADCNR is responsible for the wildlife management activities (Alabama Power 1988). In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite (*Colinus virginianus*), and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types. The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardii*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine (Pinaceae), Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina* ssp. *asplenoides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak (*Quercus prinus*), Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by

fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry (*Vaccinium stamineum*), Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflorum*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat;
- 3) Management of public hunting areas, including areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources such as, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum³. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff,

³ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Planting of native species will be required on all lands within the SMP Recreation and Commercial Recreation classifications and recommended as a BMP on all other Project lands. Specific management actions associated with native plantings can be found in the SMP.

Commented [CER3]: Recommend emphasizing native flowering plants that would provide nectar and/or host resources for pollinators (e.g., *Asclepius* spp.)

6.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber would be harvested on 16 year cutting cycles and pulpwood would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were then being used. As a result, more volume was being cut per acre and more reseedling was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several rare and endangered species of plants and animals.

Alabama Power continues to manage Project forest lands according to the existing all or uneven-aged management schemes, with a saw timber cycle of 20 years and an overall forest rotation of 60 years. Prescribed burning and/or use of herbicides are considered on stands within Project forest lands; such use is based on conditions and characteristics of the individual stands. Although not specifically designed to benefit rare species, this practice has potential to benefit potentially occurring Red-cockaded Woodpeckers (*Picoides borealis*) by reducing hardwood mid-story, which can block access to cavity and foraging trees in Longleaf Pine (*Pinus palustris*) ecosystems.

Alabama Power continues to utilize selective cutting as the primary means of timber harvest on

Project lands, with those trees that are mature or of poor quality being removed. Natural regeneration is the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees are harvested, the site prepared, and the stand planted with genetically improved seedling stock.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 6,269 acres within the Harris Project Boundary at Lake Harris is summarized in [Table 6-1](#)~~Table 3-1~~. Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily of various upland species of red and white oak, yellow poplar, hard and soft maple, and hickory. There is a small component of shortleaf, loblolly, and Virginia pine. Historically, past harvesting practices have focused on removing higher value red and white oak timber, resulting in many stands that are dominated by maple, hickory, yellow poplar and chestnut oak. Most stands have closed canopies resulting in little or no desirable understory species to provide the potential for future stands. Timber stand composition on the 15,188 acres within the Harris Project Boundary at Skyline is summarized in [Table 6-2](#)~~Table 3-2~~.

TABLE 6-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>47</u>	<u>2938</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>18</u>	<u>1109</u>
Upland Hardwood	<u>21</u>	<u>1343</u>
Planted Pines	<u>8</u>	<u>476</u>
Other	<u>6</u>	<u>403</u>
Total	<u>100</u>	<u>6269</u>

TABLE 6-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>0.15</u>	<u>23</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>0</u>	<u>0</u>
Upland Hardwood	<u>99</u>	<u>14,922</u>
Planted Pines	<u>0</u>	<u>0</u>
Other	<u>0.85</u>	<u>118</u>
Total	<u>100</u>	<u>15,063</u>

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below.

6.1 **MANAGEMENT ACTIONS**

6.1.1 LAKE HARRIS

Alabama Power will continue to manage Project forest lands according to the existing all or uneven-aged management schemes, with a sawtimber cycle of 20 years and an overall forest rotation of 60 years (see above description). Prescribed burning and/or use of herbicides will be considered on stands within the Project forest lands, and such use will be based on conditions and characteristics of the individual stands.

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest on Project lands, with those trees that are mature or of poor quality being removed. Natural regeneration will continue to be the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees will be harvested, the site prepared, and the stand planted with genetically improved seedling stock.

To avoid and minimize potential impacts to federally listed summer roosting bats, Alabama Power will continue to utilize BMPs associated with timber management and tree removal,

Commented [CER4]: For your consideration: installation of artificial roost structures could improve habitat quality within the project area and increase bat populations.

<https://copperheadconsulting.com/brandenbark/>

Commented [CER5]: Recommend adding language that would provide for an adaptive management component to better address new information and recommendations.

including retention of snags, 10 inches diameter at breast height (dbh) and greater, where possible. Although rare in timber stands at Lake Harris, high quality live roost trees, specifically all shag bark hickory and white oak 12-inch dbh and less, will be retained. In addition, live trees with basal openings or hollowing of the bole, when detected, will be left where possible. Occasionally streamside management zones (SMZ) are selectively harvested. Harvest within these SMZs is comprised of mature pine and the occasional white oak with other high-quality roost trees such as shag bark hickory being retained. Although potential roost trees selected for retention may occasionally be inadvertently damaged, every attempt is made to avoid these trees during harvest. Particular emphasis is placed on avoiding high quality snags (10-inch dbh and greater) during the pupping season (June 1-July 31).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (*Myotis septentrionalis*) or Indiana Bat (*Myotis grisescens sodalis*) hibernacula or maternity roost trees occurring within the Lake Harris Project Boundary, no known hibernacula occur within 0.25 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 150 feet of the Project Boundary (collectively, “areas within or adjacent to the Project Boundary”). Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS’s Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Lake Harris Project Boundary, Alabama Power will adhere to the most up-to-date USFWS guidance and BMPs, which currently include limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula and 150 feet of known maternity roosts, to the period of October 15 through March 31 with the exception of removal of hazardous or fallen trees for protection of human life.

6.1.2 SKYLINE

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal.

Commented [CER6]: May need more explanation of how you define a “snag”. It is important to consider “trees with suitable habitat characteristics”. That would include dead and dying trees, hollow trees, and trees with limb breaks, etc.

Commented [PER7]: Suitable roosting habitat is defined as forest patches with trees of 5 inch dbh or larger (this includes live trees and snags).

Commented [CER8]: This size limit is more associated with maternity trees. Recommend using the 5-in dbh threshold.

Commented [PER9]: Suitable summer habitat for the Indiana bat includes forests and woodlots containing potential roosts comprised of live trees and/or snags 5 inches dbh and greater that have exfoliating bark, cracks, crevices, and/or hollows.

Commented [CER10]: These species are important. However, in AL dead and damaged pine trees are found as roost trees. Similar to my above comment, physical characteristics of the tree are as important as the species.

Commented [PER11]: Unclear as to where this measurement came from.

Commented [CER12]: Is this threshold only for white oak? Also, individuals of either species > 12 in dbh have the potential to be important roosts. I don’t think there is enough justification for why these large trees can be removed but the smaller ones left.

Commented [CER13]: If trees of these characteristics are to be removed, I would recommend an emergence count before removal

Commented [CER14]: Before larger-scale harvesting that includes trees >5 in dbh, recommend conducting a habitat or bat survey prior to work or conducting work during the October 15- March 31 time frame.

Commented [PER15]: And other trees exhibiting the preferred roosting structure

Commented [PER16]: Potential roost trees and high quality snags will be avoided; however, if a potential roost tree is inadvertently damaged, please contact the Daphne USFWS Field Office for additional consultation.

Commented [CER17]: Recommend rephrasing to clarify that these trees will be avoided during the pupping season should they be mistakenly removed of significantly damaged, our office will be notified.

Commented [PER18]: 5 inches and greater

Commented [PER19]: The pupping season for Alabama is being observed from May-July

Commented [CER20]: Data from northern states informed these dates. In AL, bats appear to begin the pupping season earlier. Can this be redefined to May, June, July?

The active management of the timber on Skyline WMA represents responsible stewardship of the land. Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics. At least two harvest ~~units~~ units will be targeted annually for harvest, and Alabama Power will be responsible for administering the timber sale.

Because of myriad past disturbances to these timber stands, many are a ~~complicated complex~~ mix of species, ages, and diameter distributions. Stands will be treated in a manner conducive to promoting natural advance oak regeneration, while ensuring vertical canopy composition and facilitating species biodiversity. Harvesting will follow a shelterwood prescription (regeneration method), as well as addressing intermediate management objectives of thinning. For the regeneration harvests, less desirable species across all size classes will be targeted for removal, and over-mature oak timber ($\geq 19"$ dbh) will also be removed. This type of harvesting will allow for at least two age classes to become established in treated stands, increasing options for future management. It will also change the light levels reaching the forest floor, in an attempt to favor the intermediately shade tolerant oak over less shade tolerant species such as red maple and yellow-poplar. By carefully selecting residual trees, growth will be concentrated on desirable species and choices can be made to retain trees that will contribute to other objectives (wildlife, aesthetics, biodiversity).

A follow-up harvest of the residual stand after 5 to 10 years may be necessary to release the young oak seedlings and saplings. In some instances, narrow strips or small patch clear cuts (no larger than 1 acre each) would be recommended across a targeted area to promote natural oak regeneration by creating light conditions on the perimeter of the cut areas that are conducive to regenerating oak. This type of harvesting would also create a mosaic of habitats across the landscape.

In stands where there is little or no oak in the pre-merchantable understory, a vegetative clear-cut is recommended. No more than five of these clear-cuts are proposed, and they should be scattered across the entire landscape. (This would not prevent clear cutting on the tops of the plateaus to facilitate wildlife openings requested by the ADCNR).

Commented [CER21]: These trees could be important maternity and roost trees. Recommend conducting a thorough habitat or bat survey prior to clearing them.

Commented [CER22]: Recommend habitat or bat surveys prior to large cuts or conducting these activities from October 15- March 31

Commented [PER23]: If suitable roost trees or snags are present within the targeted clear-cut area, then we recommend that all tree removal be carried out between October 15 and March 31. If this timing is not achievable and no other measures to avoid adverse effects are possible, then we recommend acoustic or/and mist-netting surveys to determine presence or probable absence of Indiana bats at the clear cut site.

Commented [CER24]: Same comment as above

Commented [CER25]: During what period of time? The entire license period, a year?

Where practical, no adjacent harvest units be targeted for at least 2 years, providing adequate time for stand recovery. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Following these management actions will ensure a sustainable, healthy, mature forest, and will serve to maintain or increase the oak component. These prescriptions would also provide and maintain optimal ecological diversity and improved wildlife habitat. It is intended that the management actions at Skyline be a cooperative effort between the APC Forestry Team and the ADCNR, with coordination and communication between the two groups. These management actions are based on general guidelines developed through research and on-site observations by the U. S. Forest Service for the management of upland hardwood systems in the Cumberland Plateau region.

To avoid and minimize potential impacts to federally listed summer roosting bats, Alabama Power will continue to utilize BMPs associated with timber management and tree removal, including retention of snags, 10 inches dbh and greater, where possible. Harvest units at Skyline are comprised of upland hardwoods, including white oak and shag bark hickory. However, regarding oak harvest specifically, only oak trees ≥ 19 inches dbh are harvested, and most shag bark hickories are retained resulting in a residual stand of high-quality potential roost trees. In addition, live trees with basal openings or hollowing of the bole, when detected, will be left where possible. Clear cuts at Skyline occur infrequently, rarely exceed 1 acre in size, and would only occur to achieve the timber management goals as described above. Although potential roost trees selected for retention may occasionally be inadvertently damaged, every attempt is made to avoid these trees during harvest. Particular emphasis is placed on avoiding high quality snags (10-inch DBH and greater) during the pupping season (June 1-July 31).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (*Myotis septentrionalis*) or Indiana Bat (*Myotis grisescens*) hibernacula or maternity roost trees occurring within the Skyline Project Boundary, no known hibernacula occur within 0.25 miles of the Skyline Project Boundary, and no known maternity roosts occur within 150 feet of the Skyline Project Boundary (collectively, “areas within or adjacent to the Skyline Project Boundary”). Alabama Power will continue consulting the Alabama Natural Heritage Program

Commented [CER26]: Is there a citation for this?

Commented [PER27]: 5 inches dbh

Commented [CER28]: Summer roosting would include trees with suitable habitat ≥ 5 inches dbh

Commented [CER29]: Recommend surveys or emergence counts where impacts to these trees are unavoidable

Commented [CER30]: If impacts to these trees are unavoidable, we recommend emergence counts or surveys to establish presence/absence

Commented [CER31]: Winter time cuts or conduct a habitat survey prior to the cut.

Commented [PER32]: See above comments

Commented [CER33]: Similar to comment above, pupping season in AL is likely earlier than these dates.

and USFWS's Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Skyline Project Boundary, Alabama Power will adhere to the most up-to-date USFWS guidance and BMPs, which currently include limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula and 150 feet of known maternity roosts, to the period of October 15 through March 31 with the exception of removal of hazardous or fallen trees for protection of human life.

7.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed. Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the project boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands located at Lake Harris provide hunting opportunities through either hunting leases or individual permits. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields.

Hunting opportunities provided at Skyline are managed by ADCNR as outlined in the 1990 Skyline WMP, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1 MANAGEMENT ACTIONS

7.1.1 LAKE HARRIS

Alabama Power will continue to provide hunting opportunities on lands located at Lake Harris through either hunting leases or individual permit.

7.1.2 SKYLINE

Hunting opportunities provided at Skyline will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREAS

Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained.

8.0 REFERENCES

- Alabama Department of Conservation and Natural Resources. 2016. Wildlife Management Areas. Available at: <http://www.outdooralabama.com/wildlife-management-areas>. Accessed November 2016.
- Alabama Power Company. 1988. R.L. Harris Project FERC Project No. 2628 Wildlife Mitigation Plan. April 15, 1988.
- Alabama Power Company. 1989. R.L. Harris Project FERC Project No. 2628 Wildlife Management Plan for the Skyline Tract. July 1989.
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- DeGraff, R.M., and D.D. Rudis. 1986. New England Wildlife: habitat, natural history, and distribution. Gen. Tech. Report NE-108. U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, Broomall, Pennsylvania.
- NatureServe. 2009. International Ecological Classification Standard: Terrestrial Ecological Classifications. NatureServe Central Databases. Arlington, VA, U.S.A. Data current as of 06 February 2009. Available at: http://downloads.natureserve.org/get_data/data_sets/veg_data/nsDescriptions.pdf. Accessed November 11, 2016.

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Friday, February 19, 2021 3:26 PM
To: Padgett, Erin R; Collins, Evan R
Cc: Chandler, Keith Edward; Baker, Jeffery L.; Fleming, Amanda
Subject: RE: [EXTERNAL] FW: Harris relicensing - WMP language

Fantastic! I'll send out a meeting notice. Have a great weekend!

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: Padgett, Erin R <erin_padgett@fws.gov>
Sent: Friday, February 19, 2021 2:41 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; Collins, Evan R <evan_collins@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>
Subject: Re: [EXTERNAL] FW: Harris relicensing - WMP language

EXTERNAL MAIL: Caution Opening Links or Files

Yes! I am available anytime prior to noon on March 1st.

Erin Padgett
Fish and Wildlife Biologist
US Fish and Wildlife Service
Alabama Ecological Services Field Office
1208 Main Street - Daphne, AL - 36526
(251) 441-5181 Phone | (251) 441-6222 Fax

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Friday, February 19, 2021 2:31 PM
To: Collins, Evan R <evan_collins@fws.gov>; Padgett, Erin R <erin_padgett@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>
Subject: RE: [EXTERNAL] FW: Harris relicensing - WMP language

Thanks, Evan! We do have a few follow up questions. Any chance y'all are available on March 1st?

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: Collins, Evan R <evan_collins@fws.gov>
Sent: Wednesday, February 17, 2021 3:55 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; Padgett, Erin R <erin_padgett@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>;
Fleming, Amanda <afleming@southernco.COM>
Subject: Re: [EXTERNAL] FW: Harris relicensing - WMP language

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Angie. Attached is your draft WMP with our comments. In general, we recommend that proposed tree clearing that involves suitable roost trees be conducted between October 15 and March 31 to avoid impacts to bats while they are in summer roost and maternity habitats. If it is not possible to clear during that period, we would then recommend habitat or acoustic/mist net surveys to document species presence. Emergence counts may also be utilized when feasible. While the management described in the draft seems to address the northern long-eared bats, the impacts to Indiana bats seems uncertain. Let us know if you'd like to schedule a meeting to discuss the comments further!

Best,
Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
1208-B Main Street
Daphne, AL 36526
251-441-5837 (phone)
251-441-6222 (fax)
evan_collins@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Tuesday, February 16, 2021 10:08 AM
To: Padgett, Erin R <erin_padgett@fws.gov>; Collins, Evan R <evan_collins@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>;
Fleming, Amanda <afleming@southernco.COM>
Subject: [EXTERNAL] FW: Harris relicensing - WMP language

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Just checking in to see if you have had the opportunity to review the attached WMP language. Please let me know if you have any question or would like to discuss.

Thanks!

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

From: Anderegg, Angela Segars

Sent: Monday, February 8, 2021 8:19 AM

To: erin_padgett@fws.gov; 'Evan Collins' <evan_collins@fws.gov>

Cc: Chandler Keith <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>

Subject: Harris relicensing - WMP language

Good morning,

As discussed in our meeting on January 22, 2011 (meeting summary attached), the only listed species that may be impacted by Harris Project operations include endangered and threatened bat species that potentially inhabit the James D. Martin-Skyline Wildlife Management Area (WMA). However, Alabama Power's implementation of appropriate Best Management Practices (BMPs) for timber management and tree removal, as well as adherence to USFWS guidance concerning any future known hibernacula and maternity roost trees, should avoid impacts to any listed bats in the area. Our goal is that the implementation of the BMP's included in the attached draft Wildlife Management Plan will result in a not likely to adversely affect determination.

Please review the attached draft WMP (specifically Section 6.1.2) and send us comments or concurrence by **February 12**. If you'd like to discuss, please let me know and I can set up a call.

Thanks!

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Monday, February 22, 2021 3:38 PM
To: 'Keith Henderson'; todd.fobian@dcnr.alabama.gov
Cc: Anderson, Dave; Chandler, Keith Edward; Fleming, Amanda; Mills, Tina L.; Smith, Sheila C.; Sandra Wash
Subject: 2/16 Harris Relicensing Meeting Summary
Attachments: 2021-2-16 APC_ADCNR Meeting Summary.pdf

Good afternoon,

Attached is a summary of our 2/16 discussion on the Harris Project Lands Proposal, along with the presentation we walked through.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com



R. L. Harris Hydroelectric Project

FERC No. 2628

Meeting Summary **ADCNR- Harris Project Lands Proposal Review**

February 16, 2021

9 am -10 am

Microsoft Teams Meeting

Participants:

- Angie Anderegg – Alabama Power
- Dave Anderson – Alabama Power
- Keith Chandler – Alabama Power
- Amanda Fleming – Alabama Power
- Todd Fobian – Alabama Department of Conservation and Natural Resources (ADCNR)
- Keith Henderson – ADCNR
- Tina Mills – Alabama Power
- Sheila Smith – Alabama Power
- Sandra Wash – Kleinschmidt Associates

NOTE: A copy of the February 16, 2021 ADCNR Project Lands Proposal presentation is attached.

Meeting Summary:

Angie Anderegg (Alabama Power) opened the meeting with a brief safety moment, and Tina Mills (Alabama Power) reviewed the meeting agenda and stated the meeting purpose was to review the Harris Project Lands Proposal with ADCNR as it pertains to recreation. Tina noted the Lake Harris Project Recreation Sites and displayed a map of the sites. Sheila Smith (Alabama Power) provided a brief description of each of the sites.

- Lees Bridge Boat Ramp —seasonal, upper reaches, Big Tallapoosa River
- Fosters Bridge Boat Ramp – ADCNR lease, Big Tallapoosa River
- Swagg Boat Ramp – ADCNR lease, seasonal, potential for future upgrades, Little Tallapoosa River, well used, good access for users visiting from the north (Anniston area)
- Lonnie White Boat Ramp – ADCNR lease, currently under construction for modifications and ADA upgrades, Little Tallapoosa River
- Crescent Crest Boat Ramp – not leased to ADCNR, medium sized ramp
- Highway 48 Boat Ramp – most traffic on reservoir, Alabama Power looking at possible relocation in the future
- Wedowee Marine South – adjacent to Highway 48 Boat Ramp, commercial operation on Project lands, has public boat ramp (fee ramp), also has wet slips, dry storage, and marine store with restaurant
- Little Fox Creek Boat Ramp – ADCNR lease, recently upgraded including ADA parking and pathways, seasonal ramp, heavy use
- Big Fox Creek Boat Ramp – (Road End) – ADCNR lease, medium size ramp

- Flat Rock Park Day Use Park – currently the only day-use park on reservoir, 25-acre outcropping of solid granite, recreation includes picnicking and swimming, playground and restrooms on site, open seasonally from May-September (estimated 30,000 guests per season), staffed with park attendants
- R.L. Harris Management Area – partnership with ADCNR, four shooting houses and green fields, ADA hunting, Alabama Power coordinates reservations and maintains property
- Harris Tailrace Fishing Pier – located below Harris Dam and maintained by Alabama Power (Hydro plant employees)

Sheila added that Alabama Power maintains all of the aforementioned sites, with contract personnel visiting once per month for maintenance and in the process of updating piers to be barrier-free. Todd Fobian (ADCNR) inquired about the location of the Little Fox Creek trails, and Sheila noted it was adjacent to Little Fox Creek Boat Ramp. Sheila explained it was almost five miles of trails, beginning behind the boat ramp following the peninsula.

Next, Tina provided the purpose of the shoreline classification system and defined the Natural/Undeveloped and Recreation land use classifications. Lands classified as Recreation are those Project lands managed by Alabama Power for existing or potential future recreational activities. Natural/undeveloped areas will remain undeveloped to protect environmentally sensitive areas, preserve natural aesthetic qualities, serve as buffer zones, and prevent overcrowding on the shoreline. In addition, this classification allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry practices. Tina explained that recreation lands that are reclassified to Natural/undeveloped will still be available for undeveloped recreation purposes such as hiking and primitive camping. Alabama Power plans to include a commercial recreation definition in the Shoreline Management Plan (SMP) for lands designated for concessionaire-operated public marinas and recreational areas that provide a variety of recreation services to the public.

Tina reviewed each land proposal related to recreation, beginning with parcels to be reclassified.

- RC1 – proposing to reclassify approximately 105 acres from Recreation to Natural/Undeveloped; site is not heavily used, riverine, poor access on west side of river, will provide consistency of land use to adjacent parcels, small parcel on east side of river with better access will remain Recreation
- RC2 – proposing to reclassify approximately 65 acres from Recreation to Natural/Undeveloped; poor access, existing Recreation site with better access directly upstream
- RC3 – proposing to reclassify approximately 61 acres from Recreation to Natural/Undeveloped; added to Project in 1995, existing Recreation site with better access directly upstream
- RC4 – original proposal to reclassify approximately 148 acres from Recreation to Commercial Recreation; property is near Highway 48 and stakeholders have since expressed interest in developing an additional day use park and boat ramp (which would remain classified Recreation).
 - Keith Henderson (ADCNR) asked for confirmation on what piece of the 148-acre parcel would be reclassified to Commercial Recreation.
 - Tina confirmed the area with the marina would be reclassified.

- Sheila added that the upon driving into the property, everything on the right side of the road up to the slough would be Commercial Recreation with the property beyond the curve remaining Recreation. In addition, Commercial Recreation is being considered for the property on the left side of the peninsula beyond the slough.
- RC5 – proposing to reclassify approximately 69 acres from Recreation to Natural/Undeveloped; property has steep terrain with subpar access and nearby recreation sites (RC4 is across the bridge, additional recreation site north of property as well as public boat ramp at the Highway 48 bridge)
- RC6 – proposing to reclassify approximately 5 acres from Prohibited Access to Recreation; property is located at the existing tailrace fishing recreation site
- RC7 – proposing to reclassify approximately 57 acres from Recreation to Natural/Undeveloped; property is adjacent to Flat Rock Park, reclassifying remaining acreage to the west of the Flat Rock Botanical Inventory area to provide continuity of land use and aid in protection of adjacent Natural/Undeveloped lands
- RC8 – proposing to reclassify approximately 50 acres from Recreation to Natural/Undeveloped; parcel is directly upstream of Big Fox Creek Boat Ramp that is adequate acreage for current and future recreation needs
 - Keith H. asked for confirmation if felling trees for habitat improvements would be allowed under the Natural/Undeveloped classification.
 - Sheila confirmed it would be permitted.
 - Tina pointed out the Little Fox Creek hiking trails relative to this property.
 - Todd asked if visitors typically access the hiking trails via boat or road.
 - Sheila stated both, noting there is a gravel parking lot adjacent to the boat ramp as well as a small pier at the end of the peninsula.

Tina noted that changing land classifications (RC parcels above) would not result in a loss of Project lands, but that Alabama Power is proposing to remove four parcels of Recreation lands from the Project.

- R2 – proposing to remove approximately 3 acres of Recreation; small parcel located at the end of an old road end with poor access to lake, nearby recreation sites exist with better access
- R3 – proposing to remove approximately 20 acres of Recreation; parcel was added to Project in 1995 with the intention of being used by the Boy Scouts, limited access and recreation demand, nearby recreation sites with better access
- R5 – proposing to remove approximately 19 acres of Recreation; nearby private development resulting in landowners needing access through Project lands, limited demand for recreation in area
- R7 – proposing to remove approximately 9 acres of Recreation; similar to R5 in its proximity to private development
 - Keith H. asked if there will be any Recreation classified lands in this area of the lake.
 - Tina stated that Alabama Power is not proposing to add access in this area, as the area consists of large subdivisions that includes boat ramps for the residents.
 - Sheila added that the area is mainly used by residents not the general public.

- Sheila also stated that this general area of the lake is more difficult to access in comparison to others as it only has one county road in and out, which is a further drive from population centers.

Tina stated that Alabama Power is proposing to add one parcel to Project lands.

- A3 – proposing to add approximately 2 acres of Commercial Recreation; parcel is adjacent to large tract currently classified as Recreation, adding this tract provides consistency of land use with adjacent property to be reclassified to Commercial Recreation (portion of RC4)

Keith H. asked if there were enough lands classified as Recreation to sustain increases in recreation use through the license term. Tina noted specific recreation lands near existing boat ramps that have the potential to expand when necessary. Sheila explained that Alabama Power focused on ease of access and expanding existing ramps, rather than building new sites that may not be easy to access. Sheila noted the locations of the existing ramps are well distributed throughout Lake Harris. Sheila continued to describe sites that will be large enough for 100 truck/trailers. Keith H. agreed about focusing on expanding existing facilities, noting that many areas may not be suitable for development. Sheila added that several of the original areas considered for recreation were designated before inundation, and this lands proposal is based on current knowledge.

Todd inquired on the terrain of parcel RC5 as well as the Project Lands classified as Recreation north of RC5 and east of RC4 (which are not identified for reclassification or removal and will remain recreation project lands), specifically if the property is suitable for development. Sheila responded that the parcel is steep on the main channel, but flatter in the coves. She added that the old state highway 48 crossed that property, offering road access.

Angie noted the goal was to create a Project lands proposal that works for all stakeholders and takes in account future recreation demands.

Angie concluded the meeting and encouraged participants to reach out with any follow-up questions. Keith H. noted that he found the additional details on the parcels helpful. Todd agreed, stating the additional background information provided on the properties along with the reasoning behind the reclassifications was helpful.

The meeting adjourned.

Attachment A - Presentation from February 16, 2021
ADCNR Project Lands Proposal Meeting

R.L. Harris Project Relicensing

Review of Project Lands Proposal with ADCNR

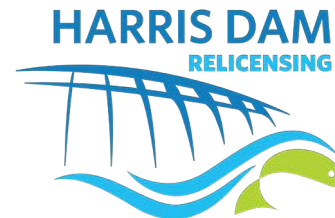
February 16, 2021



Meeting Agenda



- Roll Call
- Review existing Project recreation sites at Harris
- Review Natural/Undeveloped and Recreation land classification definitions and uses
- Review Harris Project Lands Proposal

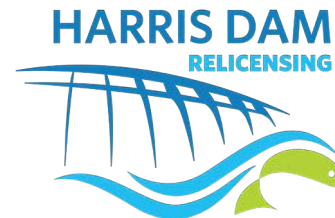


Existing Project Recreation Sites at Harris

Harris Project Recreation Sites



Recreation Site Name	Type of Facility
Big Fox Creek Boat Ramp	Boat Launch
Crescent Crest Boat Ramp	Boat Launch
Flat Rock Park	Day Use Park
Foster's Bridge Boat Ramp	Boat Launch
Harris Tailrace Fishing Pier	Fishing Access
Highway 48 Bridge Boat Ramp	Boat Launch
Lee's Bridge Boat Ramp	Boat Launch
Little Fox Creek Boat Ramp	Boat Launch
Lonnie White Boat Ramp	Boat Launch
Swagg Boat Ramp	Boat Launch
Wedowee Marine South ³	Marina
R. L. Harris Management Area	Hunting



³ Wedowee Marine South is a private facility, but it is within the Harris Project Boundary and parts of it are considered a Project recreation site.

Natural/Undeveloped and Recreation land classification definitions and uses

Shoreline Management Classifications



...shoreline classification system to guide management and permitting activities within the Project Boundary.

...based on an evaluation of existing and potential land use.



Shoreline Management Classifications



Recreation

...Project lands managed by Alabama Power for existing or potential future recreational activities. This includes land

- developed for public recreation,
- open space,
- water access, and
- future recreational development.



Shoreline Management Classifications



Commercial Recreation

These lands contain or are designated for concessionaire-operated public marinas and recreational areas that provide a wide variety of recreational services to the public on a fee basis.



Shoreline Management Classifications



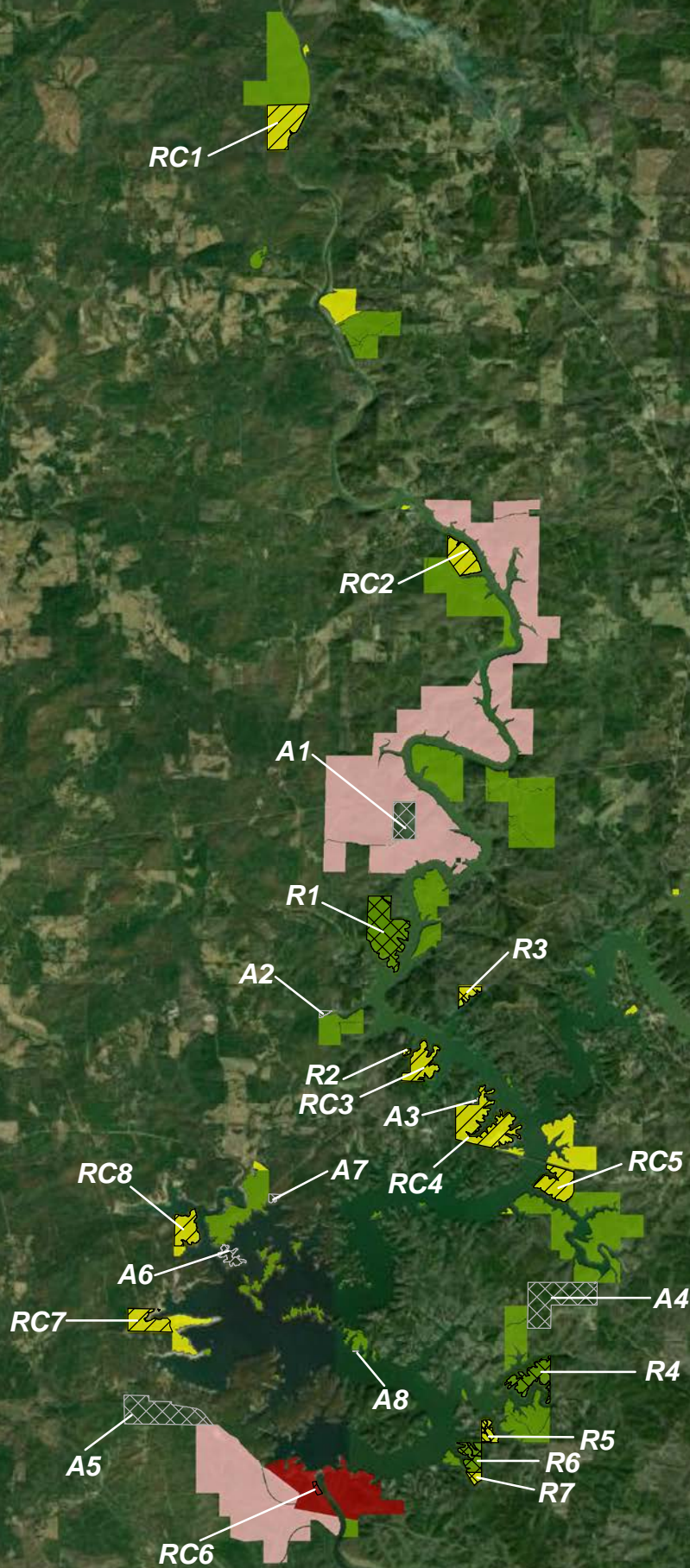
Natural/Undeveloped

...will remain undeveloped for the following specific Project purposes:

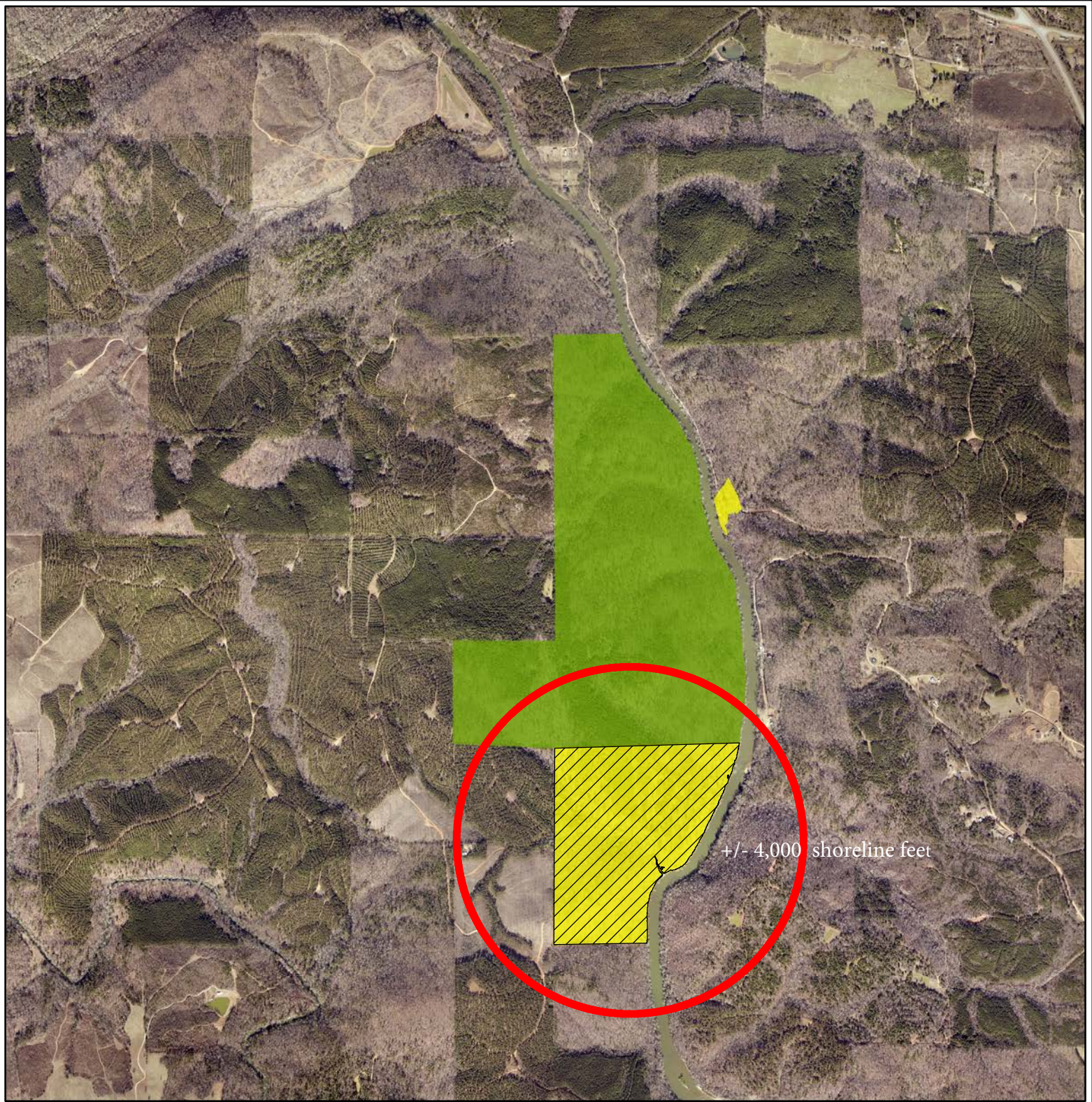
- protecting environmentally sensitive areas;
- preserving natural aesthetic qualities;
- serving as buffer zones around public recreation areas; and
- preventing overcrowding of partially developed shoreline.

...allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry practices...

Harris Project Lands Proposal



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community



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RC1 – Reclassify from Recreation to Natural/Undeveloped + /- 105 acres

- Currently classified as Recreation for the purpose of developing a future park site.
- Analysis revealed that this property is difficult to access and located within area of lake with limited demand for public recreation opportunities.
- Reclassification to Natural/Undeveloped provides consistency of land use and will aid in the protection of the adjacent Natural/Undeveloped Project lands

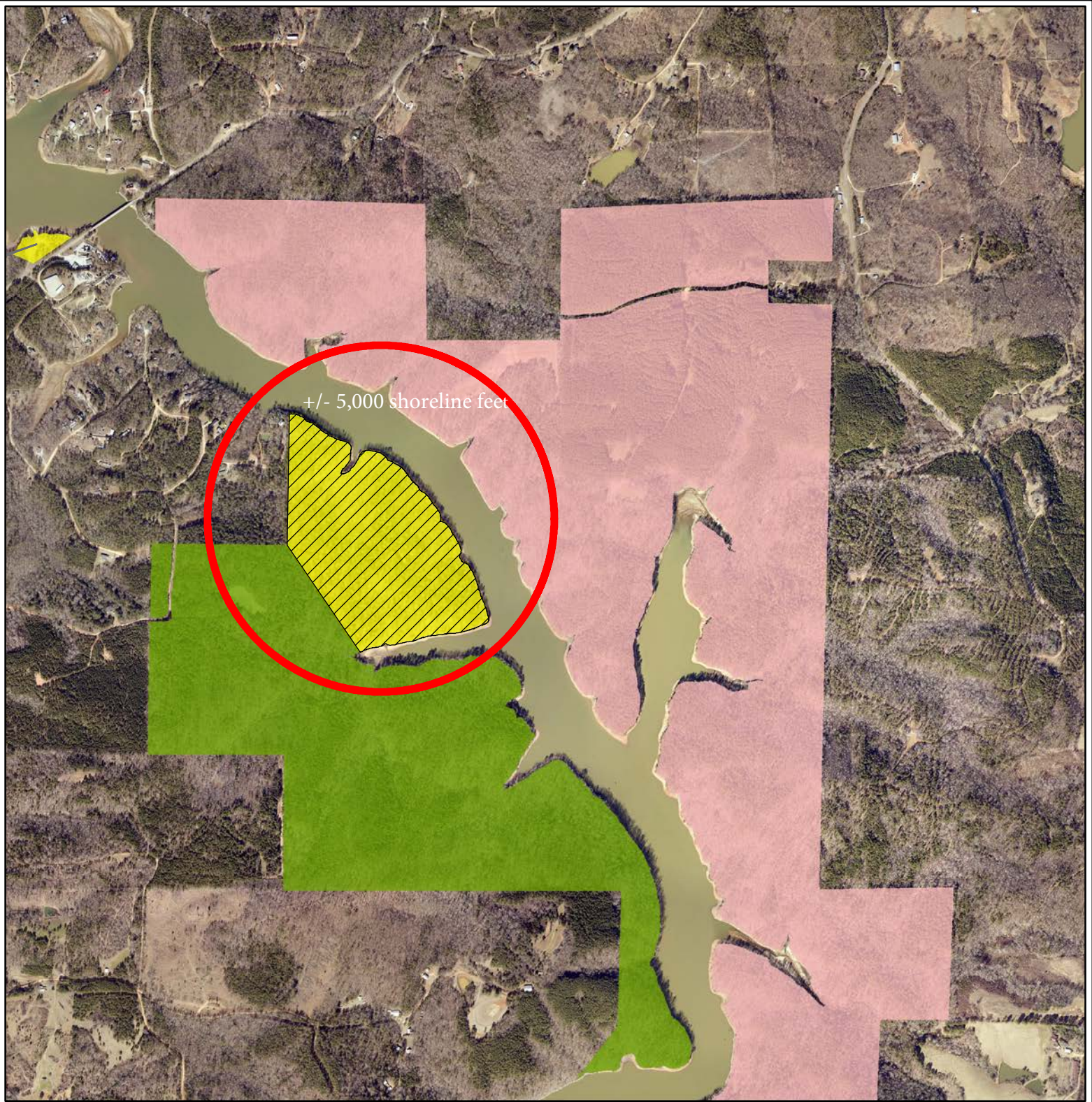
Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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RC2 – Reclassify from Recreation to Natural/ Undeveloped + /- 63 acres

- Currently classified as Recreation for the purpose of developing a future park site.
- Analysis revealed that this property is difficult to access and located within area of lake with limited demand for public recreation opportunities.
- Reclassification to Natural/Undeveloped provides consistency of land use and will aid in the protection of the adjacent Natural/Undeveloped Project lands

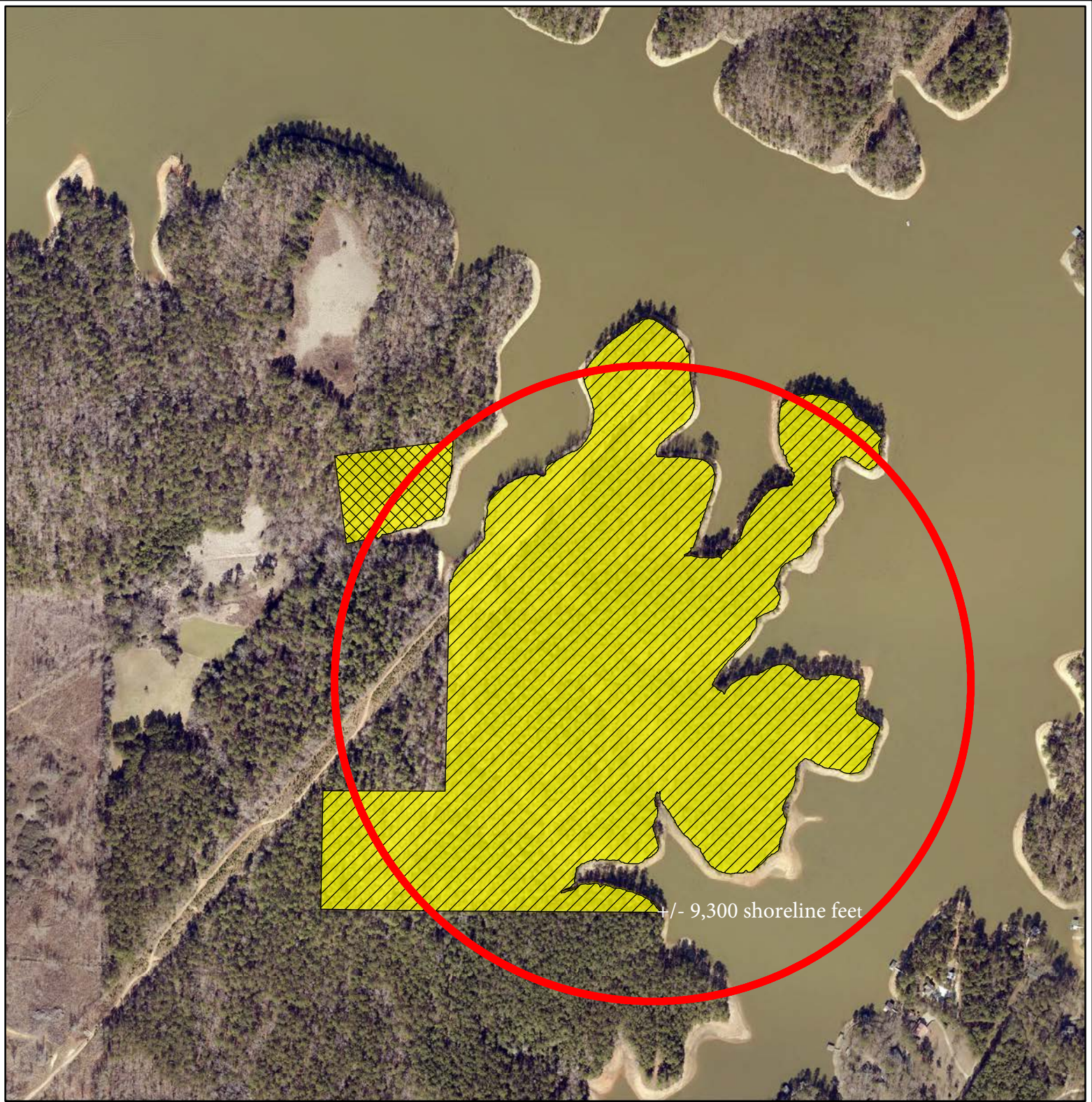
Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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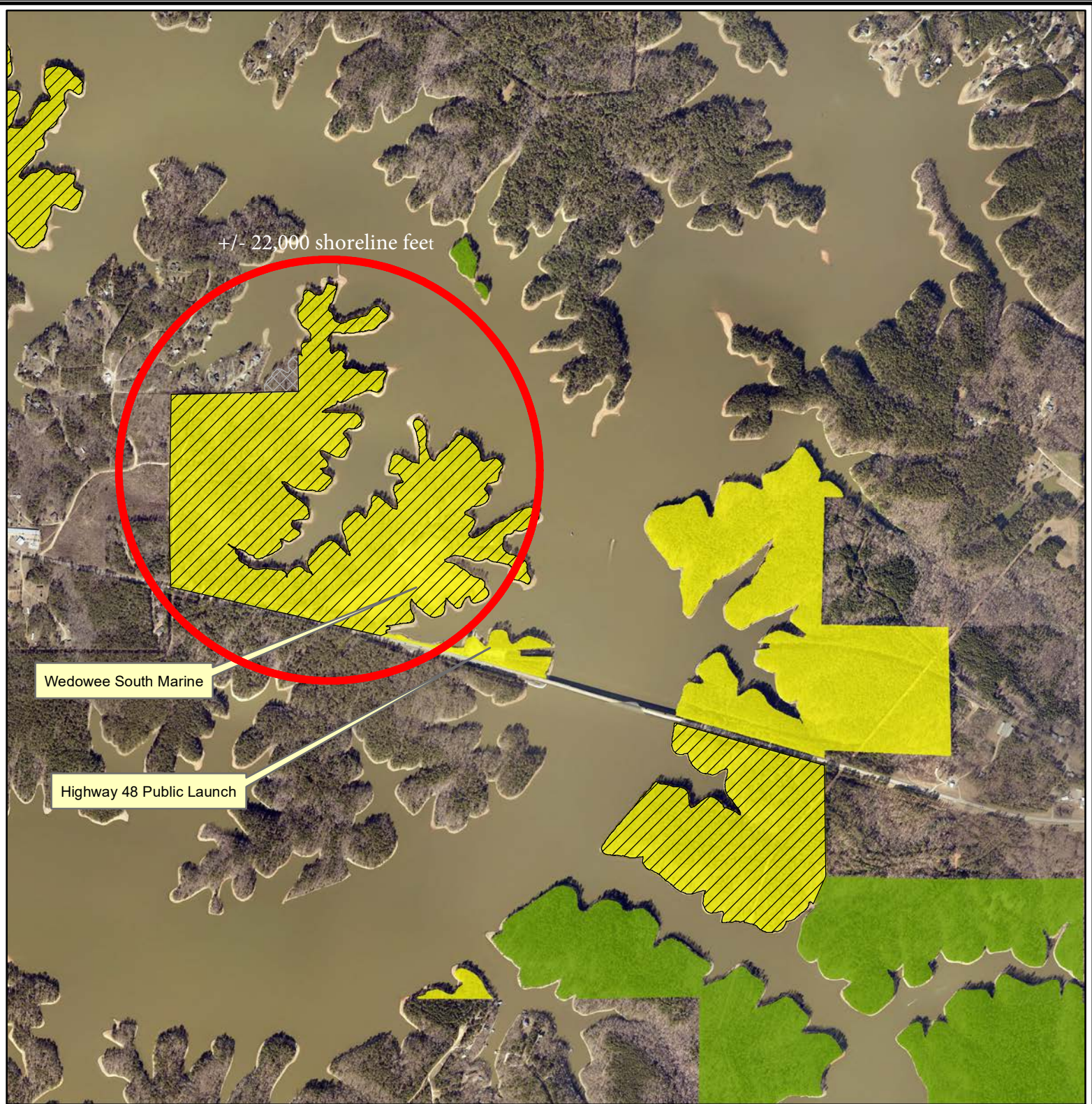
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RC3 – Reclassify from Recreation to Natural/ Undeveloped + /- 61 acres

- Added to the Project as Recreation during the 1995 Land Use Plan update
- Analysis revealed that this property is located just upstream of existing Recreation lands that are better located for public access
- Reclassification to Natural/Undeveloped will aid in the maintenance of the natural aesthetics of the area

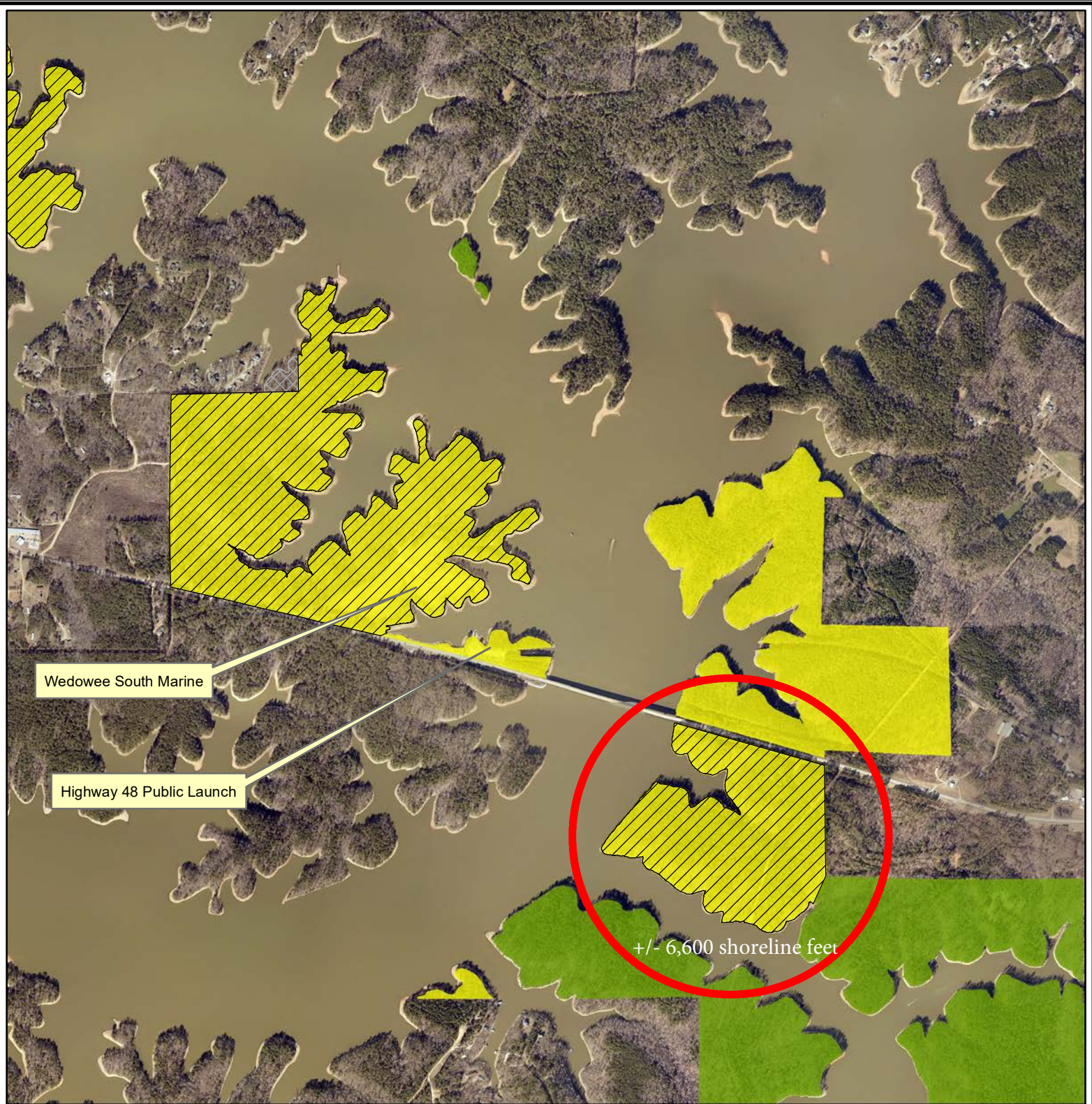
Legend	
Baseline Classifications	Proposed Changes
 Natural Undeveloped	 Proposed Reclassifications
 Hunting Lands	 Proposed Removals
 Prohibited Access	 Proposed Additions
 Recreation	



RC4 – Reclassify from Recreation to Commercial Recreation +/- 148 acres

- During relicensing meetings, stakeholders have expressed interest in additional recreation sites similar to Flat Rock Park that are located “closer to town” (i.e., Wetowee) and, thus, easier to access.
- Alabama Power’s shoreline office is located on this tract; a portion of this tract is currently leased to Wetowee Marine South.
- Alabama Power has received previous inquiries regarding a campground in this area.

Legend	
Baseline Classifications	Proposed Changes
 Natural Undeveloped	 Proposed Reclassifications
 Hunting Lands	 Proposed Removals
 Prohibited Access	 Proposed Additions
 Recreation	



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RC5 – Reclassify from Recreation to Natural/Undeveloped + /- 69 acres

- Added to the Project as Recreation during the 1995 Land Use Plan update
- Analysis revealed that this property is not suitable for public recreation due to steep terrain of tract causing difficulty accessing the water
- Reclassification to Natural/Undeveloped provides consistency of land use and will aid in the protection of the adjacent Natural/Undeveloped Project lands

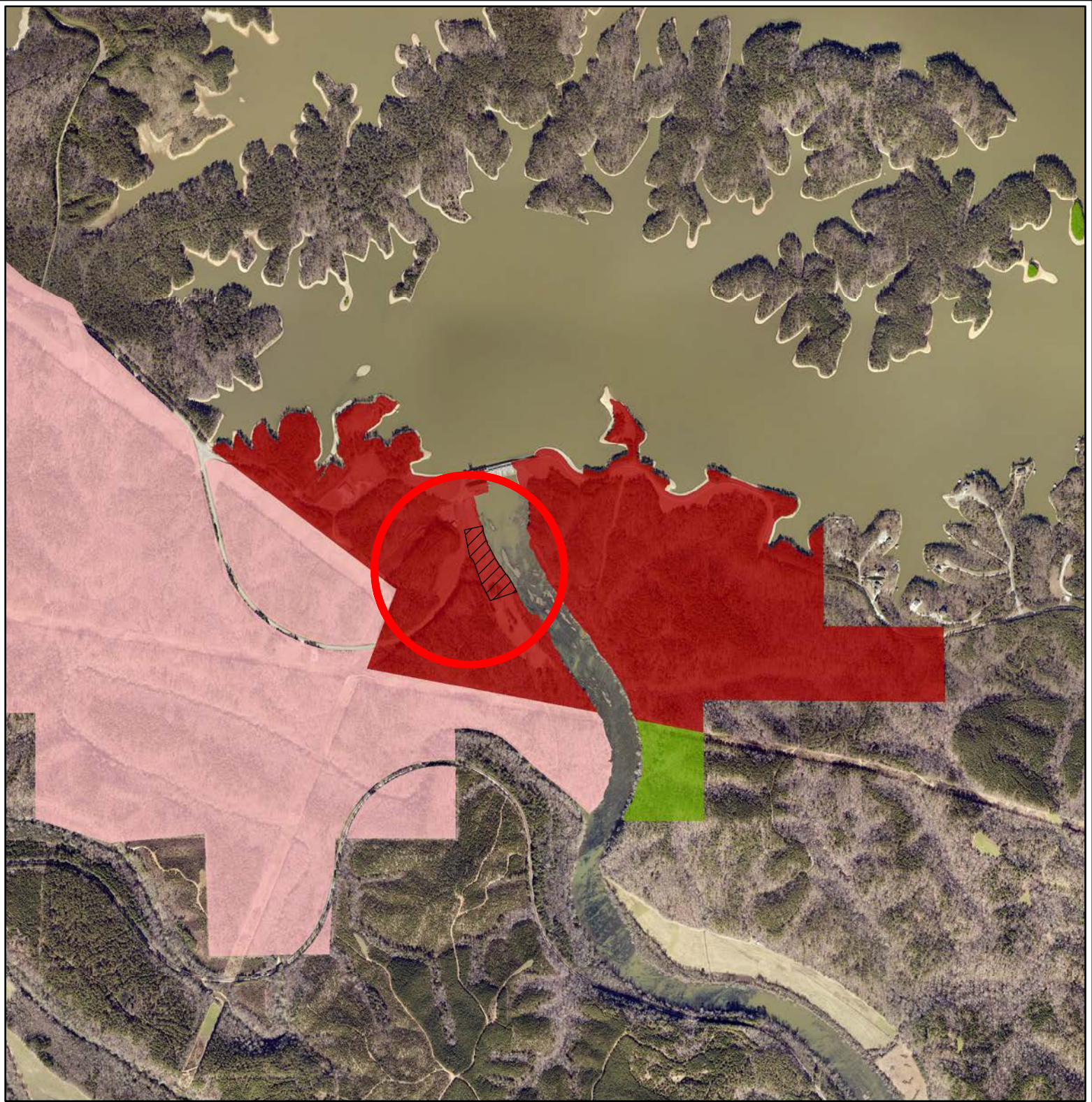
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Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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RC6 – Reclassify to Recreation +/- 5 acres

- Location of existing tailrace fishing recreation site

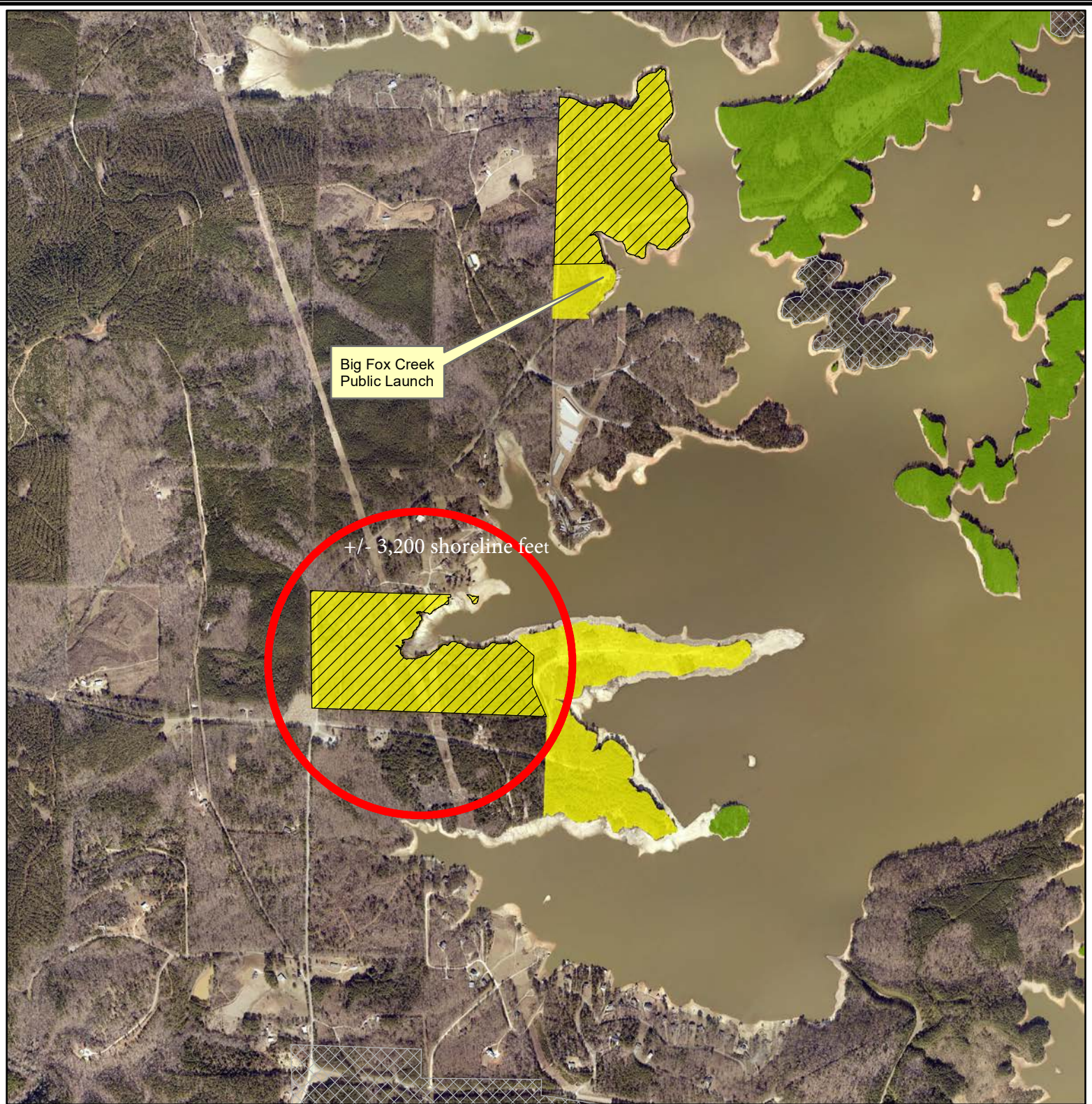
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Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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RC7* – Reclassify from Recreation to Natural/Undeveloped + /- 57 acres

- Area is not currently used for recreation purposes and is separated by forested land; not designated for future expansion due to proximity of the transmission line corridor and adjacent private development
- Reclassify based upon results of the Flat Rock Botanical Inventory discussed in Section 6.0 of the Phase 1 Project Lands Study Report.
- Reclassify remaining acreage located to the west of the Flat Rock Botanical Inventory area to provide continuity of land use and aid in the protection of the adjacent Natural/Undeveloped Project lands

Legend

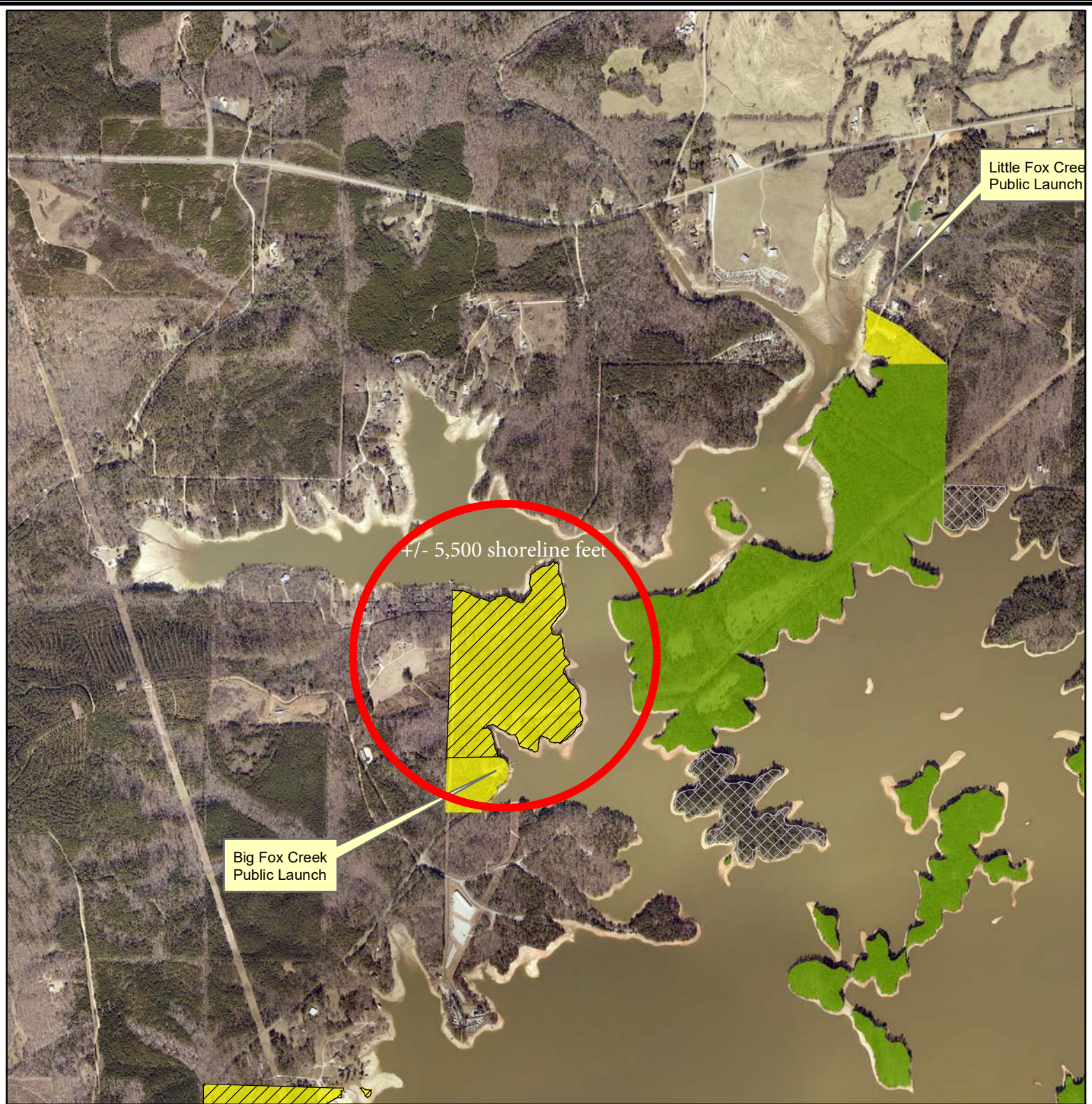
Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions

*The information presented at the September 11, 2019 HAT 4 meeting stated this reclassification totaled 40 acres. However, following the meeting, a mapping error of the area included within the botanical survey was discovered. Therefore, the acreage and map provided in this report does not match the information presented at the HAT 4 meeting but rather correctly states the proposed reclassification.



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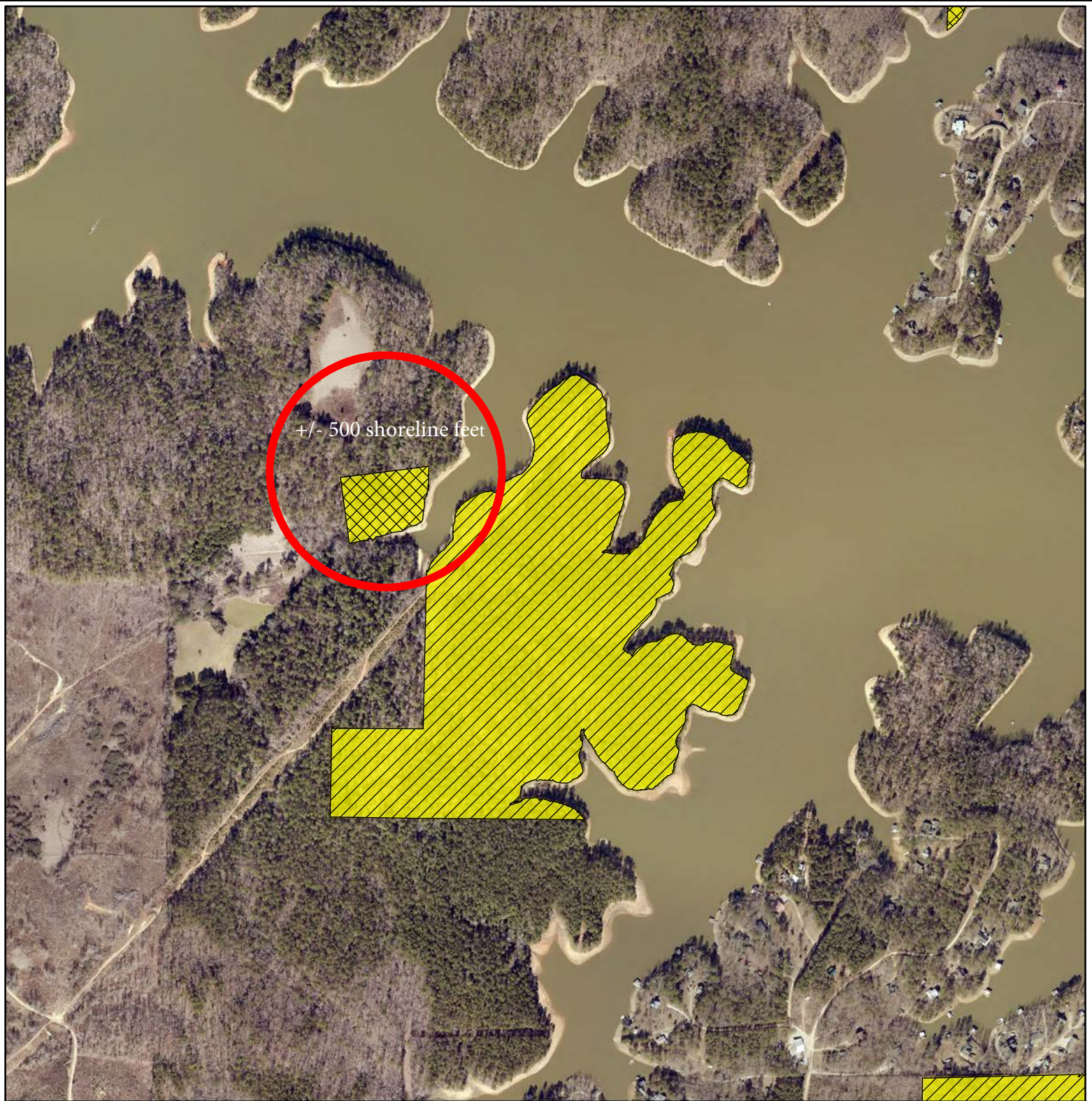
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RC8 – Reclassify from Recreation to Natural/ Undeveloped +/- 50 acres

- Large tract of land was included within the original Project Boundary for the purpose of constructing a public recreation site within this area; location of the existing Big Fox Creek Public Launch was determined to be the best location for the now constructed public launch; southern portion of the large, which encompasses Big Fox Creek Public Launch, will remain classified as Recreation and includes adequate acreage for current and future needs; remainder of the tract was determined no longer needed for Recreation purposes
- Reclassification to Natural/Undeveloped will aid in the maintenance of natural aesthetics and will serve as a buffer zone around the existing public recreation area

Legend	
Baseline Classifications	Proposed Changes
 Natural Undeveloped	 Proposed Reclassifications
 Hunting Lands	 Proposed Removals
 Prohibited Access	 Proposed Additions
 Recreation	



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R2 – Remove +/- 3 acres of Recreation

- Included as part of the original Project Boundary as Recreation because located at an old road end
- Small tract; not adjacent to existing Project lands or proposed additions to Project lands
- Not suitable for hunting lands due to its small size
- Not suitable for recreation due location within a slough and location within area of lake with limited demand for public recreation opportunities
- Not suitable for natural/undeveloped due to proximity to proposed future developments

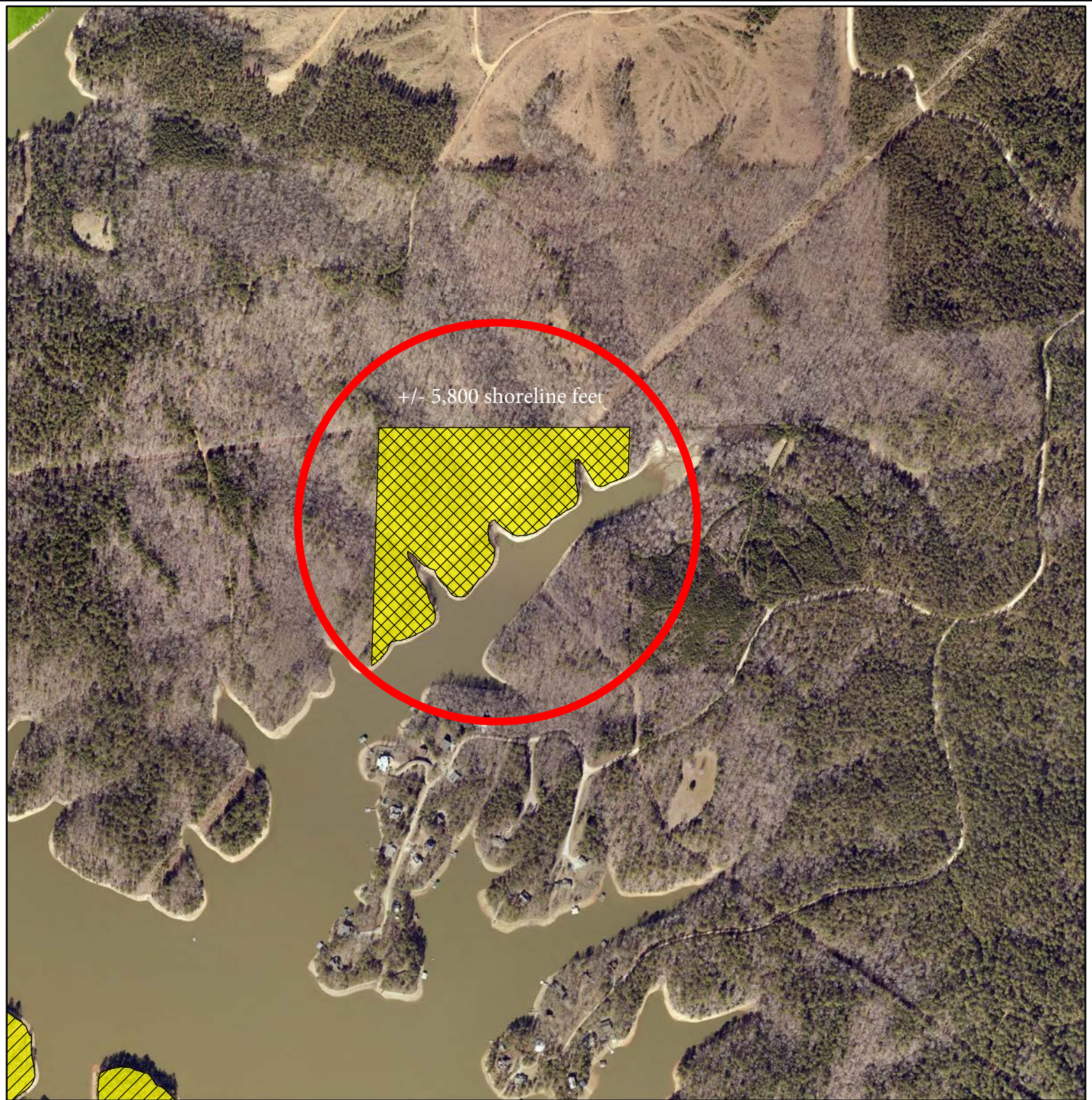
Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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R3 – Remove +/- 20 acres of Recreation

- Added to the Project Boundary as Natural Undeveloped during 1995 Land Use Plan update for use by the Boy Scouts; use never transpired due to limited access
- Not suitable for recreation due to its location within area of lake with limited demand for public recreation opportunities
- Not suitable for hunting due to small size and not located adjacent to existing Project lands
- Not suitable for natural/undeveloped due to proximity to proposed future developments

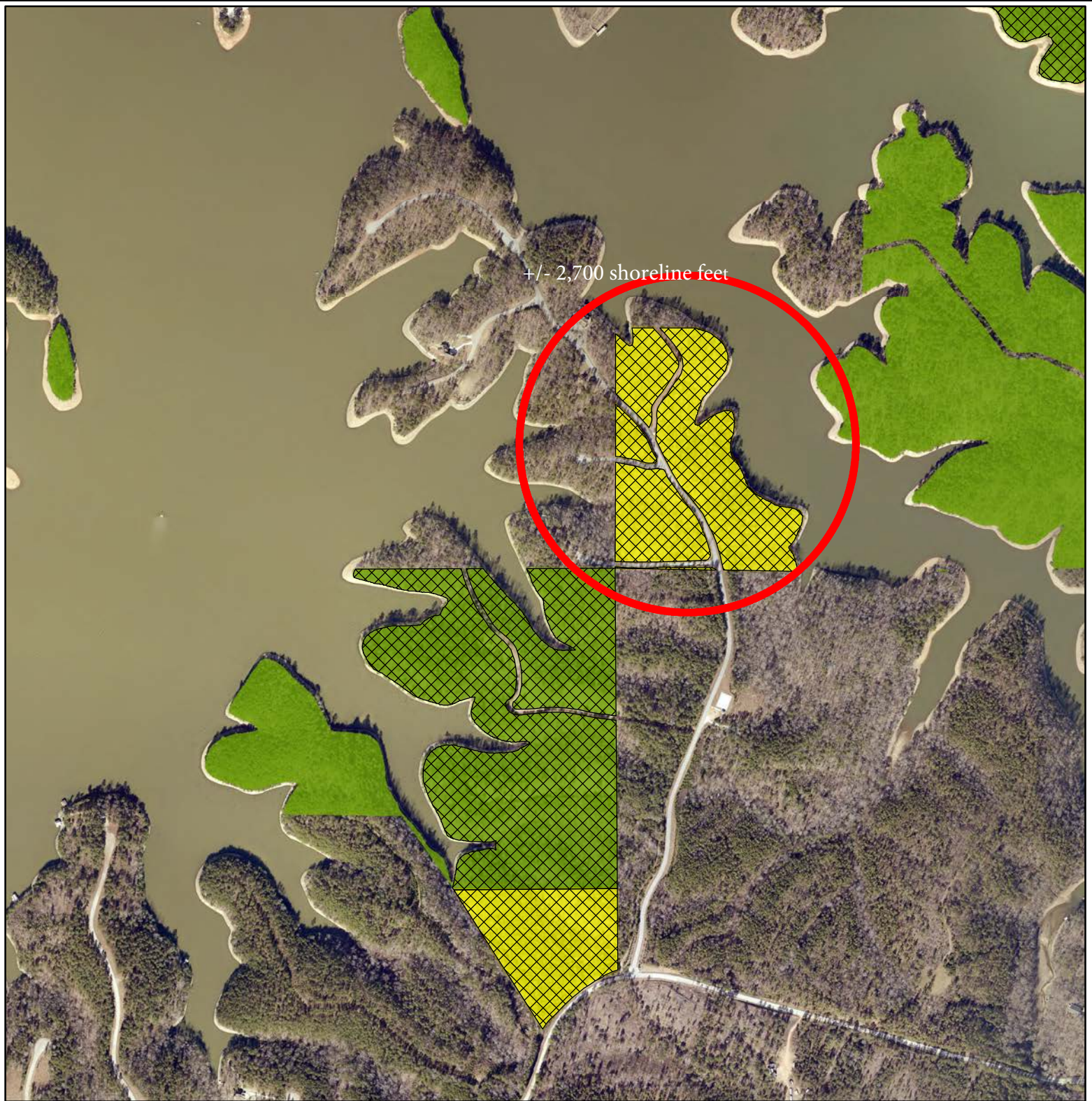
Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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R5 – Remove +/- 19 acres of Recreation

- Land locks privately-owned tracts with Project Boundary; history of issues concerning granted access for private development
- Not suitable for natural/undeveloped due to proximity to private development of peninsula, which has (and will continue to) result in the need to cross Project lands with access roads and utilities
- Not suitable for recreation due to its location within area of lake with limited demand for public recreation opportunities
- Not suitable for hunting due to its small size and proximity to private development

Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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R7 – Remove +/- 9 acres of Recreation

- Part of the original Project Boundary as recreation for future development of an overlook
- Adjacent to another Project lands tract that land locks privately-owned tracts with Project Boundary; proposing to also remove adjacent project lands
- Not suitable for natural/undeveloped due to proximity to private development
- Not suitable for recreation due to its location within area of lake with limited demand for public recreation opportunities; property is not located on shoreline
- Not suitable for hunting due to its small size and proximity to private development

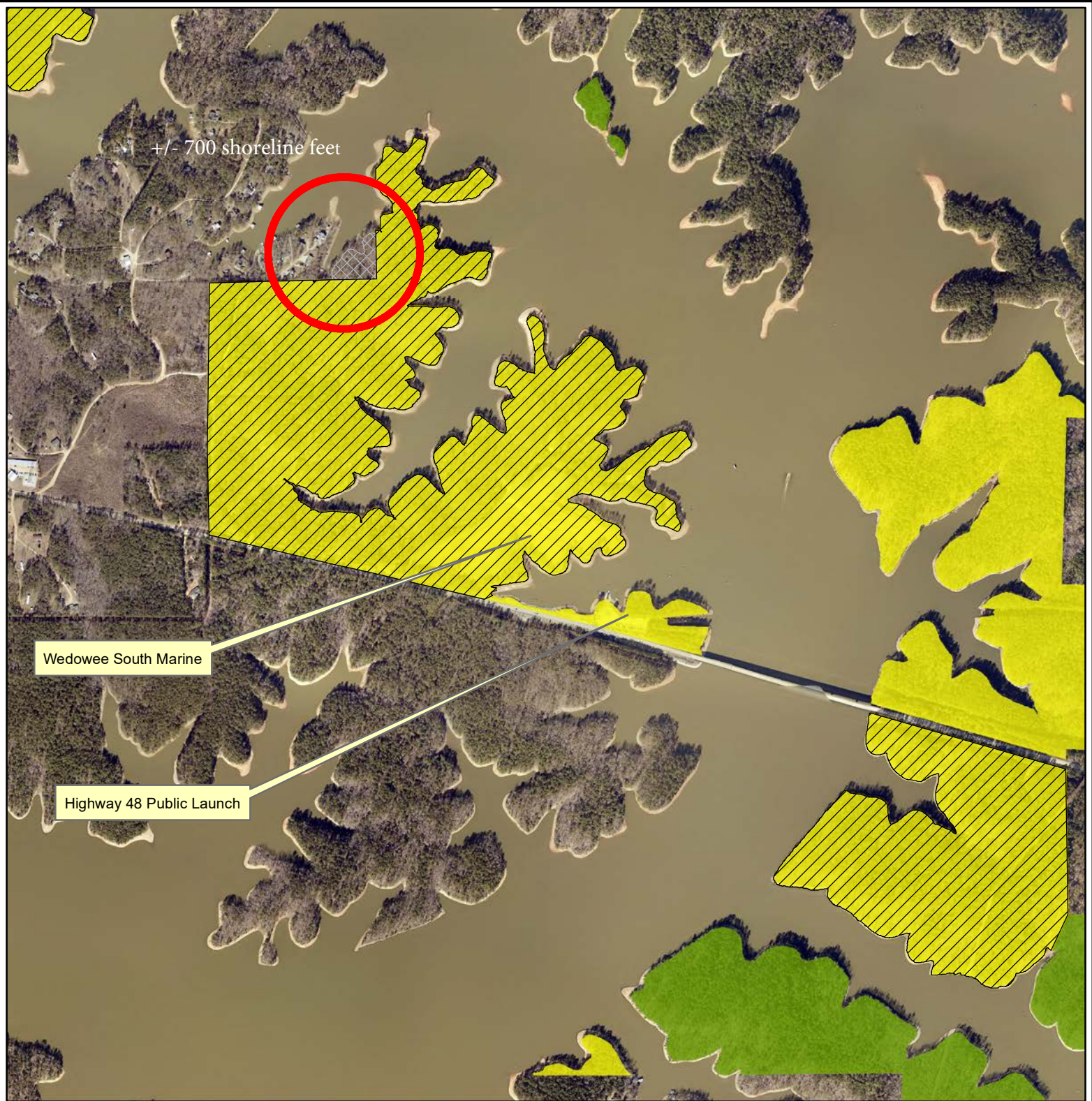
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Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions



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A3 – Add +/- 2 acres as Commercial Recreation lands

- Small tract adjacent to large tract currently classified as Recreation; adjacent tract is large tract on which the shoreline office and Wedowee Marine South are located
- Adjacent 147.94-acre tract is proposed to be reclassified to Commercial Recreation
- Adding tract provides consistency of land use and additional acreage (with shoreline) to be used as commercial recreation

Legend	
Baseline Classifications	Proposed Changes
 Natural Undeveloped	 Proposed Reclassifications
 Hunting Lands	 Proposed Removals
 Prohibited Access	 Proposed Additions
 Recreation	

From: Collins, Evan R <evan_collins@fws.gov>
Sent: Tuesday, March 16, 2021 2:40 PM
To: Baker, Jeffery L. <JEFBAKER@southernco.com>
Subject: Informal programmatic for Bats

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Jeff. I've attached the bat portion of our SLOPES agreement with the Corps and a copy of the matrix NRCS uses for their informal programmatic. Let me know if you'd like to discuss these further.

-Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
1208-B Main Street
Daphne, AL 36526
251-441-5837 (phone)
251-441-6222 (fax)
evan_collins@fws.gov

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Log I/AF

United States Department of Agriculture



Natural Resources Conservation Service
P.O. Box 311
Auburn, Alabama 36831-0311

2010-I-0698



August 16, 2010

Mr. William Pearson
Field Supervisor
US Fish and Wildlife Service
Alabama Ecological Services Field Station
1208-B Main Street
Daphne, Alabama 36526

Dear Mr. Pearson:

The Natural Resources Conservation Service (NRCS) in Alabama provides technical and financial assistance in assisting private landowners to improve soil, water, air, plant, and animal (including wildlife) resources on their land. In providing this assistance, NRCS relies on standardized conservation practices and specifications to ensure proper establishment, management and maintenance of all structural practices and management measures. Our conservation practices are periodically updated in order to keep pace with technological advancements or to address management issues.

Currently, there are 132 NRCS conservation practices utilized in Alabama to promote conservation of natural resources. Starting in December 2009, NRCS staff, Alabama Department of Conservation and Natural Resources (ALDCNR) biologists, and U. S. Fish and Wildlife Service (USFWS) biologists representing the Daphne Ecological Services Field Office consulted informally on the effects of 132 practice standards, making determinations of the effects on federally listed species and developing a process to streamline the procedure for compliance with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). The product of this programmatic ESA consultation effort is a document called, "NRCS Conservation Practice Effects on Threatened and Endangered Species". This document includes a decision matrix listing the 132 conservation practices and indicates when those practices: (1) are not anticipated to have an effect upon listed species ("no effect"), (2) are not likely to adversely affect federally listed species (NLAA), (3) have the potential to have adverse impacts, but impacts can be reduced to the level of "not likely to adversely affect" (NLAA) through the utilization of agreed-upon minimization measures, and (4) may adversely affect federally listed species and require additional consultation on a case-by-case basis. The matrix further identifies practices that would be considered

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beneficial to federally listed species. The matrix is ordered alphabetically by conservation practice name and the effects of each practice are shown accordingly.

Current NRCS policy on ESA (General Manual Title 190 Subpart B 410.22) states that when NRCS provides technical assistance in developing, updating, or revising conservation plans for clients, NRCS staffs are to conduct an Environmental Evaluation (EE), paying particular attention to ESA compliance. If the proposed action may affect listed species, NRCS shall provide alternatives that avoid any adverse effects, based on an evaluation of the proposed action using current information such as that found in the document **“NRCS Conservation Practice Effects on Threatened and Endangered Species.”** If no alternatives that avoid the effect can be identified, or the client chooses to pursue an alternative that may adversely affect listed/proposed species, NRCS shall terminate technical assistance and inform the client of their potential liabilities for violation of Section 9 (take provision) of the ESA. NRCS will also direct the client to contact the appropriate Service (USFWS or National Marine Fisheries Service) for resolution. Please note that any formal or informal consultation with the USFWS that may identify a client, a species presence or a species habitat location requires written permission from the client. Adverse effects on known state species of concern and candidate species and are to be reduced to the extent practicable and in compliance with State and Federal law. The results of the EE are documented on form CPA-52 Environmental Evaluation Worksheet, and maintained in the NRCS case file.

NRCS conservation programs and technical assistance efforts represent an outstanding opportunity to provide high quality habitat benefits for fish and wildlife and to contribute towards the recovery of many at-risk species. Implementation of conservation measures utilizing the contents of the document **“NRCS Conservation Practice Effects on Threatened and Endangered Species”**, as described above, efficiently and effectively provides compliance with the ESA and ensures that considerations for threatened, endangered, and candidate species and their habitats are incorporated into NRCS’s conservation planning, technical assistance, and program implementation efforts by utilizing the pre-screening efforts of the (aforementioned) agencies under programmatic ESA consultation. This effort also assists NRCS in meeting its responsibilities under Section 7(a)(1) of the ESA to further the purposes of the ESA by carrying out programs for the conservation of threatened and endangered species. In addition, it is anticipated that the utilization of this matrix will protect and benefit those State listed species that occupy the same or similar habitats as federally listed species.

Key to using the document **“NRCS Conservation Practice Effects on Threatened and Endangered Species”** are several tools that provide detailed species information,

species locations, conservation practice effects on said species, and courses of action for NRCS personnel to ensure ESA compliance. These tools are briefly outlined below.

- 1) **“Alabama Threatened and Endangered Species Data Set By County”** – This data set provides information on the species that are known to exist or *where suitable habitat exists* within each 12 digit hydrologic unit based on current and/or historical observational or collection records. This data set will be updated on an annual basis or more frequently as needed.
- 2) **“NRCS Conservation Practice Effects on Threatened and Endangered Species”** – This list provides information on whether a NRCS practice could potentially affect a listed species or its habitat. It also provides a course of action that NRCS personnel must take when an adverse or beneficial effect is indicated. This information will be updated as needed.
- 3) **“U. S. Fish and Wildlife Service Threatened and Endangered Species Fact Sheets”** – These documents, developed by the USFWS, provide detailed information concerning T & E species life histories, species descriptions, map ranges, and additional information concerning NRCS practices and their potential effects on listed species. Recommendations associated with these fact sheets should be used to determine specific threats to species, the location of particular listed species, and any positive effects that NRCS conservation practices could have on the particular species that would benefit the recovery of the species. Positive recovery efforts could lead to the removal of a species from the Endangered Species List. These fact sheets are currently being developed and will be updated according to changes in USFWS recovery plans, species status, new biological information or other pertinent information.
- 4) **“Alabama Wildlife, Volumes 1-4”** – This Alabama Department of Conservation and Natural Resources (ALDCNR) publication provides detailed species descriptions, ranges, habitat types, life histories, cause of declines, and conservation management recommendations. This publication should be used to help identify species and their habitat requirements.

We have determined that all 132 of the conservation practices listed in the document **“NRCS Conservation Practice Effects on Threatened and Endangered Species”** will have no effect on 12 federally listed species or their critical habitats, except where wetland restoration may have a beneficial effect on the wood stork and where water quality

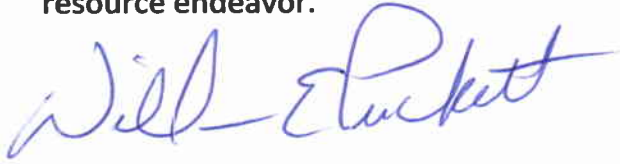
practices may improve the recharge area for the Alabama cave fish. For those two specific situations, NLAA-BE would be the correct designation, rather than no effect.

Of the 132 conservation practices mentioned above, we have determined that 33 conservation practices will have no effect on any listed species, while another 14 practices will have either no effect or a beneficial effect, depending upon site specific conditions. With the exception of 14 practices where potential adverse effects and the need for additional consultation have been identified, the remainder of the practices may affect, but are not likely to adversely affect, listed species. Eventually we believe that additional minimization measures can be developed for the 14 practices that may adversely affect listed species or that authorized incidental take may be requested under certain conditions. Of the 132 conservation practices, at least 54 have potential to have beneficial effects upon listed species. This includes 40 practices which are beneficial to listed aquatic species.

Because NRCS provides technical and financial assistance for many conservation measures each year in Alabama, we plan to meet annually with the USFWS and ALDCNR to review and discuss the types of practices funded, any conservation practice updates, the issues encountered while implementing the decision matrix and to verify that the intent of the matrix is being achieved and to identify needs for improvements. At the time of the annual meeting, funded projects for the year will be discussed (particularly water withdrawal projects and stream crossings located in listed aquatic species watersheds). Also at this time, USFWS and ALDCNR will be asked provide information regarding changes to species listings and updates to the GIS dataset for federally listed species and their habitat descriptions, and ALDCNR will be asked to provide updated information on State species of concern.

I believe that we have developed a solid process to ensure the protection, enhancement, and recovery of listed species and ESA compliance for our agency. Therefore, I respectfully request that USFWS concur with the NRCS determination that the conservation practices listed in the document **"NRCS Conservation Practice Effects on Threatened and Endangered Species"** will not affect 12 federally listed species (as described in that document). As to the remaining federally listed species in Alabama (as described in the decision matrix), I request concurrence that 33 conservation practices (as described in that document) will have no effect on listed species, and that the remainder of the conservation practices, as indicated in the matrix, may affect, but are not likely to adversely affect listed species. As described in the document, NRCS will seek additional consultation for implementation any of the 14 practice shown in the matrix to have a "May Affect" determination, as well as any situations where minimization measures to achieve an NLAA determination cannot be applied on a case-

by-case basis. Thank you for your cooperation and partnership with this priority resource endeavor.



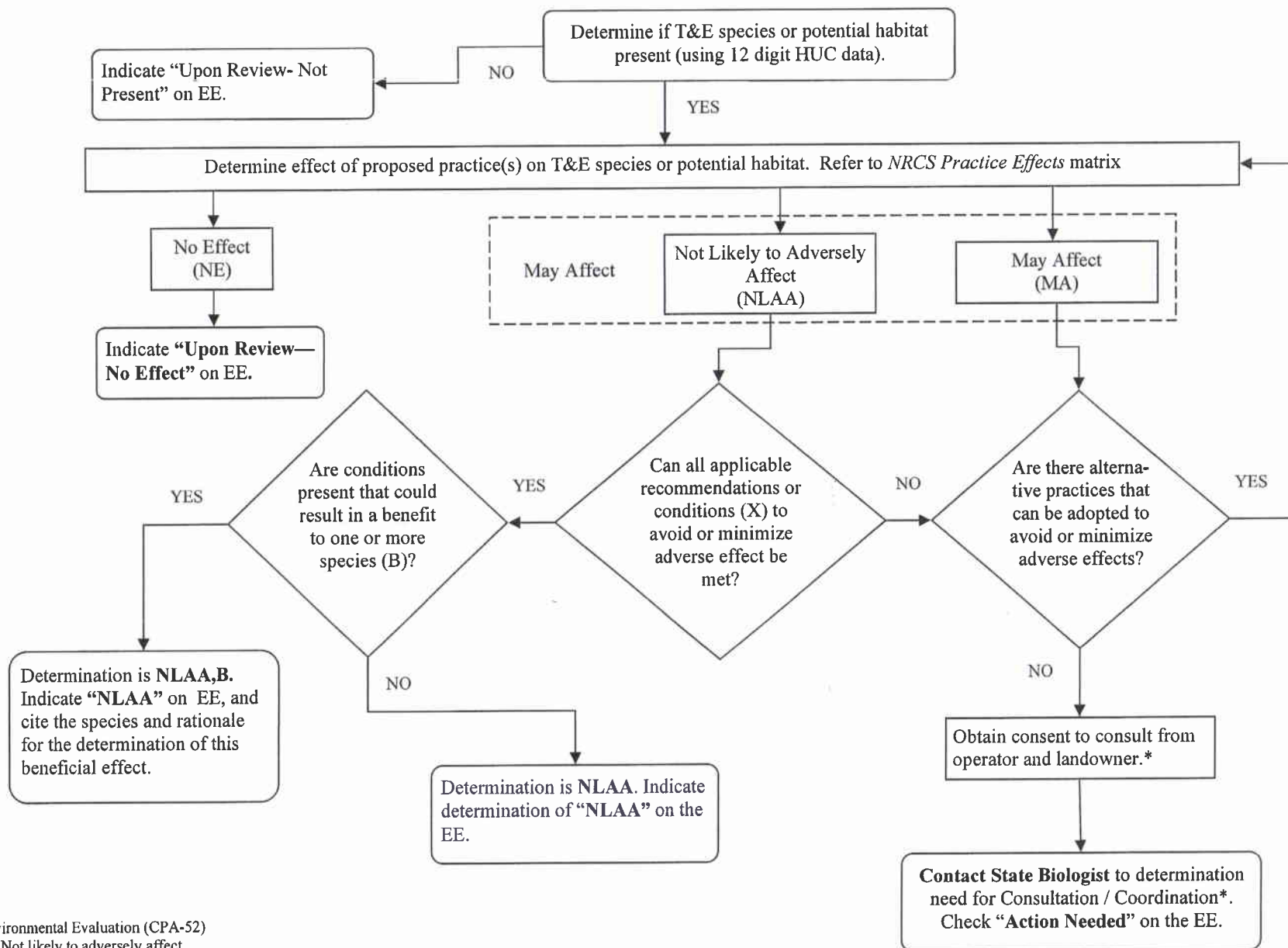
WILLIAM E. PUCKETT
State Conservationist

Enclosures

cc:

Corky Pugh, Director, Wildlife and Freshwater Fisheries Division, ALDCNR
Steve Cauthen, Executive Director, Soil & Water Conservation Committee
Leonard Jordan, Regional Conservationist – East Region, Washington, DC
Judy Hill, ASTC FO (North), NRCS, Decatur, AL
Charlie Ramsey, ASTC FO (West), NRCS, Grove Hill, AL
Ben Malone, ASTC FO (Central), NRCS, Bessemer, AL
Richard Collier, ASTC FO (East), NRCS, Troy, AL

Decision Diagram for Alabama NRCS Practice Effects on Threatened and Endangered Species



Notes

EE - Environmental Evaluation (CPA-52)

NLAA - Not likely to adversely affect

* If operator or landowner refuses to consent to consult/coordinate, or refuses to follow consultation guidance, discontinue planning.

NRCS Conservation Practice Effects on Federal Threatened & Endangered Species

USFWS-NRCS Interagency Consultation Matrix

Practice Effect Designations:

- NE - No Effect
- NLAA - Not Likely to Adversely Affect T&E Species
- NLAA,B - Not Likely to Adversely Affect T&E Species (Beneficial Effect)
- MA - May Affect T&E Species (**Requires informal or formal consultation with USFWS when T&E species are potentially present or may be impacted**)

Symbol Designations:

- N No effect; proceed with practice implementation.
- X Refer to the qualifier list for guidance. If implementation of practice avoids all applicable defined condition(s), proceed with practice implementation. If defined condition(s) can not be avoided, contact NRCS Biologist.
- B Refer to the qualifier list for guidance. If implementation of practice meets defined condition(s), practice implementation should produce a benefit to T&E Species and their habitat.
- C Consult; refer to NRCS Biologist. NRCS Biologist will work with D.C. to conduct habitat assessment. NRCS Biologist will contact USFWS if formal or informal consultation is required. DO NOT proceed with practice implementation without concurrence of NRCS Biologist.

This matrix will be used to assist in making planning decisions regarding federally listed threatened and endangered species. Refer to Section IV of the eFOTG for detailed standards and specifications for the practices listed within the table. Some practices have the potential to Adversely Affect or have a Beneficial Effect dependent upon where, when and how practice installation occurs. In the event that a practice has a C (MA) and a B (NLAA,B) designation, the C designation takes precedence. Practice implementation should not begin until consultation has occurred. Similarly, if a practice has both an X (NLAA) and a B (NLAA,B) designation, the X takes precedence. Practice implementation should not begin unless the condition defined by the X designation is avoided or the NRCS Biologist authorizes implementation.

Review the practice conditions established for each practice as well as the practice standard in the eFOTG carefully before making a decision to proceed with installation.

Note: Any formal or informal consultation with USFWS that may identify a client and/or the specific location of a species or a species habitat requires written permission from the client to release confidential information. This can be accomplished by having the client provide a signed letter or by submitting the Authorization for Release of Records document.

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
472	Access Control	ac		$X^{Gen}, X^{AQ2}, X^{GT2}, X^{Bat}$		B^{AQ1}	
560	Access Road	ft		$X^{Gen}, X^{Plant}, X^{GT1}, X^{AQ1}$			
702	Agrichemical Handling Facility	no	N				
591	Amendments for the Treatment of Agricultural Waste	ani unt	N				
365	Anaerobic Digester - Ambient Temperature	no	N				
366	Anaerobic Digester - Controlled Temperature	no	N				
316	Animal Mortality Facility	no		X^{Gen}, X^{Plant}			
575	Animal Trails and Walkways	ft		X^{Gen}, X^{Plant}		B^{AQ2}	
450	Anionic Polyacrylamide (PAM) Erosion Control	ac		X^{Gen}			
397	Aquaculture Ponds	ac			C		
310	Bedding	ac	N	X^{Gen}, X^{Plant}			No effect on cropland. NLAA on other land uses. If practice increases runoff or erosion to streams, also see X^{AQ2} and insure adequate outlets and filtering protect aquatic resources.
314	Brush Management	ac		$X^{Gen}, X^{Plant}, X^{AQ2}, X^{AQ3}, X^{GT2}, X^{Bat}, X^{RCW1}, X^{RHS}$			
584	Channel Stabilization	ft			C		
326	Clearing and Snagging	ft			C		
360	Closure of Waste Impoundment	no	N				
317	Composting Facility	no	N				
327	Conservation Cover	ac	N			B^{Gen}, B^{AQ2}	Beneficial if improves habitat for any listed species or if adjacent to stream, otherwise NE.
328	Conservation Crop Rotation	ac	N				

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
656	Constructed Wetland	ac		X^{Gen}, X^{Plant}		B^{AQ2}	
332	Contour Buffer Strips	ac	N			B^{AQ2}	Beneficial to water quality (thus aquatic species), otherwise NE
330	Contour Farming	ac	N			B^{AQ2}	Beneficial if installed on existing cropland or grazingland adjacent to stream, otherwise NE.
331	Contour Orchard and Other Fruit Area	ac	N				
340	Cover Crop	ac	N				
342	Critical Area Planting	ac	N			B^{AQ1}	Beneficial to aquatics if reduces sedimentation, otherwise NE.
402	Dam	ac-ft			C		
348	Dam, Diversion	no			C		
324	Deep Tillage	ac	N	X^{Gen}, X^{Plant}			NE on previously disturbed land, otherwise NLAA
356	Dike	ft		$X^{Gen}, X^{Plant}, X^{SWD}$		B^{AQ2}	Beneficial if installed on existing cropland or grazingland adjacent to stream, otherwise NLAA.
362	Diversion	ft		X^{Gen}, X^{Plant}		B^{AQ2}	Beneficial if installed on existing cropland or grazingland adjacent to stream, otherwise NLAA.
554	Drainage Water Management	ac	N			B^{AQ2}	Beneficial if improves water quality or quantity for aquatic species, otherwise NE.
432	Dry Hydrant	no		$X^{Gen}, X^{Plant}, X^{AQ3}$			
647	Early Successional Habitat Development/Management	ac	N			B^{GT}	Beneficial for gopher tortoise (where listed), otherwise NE.
382	Fence	ft		$X^{Gen}, X^{AQ2}, X^{AQ3}, X^{GT2}$			If mechanized clearing is involved, also see X^{Plant} and X^{Bat} .
386	Field Border	ac		X^{Gen}, X^{Plant}		B^{AQ2}	Beneficial if directly adjacent to streams
393	Filter Strip	ac		X^{Gen}, X^{Plant}		B^{AQ2}	Beneficial if directly adjacent to streams
394	Firebreak	ft		$X^{Gen}, X^{Plant}, X^{AQ2}, X^{AQ3}, X^{GT2}, X^{Bat}$			
398	Fish Raceway or Tank	ft			C		

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
399	Fishpond Management	no	N				
511	Forage Harvest Management	ac	N				
384	Forest Slash Treatment	ac		X ^{Gen} , X ^{Plant} , X ^{AQ2} , X ^{AQ3} , X ^{GT2} , X ^{Bat}			
666	Forest Stand Improvement	ac		X ^{Gen} , X ^{Plant} , X ^{AQ2} , X ^{AQ3} , X ^{GT2} , X ^{Bat} , X ^{RCW1} , X ^{RHS}		B ^{Chaff}	
655	Forest Trails and Landings	ac	N	X ^{Gen} , X ^{Plant} , X ^{GT1} , X ^{AQ1}			NE if improvements are made to address resource concerns on existing trails and landings (e.g., installation of erosion and sediment control measures) AND not in GT or listed plant habitat.
383	Fuel Break	ac		X ^{Gen} , X ^{Plant} , X ^{AQ2} , X ^{AQ3} , X ^{GT2} , X ^{Bat}			
410	Grade Stabilization Structure	no		X ^{Gen} , X ^{Plant}		B ^{AQ1}	
412	Grassed Waterway	ac	N			B ^{AQ1}	Beneficial to aquatics if reduces runoff and/or sedimentation, otherwise NE.
561	Heavy Use Area Protection	ac		X ^{Gen} , X ^{Plant}			If adjacent to a stream, see effects listed for Stream Crossing.
422	Hedgerow Planting	ft		X ^{Gen}			If within SMZ, see effects listed for Forest Stand Improvement.
320	Irrigation Canal or Lateral	ft			C		
388	Irrigation Field Ditch	ft			C		
464	Irrigation Land Leveling	ac		X ^{Gen} , X ^{Plant}			
552	Irrigation or Regulating Reservoir	no		X ^{Gen} , X ^{AQ1} , X ^{GT1} , X ^{SWD}			
436	Irrigation Storage Reservoir	ac-ft		X ^{Gen} , X ^{AQ1} , X ^{GT1} , X ^{SWD}			
441	Irrigation System, Microirrigation	ac	N				
442	Irrigation System, Sprinkler	ac	N				
443	Irrigation System, Surface and Subsurface	ac	N				

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
447	Irrigation System, Tailwater Recovery	no	N				
428	Irrigation Water Conveyance, Ditch & Canal Lining	ft	N				
430	Irrigation Water Conveyance, Pipeline	ft		X ^{AQ4}			If pipeline crosses a stream, contact NRCS Biologist to determine if consultation is necessary.
449	Irrigation Water Management	ac	N				
460	Land Clearing	ac		X ^{Gen} , X ^{Plant} , X ^{GT1} , X ^{AQ2}		B ^{Gen}	Beneficial if results in rehabilitation of a glade or other sensitive habitats.
453	Land Reclamation, Landslide Treatment	ac			C		
455	Land Reclamation, Toxic Discharge Control	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
543	Land Reconstruction, Abandoned Mined Land	ac		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
544	Land Reconstruction, Currently Mined Land	ac		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
466	Land Smoothing	ac	N				
468	Lined Waterway or Outlet	ft		X ^{Gen} , X ^{Plant}		B ^{AQ1}	
717	Livestock Shade Structure	no	N				
634	Manure Transfer	no	N				
457	Mine Shaft and Adit Closing	no			C		
353	Monitoring Well	no	N				
484	Mulching	ac	N				
590	Nutrient Management	ac		X ^{Gen}		B ^{AQ2}	
500	Obstruction Removal	ac		X ^{Gen}			
582	Open Channel	ft			C		
512	Pasture and Hay Planting	ac	N			B ^{AQ1}	Beneficial to aquatics if reduces runoff and/or sedimentation, otherwise NE.

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
595	Pest Management (also includes Herbaceous Weed Control Conservation Practice)	ac		$X^{Gen}, X^{Plant}, X^{AQ1}, X^{FWS}, X^{RHS}, X^{Bat}$		B^{Inv}	Contact the NRCS Biologist if Windows Pesticide Screening Tool (WIN-PST) results are Intermediate or High. Application within 50 feet of a stream with listed T&E will be hand applied by spot treatment.
516	Pipeline	ft		$X^{Gen}, X^{Plant}, X^{AQ4}$			If pipeline crosses a stream, contact NRCS Biologist to determine if consultation is necessary.
378	Pond	no		$X^{Gen}, X^{AQ1}, X^{GT1}, X^{SWD}$		B^{AQ2}	Benefits to aquatics apply if pond use results in stream exclusion.
379	Pond Sealing or Lining	no	N				
462	Precision Land Forming	ac	N				
338	Prescribed Burning	ac		X^{RCW2}, X^{RT}		B^{Gen}, B^{GT}	Beneficial due to improved habitat. For Relict Trillium, avoid spring burns.
528	Prescribed Grazing	ac	N			B^{AQ2}	Beneficial to aquatics if improved water quality, otherwise, NE
533	Pumping Plant	no		X^{AQ1}, X^{Plant}		B^{AQ2}	Contact State Biologist to determine if consultation is necessary. Can be beneficial to aquatics if replacing a surface water withdrawal at critical times.
562	Recreation Area Improvement	ac	N				
566	Recreation Land Grading and Shaping	ac		X^{Gen}, X^{Plant}			
568	Recreation Trail and Walkway	ft		X^{Gen}, X^{Plant}		B^{Gen}	Beneficial if control of traffic improves habitat.
345	Residue and Tillage Management, Mulch Till	ac	N			B^{AQ2}	Beneficial to aquatics if improved water quality, otherwise NE.
329	Residue and Tillage Management, No-Till/Strip Till/Direct Seed	ac	N			B^{AQ2}	Beneficial to aquatics if improved water quality, otherwise NE.
346	Residue and Tillage Management, Ridge Till	ac	N			B^{AQ2}	Beneficial to aquatics if improved water quality, otherwise NE.

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
344	Residue Management, Seasonal	ac	N			B ^{AQ2}	Beneficial to aquatics if improved water quality, otherwise NE.
643	Restoration and Management of Declining Habitats	ac		X ^{Gen} , X ^{Plant}		B ^{Gen}	Avoid heavy equipment operation in known occupied habitats - use hand planting. Beneficial if avoiding known plant locations and creating new forested habitats on previously disturbed agricultural lands.
391	Riparian Forest Buffer	ac				B ^{Gen}	Beneficial for aquatics (water quality, habitat) and bats (foraging habitat)
558	Roof Runoff Structure	no	N				
557	Row Arrangement	ac	N				
570	Runoff Management System	ac	N			B ^{AQ2}	Beneficial to aquatics if improved water quality, otherwise NE.
798	Seasonal High Tunnel System for Crops, Interim	no	N	X ^{Gen} , X ^{Plant}			No effect on existing crop land. NLAA on other land uses.
350	Sediment Basin	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
646	Shallow Water Management for Wildlife	ac		X ^{SWD}			
381	Silvopasture Establishment	ac	N	X ^{Gen} , X ^{Plant} , X ^{AQ3} , X ^{GT1}			NE if cropland conversion to silvopasture, otherwise NLAA
632	Solid/Liquid Waste Separation Facility	no	N				
572	Spoil Spreading	ac		X ^{Gen} , X ^{Plant}			
574	Spring Development	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	Benefits to aquatics apply if this practice results in stream exclusion.
578	Stream Crossing	no			C	B ^{AQ2}	Benefits to aquatics apply if this practice results in stream exclusion.
395	Stream Habitat Improvement and Management	ac			C	B ^{Gen}	Benefits wetland dependent species in addition to aquatics.
580	Streambank and Shoreline Protection	ft			C	B ^{AQ1}	
585	Stripcropping	ac	N				
587	Structure for Water Control	no		X ^{Gen} , X ^{Plant}		B ^{Bird}	

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
606	Subsurface Drain	ft		X ^{Gen} , X ^{Plant}			
607	Surface Drainage, Field Ditch	ft		X ^{Gen} , X ^{Plant}			
608	Surface Drainage, Main or Lateral	ft		X ^{Gen} , X ^{Plant}			
600	Terrace	ft		X ^{Gen} , X ^{Plant}		B ^{AQ1}	
612	Tree/Shrub Establishment	ac	N	X ^{Gen} , X ^{Plant} , X ^{AQ2} , X ^{AQ3} , X ^{GT2}		B ^{Plant}	No effect on existing crop or pasture land, otherwise, NLAA.
660	Tree/Shrub Pruning	ac	N				
490	Tree/Shrub Site Preparation	ac	N	X ^{Gen} , X ^{Plant} , X ^{AQ2} , X ^{AQ3} , X ^{GT2} , X ^{Bat}			No effect on existing crop or pasture land, otherwise, NLAA.
620	Underground Outlet	ft		X ^{Gen} , X ^{Plant}			
645	Upland Wildlife Habitat Management	ac		X ^{Gen} , X ^{AQ2} , X ^{Bat} , X ^{RCW1}		B ^{Inv}	
367	Waste Facility Cover	no	N				
749	Waste Field Storage Area	no	N				
313	Waste Storage Facility	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
629	Waste Treatment	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
359	Waste Treatment Lagoon	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	
633	Waste Utilization	ac		X ^{Gen} , X ^{Plant}			
635	Wastewater Treatment Strip	ac		X ^{Gen} , X ^{Plant}		B ^{AQ1}	
638	Water and Sediment Control Basin	no		X ^{Gen} , X ^{Plant}		B ^{AQ1}	
642	Water Well	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	Benefits to aquatics apply if this practice results in stream exclusion.
614	Watering Facility	no		X ^{Gen} , X ^{Plant}		B ^{AQ2}	Benefits to aquatics apply if this practice results in stream exclusion.
351	Well Decommissioning	no	N				
658	Wetland Creation	ac		X ^{Gen} , X ^{Plant}		B ^{Gen}	
659	Wetland Enhancement	ac		X ^{Gen} , X ^{Plant}		B ^{Gen}	
657	Wetland Restoration	ac		X ^{Gen} , X ^{Plant}		B ^{Gen}	

NRCS Conservation Practice Effects on Federal Threatened Endangered Species - 8-05-2010

Code	Practice	Unit	Practice Effects				Comments
			NE	NLAA	MA	NLAA,B	
644	Wetland Wildlife Habitat Management	ac		X ^{Gen} , X ^{Plant}		B ^{Gen}	

Practice Effect Designations:

NE – No Effect

NLAA – Not Likely to Adversely Affect T&E Species

MA – May Affect T&E Species (**Requires informal or formal consultation with USFWS when T&E species are potentially present or may be impacted**)

NLAA,B – Not Likely to Adversely Affect T&E Species (Beneficial Effect)

Exceptions:

- Species not affected by installation of the above conservation practices (**No Effect**): Alabama beach mouse, Alabama streak-sorus fern, American hart's tongue fern, Florida Manatee, Green sea turtle, Kemp's ridley sea turtle, Loggerhead sea turtle, Perdido Key beach mouse, Piping plover, and Pygmy sculpin.
- Species either not affected by or beneficial effect from installation of the above conservation practices : Alabama cave fish - **No Effect**, except where conservation practices improve water quality in the recharge area, then **NLAA,B**; Wood stork - **No Effect**, except where Wetland Restoration is implemented, then **NLAA,B**.

In General, practices are not likely to adversely affect (NLAA) threatened and endangered species WHEN:

- planned for:
 - > mines,
 - > cropland already or "recently" producing an agricultural commodity
 - > existing confined animal operations
 - > existing orchards, nurseries and groves
 - > actively managed pastureland or hayland planted to introduced forage species
- land already developed for commercial or residential purposes
- repair of recently damaged existing facilities/structures
- planned area is isolated from existing water bodies and wetlands, AND there are no off-site or indirect effects, including no measurable change in hydrology as a result of practice implementation.

NLAA Practice Implementation Qualifiers

(Where an adverse effect can not be avoided or minimized, contact NRCS Biologist.)

X^{Gen}	If the practice will be placed in a habitat type where a threatened or endangered species may reside, further investigation is required . Review the Sensitive Habitat Fact Sheet , then make a visual observation of the area to determine if the species or habitat for the species exists. Examples include: Avoid ground disturbing activities within Red Hills Salamander habitat. Avoid altering hydrology of ephemeral drains (avoid logging during wet weather) within the FWS habitat.
X^{Plant}	If the practice will be placed in a habitat type where a threatened or endangered species may reside AND if disturbance of native vegetation (changing landuse, herbicide application, earthmoving, soil disturbance, etc.) is involved in the installation of this practice, further investigation is required . Review the Sensitive Habitat Fact Sheet and plant fact sheets . Make a visual observation of the area to determine if the species or habitat for the species exists.
X^{AQ1}	If the practice will be placed within 50 feet of a stream within a 12-digit HUC containing T&E aquatic species, further investigation is required. Increase buffer distance as needed to maintain the ecological and structural integrity of the riparian buffer and stream bank.
X^{AQ2}	No mechanized clearing within 50 feet of streams. Hand clearing, hand rake, hack and squirt, etc., are allowed. Increase buffer distance as needed to maintain the ecological and structural integrity of the riparian buffer and stream bank.
X^{AQ3}	Aquatics - Avoid conditions causing erosion and sedimentation into streams.
X^{AQ4}	Avoid crossing streams with this practice.
X^{Bat}	Avoid disturbance of foraging areas near caves by adhering to an activity buffer distance of 200 feet radius from the cave entrance (for example, use of machinery, building of roads, application of pesticides, etc.). Maintain snags within 1/2 mile radius of cave entrances.
X^{FWS}	Apply herbicides only during dry periods.
X^{GT1}	Where the use of heavy equipment can not be avoided, use a 25 foot buffer around each gopher tortoise burrow. Site staging areas away from burrows.
X^{GT2}	The practice should allow dispersal and movement to at least 2.5 acres of GT foraging habitat per burrow. When fencing is used for large animals, typical fencing = minimum 30 cm (11.81 inches) clearance from ground, electric fencing = 40 cm (15.75 inches) clearance from the ground, woven fencing = 30 cm x 30 cm hole every 100 ft. When fencing for <i>small animals</i> , e.g., goats, avoid fencing in GT burrows.
X^{RCW1}	Do not remove southern yellow pine tree species greater than or equal to 10" DBH in a pine-dominated stand located where there exists a current populations of Red-Cockaded woodpeckers or RCW cavity trees.
X^{RCW2}	RCW cavity trees will be protected by a variety of methods, including employing small preparation burns around cavity trees, raking fuels away from the base of the tree, mowing, weed whipping (use of a "weed whacker" as a low impact alternative) and the use of wet lines (a temporary fireguard created by wetting vegetation adjacent to the fuel to be ignited). Be aware that heavy machinery can compact soils and damage tree roots; therefore, avoid repeated mowing and use of heavy equipment.
X^{RHS}	In Red Hills Salamander habitat, use hand treatments such as hack and squirt, for herbicide applications.
X^{RT}	In Relict Trillium habitat, avoid burning in spring.
X^{SWD}	Avoid low-lying areas directly adjacent to flowing waterbodies. This includes areas in Madison, Limestone, and Lauderdale counties that contain shallow sink holes, wide-shallow depressions (including fields and open pasture) that are seasonally wet or may only receive water during high flow events, and perennially wet seeps. During the winter/early spring, slack water darter's migrate up small 1st and 2nd order streams and spawn directly in these areas over vegetation such as, Juncus, Eleocharis, fescue, and water-star-wort. These spawning areas can range from relatively small areas (<1/4 acre) to several acres.

NLAA Practice Implementation Qualifiers (If the conditions of the scenarios are met, a benefit to T&E species and their habitat will result.)	
B^{Gen}	Beneficial if T&E species are present within the planning unit and practice provides and/or improves habitat for listed species. Examples include: Wood Stork benefited by creation/restoration of wetlands.
B^{Plant}	Beneficial if avoiding known plant locations and/or creating new forested habitats on previously disturbed agricultural lands.
B^{AQ1}	If practice implementation minimizes runoff and/or sedimentation into a stream within a 12-digit HUC containing T&E aquatic species.
B^{AQ2}	If this practice improves water quality and/or quantity, then this practice is Beneficial for aquatic species.
B^{Bird}	Beneficial if managed to facilitate use by listed birds.
B^{Chaff}	American chaffseed - beneficial effect from opening canopy.
B^{GT}	Beneficial for gopher tortoise due to improved forage when ag lands converted to native species or other management activities that improve gopher tortoise habitat.
B^{Inv}	Beneficial when improving habitat through treatment of invasive species. Includes plants and animals (such as feral hogs).

Summary of Abbreviations

AQ	Aquatic species - fish, mussels, snails
Bat	Listed Bats
Bird	Listed Birds
Chaff	American Cahffseed
FWS	Flatwoods Salamander
Gen	General - refers to any species that is likely to occur in a sensitive habitat area
GT	Gopher Tortoise
Inv	Invasive plants and animals
Plant	Listed plants
RHS	Red Hills Salamander
RT	Relict Trillium
SWD	Slack Water Darter

Sensitive Habitat Fact Sheet

Bogs & seepage

Seeps in Ridge & Valley and Appalachians, bogs in Coastal Plain. Maintained by seeps and/or perched water tables. Wetland plants, saturated soil, shallow water.

Avoid:

- Construction in native ground cover
- Heavy equipment without large tracks
- Drainage
- Fire suppression
- Grazing
- Conversion to ponds

Beneficial activities:

- Burning
- Hydrologic restoration
- Woody and invasive control

Species:

- Green pitcher plant
- Alabama canebrake pitcher plant
- Flatwoods salamander
- Tennessee yellow-eyed grass
- White fringeless orchid
- Pondberry
- Alabama leather flower

Caves

Avoid:

- Contamination of groundwater source
- Tree clearing near cave opening

Beneficial activities:

- Restore vegetative buffer near cave
- Install gates if trespass is an issue and bats are known to inhabit cave

T & E species

- Gray bat
- Indiana bat
- Alabama cave shrimp
- Alabama cavefish

Sensitive Habitat Fact Sheet

Isolated wetlands

Permanently or intermittently wet areas not drained by streams. Can be abandoned floodplains or shallow depressions fed by precipitation. Generally dry at some point, and do not support fish.

Avoid:

- Filling
- Draining
- Deepening to hold fish
- Excessive machinery

Beneficial activities:

- Restore vegetative buffers
- Fill ditches draining wetlands
- Dig out formerly shallow water areas

T & E species

- Wood stork
- Flatwoods salamander
- Eastern indigo snake
- Pondberry

Glades & prairies

Glades and prairies are treeless. Glades, or barrens, have thin soils and are commonly found on rocky outcrops. Prairies have deeper black soil, warm season grasses and forbs, and are mainly in the Blackbelt region

Avoid

- Fragmentation
- Conversion of native cover to cool season pasture

Beneficial

- Eliminate exotic vegetation
- Burn
- Plant native vegetation

T & E species

- Leafy prairie-clover
- Mohr's Barbara's buttons
- Georgia aster
- Whorled sunflower
- Lyrate bladder-pod
- Fleshyfruit gladeceess
- Georgia rockcress

Gray Bat

Myotis grisescens

I. Species Summary

The gray bat is federally listed as 'endangered' (USFWS 1976). It can be found throughout 15 states in the central and eastern United States (USFWS 2016). Habitat destruction, modification, or curtailment of its habitat or range are the primary causes of the decline of the species. Anthropogenic disturbances also include cave flooding and commercial gates (KDFW 2014). However, white-nose syndrome, which is caused by the fungus *Pseudogymnoascus destructans* has greatly impacted populations in the Northeast United State and continues to be detected east of the Mississippi River (USFWS 2016). The U.S. Fish and Wildlife Service (USFWS) species profile for the gray bat can be found at <https://ecos.fws.gov/ecp0/profile/speciesProfile?spcode=A04J>. A summary of the ecology of this species can be found in the USFWS gray bat recovery plan (USFWS 1982) and the most recent 5-year review (USFWS 2009).

II. Biological Information

The gray bat is a medium-sized species with a forearm length of 1.5 to 1.8 inches (4 to 4.7 centimeters) and a wingspan approximately 10 to 11 inches (27.5 to 30 centimeters) that weighs 0.24 to 0.56 ounces (7 to 16 grams). The gray bat can be distinguished from other *Myotis* spp. by the uniform color of its dorsal fur, in which hair shafts are gray from base to tip; dark ears that are usually black and longer than in any other *Myotis* spp.; a wing membrane that attaches at the ankle of the foot instead of at the base of the toes; and a notch in the claws of its hind feet (Photos 1 and 2) (USFWS 1982, USFWS 2009).



Photos 1 and 2. Gray bat (Ann Froschauer, USFWS; Adam Mann, Environmental Solutions and Innovations)

Breeding begins in the fall when the male gray bats arrive at hibernacula. Females enter hibernation first, immediately following copulation (typically in September or October). They do not become pregnant until emergence from hibernation in late March or early April; this is termed *delayed fertilization*. Males may remain active until mid-November before entering hibernation (USFWS 1982, USFWS 2009).

In late May or early June pregnant females give birth to a single pup that is capable of flight within 20 to 25 days (USFWS 2014). Newborn young weigh approximately one-third of their mother's weight. In summer, female gray bats form maternity colonies of a few hundred to many thousands of individuals. Nursery colonies typically form on domed ceilings of caves that are capable of trapping the combined body heat from clustered individuals and where the temperature ranges between 57 and 77 degrees Fahrenheit (°F) (USFWS 2009). Females typically do not give birth until their second year of growth (USFWS 1982, USFWS 2009). The maximum life span of this species is approximately 14 to 15 years (USFWS 2014).

Gray bats emerge at night to forage in forested areas along banks of streams and lakes; they are highly dependent on aquatic insects, especially mayflies, caddisflies, stoneflies beetles, and moths (USFWS 2009).

III. Suitable Habitat

With rare exceptions, gray bats live in caves year-round. In winter, gray bats hibernate in deep vertical caves that trap large volumes of cold air (Photo 3). The species typically forms large clusters with some in the hundreds of thousands of individuals. The caves the species chooses as hibernaculum often have multiple entrances, good air flow, and temperatures of approximately 41 to 48 °F (USFWS 2009).

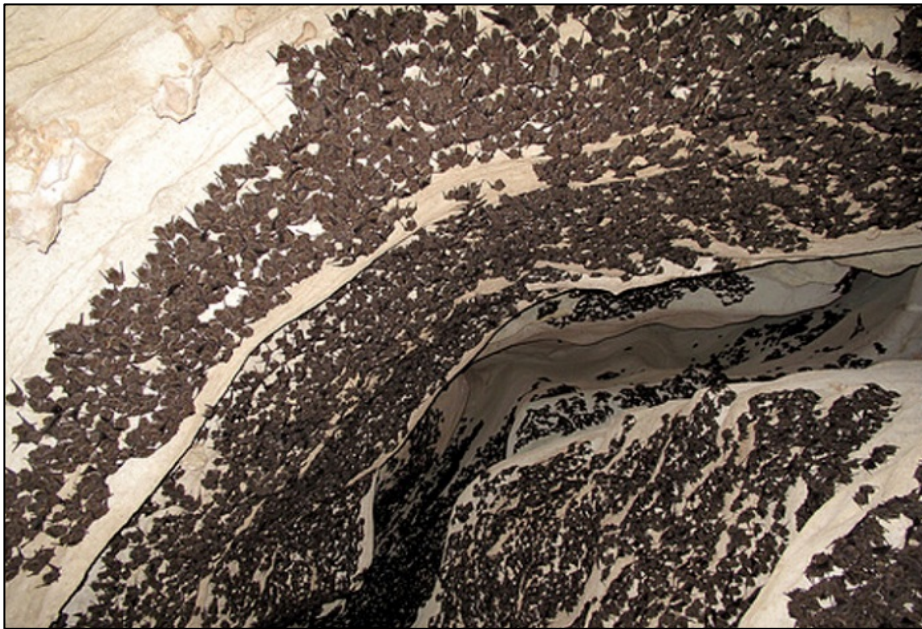


Photo 3. *Gray bats are summer and winter cave dwellers (USFWS)*

In the summer, gray bats roost in limestone karst caves scattered along rivers. Foraging areas are strongly correlated with the open water of rivers, streams, lakes, or reservoirs. Gray bats have been documented living in bridges and culverts as well as using them for maternity roosts (Keeley and Tuttle 1999). Although the species might travel up to 21 miles between prime feeding areas over lakes or rivers, most maternity colonies are usually located 0.6 to 2.5 miles from foraging locations. Newly volant gray bats travel up to 4 miles between roost caves and foraging areas. Gray bats generally return to the same summering and wintering sites; however, males and yearling females seem less restricted to specific cave and roost locations (USFWS 1982, 2009).

Transportation projects that include bridges and culverts could be suitable roosting habitat (refer to Appendix D).

The gray bat is known to or believed to occur in 31 counties in Alabama (Table 1). In the Florida Panhandle the gray bat is currently only known or believed to occur in Jackson County.

Table 1. Alabama Counties in which the gray bat is known to or believed to occur (USFWS 2018). See consultation zones for full details (Appendix A).

Bibb	Colbert	Etowah	Limestone	Talladega
Blount	Conecuh	Franklin	Madison	Tuscaloosa
Calhoun	Coosa	Hale	Marion	Winston
Cherokee	Covington	Jackson	Marshall	
Chilton	Cullman	Jefferson	Morgan	
Clay	DeKalb	Lauderdale	St. Clair	
Cleburne	Escambia	Lawrence	Shelby	

Table A-1 in Appendix A provides a list of subwatersheds (HUC12) included in the gray bat consultation zone in Alabama. Table A-2 in Appendix A provides a list of subwatersheds (HUC12) included in the gray bat consultation zone in the Florida Panhandle.

No critical habitat has been designated for this species.

IV. Determination

For species occurring in Alabama, reference the 12-digit HUC layer in KML format provided on an annual basis by FWS Daphne Field Office.

For Florida species, refer to the “Resources at Risk” file provided by the FWS Panama City Field Office.

See Appendix A for the gray bats’ consultation zone maps in Alabama and the Florida Panhandle.

See Appendix B for the gray bats’ Effects Determination Key.

V. Conservation Recommendations

Conservation recommendations for the gray bat can be found in Appendix C. These recommendations are optional and if implemented would support the agency’s goals toward recovery. These recommendations are to be used at the discretion of the permittee.

VI. Geographic Information System Data

The USFWS Daphne Field Office maintains geographic information system (GIS) data for the gray bat in Alabama. GIS data for the gray bat in the Florida Panhandle are maintained at the USFWS Panama City Field Office.

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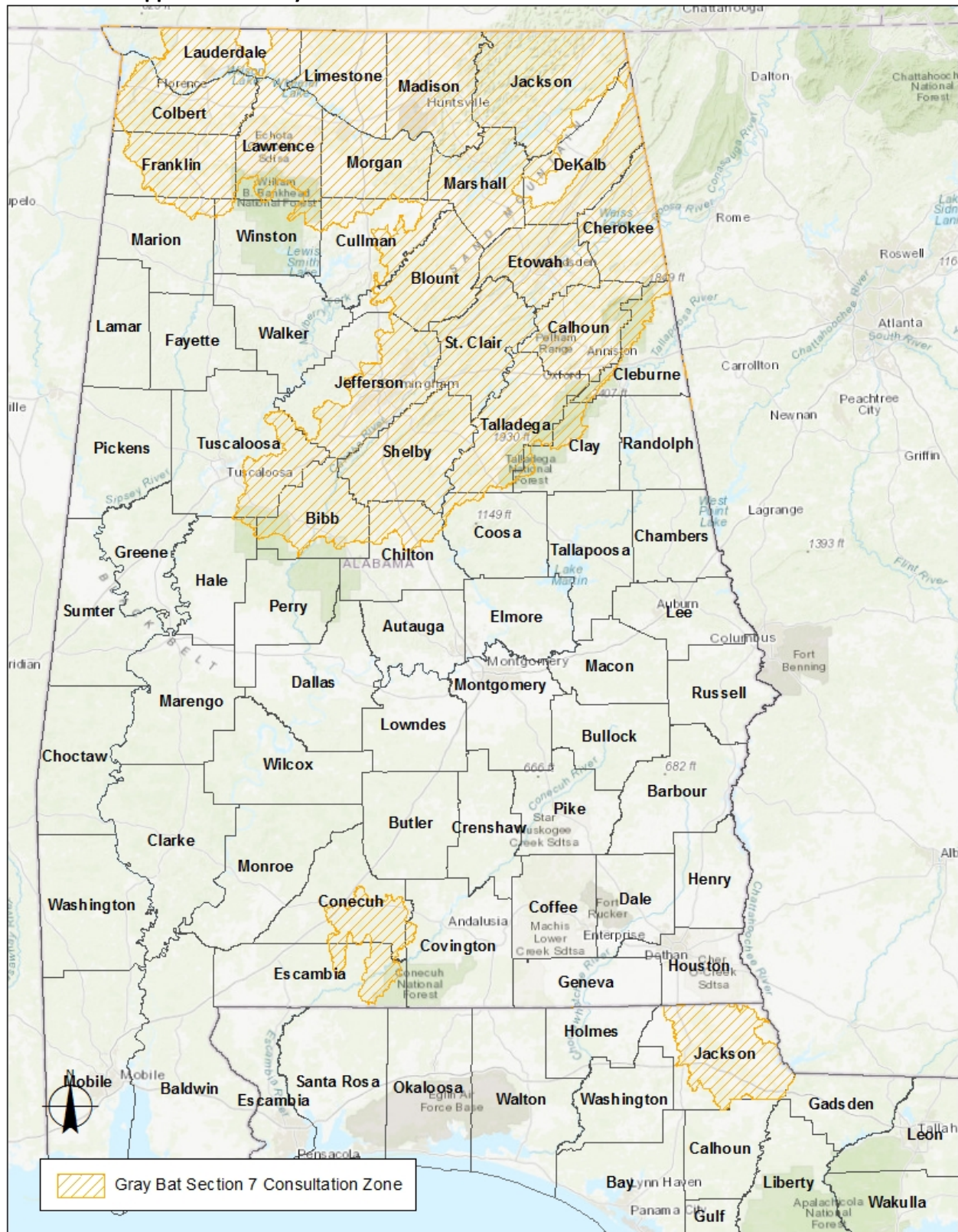
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Appendix A – Gray Bat Consultation Zone – Alabama and Florida Panhandle



Source: USFWS 2018

Table A-1. Gray Bat Subwatersheds (HUC12) Consultation Zone - Alabama

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
031403030604	Mancil Mill Creek	031501050906	Upper Terrapin Creek
031403030701	Simmons Creek	031501050907	Frog Creek-Hurricane Creek
031403030702	Bottle Creek	031501050908	Middle Terrapin Creek
031403030703	Robinson Mill Creek	031501050909	Lower Terrapin Creek
031403030704	Amos Mill Creek	031501051001	Jones Branch-Yellow Creek
031403040106	Sandy Creek-Mill Creek	031501051002	Weiss Lake
031403040201	Little Cedar Creek-Cedar Creek	031501051003	Weiss Lake-Coosa River
031403040402	Jordan Creek	031501060101	Headwaters Big Wills Creek
031403040403	Long Branch-Murder Creek	031501060102	Upper Big Wills Creek
031403040501	Smith Creek	031501060103	Little Sand Valley Creek
031403040502	East Prong Silas Creek	031501060104	Fisher Creek
031403040503	Clear Creek-Conecuh River	031501060105	Line Creek-Clear Creek
031501050101	Pumpkin Pile Creek-McCurry Creek	031501060106	Little Wills Creek
031501050106	Little Cedar Creek	031501060107	Black Creek
031501050204	Kings Creek	031501060108	Horton Creek
031501050206	Ballplay Creek-Coosa River	031501060201	Ball Play Creek
031501050207	Coosa River-Weiss Lake	031501060202	Thorton Lakes-Dry Creek
031501050301	Forney Branch-Spring Creek	031501060203	Big Cove Creek
031501050302	Locust Branch-Sandy Creek	031501060204	Turkey Town Creek
031501050303	Cowan Creek	031501060301	Little Canoe Creek
031501050304	Three Mile Creek-Spring Creek	031501060302	Headwaters Big Canoe Creek
031501050501	Alpine Creek-Mills Creek	031501060303	Upper Big Canoe Creek
031501050502	Panther Creek-Mills Creek	031501060304	Lake Sumatanga-Little Canoe Creek
031501050604	Hinton Creek-Chattooga River	031501060305	Middle Big Canoe Creek
031501050605	Chattooga River-Upper Weiss Lake	031501060306	Lower Big Canoe Creek
031501050701	East Fork Little River	031501060307	Laymans Pond-Beaver Creek
031501050702	Middle Fork Little River	031501060308	Shoal Creek-Coosa River
031501050703	East Fork West Fork Little River-West Fork Little River	031501060309	H. Neely Henry Lake-Coosa River
031501050704	Straight Creek-West Fork Little River	031501060401	Little Tallassee hatchee Creek
031501050705	Gilbert Branch-Laurel Creek	031501060402	Flat Tire Creek-Tallassee hatchee Creek
031501050801	Yellow Creek	031501060403	Rabes Branch-Tallassee hatchee Creek
031501050802	Upper Little River	031501060404	Upper Ohatchee Creek
031501050803	Hicks Creek-Bear Creek	031501060405	Lower Ohatchee Creek
031501050804	Johnnies Creek	031501060406	Ohatchee Creek-Tallassee hatchee Creek
031501050805	Wolf Creek-Little River	031501060407	Upper Cane Creek
031501050806	Lower Little River	031501060408	Lower Cane Creek
031501050807	Mud Creek-Spring Creek	031501060409	Woods Island-Coosa River
031501050901	South Fork Terrapin Creek	031501060501	Chinch Creek-Shoal Creek
031501050904	Little Terrapin Creek	031501060502	Cottaquila Creek
031501050905	Nances Creek	031501060503	Hillabee Creek

Source: USFWS 2018

Table A-1. (continued) Gray Bat Subwatersheds (HUC12) Consultation Zone - Alabama

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
031501060504	Willis Branch	031501070302	Beeswax Creek
031501060505	City of Anniston	031501070303	Cohabie Creek-Cedar Creek
031501060506	Coldwater Springs	031501070304	Hay Spring Branch
031501060507	Tuskehadky Branch-Choccolocco Creek	031501070401	Big Creek-Waxahatchee Creek
031501060508	Dry Creek-Salt Creek	031501070402	Camp Branch
031501060509	Upper Cheaha Creek	031501070403	Upper Waxahatchee Creek
031501060510	Kelly Creek	031501070404	Watson Creek
031501060511	Lower Cheaha Creek	031501070405	Buxahatchee Creek
031501060512	Emorai Church-Choccolocco Creek	031501070406	Lower Waxahatchee Creek
031501060513	Eastaboga Creek	031501070501	Peckerwood Creek
031501060514	Jackson Shoals-Choccolocco Creek	031501070503	Spring Creek-Lay Lake
031501060601	Trout Creek	031501070801	Yellow Leaf Creek
031501060602	Leather Creek-Broken Arrow Creek	031502020101	Upper Cahaba River
031501060603	Embry Bend-Coosa River	031502020102	Big Black Creek
031501060604	Blue Eye Creek	031502020103	Little Cahaba River
031501060605	Broken Arrow Shoals-Coosa River	031502020104	Lower Cahaba River
031501060701	Upper Talladega Creek	031502020201	Peavine Creek
031501060702	Middle Talladega Creek	031502020202	Cahaba Valley Creek
031501060703	Lower Talladega Creek	031502020203	Prairie Brook-Buck Creek
031501060801	Poorhouse Branch	031502020204	Patton Creek-Cahaba River
031501060802	Haw Branch-Clear Creek	031502020205	Murry Creek-Piney Woods Creek
031501060803	Rabbit Branch	031502020206	Beaverdam Creek-Cahaba River
031501060804	Jess Branch-Shoal Creek	031502020301	Upper Shades Creek
031501060805	Upper Kelly Creek	031502020302	Cooley Creek-Mud Creek
031501060806	Hearthstone Creek-Wolf Creek	031502020303	Lower Shades Creek
031501060807	Buckhorn Branch-Bear Creek	031502020401	Walker Branch
031501060808	Lower Kelly Creek	031502020402	Mahan Creek
031501060809	Fanning Branch	031502020403	Mayberry Creek-Shoal Creek
031501060810	Spring Creek-Coosa River	031502020404	Sixmile Creek-Little Cahaba River
031501070101	Emauhee Creek	031502020405	Alligator Creek-Little Cahaba River
031501070102	Upper Tallaseehatchee Creek	031502020406	Caffee Creek
031501070103	Weewoka Creek	031502020407	Cahaba River
031501070104	Shirtee Creek	031502020501	Hill Creek
031501070105	Fourmile Creek	031502020502	Shultz Creek
031501070106	Lower Tallaseehatchee Creek	031502020503	Sandy Creek-Cahaba River
031501070201	North Fork Yellowleaf Creek	031502020504	Haysop Creek
031501070202	South Fork Yellowleaf Creek	031502020505	Affonee Creek
031501070203	Muddy Prong	031601090101	Roswell Creek-Mulberry Fork
031501070204	Upper Yellowleaf Creek	031601090103	Lower Duck River
031501070205	Lower Yellowleaf Creek	031601090106	Broglen River
031501070301	Kahatchee Creek	031601090107	Blue Springs Creek

Source: USFWS 2018

Table A-1. (continued) Gray Bat Subwatersheds (HUC12) Consultation Zone - Alabama

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
031601090108	Mud Creek-Mulberry Fork	031601130101	Lye Branch
031601090109	Pan Creek	031601130102	Bear Creek
031601090203	Murphy Creek-Mill Creek	031601130103	South Sandy Creek
031601100101	Borden Creek	031601130104	Long Branch-Upper Big Sandy Creek
031601100202	Brushy Creek-Capsey Creek	060200011101	West Fork Lookout Creek-Dry Creek
031601100401	Belevens Creek	060200011204	Running Water Creek-Nickajack Lake
031601100402	Long Branch-Upper Rock Creek	060300010201	Jones Creek-Tennessee River
031601100405	Upper Crooked Creek	060300010202	Long Creek-Miller Creek
031601110101	Bristow Creek	060300010203	Guest Creek-Long Island Creek
031601110102	Samuels Chapel Creek	060300010204	Widows Creek
031601110103	Carroll Branch-Clear Creek	060300010205	Marshall Branch-Tennessee River
031601110104	Big Mud Creek	060300010302	Middle Crow Creek
031601110105	Upper Slab Creek	060300010303	Little Crow Creek
031601110106	Lower Slab Creek	060300010304	Lower Crow Creek
031601110107	Locust Fork-Little Cove Creek	060300010305	Upper Big Coon Creek
031601110201	Whippoorwill Creek	060300010306	Little Coon Creek
031601110202	Graves Creek	060300010307	Lower Big Coon Creek
031601110203	Andy Branch-Dry Creek	060300010402	Flat Rock Creek
031601110204	Upper Blackburn Fork-Little Warrior River	060300010403	Lower Coon Creek
031601110205	Upper Calvert Prong	060300010404	Upper Mud Creek
031601110206	Lower Calvert Prong	060300010405	Lower Mud Creek
031601110207	Lower Blackburn Fork-Little Warrior River	060300010407	Rorex Creek-Jones Creek
031601110208	Big Scirum Creek	060300010408	Town Creek-Guntersville Lake
031601110301	Sugar Creek-Locust Fork	060300010502	Kirby Creek
031601110302	Longs Branch	060300010504	Mink Branch-Dry Creek
031601110303	Gurley Creek	060300010505	Lower South Sauty Creek
031601110304	Self Creek	060300010601	Evans Creek
031601110305	Neeley Creek	060300010602	Riley Cove-Dry Creek
031601110306	North Creek-Turkey Creek	060300010603	Roseberry Creek
031601110307	Cunningham Creek	060300010604	Upper North Sauty Creek
031601110406	Upper Fivemile Creek	060300010605	Lower North Sauty Creek
031601110408	Upper Village Creek	060300010606	Upper Guntersville Lake
031601120101	Headwaters Valley Creek	060300010704	Black Oak Creek
031601120102	Five Mile Creek-Valley Creek	060300010705	Minky Creek-Town Creek
031601120104	Lick Creek-Valley Creek	060300010801	Cross Creek
031601120302	Rockcastle Creek	060300010802	Upper Short Creek
031601120303	Whiteoak Creek-Davis Creek	060300010805	Drum Creek-Short Creek
031601120502	Coal Creek-Upper Hurricane Creek	060300010806	Lower Short Creek
031601120503	Cottondale Creek	060300010901	Lower Guntersville Lake
031601120504	Bee Branch-Lower Hurricane Creek	060300010902	Hog Creek

Source: USFWS 2018

Table A-1. (continued) Gray Bat Subwatersheds (HUC12) Consultation Zone - Alabama

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
060300010903	Big Spring Creek	060300020801	Upper Piney Creek
060300010904	Browns Creek	060300020802	Middle Piney Creek
060300010905	Honey Comb Creek	060300020803	Lower Piney Creek
060300010906	Dripping Spring Branch-Tennessee River	060300020901	Peachtree Creek-Shoal Creek
060300020101	Hurricane Creek	060300020902	Pigeon Roost Creek-Tennessee River
060300020102	Larkin Fork	060300020903	Aldridge Creek
060300020103	Estill Fork	060300020904	Bartee Branch-Hambrick Slough
060300020104	Lick Fork	060300020905	Oakland Spring Branch-Beaverdam Creek
060300020105	Williams Creek-Dry Creek	060300020906	Matney Branch-Tennessee River
060300020106	Guess Creek	060300021001	East Fork Flint Creek
060300020107	Williams Cove-Paint Rock River	060300021002	Dry Creek-Mill Creek
060300020201	Little Dry Creek-Clear Creek	060300021003	Upper Flint Creek
060300020202	Little Paint Creek	060300021004	Robertson Branch-Cedar Creek
060300020203	Cole Spring Branch	060300021005	Sleighton Branch-Shoal Creek
060300020204	Tremble Creek	060300021006	Crowdabout Creek
060300020301	State Rock Branch-Flint River	060300021007	Middle Flint Creek
060300020302	West Fork-Flint River	060300021008	No Business Creek
060300020303	Mountain Fork	060300021009	Elam Creek
060300020304	Upper Brier Fork	060300021010	Upper West Flint Creek
060300020305	Banyon Creek-Beaverdam Creek	060300021011	Big Shoal Creek
060300020306	Lower Brier Fork	060300021012	Middle West Flint Creek
060300020307	Pigrum Branch-Flint River	060300021013	Lower West Flint Creek
060300020401	Upper Hurricane Creek	060300021014	Lower Flint Creek
060300020402	Lower Hurricane Creek	060300021101	Swan Creek
060300020403	Acuff Spring-Flint River	060300021102	Bakers Creek-Tennessee River
060300020404	Goose Creek-Flint River	060300021103	Briley Creek
060300020405	Yellow Bank Creek-Flint River	060300021104	Fox Creek
060300020501	Upper Indian Creek	060300021105	Spring Creek-Mud Creek
060300020502	Upper Huntsville Spring Branch	060300021106	Dry Creek-Mallard Creek
060300020503	Lower Huntsville Spring Branch	060300021107	Coxey Creek-Tennessee River
060300020504	Barren Fork Creek	060300021201	Red Branch-Spring Creek
060300020505	Lower Indian Creek	060300021202	First Creek
060300020601	Winton Branch-Hughes Creek	060300021203	Upper Second Creek
060300020602	West Fork-Cottaco Creek	060300021204	Lower Second Creek
060300020603	Upper Cotaco Creek	060300021205	Page Branch-Tennessee River
060300020604	Gill Creek-Town Creek	060300030601	Larkin Springs Branch
060300020605	Middle Cotaco Creek	060300040303	Sugar Creek
060300020606	Lower Cottage Creek	060300040401	Shoal Creek
060300020701	Upper Limestone Creek	060300040402	Ragsdale Creek-Elk River
060300020702	Middle Limestone Creek	060300040403	Elk River-Sulphur Creek
060300020703	Lower Limestone Creek	060300040404	Anderson Creek

Source: USFWS 2018

Table A-1. (continued) Gray Bat Subwatersheds (HUC12) Consultation Zone - Alabama

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
060300040405	Big Creek-Elk River	060300050802	Abernathy Bottom-Pond Creek
060300050101	Rutherford Creek	060300050803	Sweetwater Creek-Tennessee River
060300050102	Upper Big Nance Creek-Muddy Fork	060300050804	Hargett Creek
060300050103	Big Nance Creek-Clear Fork	060300050805	Little Bear Creek
060300050104	Middle Big Nance Creek	060300050806	Sinking Creek
060300050105	Lower Big Nance Creek	060300050807	Tanyard Branch-Cane Creek
060300050301	Rock Creek-Mud Creek	060300050808	Coffee Slough-Tennessee River
060300050302	Upper Town Creek	060300051002	Colbert Creek-Pickwick Lake
060300050303	Middle Town Creek	060300060101	LittleTurkey Creek
060300050304	Lower Town Creek	060300060102	Headwaters Bear Creek
060300050507	Butler Creek	060300060103	Bear Creek-Bluff Creek
060300050508	Upper Shoal Creek	060300060104	Holcomb Branch-Bear Creek
060300050509	Lower Shoal Creek	060300060201	Cedar Creek-Harris Creek
060300050601	Greenbrier Branch	060300060202	Dunkin Creek-Cedar Creek
060300050602	Threet Creek	060300060203	Tollison Creek-Cedar Creek
060300050603	Burcham Creek	060300060204	Cody Branch-Cedar Creek
060300050604	Little Cypress Creek	060300060205	Upper Little Bear Creek
060300050605	Cox Creek	060300060206	Lower Little Bear Creek
060300050701	Foxtrap Creek-Upper Spring Creek	060300060301	Chandelower Creek-Rock Creek
060300050702	Sink Pond-Dry Creek	060300060302	Cripple Deer Creek
060300050703	Lower Spring Creek	060300060304	Rock Creek-Bear Creek
060300050801	McKieman Creek-Tennessee River	060300060305	Buzzard Roost Creek

Source: USFWS 2018

Table A-2. Gray Bat Subwatersheds (HUC12) Consultation Zone – Florida Panhandle

HUC 12	Subwatershed Name	HUC 12	Subwatershed Name
031300040802	Brenson Pond	031300120301	Hayes Spring Run
031300040804	Bateau Pond	031300120302	Waddells Mill Creek
031300040805	Race Pond	031300120303	Muddy Branch-Chipola River
031300040806	West Lake Seminole	031300120304	Carters Mill Branch
031300110201	Ham Pond	031300120305	Merritts Millpond
031300110301	Ocheesee Pond	031300120402	Sapp Bay
031300110302	Ocheesee Creek	031300120404	Upper Dry Creek-Chipola River
031300120105	Spring Creek-Marshall Creek	031300120405	Lower Dry Creek-Chipola River
031300120106	Buck Creek-Marshall Creek	031300120406	Douglas Pond
031300120107	Marshall Creek	031300120407	Rocky Creek-Chipola River
031300120203	Middle Cowarts Creek	031300120408	Mill Creek-Chipola River
031300120204	Lower Cowarts Creek		

Source: USFWS 2018



Appendix B – Gray Bat Effects Determination Key

ORM2 Number _____ Date _____
Reference File: _____

- 1) Is the action area located within the gray bat consultation zone (see Appendix A)?
 - a) Yes.....go to 2
 - b) No.....No effect¹
- 2) Will the project affect caves or mines where gray bat could hibernate (i.e., hibernaculum) or could it alter the entrance or the environment of a hibernaculum? Or will the project involve the removal of trees within 150 feet of caves/mines?
 - a) Yes.....Consultation required²
 - b) No.....go to 3
- 3) Does the project include the repair or replacement of bridges and/or culverts that are potential bat roosting sites (see Appendix D)?
 - a) Yes.....Consultation required²
 - b) No.....No effect¹

¹No effect - The proposed project would result in no effect to this species and/or its federally designated critical habitat (if applicable). Further consultation with the Daphne, Alabama or Panama City, Florida Ecological Services Office is not necessary for the project as described.

²Consultation required - Further consultation with the Daphne, Alabama or Panama City, Florida Ecological Services Office is necessary to discern if the activity would result in a “no effect”, “not likely to adversely affect”, or “likely to adversely affect” determination.

Additional Information _____

Appendix C – Conservation Recommendations

These recommendations are optional and if implemented would support the agency's goals toward recovery. These recommendations are to be used at the discretion of the permittee.

Currently, the greatest threat to the survival and recovery of federally listed gray bat in Alabama and Florida is destruction of caves and foraging habitats. Below are measures that should be considered to minimize impacts.

1. Protect caves and foraging habitats near known or potential roosting caves.
2. Maintain a 150-foot wooded/vegetated buffer around cave and mine entrances.
3. Maintain a 150-foot wooded/vegetated buffer around streams, ponds, and reservoirs near cave and mine entrances.

Appendix D – Bat Guidance for Bridge/Culvert Replacement Projects

If uncertain whether or not a structure would be considered a suitable day or night roost for federally listed bats, refer to *Bats in American Bridges* (<http://www.batcon.org/pdfs/bridges/BatsBridges2.pdf>), or contact the USFWS Ecological Services Office bat biologist Shannon Holbrook in Daphne, AL at 251-441-5871. Day and night roosts for bat species differ. Day roosts are used for extended rest periods and rearing young, while night roosts are used briefly for resting during foraging. Over the course of a night, bats may rest more than once at different roosting locations. The biggest concern regarding bridges and listed bats is disturbance of potential day roosts. If a potential night roost structure is part of a proposed project, but would not be considered a day roost (i.e., it lacks cracks or crevices), conduct all construction activities during daylight hours only to avoid any impacts to listed bats.



Characteristics of Unsuitable Artificial Roosting Structures

- Corrugated metal and small concrete culverts are the least preferred artificial roost structures. These structures are prone to flooding, and they do not exhibit cracks or crevices. All corrugated metal culverts and concrete culverts under 5 feet tall can be excluded from further analysis.
- Concrete box culverts that are frequently inundated/flooded are generally considered unsuitable for both day and night roosting sites.
- Flat slab bridges would not be considered suitable day or night roosting structures.
- Crevices must be sealed at the top. Evidence of storm-water staining along the length of the crevice indicates that it is not sealed properly and should not be considered an ideal roost.
- During the summer months, sun-exposed bridges act as thermal sinks. Therefore, bridges receiving no sun have been shown to have little or no bat use.

Characteristics of Suitable Artificial Roosting Structures

- Ideal day roosting structures be constructed of concrete, with vertical crevices (0.5 to 1.25 inches wide) at least 12 inches deep and protected from weather. Structures must be located 10

feet or more above the ground. Ideal night roosting structures include concrete structures with protection from wind. Parallel box beam bridges offer ideal day and night roost conditions. Pre-stressed concrete girder bridges could also offer ideal day and night roosting locations.

- Old buildings may offer several areas that could have ideal roosting areas. However, if a building is to be removed, but is not within close proximity (1.5 miles) to wooded areas, then the structure would not be considered a suitable roost site due to a lack of nearby foraging areas and alternative roosting locations.
- Concrete box culverts that are 5 to 10 feet tall, have openings protected from high winds, and are not susceptible to flooding may be suitable day or night roosting sites, especially if they are older and contain cracks, crevices, or imperfections.

Indiana Bat and Northern Long-Eared Bat

Myotis sodalis and Myotis septentrionalis

I. Species Summary

Because of the similarity in ecological characteristics the Indiana bat and northern long-eared bat occurring in Alabama have been combined into one Standard Local Operating Procedures for Endangered Species. Neither one of these listed species are known to or believed to occur in the Florida Panhandle. The primary cause of the decline in the two bat populations is from white-nose syndrome caused by the fungus *Pseudogymnoascus destructans*. The U.S. Fish and Wildlife Service (USFWS) species profiles and ecological summary for each of the bats discussed in this document can be found by accessing the links provided below.

Indiana Bat

The Indiana bat (*Myotis sodalis*) is federally listed as ‘endangered’ (USFWS 1967). Habitat modification, including destruction, and curtailment of the species’ range, are the primary causes of the decline of the Indiana bat (USFWS 2007). However, white-nose syndrome, which is caused by the fungus *Pseudogymnoascus destructans*, also has greatly impacted populations in the Northeast and continues to be detected in populations east of the Mississippi River. The U.S. Fish and Wildlife Service (USFWS) species profile for the Indiana bat can be found at <http://ecos.fws.gov/ecp0/profile/speciesProfile?sld=5949>. A summary of the ecology of this species can be found in the USFWS 2007 *Indiana Bat Recovery Plan* (USFWS 2007) and the most recent 5-year review (USFWS 2016a).

Northern Long-Eared Bat

The northern long-eared bat (NLEB) (*Myotis septentrionalis*) is federally listed as ‘threatened’ throughout its entire range (USFWS 2015). The NLEB is found across much of the eastern and north central United States and in all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species’ range includes 37 states. White-nose syndrome, caused by the fungus *Pseudogymnoascus destructans*, is known to affect NLEBs. This disease is currently the predominant threat to this species, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the NLEB’s entire range (white-nose syndrome is currently found in at least 25 of 37 states where the species occurs), it continues to spread. Experts expect that where it spreads, it will have the same impact as seen in the Northeast. Because of the severe population reductions related to white-nose syndrome throughout most of the species range, species resilience is now considered to be threatened also by natural and anthropogenic activities that adversely affect suitable overwintering habitat (e.g., caves, bridges, tunnels) and/or adversely affect suitable foraging and roosting habitat used by bats during the non-overwintering months. The USFWS species profile for the NLEB can be found at <https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=A0JE>. No recovery plan has been developed for this species.

II. Biological Information

Indiana Bat

The Indiana bat is a medium-sized species that has dull grayish chestnut fur; the basal portion of the hair on the back is a dull-lead color (Photo 1). The bat’s underparts are pinkish to cinnamon, and its hind feet are small and delicate. The calcar (heel of the foot) is strongly keeled.



Photo 1. Indiana bat (Adam Mann)

The Indiana bat is a migratory species that hibernates in caves and abandoned mines in the winter, then migrates to wooded areas (roost sites) in the spring to bear and raise its young over the summer. This temperate, insectivorous, migratory bat hibernates colonially in caves and mines in the winter. Hibernation typically lasts from October through April. The non-hibernation season—during which spring emergence, migration, reproductive activities, and fall swarming occur—can vary depending on the weather, but typically occurs March through September. In spring, reproductive females migrate and form maternity colonies in wooded areas where they bear and raise their young.

Indiana bats typically forage in semi-open to closed forested habitats (open understory), forest edges, and riparian areas. They are “selective opportunist” feeders, eating most flying insects, including beetles, flies, butterflies and moths, and caddisflies. Therefore, suitable and sufficient foraging habitats may be located outside the immediate roosting areas.

Northern Long-Eared Bat

The NLEB is a medium-sized species about 3 to 3.7 inches (7.6 to 9.4 centimeters) long with a wingspan of approximately 10 inches (25.4 centimeters) (Photo 2) (USFWS 2016b). They are light brown and weigh about 0.3 ounces and are distinguished by their long ears as the name suggests (USFWS 2016b).

Breeding begins in late summer or early fall when males begin swarming near the hibernacula. After copulation, females store the sperm during hibernation. When they emerge from their hibernacula, they ovulate and the egg is fertilized; this is termed *delayed fertilization*. Pregnant females then migrate to summer areas where they roost in small colonies and give birth to a single pup, which can fly approximately 21 days after birth. Maximum lifespan for northern long-eared bats is estimated to be up to 18.5 years (USFWS 2016b).

NLEBs emerge at dusk to fly through the understory of forested terrain to feed on moths, flies, leafhoppers, caddisflies, and beetles. They use their echolocation to catch these insects, capturing flying insects as well as gleaning prey from plants and the forest floor (NatureServe 2015).



Photo 2. Northern *long-eared bat* (USFWS)

III. Suitable Habitat

Indiana Bat

Suitable summer habitat for Indiana bats generally consists of a wide variety of forested/wooded habitats where they can roost, forage, and travel, including riparian zones, bottomland and floodplain areas, wooded wetlands, and upland communities. This includes forests and woodlots that contain potential roosts—live trees and/or snags greater than 5 inches (12.7 centimeter) diameter breast height that have exfoliating bark, cracks, crevices, and/or hollows—as well as linear features such as fencerows, riparian forests, and other wooded corridors. It also might include adjacent and interspersed non-forested areas such as emergent wetlands, adjacent edges of agricultural fields, old fields, and pastures (Photo 3). The wooded areas preferred by the Indiana bat can be dense or loose aggregates of trees with variable amounts of canopy closure.

Reproductive females occupy roost sites under the exfoliating bark of dead trees that retain large, thick slabs of peeling bark or in tree cavities (USFWS 2007). Primary roosts usually receive direct sunlight for more than half the day. Roost trees are typically located within canopy gaps in a forest, in a fence line, or along a wooded edge. Individual trees that exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat might be considered suitable habitat.



Photo 3. Indiana bat summer roost site in Benton County, Mississippi (USFWS, David Felder)

Indiana bats hibernate during the winter in caves or, occasionally, in abandoned mines. For hibernation, they require cool, humid caves with stable temperatures under 50 degrees Fahrenheit but above freezing (USFWS 2007).

This species is known to occur in numerous Alabama counties (Table 1). It is not known to occur in the Florida Panhandle.

Table 1. Alabama counties in which the Indiana bat is known or believed to occur (USFWS 2018). See consultation zones for full details (Appendix A).

Bibb	Cleburne	Franklin	Lawrence	Pickens	Tuscaloosa
Blount	Colbert	Greene	Limestone	Randolph	Walker
Calhoun	Coosa	Hale	Madison	St. Clair	Winston
Chambers	Cullman	Jackson	Marion	Shelby	
Cherokee	DeKalb	Jefferson	Marshall	Sumter	
Chilton	Etowah	Lamar	Morgan	Talladega	
Clay	Fayette	Lauderdale	Perry	Tallapoosa	

Northern Long-Eared Bat

The NLEB hibernates during the winter in caves, railroad tunnels, or abandoned mines with large openings (Photos 4 and 5) (USFWS 2014; USFS 2014). For hibernation, the species requires stable temperatures, under 50 degrees Fahrenheit but above freezing. Location information for hibernacula and maternity roost sites is maintained in the Alabama Natural Heritage Inventory database.



Photos 4 and 5. Tripoli chalk mine, Tishomingo County, Mississippi (David Felder)

During the summer, NLEBs roost either singly or in colonies in cavities, underneath bark, or in crevices or hollows of both live trees and snags that are typically larger than 5 inches in diameter at breast height. Males and nonreproductive females also might roost in cooler places like caves and mines. The species is opportunistic in selecting roosts, using tree species based on the presence of cavities or crevices or the presence of peeling bark. This species also has been found occasionally roosting in structures like barns and sheds (USFWS 2016b).

Section 4(d) Rule

A final 4(d) rule (Appendix D) was published in 2016 prohibiting incidental take of NLEB within a hibernation site or tree removal activities within a quarter-mile of a hibernaculum or from activities that cut down or destroy known occupied maternity roost trees, or any other trees within 150 feet of that maternity roost tree, during the pup-rearing season (June 1 to July 31).

This species is known to occur in numerous Alabama counties (Table 2). It is not known to occur in the Florida Panhandle.

Table 2. Alabama counties in which the northern long-eared bat is known or believed to occur (USFWS 2018). See consultation zones for full details (Appendix A).

Bibb	Clay	Fayette	Lauderdale	Morgan	Talladega
Blount	Cleburne	Franklin	Lawrence	Perry	Tallapoosa
Calhoun	Colbert	Greene	Limestone	Pickens	Tuscaloosa
Chambers	Coosa	Hale	Madison	Randolph	Walker
Cherokee	Cullman	Jackson	Marengo	St. Clair	Winston
Chilton	DeKalb	Jefferson	Marion	Shelby	
Choctaw	Etowah	Lamar	Marshall	Sumter	

Table A-1 in Appendix A provides a list of subwatersheds (HUC12) included in the Indiana bat and NLEB consultation zones.

No critical habitat has been designated for these species.

IV. Determination

For species occurring in Alabama, reference the 12-digit HUC layer in KML format provided on an annual basis by FWS Daphne Field Office.

See Appendix A for the Indiana bat and NLEBs' consultation zone maps in Alabama.

See Appendix B for the Indiana bat and NLEBs' Effects Determination Key.

V. Conservation Recommendations

Conservation recommendations for the Indiana bat and the NLEB can be found in Appendix C. These recommendations are optional and if implemented would support the agency's goals toward recovery. These recommendations are to be used at the discretion of the permittee.

VI. Geographic Information System Data

The USFWS Daphne Field Office maintains geographic information system (GIS) data for the Indiana bat and NLEB in Alabama.

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Appendix A – Indiana Bat Consultation Zone - Alabama



Source: USFWS 2018

Northern Long-Eared Bat Consultation Zone – Alabama



Source: USFWS 2018

Table A-1. Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031300020601	Hillabahatchee Creek	031501050903	¹ Elkahatchee Creek
031300020602	Town Creek-Hillabahatchee Creek	031501050904	¹ Benson Creek
031300020603	Town of Mason-Cedar Creek	031501050905	¹ Upper Mulberry Creek
031300020802	Upper Wehadkee Creek	031501050906	¹ Walker Branch
031300020803	Little Wehadkee Creek	031501050907	Frog Creek-Hurricane Creek
031300020804	Meacham Creek-Cuss Creek	031501050908	Middle Terrapin Creek
031300020805	¹ Veasey Creek-West Point Lake	031501050909	Lower Terrapin Creek
031300020806	¹ Lower Wehadkee Creek	031501051001	Jones Branch-Yellow Creek
031300020808	¹ Lower West Point Lake	031501051002	Weiss Lake
031300020901	¹ Wells Creek	031501051003	Weiss Lake-Coosa River
031300020902	¹ Oseligee Creek	031501060101	Headwaters Big Wills Creek
031300020903	¹ Barrow Creek-Chattahoochee River	031501060102	Upper Big Wills Creek
031501050101	¹ Watson Creek	031501060103	Little Sand Valley Creek
031501050106	¹ Peckerwood Creek	031501060104	Fisher Creek
031501050204	¹ Paint Creek	031501060105	Line Creek-Clear Creek
031501050206	¹ Middle Weogufka Creek	031501060106	Little Wills Creek
031501050207	¹ Lower Weogufka Creek	031501060107	Black Creek
031501050301	¹ Baker Creek	031501060108	Horton Creek
031501050302	¹ Jacks Creek	031501060201	Ball Play Creek
031501050303	¹ Socapatoy Creek	031501060202	Thorton Lakes-Dry Creek
031501050304	¹ Middle Hatchet Creek	031501060203	Big Cove Creek
031501050501	¹ Lower Hatchet Creek	031501060204	Turkey Town Creek
031501050502	¹ Noneless Creek	031501060301	Little Canoe Creek
031501050604	¹ Yellow Leaf Creek	031501060302	Headwaters Big Canoe Creek
031501050605	¹ Walnut Creek	031501060303	Upper Big Canoe Creek
031501050701	¹ Cargle Creek	031501060304	Lake Sumatanga-Little Canoe Creek
031501050702	¹ Finley Creek-Mill Creek	031501060305	Middle Big Canoe Creek
031501050703	¹ Little Chatahospee Creek	031501060306	Lower Big Canoe Creek
031501050704	¹ Allen Creek	031501060307	Laymans Pond-Beaver Creek
031501050705	¹ Upper Chatahospee Creek	031501060308	Shoal Creek-Coosa River
031501050801	¹ Lower Chatahospee Creek	031501060309	H. Neely Henry Lake-Coosa River
031501050802	¹ Chikasanoxee Creek	031501060401	Little Tallassee hatchee Creek
031501050803	¹ Laney Creek	031501060402	Flat Tire Creek-Tallassee hatchee Creek
031501050804	¹ Countyline Creek	031501060403	Rabes Branch-Tallassee hatchee Creek
031501050805	¹ Eagle Creek	031501060404	Upper Ohatchee Creek
031501050806	¹ Upper Hillabee Creek	031501060405	Lower Ohatchee Creek
031501050807	¹ Lower Hillabee Creek	031501060406	Ohatchee Creek-Tallassee hatchee Creek
031501050901	¹ Timbergut Creek	031501060407	Upper Cane Creek
031501050902	¹ Jay Bird Creek	031501060408	Lower Cane Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031501060409	Woods Island-Coosa River	031501070201	North Fork Yellowleaf Creek
031501060501	Chinch Creek-Shoal Creek	031501070202	South Fork Yellowleaf Creek
031501060502	Cottaquila Creek	031501070203	Muddy Prong
031501060503	Hillabee Creek	031501070204	Upper Yellowleaf Creek
031501060504	Willis Branch	031501070205	Lower Yellowleaf Creek
031501060505	City of Anniston	031501070301	Kahatchee Creek
031501060506	Coldwater Springs	031501070302	Beeswax Creek
031501060507	Tuskehadky Branch-Choccolocco Creek	031501070303	Cohabie Creek-Cedar Creek
031501060508	Dry Creek-Salt Creek	031501070304	Hay Spring Branch
031501060509	Upper Cheaha Creek	031501070401	Big Creek-Waxahatchee Creek
031501060510	Kelly Creek	031501070402	Camp Branch
031501060511	Lower Cheaha Creek	031501070403	Upper Waxahatchee Creek
031501060512	Emorai Church-Choccolocco Creek	031501070404	¹ Watson Creek
031501060513	Eastaboga Creek	031501070405	¹ Peckerwood Creek
031501060514	Jackson Shoals-Choccolocco Creek	031501070406	¹ Paint Creek
031501060601	Trout Creek	031501070501	¹ Middle Weogufka Creek
031501060602	Leather Creek-Broken Arrow Creek	031501070502	¹ Lower Weogufka Creek
031501060603	Embry Bend-Coosa River	031501070503	¹ Baker Creek
031501060604	Blue Eye Creek	031501070601	¹ Jacks Creek
031501060605	Broken Arrow Shoals-Coosa River	031501070602	¹ Socapatoy Creek
031501060701	Upper Talladega Creek	031501070603	¹ Middle Hatchet Creek
031501060702	Middle Talladega Creek	031501070701	¹ Lower Hatchet Creek
031501060703	Lower Talladega Creek	031501070702	¹ Noneless Creek
031501060801	Poorhouse Branch	031501070703	¹ Yellow Leaf Creek
031501060802	Haw Branch-Clear Creek	031501070704	¹ Walnut Creek
031501060803	Rabbit Branch	031501070705	¹ Cargle Creek
031501060804	Jess Branch-Shoal Creek	031501070706	¹ Finley Creek-Mill Creek
031501060805	Upper Kelly Creek	031501070708	¹ Little Chatahospee Creek
031501060806	Hearthstone Creek-Wolf Creek	031501070709	¹ Allen Creek
031501060807	Buckhorn Branch-Bear Creek	031501070801	¹ Upper Chatahospee Creek
031501060808	Lower Kelly Creek	031501070802	¹ Lower Chatahospee Creek
031501060809	Fanning Branch	031501070803	¹ Chikasanoxee Creek
031501060810	Spring Creek-Coosa River	031501080205	Little Creek
031501070101	Emauhee Creek	031501080303	Muscadine Creek
031501070102	Upper Tallaseehatchee Creek	031501080304	Norman Creek
031501070103	Weewoka Creek	031501080305	Kemp Creek
031501070104	Shirtee Creek	031501080401	Silas Creek
031501070105	Fourmile Creek	031501080402	Owen Creek
031501070106	Lower Tallaseehatchee Creek	031501080403	Henry Creek-Cane Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031501080404	Cahulga Creek	031501090401	¹ Benson Creek
031501080405	Verdin Creek	031501090402	¹ Upper Mulberry Creek
031501080704	Lower Indian Creek	031501090403	¹ Walker Branch
031501080801	Lost Creek	031501090404	Lower Enitachopco Creek
031501080802	Rice Branch-Shoal Creek	031501090405	¹ Upper Hillabee Creek
031501080803	Knokes Creek	031501090406	¹ Lower Hillabee Creek
031501080901	Cohabadiash Creek	031501090801	¹ Timbergut Creek
031501080902	Bear Creek-Little Tallapoosa River	031501090802	¹ Jay Bird Creek
031501080903	Turpentine Still Branch-Pineywoods Creek	031501090803	¹ Elkahatchee Creek
031501080904	Wedowee Creek	031502011001	¹ Benson Creek
031501080905	Coppers Rock Creek	031502011002	¹ Upper Mulberry Creek
031501080906	Allen Branch	031502011003	¹ Walker Branch
031501081001	Dynne Creek	031502020101	
031501081002	Chulafinnee Creek	031502020102	Big Black Creek
031501081003	Ketchepedrakee Creek	031502020103	Little Cahaba River
031501081004	Carr Creek-Cedar Creek	031502020104	Lower Cahaba River
031501081005	Mad Indian Creek	031502020201	Peavine Creek
031501081006	Gobbler Creek	031502020202	Cahaba Valley Creek
031501090101	Prairie Creek-Fox Creek	031502020203	Prairie Brook-Buck Creek
031501090102	Horsetrough Creek-Crooked Creek	031502020204	Patton Creek-Cahaba River
031501090103	Wesobulga Creek	031502020205	Murry Creek-Piney Woods Creek
031501090104	Cornhouse Creek	031502020206	Beaverdam Creek-Cahaba River
031501090105	Dewberry Branch	031502020301	Upper Shades Creek
031501090106	Cedar Creek-Hurricane Creek	031502020302	Cooley Creek-Mud Creek
031501090107	Hutton Creek-Beaverdam Creek	031502020303	Lower Shades Creek
031501090201	¹ Finley Creek-Mill Creek	031502020401	¹ Walker Branch
031501090202	¹ Little Chatahospee Creek	031502020402	Mahan Creek
031501090203	¹ Allen Creek	031502020403	Mayberry Creek-Shoal Creek
031501090204	¹ Upper Chatahospee Creek	031502020404	Sixmile Creek-Little Cahaba River
031501090205	¹ Lower Chatahospee Creek	031502020405	Alligator Creek-Little Cahaba River
031501090301	¹ Chikasanoxee Creek	031502020406	Caffee Creek
031501090302	¹ Laney Creek	031502020407	Cahaba River
031501090303	¹ Countyline Creek	031502020501	Hill Creek
031501090304	¹ Eagle Creek	031502020502	Shultz Creek
031501090305	¹ Upper Hillabee Creek	031502020503	Sandy Creek-Cahaba River
031501090306	¹ Lower Hillabee Creek	031502020504	Haysop Creek
031501090307	¹ Timbergut Creek	031502020505	Affonee Creek
031501090308	¹ Jay Bird Creek	031502020506	Gully Creek-Cahaba River
031501090309	¹ Elkahatchee Creek	031502020507	Blue Girth Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031502020801	Beaverdam Creek-Oakmulgee Creek	031601050303	Lower Hells Creek
031502020802	Upper Oakmulgee Creek	031601050304	Mill Creek-Yellow Creek
031601010501	Skirum Creek-Bull Mountain Creek	031601050401	Cut Bank Creek
031601010502	McConegal Creek-Bull Mountain Creek	031601050402	Wilson Creek-Cut Bank Creek
031601010503	North Fork Hurricane Creek-Hurricane Creek	031601050403	Mud Creek
031601010504	Briar Creek-Bull Mountain Creek	031601050404	Stillman Ditch-Yellow Creek
031601010505	Johns Creek-Bull Mountain Creek	031601050405	Cooper Creek-Yellow Creek
031601010601	Upper Gum Creek	031601050502	Magby Creek
031601030101	West Branch Buttahatchee River	031601050503	McCrary Creek-Luxapallila Creek
031601030102	Lake Buttahatchee-Buttahatchee River	031601060201	Upper Coal Fire Creek
031601030103	Barn Creek	031601060202	Little Coal Fire Creek-Coal Fire Creek
031601030104	Little Camp Creek-Camp Creek	031601060203	Lower Coal Fire Creek
031601030105	Clifty Creek	031601060301	Ellis Creek
031601030106	Williams Creek	031601060304	Nash Creek
031601030107	Pearces Mill Creek-Buttahatchee River	031601060305	Kincaide Creek
031601030201	Wickett Creek-Beaver Creek	031601060308	Aliceville Lake-Lower James Creek
031601030202	Cannon Mill Creek-Beaver Creek	031601060401	Upper Lubbub Creek
031601030301	Woods Creek	031601060402	Bethel Branch-Lubbub Creek
031601030302	Ragsdale Creek-Buttahatchee River	031601060403	Little Lubbub Creek
031601030303	Central Mill Creek-Buttahatchee River	031601060404	Stratton Creek-Lubbub Creek
031601030304	Mill Creek-Buttahatchee River	031601060405	Upper Bear Creek
031601030305	Bogue Creek	031601060406	Sneads Creek
031601030306	Lost Creek-Buttahatchee River	031601060407	Lower Bear Creek
031601030401	Boardtree Creek-Sipsey Creek	031601060408	Lower Lubbub Creek
031601030402	Barnesville Creek-Sipsey Creek	031601060501	Taylor Creek-Big Creek
031601030501	Reedy Branch-Sipsey Creek	031601060502	Cypress Branch-Tombigbee River
031601030502	Splunge Creek	031601060503	Beaver Creek
031601030503	Dry Creek-Sipsey Creek	031601060504	Dinsmore-Bogue Chitto
031601030601	Sipsey Creek-Buttahatchee River	031601060505	Owl Creek-Tombigbee River
031601050101	East Branch-Luxapallila Creek	031601060506	Blubber Creek
031601050102	Stewart Creek-Luxapallila Creek	031601060507	Big Slough-Tombigbee River
031601050103	Turkey Creek-Luxapallila Creek	031601060601	Fenache Creek
031601050201	Beaver Creek-Luxapallila Creek	031601060602	² Wilkes Creek
031601050202	Mill Creek-Luxapallila Creek	031601060603	² Turkey Paw Creek-Tombigbee River
031601050203	Driver Creek-Luxapallila Creek	031601060604	² Tubbs Creek
031601050204	Gentry Creek-Luxapallila Creek	031601060605	² Harkness Branch-Trussells Creek
031601050205	Steens-Luxapallila Creek	031601060606	² Rogers Creek-Trussells Creek
031601050301	Blowhorn Creek-Yellow Creek	031601060607	² Pippen Creek-Brush Creek
031601050302	Upper Hells Creek	031601060608	² Boligee Canal

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031601060609	Cypress Swamp-Tombigbee River	031601090105	Brindley Creek
031601060701	Toms Creek	031601090106	Broglen River
031601060702	Factory Creek	031601090107	Blue Springs Creek
031601060703	Wiggins Creek-Jones Creek	031601090108	Mud Creek-Mulberry Fork
031601060704	Taylor Creek	031601090109	Pan Creek
031601060705	Boligee Creek-Tombigbee River	031601090201	Thacker Creek
031601060706	Cobb Creek-Tombigbee River	031601090202	Marriott Creek
031601060707	Acorn Creek-Tombigbee River	031601090203	Murphy Creek-Mill Creek
031601060708	McConnico Creek	031601090204	Dorsey Creek
031601060709	Twelvemile Bend-Tombigbee River	031601090205	Rice Creek-Mulberry Fork
031601070101	Mallards Creek	031601090206	Sloan Creek
031601070102	New River	031601090301	Meadow Creek-Splunge Creek
031601070103	Little New River	031601090302	Headwaters Blackwater Creek
031601070104	Studhorse Creek	031601090303	Long Branch
031601070105	Boxes Creek	031601090304	Panther Branch-Buck Creek
031601070106	Barron Creek-Sipsey River	031601090305	Bunkum Creek
031601070201	Musgrove Creek	031601090306	Little Spring Creek-Spring Creek
031601070202	Belle Creek-Davis Creek	031601090307	Middle Blackwater Creek
031601070203	Lazy Creek-Bear Creek	031601090308	Poley Creek
031601070204	Martins Creek-Sipsey River	031601090309	Lower Blackwater Creek
031601070205	Dunn Creek	031601090401	Clifty Branch-Mill Creek
031601070206	Thorton Creek	031601090402	Upper Lost Creek
031601070301	Box Creek	031601090403	West Fork-Lost Creek
031601070302	Malone Mill Creek	031601090404	Black Branch-Cane Creek
031601070303	Box Creek-Taylor Creek	031601090405	Lower Lost Creek
031601070304	² Little Creek-Brush Creek	031601090501	Blue Water Creek
031601070305	Longview Lake-Sipsey River	031601090502	Upper Wolf Creek
031601070306	Hughes Creek	031601090503	Lower Wolf Creek
031601080903	Lower Woodward Creek	031601090601	Town Creek-Cane Creek
031601081002	² Bodka Creek-Akron	031601090602	Old Town Creek-Mulberry Fork
031601081003	² Shy Hammock Creek	031601090603	Burnt Cane Creek
031601081004	² Quilby Creek-Bodka Creek	031601090604	Baker Creek-Mulberry Fork
031601081005	² Bodka Creek-Caney Creek	031601100101	Borden Creek
031601081101	² Ash Creek-Noxubee River	031601100102	Parker Branch-Upper Sipsey Fork
031601081102	² Rogers Creek-Noxubee River	031601100103	Caney Creek-Sipsey Fork
031601090101	Roswell Creek-Mulberry Fork	031601100104	Sandy Creek-Sipsey Fork
031601090102	Upper Duck River	031601100105	Rockhouse Creek-Sipsey Fork
031601090103	Lower Duck River	031601100201	Rush Creek-Brushy Creek
031601090104	Eightmile Creek	031601100202	Brushy Creek-Capsey Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031601100203	Inman Creek-Brushy Creek	031601110303	Gurley Creek
031601100301	Right Fork	031601110304	Self Creek
031601100302	Upper Clear Creek	031601110305	Neeley Creek
031601100303	Widows Creek-Clear Creek	031601110306	North Creek-Turkey Creek
031601100304	Middle Clear Creek	031601110307	Cunningham Creek
031601100305	Lower Clear Creek	031601110308	Hogeland creek
031601100306	Sipsey Fork	031601110401	Crooked Creek
031601100401	Belevens Creek	031601110402	Cane Creek-Locust Fork
031601100402	Long Branch-Upper Rock Creek	031601110403	Cane Creek
031601100403	Clifty Creek-Rock Creek	031601110404	Campbell Creek
031601100404	Middle Rock Creek	031601110405	Newfound Creek
031601100405	Upper Crooked Creek	031601110406	Upper Fivemile Creek
031601100406	Lower Crooked Creek	031601110407	Lower Fivemile Creek
031601100407	Whetstone Creek-White Oak Creek	031601110408	Upper Village Creek
031601100408	Lower Rock Creek	031601110409	Lower Village Creek
031601100501	Headwaters Ryan Creek-Alvis Branch	031601110410	Falls Creek
031601100502	Bavar Creek-Ryan Creek	031601110411	Short Creek
031601100503	Moore Branch-Rock Creek	031601110412	Fish Trap Branch
031601100504	Upper Ryan Creek	031601110413	Coal Creek
031601100505	Middle Ryan Creek	031601120101	Headwaters Valley Creek
031601100506	Little Mill Creek-Mill Creek	031601120102	Five Mile Creek-Valley Creek
031601100507	Boyd Creek-Sipsey Fork	031601120103	Lost Creek-Rock Creek
031601110101	Bristow Creek	031601120104	Lick Creek-Valley Creek
031601110102	Samuels Chapel Creek	031601120105	Woods Creek-Mud Creek
031601110103	Carroll Branch-Clear Creek	031601120106	Jordan Spring Branch-Valley Creek
031601110104	Big Mud Creek	031601120201	Upper Big Yellow Creek
031601110105	Upper Slab Creek	031601120202	Lower Big Yellow Creek
031601110106	Lower Slab Creek	031601120203	Shoal Creek-Black Warrior River
031601110107	Locust Fork-Little Cove Creek	031601120301	Lick Creek-Blue Creek
031601110201	Whippoorwill Creek	031601120302	Rockcastle Creek
031601110202	Graves Creek	031601120303	Whiteoak Creek-Davis Creek
031601110203	Andy Branch-Dry Creek	031601120304	Peques Creek
031601110204	Upper Blackburn Fork-Little Warrior River	031601120305	Daniel Creek
031601110205	Upper Calvert Prong	031601120306	Laurel Branch-Bluff Creek
031601110206	Lower Calvert Prong	031601120401	Deadwater Creek-Clear Creek
031601110207	Lower Blackburn Fork-Little Warrior River	031601120402	Headwaters North River
031601110208	Big Scirum Creek	031601120403	Cedar Creek-North River
031601110301	Sugar Creek-Locust Fork	031601120404	Tyro Creek
031601110302	Longs Branch	031601120405	Boone Creek-North River

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
031601120406	Dry Branch-Bear Creek	031601130607	² Bee Branch
031601120407	Cripple Creek	031601130701	² Whitsitt Creek
031601120408	Gin Branch-North River	031601130704	² Cotton Wood Creek
031601120409	Barbee Creek	031601130705	² Middle Big Prairie Creek
031601120410	Binion Creek	031601130706	² Little Prairie Creek
031601120411	Turkey Creek-North River	031601130707	² Big German Creek
031601120412	Carroll Creek	031601130708	² Lower Big Prairie Creek
031601120413	Lake Tuscaloosa-North River	031601130801	² Dollar Hyde Creek
031601120501	Lake Nicol-Yellow Creek	031601130802	² Hines Creek
031601120502	Coal Creek-Upper Hurricane Creek	031601130803	² White Creek
031601120503	Cottdale Creek	031601130804	² South Needham Creek
031601120504	Bee Branch-Lower Hurricane Creek	031601130805	² French Creek
031601120505	Two Mile Creek	031601130806	² Coleman Branch
031601130101	Lye Branch	031602010201	² Little Kinterbish Creek
031601130102	Bear Creek	031602010202	² Upper Kinterbush Creek
031601130103	South Sandy Creek	031602010203	² Lower Kinterbush Creek
031601130104	Long Branch-Upper Big Sandy Creek	031602010401	² Hall Creek-Tombigbee River
031601130105	Rosser Creek-Lower Big Sandy Creek	031602010402	² Spring Creek-Tombigbee River
031601130201	Mill Creek-Black Warrior River	031602010403	² Cotahaga Creek
031601130202	Jay Creek-Big Creek	031602010407	² Tallawyah Creek
031601130203	Cribbs Mill Creek-Cypress Creek	031602020305	² Tamola-Ponta Creek
031601130204	Goose Pond-Black Warrior River	031602020401	² Edmond Branch-Sucarnoochee River
031601130205	Little Sandy Creek	031602020402	² Sanusi Creek
031601130301	Millians Creek	031602020403	² Sicolocco Creek
031601130302	Elliotts Creek	031602020404	² Shumulla Creek-Sucarnoochee River
031601130401	Latner Branch-Upper Fivemile Creek	031602020405	² Cedar Creek-Sucarnoochee River
031601130402	² Harry Branch- Fivemile Creek	031602020502	² Sweetwater Creek-Toomsaba Creek
031601130502	² Sparks Creek	031602020602	² Salem Creek-Alamuchee Creek
031601130503	² PoleCat Creek	031602020603	² Buck Creek-Alamuchee Creek
031601130504	² Little Brush Creek-Big Bruch Creek	031602020604	² Yellow Creek-Alamuchee Creek
031601130505	² Colwell Creek	031602020701	² Ponkabia Creek
031601130506	² Saint Marks Church-Big Brush Creek	031602020702	² Fourth Creek-Sucarnoochee River
031601130507	² Dry Creek-Big Brush Creek	031602020703	² Mill Creek-Sucarnoochee River
031601130601	Grant Creek	060200011101	West Fork Lookout Creek-Dry Creek
031601130602	Keaton Lake-Carthage Branch	060200011102	Gulf Creek
031601130603	Black Warrior River-Keaton Lake	060200011103	Crawfish Creek
031601130604	Gabriel Creek-Black Warrior River	060200011204	Running Water Creek-Nickajack Lake
031601130605	² Sims Creek	060300010201	Jones Creek-Tennessee River
031601130606	² Minter Creek	060300010202	Long Creek-Miller Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
060300010203	Guest Creek-Long Island Creek	060300010901	Lower Guntersville Lake
060300010204	Widows Creek	060300010902	Hog Creek
060300010205	Marshall Branch-Tennessee River	060300010903	Big Spring Creek
060300010302	Middle Crow Creek	060300010904	Browns Creek
060300010303	Little Crow Creek	060300010905	Honey Comb Creek
060300010304	Lower Crow Creek	060300010906	Dripping Spring Branch-Tennessee River
060300010305	Upper Big Coon Creek	060300020101	Hurricane Creek
060300010306	Little Coon Creek	060300020102	Larkin Fork
060300010307	Lower Big Coon Creek	060300020103	Estill Fork
060300010401	Boydston Creek-Burkhalter Creek	060300020104	Lick Fork
060300010402	Flat Rock Creek	060300020105	Williams Creek-Dry Creek
060300010403	Lower Coon Creek	060300020106	Guess Creek
060300010404	Upper Mud Creek	060300020107	Williams Cove-Paint Rock River
060300010405	Lower Mud Creek	060300020201	Little Dry Creek-Clear Creek
060300010406	Bryant Creek	060300020202	Little Paint Creek
060300010407	Rorex Creek-Jones Creek	060300020203	Cole Spring Branch
060300010408	Town Creek-Guntersville Lake	060300020204	Tremble Creek
060300010501	Straight Creek	060300020301	State Rock Branch-Flint River
060300010502	Kirby Creek	060300020302	West Fork-Flint River
060300010503	Upper South Sauty Creek	060300020303	Mountain Fork
060300010504	Mink Branch-Dry Creek	060300020304	Upper Brier Fork
060300010505	Lower South Sauty Creek	060300020305	Banyon Creek-Beaverdam Creek
060300010601	Evans Creek	060300020306	Lower Brier Fork
060300010602	Riley Cove-Dry Creek	060300020307	Pigrum Branch-Flint River
060300010603	Roseberry Creek	060300020401	Upper Hurricane Creek
060300010604	Upper North Sauty Creek	060300020402	Lower Hurricane Creek
060300010605	Lower North Sauty Creek	060300020403	Acuff Spring-Flint River
060300010606	Upper Guntersville Lake	060300020404	Goose Creek-Flint River
060300010701	Bengis Creek	060300020405	Yellow Bank Creek-Flint River
060300010702	Snake Creek-Town Creek	060300020501	Upper Indian Creek
060300010703	Reedy Creek-Town Creek	060300020502	Upper Huntsville Spring Branch
060300010704	Black Oak Creek	060300020503	Lower Huntsville Spring Branch
060300010705	Minky Creek-Town Creek	060300020504	Barren Fork Creek
060300010801	Cross Creek	060300020505	Lower Indian Creek
060300010802	Upper Short Creek	060300020601	Winton Branch-Hughes Creek
060300010803	Upper Scarham Creek	060300020602	West Fork-Cottaco Creek
060300010804	Whippoorwill Creek-Shoal Creek	060300020603	Upper Cotaco Creek
060300010805	Drum Creek-Short Creek	060300020604	Gill Creek-Town Creek
060300010806	Lower Short Creek	060300020605	Middle Cotaco Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
060300020606	Lower Cottage Creek	060300030601	Larkin Springs Branch
060300020701	Upper Limestone Creek	060300040303	Sugar Creek
060300020702	Middle Limestone Creek	060300040401	Shoal Creek
060300020703	Lower Limestone Creek	060300040402	Ragsdale Creek-Elk River
060300020801	Upper Piney Creek	060300040403	Elk River-Sulphur Creek
060300020802	Middle Piney Creek	060300040404	Anderson Creek
060300020803	Lower Piney Creek	060300040405	Big Creek-Elk River
060300020901	Peachtree Creek-Shoal Creek	060300050101	Rutherford Creek
060300020902	Pigeon Roost Creek-Tennessee River	060300050102	Upper Big Nance Creek-Muddy Fork
060300020903	Aldridge Creek	060300050103	Big Nance Creek-Clear Fork
060300020904	Bartee Branch-Hambrick Slough	060300050104	Middle Big Nance Creek
060300020905	Oakland Spring Branch-Beaverdam Creek	060300050105	Lower Big Nance Creek
060300020906	Matney Branch-Tennessee River	060300050201	Upper Bluewater Creek
060300021001	East Fork Flint Creek	060300050202	Lower Bluewater Creek
060300021002	Dry Creek-Mill Creek	060300050301	Rock Creek-Mud Creek
060300021003	Upper Flint Creek	060300050302	Upper Town Creek
060300021004	Robertson Branch-Cedar Creek	060300050303	Middle Town Creek
060300021005	Sleighton Branch-Shoal Creek	060300050304	Lower Town Creek
060300021006	Crowdabout Creek	060300050507	Butler Creek
060300021007	Middle Flint Creek	060300050508	Upper Shoal Creek
060300021008	No Business Creek	060300050509	Lower Shoal Creek
060300021009	Elam Creek	060300050601	Greenbrier Branch
060300021010	Upper West Flint Creek	060300050602	Threet Creek
060300021011	Big Shoal Creek	060300050603	Burcham Creek
060300021012	Middle West Flint Creek	060300050604	Little Cypress Creek
060300021013	Lower West Flint Creek	060300050605	Cox Creek
060300021014	Lower Flint Creek	060300050701	Foxtrap Creek-Upper Spring Creek
060300021101	Swan Creek	060300050702	Sink Pond-Dry Creek
060300021102	Bakers Creek-Tennessee River	060300050703	Lower Spring Creek
060300021103	Briley Creek	060300050801	McKieman Creek-Tennessee River
060300021104	Fox Creek	060300050802	Abernathy Bottom-Pond Creek
060300021105	Spring Creek-Mud Creek	060300050803	Sweetwater Creek-Tennessee River
060300021106	Dry Creek-Mallard Creek	060300050804	Hargett Creek
060300021107	Coxey Creek-Tennessee River	060300050805	Little Bear Creek
060300021201	Red Branch-Spring Creek	060300050806	Sinking Creek
060300021202	First Creek	060300050807	Tanyard Branch-Cane Creek
060300021203	Upper Second Creek	060300050808	Coffee Slough-Tennessee River
060300021204	Lower Second Creek	060300050901	Bumpass Creek
060300021205	Page Branch-Tennessee River	060300050902	Second Creek

Source: USFWS 2018

Table A-1 (continued). Indiana Bat and NLEB Subwatersheds (HUC12) Consultation Zone – Alabama

Table Key: ¹Indiana Bat Species Only ²NLEB Species Only

HUC 12	Subwatershed Names	HUC 12	Subwatershed Names
060300051001	Bitter Branch-Bluff Creek	060300060202	Dunkin Creek-Cedar Creek
060300051002	Colbert Creek-Pickwick Lake	060300060203	Tollison Creek-Cedar Creek
060300051003	Brush Creek	060300060204	Cody Branch-Cedar Creek
060300051004	Ross Branch-Pickwick Lake	060300060205	Upper Little Bear Creek
060300051202	Panther Creek-Pickwick Lake	060300060206	Lower Little Bear Creek
060300051203	Dry Creek-Pickwick Lake	060300060207	Mill Branch-Cedar Creek
060300060101	Little Turkey Creek	060300060301	Chandelower Creek-Rock Creek
060300060102	Headwaters Bear Creek	060300060302	Cripple Deer Creek
060300060103	Bear Creek-Bluff Creek	060300060303	Pennywinkle Creek
060300060104	Holcomb Branch-Bear Creek	060300060304	Rock Creek-Bear Creek
060300060105	Bear Creek-Mud Branch	060300060305	Buzzard Roost Creek
060300060106	Cypress Pond Ditch-Bear Creek	060300060306	Clear Creek-Pickwick Lake
060300060201	Cedar Creek-Harris Creek	060300060307	Bear Creek-Pickwick Lake

Source: USFWS 2018



Appendix B – Indiana Bat and Northern Long-Eared Bat Effects Determination Key

ORM2 Number _____
Reference File: _____

Date _____

- 1) Is the action area located within either the Indiana bat or NLEB consultation zones (see Appendix A)?
 - a) Yes.....go to 2
 - b) No.....No effect¹
- 2) Will project affect caves or mines where Indiana bat or NLEB are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment of a hibernaculum, including the removal of any trees within 0.25 miles of a NLEB hibernaculum at any time of year?
 - a) Yes.....Consultation required³
 - b) No.....go to 3
- 3) Will there be removal of woody vegetation (live or dead standing trees that have exfoliating bark, cracks, crevices and/or hollows) over 3 inches diameter breast height (dbh)?
 - a) Yes.....go to 4
 - b) No.....No effect¹
- 4) Will the applicant accept the following permit condition: The felling of all trees over 3 inches dbh must occur during the non-active season (October 15 to March 31)?
 - a) Yes.....NLAA²
 - b) No (for NLEB).....go to 5
 - c) No (for Indiana bat).....go to 6
- 5) Will the project remove a known NLEB-occupied maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 to July 31; or remove any trees within 0.25 miles of a NLEB hibernaculum at any time of year?
 - a) Yes.....Consultation required³
 - b) No.....Complete Appendix D, and forward to the USFWS Daphne, Alabama Ecological Services Field Office; May Affect, but take not prohibited under 4(d) Rule; No 30-day waiting for a response - Consultation complete⁴
- 6) Has the action area been surveyed for Indiana bats using USFWS-approved acoustical or mist-net survey guidelines⁵?
 - a) Yes.....go to 7
 - b) No.....Consultation required³
- 7) Was Indiana bat collected or detected?
 - a) YesConsultation required³
 - b) NoNLAA²

¹No effect - The proposed project would result in no effect to this species and/or its federally designated critical habitat (if applicable). Further consultation with the Daphne, Alabama Ecological Services Office is not necessary for the project as described.

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²NLAA - The proposed project may affect, but is not likely to adversely affect, this species and/or its designated critical habitat (if applicable). NLAA determinations for projects made pursuant to this key require no further consultation with the USFWS Daphne, Alabama Ecological Services Office.

³Consultation required - Further consultation with the USFWS Daphne, Alabama Ecological Services Office is necessary to discern if the activity would result in a “no effect,” “not likely to adversely affect,” or “likely to adversely affect” determination.

⁴Consultation complete – The incidental take that may result from the project is exempted by the 4(d) rule and no further action is necessary to comply with Endangered Species Act prohibitions to protect NLEB.

⁵Applicant can also elect to conduct a Habitat Assessment (see 2018 summer survey guidelines, Appendix A) and forward to the USFWS Daphne, Alabama Ecological Services Office to determine if suitable habitat is present before conducting mist net and/or acoustical surveys. 2018 survey guidance can be found at <https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>.

Additional Information _____

Appendix C – Conservation Recommendations

These recommendations are optional and if implemented would support the agency's goals toward recovery. These recommendations are to be used at the discretion of the permittee.

Currently, the greatest controllable threat to the survival and recovery of federally listed bats in Alabama is destruction of caves and maternity and foraging habitats. Measures that should be considered to minimize impacts include:

1. Protect cavity trees, snags, and foraging habitats near known or potential roosting trees.
2. Maintain a 150-foot wooded/vegetated buffer around caves and mines.
3. Maintain a 150-foot wooded/vegetated buffer around streams, ponds, and reservoirs.
4. Limit removal of contiguous acres of woody vegetation within known or potential maternity habitats.
5. Limit human disturbance in areas of maternity habitats during maternity season.
6. Conduct tree removal activities outside of the NLEB pup season (June 1 to July 31) and/or the active season (April 1 to October 31). This will minimize impacts to pups at roosts not yet identified.
7. Conduct tree removal activities, for those trees containing suitable roosting habitat, October 15 to March 31, which is outside of the Indiana bat summer roosting season.

Contact the USFWS Daphne, Alabama Ecological Services Office (251) 441-5181 regarding the locations of known maternity roosts, hibernaculum, or mist nest capture sites in Alabama.

Other USFWS offices have created consultation keys for the general public and federal agencies. As an example, see "Key to the Northern Long-Eared Bat 4(d) Rule for Federal Actions that May Affect Northern Long-Eared Bats" at

https://www.fws.gov/midwest/endangered/mammals/nleb/pdf/KeyFinal4dNLEB_FedAgencies17Feb2016.pdf.

Appendix D – Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if re-initiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect, the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take requires separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	YES	NO
1. Does the project occur wholly outside of the WNS Zone ¹ ?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you contacted the appropriate agency ² to determine if your project is near known hibernacula or maternity roost trees?	<input type="checkbox"/>	<input type="checkbox"/>
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	<input type="checkbox"/>	<input type="checkbox"/>
4. Could the project alter the entrance or interior environment of a known hibernaculum?	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	<input type="checkbox"/>	<input type="checkbox"/>
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31?	<input type="checkbox"/>	<input type="checkbox"/>

You are eligible to use this form if you have answered yes to question #1 or yes to question #2 and no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant³ (Name, Email, Phone No.):

Project Name:

Project Location (include coordinates if known):

Basic Project Description (provide narrative below or attach additional information):

¹ <http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>

² See <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

³ If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project occur within 150 feet of a known maternity roost tree?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project include forest conversion ⁴ ? (if yes, report acreage below)	<input type="checkbox"/>	<input type="checkbox"/>
Estimated total acres of forest conversion		
If known, estimated acres ⁵ of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31 ⁶		
Does the project include timber harvest? (if yes, report acreage below)	<input type="checkbox"/>	<input type="checkbox"/>
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	<input type="checkbox"/>	<input type="checkbox"/>
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	<input type="checkbox"/>	<input type="checkbox"/>
Estimated wind capacity (MW)		

Note: MW = megawatts

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____

Date Submitted: _____

⁴ Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).

⁵ If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.

⁶ If the activity includes tree clearing in June and July, also include those acreage in April to October.

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Monday, March 22, 2021 11:54 AM
To: Gauldin, Keith; 'Chris Smith'; todd.fobian@dcnr.alabama.gov
Cc: Mills, Tina L.; Carlee, Jason; Baker, Jeffery L.; McVicar, Ashley M; Chandler, Keith Edward
Subject: Draft Harris WMP for your review and meeting date
Attachments: 2021-03-18 DRAFT Harris WMP.pdf

Good afternoon,

Attached for your review is the draft Wildlife Management Plan for the Harris project. We would like to give you a few weeks to review and then get together to hear your thoughts. Could you let me know your availability the **week of April 12th** for a 1.5 hr conference call? If that week is really busy, we can look at the following week. Also, please forward to anyone else at DNR who also needs to be plugged in.

Thanks!

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

March 2021

WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT

ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT (FERC No. 2628)

**ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA**

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan (Study Plan).

¹ Accession Number 20190412-3000

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)², as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama (**Figure 1-2**). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan. These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.



For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only; Harris

² Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

Dam refers to the dam, spillway, and powerhouse. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

Lake Harris and Skyline are located within two river basins: the Tallapoosa and Tennessee River Basins, respectively. The only waterbody managed by Alabama Power as part of their FERC license for the Harris Project is the Harris Reservoir.

Within Section 3.0 of this report, Alabama Power describes the Lake Harris resource first, followed by the Skyline resource. Specific references to the Harris Reservoir will be identified as Harris Reservoir; specific reference to the dam will be identified as Harris Dam. The “Project Area” refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary. The “Project Vicinity” refers to a larger geographic area near a hydroelectric project, such as a county.

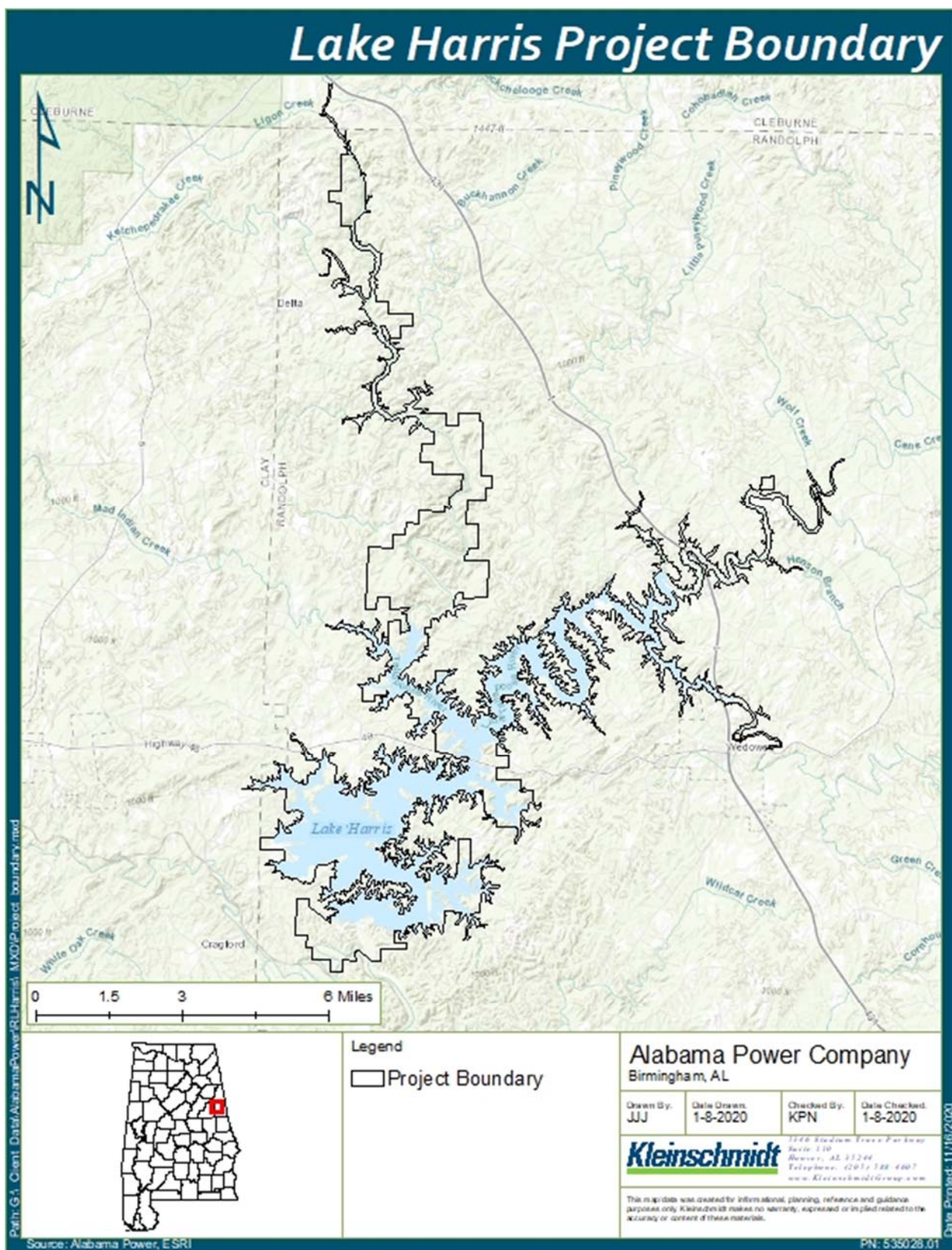


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

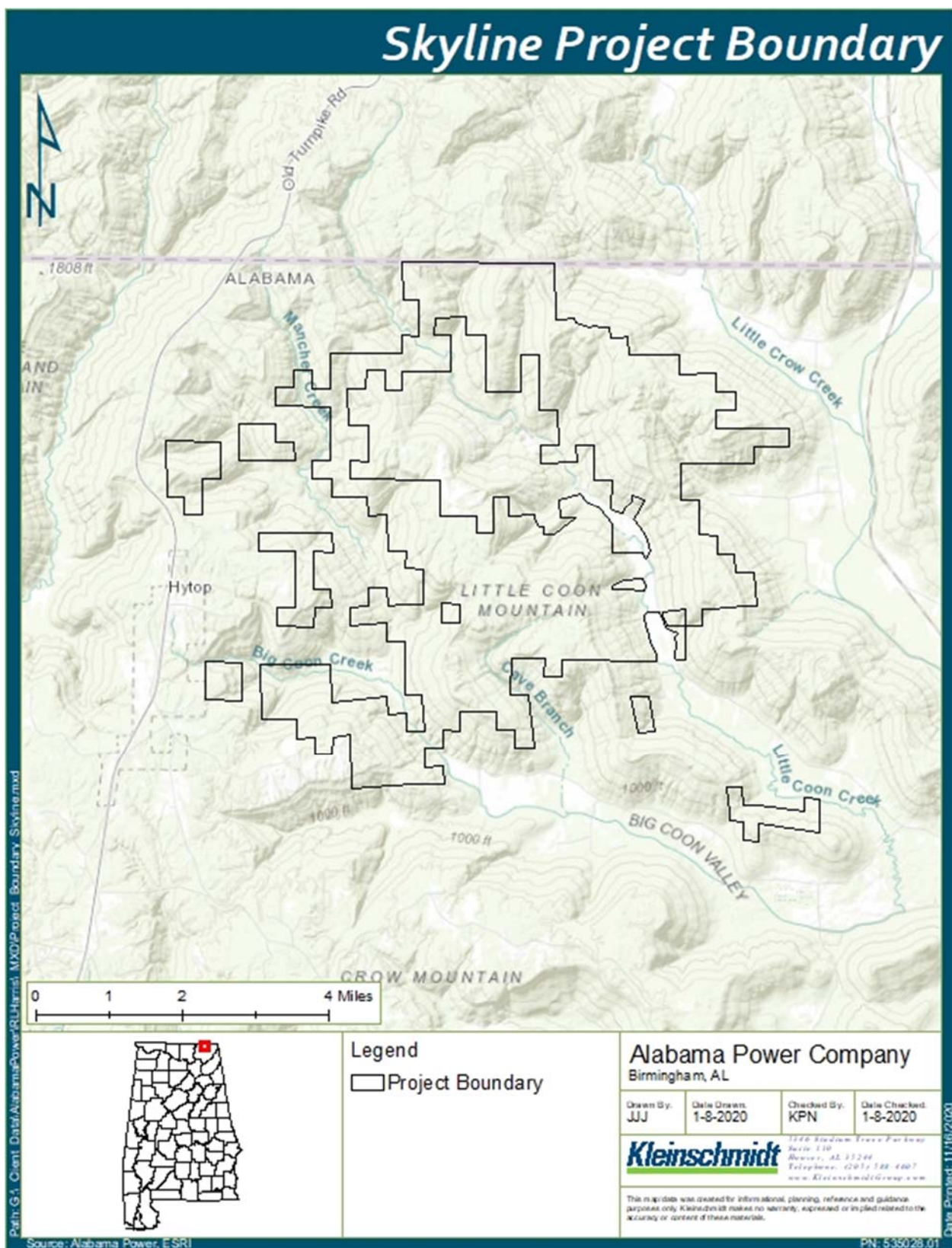


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

As part of the original license, Alabama Power developed a Wildlife Mitigation Plan (Alabama Power 1988) in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS) that FERC approved on July 29, 1988. The Wildlife Mitigation Plan outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project. The Wildlife Mitigation Plan included provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The Wildlife Mitigation Plan required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the Wildlife Mitigation Plan included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (Skyline WMP) (Alabama Power 1989) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990.

As part of the management activities conducted under the 1988 Wildlife Management Plan, Alabama Power identified 263 acres of suitable Wood Duck habitat and installed over 100 Wood Duck boxes. Alabama Power also released Canada Geese to establish a population in and around Lake Harris. Additionally, Alabama Power constructed Osprey nesting platforms along the reservoir shoreline. Finally, Alabama Power managed forest lands within the Lake Harris Project Area and established 105 acres of permanent openings to provide diverse habitat that benefits both game and nongame species.

Alabama Power conducts annual monitoring and maintenance of 104 Wood Duck boxes installed around Lake Harris. Maintenance activities include repair and replacement of broken boxes, as

well as the relocation of underutilized boxes. Double boxes were installed in higher use areas. Since 2000, an average of 33 Wood Ducks have been hatched from the Wood Duck boxes per year. Annual Wood Duck hatchlings ranged from 17 hatchlings in 2000 to 47 hatchlings in 2017. Although Wood Ducks have utilized the artificial boxes, these structures were installed as a mitigative measure for lost habitat associated with the initial impoundment of Harris Reservoir. Wood Ducks using the area have had time to adapt to the surrounding habitat, and likely have demonstrated tolerance, or the ability to habituate, to existing human presence, activities, and infrastructure at Lake Harris. Therefore, Alabama Power will not continue monitoring and maintenance of the Wood Duck box program under this WMP. Wood Duck boxes will be left in place until they are no longer usable. This will allow wildlife using the structures to transition to the surrounding suitable habitat.

Alabama Power installed Osprey platforms around Lake Harris. The platforms are constructed of concrete poles with a galvanized steel ring at the top to serve as a nesting platform. Due to construction materials, the platforms require minimal maintenance. While many of the platforms have been used by Osprey, they are not included in a monitoring program. Further, no additional platforms are planned for construction as the currently installed platforms are adequate for the Osprey population at Lake Harris and will last for years to come.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Gray Squirrel (*Sciurus carolinensis*), the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris*

gallapavo silvestris), and Mourning Dove (*Zenaida macroura*); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrooki holbrooki*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megasceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power

2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter (*Pseudemys concinna*), and Red-eared slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks; pines may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks (*Quercus* spp.) such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboreum*). The herb layer is typically sparse (NatureServe 2009).

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much

of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus pagoda*). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. Alabama Power leases Skyline lands to ADCNR and provides funding for the wildlife management activities on Skyline lands. ADCNR is responsible for the wildlife management activities (Alabama Power 1988). In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite (*Colinus virginianus*), and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern

Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types. The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardii*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine (Pinaceae), Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include

Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina* ssp. *asplenoides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak (*Quercus prinus*), Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry (*Vaccinium stamineum*), Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflorum*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern

Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat;
- 3) Management of public hunting areas, including areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources such as, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum³. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff,

³ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Planting of native species will be required on all lands within the SMP Recreation and Commercial Recreation classifications and recommended as a BMP on all other Project lands. Specific management actions associated with native plantings can be found in the SMP.

6.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber would be harvested on 16 year cutting cycles and pulpwood would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were then being used. As a result, more volume was being cut per acre and more reseeded was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several threatened and endangered species of plants and animals.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 6,269 acres within the Harris Project Boundary at Lake Harris is summarized in Table 6-1. Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily of various upland species of red and white oak, yellow poplar, hard and soft maple, and hickory. There is a small component of shortleaf, loblolly, and Virginia pine. Historically, past harvesting practices have focused on removing higher value red and white oak timber, resulting in many stands that are dominated by maple, hickory, yellow poplar and chestnut oak. Most stands have closed canopies resulting in little or no desirable

understory species to provide the potential for future stands. Timber stand composition on the 15,188 acres within the Harris Project Boundary at Skyline is summarized in Table 6-2.

TABLE 6-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>47</u>	<u>2938</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>18</u>	<u>1109</u>
Upland Hardwood	<u>21</u>	<u>1343</u>
Planted Pines	<u>8</u>	<u>476</u>
Other	<u>6</u>	<u>403</u>
Total	<u>100</u>	<u>6269</u>

TABLE 6-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>0.15</u>	<u>23</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>0</u>	<u>0</u>
Upland Hardwood	<u>99</u>	<u>14,922</u>
Planted Pines	<u>0</u>	<u>0</u>
Other	<u>0.85</u>	<u>118</u>
Total	<u>100</u>	<u>15,063</u>

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below.

6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

Alabama Power will continue to manage Project forest lands according to the existing all or uneven-aged management schemes, with a sawtimber cycle of 20 years and an overall forest rotation of 60 years (see above description). Prescribed burning and/or use of herbicides will be considered on stands within the Project forest lands, and such use will be based on conditions and characteristics of the individual stands.

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest on Project lands. Natural regeneration will continue to be the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees without potential roost tree characteristics will be harvested, the site prepared, and the stand planted with genetically improved seedling stock.

Alabama Power is working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the project boundary.

6.1.2 SKYLINE

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal.

Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics. At least two harvest units will be targeted annually for harvest, and Alabama Power will be responsible for administering the timber sale.

The management actions at Skyline are intended to be a cooperative effort between the APC Forestry Team and the ADCNR, with coordination and communication between the two groups. Alabama Power is working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the project boundary.

7.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed. Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the project boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands located at Lake Harris provide hunting opportunities through either hunting leases or individual permits. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields.

Hunting opportunities provided at Skyline are managed by ADCNR as outlined in the 1990 Skyline WMP, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1 MANAGEMENT ACTIONS

7.1.1 LAKE HARRIS

Alabama Power will continue to provide hunting opportunities on lands located at Lake Harris through either hunting leases or individual permit.

7.1.2 SKYLINE

Hunting opportunities provided at Skyline will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREAS

Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained.

8.0 REFERENCES

- Alabama Department of Conservation and Natural Resources. 2016. Wildlife Management Areas. Available at: <http://www.outdooralabama.com/wildlife-management-areas>. Accessed November 2016.
- Alabama Power Company. 1988. R.L. Harris Project FERC Project No. 2628 Wildlife Mitigation Plan. April 15, 1988.
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APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Wednesday, March 31, 2021 1:58 PM
To: Gauldin, Keith; Smith, Chris (chris.smith@dcnr.alabama.gov); todd.fobian@dcnr.alabama.gov
Cc: Mills, Tina L.; Carlee, Jason; Baker, Jeffery L.; McVicar, Ashley M; Chandler, Keith Edward
Subject: FW: Draft Harris WMP for your review and meeting date
Attachments: 2021-03-18 DRAFT Harris WMP.pdf

Just checking back in on your availability the week of April 12th for a call to discuss the attached draft WMP. We can also do a subsequent week if that works better for y'all.

Thanks!

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: Anderegg, Angela Segars
Sent: Monday, March 22, 2021 11:54 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>; 'Chris Smith' <chris.smith@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov
Cc: Mills, Tina L. <tlmills@southernco.com>; Carlee, Jason <JCARLEE@southernco.com>; Baker, Jeffery L. <JEFBAKER@southernco.com>; McVicar, Ashley M <AMMcVica@southernco.com>; Chandler Keith <KECHANDL@SOUTHERNCO.COM>
Subject: Draft Harris WMP for your review and meeting date

Good afternoon,

Attached for your review is the draft Wildlife Management Plan for the Harris project. We would like to give you a few weeks to review and then get together to hear your thoughts. Could you let me know your availability the **week of April 12th** for a 1.5 hr conference call? If that week is really busy, we can look at the following week. Also, please forward to anyone else at DNR who also needs to be plugged in.

Thanks!

Angie Anderegg

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APC Harris Relicensing

From: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>
Sent: Wednesday, March 31, 2021 4:45 PM
To: Smith, Chris; Anderegg, Angela Segars; Fobian, Todd
Cc: Mills, Tina L.; Carlee, Jason; Baker, Jeffery L.; McVicar, Ashley M; Chandler, Keith Edward
Subject: RE: Draft Harris WMP for your review and meeting date

EXTERNAL MAIL: Caution Opening Links or Files

13-15 for me.

From: Smith, Chris <Chris.Smith@dcnr.alabama.gov>
Sent: Wednesday, March 31, 2021 2:40 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>; Fobian, Todd <Todd.Fobian@dcnr.alabama.gov>
Cc: Mills, Tina L. <tlmills@southernco.com>; Carlee, Jason <JCARLEE@southernco.com>; Jeff Baker <jefbaker@southernco.com>; McVicar, Ashley M <AMMcVica@southernco.com>; Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>
Subject: RE: Draft Harris WMP for your review and meeting date

I can make any day the 12-14

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Wednesday, March 31, 2021 1:58 PM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>; Smith, Chris <Chris.Smith@dcnr.alabama.gov>; Fobian, Todd <Todd.Fobian@dcnr.alabama.gov>
Cc: Mills, Tina L. <tlmills@southernco.com>; Carlee, Jason <JCARLEE@southernco.com>; Jeff Baker <jefbaker@southernco.com>; McVicar, Ashley M <AMMcVica@southernco.com>; Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>
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Angie Anderegg

Hydro Services

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From: Anderegg, Angela Segars
Sent: Monday, March 22, 2021 11:54 AM
To: Gauldin, Keith <Keith.Gauldin@dcnr.alabama.gov>; 'Chris Smith' <chris.smith@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov
Cc: Mills, Tina L. <tlmills@southernco.com>; Carlee, Jason <JCARLEE@southernco.com>; Baker, Jeffery L. <JEFBAKER@southernco.com>; McVicar, Ashley M <AMMcVica@southernco.com>; Chandler Keith

<KECHANDL@SOUTHERNCO.COM>

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Thanks!

Angie Anderegg

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From: Collins, Evan R <evan_collins@fws.gov>
Sent: Thursday, April 1, 2021 3:59 PM
To: Baker, Jeffery L. <JEFBAKER@southernco.com>
Subject: Sauta Cave

EXTERNAL MAIL: Caution Opening Links or Files

Sauta Cave is the only Indiana Bat hibernaculum in Jackson County in our records. Its coordinates are:



-Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
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Daphne, AL 36526
251-441-5837 (phone)
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NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

Harris Relicensing - Updated Study Report

APC Harris Relicensing <g2apchr@southernco.com>

Mon 4/12/2021 6:46 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

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Harris relicensing stakeholders,

Pursuant to FERC's Integrated Licensing Process, Alabama Power filed its Harris Project Updated Study Report (USR) today. Concurrent with the USR filing, Alabama Power filed three draft study reports, four final study reports and the results of a Botanical Inventory at Flat Rock Park. Stakeholders may access the USR and the study reports on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR and study reports are also available on the Project relicensing website at <https://harrisrelicensing.com>.

The Updated Study Report meeting will be held on **April 27, 2021**. Please hold this date from 9:00 am to 12:00 pm central time. Call in information for the meeting can be found below. The purpose of the meeting is to provide an opportunity to review the contents of the USR.

Alabama Power will file a summary of the USR meeting by **May 12, 2021**. Stakeholders will have until **June 11, 2021** to file written comments with FERC on the USR Meeting Summary.

Thanks,

Angie Anderegg

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RE: Harris Relicensing - Updated Study Report

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Mon 4/12/2021 6:52 PM

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Corrected Harris relicensing link

Angie Anderegg

Hydro Services
 (205)257-2251
arsegars@southernco.com

From: APC Harris Relicensing
Sent: Monday, April 12, 2021 1:47 PM
To: APC Harris Relicensing <harrisrelicensing@southernco.com>
Subject: Harris Relicensing - Updated Study Report

Harris relicensing stakeholders,

Pursuant to FERC's Integrated Licensing Process, Alabama Power filed its Harris Project Updated Study Report (USR) today. Concurrent with the USR filing, Alabama Power filed three draft study reports, four final study reports and the results of a Botanical Inventory at Flat Rock Park. Stakeholders may access the USR and the study reports on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR and study reports are also available on the Project relicensing website at www.harrisrelicensing.com.

The Updated Study Report meeting will be held on **April 27, 2021**. Please hold this date from 9:00 am to 12:00 pm central time. Call in information for the meeting can be found below. The purpose of the meeting is to provide an opportunity to review the contents of the USR.

Alabama Power will file a summary of the USR meeting by **May 12, 2021**. Stakeholders will have until **June 11, 2021** to file written comments with FERC on the USR Meeting Summary.

Thanks,

Angie Anderegg

Hydro Services
 (205)257-2251
arsegars@southernco.com

Microsoft Teams meeting

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April 12, 2021

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Transmittal of the Updated Study Report

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Dear Secretary Bose,

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC or Commission) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628-065). On April 12, 2019, FERC issued its Study Plan Determination¹ (SPD) for the Harris Project, approving Alabama Power's ten relicensing studies with FERC modifications. On May 13, 2019, Alabama Power filed Final Study Plans to incorporate FERC's modifications and posted the Final Study Plans on the Harris relicensing website at www.harrisrelicensing.com. In the Final Study Plans, Alabama Power proposed a schedule for each study that included filing a voluntary Progress Update in October 2019² and October 2020³.

Pursuant to the Commission's Integrated Licensing Process (ILP) and 18 CFR § 5.15(f), Alabama Power is filing the Harris Project Updated Study Report (USR) (Attachment 1). The enclosed USR describes Alabama Power's overall progress in implementing the study plans, and summarizes the data collected and any variances from the study plan and schedule.

Concurrent with this USR filing, Alabama Power is filing:

- **Draft** *Downstream Release Alternatives Phase 2 Study Report*
- **Draft** *Operating Curve Change Feasibility Analysis Phase 2 Study Report*
- **Final** *Aquatic Resources Study Report*
- **Final** *Downstream Aquatic Habitat Study Report*
- **Final** *Erosion and Sedimentation Study Report*
- **Final** *Water Quality Study Report*
- A Botanical Inventory of a 35-Acre Parcel at Flat Rock Park, Blake's Ferry, Alabama

¹ Accession No 20190412-3000.

² Accession No 20191030-5053.

³ Accession No 20201030-5215.

- **Draft Battery Energy Storage System at R.L. Harris Project Report**

Alabama Power is reporting the following variance to schedule/methods for the following studies:

- Operating Curve Change Feasibility Analysis Phase 2 Study - While use of historic photos from Lake Harris was mentioned in the Study Plan, photos could not be used to assess the effects of the winter pool alternatives due to the limited resolution of publicly available historical photos needed to assess individual erosion areas. In addition, Alabama Power provided qualitative information (rather than quantitative information noted in the Study Plan) regarding cultural resources on Lake Harris as the analysis of cultural resources is ongoing.
- Battery Energy Storage System (BESS) Study - FERC did not request a study plan for the BESS Study but provided recommendations for the type of analysis FERC expected Alabama Power to complete. Alabama Power evaluated the BESS separately from the other downstream release alternatives and results of the analysis are presented in a separate report, rather than included in the Downstream Release Alternatives Study.
- Erosion and Sedimentation Study - Alabama Power provided the results of the *Nuisance Aquatic Vegetation Survey Report* in Appendix F of the final report rather than providing to HAT 3 in the form of a technical memorandum.
- Aquatic Resources Study - Auburn University did not use the 30+2 sampling method as it was determined in the field to not be feasible/effective for sampling the sites and instead, shallow areas were sampled using boat and barge electrofishing equipment, which were found to be effective in sampling shallow areas within the study sites. The boat method used was a modification of the recently developed non-wadeable index of biological integrity (IBI). Sampling intensity was modified to accommodate available habitat, sampling frequency, and therefore IBI scores were not calculated.
- Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study - A schedule variance occurred for completing the TCP identification process with the Muscogee (Creek) Nation in April 2021 (rather than February 2021 as noted in the Study Plan).

Pursuant to 18 CFR §5.15(f), Alabama Power will host the Updated Study Report Meeting (Meeting) with stakeholders and FERC on April 27, 2021 by conference call. The Meeting will begin at 9 AM central and conclude by 12 PM central. The purpose of the Meeting is to provide an opportunity to review the contents of the USR.

Alabama Power will file the Updated Study Report Meeting Summary by May 12, 2021. Stakeholders will have until June 11, 2021, to file written comments with FERC on the USR Meeting Summary. All comments must adhere to FERC regulations at 18 CFR Section 5.15 (c)(2)-(7). All Harris studies have been completed and a proposal for new information gathering or studies is subject to paragraph (e) of Section 5.15 except

Page 3
April 12, 2021

that the proponent must demonstrate extraordinary circumstances warranting approval. Stakeholders may access the USR and the individual study reports on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR and study reports are also available on the Project relicensing website at <https://harrisrelicensing.com>.

If there are any questions concerning this filing, please contact me at arsegars@southernco.com or 205-257-2251.

Sincerely,



Angie Anderegg
Harris Relicensing Project Manager

Attachment – Updated Study Report

cc: Harris Stakeholder List

Attachment
Updated Study Report

UPDATED STUDY REPORT

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628



Prepared for:

Alabama Power Company

Prepared by:

Kleinschmidt Associates

April 2021



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1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Project (FERC Project No. 2628) (Harris Project), licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). Harris Reservoir is located on the Tallapoosa River, near Lineville, Alabama. The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary. This includes land to 795-feet mean sea level (msl)¹, as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.



The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama. These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the FERC-approved Harris Project Wildlife Mitigative Plan and Wildlife Management Plan. These lands are leased to, and managed by, the state of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

The following Project terms will have these meanings throughout this Updated Study Report (USR):

¹ Also includes a scenic easement (to 800-feet msl or 50-horizontal-feet from 793-feet msl, whichever is less, but never less than 795-feet msl).

- Lake Harris refers to the 9,870-acre reservoir, the adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse.
- Skyline refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County.
- Harris Project refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline.
- Harris Reservoir refers to the 9,870-acre reservoir only.
- Harris Dam refers to the dam, spillway, and powerhouse.
- The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

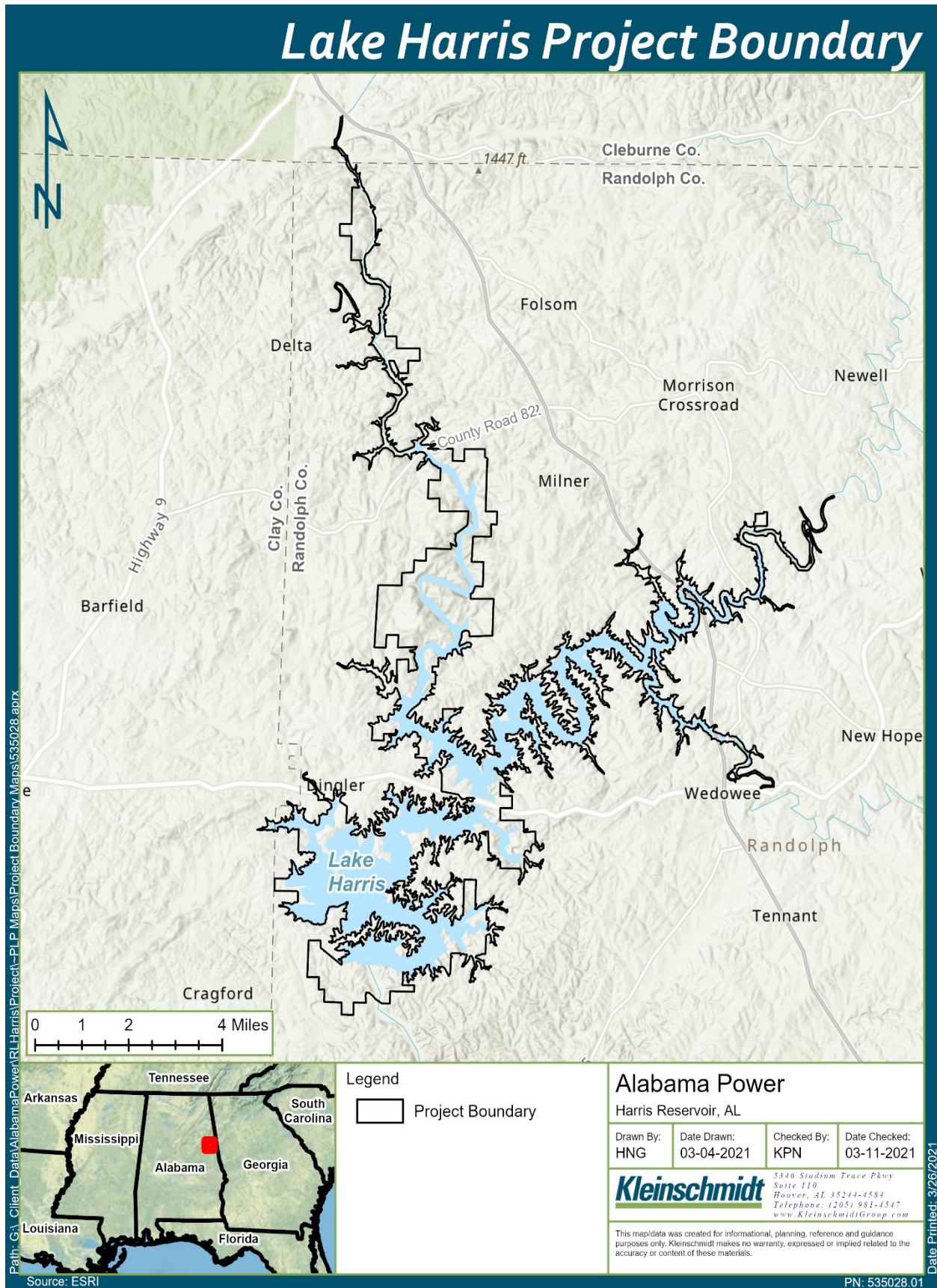


Figure 1 Lake Harris Project Boundary

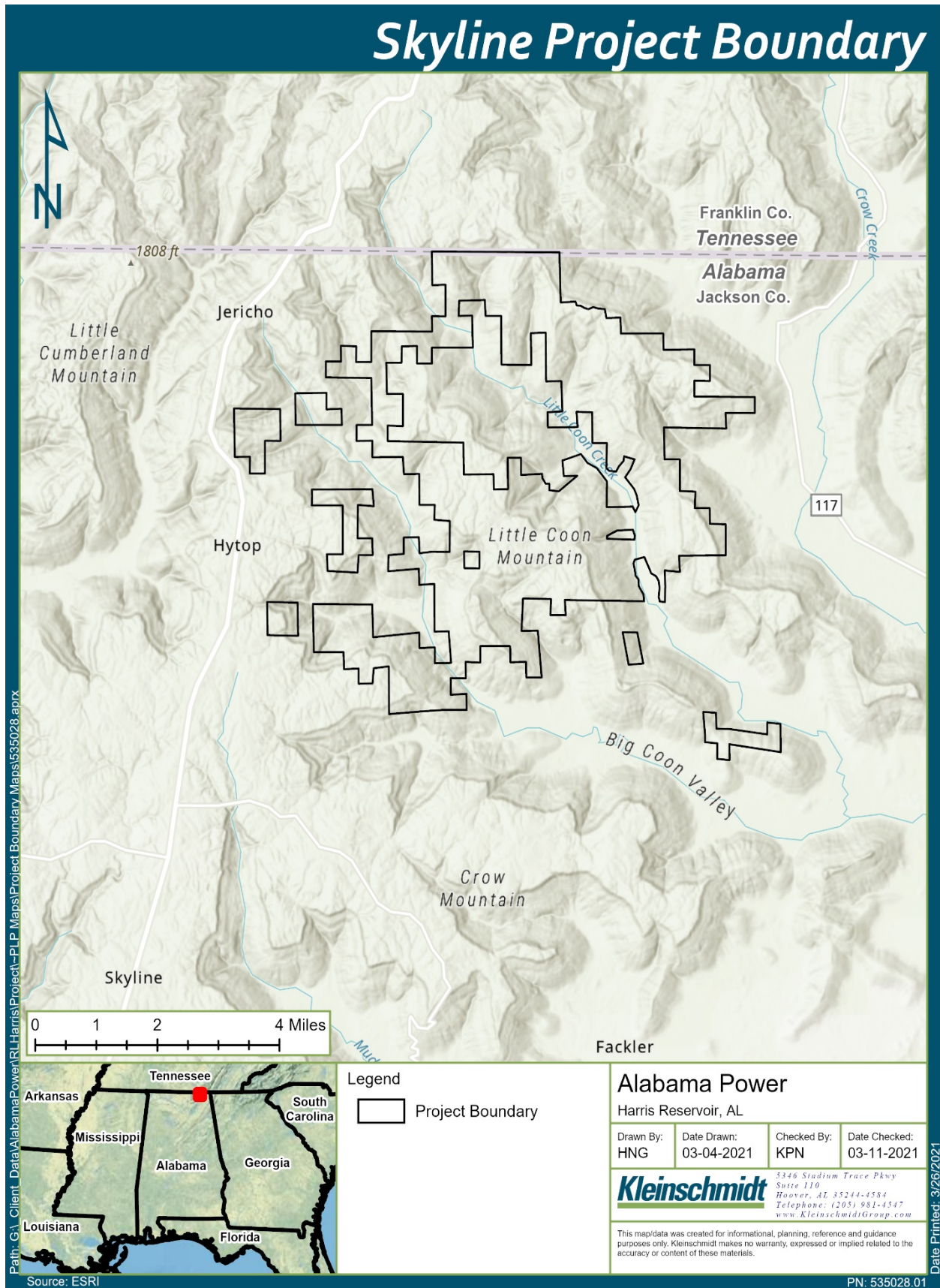


Figure 2 Skyline Project Boundary

2.0 HARRIS STUDY PLAN PROCESS OVERVIEW

During the October 19, 2017 Issue Identification Workshop, stakeholders provided information on resources that may be affected by the Harris Project. On August 28 and 29, 2018, FERC held Harris Project Scoping Meetings² to provide additional opportunities for stakeholders and the public to present and discuss any issues related to the Harris Project relicensing. On November 13, 2018, Alabama Power filed the following 10 proposed study plans for the Harris Project.

- Operating Curve Change Feasibility Analysis Study
- Downstream Release Alternatives Study
- Erosion and Sedimentation Study
- Water Quality Study
- Aquatic Resources Study
- Downstream Aquatic Habitat Study
- Threatened and Endangered Species Study
- Project Lands Evaluation Study
- Recreation Evaluation Study
- Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study

Based on comments filed by stakeholders, Alabama Power filed revised study plans on March 13, 2019³. FERC issued a Study Plan Determination (SPD)⁴ on April 12, 2019, which approved Alabama Power's study plans and included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019⁵.

Alabama Power formed the Harris Action Teams (HATs) to provide stakeholders an opportunity to work on the issues of most importance to them and, in the case of federal and state agencies, those issues where it has regulatory or statutory responsibility. The HATs include:

² Accession Nos. 20181010-4002 and 20181010-4003

³ Accession No. 20190313-5060

⁴ Accession No. 20190412-3000

⁵ Accession No. 20190513-5093

- HAT 1 – Project Operations
- HAT 2 – Water Quality and Use
- HAT 3 – Fish and Wildlife
- HAT 4 – Project Lands
- HAT 5 – Recreation
- HAT 6 – Cultural Resources

The HATs met throughout 2018, 2019, 2020, and into 2021 to discuss the various studies. All HAT meetings from April 2020 to present were held virtually due to Coronavirus 2019 (COVID-19) and related travel and public gathering restrictions.

On April 10, 2020, Alabama Power filed six of the ten draft study reports and two cultural resources documents concurrently with the Initial Study Report (ISR), which included the consultation record for each of these six reports and cultural resource documents. On August 10, 2020, FERC sent a letter to Alabama Power discussing the Determination on Requests for Study Modifications for the R.L. Harris Hydroelectric Project ⁶, recommending an additional study on a Battery Energy Storage System (BESS).

The following provides a chronological account of all Draft and Final Study Reports as well as Progress Reports filed with FERC since the ISR filing on April 10, 2020.

- **Final** *Area of Potential Effects Report* on June 29, 2020⁷
- **Draft** *Downstream Aquatic Habitat Study Report* on June 30, 2020⁸,
- **Final** *Downstream Release Alternatives Phase 1 Study Report* on July 27, 2020⁹;
- **Draft** *Aquatic Resources Study Report* on July 28, 2020¹⁰,
- **Draft** *Recreation Evaluation Study Report* on August 24, 2020¹¹.
- **Final** *Operating Curve Change Feasibility Analysis Phase 1 Study Report* on August 31, 2020¹²;
- **Final** *Phase 1 Project Lands Evaluation Study Report* on October 2, 2020¹³;

⁶ Accession No. 20200810-3007

⁷ Accession No. 20200629-5328

⁸ Accession No. 20200630-5200

⁹ Accession No. 20200727-5088

¹⁰ Accession No. 20200728-5120

¹¹ Accession No. 20200824-5241

¹² Accession No. 20200831-5339

¹³ Accession No. 20201002-5139

- Voluntary Progress Report on October 30, 2020¹⁴;
- **Final Recreation Evaluation Study Report** on November 24, 2020¹⁵; and
- **Final Threatened and Endangered Species Study Report** on January 29, 2021¹⁶.

Concurrent with this USR filing and pursuant to FERC's SPD and Determination on Requests for Study Modifications, Alabama Power is filing two draft Phase 2 study reports, four final study reports, a botanical inventory report, and the BESS Report, as follows.

- **Draft Downstream Release Alternatives Phase 2 Study Report**
- **Draft Operating Curve Change Feasibility Analysis Phase 2 Study Report**
- **Final Aquatic Resources Study Report**
- **Final Downstream Aquatic Habitat Study Report**
- **Final Erosion and Sedimentation Study Report**
- **Final Water Quality Study Report**
- A Botanical Inventory of a 35-Acre Parcel at Flat Rock Park, Blake's Ferry, Alabama
- **Draft Battery Energy Storage System at R.L. Harris Project Report**

The draft and final study reports include HAT meeting summaries and presentations, and documentation of consultation between April 2019¹⁷ through March 2021. Alabama Power will hold an USR meeting on April 27, 2021 and will file the meeting summary with FERC on May 12, 2021. Stakeholders may submit to Alabama Power and FERC by June 11, 2021, any disagreement concerning the USR meeting summary, and/or any modifications to any on-going studies or proposal to gather new information (18 Code of Federal Regulations (CFR), Section 5.15 (f)).

Sections 3.0 through 13.0 of this USR summarize the 11 FERC-approved studies in accordance with 18 CFR, Section 5.15, including 1) overall study progress, including data collected; 2) any variance from the FERC SPD and schedule; and 3) remaining activities and any modifications to the existing study or new studies proposed by Alabama Power.

¹⁴ Accession No 20201030-5215

¹⁵ Accession No. 20201124-5182

¹⁶ Accession No. 20210129-5393

¹⁷ Consultation records on some studies predate April 2019; the BESS consultation record begins April 2020 through March 2021.

3.0 OPERATING CURVE CHANGE FEASIBILITY ANALYSIS STUDY

3.1 Study Progress and Data Collection Summary

In accordance with the FERC-approved Study Plan, the evaluation of the winter pool alternatives were completed in two phases. Alabama Power filed the Draft *Operating Curve Change Feasibility Phase 1 Study Report* on April 10, 2020¹⁸. Alabama Power held a virtual HAT 1 meeting on June 4, 2020. Subsequently, FERC and the Alabama Department of Conservation and Natural Resources (ADCNR) submitted comments to Alabama Power on the Draft Phase 1 Study Report. As noted in Section 2.0, Alabama Power filed the Final *Operating Curve Change Feasibility Phase 1 Study Report* on August 31, 2020.

The Phase 1 Report described the hydrologic models (Hydrologic Engineering Center's River Analysis System [HEC-RAS] and Hydrologic Engineering Center's Reservoir System Simulation [HEC-ResSim]) developed for evaluating the winter pool alternatives (increasing the winter pool elevation in increments of 1 foot from 786 feet msl to 789 feet msl) and presented the results of the potential impacts of the alternatives on hydropower generation, flood control, navigation, drought operations, Green Plan (GP) flows, and downstream release alternatives. Due to timing of the development of the Phase 1 Report, Alabama Power included only the Pre-Green Plan (PGP), GP, and a 150 cubic feet per second (cfs) continuous minimum flow (CMF) in the Phase 1 Report. Shortly after Alabama Power finalized the Phase 1 Report, FERC required Alabama Power to evaluate additional downstream release alternatives. Alabama Power included the analysis of the impacts of raising the winter operating curve on the ability to pass the additional downstream release alternatives in the Draft *Operating Curve Change Feasibility Analysis Phase 2 Study Report*.

Alabama Power used the information in the Final Phase 1 Study Report along with FERC-approved relicensing study results and existing information to conduct the Phase 2 analysis to determine potential resource impacts on water quality, water use, erosion, sedimentation (including invasive species), aquatic resources, wildlife, threatened and endangered (T&E) species, terrestrial wetlands, recreation resources, downstream structures, and cultural resources. The Draft *Operating Curve Change Feasibility Analysis Phase 2 Study Report* provides the detailed methodology used to evaluate impacts on Project resources and accompanying results. Additional analyses were conducted using data from existing sources and the relicensing studies.

¹⁸ Accession No. 20200410-5086

Alabama Power held a HAT 1 meeting on April 1, 2021, to review the results of the Phase 2 analysis with stakeholders and is filing the Draft *Operating Curve Change Feasibility Analysis Phase 2 Study Report* concurrently with the USR.

3.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Operating Curve Change Feasibility Analysis Phase 2 Study in accordance with the methods and schedule described in the FERC SPD with the following variances:

- While use of historic photos from Lake Harris was mentioned in the Study Plan, photos could not be used to assess the effects of the winter pool alternatives due to the limited resolution of publicly available historical photos needed to assess individual erosion areas.
- Alabama Power provided qualitative information (rather than quantitative information noted in the Study Plan) regarding cultural resources on Lake Harris as the analysis of cultural resources is ongoing.

3.3 Remaining Activities/Modifications or Other Proposed Studies

Phase 2 analyses are complete. Alabama Power does not propose any additional operating curve change studies beyond those in the FERC SPD.

Remaining activities include:

- Review comments on the Draft *Operating Curve Change Feasibility Analysis Phase 2 Study Report* and modify the Final Report, as appropriate. The Final Report will be filed with the Final License Application (FLA).
- Alabama Power will present its operating proposal and protection, mitigation, and enhancement (PME) measures in the Preliminary Licensing Proposal (PLP), which will be filed by July 3, 2021.

4.0 DOWNSTREAM RELEASE ALTERNATIVES STUDY

4.1 Study Progress and Data Collection Summary

In accordance with the FERC-approved Study Plan, the evaluation of the downstream release alternatives was completed in two phases. In Phase 1, study methods included using existing data (hydrologic record and baseline information) to develop the appropriate simulation models to conduct the analysis of the following downstream release alternatives:

- GP (baseline or existing condition)
- PGP
- 150CMF

The primary tool for this study was the HEC-River Analysis System (HEC-RAS); however, Alabama Power used other HEC models to address the effects of downstream release alternatives. For example, effects to Harris Reservoir in Phase 2 were evaluated by modeling the current operations combined with each downstream release alternative through the daily HEC-Reservoir Simulation Model (HEC Res-Sim) for the ACT basin.

Alabama Power filed the Draft *Downstream Release Alternatives Phase 1 Study Report* on April 10, 2020¹⁹. Subsequently, FERC, the Alabama Rivers Alliance (ARA), ADCNR, and the U.S. Environmental Protection Agency (USEPA) submitted comments to Alabama Power on the Draft Phase 1 Study Report. As noted in Section 2.0, Alabama Power filed the Final *Downstream Release Alternatives Phase 1 Study Report* on July 27, 2020.

During Phase 2 of this study, the outflow hydrographs from HEC-ResSim were routed downstream using HEC-RAS to assess effects of the following downstream release alternatives on Project resources (water quality, water use, erosion and sedimentation, downstream aquatic resources [temperature and habitat], wildlife and terrestrial resources, T&E species, recreation, and cultural resources):

- GP
- PGP
- Modified Green Plan
- 150CMF
- 300CMF
- 600CMF

¹⁹ Accession No. 20200410-5069

- 800CMF
- 150CMF+GP
- 300CMF+GP
- 600CMF+GP
- 800CMF+GP

Additional analyses in Phase 2 were conducted using data from existing sources and the relicensing studies. Due to timing of the development of the Phase 1 Report and the request to evaluate additional downstream alternatives, Alabama Power included impacts from all downstream release alternatives on existing operational parameters (reservoir levels, hydropower generation, flood control, navigation and drought operations) in the Phase 2 analysis. While the SPD notes the effects analysis ongoing from June 2020-November 2021, Alabama Power and Kleinschmidt have completed the analyses.

Alabama Power held a HAT 1 meeting on April 1, 2021 to review the results of the Phase 2 analysis with stakeholders and is filing the Draft *Downstream Release Alternatives Phase 2 Study Report* concurrently with the USR.

4.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Downstream Release Alternatives Phase 2 Study in conformance with FERC's SPD. There are no variances from the study plan or schedule.

4.3 Remaining Activities/Modifications or Other Proposed Studies

Phase 2 analyses are complete. Alabama Power does not propose any downstream release alternative studies beyond those in the FERC SPD.

Remaining Activities include:

- Review comments on the Draft *Downstream Release Alternatives Study Phase 2 Report* and modify the Final Report, as appropriate. The Final Report will be filed with the FLA.
- Alabama Power will present its operating proposal and PME measures in the PLP, which will be filed by July 3, 2021.

5.0 BATTERY ENERGY STORAGE SYSTEM

5.1 Study Progress and Data Collection Summary

On August 10, 2020, FERC sent a letter to Alabama Power discussing the Determination on Requests for Study Modifications for the Project. In that letter, FERC recommended that Alabama Power conduct a BESS study. FERC recommended that the BESS study be conducted along with the Downstream Release Alternative Study and include at least two new release alternatives: (a) a 50 percent reduction in peak releases associated with installing one 60 MW battery unit, and (b) a proportionately smaller reduction in peak releases associated with installing a smaller MW battery unit (i.e., 5, 10 or 20 MW battery). FERC further recommended that Alabama Power include in its cost estimates for installing a BESS, any specific structural changes, any changes in turbine-generator units, and costs needed to implement each battery storage type. Finally, FERC recommended that, consistent with the Downstream Release Alternative Study Plan, Alabama Power evaluate how each of the release alternatives (i.e., items (a) and (b) above) would affect recreation and aquatic resources in the Harris Project reservoir and downstream of Harris Dam.

As discussed in the BESS report, Alabama Power does not consider installation of a BESS at the Harris Project as a reasonable alternative. The BESS study was conducted to provide FERC with the information needed to support its analysis. Although FERC recommended that these analyses be conducted as part of the Downstream Release Alternatives Study, Alabama Power determined that a separate analysis is more appropriate in that the BESS study is a screening level effort, requires a more detailed economic analysis, and considers the replacement and addition of generation equipment such as the replacement cost of a turbine and installation/replacement cost of batteries. Additionally, to model Project operations with peaking removed, the HEC-ResSim and HEC-RAS models would need to be redesigned to incorporate new operating rules. Defining new operating rules and redesigning the models is outside the scope of the study proposed by ARA and recommended by FERC. Alabama Power is filing the *Battery Energy Storage System Report* concurrently with the USR.

5.2 Variance from the Study Plan and Schedule

FERC did not request a study plan for the BESS Study but provided recommendations for the type of analysis FERC expected Alabama Power to complete. The BESS was evaluated separately from the other downstream release alternatives and results of the analysis are presented in a separate report.

5.3 Remaining Activities/Modifications or Other Proposed Studies

The BESS Study is complete. Alabama Power does not propose any additional BESS analysis beyond that recommended by FERC in its Determination on Requests for Study Modifications for the Project

Remaining Activities include:

- Review comments on the Draft *Battery Energy Storage System at R.L. Harris Project Report* and modify the Final Report, as appropriate. The Final Report will be filed with the FLA.

6.0 WATER QUALITY STUDY

6.1 Study Progress and Data Collection Summary

The Draft *Water Quality Study Report* was filed concurrently with the ISR on April 10, 2020²⁰. Subsequently, the ADCNR, ARA, EPA, Alabama Department of Environmental Management (ADEM), and FERC submitted comments to Alabama Power on the Draft Study Report.

Alabama Power collected dissolved oxygen and temperature data at the generation monitor from June 1 to October 31, 2020 and at the continuous monitor from May 4 to October 31, 2020²¹. In addition, Alabama Power also collected monthly vertical profiles in the Harris Reservoir forebay from March to October 2020 and will continue collecting from March to October 2021. Alabama Power is continuing to collect water quality data at both downstream monitoring locations in 2021 (from March 1 – June 30, 2021 at the continuous monitor and June 1 – June 30, 2021 at the generation monitor) to include in the final license application.

Alabama Power is filing the *Final Water Quality Study Report* concurrently with the USR.

6.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Water Quality Study in conformance with FERC's SPD. There are no variances from the study plan or schedule.²²

6.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional water quality studies.

²⁰ Accession No. 20200410-5095

²¹ As noted in the ISR, Alabama Power also collected water quality data at 15-minute intervals at the generation monitor from June to October 2017-2019, and at the continuous monitor from March to October 2019.

²² In the ISR, Alabama Power requested a variance to the approved Water Quality Study schedule to submit its Clean Water Act section 401 water quality certification to ADEM in April 2021, instead of as originally proposed in 2020. In the Determination on Study Modifications, FERC noted that Section 5.23(b) of the Commission's regulations requires the application for certification to be submitted to the certifying agency within 60 days of issuance of the Ready for Environmental Analysis notice, which will occur post-filing. Accordingly, a variance for submitting the certification application prior to filing the license application is not needed. As such, although a variance to the schedule does not need to be requested, Alabama Power notes that it plans to submit an application to ADEM for the 401 Water Qualification Certification (WQC) after the FLA is submitted in November 2021, not in April 2021 as noted in Alabama Power's ISR.

Remaining Activities include:

- Alabama Power will prepare the 401 WQC application and submit to ADEM after the FLA is filed with FERC.

7.0 EROSION AND SEDIMENTATION STUDY

7.1 Study Progress and Data Collection Summary

The Draft *Erosion and Sedimentation Study Report* was filed concurrently with the ISR on April 10, 2020²³. Subsequently, the ADCNR, ARA, FERC and individual stakeholders submitted comments to Alabama Power on the Draft Study Report. Alabama Power is filing the Final *Erosion and Sedimentation Study Report* concurrently with the USR.

7.1.1 Lake Harris

Alabama Power performed additional reconnaissance at identified sedimentation sites on Lake Harris during full (summer) pool conditions to determine if any nuisance aquatic vegetation was present. Alabama Power provided the results of the nuisance aquatic vegetation assessment in Appendix F of the Final *Erosion and Sedimentation Study Report*.

7.1.2 Tallapoosa River Downstream of Harris Dam

No additional data were collected in the Tallapoosa River downstream of Harris Dam to complete the analyses presented in the Final *Erosion and Sedimentation Study Report*.

7.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Erosion and Sedimentation Study in accordance with the methods **and schedule described in the FERC SPD except for the following variance:**

- Alabama Power provided the results of the Nuisance Aquatic Vegetation Survey Report in Appendix F of the Final Erosion and Sedimentation Study Report rather than providing to HAT 3 in the form of a technical memorandum.

7.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional erosion and sedimentation studies, and there are no remaining activities.

²³ Accession No. 20200410-5091

8.0 AQUATIC RESOURCES STUDY

8.1 Study Progress and Data Collection Summary

As noted in Section 2.0, Alabama Power filed the Draft *Aquatic Resources Study Report*, which included the aquatic resources desktop assessment, on July 28, 2020. Subsequently, the ADCNR, ARA, EPA, individual stakeholders, and FERC submitted comments to Alabama Power on the Draft Study Report. Alabama Power held HAT 3 meetings on June 2, 2020, November 5, 2020, and March 31, 2021.

Auburn University (Auburn) conducted a literature review of temperature requirements of target species (Redbreast Sunfish [*Lepomis auratus*], Channel Catfish [*Ictalurus punctatus*], Tallapoosa Bass [*Micropterus tallapoosae*], and Alabama Bass [*Micropterus henshalli*]). Auburn University obtained temperature data from the U.S. Geological Survey (USGS), Alabama Power monitors, and the 20 temperature level loggers stationed downstream of Harris Dam and consolidated these data with historical data. Auburn continued fish sampling through January 2021 and tagged and tracked fish with acoustic/radio (CART tags) during the summer of 2020. Auburn also conducted static respirometry tests and measured active metabolic rates using a combination of increasing water velocity and decreasing water temperature. Auburn incorporated the necessary physiological parameters into bioenergetics models to conduct simulations needed to test potential influence of water temperature and flow on specific growth rates of target fishes below Harris Dam. Auburn conducted growth simulations of Redbreast Sunfish using respiration rate parameters largely gathered from Bluegill, a closely-related species. Growth simulations could not be conducted for other target species due to one or more factors, such as low sample sizes for laboratory experiments, a lack of published models developed for riverine populations, or because parameters for other target species did not fit models developed for closely-related species.

Alabama Power is filing the Final *Aquatic Resources Study Report*, including Auburn's final bioenergetics report, concurrently with the USR.

8.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Aquatic Resources Study in accordance with the methods and schedule described in the FERC SPD with the following variance:

- Auburn University did not use the 30+2 sampling method as it was determined in the field to not be feasible/effective for sampling the sites and instead, shallow areas were sampled using boat and barge electrofishing equipment, which were found to be effective in sampling shallow areas within the study sites. The boat method used was a modification of the recently developed non-wadeable index of biological integrity (IBI). Sampling intensity was modified to accommodate available habitat, sampling frequency, and therefore IBI scores were not calculated.

8.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional aquatic resources studies, and there are no remaining activities.

9.0 DOWNSTREAM AQUATIC HABITAT STUDY

9.1 Study Progress and Data Collection Summary

As noted in Section 2.0, Alabama Power filed the Draft *Downstream Aquatic Habitat Study Report* on June 30, 2020. Subsequently, the ADCNR and ARA submitted comments to Alabama Power on the Draft Study Report. Alabama Power held a virtual HAT 3 meeting on June 2, 2020, November 5, 2020, and March 31, 2021.

In reviewing the comments on the Draft *Downstream Aquatic Habitat Study Report*, Alabama Power determined that the primary purpose of this study was to examine effects on habitat only; therefore, in the final report, all previous data and references to temperature were removed and are now included in the Final *Aquatic Resources Study Report* and the Draft *Downstream Release Alternatives Phase 2 Study Report* consistent with that FERC-approved Study Plan.

Alabama Power continued collecting level logger data at 20 locations in the Tallapoosa River below Harris Dam through June 2020, which were incorporated into the analysis and subsequent final report.

Alabama Power is filing the Final *Downstream Aquatic Habitat Study Report* concurrently with the USR.

9.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Downstream Aquatic Habitat Study in conformance with FERC's SPD. There are no variances from the study plan or schedule.

9.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional downstream aquatic habitat studies, and there are no remaining activities.

10.0 THREATENED AND ENDANGERED SPECIES STUDY

10.1 Study Progress and Data Collection Summary

The Draft *Threatened and Endangered Species Desktop Assessment* was filed concurrently with the ISR on April 10, 2020²⁴. Subsequently, the U.S. Fish and Wildlife Service (USFWS), ADCNR, FERC, ARA, the Alabama Glade Conservation Association, and an individual stakeholder submitted comments and questions regarding the Draft Desktop Assessment. Alabama Power held a virtual HAT 3 meeting on June 2, 2020, November 5, 2020, and March 31, 2021.

Alabama Power completed field surveys at Lake Harris and Skyline to determine if T&E species are located within the Project Boundary. As noted in Section 2.0, Alabama Power filed the Final *Threatened and Endangered Species Study Report*, including the Desktop Assessment and the results of all field investigations, on January 29, 2021.

10.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Threatened & Endangered Species Study in conformance with FERC's SPD. There are no variances from the study plan or schedule.

10.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional threatened and endangered species studies, and there are no remaining activities.

²⁴ Accession No. 20200410-5094

11.0 PROJECT LANDS EVALUATION STUDY

11.1 Study Progress and Data Collection Summary

The Draft *Phase 1 Project Lands Evaluation Study Report* was filed concurrently with the ISR on April 10, 2020²⁵. Subsequently, the ADCNR and FERC submitted comments to Alabama Power on the Draft Study Report. As noted in Section 2.0, Alabama Power filed the Final *Phase 1 Project Lands Evaluation Study Report* on October 2, 2020. Alabama Power held a HAT 4 meeting on October 19, 2020, to present the Draft Shoreline Management Plan (SMP) and the Wildlife Management Plan (WMP) annotated outline.

Samford University conducted a botanical survey on an additional 35 acres of land adjacent to the previously surveyed area at Flat Rock Park. This additional botanical inventory report (*A Botanical Inventory of a 35-Acre Parcel at Flat Rock Park, Blake's Ferry, Alabama*) is being filed concurrently with the USR.

Phase 2 of this study is using the results of Phase 1 and other Harris relicensing studies to develop a WMP and a SMP. Specific activities for developing the SMP and WMP are included in the FERC-approved Study Plan.

11.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Project Lands Evaluation in conformance with FERC's SPD. There are no variances from the study plan or schedule.

11.3 Remaining Activities/Modifications or other Proposed Studies

Alabama Power does not propose any additional land evaluation studies.

Remaining activities include:

- Alabama Power will file a WMP and SMP with the FLA.

²⁵ Accession No. 20200410-5092

12.0 RECREATION EVALUATION STUDY

12.1 Study Progress and Data Collection Summary

As noted in Section 2.0, Alabama Power filed the Draft *Recreation Evaluation Study Report* on August 24, 2020²⁶. Subsequently, the ADCNR, ARA, Tim Coe (Mayor of Wedowee), Donna McKay (Mayor of Town of Wadley), Bob Fincher (State Representative 37th House District), individual stakeholders, and FERC submitted comments to Alabama Power on the Draft Study Report. Alabama Power held HAT 5 meetings on June 4, 2020 and October 19, 2020. As noted in Section 2.0, Alabama Power filed the Final *Recreation Evaluation Study Report* on November 24, 2020.

12.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Recreation Evaluation Study in accordance with the methods and schedule described in the FERC SPD, including a variance that was approved by FERC on August 10, 2020.

12.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional recreation studies, and there are no remaining activities.

²⁶ This was noted as a schedule variance in the Initial Study Report due to the additional study elements and extended participation deadlines.

13.0 CULTURAL RESOURCES STUDY

13.1 Study Progress and Data Collection Summary

The Harris Project Cultural Resources *Programmatic Agreement and Historic Properties Management Plan* Study Plan involves collecting and summarizing existing cultural resources baseline information and developing a plan to assess cultural resources identified in the Harris Project Area of Potential Effect (APE). Alabama Power filed the *Inadvertent Discovery (IDP) Plan and Traditional Cultural Properties (TCP) Identification Plan* concurrent with the ISR on April 10, 2020²⁷. Subsequently, stakeholders submitted comments to Alabama Power²⁸. On May 15, 2020, Alabama Power provided the Draft *Area of Potential Effects Report* to HAT 6 for review. Alabama Power held a HAT 6 meeting on May 28, 2020 to discuss the APE report and the status of the TCP Identification study. Alabama Power filed the Final *Area of Potential Effects Report* on June 29, 2020²⁹. On August 11, 2020, FERC issued its Determination of Area of Potential Effects for the Project³⁰. Alabama Power held a virtual site visit of Skyline on March 4, 2021, for applicable tribes and the Alabama Historical Commission.

Alabama Power concluded cultural resources assessments for the sites identified during the Lake Harris preliminary archeological assessment in February 2021 and will complete the TCP identification process with the Muscogee (Creek) Nation in April 2021.

In addition to assessments on sites on Lake Harris, Alabama Power completed cultural resource assessments for Skyline. Further, as part of the Draft *Downstream Release Alternatives Phase 2 Study Report*, Alabama Power reviewed the effects of Project operations (including any proposed changes in downstream releases) to the known cultural resources downstream of Harris Dam³¹.

²⁷ Accession No. 20200410-5068

²⁸ The Draft TCP Identification Plan and IDP Plan were distributed to HAT 6 for comments in February 2020.

²⁹ This was noted as a schedule variance in the Initial Study Report.

³⁰ Accession No. 20200811-3007

³¹ This was a desktop review and did not include cultural resource assessments as most of the cultural resources downstream are outside of Alabama Power's administrative area of control.

13.2 Variance from the Study Plan and Schedule

Alabama Power conducted the Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study in conformance with FERC's SPD with the following variances:

- a variance for filing the Final *Area of Potential Effects Report* which was approved by FERC following the ISR.
- will complete the TCP identification process with the Muscogee (Creek) Nation in April 2021 (rather than February 2021 as noted in the Study Plan).

13.3 Remaining Activities/Modifications or Other Proposed Studies

Alabama Power does not propose any additional cultural studies.

Remaining Activities include:

- Alabama Power will complete eligibility assessments for known cultural resources by July 2021.
- Alabama Power will issue determination of effect on historic properties by July 2021.
- Alabama Power will develop a Draft Historic Properties Management Plan (HPMP) for the Harris Project to be filed concurrently with the PLP. The HPMP will describe the Harris Project, APE, anticipated effects, and Alabama Power's proposed measures to protect historic properties.

Document Content(s)

2021-04-12 Updated Study Report Filing.PDF.....1



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April 12, 2021

VIA ELECTRONIC FILING

Project No. 2628-065

R.L. Harris Hydroelectric Project

Transmittal of A Botanical Inventory of a 35-Acre Parcel at Flat Rock Park, Blake's Ferry, Alabama

Ms. Kimberly D. Bose

Secretary

Federal Energy Regulatory Commission

888 First Street NE

Washington, DC 20426

Dear Secretary Bose,

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC or Commission) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628-065). On April 12, 2019, FERC issued its Study Plan Determination¹ (SPD) for the Harris Project, approving Alabama Power's ten relicensing studies with FERC modifications. On May 13, 2019, Alabama Power filed Final Study Plans to incorporate FERC's modifications and posted the Final Study Plans on the Harris relicensing website at www.harrisrelicensing.com.

Consistent with FERC's April 12, 2019 SPD, Alabama Power filed the Draft Phase 1 Project Lands Evaluation Study Report (Draft Report) on April 10, 2020² and the Final Phase 1 Project Lands Evaluation Study Report (Final Report) on October 10, 2020³. The Draft and Final Report included a proposal to reclassify +/-57 acres of existing Project lands from Recreation to Natural/Undeveloped due to the presence of the rare Blake's Ferry Pluton. Initial stakeholder consultation identified a 20-acre parcel to be inventoried for the purposes of cataloguing all plants present at the rare Blake's Ferry Pluton located adjacent to Alabama Power's Flat Rock Park (Flat Rock). Stakeholder comments provided during the Initial Study Report Meeting held April 28, 2020, highlighted the need to inventory an additional 35-acre parcel adjacent to the original 20-acre parcel. A botanical inventory of the 20-acre parcel was completed during the spring and fall 2019, and the 20-acre parcel inventory report was included in the Final Report. Following the filing of the Final Report, Samford University performed an additional botanical inventory on the 35-acre parcel, and the 35-acre parcel inventory report is contained in Attachment 1.

¹ Accession Number 20190412-3000.

² Accession Number 20200410-5092.

³ Accession Number 20201002-5139.

Page 2
April 12, 2021

If there are any questions concerning this filing, please contact me at arsegars@southernco.com or 205-257-2251.

Sincerely,

A handwritten signature in blue ink that reads "Angie Anderegg". The signature is written in a cursive, flowing style.

Angie Anderegg
Harris Relicensing Project Manager

Attachment 1 – A Botanical Inventory of a 35-Acre Parcel at Flat Rock Park, Blake's Ferry, Alabama

cc: Harris Action Team 4 Stakeholder List

Attachment 1
A Botanical Inventory of a 35-Acre Parcel at Flat Rock
Park, Blake's Ferry, Alabama

**A BOTANICAL INVENTORY OF A 35-ACRE
PARCEL AT FLAT ROCK PARK,
BLAKE'S FERRY, ALABAMA**

**A report prepared for
ALABAMA POWER COMPANY**

by

**James T. Diggs, Katie N. Horton, Daniel Spaulding,
David M. Frings**

December 29, 2020

Introduction

This botanical inventory, begun in March 2020, was undertaken to catalog all plant species present at a 35-acre parcel at the rare Blake's Ferry Pluton, located adjacent to Alabama Power Company's (Alabama Power) Flat Rock Park (Flat Rock) on Lake Harris at 7115 CR 870 Wedowee, AL 36278. The area of the botanical inventory (Inventory Area) is delineated in Figure 1. This botanical inventory is intended to support the Alabama Glade Conservation Coalition's August 28, 2018 request to reclassify this 35-acre parcel of Flat Rock Park from "Recreational" to "Natural/Undeveloped", affording the natural plant and animal community at this location protection from potential future degradation.

The Inventory Area consists of approximately 35 acres of woodland habitat adjacent to the popular Flat Rock recreational area on Lake Harris. The proximity of this wooded tract to the rare granite pluton allows animals to take potential shelter during the heat of Alabama summer, and creates safe habitat for vulnerable animals such as the Carolina box turtle (*Terrapene carolina*) during their breeding season. It may be worth noting that while some areas in the land originally surveyed adjacent to the visitor-accessible portion of Flat Rock appeared to have only become wooded in the absence of fire maintenance, this 35-acre plot appeared to be older natural forest with deep roots rather than an encroachment onto the granite pluton. We found that several indicators of a rich and healthy forest were present, including *Collinsonia canadensis*, *Platanthera clavellata*, and *Listera australis* with a healthy population of native azaleas (*Rhododendron* sp.) on neighboring lands. These rich forests provide an important buffer zone for the rare granite outcrop community at the heart of Flat Rock.

The field team of botanists (Diggs, Spaulding, and Horton) began this inventory in March 2020, and visited the site at least monthly throughout the growing season, with the final field day occurring on October 25, 2020. We walked the entire 35-acre property during each visit, paying careful attention to specialized habitats on the parcel that were likely to harbor additional or more ecologically-restricted species (wetlands, power line cuts, rich woodlands, grasslands, etc.). All plant species were identified either in the field, or in cases where identification was more difficult, a voucher specimen was taken for later identification in the laboratory. All vouchers are housed at the Anniston Museum of Natural History, Anniston, Alabama (AMAL, Daniel D. Spaulding, curator). All identifications were made *sensu* Weakley (2015)¹, and all nomenclature was checked against the Alabama Plant Atlas².

In all, 401 species of plants were documented from the Inventory Area and surrounding buffer areas. These 401 species represent 106 plant families. Several of these species are of federal and/or state conservation concern. These species and their ranks are presented in Table 1. The

¹ Weakley, A.S. 2015. Flora of the southern and mid-Atlantic states, working draft of May 2015. University of North Carolina Herbarium, North Carolina Botanical Garden, Chapel Hill, NC.

² Keener, B. R., A.R. Diamond, L. J. Davenport, P. G. Davison, S. L. Ginzburg, C. J. Hansen, C. S. Major, D. D. Spaulding, J. K. Triplett, and M. Woods. 2019. [Alabama Plant Atlas](#). [S.M.]Landry and K.N. Campbell (original application development), Florida Center for Community Design and Research. University of South Florida]. University of West Alabama, Livingston, Alabama.

inventory team recorded 43 species that had never been reported for Randolph County (denoted as “County record” within the comments of Table 2). These results are presented in Table 2. The approximate locations for representative populations of the rare species found in Table 1 are shown in the map in Figure 2. There are 44 documented species of non-native taxa (designated “not native” in Table 2) within the Inventory Area, 22 of which are considered invasive by the Southeast Exotic Pest Plant Council (SE-EPPC).³ These are designated as “invasive” in Table 2. In addition, there are several very large, mature American beech (*Fagus grandifolia*) on the property which should be measured for potential state Champion Tree status.

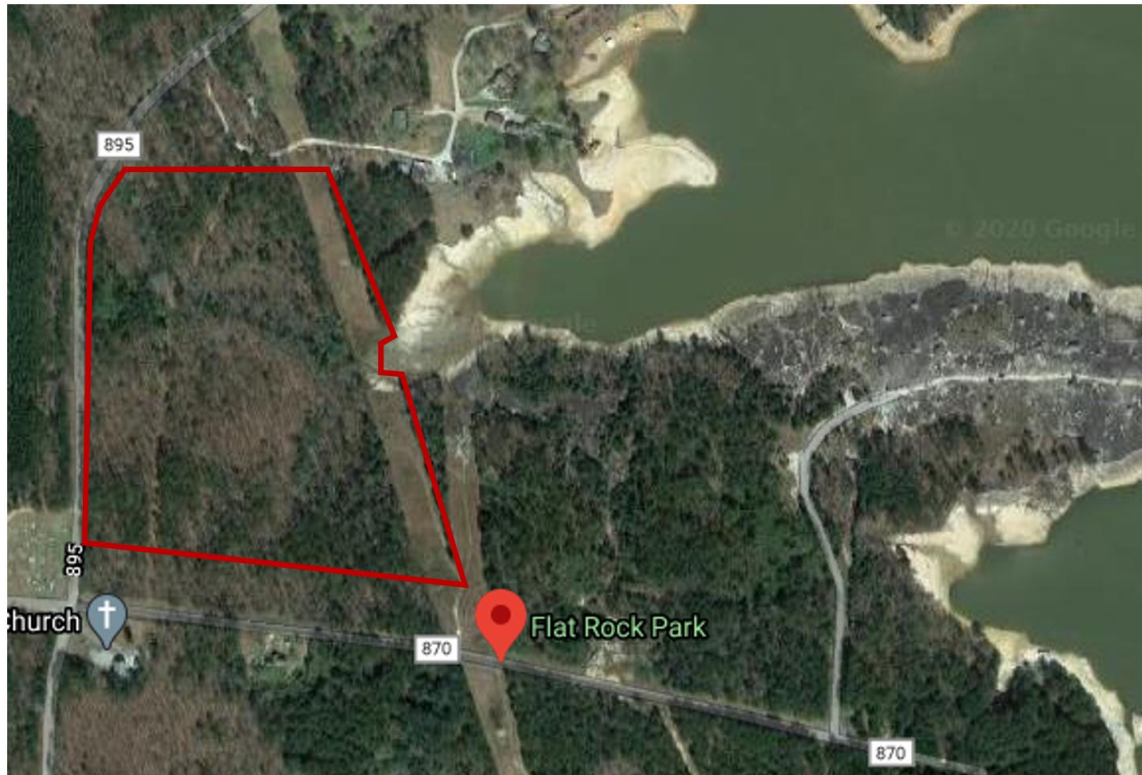


FIGURE 1: INVENTORY AREA, APPROXIMATELY 35 ACRES.

³ Miller, J., Chambliss, E., and Barger, C. 2004. Invasive Plants of the Thirteen Southern States. <https://www.invasive.org/south/seweeds.cfm>

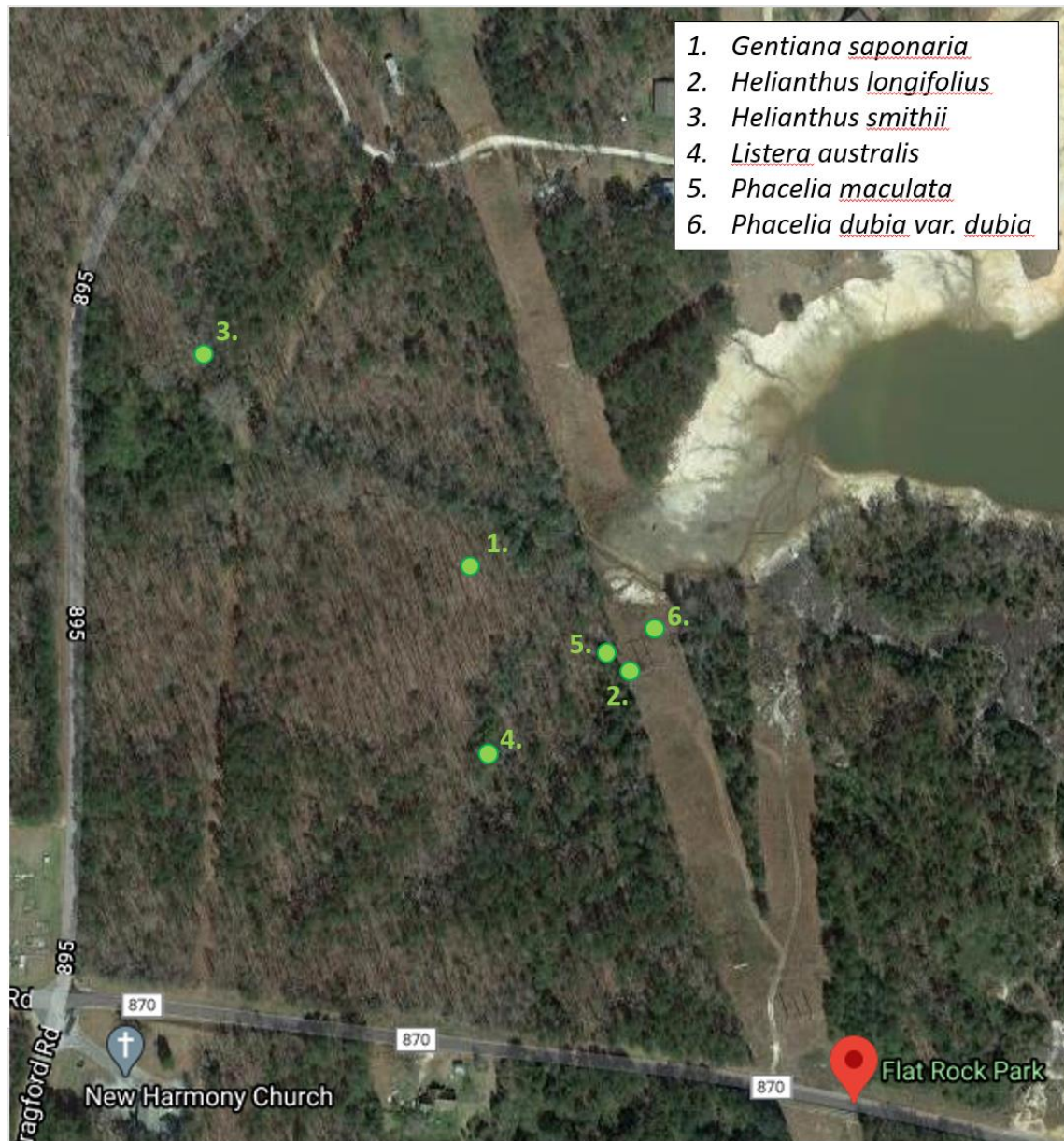


FIGURE 2: REPRESENTATIVE LOCATIONS OF POPULATIONS OF SPECIES OF CONSERVATION CONCERN FROM TABLE 1.

TABLE 1: SPECIES OF CONSERVATION CONCERN DOCUMENTED IN INVENTORY AREA

Species	Conservation rank
<i>Gentiana saponaria</i> , soapwort gentian	S3
<i>Helianthus longifolius</i> , longleaf sunflower	S1S2, G3
<i>Helianthus smithii</i> , Smith's sunflower	S2, G2
<i>Listera australis</i> , southern twayblade orchid	S2, G4
<i>Phacelia maculata</i> , spotted scorpion weed	S1, G3
<i>Phacelia dubia</i> var. <i>dubia</i>	S1S2

Legend: In all rankings, “S” denotes the range of the plant in the state of Alabama. “G” denotes the entire natural range of the plant.⁴

- G1 or S1: Critically Imperiled — At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors. S1 denotes fewer than 5 known occurrences within the state.
- G2 or S2: Imperiled — At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors. S2 denotes 6-20 known occurrences within the state.
- G3 or S3: Vulnerable — At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors. S3 denotes 21-100 occurrences within the state.
- G4 or S4: Apparently Secure — At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. S4 denotes species which are apparently secure within the state.
- G5 or S5: Secure — At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats. S5 denotes species which are demonstrably secure within the state.

⁴ Master, L. L., D. Faber-Langendoen, R. Bittman, G. A. Hammerson, B. Heidel, L. Ramsay, K. Snow, A. Teucher, and A. Tomaino. 2012. NatureServe Conservation Status Assessments: Factors for Evaluating Species and Ecosystem Risk. NatureServe, Arlington, VA

TABLE 2: SPECIES DOCUMENTED WITHIN INVENTORY AREA

	<i>Taxon name</i>	Common name	Family	Comments
1	<i>Acalypha gracilens</i>	Slender three seed mercury	Euphorbiaceae	
2	<i>Acalypha virginica</i>	Virginia three seed mercury	Euphorbiaceae	
3	<i>Acer rubrum</i>	Red maple	Aceraceae	
4	<i>Aesculus pavia</i>	Red buckeye	Hippocastanaceae	
5	<i>Agrimonia parviflora</i>	Harvestlice	Rosaceae	
6	<i>Agrostis hyemalis</i>	Ticklegrass	Poaceae	
7	<i>Agrostis perennans</i>	Autumn bentgrass	Poaceae	
8	<i>Albizia julibrissin</i>	Mimosa	Fabaceae	Not native, invasive
9	<i>Allium canadense</i>	Wild onion	Alliaceae	
10	<i>Allium vineale</i>	Field garlic	Alliaceae	Not native, invasive
11	<i>Alnus serrulata</i>	Tag alder	Betulaceae	
12	<i>Alopecurus carolinianus</i>	Carolina foxtail grass	Poaceae	
13	<i>Ambrosia artemisiifolia</i>	Common ragweed	Asteraceae	
14	<i>Amphicarpaea bracteata</i>	American hog peanut	Fabaceae	
15	<i>Andropogon virginicus</i>	Broom sedge	Poaceae	
16	<i>Anemone quinquefolia</i>	Nightcaps	Ranunculaceae	
17	<i>Apios americana</i>	American groundnut	Fabaceae	
18	<i>Apocynum cannabinum</i>	Hemp dogbane	Apocynaceae	
19	<i>Arisaema pusillum</i>	Small-flowered jack-in-the-pulpit	Araceae	
20	<i>Arundinaria gigantea</i>	River cane	Poaceae	
21	<i>Asclepias amplexicaulis</i>	Clasping milkweed	Apocynaceae	
22	<i>Asclepias variegata</i>	Red ring milkweed	Apocynaceae	
23	<i>Asimina parviflora</i>	Small-flowered pawpaw	Annonaceae	
24	<i>Asplenium platyneuron</i>	Ebony spleenwort	Aspleniaceae	
25	<i>Athyrium asplenioides</i>	Southern lady fern	Athyriaceae	
26	<i>Baccharis halimifolia</i>	Groundsel tree	Asteraceae	

	<i>Taxon name</i>	Common name	Family	Comments
27	<i>Berberis bealei</i>	Leather leaf mahonia	Berberidaceae	Not native, invasive, County record
28	<i>Bignonia capreolata</i>	Cross-vine	Bignoniaceae	
29	<i>Boehmeria cylindrica</i>	False nettle	Urticaceae	
30	<i>Botrychium biternatum</i>	Southern grape fern	Ophioglossaceae	
31	<i>Botrychium dissectum</i>	Cutleaf grape fern	Ophioglossaceae	
32	<i>Botrychium virginianum</i>	Rattlesnake fern	Ophioglossaceae	
33	<i>Briza minor</i>	Lesser quaking grass	Poaceae	Not native
34	<i>Bromus japonicus</i>	Japanese brome	Poaceae	Not native
35	<i>Callicarpa americana</i>	American beautyberry	Lamiaceae	
36	<i>Calycanthus floridus</i>	Carolina allspice	Calycanthaceae	
37	<i>Cardamine hirsuta</i>	Hairy bittercress	Brassicaceae	Not native
38	<i>Carex caroliniana</i>	Carolina sedge	Cyperaceae	County record
39	<i>Carex complanata</i>	Hirsute sedge	Cyperaceae	
40	<i>Carex crinita</i>	Fringed sedge	Cyperaceae	
41	<i>Carex debilis</i>	White-edge sedge	Cyperaceae	
42	<i>Carex festucacea</i>	Fescue sedge	Cyperaceae	
43	<i>Carex leptalea</i>	Bristle stalk sedge	Cyperaceae	
44	<i>Carex lurida</i>	Sallow sedge	Cyperaceae	
45	<i>Carex nigromarginata</i>	Black-edged sedge	Cyperaceae	
46	<i>Carex striatula</i>	Lined sedge	Cyperaceae	
47	<i>Carex styloflexa</i>	Bent sedge	Cyperaceae	
48	<i>Carex tribuloides</i>	Blunt broom sedge	Cyperaceae	
49	<i>Carpinus caroliniana</i>	American hornbeam	Betulaceae	
50	<i>Carya glabra</i>	Pignut hickory	Juglandaceae	
51	<i>Carya tomentosa</i>	Mockernut hickory	Juglandaceae	
52	<i>Centrosema virginianum</i>	Spurred butterfly pea	Fabaceae	
53	<i>Cephalanthus occidentalis</i>	Buttonbush	Rubiaceae	
54	<i>Cerastium glomeratum</i>	Sticky chickweed	Caryophyllaceae	
55	<i>Chamaecrista nictitans</i>	Common sensitive plant	Fabaceae	
56	<i>Chamaecrista fasciculata</i>	Common Partridge Pea	Fabaceae	
57	<i>Chamaelirium luteum</i>	Devil's bit	Melanthiaceae	
58	<i>Chasmanthium latifolium</i>	River Oats	Poaceae	
59	<i>Chasmanthium laxum</i>	Slender wood oats	Poaceae	County record

	<i>Taxon name</i>	Common name	Family	Comments
60	<i>Chasmanthium sessiliflorum</i>	Longleaf wood oats	Poaceae	
61	<i>Chimaphila maculata</i>	Pipsissewa	Ericaceae	
62	<i>Chrysopsis mariana</i>	Maryland golden aster	Asteraceae	
63	<i>Cicuta maculata</i>	Water hemlock	Apiaceae	
64	<i>Clematis virginiana</i>	Virgin's bower	Ranunculaceae	
65	<i>Clitoria mariana</i>	Butterfly pea	Fabaceae	
66	<i>Cocculus carolinus</i>	Carolina snailseed	Menispermaceae	
67	<i>Coleataenia anceps</i>	Beaked panic grass	Poaceae	
68	<i>Coleataenia rigidula</i>	Redtop panic grass	Poaceae	
69	<i>Collinsonia canadensis</i>	Northern horsebalm	Lamiaceae	County record
70	<i>Commelina communis</i>	Asiatic dayflower	Commelinaceae	Not native, invasive
71	<i>Commelina erecta</i>	Erect dayflower	Commelinaceae	
72	<i>Commelina virginica</i>	Virginia dayflower	Commelinaceae	County record
73	<i>Coreopsis auriculata</i>	Eared tickseed	Asteraceae	
74	<i>Coreopsis grandiflora</i> var. <i>grandiflora</i>	Large-flowered tickseed	Asteraceae	
75	<i>Coreopsis major</i>	Woodland tickseed	Asteraceae	
76	<i>Cornus florida</i>	Flowering dogwood	Cornaceae	
77	<i>Croton glandulosus</i>	Vente conmigo	Euphorbiaceae	
78	<i>Croton michauxii</i>	Narrowleaf rushfoil	Euphorbiaceae	
79	<i>Cuscuta campestris</i>	Field dodder	Convolvulaceae	
80	<i>Cuscuta compacta</i>	Love vine	Convolvulaceae	
81	<i>Cuscuta gronovii</i>	Scaldweed	Convolvulaceae	
82	<i>Cyclospermum leptophyllum</i>	Marsh parsley	Apiaceae	County record
83	<i>Cyperus retrofractus</i>	Rough flatsedge	Cyperaceae	County record
84	<i>Cyperus retrorsus</i>	Pinebarren flatsedge	Cyperaceae	
85	<i>Cyperus strigosus</i>	Straw color flatsedge	Cyperaceae	
86	<i>Danthonia sericea</i>	Downy oatgrass	Poaceae	
87	<i>Decumaria barbara</i>	Climbing hydrangea	Hydrangeaceae	
88	<i>Desmodium ciliare</i>	Hairy small-leaf tick-trefoil	Fabaceae	
89	<i>Desmodium paniculatum</i>	Panicled tick- trefoil	Fabaceae	

	<i>Taxon name</i>	Common name	Family	Comments
90	<i>Desmodium rotundifolium</i>	Prostrate tick-trefoil	Fabaceae	
91	<i>Desmodium viridiflorum</i>	Velvetleaf tick-trefoil	Fabaceae	
92	<i>Dichanthelium acuminatum</i> <i>var. lindheimeri</i>	Lindheimer's witch grass	Poaceae	
93	<i>Dichanthelium boscii</i>	Bosc's witchgrass	Poaceae	
94	<i>Dichanthelium clandestinum</i>	Deer tongue witchgrass	Poaceae	
95	<i>Dichanthelium commutatum</i>	Variable witchgrass	Poaceae	
96	<i>Dichanthelium curtifolium</i>	Shortleaf witchgrass	Poaceae	County record
97	<i>Dichanthelium depauperatum</i>	Starved witchgrass	Poaceae	
98	<i>Dichanthelium dichotomum</i> <i>var. dichotomum</i>	Forked witchgrass	Poaceae	
99	<i>Dichanthelium laxiflorum</i>	Lax-flowered witchgrass	Poaceae	
100	<i>Dichanthelium microcarpon</i>	Small-fruit witchgrass	Poaceae	
101	<i>Dichanthelium scoparium</i>	Velvet witchgrass	Poaceae	
102	<i>Dichanthelium sphaerocarpon</i>	Round-fruit witchgrass	Poaceae	
103	<i>Dioscorea polystachya</i>	Chinese yam	Dioscoreaceae	Not native, invasive, County record
104	<i>Dioscorea villosa</i>	Common wild yam	Dioscoreaceae	
105	<i>Diospyros virginiana</i>	American persimmon	Ebenaceae	
106	<i>Diphasiastrum digitatum</i>	Running ground pine	Lycopodiaceae	
107	<i>Dulichium arundinaceum</i>	Three-way sedge	Cyperaceae	
108	<i>Elephantopus carolinianus</i>	Leafy elephant's foot	Asteraceae	
109	<i>Elephantopus tomentosus</i>	Woolly elephant's foot	Asteraceae	
110	<i>Elymus glabriflorus</i>	Southeastern wild rye	Poaceae	
111	<i>Endodeca serpentaria</i>	Virginia snake root	Aristolochiaceae	
112	<i>Eragrostis japonica</i>	Pond lovegrass	Poaceae	Not native, County record
113	<i>Erechtites hieraciifolius</i>	American burnweed	Asteraceae	
114	<i>Erianthus alopecuroides</i>	Silver plume grass	Poaceae	
115	<i>Erigeron annuus</i>	Annual fleabane	Asteraceae	

	<i>Taxon name</i>	Common name	Family	Comments
116	<i>Erigeron canadensis</i>	Common horseweed	Asteraceae	
117	<i>Erigeron philadelphicus</i>	Philadelphia fleabane	Asteraceae	
118	<i>Erigeron strigosus</i>	Common eastern fleabane	Asteraceae	
119	<i>Eryngium prostratum</i>	Creeping eryngo	Apiaceae	
120	<i>Euonymus americanus</i>	American strawberry bush	Celastraceae	
121	<i>Eupatorium album</i>	White thoroughwort	Asteraceae	
122	<i>Eupatorium capillifolium</i>	Common dogfennel	Asteraceae	
123	<i>Eupatorium hyssopifolium</i>	Hyssop-leaf thoroughwort	Asteraceae	
124	<i>Eupatorium rotundifolium</i>	Common roundleaf thoroughwort	Asteraceae	
125	<i>Eupatorium serotinum</i>	Late-flowering thoroughwort	Asteraceae	
126	<i>Euphorbia pubentissima</i>	False flowering spurge	Euphorbiaceae	
127	<i>Euthamia caroliniana</i>	Slender goldentop	Asteraceae	County record
128	<i>Eutrochium fistulosum</i>	Hollow-stem joe pye weed	Asteraceae	
129	<i>Eutrochium purpureum</i>	Sweet-scented Joe Pye weed	Asteraceae	
130	<i>Fagus grandifolia</i>	American beech	Fagaceae	
131	<i>Fallopia scandens</i>	Climbing false buckwheat	Polygonaceae	County record
132	<i>Festuca myuros</i>	Rat tail fescue	Poaceae	Not native
133	<i>Fraxinus biltmoreana</i>	Biltmore ash	Oleaceae	County record
134	<i>Fraxinus pennsylvanica</i>	Green ash	Oleaceae	
135	<i>Galactia regularis</i>	Eastern milk pea	Fabaceae	
136	<i>Galium uniflorum</i>	One-flower bedstraw	Rubiaceae	
137	<i>Gamochaeta chionesthes</i>	White cloaked cudweed	Asteraceae	Not native
138	<i>Gelsemium sempervirens</i>	Carolina jessamine	Gelsemiaceae	
139	<i>Gentiana saponaria</i>	Soapwort gentian	Gentianaceae	S3
140	<i>Geranium carolinianum</i>	Carolina geranium	Geraniaceae	
141	<i>Gladiolus X gandavensis</i>	Garden gladiolus	Iridaceae	
142	<i>Gleditsia triacanthos</i>	Honey locust	Fabaceae	
143	<i>Goodyera pubescens</i>	Downy rattlesnake plantain	Orchidaceae	

	<i>Taxon name</i>	Common name	Family	Comments
144	<i>Gratiola neglecta</i>	Clammy hedge hyssop	Plantaginaceae	County record
145	<i>Helianthus angustifolius</i>	Narrowleaf sunflower	Asteraceae	
146	<i>Helianthus hirsutus</i>	Hairy sunflower	Asteraceae	
147	<i>Helianthus longifolius</i>	Longleaf sunflower	Asteraceae	S1S2, G3
148	<i>Helianthus microcephalus</i>	Small head sunflower	Asteraceae	
149	<i>Helianthus smithii</i>	Smith's sunflower	Asteraceae	S2, G2
150	<i>Hemerocallis fulva</i>	Orange day lily	Hemerocallidaceae	Not native, invasive
151	<i>Heuchera americana</i>	American alumroot	Saxifragaceae	
152	<i>Hexasepalum teres</i>	Poor Joe	Rubiaceae	
153	<i>Hexastylis arifolia</i>	Little brown jug	Aristolochiaceae	
154	<i>Hibiscus laevis</i>	Smooth rose mallow	Malvaceae	County record
155	<i>Hieracium venosum</i>	Veiny hawkweed	Asteraceae	
156	<i>Hieracium gronovii</i>	Hairy hawkweed	Asteraceae	
157	<i>Hordeum pusillum</i>	Mouse barley	Poaceae	
158	<i>Houstonia caerulea</i>	Common bluet	Rubiaceae	
159	<i>Houstonia purpurea</i>	Summer bluet	Rubiaceae	
160	<i>Houstonia pusilla</i>	Tiny bluet	Rubiaceae	
161	<i>Houstonia tenuifolia</i>	Slender leaf bluet	Rubiaceae	
162	<i>Hydrocotyle verticillata</i>	Whorled pennywort	Araliaceae	
163	<i>Hylodesmum nudiflorum</i>	Naked flower tick- trefoil	Fabaceae	
164	<i>Hypericum crux-andreae</i>	St. Peter's wort	Hypericaceae	
165	<i>Hypericum drummondii</i>	Nits and lice	Hypericaceae	
166	<i>Hypericum gentianoides</i>	Orange grass	Hypericaceae	
167	<i>Hypericum hypericoides</i>	St. Andrew's cross	Hypericaceae	
168	<i>Hypericum mutilum</i>	Dwarf St. John's wort	Hypericaceae	
169	<i>Hypericum punctatum</i>	Spotted St. John's wort	Hypericaceae	
170	<i>Hypericum virgatum</i>	Sharpleaf St. John's wort	Hypericaceae	
171	<i>Hypochaeris radicata</i>	Hairy cat's ear	Asteraceae	Not native
172	<i>Hypoxis hirsuta</i>	Common star grass	Hypoxidaceae	
173	<i>Ilex longipes</i>	Georgia holly	Aquifoliaceae	County record
174	<i>Ilex opaca</i>	American holly	Aquifoliaceae	
175	<i>Ilex verticillata</i>	Black alder	Aquifoliaceae	

	<i>Taxon name</i>	Common name	Family	Comments
176	<i>Impatiens capensis</i>	Orange jewelweed	Balsaminaceae	
177	<i>Ipomoea hederifolia</i>	Scarlet creeper	Convolvulaceae	Not native, County record
178	<i>Ipomoea pandurata</i>	Man of the Earth	Convolvulaceae	
179	<i>Iris cristata</i>	Dwarf crested iris	Iridaceae	County record
180	<i>Iris verna</i>	Upland dwarf iris	Iridaceae	
181	<i>Iris virginica</i>	Blue flag iris	Iridaceae	
182	<i>Juglans nigra</i>	Black walnut	Juglandaceae	
183	<i>Juncus acuminatus</i>	Sharp fruit rush	Juncaceae	
184	<i>Juncus biflorus</i>	Bog rush	Juncaceae	County record
185	<i>Juncus coriaceus</i>	Leathery rush	Juncaceae	
186	<i>Juncus effusus</i>	Soft rush	Juncaceae	
187	<i>Juncus tenuis</i>	Path rush	Juncaceae	
188	<i>Juniperus virginiana</i>	Eastern redcedar	Cupressaceae	
189	<i>Kelloggloa verrucosa</i>	Warty panic grass	Poaceae	
190	<i>Krigia biflora</i>	Two-flower dwarf dandelion	Asteraceae	
191	<i>Krigia cespitosa</i>	Common dwarf dandelion	Asteraceae	
192	<i>Krigia virginica</i>	Virginia dwarf dandelion	Asteraceae	
193	<i>Lactuca canadensis</i>	Wild lettuce	Asteraceae	
194	<i>Lactuca floridana</i>	Woodland lettuce	Asteraceae	
195	<i>Lactuca serriola</i>	Prickly lettuce	Asteraceae	Not native
196	<i>Landoltia punctata</i>	Dotted duckweed	Araceae	Not native
197	<i>Lechea racemulosa</i>	Oblong fruit pinweed	Cistaceae	
198	<i>Leersia virginica</i>	White cutgrass	Poaceae	County record
199	<i>Lespedeza repens</i>	Creeping bush clover	Fabaceae	
200	<i>Lespedeza virginica</i>	Slender bush clover	Fabaceae	
201	<i>Liatris elegantula</i>	Grassleaf blazing star	Asteraceae	
202	<i>Liatris microcephala</i>	Small head blazing star	Asteraceae	
203	<i>Liatris spicata</i>	Dense blazing star	Asteraceae	
204	<i>Ligustrum japonicum</i>	Japanese privet	Oleaceae	Not native, invasive, County record
205	<i>Ligustrum sinense</i>	Chinese privet	Oleaceae	Not native, invasive
206	<i>Lilium michauxii</i>	Carolina lily	Liliaceae	
207	<i>Linaria canadensis</i>	Common toadflax	Plantaginaceae	

	<i>Taxon name</i>	<i>Common name</i>	<i>Family</i>	<i>Comments</i>
208	<i>Linum medium</i> var. <i>texanum</i>	Texas yellow flax	Linaceae	
209	<i>Linum striatum</i>	Ridged yellow flax	Linaceae	
210	<i>Liquidambar styraciflua</i>	Sweetgum	Altingiaceae	
211	<i>Liriodendron tulipifera</i>	Tulip poplar	Magnoliaceae	
212	<i>Liriope spicata</i>	Creeping turf lily	Ruscaceae	
213	<i>Listera australis</i>	Southern twayblade	Orchidaceae	County record, S2, G4
214	<i>Lobelia inflata</i>	Indian tobacco	Campanulaceae	
215	<i>Lobelia puberula</i>	Downy lobelia	Campanulaceae	
216	<i>Lolium arundinaceum</i>	Tall fescue	Poaceae	Not native, invasive
217	<i>Lonicera japonica</i>	Japanese honeysuckle	Caprifoliaceae	Not native, invasive
218	<i>Lorinseria areolata</i>	Netted chain fern	Blechnaceae	
219	<i>Ludwigia alternifolia</i>	Alternate-leaf seedbox	Onagraceae	
220	<i>Ludwigia decurrens</i>	Wingstem water primrose	Onagraceae	
221	<i>Ludwigia palustris</i>	Marsh seedbox	Onagraceae	
222	<i>Luzula bulbosa</i>	Bulbous wood rush	Juncaceae	
223	<i>Lycopus rubellus</i>	Stalked bugleweed	Lamiaceae	County record
224	<i>Lycopus virginicus</i>	Virginia bugleweed	Lamiaceae	
225	<i>Lygodium japonicum</i>	Japanese climbing fern	Lygodiaceae	Not native, invasive
226	<i>Lysimachia ciliata</i>	Fringed loosestrife	Primulaceae	
227	<i>Macrothelypteris torresiana</i>	Mariana maiden fern	Thelypteridaceae	Not native, County record
228	<i>Magnolia grandiflora</i>	Southern magnolia	Magnoliaceae	
229	<i>Magnolia virginiana</i>	Sweet bay magnolia	Magnoliaceae	
230	<i>Maianthemum racemosum</i>	Solomon's plume	Ruscaceae	
231	<i>Malaxis unifolia</i>	Green adder's mouth orchid	Orchidaceae	
232	<i>Matelea carolinensis</i>	Carolina milkvine	Apocynaceae	
233	<i>Mazus pumilus</i>	Japanese mazus	Mazaceae	Not native
234	<i>Melothria pendula</i>	Melonette	Cucurbitaceae	
235	<i>Microstegium vimineum</i>	Japanese stilt grass	Poaceae	Not native, invasive
236	<i>Mikania scandens</i>	Climbing hempvine	Asteraceae	
237	<i>Mimosa microphylla</i>	Littleleaf mimosa	Fabaceae	
238	<i>Mitchella repens</i>	Partridge berry	Rubiaceae	

	<i>Taxon name</i>	Common name	Family	Comments
239	<i>Monarda fistulosa</i>	Eastern bergamot	Lamiaceae	
240	<i>Monotropa uniflora</i>	Ghost plant	Ericaceae	
241	<i>Morus rubra</i>	Red mulberry	Moraceae	
242	<i>Muhlenbergia schreberi</i>	Nimblewill	Poaceae	
243	<i>Muscadinia rotundifolia</i>	Muscadine	Vitaceae	
244	<i>Nabalus altissimus</i>	Tall rattlesnake root	Asteraceae	
245	<i>Nandina domestica</i>	Heavenly bamboo	Berberidaceae	County record, not native, invasive
246	<i>Narcissus pseudonarcissus</i>	Common daffodil	Amaryllidaceae	Not native
247	<i>Narcissus x odoratus</i>	Campernelle Jonquil	Amaryllidaceae	Not native
248	<i>Nyssa sylvatica</i>	Black gum	Nyssaceae	
249	<i>Oenothera biennis</i>	Common evening primrose	Onagraceae	
250	<i>Oenothera fruticosa</i> var. <i>subglobosa</i>	Flatrock sundrops	Onagraceae	
251	<i>Oenothera linifolia</i>	Threadleaf sundrops	Onagraceae	
252	<i>Onoclea sensibilis</i>	Sensitive fern	Onocleaceae	
253	<i>Ophioglossum pycnostichum</i>	Southern adder's tongue	Ophioglossaceae	County record
254	<i>Opuntia cespitosa</i>	Red-flowered prickly pear	Cactaceae	
255	<i>Osmundastrum cinnamomeum</i>	Cinnamon fern	Osmundaceae	
256	<i>Oxalis dillenii</i>	Gray green wood sorrel	Oxalidaceae	
257	<i>Oxalis stricta</i>	Common yellow wood sorrel	Oxalidaceae	
258	<i>Oxalis violacea</i>	Violet wood sorrel	Oxalidaceae	
259	<i>Oxydendrum arboreum</i>	Sourwood	Ericaceae	
260	<i>Packera anonyma</i>	Appalachian ragwort	Asteraceae	
261	<i>Parathelypteris noveboracensis</i>	New York fern	Thelypteridaceae	
262	<i>Parthenocissus quinquefolia</i>	Virginia creeper	Vitaceae	
263	<i>Paspalum dilatatum</i>	Golden crowngrass	Poaceae	Not native
264	<i>Paspalum setaceum</i>	Slender crowngrass	Poaceae	County record
265	<i>Passiflora incarnata</i>	Purple passion flower	Passifloraceae	
266	<i>Passiflora lutea</i>	Yellow passion flower	Passifloraceae	
267	<i>Penstemon australis</i>	Southern beardtongue	Plantaginaceae	

	<i>Taxon name</i>	Common name	Family	Comments
268	<i>Perilla frutescens</i>	Beefsteak plant	Lamiaceae	Not native, invasive, County record
269	<i>Persicaria hydropiperoides</i>	Swamp smartweed	Polygonaceae	
270	<i>Persicaria longiseta</i>	Long Bristle Smartweed	Polygonaceae	Not native, invasive
271	<i>Persicaria setacea</i>	Bog Smartweed	Polygonaceae	
272	<i>Phacelia dubia</i>	Small flower scorpion weed	Hydrophyllaceae	
273	<i>Phacelia maculata</i>	Spotted scorpion weed	Hydrophyllaceae	
274	<i>Phegopteris hexagonoptera</i>	Broad beech fern	Thelypteridaceae	
275	<i>Philadelphus hirsutus</i>	Hairy mock orange	Hydrangeaceae	County record
276	<i>Photinia serratifolia</i>	Taiwanese redbtip	Rosaceae	Not native
277	<i>Phyllanthus caroliniensis</i>	Carolina leaf flower	Phyllanthaceae	
278	<i>Physalis heterophylla</i>	Clammy ground cherry	Solanaceae	
279	<i>Phytolacca americana</i>	American pokeweed	Phytolaccaceae	
280	<i>Pinus palustris</i>	Longleaf pine	Pinaceae	
281	<i>Pinus taeda</i>	Loblolly pine	Pinaceae	
282	<i>Pinus virginiana</i>	Virginia pine	Pinaceae	
283	<i>Piptochaetium avenaceum</i>	Eastern needlegrass	Poaceae	
284	<i>Pityopsis aspera</i>	Carolina silkgrass	Asteraceae	
285	<i>Plantago aristata</i>	Large bract plantain	Plantaginaceae	
286	<i>Plantago heterophylla</i>	Slender plantain	Plantaginaceae	County record
287	<i>Plantago virginica</i>	Virginia plantain	Plantaginaceae	
288	<i>Platanthera clavellata</i>	Small green wood orchid	Orchidaceae	
289	<i>Platanthera cristata</i>	Crested fringed orchid	Orchidaceae	
290	<i>Pleopeltis michauxiana</i>	Resurrection fern	Polypodiaceae	
291	<i>Poa autumnalis</i>	Autumn bluegrass	Poaceae	County record
292	<i>Polygala ambigua</i>	Loose milkwort	Polygalaceae	County record
293	<i>Polygala incarnata</i>	Procession flower	Polygalaceae	County record
294	<i>Polygonatum biflorum</i>	Solomon's seal	Ruscaceae	
295	<i>Polypremum procumbens</i>	Rustweed	Tetrachondraceae	
296	<i>Polystichum acrostichoides</i>	Christmas fern	Dryopteridaceae	
297	<i>Pontederia cordata</i>	Pickrel weed	Pontederiaceae	
298	<i>Potentilla indica</i>	Mock strawberry	Rosaceae	Not native, invasive

	<i>Taxon name</i>	Common name	Family	Comments
299	<i>Potentilla simplex</i>	Common cinquefoil	Rosaceae	
300	<i>Prunella vulgaris</i> var. <i>lanceolata</i>	American self heal	Lamiaceae	
301	<i>Prunus serotina</i>	Black cherry	Rosaceae	
302	<i>Pseudognaphalium obtusifolium</i>	Eastern rabbit tobacco	Asteraceae	
303	<i>Ptilimnium capillaceum</i>	Herb William	Apiaceae	
304	<i>Pycnanthemum incanum</i>	Southern hoary mountain mint	Lamiaceae	
305	<i>Pycnanthemum loomisii</i>	Loomis' mountain mint	Lamiaceae	
306	<i>Pyrus calleryana</i>	Bradford pear	Rosaceae	Not native, invasive
307	<i>Quercus alba</i>	Northern white oak	Fagaceae	
308	<i>Quercus falcata</i>	Southern red oak	Fagaceae	
309	<i>Quercus marilandica</i>	Black Jack oak	Fagaceae	
310	<i>Quercus nigra</i>	Water oak	Fagaceae	
311	<i>Quercus nigra</i> X <i>stellata</i>	Hybrid oak	Fagaceae	This oak needs more study
312	<i>Quercus rubra</i>	Northern red oak	Fagaceae	
313	<i>Quercus stellata</i>	Post oak	Fagaceae	
314	<i>Ranunculus hispidus</i>	Bristly buttercup	Ranunculaceae	County record
315	<i>Ranunculus pusillus</i>	Low buttercup	Ranunculaceae	
316	<i>Ranunculus recurvatus</i>	Hooked crowfoot	Ranunculaceae	
317	<i>Rhexia mariana</i>	Pale meadow beauty	Melastomataceae	
318	<i>Rhexia virginica</i>	Handsome Harry	Melastomataceae	
319	<i>Rhododendron viscosum</i>	Swamp azalea	Ericaceae	
320	<i>Rhynchosia tomentosa</i>	Twining snout bean	Fabaceae	
321	<i>Rosa lucieae</i>	Dorothy Perkins rose	Rosaceae	Not native
322	<i>Rosa multiflora</i>	Multiflora rose	Rosaceae	Not native, invasive, County record
323	<i>Rubus cuneifolius</i>	Sand blackberry	Rosaceae	County record
324	<i>Rubus flagellaris</i>	Whiplash dewberry	Rosaceae	
325	<i>Rubus pensilvanicus</i>	Southern Blackberry	Rosaceae	
326	<i>Rubus trivialis</i>	Southern dewberry	Rosaceae	County record
327	<i>Ruellia caroliniensis</i>	Hairy wild petunia	Acanthaceae	

	<i>Taxon name</i>	Common name	Family	Comments
328	<i>Rumex acetosella</i>	Sheep sorrel	Polygonaceae	Not native, invasive
329	<i>Salvia lyrata</i>	Lyre leaf sage	Lamiaceae	
330	<i>Salvia urticifolia</i>	Nettle leaf sage	Lamiaceae	
331	<i>Sambucus canadensis</i>	Common elderberry	Adoxaceae	
332	<i>Sanicula canadensis</i>	Canadian black snakeroot	Apiaceae	
333	<i>Sanicula smallii</i>	Small's black snakeroot	Apiaceae	
334	<i>Sassafras albidum</i>	Sassafras	Lauraceae	
335	<i>Schizachyrium scoparium</i>	Little bluestem	Poaceae	
336	<i>Scirpus cyperinus</i>	Wool grass	Cyperaceae	
337	<i>Scleria oligantha</i>	Little head nutrush	Cyperaceae	
338	<i>Scutellaria elliptica</i>	Hairy skullcap	Lamiaceae	
339	<i>Scutellaria integrifolia</i>	Helmet skullcap	Lamiaceae	
340	<i>Scutellaria ovata</i>	Heartleaf skullcap	Lamiaceae	
341	<i>Silene stellata</i>	Starry campion	Caryophyllaceae	
342	<i>Silphium compositum</i>	Composite leaf rosinweed	Asteraceae	
343	<i>Sisyrinchium angustifolium</i>	Narrowleaf blue eyed grass	Iridaceae	
344	<i>Sisyrinchium rosulatum</i>	Fairy stars	Iridaceae	Not native, County record
345	<i>Smilax bona-nox</i>	Saw greenbrier	Smilacaceae	
346	<i>Smilax glauca</i>	White leaf catbrier	Smilacaceae	
347	<i>Smilax laurifolia</i>	Blasphe vine	Smilacaceae	
348	<i>Smilax rotundifolia</i>	Common greenbrier	Smilacaceae	
349	<i>Solanum carolinense</i>	Carolina horse nettle	Solanaceae	
350	<i>Solanum nigrum</i>	European black nightshade	Solanaceae	Not native, County record
351	<i>Solidago altissima</i>	Tall goldenrod	Asteraceae	
352	<i>Solidago arguta</i>	Sharpleaf goldenrod	Asteraceae	
353	<i>Solidago caesia</i>	Wreath goldenrod	Asteraceae	
354	<i>Solidago erecta</i>	Slender goldenrod	Asteraceae	
355	<i>Solidago nemoralis</i>	Eastern gray goldenrod	Asteraceae	
356	<i>Solidago odora</i>	Sweet goldenrod	Asteraceae	
357	<i>Solidago patula</i>	Swamp goldenrod	Asteraceae	County record
358	<i>Solidago rugosa var. aspera</i>	Wrinkle-leaf goldenrod	Asteraceae	

	<i>Taxon name</i>	Common name	Family	Comments
359	<i>Sorghastrum nutans</i>	Yellow indian grass	Poaceae	
360	<i>Spiranthes lacera</i> var. <i>gracilis</i>	Southern slender ladies' tresses	Orchidaceae	
361	<i>Steinchisma hians</i>	Gaping panic grass	Poaceae	
362	<i>Stellaria media</i>	Common chickweed	Caryophyllaceae	
363	<i>Stylosanthes biflora</i>	Sidebeak pencil flower	Fabaceae	
364	<i>Symphyotrichum dumosum</i>	White bushy aster	Asteraceae	
365	<i>Symphyotrichum lateriflorum</i>	Calico aster	Asteraceae	
366	<i>Symphyotrichum patens</i>	Late purple aster	Asteraceae	
367	<i>Symplocos tinctoria</i>	Horse sugar	Symplocaceae	
368	<i>Tephrosia spicata</i>	Spiked hoary pea	Fabaceae	
369	<i>Tipularia discolor</i>	Cranefly orchid	Orchidaceae	
370	<i>Toxicodendron radicans</i>	Eastern poison ivy	Anacardiaceae	
371	<i>Tradescantia ohiensis</i>	Ohio spiderwort	Commelinaceae	
372	<i>Tragia urticifolia</i>	Nettle-leaf noseburn	Euphorbiaceae	
373	<i>Trichostema dichotomum</i>	Common bluecurls	Lamiaceae	
374	<i>Trichostema setaceum</i>	Narrowleaf bluecurls	Lamiaceae	
375	<i>Tridens flavus</i>	Purpletop greasegrass	Poaceae	
376	<i>Trifolium campestre</i>	Low hop clover	Fabaceae	Not native
377	<i>Triodanis perfoliata</i>	Clasping leaf Venus's looking glass	Campanulaceae	
378	<i>Typha latifolia</i>	Cat tail	Typhaceae	
379	<i>Uvularia perfoliata</i>	Perfoliate bellwort	Colchicaceae	
380	<i>Vaccinium arboreum</i>	Sparkleberry	Ericaceae	
381	<i>Vaccinium elliotii</i>	Mayberry	Ericaceae	
382	<i>Vaccinium pallidum</i>	Early lowbush blueberry	Ericaceae	
383	<i>Vaccinium stamineum</i>	Deerberry	Ericaceae	
384	<i>Valerianella radiata</i>	Beaked cornsalad	Caprifoliaceae	
385	<i>Verbascum thapsus</i>	Woolly mullein	Scrophulariaceae	Not native, invasive
386	<i>Verbena brasiliensis</i>	Brazilian vervain	Verbenaceae	Not native
387	<i>Verbesina alternifolia</i>	Wingstem	Asteraceae	
388	<i>Vernonia gigantea</i>	Giant ironweed	Asteraceae	
389	<i>Veronica peregrina</i>	Common purslane speedwell	Plantaginaceae	Not native

	<i>Taxon name</i>	Common name	Family	Comments
390	<i>Viburnum rufidulum</i>	Rusty blackhaw	Adoxaceae	
391	<i>Vinca major</i>	Greater periwinkle	Apocynaceae	Not native, invasive
392	<i>Viola affinis</i>	Sand violet	Violaceae	
393	<i>Viola bicolor</i>	Field pansy	Violaceae	
394	<i>Viola hirsutula</i>	Southern woodland violet	Violaceae	County record
395	<i>Viola sororia</i>	Common blue violet	Violaceae	
396	<i>Vitis cinerea</i>	Downy grape	Vitaceae	County record
397	<i>Wisteria sinensis</i>	Chinese wisteria	Fabaceae	Not native, invasive
398	<i>Xanthorhiza simplicissima</i>	Yellowroot	Ranunculaceae	
399	<i>Xyris jupicai</i>	Richard's yellow eyed grass	Xyridaceae	
400	<i>Youngia thunbergiana</i>	Youngia	Asteraceae	County record
401	<i>Yucca flaccida</i>	Flaccid leaf yucca	Agavaceae	

Document Content(s)

2021-04-12 Botanical Inventory Report Filing.PDF1

From: Anderegg, Angela Segars
Sent: Tuesday, April 13, 2021 8:05 AM
To: Wills, Ken
Cc: Mills, Tina L.; Kelly Schaeffer
Subject: Quick call

Hi Ken,

As you know, we filed the results of the additional botanical survey work at Flat Rock with FERC yesterday (www.harrisrelicensing.com in the HAT 4 folder). Would you have 30 minutes one day next week for a short call with us? If so, just let me know what days you're available and I can send out Teams meeting info.

I hope all is well with you. Thanks!

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

HAT 4 - Botanical Inventory Report

APC Harris Relicensing <g2apchr@southernco.com>

Fri 4/16/2021 2:06 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jabeason@southernco.com <jabeason@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>; afleming@southernco.com <afleming@southernco.com>; cggoodma@southernco.com <cggoodma@southernco.com>; ammcvica@southernco.com <ammcvica@southernco.com>; tlmills@southernco.com <tlmills@southernco.com>; abnoel@southernco.com <abnoel@southernco.com>; btseale@southernco.com <btseale@southernco.com>; scsmith@southernco.com <scsmith@southernco.com>; twstjohn@southernco.com <twstjohn@southernco.com>; mhunter@alabamarivers.org <mhunter@alabamarivers.org>; clowry@alabamarivers.org <clowry@alabamarivers.org>; jwest@alabamarivers.org <jwest@alabamarivers.org>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; kmo0025@auburn.edu <kmo0025@auburn.edu>; irwiner@auburn.edu <irwiner@auburn.edu>; chris@alaudubon.org <chris@alaudubon.org>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; rachel.mcnamara@ferc.gov <rachel.mcnamara@ferc.gov>; sarah.salazar@ferc.gov <sarah.salazar@ferc.gov>; monte.terhaar@ferc.gov <monte.terhaar@ferc.gov>; gene@wedoweelakehomes.com <gene@wedoweelakehomes.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; kelly.schaeffer@kleinschmidtgroup.com <kelly.schaeffer@kleinschmidtgroup.com>; sandra.wash@kleinschmidtgroup.com <sandra.wash@kleinschmidtgroup.com>; sforehand@russellands.com <sforehand@russellands.com>; lgarland68@aol.com <lgarland68@aol.com>; johndiane@sbcglobal.net <johndiane@sbcglobal.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; rbmorris222@gmail.com <rbmorris222@gmail.com>; mitchell.reid@tnc.org <mitchell.reid@tnc.org>; snelson@nelsonandco.com <snelson@nelsonandco.com>; mprandolphwater@gmail.com <mprandolphwater@gmail.com>; wmcampbell218@gmail.com <wmcampbell218@gmail.com>; robinwaldrep@yahoo.com <robinwaldrep@yahoo.com>; bruce@bruceknapp.com <bruce@bruceknapp.com>; donnamat@aol.com <donnamat@aol.com>; harry.merrill47@gmail.com <harry.merrill47@gmail.com>; mhpwedowee@gmail.com <mhpwedowee@gmail.com>; midwaytreasures@bellsouth.net <midwaytreasures@bellsouth.net>; inspector_003@yahoo.com <inspector_003@yahoo.com>; gardenergirl04@yahoo.com <gardenergirl04@yahoo.com>; paul.trudine@gmail.com <paul.trudine@gmail.com>; 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; amccartn@blm.gov <amccartn@blm.gov>; j35sullivan@blm.gov <j35sullivan@blm.gov>; mayo.lydia@epa.gov <mayo.lydia@epa.gov>; evan_collins@fws.gov <evan_collins@fws.gov>; jennifer_grunewald@fws.gov <jennifer_grunewald@fws.gov>; erin_padgett@fws.gov <erin_padgett@fws.gov>; jeff_powell@fws.gov <jeff_powell@fws.gov>

HAT 4,

A Botanical Inventory Report at Flat Rock Park was filed with FERC this past Monday, April 12, 2021. This report can be found on the Harris Relicensing website in the [HAT 4](#) folder. It can also be found on FERC's website (<http://www.ferc.gov>) by going to the "elibrary" link and entering docket number P-2628.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

From: Anderegg, Angela Segars
Sent: Monday, April 19, 2021 12:06 PM
To: erin_padgett@fws.gov; 'Evan Collins'; Holbrook, Shannon
Cc: Chandler, Keith Edward; Fleming, Amanda; Carlee, Jason; Baker, Jeffery L.; Mills, Tina L.
Subject: Meeting notes for March 2021 calls with USFS to discuss WMP and bat language
Attachments: 2021-March USFWS calls on WMP and bat language.pdf

Good afternoon,

For your records, attached are meeting summaries from our last two discussions on the Harris Wildlife Management Plan.

Thanks,

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

Meeting Notes
Harris Relicensing – Draft WMP – Bat language
March 1, 2021, 9:00 am – TEAMS meeting with USFWS

Attendees:

Keith Chandler, Alabama Power
Amanda Fleming, Alabama Power
Jason Carlee, Alabama Power
Jeff Baker, Alabama Power
Angie Anderegg, Alabama Power
Tina Mills, Alabama Power
Evan Collins, USFWS
Erin Padgett, USFWS

Meeting Notes:

These notes summarize the major items discussed during the meeting and are not intended to be a transcript or analysis of the meeting.

Angie Anderegg opened the meeting by thanking everyone for their participation. A draft Wildlife Management Plan (WMP) was emailed to USFWS on February 8, and USFWS provided informal comments on the draft on February 17. The purpose of the call is to discuss USFWS's informal comments.

Keith Chandler provided an overview of the draft WMP, specifically the language regarding timber management practices and protections for listed bat species. Keith explained that Skyline has steep terrain that makes winter harvesting not feasible. Keith added that Alabama Power uses a holistic approach to harvesting timber and generally harvest 100-200 acres per year at Skyline. Jeff Baker explained that Alabama Power's goal is to include language in the draft WMP that would result in a "no affect" or a "not likely to adversely affect" determination by USFWS and that Alabama Power would like to work with USFWS regarding a level of retention with which both are comfortable. Evan Collins stated that the threshold for a likely to adversely affect determination is an adverse effect on one individual and that bats are particularly complicated in that a roost tree could be unknowingly harvested. Keith Chandler stated that there are currently no known roost trees within the Harris Project Boundary at Skyline. The group discussed that locating roost trees is particularly difficult and requires a tracking transmitter on the animal. Evan asked whether any acoustic surveys had been previously conducted at Skyline, and Jeff stated not to Alabama Power's knowledge. The group discussed that the Northern Long Eared bat is fairly well accounted for and that current practices are compatible with the published 4 (d) rule for this species. The difficulty lies in that the Indiana bat uses similar habitat. Jeff Baker asked whether a practice that evaluates stands for roost trees and retains those of highest quality would be adequate. Evan stated that it would make sense to evaluate a plot and identify those trees with characteristics most recently attributed to roost trees and retain those trees. The group discussed that identification of every tree is possible on a smaller scale but difficult at Skyline. Additionally, timber harvest during the winter months to avoid impacts is not feasible at Skyline due to steep terrain that results in access issues during the

non-roosting period. The group further discussed possible practices that would evaluate a plot for potential habitat. If found, mist netting could be conducted to determine absence or presence. If presence is found, the required buffer zones would be implemented to avoid impacts. Evan stated that he would like to have a follow-up call including Shannon Holbrook (USFWS) to discuss further. Evan explained further that USFWS wants to apply bat recommendations consistently across the state and that Shannon could provide insight as to the practices implemented by the US Forest Service as well as other private companies.

The group then discussed the draft language regarding timber management practices within the Harris Project Boundary at Harris Reservoir. Jeff Baker stated that the lake area did not present as many challenges, because hardwoods are not generally harvested in the vicinity of the lake. Generally, each tree is marked before a sale, and only pines are harvested in this area. Although pines that are broken and damaged may provide suitable habitat for listed species, these are typically not marked for harvest as they are not merchantable timber. The group further discussed that the understory in the stands at the lake is generally thick and unlikely to be good habitat.

In conclusion, the group committed to a second call including Shannon Holbrook to discuss further.

Meeting Notes
Harris Relicensing – Draft WMP – Bat language
March 10, 2021, 2:00 pm – TEAMS meeting with USFWS

Attendees:

Keith Chandler, Alabama Power
Amanda Fleming, Alabama Power
Jason Carlee, Alabama Power
Jeff Baker, Alabama Power
Angie Anderegg, Alabama Power
Tina Mills, Alabama Power
Evan Collins, USFWS
Erin Padgett, USFWS
Shannon Holbrook, USFWS

Meeting Notes:

These notes summarize the major items discussed during the meeting and are not intended to be a transcript or analysis of the meeting.

Angie Anderegg opened the meeting by thanking everyone for their participation. A draft Wildlife Management Plan (WMP) was emailed to USFWS on February 8, and USFWS provided informal comments on the draft on February 17. A conference call was held on March 1, 2021 to discuss USFWS' informal comments. The purpose of this call is to further discuss USFWS' comments on proposed timber management practices and protections for listed bat species.

Keith Chandler reminded everyone of the discussion during the March 1, 2021 call regarding the challenges at Skyline. Keith reiterated that Alabama Power's goal is to include timber management practices in the draft WMP that allow for protections at a habitat level as well as results in a no affect or a not likely to adversely affect determination. Keith then recapped that the group discussed during the previous call the following:

- Due to terrain at Skyline, harvesting timber during the wet season (non-roosting period) is not feasible.
- Possible practices at Skyline could include marking trees in advance of harvesting that would meet specifications for roost trees and avoid these trees

Shannon Holbrook stated that the language needs to address how to get to an insignificant level of impact. If considering 9" dbh trees and below, these trees could be used by bats as stop over or alternate roosts. For these size trees, USFWS could be comfortable with a minimum percentage left during harvest. When considering larger trees, it becomes more difficult. If a tree with a maternity roost is taken, it could kill an entire maternity colony. With the larger trees, it is not possible to say that these could be harvested during summer months and avoid potential impact. The group discussed the possibility of conducting mist netting and if results are positive, incorporating buffer zones for suitable trees while harvesting the rest. However, if mist netting results are positive, it is still not known which tree is a roost tree. Jason Carlee clarified that

Alabama Power is not proposing to clear cut at Skyline. The group then discussed possible practices and that identifying roost trees can be difficult. Shannon asked whether Alabama Power was against formal consultation, and Keith Chandler stated no. He explained that Alabama Power had conducted formal consultation on many occasions and is not opposed to doing so for this project. He added that Alabama Power and the USFWS have also conducted numerous successful informal consultations on other projects by including language that supported a “no affect” or “not likely to adversely affect” determination and would like to approach the bats this way as well if possible. Shannon stated that USFWS would like to evaluate the proposed practices in writing. The group then discussed the various processes and practices used by other property owners. Shannon stated that USFWS works with US Forest Service and NRCS often, and she stated that the USFWS would send to Jeff Baker examples of the various documents used by these groups.

Regarding the draft WMP at this time, Alabama Power stated that it would revise the draft to include a statement that Alabama Power will continue working with USFWS to develop timber management practices that include protections for listed bat species. The draft to be provided to HAT 4 will include this statement, and it can be later revised once the timber practices language is firm.

Further, Alabama Power and USFWS will continue to work towards language to include in the draft WMP that may result in a “no affect” or a “not likely to adversely affect” determination.

Harris Relicensing - Updated Study Report Meeting

Anderegg, Angela Segars <ARSEGARS@southernco.com>

Mon 4/26/2021 2:53 PM

To: APC Harris Relicensing <g2apchr@southernco.com>

Bcc: Martindale, Lisa (LMARTIND@southernco.com) <LMARTIND@southernco.com>; Crew, James F. <JFCREW@southernco.com>; 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; 9sling@charter.net <9sling@charter.net>; abnoel@southernco.com <abnoel@southernco.com>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; alpeeples@southernco.com <alpeeples@southernco.com>; amanda.mcbride@ahc.alabama.gov <amanda.mcbride@ahc.alabama.gov>; ammcvica@southernco.com <ammcvica@southernco.com>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; andrew.nix@dcnr.alabama.gov <andrew.nix@dcnr.alabama.gov>; arsegars@southernco.com <arsegars@southernco.com>; Ashley Lockwood <alockwood@adem.alabama.gov>; athall@fujifilm.com <athall@fujifilm.com>; aubie84@yahoo.com <aubie84@yahoo.com>; awhorton@corblu.com <awhorton@corblu.com>; bart_robby@msn.com <bart_robby@msn.com>; baxterchip@yahoo.com <baxterchip@yahoo.com>; bbooz6@gmail.com <bbooz6@gmail.com>; bdavis081942@gmail.com <bdavis081942@gmail.com>; bekyrainwater1@yahoo.com <beckyrainwater1@yahoo.com>; bill_pearson@fws.gov <bill_pearson@fws.gov>; blacklake20@gmail.com <blacklake20@gmail.com>; blm_es_inquiries@blm.gov <blm_es_inquiries@blm.gov>; bob.stone@smimail.net <bob.stone@smimail.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; bradfordt71@gmail.com <bradfordt71@gmail.com>; brian.atkins@adeca.alabama.gov <brian.atkins@adeca.alabama.gov>; bruce.bradford@forestry.alabama.gov <bruce.bradford@forestry.alabama.gov>; bruce@bruceknapp.com <bruce@bruceknapp.com>; bsmith0253@gmail.com <bsmith0253@gmail.com>; btseale@southernco.com <btseale@southernco.com>; butchjackson60@gmail.com <butchjackson60@gmail.com>; bwhaley@randolphcountyleda.com <bwhaley@randolphcountyleda.com>; carolbuggknight@hotmail.com <carolbuggknight@hotmail.com>; celestine.bryant@actribe.org <celestine.bryant@actribe.org>; cengstrom@centurytel.net <cengstrom@centurytel.net>; cggoodma@southernco.com <cggoodma@southernco.com>; cgnav@uscg.mil <cgnav@uscg.mil>; chandlermary937@gmail.com <chandlermary937@gmail.com>; chiefknight2002@yahoo.com <chiefknight2002@yahoo.com>; 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Harris relicensing stakeholders,

The presentation for tomorrow's Updated Study Report meeting is available on the Harris relicensing website ([Relicensing Documents](#)). Microsoft Teams call-in information is below.

I look forward to talking with you tomorrow.

Thanks,

Angie Andereg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: APC Harris Relicensing
Sent: Monday, April 12, 2021 1:47 PM
To: APC Harris Relicensing <harrisrelicensing@southernco.com>
Subject: Harris Relicensing - Updated Study Report

Harris relicensing stakeholders,

Pursuant to FERC's Integrated Licensing Process, Alabama Power filed its Harris Project Updated Study Report (USR) today. Concurrent with the USR filing, Alabama Power filed three draft study reports, four final study reports and the results of a Botanical Inventory at Flat Rock Park. Stakeholders may access the USR and the study reports on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR and study reports are also available on the Project relicensing website at <http://harrisrelicensing.com>.

The Updated Study Report meeting will be held on **April 27, 2021**. Please hold this date from 9:00 am to 12:00 pm central time. Call in information for the meeting can be found below. The purpose of the meeting is to provide an opportunity to review the contents of the USR.

Alabama Power will file a summary of the USR meeting by **May 12, 2021**. Stakeholders will have until **June 11, 2021** to file written comments with FERC on the USR Meeting Summary.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

Microsoft Teams meeting

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From: Collins, Evan R <evan_collins@fws.gov>
Sent: Wednesday, April 28, 2021 11:57 AM
To: Anderegg, Angela Segars
Cc: Chandler, Keith Edward; Baker, Jeffery L.; Fleming, Amanda; Padgett, Erin R; Carlee, Jason; Mills, Tina L.
Subject: Re: [EXTERNAL] RE: Meeting to discuss bats with FERC

EXTERNAL MAIL: Caution Opening Links or Files

Thanks, Angie!

I wouldn't expect we'd need more than 1 hour. My availability currently is as follows:

May 10: all day
May 11: after 10am
May 12: after 10 am
May 13: after 2pm
May 14: all day

May 17: after 11 am
May 18: after 10 am
May 19: all day
May 20: after 3 pm
May 21: not available

-Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
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From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Wednesday, April 28, 2021 10:06 AM
To: Collins, Evan R <evan_collins@fws.gov>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>; Padgett, Erin R <erin_padgett@fws.gov>; Carlee, Jason <JCARLEE@southernco.com>; Mills, Tina L. <tlmills@southernco.com>
Subject: [EXTERNAL] RE: Meeting to discuss bats with FERC

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Hi Evan,

I agree that it would be good for us all to meet to make sure we're on the same page. And I can definitely set something up. Could you let me know your availability the weeks of May 10th and May 17th? And how long do you think we'll need for the meeting?

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

From: Collins, Evan R <evan_collins@fws.gov>

Sent: Tuesday, April 27, 2021 1:18 PM

To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fleming, Amanda <afleming@southernco.COM>; Padgett, Erin R <erin_padgett@fws.gov>

Subject: Meeting to discuss bats with FERC

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Angie.

Considering Sarah's comment regarding bats in today's meeting, I think it may be worth having another meeting to make sure we are all on the same page on how we are considering timber management and bats. As FERC's non-federal representative for this action, Alabama Power's involvement is related to the informal consultation process and providing information for a formal consultation. As the action agency, the ultimate responsibility for section 7 obligations remains with FERC. So, if they feel how the timber management component is being analyzed is not in agreement with the federal action, we'll want to make sure we correct that. As FERC's non-federal representative, I feel like it would be most appropriate to coordinate the meeting through you. Would you be able to set up a meeting with appropriate FERC contact (I assume Sarah Salazar) for this discussion? Let me know if you'd rather I set up that meeting.

Thanks!

Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
1208-B Main Street
Daphne, AL 36526
251-441-5837 (phone)

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evan_collins@fws.gov

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From: Anderegg, Angela Segars
Sent: Wednesday, April 28, 2021 4:50 PM
To: Sarah Salazar
Cc: 'Evan Collins'
Subject: Meeting to discuss Harris T&E consultation

Hi Sarah,

We were thinking it would be a good idea for the three of us (FERC, FWS and APC) to get together to make sure we're all on the same page on the Harris relicensing T&E consultation, specifically with regard to how we're considering timber management and bats.

Would you happen to be available on either 5/17 after 1:00 pm. (central) or 5/18 after 2:00 pm (central) for a 1 hour meeting? FWS is available during both of these times. Let me know what works for you and if we need to look at another day/time and I can send out Teams meeting info.

Thanks!

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

From: Collins, Evan R <evan_collins@fws.gov>
Sent: Thursday, April 29, 2021 3:38 PM
To: Sarah Salazar; Anderegg, Angela Segars
Cc: Danielle Elefritz
Subject: Re: [EXTERNAL] RE: Meeting to discuss Harris T&E consultation

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Sarah. Our records are current for T&E bat roosts and hibernacula. I think it will be most useful to use this time to discuss the ESA section 7 consultation process. I Specifically, I want to make sure we are reviewing the effects of timber management on listed bats in a manner that will satisfy FERC's section 7 obligations.

I look forward to chatting! Let me know if you have any questions in the meantime!

Best,
Evan

--

Evan Collins
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From: Sarah Salazar <Sarah.Salazar@ferc.gov>
Sent: Thursday, April 29, 2021 2:16 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Collins, Evan R <evan_collins@fws.gov>; Danielle Elefritz <Danielle.Elefritz@ferc.gov>
Subject: [EXTERNAL] RE: Meeting to discuss Harris T&E consultation

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Hi Angie,

Yes, I am available either of those days and times to discuss T&E consultation. Could you please include Danielle Elefritz, who is our attorney on the licensing team, in the meeting invitation as well?

In checking [FWS's guidance on state-specific NLEB consultations \[gcc02.safelinks.protection.outlook.com\]](https://gcc02.safelinks.protection.outlook.com), I wonder if we should also invite a representative from the Alabama Natural Heritage Program because they (and the FWS's Alabama Ecological Services Field Office) are listed by FWS as the agencies to be consulted for current location information for known NLEB hibernacula and maternity roost trees in Alabama. Thoughts?

Also, in preparation for this meeting I would like to note that on the same webpage mentioned above, FWS provides a document called "[Northern Long-Eared Bat Consultation Area and Final 4\(D\) Rule Guidance Flowchart For Alabama \[gcc02.safelinks.protection.outlook.com\]](https://gcc02.safelinks.protection.outlook.com)". On the first page of this document there is a map of Alabama showing known maternity roost trees and hibernacula, at least as of 2016. Perhaps Evan and/or the Alabama Natural Heritage Program staff could inform us whether or not this map has been updated since that time. If there are other documents that would be helpful for us to review prior to the meeting please let us know.

Thank you,

Sarah L. Salazar ✧ *Environmental Biologist* ✧ *Federal Energy Regulatory Commission* ✧ *888 First St, NE, Washington, DC 20426* ✧ *(202) 502-6863*
🌱 *Please consider the environment before printing this email.*

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Wednesday, April 28, 2021 5:50 PM
To: Sarah Salazar <Sarah.Salazar@ferc.gov>
Cc: 'Evan Collins' <evan_collins@fws.gov>
Subject: Meeting to discuss Harris T&E consultation

Hi Sarah,

We were thinking it would be a good idea for the three of us (FERC, FWS and APC) to get together to make sure we're all on the same page on the Harris relicensing T&E consultation, specifically with regard to how we're considering timber management and bats.

Would you happen to be available on either 5/17 after 1:00 pm. (central) or 5/18 after 2:00 pm (central) for a 1 hour meeting? FWS is available during both of these times. Let me know what works for you and if we need to look at another day/time and I can send out Teams meeting info.

Thanks!

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com

Harris relicensing - USR meeting summary

APC Harris Relicensing <g2apchr@southernco.com>

Wed 5/12/2021 11:56 AM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; 9sling@charter.net <9sling@charter.net>; abnoel@southernco.com <abnoel@southernco.com>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; alockwood@adem.alabama.gov <alockwood@adem.alabama.gov>; alpeeples@southernco.com <alpeeples@southernco.com>; amanda.mcbride@ahc.alabama.gov <amanda.mcbride@ahc.alabama.gov>; ammcvica@southernco.com <ammcvica@southernco.com>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; andrew.nix@dcnr.alabama.gov <andrew.nix@dcnr.alabama.gov>; arsegars@southernco.com <arsegars@southernco.com>; athall@fujifilm.com <athall@fujifilm.com>; aubie84@yahoo.com <aubie84@yahoo.com>; awhorton@corblu.com <awhorton@corblu.com>; bart_robby@msn.com <bart_robby@msn.com>; baxterchip@yahoo.com <baxterchip@yahoo.com>; bboozier6@gmail.com <bboozier6@gmail.com>; bdavis081942@gmail.com <bdavis081942@gmail.com>; bekyrainwater1@yahoo.com <beckyrainwater1@yahoo.com>; bill_pearson@fws.gov <bill_pearson@fws.gov>; blacklake20@gmail.com <blacklake20@gmail.com>; 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 1 attachments (207 KB)

2021-05-12 USR Meeting Summary.pdf;

Harris relicensing stakeholders,

Pursuant to FERC's Integrated Licensing Process and 18 cfr § 5.15(f), Alabama Power filed the Harris Project Updated Study Report (USR) on April 12, 2021 and held the USR Meeting on April 27, 2021. Stakeholders have until **June 11, 2021** to file written comments with FERC on the attached USR Meeting Summary. All comments must adhere to FERC regulations at 18 CFR Section 5.15 (c)(2)-(7). Any proposal for new information gathering or studies is subject to paragraph (e) of Section 5.15 except that the proponent must demonstrate extraordinary circumstances warranting approval.

Stakeholders may access the USR Meeting Summary on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR Meeting Summary is also available on the Project relicensing website at [R.L. Harris Hydroelectric Project Relicensing Website - Welcome \(harrisrelicensing.com\)](http://harrisrelicensing.com).

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com



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Birmingham, AL 35203
205 257 2251 tel
arsegars@southernco.com

May 12, 2021

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Transmittal of the Updated Study Report Meeting Summary

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

Dear Secretary Bose,

Alabama Power Company (Alabama Power) is the Federal Energy Regulatory Commission (FERC or Commission) licensee for the R.L. Harris Hydroelectric Project (Harris Project) (FERC No. 2628-065). On April 12, 2019, FERC issued its Study Plan Determination¹ (SPD) for the Harris Project, approving Alabama Power's ten relicensing studies with FERC modifications. On May 13, 2019, Alabama Power filed Final Study Plans to incorporate FERC's modifications and posted the Final Study Plans on the Harris relicensing website at www.harrisrelicensing.com.

Pursuant to the Commission's Integrated Licensing Process (ILP) and 18 CFR § 5.15(f), Alabama Power filed the Harris Project Updated Study Report (USR) on April 12, 2021² and held the USR Meeting on April 27, 2021.

Stakeholders have until June 11, 2021 to file written comments with FERC on the attached USR Meeting Summary. All comments must adhere to FERC regulations at 18 CFR Section 5.15 (c)(2)-(7). Any proposal for new information gathering or studies is subject to paragraph (e) of Section 5.15 except that the proponent must demonstrate extraordinary circumstances warranting approval. Stakeholders may access the USR Meeting Summary on FERC's website (<http://www.ferc.gov>) by going to the "eLibrary" link and entering the docket number (P-2628). The USR Meeting Summary is also available on the Project relicensing website at <https://harrisrelicensing.com>.

¹ Accession No 20190412-3000.

² Accession No 20210412-5737.

Page 2
May 12, 2021

If there are any questions concerning this filing, please contact me at arsegars@southernco.com or 205-257-2251.

Sincerely,

A handwritten signature in blue ink that reads "Angie Anderegg". The signature is written in a cursive, flowing style.

Angie Anderegg
Harris Relicensing Project Manager

Attachment – Updated Study Report Meeting Summary

cc: Harris Stakeholder List

Attachment
Updated Study Report Meeting Summary



R. L. Harris Hydroelectric Project

FERC No. 2628

Updated Study Report Meeting Summary

Harris Project

April 27, 2021

9:00 am – 12:00 pm

Microsoft Teams Meeting

Participants:

Angie Anderegg – Alabama Power Company (Alabama Power)
Wes Anderson – Alabama Power
Dave Anderson – Alabama Power
Jeff Baker – Alabama Power
Katie Bolton – Alabama Power
RaeLynn Butler – Muscogee (Creek) Nation
Jason Carlee – Alabama Power
Bryant Celestine – Alabama Coushatta Tribe of Texas
Keith Chandler – Alabama Power
Maria Clark – Environmental Protection Agency (EPA)
Evan Collins – United States Fish and Wildlife Service (USFWS)
Allan Creamer – Federal Energy Regulatory Commission (FERC)
Jim Crew – Alabama Power
Colin Dinken – Kleinschmidt Associates (Kleinschmidt)
Danielle Elefritz - FERC
Amanda Fleming – Alabama Power
Todd Fobian – Alabama Department of Conservation and Natural Resources (ADCNR)
Mike Godfrey – Alabama Power
Chris Goodman – Alabama Power
Stacey Graham – Alabama Power
Jim Hancock – Balch and Bingham
Jennifer Haslbauer – Alabama Department of Environmental Management (ADEM)
Martha Hunter – Alabama Rivers Alliance (ARA)
Kelly Kirven – Kleinschmidt
Carol Knight – Downstream Property Owners
Lisa Martindale – Alabama Power
Donna Matthews – Downstream Property Owner
Lydia Mayo – EPA
Amanda McBride – Alabama Historical Commission (AHC)
Rachel McNamara – FERC
Ashley McVicar – Alabama Power
Tina Mills – Alabama Power
Jason Moak - Kleinschmidt
David Moore – ADEM
Barry Morris – Lake Wedowee Property Owners' Association
Kenneth Odom – Alabama Power
Courtenay O'Mara – Georgia Power Company
Erin Padgett – USFWS
Alan Peebles – Alabama Power

Jennifer Rasberry – Alabama Power
Sarah Salazar - FERC
Kelly Schaeffer – Kleinschmidt
Robin Soweka – Muscogee (Creek) Nation
Sheila Smith – Alabama Power
Monte Terhaar - FERC
Jimmy Traylor – Downstream Property Owner
Sandra Wash – Kleinschmidt
Jack West – ARA
Ken Wills – Alabama Glade Conservation Coalition
Josh Yerby – Alabama Power

Updated Study Report (USR) Meeting Summary:

Angie Anderegg (Alabama Power Company (Alabama Power)) opened the meeting with a safety moment, reviewed Harris Relicensing milestones, and noted an upcoming (May 3, 2021) Harris Action Team (HAT) meeting on the Battery Energy Storage System (BESS) study. Angie stated the Updated Study Report (USR) meeting purpose: to present an overview of the study progress, including data collected, any variance to the study plan or schedule, and remaining activities for the Harris studies.

Dave Anderson (Alabama Power) presented the study progress, applicable variances, and remaining activities on the Operating Curve Change Feasibility Analysis study. Sarah Salazar (Federal Energy Regulatory Commission (FERC)) asked if Alabama Power would consolidate the effects on resources of the operating curve alternatives combined with proposed downstream alternatives in the Preliminary Licensing Proposal (PLP) so that stakeholders could comment on those proposed measures knowing the combined effects of both. Angie confirmed that only if Alabama Power's proposal includes both a downstream release and a change in the operating curve would those be analyzed together. Allan Creamer (FERC) noted that all existing erosion sites identified in the Erosion and Sedimentation Study appear to be located above the summer pool elevation and asked if an increase in the winter pool could cause additional wind and wave action on portions of the shoreline from a potential increase in recreation/boating. Dave agreed that the potential for that effect exists. Angie confirmed that, in general, there would be an increase in wave action with an increase in recreation. Allan recommended that this be identified as a potential effect on erosion in the *Operating Curve Change Feasibility Phase 2 Analysis Study Report*.

Sarah asked if the GIS data associated with the *Operating Curve Change Feasibility Phase 2 Analysis Study Report* had been filed. Dave replied no and noted that the GIS data will be filed with the Final License Application (FLA) in November. Sarah noted that the Project Boundary layer and the two other GIS layers filed with the *Phase 1 Project Lands Evaluation Study Report* contained differing projections and she requested that future GIS data layers use the same projection and coordinate system. Dave asked if the GIS data could be provided through the Harris Relicensing Website instead of FERC's e-Library. Sarah confirmed that the data would need to be filed on FERC's e-Library but could be added to the Harris Relicensing website as well. Donna Matthews asked for clarification on the variance related to the use of historic photos

on Lake Harris¹. Dave stated that historical aerial photos of the identified sedimentation sites on Harris Reservoir were to be compared to 2015 high-resolution photos; however, poor resolution of the historic photos did not provide the ability to compare the photos. Jason Moak (Kleinschmidt) added that Alabama Power's historic photos of the lake were also taken during different times of the year when the lake was at different levels. Donna asked if the photographs could be overlaid using landmarks. Dave mentioned that the photos could be georeferenced and overlaid, but the resolution of the photographs are not comparable. Jimmy Traylor (Downstream Property Owner) stated there were no advantages to downstream property owners if Alabama Power increased the lake level elevation, but instead could increase flooding and erosion downstream. Jimmy asked if Alabama Power could limit flooding by pre-evacuating the reservoir. Dave stated that pre-evacuation of the reservoir is not in the current Water Control Manual (WCM) procedures that are established by the U.S. Army Corps of Engineers (USACE). Jimmy asked if that could be changed. Dave noted it potentially could with extensive studies and noted that the USACE would require a lot more data to evaluate a change in the flood control procedures compared to the information Alabama Power has gathered thus far. Angie added that would be outside of the scope of the relicensing process.

Dave presented the study progress, applicable variances, and the remaining activities on the Downstream Release Alternatives Phase 2 study. Barry Morris (Lake Wedowee Property Owner's Association (LWPOA)) stated that the 300 cubic feet per second (cfs) continuous minimum flow (CMF) is double the flow that Alabama Power currently passes through the dam and inquired on how 300 CMF would not affect the reservoir level. In addition, Barry asked if there would be a rule that would cutback the CMF depending on inflows to the lake. Angie responded that 300 CMF does not affect the reservoir level as there would be less water on peak and instead would pass continuously. Angie noted that the Green Plan (current operations) has provisions for cutbacks during drought. Angie added that if a minimum flow were proposed, Alabama Power would evaluate what drought cutback is needed for the minimum flow operations and how that would be provided. Barry asked for confirmation that the only time Alabama Power would cutback the CMF is during drought operations. Angie confirmed and noted that a drought cutback is built into the HEC-ResSim model that was used in the relicensing studies. Sarah asked if the terminology of the CMF alternatives could include "plus peaking" to clarify that the CMF is not the only water that is passing through the dam. Angie noted that Alabama Power will clearly describe its operations proposal in the PLP.

Allan asked for clarification on the trend in the average daily water surface fluctuation exceedance tables and on the average wetted perimeter tables in the *Downstream Release Alternatives Phase 2 Analysis Study Report*. Dave asked Allan to submit written comments on the draft report. Jack West (Alabama Rivers Alliance (ARA)) noted that the 150 CMF and 300 CMF alternatives had no effect on Harris Reservoir elevations, with 600 CMF having an adverse effect. Jack asked if anything between 300 CMF and 600 CMF were modeled and at what point the CMF begins to impact lake levels. Dave responded that Alabama Power analyzed the alternatives that were approved by FERC and did not model anything between 300 CMF and 600 CMF. Jimmy asked why Alabama Power only considered the flow from the Tallapoosa River and had not analyzed the flow from the Little Tallapoosa River. Dave stated the Heflin gage was

¹ While use of historic photos from Lake Harris was mentioned in the Operating Curve Change Analysis Study Plan, photos could not be used to assess the effects of the winter pool alternatives due to the limited resolution of the historical photos. This was noted as a variance in the Updated Study Report and is separate from the downstream historical photos submitted by Donna Matthews that were filed with FERC.

found to be more representative of flows in the basin when the Green Plan (GP) was developed. Jimmy noted that if a CMF is proposed, the flow from the Tallapoosa River and the Little Tallapoosa River should be analyzed to understand the impacts to Harris Reservoir and the Tallapoosa River downstream. Dave stated that current operations in the model are based on the Heflin gage in the Tallapoosa River².

Carol Knight (Downstream Property Owner) stated concerns regarding erosion downstream of Harris Dam and recommended pre-evacuation of the reservoir be further considered. Alan Peeples (Alabama Power) explained that pre-evacuation could exacerbate flooding downstream due to error in rain forecasts. In addition, the current operations are dictated by the USACE WCM. Sarah asked why the 300 CMF+GP would impact reservoir elevations while the 300 CMF does not, even though the alternatives represent the same volume of water. Dave clarified that the two alternatives are not the same volume, as the 300 CMF+GP includes GP pulses in addition to the CMF and peaking operations (while 300 CMF includes 300 cfs CMF and peaking operations). Sarah asked for clarification, in that the GP pulses are subtracted from what would be used for peaking at any given time. Angie explained that in the model there is a rule that maintains the reservoir level and any water available above that needed for the CMF is allocated for peaking. Angie noted that the amount available for peaking varies depending on inflow (i.e. there are times when there is only enough water available for the CMF) and added that the higher CMF alternatives (and the 300 CMP+GP alternative) impact reservoir levels due to outflow being greater than inflow. Regarding impacts to generation, Monte Terhaar (FERC) requested megawatt hours (MWh) be presented in the summary table in the operating reports in addition to the monetary value. Kelly confirmed this change will be made in the Final Phase 2 reports.

Tina Mills (Alabama Power) presented the study progress, applicable variances, and remaining activities for the Battery Energy Storage System (BESS) study. There were no questions.

Jason M. presented study progress, applicable variances, and remaining activities for the Water Quality study. Allan noted that Table 4-9 of the *Water Quality Study Report* provides a monthly summary of dissolved oxygen (DO) and temperature data from the continuous monitor from 2019-2020 and asked how the generation and non-generation data would compare at that monitor. Jason M. noted that the analysis was not included in the report but anecdotally, there were minimal differences between data collected at the same time at the generation monitor versus the continuous monitor. Jason M. added that the monitors are approximately one-half mile apart so there is travel time to account for. Keith Chandler (Alabama Power) explained that the continuous monitor location was chosen in consultation with Alabama Department of Environmental Management (ADEM) as a site to monitor the fishery and the generation monitor location was agreed upon with ADEM as a site that was representative of turbine discharge. Keith added that travel time or other potential influences have not been evaluated at the continuous monitor. Allan stated that he would not expect travel time to impact data with the sites being approximately one-half mile apart. Keith clarified that the intent of the continuous monitor was to monitor the fishery, not plant discharge. Allan requested the data spreadsheet include generation information for the continuous monitor in order to compare DO and temperature. Jason M. added that zero generation listed for either data set does not mean zero

² Alabama Power notes that while the Green Plan is based on Heflin gage flows, the model used to analyze the downstream release alternatives uses average daily basin flows from 1939-2011.

flow since there is still flow while the river reaches equilibrium following generation in addition to intervening flows.

Jason M. presented the study progress, applicable variances, and remaining activities on the Erosion and Sedimentation study. Sarah noted that erosion is an area of concern for many stakeholders and wanted to ensure stakeholders had a chance to review the report and understand the results. Donna noted she had not had a chance to review the report and noted historical photos should be on the record to draw conclusions regarding erosion. Kelly confirmed that the historical photos provided by Donna had been filed with FERC and are on the record.

Jason M. presented the study progress, applicable variances, and remaining activities on the Aquatic Resources study. Jack asked if Alabama Power was studying ways to modify temperatures to ensure a warm-water fishery. Jack added that flows and temperature should not be decoupled and that a CMF of colder water could hinder the fishery. Jason M. noted that Alabama Power is reviewing information that was submitted regarding temperature modifications at other hydropower projects. Jason M. added that the temperature regime of the Tallapoosa River has been well studied during the relicensing process and noted temperatures below Harris Dam are well within the required temperature range of target species presented in Auburn's report. Jason M. stated that the data shows the temperature regime of the river below Harris Dam is not much different from a warm-water fishery, as it averages over 20 degrees Celsius (°C) and closer to 25 °C at several locations downstream during the summer. Jason M. added that only a 2-3°C difference exists in portions of the year when compared to unregulated sites like Heflin or Newell; therefore, there does not appear to be a strong case for making a temperature modification. Jack stated that some of this information is in conflict with previous studies and ARA will file additional comments on temperature. Jimmy asked what the temperature difference is between the uppermost and lowest position of the skimmer weir. Jason M. noted that temperature at the lowest position had not been measured as the weir has been in the uppermost position since the early 2000s but speculated there would be a couple °C difference if the weir were lowered.

Jason M. presented the study progress, applicable variances, and remaining activities for the Downstream Aquatic Habitat (there were no stakeholder questions) and the Threatened and Endangered Species studies. Sarah noted that FERC requires licensees to specify timber management activities within the Project Boundary to perform their analysis on bat species. Sarah added that specific timber acreages of any tree removal activities as defined by the U.S. Fish and Wildlife Service (USFWS) are needed for the Streamlined Consultation regarding the Northern Long-eared Bat (*Myotis septentrionalis*) and asked if that information would be provided with the PLP. Angie responded that Alabama Power has been consulting with the USFWS on what is needed for consultation and is currently working on the Draft Wildlife Management Plan (WMP). Keith confirmed that timber management practices that are protective of bat species are currently being finalized with the USFWS. Angie added that the WMP will be filed in November 2021 with the FLA. Jason M. noted that the range of the Indiana Bat (*Myotis sodalist*) overlaps with the range of the Northern-Long eared Bat and the USFWS did not recommend Streamlined Consultation. Evan Collins (USFWS) suggested an additional meeting with FERC regarding Endangered Species Act (ESA) consultation. Evan noted there are three bat species likely to occur within the Project Boundary. Evan added that Streamlined Consultation is available to use for the Northern Long-eared Bat, but it would not address the effects to the Indiana Bat. Evan added that USFWS is working with Alabama Power on a more

programmatic approach to managing timber for bats, reviewing areas of timber harvest as they are proposed over time. Sarah noted that FERC's federal action is issuing the license and T&E species issues need to be addressed in the license order. Regarding Alabama Power's proposed land classifications at Lake Harris, Sarah noted that there are not any distinguishing polygons in the GIS data within the natural areas that show areas of timber management. Sarah requested that Alabama Power's timber harvest estimates need to be on the record.

Tina presented the study progress, applicable variances, and remaining activities for the Project Lands Evaluation study. Ken Wills (Alabama Glade Conservation Coalition) asked if the original 20-acre botanical inventory report at Flat Rock Park was previously filed as a final report. Tina confirmed and noted that it was filed as an appendix to the *Phase 1 Project Lands Evaluation Study Report* in October 2020. Ken asked if the WMP would be available for additional review. Tina confirmed that Alabama Power is currently working with resource agencies on details of the WMP and it would be presented to the Harris Action Team 4 (HAT) prior to being filed with FERC in November 2021. Angie confirmed the WMP would be distributed for review and Alabama Power would hold a HAT 4 meeting prior to filing the WMP. Sarah requested the draft WMP be filed with the PLP by July 3, 2021 so that stakeholder comments could be incorporated prior to the FLA.

Amanda Fleming (Alabama Power) presented the study progress, applicable variances, and remaining activities on the Recreation study. Donna stated that there is only one public swimming area/day-use park on the reservoir and asked for additional information on Alabama Power's plan regarding new recreation sites. Amanda clarified that the Recreation Evaluation Study Report did not include this information and the Protection, Mitigation, and Enhancement (PME) measures (such as new recreation sites) will be presented in the PLP. Angie confirmed that Alabama Power has identified the need for an additional day-use park on the reservoir and it will be part of Alabama Power's proposal.

Amanda presented the study progress, applicable variances, and remaining activities on the Cultural Resources study. Regarding the downstream release alternatives and the operating curve alternatives, Rachel McNamara (FERC) asked if the location of the known cultural resources (19 sites downstream and 96 on Lake Harris) would be provided to HAT 6. Amanda requested that Rachel file written comments of her request. Rachel added it would be helpful to know which cultural resources were potentially being affected. Amanda clarified that the 19 sites downstream that were determined from the Alabama State Site File and not further analyzed, but the 96 sites around Lake Harris will be presented in the eligibility assessments.

Bryant Celestine (Alabama Coushatta Tribe of Texas) apologized for not previously participating in HAT 6 meetings thus far and asked if the Traditional Cultural Properties (TCP) invitation could be extended. Amanda stated that the TCP process is near completion with the Muscogee (Creek) Nation. Bryant stated the invitation to conduct TCP should not be concluded and noted a concern that the general area may contain archaeological sites that link the Alabama Coushatta Tribe of Texas to the Muscogee (Creek) Nation. Bryant added that the Coushatta Tribe of Louisiana and the Alabama-Quassarte Tribal Town of Oklahoma would likely have an interest in participating in the TCP process. Amanda requested Bryant to submit a written comment regarding his request. Maria Clark (Environmental Protection Agency (EPA)) encouraged Alabama Power to allow the Coushatta Tribe of Texas to participate in the TCP process.

Kelly asked participants for any additional questions. Regarding pre-evacuation of the reservoir in the case of a forecasted rain, Barry asked how long it would take, and at what flow, to lower the lake one to two feet. Alabama Power was not sure and requested Barry to file a written comment. Jack asked when the HEC-RAS and HEC-ResSim models and associated outputs would be available to stakeholders. Kelly noted these would be filed with the FLA to include any additional modeling that may be required based on comments from the draft operating reports. Jack stated that the models or at least some of the outputs would be helpful to have sooner to provide comments on the draft BESS report. Kelly requested this be further discussed in the upcoming HAT 1 meeting on May 6, 2021. Jack asked for an extension of the comment period of the draft operating reports. Kelly asked if Alabama Power could get back with stakeholders on this request³. Ken clarified that the comment period is only related to the draft operating reports and not the final study reports. Angie confirmed and added that stakeholders will have until June 11, 2021 to comment on the USR meeting summary.

Microsoft Teams Chat Questions and Responses:

- Jimmy Traylor: What is the inflow from The Little Tallapoosa River?
 - Jason Moak: Average annual flow in Little Tallapoosa River at USGS Newell gauge is 573 cfs based on 1976-2020 period of record.
- Donna Matthews: I, too, wonder what the interaction between Army Corp and dam operations is and why they are not participating.
 - Kelly Schaeffer: The USACE has been participating in this relicensing process. They attended the HAT 1 meetings on April 1, 2021.
- Donna Matthews: How many of the original 20 Level loggers remain in place. Do they continue to generate data? Where is that data available for viewing?
 - Colin Dinken (Kleinschmidt): All of those loggers were removed after May 2020 after they had gathered one year of continuous data. *15-minute data continuously for one year.

³ Alabama Power provided stakeholders an additional 15-day comment period with comments due on May 26, 2021 on the Draft *Downstream Release Alternatives Phase 2 Study Report*, Draft *Operating Curve Change Feasibility Analysis Phase 2 Study Report*, and Draft *Battery Energy Storage System at R.L. Harris Project Report*.

Document Content(s)

2021-05-12 USR Meeting Summary.PDF.....1

APC Harris Relicensing

From: Baker, Jeffery L.
Sent: Monday, May 17, 2021 10:29 AM
To: Collins, Evan R
Cc: Chandler, Keith Edward; Mills, Tina L; Anderegg, Angela Segars
Subject: Harris Timber management
Attachments: Harris timber harvest.docx

Evan,

Take a look at the attached and let me know your thoughts concerning bats and timber harvest at project lands adjacent to Lake Harris. I think we can avoid potential impact to bats with the selective harvest described. If you feel otherwise, we can discuss during today's meeting. Please share with Erin also. I've yet to save her email in my contacts. Thanks and sorry for getting it to you so late.

Jeff Baker
Biologist
Alabama Power
Environmental Affairs
744 Highway 87
GSC #8
Calera, AL, 35040
Tel 205-351-1631
jefbaker@southernco.com



6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

To avoid and minimize potential impacts to federally listed summer roosting bats, Alabama Power will continue to utilize selective cutting as the primary means of timber harvest at Lake Harris. Specifically, only trees marked for harvest will be cut. Furthermore, only live, standing pine trees 15" DBH (diameter at breast height) and greater will be marked for harvest. Trees with potential roost tree characteristics (exfoliating bark, cracks, crevices, or hollows) will not be marked for cutting and will be retained where possible. Occasionally, a tree exhibiting potential roost characteristics may be inadvertently damaged during harvest. If this occurs to a high-quality potential roost tree¹ (MO eFOTG- Policy and Procedures 2003) outside the approved clearing season (October 15-March 31), APC will contact the USFWS Daphne Field Office. A particular emphasis will be made to avoid damaging potential high-quality roost trees during the pup season (June 1-July 31).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (*Myotis septentrionalis*) or Indiana Bat (*Myotis sodalis*) hibernacula or maternity roost trees occurring within the Lake Harris Project Boundary or within the buffer zones established by currently published avoidance guidance for both species. In regards to the Northern Long-eared Bat, there are no known hibernacula occurring within 0.25 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 150 feet of the Lake Harris Project Boundary (collectively, "areas within or adjacent to the Lake Harris Project Boundary"). Regarding the Indiana Bat, there are no P3 or P4 hibernacula occurring within 5 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 2.5 miles of the Lake Harris Project Boundary (collectively, "areas within or adjacent to the Lake Harris Project Boundary"). Furthermore, there are no P1 or P2 hibernacula occurring within the state. Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS's Alabama

¹ Live/or snag greater than 9" DBH with exfoliating bark, crevice, crack, or hollow

Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Lake Harris Project Boundary, Alabama Power will adhere to the most up-to-date USFWS guidance and BMPs, which, for the Northern Long-eared bat currently include limiting the cutting, trimming, or destruction of trees on Project land within 0.25 miles of known hibernacula during any time of the year and 150 feet of known maternity roosts to the period of October 15 through March 31 with the exception of removal of hazardous or fallen trees for protection of human life. Avoidance guidance for the Indiana Bat can be found in Range-wide Indiana Bat Protection and Enhancement Plan Guidelines (2009) or at the following link: <https://www.fws.gov/daphne/es/Bats/Indiana%20Bat.html>.

Selective harvest of only live pine trees 15" DBH and greater while avoiding trees that exhibit potential roost characteristics as well as implementation of published avoidance guidance should new maternity or hibernacula locations be discovered will result in no effect to both listed bat species. Specifically, implementation of the above guidance will adhere to conditions outlined in the 4 (d) rule for the Northern Long-eared bat, and no further consultation should be required for this species. If a specific timber harvest plan does not adhere to the published avoidance guidelines, further consultation may be required.

From: [Anderegg, Angela Segars](#)
To: ["Todd Fobian \(todd.fobian@dcnr.alabama.gov\)"; "Keith Gauldin"; "Chris Smith"; Baker, Jeffery L.; Carlee, Jason; Chandler, Keith Edward; Mills, Tina L.; Sandra Wash](#)
Subject: Harris relicensing - April 14 Meeting Summary
Date: Tuesday, May 18, 2021 9:42:50 AM
Attachments: [2021-04-14 Skyline WMP - ADCNR Meeting Summary.pdf](#)

Good morning,

Attached is a summary of the April 14, 2021 meeting concerning the Harris draft Wildlife Management Plan.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com



R. L. Harris Hydroelectric Project

FERC No. 2628

Meeting Summary **Harris Relicensing Meeting** **April 14, 2021, 9:00 am – 10:00 am, Microsoft Teams Meeting**

Participants:

Jeff Baker – Alabama Power Company (Alabama Power)
Jason Carlee – Alabama Power
Keith Chandler – Alabama Power
Todd Fobian – Alabama Department of Conservation and Natural Resources (ADCNR)
Keith Gauldin – ADCNR
Tina Mills – Alabama Power
Chris Smith – ADCNR
Sandra Wash – Kleinschmidt Associates

Meeting Summary:

Tina Mills (Alabama Power) opened the meeting and stated the meeting purpose: to determine whether any information needs to be added to or modified in the draft Wildlife Management Plan (2021 Draft WMP). A presentation was used to facilitate the meeting (Attachment 1). Tina noted that the 1984 FERC Order Conditionally Approving Revised Land Use Plan and Revised Exhibit S added Article 63 to the Harris license and required Alabama Power to file a Wildlife Mitigation Plan (1988 WMP). The 1988 WMP was developed with agency consultation and approved by FERC in 1988, adding 15,300 acres at Skyline and 779.5 acres at Lake Harris. In accordance with the 1988 WMP, Alabama Power leased the Skyline tract to Alabama Department of Conservation and Natural Resources (ADCNR) in 1988. In addition, the FERC order approving the 1988 WMP required Alabama Power to file a Management Plan for Skyline (1990 Skyline WMP). Tina outlined the management actions implemented by the 1988 WMP, which included the installation and maintenance related to Wood Duck boxes, initial release and nesting platforms for Canada Goose, nesting platforms for Osprey, timber management, large and small animal cavity nesting structures, land acquisition, and the Skyline Management Area. Tina then outlined the management actions outlined in the 1990 Skyline WMP, noting that the execution of management actions fell under ADCNR with Alabama Power providing funding. Tina noted that management practices as implemented today are different from the actions outlined in the 1990 Skyline WMP and suggested revising the ADCNR lease to reflect current management. ADCNR concurred with this suggestion.

Tina presented the current 2021 Draft WMP to be included in the Final License Application (FLA) and confirmed that ADCNR had reviewed the Draft WMP that was emailed to them in March 2021 (Attachment 2). Tina noted that Alabama Power is currently working with the U.S. Fish and Wildlife Service (USFWS) on best management practices (BMPs) regarding timber management practices protective of listed bat species, and that such language had not yet been added to the 2021 Draft WMP. Tina asked for any comments regarding the 2021 Draft WMP, specifically any information that needs to be modified or added. Keith Gauldin (ADCNR) referenced the Lake Harris Project Boundary (Figure 1-1 in the 2021 Draft WMP) and asked if the larger tracts north of the Highway 48 bridge and along the Big Tallapoosa arm were currently leased to private hunting clubs. Tina confirmed that over time, these lands transitioned to private leases but noted Alabama Power does not intend for the leases to continue upon implementation

of the new license. Keith G. stated that ADCNR offers a limited quota hunting format (random draw permit) at Special Opportunity Areas (SOAs) that add a new perspective on public hunting. Keith G. added that SOA tracts are typically 300 to 500 acres and noted that the Project land north of the Highway 48 bridge, along the Big Tallapoosa arm, currently classified as hunting lands may be suitable. Keith G. asked how many acres the area covered. Tina replied she thought it was approximately 2,000 acres but was not certain and would verify. Jason Carlee (Alabama Power) asked how SOAs are managed. Keith G. replied that SOAs are managed with a hands-off approach and noted that some SOAs are being purchased outright by ADCNR and others obtained through federal funding. Keith G. noted that hunters use kiosks to sign in and out and added that SOAs are restrictive on the number of people allowed to hunt.

The group discussed management of timber on Project lands. Jason referenced the Lake Martin small game area and noted that Alabama Power consults with ADCNR on wildlife openings, but Alabama Power maintains the timber. Jason asked if the same management would apply to the potential SOAs. Keith G. noted that ADCNR is transitioning to passive management, allowing natural vegetation to grow in openings versus planting food plots. Keith G. added that ADCNR would provide signage and add the SOAs to their online registration process if lands were to be managed as SOAs. Chris Smith (ADCNR) stated that ADCNR would be interested in Alabama Power managing the timber with increased openings. Chris added that ADCNR does not want to plant every opening and some openings would be fallow. Chris stated that all SOAs are owned by ADCNR or Forever Wild (no private ownership) and have been incredibly successful. Jason asked if shooting houses would be needed or if hunters would hunt from ladders or the ground. Chris replied that would be left up to the hunter. Jason stated that Alabama Power needs to retain ownership of these lands but could discuss opportunities as it relates to SOAs. Chris noted the addition of SOAs provide hunters additional public opportunities.

Tina provided a quick review of the 1988 WMP and 1990 Skyline WMP, noting that neither management plan reflects current management. Tina asked if ADCNR was open to redrafting the lease agreement to reflect present-day management. Keith G. stated yes. Tina added that although the lease is outside of the 2021 Draft WMP, Alabama Power recommended it to be updated alongside of it. Tina pointed out that Alabama Power is not proposing certain management actions going forward in the 2021 Draft WMP such as maintaining Wood Duck boxes, Canada Goose, and Osprey nesting platforms. Canada geese have been successfully established, osprey platforms require no maintenance and are constructed of durable materials, and wood ducks have had time to transition to surrounding natural habitat.

The group discussed the usage of the Skyline Wildlife Management Area (WMA). Keith G. added that there have been 7,824 check-ins to date at Skyline from the Outdoor AL App (App) and estimated that 60-70 percent of hunters are using the App. Keith G. estimated approximately 11,000 hunters, including paper permits. Keith G. added that over 180,000 hunting licenses were purchased statewide, with approximately 40,000 including the WMA license. Keith G. added that the App allows users to bypass the check-in station and can check-in closer to their chosen hunting location. Jason asked if hunters were required to check-in their harvests at the check stations in the WMAs. Keith G. responded that the App would notate if it were required, as some gun days at specific WMAs do require harvest check-ins. Keith G. noted that kiosks have been installed at every major access point at Skyline, installing 15 over the last 6 months.

The meeting concluded.

Attachment 1

Presentation titled Review of Draft Wildlife Management Plan (WMP) with ADNCR
Dated April 14, 2021

R.L. Harris Project Relicensing

Review of Draft Wildlife Management Plan (WMP) with ADCNR

April 14, 2021



Meeting Agenda



- Roll Call
- Meeting Goals
- Review of Harris Relicensing process to-date
- Review current Wildlife Management Plans
- Review draft Wildlife Management Plan



Meeting Goals



- Determine whether any information within current draft needs modified
- Determine whether any information is missing and needs to be added to the current draft



Harris Relicensing – development of WMP



✓ Preliminary Application Document

- ✓ Include information regarding current WMPs

✓ Study Plans

- ✓ Determine information gaps and develop study plans to collect information

✓ Conduct Project Lands Evaluation Study

✓ Phase 1:

- ✓ Form HAT 4; conduct meetings to discuss potential changes to the Harris Project Lands
- ✓ Develop a Draft and Final Phase 1 Project Lands Evaluation Study Reports

➤ Phase 2:

- Create a draft Wildlife Management Plan in consultation with HAT 4
- File draft Wildlife Management Plan as part of license application





Current Wildlife Management Plans

12/27/1973 – FPC issues Harris license

- Article 52 requires APC file a revised Exhibit S; Article 19 requires a Land Use Plan
- 9/21/1984 - FERC Order Conditionally Approving Revised Land Use Plan and Revised Exhibit S and Amending License
 - Order also added Article No. 63 requiring APC file WMP

1984 – 1988: development of WMP; agency consultation

5/23/1988 filed revised WMP; 7/29/1988 – FERC approved WMP

- Approves addition of 15,300 acres at Skyline and 779.5 acres at Lake Harris
- Paragraph B requires filing of Skyline WMP

8/12/1988 – APC leases Skyline tract to ADCNR

7/18/1989 (7/24/1989) – APC files Skyline WMP

06/29/1990 – FERC approves Skyline WMP





Current WMP Management Actions

1988 Harris WMP

- Wood Duck boxes
- Canada Goose
- Osprey nesting platforms
- Timber Management
- Managed Openings
- Artificial Nesting Structures
- Land Acquisition
- Skyline Wildlife Management Area
 - Acquire land, lease to ADCNR
 - Provide funding
 - Hunting made available to public





Current WMP Management Actions

1990 Skyline WMP

- Development (within first five years of plan)
 - Clearing; Firebreaks; Waterholes; Campsites
- Maintenance
 - Boundary maintenance; Roads; Gates; Campsites; Nest structures
- Operations
 - Herbaceous and shrub plantings; Wildlife openings; Forest Management; Managed public hunts; law enforcement



Draft Wildlife Management Plan



Purpose: protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project

3.0 Background and Existing Information

4.0 Wildlife Management Objectives

5.0 Shoreline Management

6.0 Timber Management

7.0 Harris Hunting Areas



Draft Wildlife Management Plan



Discussion



Attachment 2

March 2021 Draft WMP emailed to ADCNR

WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

March 2021

WILDLIFE MANAGEMENT PLAN
R.L. HARRIS HYDROELECTRIC PROJECT

ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

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WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT (FERC No. 2628)

**ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA**

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan (Study Plan).

¹ Accession Number 20190412-3000

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement and protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392 acres and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)², as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.

The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA) located in Jackson County, Alabama (**Figure 1-2**). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigative Plan and the June 29, 1990 Wildlife Management Plan. These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.



For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only; Harris

² Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

Dam refers to the dam, spillway, and powerhouse. The Project Area refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary.

Lake Harris and Skyline are located within two river basins: the Tallapoosa and Tennessee River Basins, respectively. The only waterbody managed by Alabama Power as part of their FERC license for the Harris Project is the Harris Reservoir.

Within Section 3.0 of this report, Alabama Power describes the Lake Harris resource first, followed by the Skyline resource. Specific references to the Harris Reservoir will be identified as Harris Reservoir; specific reference to the dam will be identified as Harris Dam. The “Project Area” refers to the land and water in the Project Boundary and immediate geographic area adjacent to the Project Boundary. The “Project Vicinity” refers to a larger geographic area near a hydroelectric project, such as a county.

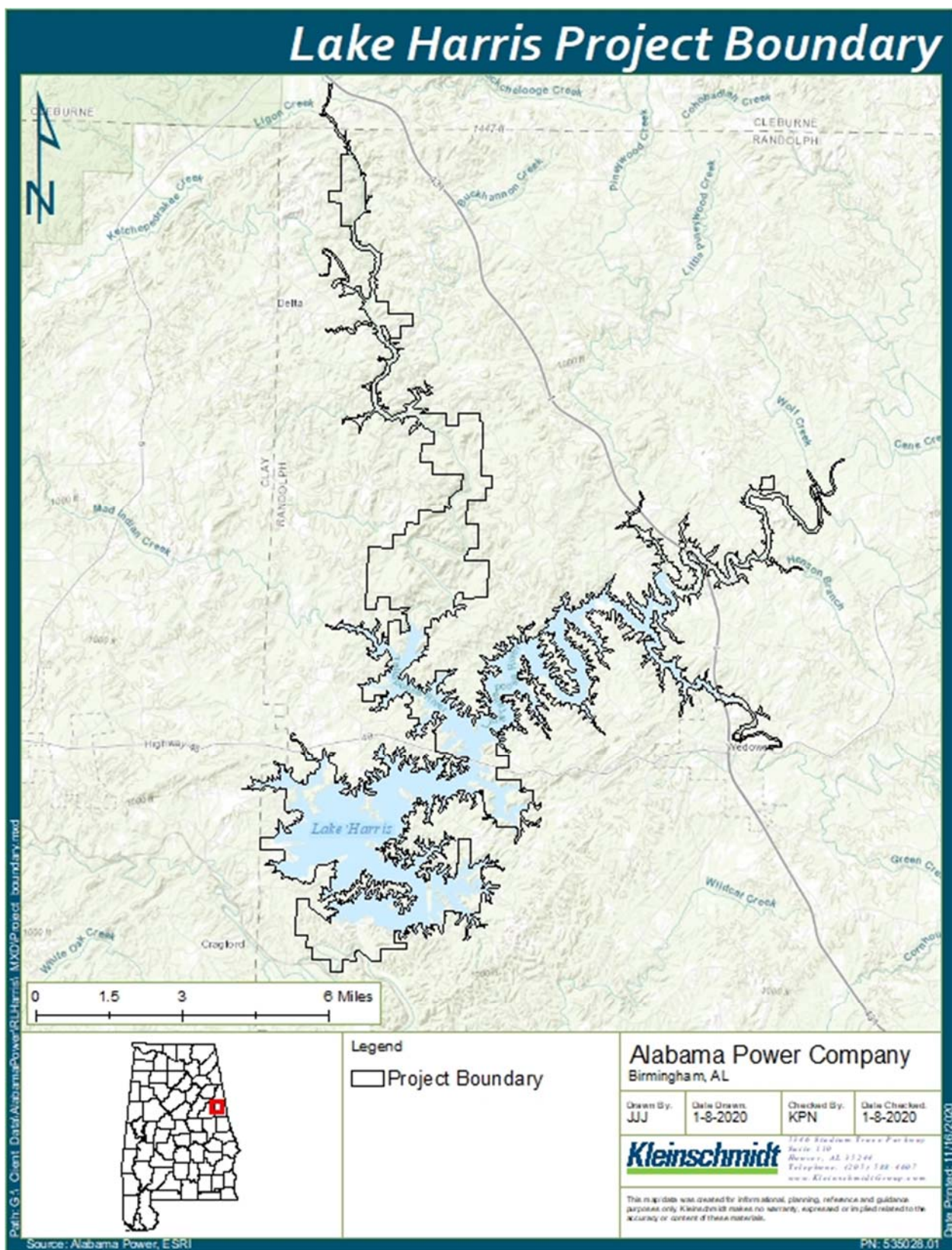


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

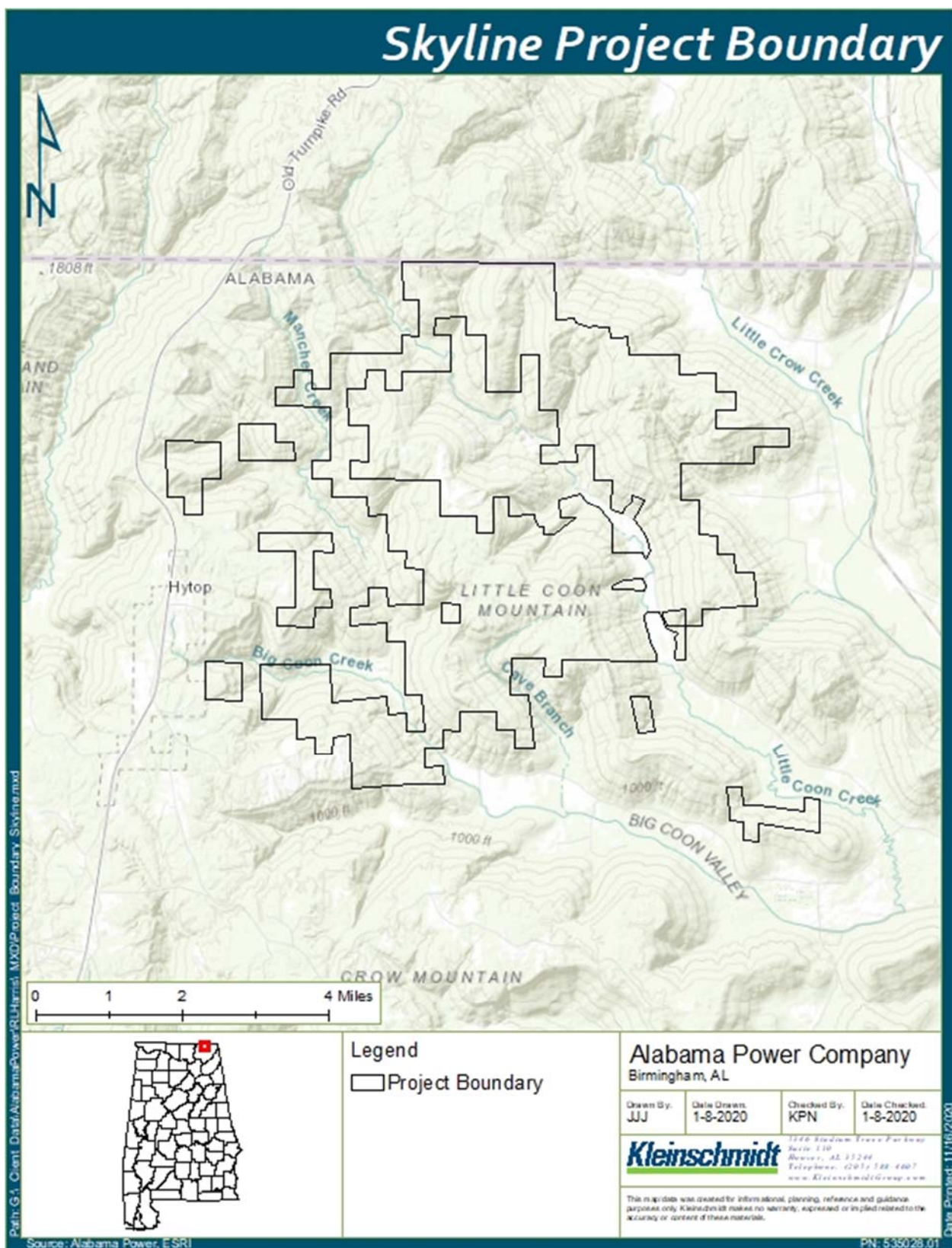


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

As part of the original license, Alabama Power developed a Wildlife Mitigation Plan (Alabama Power 1988) in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS) that FERC approved on July 29, 1988. The Wildlife Mitigation Plan outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project. The Wildlife Mitigation Plan included provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The Wildlife Mitigation Plan required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the Wildlife Mitigation Plan included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (Skyline WMP) (Alabama Power 1989) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990.

As part of the management activities conducted under the 1988 Wildlife Management Plan, Alabama Power identified 263 acres of suitable Wood Duck habitat and installed over 100 Wood Duck boxes. Alabama Power also released Canada Geese to establish a population in and around Lake Harris. Additionally, Alabama Power constructed Osprey nesting platforms along the reservoir shoreline. Finally, Alabama Power managed forest lands within the Lake Harris Project Area and established 105 acres of permanent openings to provide diverse habitat that benefits both game and nongame species.

Alabama Power conducts annual monitoring and maintenance of 104 Wood Duck boxes installed around Lake Harris. Maintenance activities include repair and replacement of broken boxes, as

well as the relocation of underutilized boxes. Double boxes were installed in higher use areas. Since 2000, an average of 33 Wood Ducks have been hatched from the Wood Duck boxes per year. Annual Wood Duck hatchlings ranged from 17 hatchlings in 2000 to 47 hatchlings in 2017. Although Wood Ducks have utilized the artificial boxes, these structures were installed as a mitigative measure for lost habitat associated with the initial impoundment of Harris Reservoir. Wood Ducks using the area have had time to adapt to the surrounding habitat, and likely have demonstrated tolerance, or the ability to habituate, to existing human presence, activities, and infrastructure at Lake Harris. Therefore, Alabama Power will not continue monitoring and maintenance of the Wood Duck box program under this WMP. Wood Duck boxes will be left in place until they are no longer usable. This will allow wildlife using the structures to transition to the surrounding suitable habitat.

Alabama Power installed Osprey platforms around Lake Harris. The platforms are constructed of concrete poles with a galvanized steel ring at the top to serve as a nesting platform. Due to construction materials, the platforms require minimal maintenance. While many of the platforms have been used by Osprey, they are not included in a monitoring program. Further, no additional platforms are planned for construction as the currently installed platforms are adequate for the Osprey population at Lake Harris and will last for years to come.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Gray Squirrel (*Sciurus carolinensis*), the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris*

gallapavo silvestris), and Mourning Dove (*Zenaida macroura*); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrooki holbrooki*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megasceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power

2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter (*Pseudemys concinna*), and Red-eared slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks; pines may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks (*Quercus* spp.) such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboreum*). The herb layer is typically sparse (NatureServe 2009).

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much

of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus pagoda*). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. Alabama Power leases Skyline lands to ADCNR and provides funding for the wildlife management activities on Skyline lands. ADCNR is responsible for the wildlife management activities (Alabama Power 1988). In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite (*Colinus virginianus*), and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern

Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types. The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardii*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine (Pinaceae), Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include

Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina* ssp. *asplenoides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak (*Quercus prinus*), Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry (*Vaccinium stamineum*), Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflorum*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern

Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat;
- 3) Management of public hunting areas, including areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources such as, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum³. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff,

³ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Planting of native species will be required on all lands within the SMP Recreation and Commercial Recreation classifications and recommended as a BMP on all other Project lands. Specific management actions associated with native plantings can be found in the SMP.

6.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber would be harvested on 16 year cutting cycles and pulpwood would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were then being used. As a result, more volume was being cut per acre and more reseeded was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several threatened and endangered species of plants and animals.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 6,269 acres within the Harris Project Boundary at Lake Harris is summarized in Table 6-1. Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily of various upland species of red and white oak, yellow poplar, hard and soft maple, and hickory. There is a small component of shortleaf, loblolly, and Virginia pine. Historically, past harvesting practices have focused on removing higher value red and white oak timber, resulting in many stands that are dominated by maple, hickory, yellow poplar and chestnut oak. Most stands have closed canopies resulting in little or no desirable

understory species to provide the potential for future stands. Timber stand composition on the 15,188 acres within the Harris Project Boundary at Skyline is summarized in Table 6-2.

TABLE 6-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>47</u>	<u>2938</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>18</u>	<u>1109</u>
Upland Hardwood	<u>21</u>	<u>1343</u>
Planted Pines	<u>8</u>	<u>476</u>
Other	<u>6</u>	<u>403</u>
Total	<u>100</u>	<u>6269</u>

TABLE 6-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>0.15</u>	<u>23</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>0</u>	<u>0</u>
Upland Hardwood	<u>99</u>	<u>14,922</u>
Planted Pines	<u>0</u>	<u>0</u>
Other	<u>0.85</u>	<u>118</u>
Total	<u>100</u>	<u>15,063</u>

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below.

6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

Alabama Power will continue to manage Project forest lands according to the existing all or uneven-aged management schemes, with a sawtimber cycle of 20 years and an overall forest rotation of 60 years (see above description). Prescribed burning and/or use of herbicides will be considered on stands within the Project forest lands, and such use will be based on conditions and characteristics of the individual stands.

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest on Project lands. Natural regeneration will continue to be the primary means by which harvested forests are replaced. However, if a particular timber stand cannot be regenerated naturally, or if a stand is destroyed by some catastrophic event, any residual trees without potential roost tree characteristics will be harvested, the site prepared, and the stand planted with genetically improved seedling stock.

Alabama Power is working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the project boundary.

6.1.2 SKYLINE

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal.

Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics. At least two harvest units will be targeted annually for harvest, and Alabama Power will be responsible for administering the timber sale.

The management actions at Skyline are intended to be a cooperative effort between the APC Forestry Team and the ADCNR, with coordination and communication between the two groups. Alabama Power is working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the project boundary.

7.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed. Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the project boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands located at Lake Harris provide hunting opportunities through either hunting leases or individual permits. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields.

Hunting opportunities provided at Skyline are managed by ADCNR as outlined in the 1990 Skyline WMP, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1 MANAGEMENT ACTIONS

7.1.1 LAKE HARRIS

Alabama Power will continue to provide hunting opportunities on lands located at Lake Harris through either hunting leases or individual permit.

7.1.2 SKYLINE

Hunting opportunities provided at Skyline will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

7.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREAS

Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained.

8.0 REFERENCES

- Alabama Department of Conservation and Natural Resources. 2016. Wildlife Management Areas. Available at: <http://www.outdooralabama.com/wildlife-management-areas>. Accessed November 2016.
- Alabama Power Company. 1988. R.L. Harris Project FERC Project No. 2628 Wildlife Mitigation Plan. April 15, 1988.
- Alabama Power Company. 1989. R.L. Harris Project FERC Project No. 2628 Wildlife Management Plan for the Skyline Tract. July 1989.
- Alabama Power Company. 2018. Pre-Application Document for the Harris Hydroelectric Project (FERC No. 2628). Alabama Power Company, Birmingham, AL.
- DeGraff, R.M., and D.D. Rudis. 1986. New England Wildlife: habitat, natural history, and distribution. Gen. Tech. Report NE-108. U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station, Broomall, Pennsylvania.
- NatureServe. 2009. International Ecological Classification Standard: Terrestrial Ecological Classifications. NatureServe Central Databases. Arlington, VA, U.S.A. Data current as of 06 February 2009. Available at: http://downloads.natureserve.org/get_data/data_sets/veg_data/nsDescriptions.pdf. Accessed November 11, 2016.

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Friday, June 4, 2021 9:55 AM
To: 'Evan Collins'; erin_padgett@fws.gov
Cc: Carlee, Jason; Baker, Jeffery L.; Chandler, Keith Edward; Mills, Tina L.
Subject: Harris Relicensing - May 5, 2021 Meeting Summary
Attachments: 2021-05-05 Meeting Summary USFWS call on WMP and bat language.pdf

Good morning,

Attached is a summary of the May 5th meeting concerning timber management practices and protections for listed bat species.

Thanks,

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com



R. L. Harris Hydroelectric Project

Meeting Notes

Harris Relicensing – Draft WMP – Bat language
May 5, 2021, 3:00 pm – TEAMS meeting with USFWS

Attendees:

Keith Chandler, Alabama Power
Jason Carlee, Alabama Power
Jeff Baker, Alabama Power
Tina Mills, Alabama Power
Evan Collins, United States Fish and Wildlife (USFWS)
Erin Padgett, USFWS

Meeting Notes:

These notes summarize the major items discussed during the meeting and are not intended to be a transcript or analysis of the meeting.

Keith Chandler opened the meeting by thanking everyone for their participation. A draft Wildlife Management Plan (WMP) was emailed to USFWS on February 8, and USFWS provided informal comments on the draft on February 17. Alabama Power and USFWS conducted calls to discuss USFWS' informal comments on March 1 and March 10. The purpose of the May 5th call was to continue discussing timber management practices and protections for listed bat species as well as to prepare for a May 18th call with the Federal Energy Regulatory Commission (FERC), USFWS, and Alabama Power on this topic.

Keith Chandler provided an overview of the discussions to date regarding language specific to timber management practices and protections for listed bat species. As previously discussed, Skyline has steep terrain that makes winter harvesting of timber not feasible. Given the discussions on March 1 and March 10, Alabama Power wanted to discuss the possibility of a programmatic approach rather than informal consultation regarding Skyline.

The group discussed that the draft timber management practices proposed for lands at Lake Harris are not likely to adversely affect listed bat species. This is because hardwoods or damaged pines are not generally harvested in the vicinity of the lake. Generally, each tree is marked before a sale, and only live healthy pines are harvested in this area. Although pines that are broken and damaged may provide suitable habitat for listed species, these are typically not marked for harvest as they are not merchantable timber. The group further discussed that the understory in the stands at the lake is generally thick and unlikely to be good habitat.

Regarding proposed timber management practices at Skyline, the group discussed that timber management practices may result in a may affect, likely to adversely affect determination. Therefore, a programmatic approach is likely more appropriate for Skyline. USFWS had provided examples of other programmatic approaches with other landowners, including agreements with the U.S. Forest Service and the Tennessee Valley Authority. The group

discussed that these documents include take for the Northern Long Eared bat but not streamlined consultation. Evan Collins discussed that streamlined consultation would be appropriate as long as the proposed activities are within the scope of the 4d rule.

In conclusion, the group agreed that a programmatic approach for timber management at Skyline is the preferred path forward. Therefore, the draft WMP will outline timber management practices that could result in a may affect, likely to adversely affect determination for Skyline but not for Lake Harris. Alabama Power will continue to work with USFWS regarding draft language to include in the draft WMP.

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Friday, June 4, 2021 9:57 AM
To: 'Evan Collins'; erin_padgett@fws.gov; Sarah Salazar; Danielle Elefritz
Cc: Chandler, Keith Edward; Fleming, Amanda; Carlee, Jason; Baker, Jeffery L.; Mills, Tina L.
Subject: Harris Relicensing - May 18, 2021 Meeting Summary
Attachments: 2021-05-18 Final Meeting Summary FERC USFWS APC bats call.pdf

Good morning,

Attached is a summary of the May 18th meeting concerning timber management practices and protections for listed bat species. This meeting summary will be included in the consultation record for Harris relicensing.

Thanks,

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com



R. L. Harris Hydroelectric Project

FERC No. 2628

Meeting Summary

Harris Relicensing – Timber Management and listed bat species
May 18, 2021, 2:00 pm – TEAMS meeting with USFWS and FERC

Attendees:

Evan Collins, United States Fish and Wildlife (USFWS)
Erin Padgett, USFWS
Sarah Salazar, Federal Energy Regulatory Commission (FERC)
Danielle Elefritz, FERC

Keith Chandler, Alabama Power
Amanda Fleming, Alabama Power
Jason Carlee, Alabama Power
Jeff Baker, Alabama Power
Angie Anderegg, Alabama Power
Tina Mills, Alabama Power

Meeting Notes:

These notes summarize the major items discussed during the meeting and are not intended to be a transcript or analysis of the meeting.

Evan Collins opened the meeting by thanking everyone for their participation and stated the purpose of the call: to follow up with FERC regarding comments made during the April 27, 2021 Updated Study Report Meeting respective to listed bat species and timber management practices.

Evan stated that Alabama Power and USFWS have been informally consulting regarding proposed timber management practices at Skyline and Lake Harris and the various approaches to ensuring protections for listed bat species. Evan explained that the initial approach had been informal consultation. However, based upon several discussions to date, USFWS and Alabama Power agree that the approach moving forward should be a programmatic approach. Evan stated that the only proposed activities in Harris Relicensing that could affect Threatened and Endangered (T&E) species are timber management practices. Evan further explained that other than listed bat species, no other known T&E species are within the Project Boundary at Skyline, the Project Boundary at Lake Harris, or within the Tallapoosa River below Harris Dam. Evan explained that the early coordination with Alabama Power as the non-federal representative thus far has been conducted with the purpose of evaluating timber management practices early and identifying whether a Biological Opinion (BO) would be needed.

Sarah Salazar stated that FERC needs more detail than what is currently on record regarding forest management and habitat suitability in order to conduct its environmental analysis. Sarah asked whether the programmatic approach being considered is in Alabama specifically. Evan stated that USFWS will occasionally provide take for federal actions on a program level when the scope of activity is essentially the same over and over, as in timber management. In this case, Alabama Power would provide details regarding the expected clearing within a given calendar year, and USFWS would evaluate the program as a whole for the duration of the license. Sarah asked whether the process would be conducted prior to filing the license application, in response to the final license application, or in response to the NEPA document. Evan and Sarah discussed that the federal action for relicensing is the issuance of the new license

and that the process would need to occur before the license is issued. Sarah stated that the typical process is that a NEPA document is issued that makes a determination of may affect, likely to adversely affect, at which point FERC would request formal consultation with USFWS and a BO would be issued. Sarah stated that FERC will need details of forestry management practices in order to facilitate its review and make a determination. The group discussed that Alabama Power and USFWS have been discussing the details and specific language of forestry management practices with the goal of providing these details within the draft Wildlife Management Plan (WMP), which will be included as part of the final license application. Angie Anderegg stated that Alabama Power wants to work through the details with resource agencies before providing draft language to the Harris Action Team (HAT) for comment. Angie clarified that the specific details of forestry management practices will be included in the final license application as part of the WMP so that FERC can conduct its environmental analysis and issue a determination with the NEPA document.

Sarah Salazar asked why USFWS expected that the timber management at Skyline may affect, is likely affect bat species, but the timber management at Lake Harris may affect, not likely to adversely affect bat species since both areas are within the known range of the Northern Long Eared bat and the white nose syndrome zone. Evan explained that the timber management practices employed, as well as the types of trees harvested, differ between Skyline and Lake Harris. Evan explained that practices at Lake Harris generally only include pine trees, whereas Skyline is predominately hardwoods. Evan explained that tree bats prefer hardwoods to pine trees, and if pine trees are used, it is generally an unhealthy pine tree. Alabama Power intends to only harvest healthy pine trees as unhealthy trees are not merchantable. Sarah stated that she would agree that trees with more cavities are preferred by tree bats but added that she had recently worked on a project in South Carolina (Santee Cooper) where USFWS documented Northern Long Eared bats in mature, healthy pine trees as well as documented the start of the maternity season a month early. Sarah added that she was unsure whether the findings were a shift or a microclimate or micropopulation. Evan stated that this type of information is helpful for USFWS' analysis and ask that she forward any additional information for incorporation into the process.

Evan Collins stated that the Northern Long Eared bat has a 4d rule for evaluating forestry activities and take exemptions likely apply. Sara stated that FERC would need more specific information than currently on record to evaluate the 4d rule but stated that it seemed that USFWS would not find it applicable since the Indiana bat also occurs. Evan stated that it is often mistaken that the 4d rule would cover the activity but that the Indiana bat also must be considered. Evan stated further that the 4d rule would apply here for the Northern Long Eared bat, but that formal consultation and a jeopardy analysis may be needed for the Indiana bat. Sarah asked whether surveys would be required for standard consultation on the Northern Long Eared bat and if so, how long would the surveys be valid. Evan stated that he would need to confirm with the most recent guidance but that he believed that a negative survey would be applied for five years. Evan was unsure whether surveys would be required and added that USFWS typically recommends surveys if enough information is not known. Sarah stated that when there is not enough information on whether a species occurs, it is difficult to make a call on the terms of the potential effects, which would make it difficult for USFWS to concur with FERC's determination. Sarah stated that other projects have required surveys before harvesting

and adjustments if a species was found. Evan stated that those requirements may have been part of the terms and conditions of a BO, which USFWS may include if it finds those terms appropriate and reasonable.

Evan and Sarah discussed information regarding known habitat and the white nose syndrome zone map. Sarah asked how Lake Harris did not have suitable habitat if it falls within the range of the Northern Long Eared bat as well as within the white nose syndrome zone. Jeff Baker clarified that it is not that Lake Harris does not have suitable habitat but that the proposed timber management practices at Lake Harris do not include the harvest of suitable trees. The group discussed the differences in Skyline and Lake Harris. The predominate tree type at Lake Harris is pine and timber is selectively harvested, whereas at Skyline it is predominately hardwood. Additionally, unlike Lake Harris, the terrain at Skyline is extremely rough and steep. Therefore, summer harvesting is necessary at Skyline because winter weather (heavy rain, slick/muddy conditions, etc.) often makes the area inaccessible. However, it is possible to avoid the roost season when harvesting at Lake Harris as it is not as steep and has more suitable roads as it is in a more developed area of the state. Sarah stated that Alabama Power needs to clearly state whether it already employs these practices and is proposing new practices or whether it will be a continuation of current practices. Sarah recommended that Alabama Power file detailed descriptions on forest management actions as soon as available. Angie Anderegg stated that is also Alabama Power's goal as it continues to work on the WMP in consultation with stakeholders, including early coordination with resource agencies.

In conclusion, the group discussed the next steps in the process, including Alabama Power's continued early coordination with USFWS as FERC's designated non-federal representative. Further, the group discussed that Alabama Power will provide draft recommendations to FERC as part of its final license application, which FERC may or may not accept and would then look to USFWS for concurrence. Evan stated that it seems the FERC licensing process works in tandem with the Endangered Species Act (ESA) process and that it is a matter of waiting for the appropriate moment in the FERC process to initiate the ESA process. Evan confirmed that USFWS will await Alabama Power or FERC to initiate the formal process to begin the formal Section 7 component.

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

June 9, 2021

OFFICE OF ENERGY PROJECTS

Project No. 2628-065 – Alabama
R.L. Harris Hydroelectric Project
Alabama Power Company

VIA Electronic Mail

Ms. Angie Anderegg
Harris Relicensing Project Manager
Alabama Power Company
ARSEGARS@southernco.com

**Subject: Staff Comments on the Updated Study Report and Updated Study
Report Meeting Summary for the R.L. Harris Hydroelectric Project
No. 2628**

Dear Ms. Anderegg:

Commission staff have reviewed Alabama Power Company's (Alabama Power) Updated Study Report (USR) and associated draft and final study reports for the R.L. Harris Hydroelectric Project (Harris Project) No. 2628 filed on April 12, 2021. Staff also attended the USR Meeting held via teleconference on April 27, 2021, and reviewed the USR Meeting Summary filed on May 12, 2021.¹ June 11, 2021 is the deadline posted in the issued process plan (Attachment B) for filing: (1) comments on the USR and draft and final study reports; (2) comments on the USR Meeting summary; (3) requests for modifications to the approved study plan; and (4) proposals for new studies.

Based on a review of the USR, associated draft and final study reports, discussions at the USR Meeting, and the USR Meeting Summary, Commission staff provide comments and recommended updates on Alabama Power's filings in Attachment A. Unless otherwise noted, please address the comments in Attachment A in the final study

¹ In addition, staff attended a discussion of the Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study on May 5, 2021, and a discussion regarding the consultation process for federally listed bat species under section 7 of the Endangered Species Act on May 18, 2021.

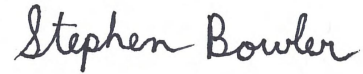
Project No. 2628-065

-2-

reports. A copy of the Commission's Integrated Licensing Process (ILP) process plan for the Harris Project pre-filing milestones is attached as a reminder (Attachment B).

If you have questions please contact Sarah Salazar at (202) 502-6863, or at sarah.salazar@ferc.gov.

Sincerely,

A handwritten signature in black ink that reads "Stephen Bowler". The script is cursive and fluid.

Stephen Bowler, Chief
South Branch
Division of Hydropower Licensing

Enclosures: Attachment A
Attachment B

Project No. 2628-065

Attachment A

Staff comments on the Updated Study Report (USR) and USR Meeting Summary

General

1. The Updated Revised Study Plan filed on May 13, 2019 states that in Phase 1 of the Operating Curve Change Feasibility Analysis and Downstream Release Alternatives Study, “[o]nce Alabama Power has completed the model(s) according to the methods described in [Appendices A and B, respectively], Alabama Power will present the models and assumptions to [Harris Action Team] (HAT 1).”¹ According to the study plan schedules, the Phase 1 modeling and draft study reports were to be completed in April of 2020 and the final Phase 1 study reports were due in July 2020 (Downstream Release Alternatives Study) and August 2020 (Operating Curve Change Feasibility Analysis).

The draft and final reports were filed according to the study plan schedules. However, the models associated with Phase 1 of the Operating Curve Change Feasibility Analysis and Downstream Release Alternative Study have not been filed or provided to HAT 1 members, which should have been done over a year ago. The Study Plan Determination stipulates that “[a]ll interim work products, including models (with methodologies, inputs and outputs, assumptions, and summary reports), alternatives to be analyzed, and draft and final study reports, should be distributed to the HATs, and, at the same time, filed with the Commission.”²

As called for in the Study Plan and Study Plan Determination, please file the models, including the methodologies, inputs and outputs, assumptions, and summary reports that were developed during Phase 1 of the Operating Curve Change Feasibility Analysis and Downstream Release Alternative Study. Please file all of the other non-proprietary models developed in support of the full suite of draft and final study reports (e.g., water temperature model, etc.) as well; before, or at the same time, the Preliminary Licensing Proposal (PLP) is filed.

2. In the Initial Study Report (ISR), Updated Study Report (USR), the associated draft and final study reports, and the USR Meeting, Alabama Power states that it intends to identify certain proposed protection, mitigation, and enhancement (PM&E) measures in the R.L. Harris license application and not in the PLP (e.g., the proposed Shoreline

¹ Alabama Power’s May 13, 2019 Updated Revised Study Plan at Attach. A, Downstream Release Alternative Study, p. 8; and Attach. A, Operating Curve Change Feasibility Analysis, p. 8.

² Director’s April 12, 2019 Study Plan Determination at B-1.

Management Plan (SMP) and Wildlife Management Plan (WMP)). However, Section 5.16(b)(2) of the Commission's regulations require that the PLP "[c]learly describe, as applicable, the existing and proposed project operation and maintenance plan, to include measures for protection, mitigation, and enhancement measures with respect to each resource affected by the project proposal." Please file the full suite of proposed operation, maintenance, and environmental PM&E measures with the PLP, including provisions for shoreline and wildlife management, to give stakeholders an opportunity to review and comment. Based on stakeholder comments, the license application should include any modifications to the proposed operation, maintenance, and environmental PM&E measures. If stakeholder recommendations are not adopted, the license application should include Alabama Power's reasons, based on project-specific information.

Draft Operating Curve Change Feasibility Analysis (Phase 2) Study Report

3. The HEC-ResSim Model developed during Phase 1 of the Operating Curve Change Feasibility Analysis³ includes a minimum release provision that is based on flow at the upstream Heflin gage, which is located on the mainstem Tallapoosa River. There is also a streamflow gage (Newell) located on the Little Tallapoosa River Arm of Lake Harris, which was not used to develop the minimum release provision. Alabama Power's response to a Commission staff's additional information request regarding these streamflow gages,⁴ indicates that during the development of the Green Plan, the stakeholders involved in the process considered the Heflin gage "the gage that best mimicked the unregulated, natural flow of the Tallapoosa River;" thus the Newell gage was not considered in developing the Green Plan and the minimum release provision. However, it remains unclear how flow from the Little Tallapoosa River is accounted for by the HEC-ResSim Model developed during Phase 1 of the study and its relationship to the minimum release provision.

Because the HEC-ResSim Model is a mass balance model, it should account for all inflow coming into Lake Harris (i.e., the output from the HEC-SSP model). Therefore, to better understand how the HEC-ResSim Model works, please revise the Draft Operating Curve Change Feasibility Analysis (Phase 2) Report to include an explanation for how flow from the Little Tallapoosa River is accounted for in the model, including describing (a) the model's assumptions related to the Little Tallapoosa River and its flow entering the R.L. Harris Project, and (b) the relationship between the Little

³ The HEC-ResSim Model developed during Phase 1 of the analysis was used in Phase 2 to determine if raising the winter operating curve would affect Alabama Power's ability to pass 11 discrete downstream release alternatives.

⁴ Alabama Power's July 10, 2020 Response to Comments at Attach. A, p. 2.

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A-3

Tallapoosa River flow and the minimum release requirement included in the HEC-ResSim model.

Draft Downstream Release Alternatives (Phase 2) Study Report

4. Table 3-7, Section 3.4.2 of the Draft Downstream Flow Alternatives Phase 2 Report presents the average daily water surface fluctuation (in feet) exceedance for each of the modeled downstream release alternatives at a location on the Tallapoosa River 7.7 miles downstream from Harris Dam. For the 1 percent exceedance value, fluctuations varied from 6.48 feet (Pre-Green Plan) to 4.97 feet (800 continuous minimum flow [CMF] and 800 CMF with Green Plan releases). Table 3-8 in the draft report presents the same information for the downstream release alternatives at a location 20.6 miles downstream from Harris Dam. The 1 percent exceedance values for fluctuations at this location range from 8.27 feet (Green Plan) to 6.37 feet (800 CMF and 800 CMF with Green Plan releases). The increase in magnitude of fluctuations seems inconsistent with the report's conclusion that fluctuations attenuate with distance from Harris Dam. Please confirm the accuracy of the values for the 1 percent exceedance line in table 3-8. If the values are correct, please explain why river fluctuations would be greater 20.6 miles downstream compared to the location 7.7 miles downstream from Harris Dam for the lowest percent exceedance value.

5. Table 3-8, reports that the 1 percent exceedance value for the average daily fluctuation under the Pre-Green Plan is 7.67 feet and the value for the Green Plan is 8.27 feet. The average daily fluctuations drop with each successive release alternative, including continuous minimum flows both with and without the Green Plan releases. For every other exceedance level, the average daily fluctuations decrease between the Pre-Green Plan and the Green Plan alternatives. Please verify the accuracy of the 1 percent exceedance values for the Pre-Green Plan and Green Plan release alternatives. If the values are correct, please explain why the average daily fluctuation is greater for the Green Plan alternative compared to the Pre-Green Plan alternative at the 1 percent exceedance level.

6. Table 3-10 of the Draft Downstream Flow Alternatives Phase 2 Report presents a comparison of the percent difference from existing conditions in average wetted perimeter for each downstream release alternative. Table 3-11 in the draft report presents a comparison of percent difference from existing conditions in daily wetted perimeter fluctuation for each of the downstream release alternatives. Finally, table 3-12 in the draft report presents the water temperature statistics downstream from Harris Dam for each of the release alternatives. As highlighted in the tables shown below, there are specific values that fall outside the overall general trends seen in the output from the HEC-RAS Model. Please check these values for accuracy. If found to be accurate, please explain why the anomaly(ies) exist.

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A-4

TABLE 3-10 COMPARISON OF PERCENT DIFFERENCE FROM EXISTING CONDITIONS (GP) IN AVERAGE WETTED PERIMETER BASED ON HEC-RAS MODEL OF DOWNSTREAM RELEASE ALTERNATIVES

Alternative	Miles Below Harris Dam Habitat Type										
	0.4	1	2	4	7	10	14	19	23	38	43
	Riffle	Riffle	Riffle	Pool	Pool	Riffle	Run-Pool	Riffle-Run	Riffle	Riffle	Pool
PreGP	-1.2%	-0.5%	-2.2%	-0.2%	-2.0%	-0.3%	-0.1%	-0.6%	-0.5%	-0.1%	-0.1%
GP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ModGP	2.2%	0.6%	2.3%	0.2%	2.8%	0.5%	0.3%	0.6%	0.5%	0.5%	0.1%
150CMF	2.5%	0.7%	2.4%	0.2%	2.3%	0.5%	0.3%	0.7%	1.1%	0.6%	0.3%
150CMF+GP	3.0%	1.0%	3.4%	0.3%	3.5%	0.6%	0.3%	1.0%	1.0%	0.6%	0.2%
300CMF	5.8%	2.2%	6.8%	0.5%	6.0%	1.1%	0.6%	2.4%	2.8%	1.3%	0.7%
300CMF+GP	6.3%	2.4%	7.0%	0.5%	6.6%	1.2%	0.6%	2.7%	3.0%	1.3%	0.7%
600CMF	10.9%	3.2%	8.3%	1.0%	10.6%	1.9%	1.0%	7.1%	7.2%	2.2%	1.4%
600CMF+GP	11.1%	3.3%	8.4%	1.0%	10.8%	1.9%	1.0%	7.1%	7.4%	2.2%	1.4%
800CMF	14.1%	4.0%	9.1%	1.2%	12.4%	2.4%	1.2%	10.9%	10.6%	2.8%	1.9%
800CMF+GP	14.1%	4.1%	9.2%	1.2%	12.5%	2.4%	1.2%	10.8%	10.8%	2.8%	1.9%

TABLE 3-11 COMPARISON OF PERCENT DIFFERENCE FROM EXISTING CONDITIONS (GP) IN DAILY WETTED PERIMETER FLUCTUATION BASED ON HEC-RAS MODEL OF DOWNSTREAM RELEASE ALTERNATIVES

Alternative	Miles Below Harris Dam Habitat Type										
	0.4	1	2	4	7	10	14	19	23	38	43
	Riffle	Riffle	Riffle	Pool	Pool	Riffle	Run-Pool	Riffle-Run	Riffle	Riffle	Pool
PreGP	-1%	3%	5%	13%	16%	5%	4%	2%	0%	1%	1%
GP	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
ModGP	-15%	-7%	-21%	-9%	-19%	-7%	-9%	-2%	0%	-5%	-4%
150CMF	-20%	-7%	-31%	-7%	-11%	-3%	-5%	1%	1%	-3%	-2%
150CMF+GP	-19%	-10%	-32%	-10%	-19%	-8%	-10%	-1%	1%	-5%	-5%
300CMF	-37%	-23%	-68%	-14%	-31%	-13%	-13%	0%	3%	-9%	-9%
300CMF+GP	-37%	-25%	-70%	-18%	-35%	-16%	-16%	-3%	2%	-10%	-10%
600CMF	-61%	-29%	-78%	-28%	-56%	-22%	-23%	-5%	4%	-14%	-20%
600CMF+GP	-61%	-31%	-78%	-30%	-58%	-24%	-25%	-8%	2%	-15%	-21%
800CMF	-77%	-32%	-82%	-35%	-64%	-26%	-28%	-16%	2%	-17%	-27%
800CMF+GP	-78%	-34%	-82%	-37%	-66%	-28%	-29%	-17%	1%	-18%	-27%

TABLE 3-12 WATER TEMPERATURE STATISTICS (IN DEGREES CELSIUS) BELOW HARRIS DAM BASED ON HEC-RAS MODEL OF DOWNSTREAM RELEASE ALTERNATIVES

		RELEASE ALTERNATIVES														
		Spring					Summer					Fall				
	Alternative	Period Avg	Avg Daily Δ	Max Daily Δ	Avg Hourly Δ	Max Hourly Δ	Period Avg	Avg Daily Δ	Max Daily Δ	Avg Hourly Δ	Max Hourly Δ	Period Avg	Avg Daily Δ	Max Daily Δ	Avg Hourly Δ	Max Hourly Δ
	PGP	16.95	3.90	6.79	0.35	5.90	24.76	5.59	6.89	0.52	4.10	25.72	4.60	5.78	0.398	2.63
Tailrace	GP	16.95	3.88	6.79	0.35	5.90	23.94	4.32	5.23	0.54	3.90	25.39	3.61	4.40	0.39	2.99
	ModGP	16.98	3.85	6.79	0.36	5.90	24.12	4.00	4.88	0.54	4.25	25.68	3.51	4.48	0.39	2.19
	150CMF	17.02	2.89	4.88	0.27	3.98	23.79	3.27	4.08	0.40	2.81	25.63	3.09	4.01	0.28	1.99
	150CMF+GP	17.02	2.89	4.88	0.27	3.98	23.79	3.27	4.08	0.40	2.81	25.45	2.71	3.41	0.29	1.98
	300CMF	17.06	2.36	3.71	0.23	2.85	23.65	2.54	3.24	0.31	2.04	25.56	2.20	2.89	0.23	1.61
	300CMF+GP	17.06	2.36	3.71	0.23	2.85	23.65	2.54	3.24	0.31	2.04	25.47	2.13	2.72	0.25	1.57
	600CMF	17.11	1.97	2.90	0.00	2.26	23.52	1.93	2.48	0.23	1.39	25.50	1.68	2.15	0.22	1.56
	600CMF+GP	17.11	1.97	2.90	0.00	2.26	23.52	1.93	2.48	0.23	1.39	25.48	1.69	2.14	0.23	1.55
	800CMF	17.12	1.88	2.75	0.01	2.12	23.48	1.79	2.27	0.21	1.31	25.49	1.58	1.98	0.22	1.60
	800CMF+GP	17.12	1.88	2.75	0.01	2.12	23.48	1.79	2.27	0.21	1.31	25.48	1.58	1.97	0.22	1.60
1-mi Downstream	PGP	16.82	5.03	8.85	0.43	6.96	25.38	7.43	9.37	0.67	5.87	25.87	6.48	8.36	0.548	3.38
	GP	16.85	5.00	8.85	0.43	6.96	24.15	5.15	6.04	0.59	4.07	25.41	4.75	5.67	0.45	2.22
	ModGP	16.90	4.95	8.85	0.44	6.96	24.43	5.01	6.37	0.63	5.40	25.81	4.65	5.59	0.45	2.65
	150CMF	16.94	3.80	6.47	0.34	4.40	24.03	4.20	5.03	0.47	3.11	25.75	4.47	5.71	0.38	2.38
	150CMF+GP	16.94	3.80	6.47	0.34	4.40	24.03	4.20	5.03	0.47	3.11	25.48	3.44	4.06	0.32	1.64
	300CMF	17.02	2.90	4.78	0.27	2.82	23.88	3.28	4.05	0.36	2.24	25.65	2.98	3.72	0.26	1.63
	300CMF+GP	17.02	2.90	4.78	0.27	2.82	23.88	3.28	4.05	0.36	2.24	25.53	2.57	3.04	0.24	1.14
	600CMF	17.08	2.25	3.54	0.22	1.96	23.72	2.48	3.12	0.26	1.51	25.56	2.04	2.50	0.21	1.11
	600CMF+GP	17.08	2.25	3.54	0.22	1.96	23.72	2.48	3.12	0.26	1.51	25.54	1.92	2.24	0.20	0.94
	800CMF	17.10	2.07	3.18	0.21	1.76	23.65	2.24	2.81	0.23	1.30	25.54	1.79	2.17	0.20	0.97
	800CMF+GP	17.10	2.07	3.18	0.21	1.76	23.65	2.24	2.81	0.23	1.30	25.53	1.74	2.00	0.19	0.92

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Alternative	Spring					Summer					Fall				
	Period	Avg	Max	Avg	Max	Period	Avg	Max	Avg	Max	Period	Avg	Max	Avg	Max
	Avg	Daily Δ	Daily Δ	Hourly Δ	Hourly Δ	Avg	Daily Δ	Daily Δ	Hourly Δ	Hourly Δ	Avg	Daily Δ	Daily Δ	Hourly Δ	Hourly Δ
PGP	16.78	3.67	5.31	0.29	2.65	26.98	3.80	5.17	0.32	0.91	26.48	2.96	4.19	0.255	0.79
GP	16.78	3.67	5.31	0.29	2.65	25.80	4.19	5.31	0.33	1.89	26.66	2.84	3.64	0.24	0.78
ModGP	16.79	3.70	5.31	0.29	2.65	25.80	4.18	5.31	0.34	1.78	26.67	2.52	3.31	0.22	0.66
150CMF	16.78	3.64	5.07	0.29	2.51	25.62	4.05	5.12	0.32	1.79	26.41	2.92	4.11	0.25	0.76
150CMF+GP	16.78	3.64	5.07	0.29	2.51	25.62	4.05	5.12	0.32	1.79	26.50	2.73	3.54	0.23	0.74
300CMF	16.79	3.57	5.15	0.28	2.29	25.37	3.90	5.10	0.31	1.63	26.18	2.97	4.14	0.25	0.71
300CMF+GP	16.79	3.57	5.15	0.28	2.29	25.37	3.90	5.10	0.31	1.63	26.28	2.67	3.53	0.23	0.68
600CMF	16.83	3.36	4.77	0.27	1.94	25.02	3.75	5.10	0.30	1.38	25.97	3.07	4.11	0.27	0.68
600CMF+GP	16.83	3.36	4.77	0.27	1.94	25.02	3.75	5.10	0.30	1.38	26.07	2.83	3.70	0.24	0.65
800CMF	16.86	3.23	4.60	0.25	1.77	24.86	3.66	5.10	0.29	1.27	25.89	3.05	3.99	0.26	0.71
800CMF+GP	16.86	3.23	4.60	0.25	1.77	24.86	3.66	5.10	0.29	1.27	25.99	2.86	3.69	0.25	0.62

Final Water Quality Report

7. Table 4-9, Section 4.2.2 of the Final Water Quality Report, provides the monthly summary of dissolved oxygen (DO) concentration and water temperature data collected at the continuous downstream monitor in 2019 and 2020. The data presented is for the entire dataset. To effectively compare data for generation and non-generation periods, please add a table to the report that includes the same information provided in table 4-9, but that differentiates the data for generation and non-generation periods. In addition, include a comparative analysis of that data in Section 4.2.2 of the report, including the percentage of time below 5.0 milligrams per liter (mg/L) and 4.0 mg/L for generation and non-generation periods.

8. Appendix B of the Final Water Quality Report provides an Excel spreadsheet that includes the 2017-2020 water quality monitoring data for the generation and downstream continuous monitors. The data for the generation monitor includes generation information (i.e., total discharge and discharge by turbine) for each DO concentration and water temperature data point. However, the dataset for DO and water temperature at the downstream continuous monitor does not include generation information. The purpose of collecting continuous data is to provide a means to compare DO and water temperature for generation and non-generation periods. To allow for such comparisons, please revise Appendix B of the water quality report to include generation information for each DO and water temperature data point for the downstream continuous monitor, as was done for the generation monitor. Also, update the spreadsheet to include data collected during 2021: March 1 – June 30 for the continuous monitor; and June 1 – June 30 for the generation monitor.

Final Project Lands Evaluation (Phase 1) Report and Phase 2 Study Progress

9. The goal of Phase 2 of the Project Lands Evaluation was to develop a SMP and a WMP using the information collected during Phase 1 of the study.⁵ The Phase 1 Project Lands Evaluation was completed and a draft study report was filed in April of 2020. The study plan contemplated that Phase 2 would occur from 2020-2021. Phase 2, included provisions to consult with the members of HAT 4 on various tasks as part of the development of the SMP and WMP. However, the SMP and WMP have not been filed with the Commission and there is no documentation in the record showing that some of the approved tasks associated with Phase 2 of the study have occurred. Specifically, there is no documentation on the record of the status of the following Phase 2 tasks associated with the development of the SMP: (1) develop shoreline management provisions involving tree removal, to protect any known hibernacula and/or maternity roost trees of federally listed bat species in the project vicinity identified through consultation with U.S. Fish and Wildlife Service and Alabama Natural Heritage Program; (2) incorporate the Aquatic Nuisance Vegetation and Vector Control Program into the SMP; and (3) develop a detailed description of existing vegetation management practices at the project, including the methods, frequency of treatments, and any monitoring. Similarly, there is no documentation on the record of the status of the following Phase 2 tasks associated with the development of the WMP: (1) forest stand data showing cover type, composition, and age of forest stands within the project boundary;⁶ (2) current timber management objectives and any existing best management practices; and (3) characterization and composition of riparian, wetland, and littoral habitats within the project boundary. Please file documentation that all of the Phase 2 tasks have been completed for the SMP and WMP and provide the information that was collected in Phase 2 of the Project Lands Evaluation Study with the PLP.

10. To facilitate review of the SMP and WMP, please file the geographic information system (GIS) data associated with the approved study plan to the Commission's eLibrary system with the PLP. Please include the GIS data layers that have been provided on Alabama Power's relicensing website and all other GIS data layers that were developed or collected as part of the approved study plan. As discussed during the USR Meeting,

⁵ Phase 1 of the Project Lands Evaluation included: (1) identifying and classifying lands at the project that are needed for Harris Project purposes; (2) evaluating existing land use classifications at Harris Lake and determining if any changes are needed to conform to Alabama Power's current land classification system and other Alabama Power Shoreline Management Plans; and (3) identifying lands to be added to, or removed from the current project boundary.

⁶ This information appears to have been provided in the form of GIS data on Alabama Power's relicensing website.

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please ensure that all of the GIS data layers use the same coordinate system and projection to facilitate accurate review of the data. In addition, the GIS data layers that have already been filed (i.e., the project boundary and existing and proposed land use classifications) do not have compatible coordinate systems and projections, and should be refiled. Prior to filing the GIS data, please ensure that the labels in the attribute table of each data set can be easily deciphered, or file a separate key or legend for each data set. For example, the timber stand GIS data for both Harris and Skyline provided on the Alabama Power relicensing website includes codes for the attribute values under the “ForestType” and “BroadType” fields; however, there is no key or legend for these codes and it is unclear what distinction exists between the two fields, if any.

Botanical Inventories at Blake’s Ferry Alabama

11. The botanical inventories conducted at two parcels adjacent to Flat Rock Park documented 22 non-native invasive plant species among the native plants that were observed. If available, please provide additional information about the locations and/or extents of these plants in relation to rare or state/county record⁷ native plants or potential state Champion Trees.

12. The initial botanical inventory documented disturbance/damage to the native plants caused by All-Terrain Vehicle (ATV) use. Please provide additional detail regarding ATV use in this area including: (1) the location(s) of ATV access on the two surveyed parcels; (2) location(s) of any established ATV trails near the surveyed parcels; (3) the extent of damage to the native plants/communities; and (4) a detailed description of any measures that may have been implemented to protect the native plants/communities.

Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study

13. The USR states that cultural resource assessments for Lake Harris and Skyline are complete; however, the USR does not include the results of those assessments. The cultural resource assessments should be fully documented and provided with the PLP. Alabama Power also intends to file a draft Historic Properties Management Plan (HPMP) with the PLP and proposes to allow stakeholders 60 days to comment. However, under section 5.16(e) of the Commission’s regulations, stakeholders have a 90-day comment

⁷ The inventory team documented 1 species which had never been documented in the state of Alabama and 67 species which had never been documented in Randolph County (denoted as “state record” and “county record,” respectively, in table 2 of the study report).

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period for filing comments on the PLP, which would include the cultural resource assessment results and draft HPMP.

14. The Draft Downstream Release Alternatives (Phase 2) Study Report contained a qualitative review of the effects of project operation alternatives to known cultural resources downstream of Harris Dam. Please include in the draft HPMP sufficient information about the 19 cultural resources discussed in the Downstream Release Alternatives Study Report to support an analysis of the effect of the project on the resources, including the general location, elevation, and character-defining features of the resource. In the draft HPMP also discuss treatment measures for reducing the effects of relicensing the project on the resources, as applicable and appropriate. File any location data for archaeological resources as "Privileged."

15. During the USR Meeting, Bryant Celestine of the Alabama-Coushatta Tribe of Texas requested that both the Alabama-Coushatta Tribe and the Coushatta Tribe of Louisiana be consulted about potential Traditional Cultural Properties (TCPs) within the project's area of potential effects. Please consult with these tribes regarding the need, timeline, and process for identifying TCPs and include any details about TCP identification in the draft HPMP. In the draft HPMP include the full record of consultation with Tribes, including the Alabama-Coushatta Tribe of Texas and the Coushatta Tribe of Louisiana.

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Attachment B**R.L. Harris Process Plan and Schedule for the Integrated Licensing Process (ILP)**

(shaded milestones are unnecessary if there are no study disputes; if due date falls on a weekend or holiday, the due date is the following business day)

18 C.F.R.	Lead	Activity	Timeframe	Deadline
§ 5.5(a)	Alabama Power	Filing of NOI and PAD	Actual filing date	6/1/2018
§ 5.7	FERC	Initial Tribal Consultation Meeting	No later than 30 days from NOI and PAD	7/1/2018
§5.8	FERC	FERC Issues Notice of Commencement of Proceeding and Scoping Document (SD1)	Within 60 days of NOI and PAD	7/31/2018
§5.8 (b)(3)(viii)	FERC/ Stakeholders	Public Scoping Meetings and Environmental Site Review	Within 30 days of NOI and PAD notice and issuance of SD1	8/28/2018 - 8/29/2018
§ 5.9	Stakeholders/ FERC	File Comments on PAD, SD1, and Study Requests	Within 60 days of NOI and PAD notice and issuance of SD1	9/29/2018
§5.10	FERC	FERC Issues Scoping Document 2 (SD2), if necessary	Within 45 days of deadline for filing comments on SD1	11/13/2018
§5.11(a)	Alabama Power	File Proposed Study Plans	Within 45 days of deadline for filing comments on SD1	11/13/2018
§5.11(e)	Alabama Power/ Stakeholders	Study Plan Meetings	Within 30 days of deadline for filing proposed Study Plans	12/13/2018
§5.12	Stakeholders	File Comments on Proposed Study Plan	Within 90 days after proposed study plan is filed	2/11/2019
§5.13(a)	Alabama Power	File Revised Study Plan	Within 30 days following the deadline for filing comments on proposed Study Plan	3/13/2019
§5.13(b)	Stakeholders	File Comments on Revised Study Plan (if necessary)	Within 15 days following Revised Study Plan	3/28/2019
§5.13(c)	FERC	FERC Issues Study Plan Determination	Within 30 days following Revised Study Plan	4/12/2019
§5.14(a)	Mandatory Conditioning Agencies	Notice of Formal Study Dispute (if necessary)	Within 20 days of Study Plan determination	5/2/2019
§5.14(l)	FERC	Study Dispute Determination	Within 70 days of notice of formal study dispute	7/11/2019
§5.15(a)	Alabama Power	Conduct First Season Field Studies	Spring/Summer 2019	

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18 C.F.R.	Lead	Activity	Timeframe	Deadline
§5.15(c)(1)	Alabama Power	File Initial Study Reports	No later than one year from Study Plan approval	4/12/2020
§5.15(c)(2)	Alabama Power	Initial Study Results Meeting	Within 15 days of Initial Study Report	4/28/2020
§5.15(c)(3)	Alabama Power	File Study Results Meeting Summary	Within 15 days of Study Results Meeting	5/12/2020
§5.15(c)(4)	Stakeholders/ FERC	File Meeting Summary Disagreements/Modifications to Study/Requests for New Studies	Within 30 days of filing Meeting Summary	6/11/2020
§5.15(c)(5)	Alabama Power	File Responses to Disagreements/Modifications/ New Study Requests	Within 30 days of disputes	7/11/2020
§5.15(c)(6)	FERC	Resolution of Disagreements/ Study Plan Determination (if necessary)	Within 30 days of filing responses to disputes	8/10/2020
§5.15	Alabama Power	Conduct Second Season Field Studies	Spring/Summer 2020	
§5.15 (f)	Alabama Power	File Updated Study Reports	No later than two years from Study Plan approval	4/12/2021
§5.15(c)(2)	Alabama Power	Second Study Results Meeting	Within 15 days of Updated Study Report	4/27/2021
§5.15(c)(3)	Alabama Power	File Study Results Meeting Summary	With 15 days of Study Results Meeting	5/12/2021
§5.15(c)(4)	Stakeholders/ FERC	File Meeting Summary Disagreements/ Modifications to Study Requests/Requests for New Studies	Within 30 days of filing Meeting Summary	6/11/2021
§5.15(c)(5)	Alabama Power/ Stakeholders	File Responses to Disagreements/Modifications/ New Study Requests	Within 30 days of disputes	7/11/2021
§5.15(c)(6)	FERC	Resolution of Disagreements/ Study Plan Determination (if necessary)	Within 30 days of filing responses to disagreements	8/10/2021
§5.16(a)	Alabama Power	File Preliminary Licensing Proposal (or Draft License Application) with the FERC and distribute to Stakeholders	Not later than 150 days before final application is filed	7/3/2021
§5.16 (e)	FERC/ Stakeholders	Comments on Alabama Power's Preliminary Licensing Proposal, Additional Information Request (if necessary)	Within 90 days of filing Preliminary Licensing Proposal (or Draft License Application)	10/1/2021
§5.17 (a)	Alabama Power	License Application Filed		11/30/2021

Document Content(s)

P-2628-065_USR-ltr.PDF.....1

APC Harris Relicensing

From: Collins, Evan R <evan_collins@fws.gov>
Sent: Wednesday, June 16, 2021 4:57 PM
To: Sarah Salazar; Anderegg, Angela Segars
Cc: Chandler, Keith Edward; Fleming, Amanda; Carlee, Jason; Baker, Jeffery L.; Mills, Tina L.; Padgett, Erin R; Danielle Elefritz
Subject: Re: [EXTERNAL] sharing NLEB info.

EXTERNAL MAIL: Caution Opening Links or Files

Hi, Sarah. Thank you for the references on tree use by Northern long-eared bat in South Carolina. I will take a closer look this information.

Best,
Evan

--

Evan Collins
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Alabama Ecological Services Field Office
1208-B Main Street
Daphne, AL 36526
251-441-5837 (phone)
251-441-6222 (fax)
evan_collins@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Sarah Salazar <Sarah.Salazar@ferc.gov>
Sent: Wednesday, June 16, 2021 7:29 AM
To: Collins, Evan R <evan_collins@fws.gov>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Chandler, Keith Edward <KECHANDL@SOUTHERNCO.COM>; Fleming, Amanda <afleming@southernco.COM>; Carlee, Jason <JCARLEE@southernco.com>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Mills, Tina L. <tlmills@southernco.com>; Padgett, Erin R <erin_padgett@fws.gov>; Danielle Elefritz <Danielle.Elefritz@ferc.gov>
Subject: [EXTERNAL] sharing NLEB info.

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CUI

Hi Evan and Angie,

I hope you are doing well. I'm following up on our call on May 18th with Alabama Power staff to discuss federally listed bat species, their habitats, timber management practices at the R.L. Harris Project, and related

information needs for ESA consultation as part of the relicensing process. Please pardon the delay in forwarding the information about NLEBs' maternity season timing and summer roosting habitats that were recently documented in South Carolina. The following links to South Carolina DNR's webpages provide information about their surveys and findings: 1) <https://www.dnr.sc.gov/wildlife/bats/NLEB.html> [gcc02.safelinks.protection.outlook.com]; and 2) https://www.dnr.sc.gov/news/2019/sept/sept24_bats.php [gcc02.safelinks.protection.outlook.com]. You may be able to find additional info. about their research online or by contacting them directly. The information on these webpages was also filed to the Commission's record (e-library) under the docket for the Santee Cooper Hydroelectric Project (P-199) in South Carolina (SC). As I mentioned during the call, it is not clear whether these documented differences in roost tree preferences and/or the timing of NLEB maternity roosting are unique to populations in SC and/or coastal areas or if they are more widespread in the southern part of the species' range.

Evan, if possible, please let me know when you receive this email. I'm happy to help if you have any other concerns or questions for me regarding the FERC licensing process and/or the ESA consultation steps within our process.

Angie, I'm copying the folks who I think were also on the May 18th call, but my list may be incomplete. I'll wait for Evan to confirm receipt and then file a copy to our record. Of course feel free to include it in your consultation record as well.

Thank you,

Sarah L. Salazar ✧ *Environmental Biologist* ✧ *Federal Energy Regulatory Commission* ✧ *888 First St, NE, Washington, DC 20426* ✧ *(202) 502-6863*

🌐 *Please consider the environment before printing this email.*

HAT 4 - Draft Wildlife Management Plan

APC Harris Relicensing <g2apchr@southernco.com>

Mon 6/28/2021 1:18 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>

Bcc: damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; keith.henderson@dcnr.alabama.gov <keith.henderson@dcnr.alabama.gov>; mike.holley@dcnr.alabama.gov <mike.holley@dcnr.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; matthew.marshall@dcnr.alabama.gov <matthew.marshall@dcnr.alabama.gov>; amy.silvano@dcnr.alabama.gov <amy.silvano@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; ken.wills@jcdh.org <ken.wills@jcdh.org>; matt.brooks@alea.gov <matt.brooks@alea.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; arsegars@southernco.com <arsegars@southernco.com>; dkanders@southernco.com <dkanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jabeason@southernco.com <jabeason@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>; afleming@southernco.com <afleming@southernco.com>; cggoodma@southernco.com <cggoodma@southernco.com>; ammcvica@southernco.com <ammcvica@southernco.com>; tlmills@southernco.com <tlmills@southernco.com>; abnoel@southernco.com <abnoel@southernco.com>; btseale@southernco.com <btseale@southernco.com>; scsmith@southernco.com <scsmith@southernco.com>; twstjohn@southernco.com <twstjohn@southernco.com>; mhunter@alabamarivers.org <mhunter@alabamarivers.org>; clowry@alabamarivers.org <clowry@alabamarivers.org>; jwest@alabamarivers.org <jwest@alabamarivers.org>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; kmo0025@auburn.edu <kmo0025@auburn.edu>; irwiner@auburn.edu <irwiner@auburn.edu>; chris@alaudubon.org <chris@alaudubon.org>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; rachel.mcnamara@ferc.gov <rachel.mcnamara@ferc.gov>; sarah.salazar@ferc.gov <sarah.salazar@ferc.gov>; monte.terhaar@ferc.gov <monte.terhaar@ferc.gov>; gene@wedoweelakehomes.com <gene@wedoweelakehomes.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; kelly.schaeffer@kleinschmidtgroup.com <kelly.schaeffer@kleinschmidtgroup.com>; sandra.wash@kleinschmidtgroup.com <sandra.wash@kleinschmidtgroup.com>; sforehand@russellands.com <sforehand@russellands.com>; lgarland68@aol.com <lgarland68@aol.com>; johndiane@sbcglobal.net <johndiane@sbcglobal.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; rbmorris222@gmail.com <rbmorris222@gmail.com>; mitchell.reid@tnc.org <mitchell.reid@tnc.org>; snelson@nelsonandco.com <snelson@nelsonandco.com>; mprandolphwater@gmail.com <mprandolphwater@gmail.com>; wmcampbell218@gmail.com <wmcampbell218@gmail.com>; robinwaldrep@yahoo.com <robinwaldrep@yahoo.com>; bruce@bruceknapp.com <bruce@bruceknapp.com>; donnamat@aol.com <donnamat@aol.com>; harry.merrill47@gmail.com <harry.merrill47@gmail.com>; mhpwedowee@gmail.com <mhpwedowee@gmail.com>; midwaytreasures@bellsouth.net <midwaytreasures@bellsouth.net>; inspector_003@yahoo.com <inspector_003@yahoo.com>; gardenergirl04@yahoo.com <gardenergirl04@yahoo.com>; paul.trudine@gmail.com <paul.trudine@gmail.com>; 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; j35sullivan@blm.gov <j35sullivan@blm.gov>; clark.maria@epa.gov <clark.maria@epa.gov>; mayo.lydia@epa.gov <mayo.lydia@epa.gov>; evan_collins@fws.gov <evan_collins@fws.gov>; jennifer_grunewald@fws.gov <jennifer_grunewald@fws.gov>; erin_padgett@fws.gov <erin_padgett@fws.gov>; jeff_powell@fws.gov <jeff_powell@fws.gov>

 1 attachments (929 KB)

2021-06-23 DRAFT Harris WMP.pdf;

HAT 4,

Please join us for a HAT 4 meeting on July 22, 2021 from 1:00-2:30 (call in information is below) to discuss the Harris Project Wildlife Management Plan. Please review the attached draft and comments or questions will be discussed during the July 22nd call. In addition, written comments or questions can be submitted to harrisrelicensing@southernco.com by July 29, 2021.

Thanks,

Angie Anderegg

Hydro Services
(205)257-2251
arsegars@southernco.com

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WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

FERC No. 2628

DRAFT

Prepared by:



Birmingham, Alabama

June 2021

WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT

ALABAMA POWER COMPANY BIRMINGHAM, ALABAMA

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WILDLIFE MANAGEMENT PLAN

R.L. HARRIS HYDROELECTRIC PROJECT (FERC No. 2628)

**ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA**

1.0 INTRODUCTION

Alabama Power Company (Alabama Power) owns and operates the R.L. Harris Hydroelectric Project (Harris Project), FERC Project No. 2628, licensed by the Federal Energy Regulatory Commission (FERC). Alabama Power is relicensing the 135-megawatt (MW) Harris Project, and the existing license expires in 2023. This Wildlife Management Plan (Plan) was developed as part of Alabama Power's efforts to acquire a new operating license. The relicensing process included a multi-year cooperative effort between Alabama Power, state and federal resource agencies, and interested stakeholders to address operational, recreational, and ecological concerns associated with hydroelectric project operations. During the initial (scoping) phase of the relicensing process, Alabama Power consulted a wide variety of stakeholders, including state and federal resource agencies, non-governmental organizations, and concerned citizens, for input on important relicensing issues. On November 13, 2018, Alabama Power filed ten proposed study plans for the Harris Project, including a study plan for an evaluation of Project lands and the development of a Shoreline Management Plan and a Wildlife Management Plan. FERC issued a Study Plan Determination on April 12, 2019¹, which included FERC staff recommendations. Alabama Power incorporated FERC's recommendations and filed the Final Study Plans with FERC on May 13, 2019. The Wildlife Management Plan described herein was developed in accordance with the Project Lands Evaluation Study Plan.

1.1 PROJECT DESCRIPTION

The Harris Project consists of a dam, spillway, powerhouse, and those lands and waters necessary for the operation of the hydroelectric project and enhancement, mitigation, and

¹ Accession Number 20190412-3000

protection of environmental resources. These structures, lands, and water are enclosed within the FERC Project Boundary. Under the existing Harris Project license, the FERC Project Boundary encloses two distinct geographic areas, described below.

Harris Reservoir is the 9,870-acre reservoir (Harris Reservoir) created by the R.L. Harris Dam (Harris Dam). The lands adjoining the reservoir total approximately 7,392² acres (6,269 timbered) and are included in the FERC Project Boundary (Figure 1-1). This includes land to 795 feet mean sea level (msl)³, as well as natural undeveloped areas, hunting lands, prohibited access areas, recreational areas, and all islands.



The Harris Project also contains 15,063 acres of land within the James D. Martin-Skyline Wildlife Management Area (Skyline WMA)⁴ located in Jackson County, Alabama Figure 1-2). These lands are located approximately 110 miles north of Harris Reservoir and were acquired and incorporated into the FERC Project Boundary as part of the July 29, 1988 Harris Project Wildlife Mitigation Plan (1988 WMP) and the June 29, 1990 Skyline Wildlife Management Plan (1990 Skyline WMP). These lands are leased to, and managed by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this Plan, “Lake Harris” refers to the 9,870-acre reservoir, adjacent 7,392 acres (6,269 timbered) of Project land, and the dam, spillway, and powerhouse. “Skyline” refers to the 15,063 acres of Project land within the Skyline WMA in Jackson County. “Harris Project” refers to all the lands, waters, and structures enclosed within the FERC Project Boundary, which includes both Lake Harris and Skyline. Harris Reservoir refers to the 9,870-acre reservoir only. The Project Area refers to the land and water in the Project Boundary and immediate geographic

² The Project Lands acreage totals stated throughout this Draft WMP are based on the Harris baseline acreages and do not reflect any changes that may occur as a result of the Project Lands proposal. Upon FERC’s approval of the Project Lands proposal, this draft document will be updated to reflect the new acreage totals.

³ Also includes a scenic easement (to 800 feet msl or 50 horizontal feet from 793 feet msl, whichever is less, but never less than 795 feet msl).

⁴ James D. Martin-Skyline Wildlife Management Area (Skyline WMA) is a wildlife management area managed by the Alabama Department of Conservation and Natural Resources (ADCNR) currently totaling approximately 60,000 acres.

area adjacent to the Project Boundary. The “Project Vicinity” refers to a larger geographic area near a hydroelectric project, such as a county.

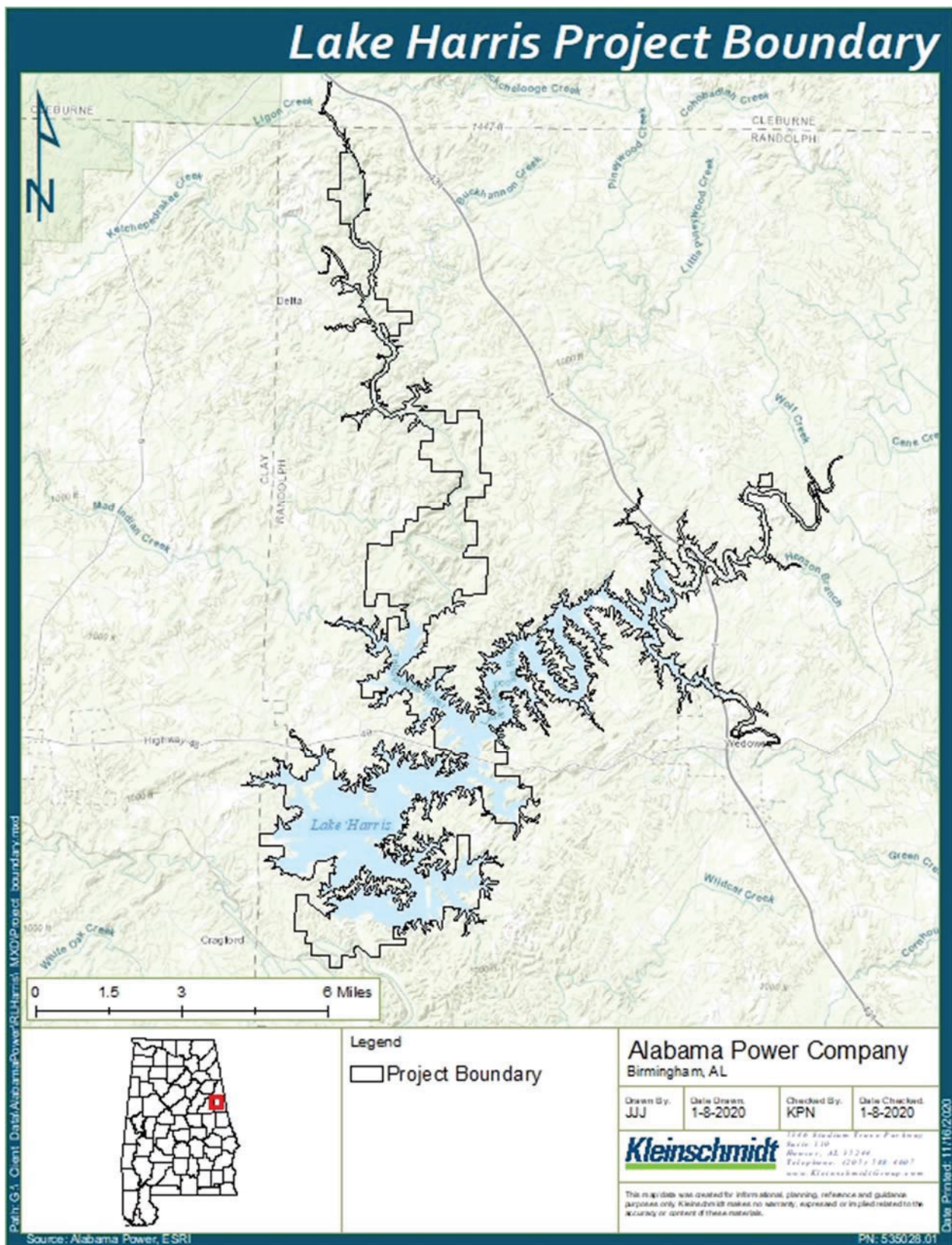


FIGURE 1-1 LAKE HARRIS PROJECT BOUNDARY

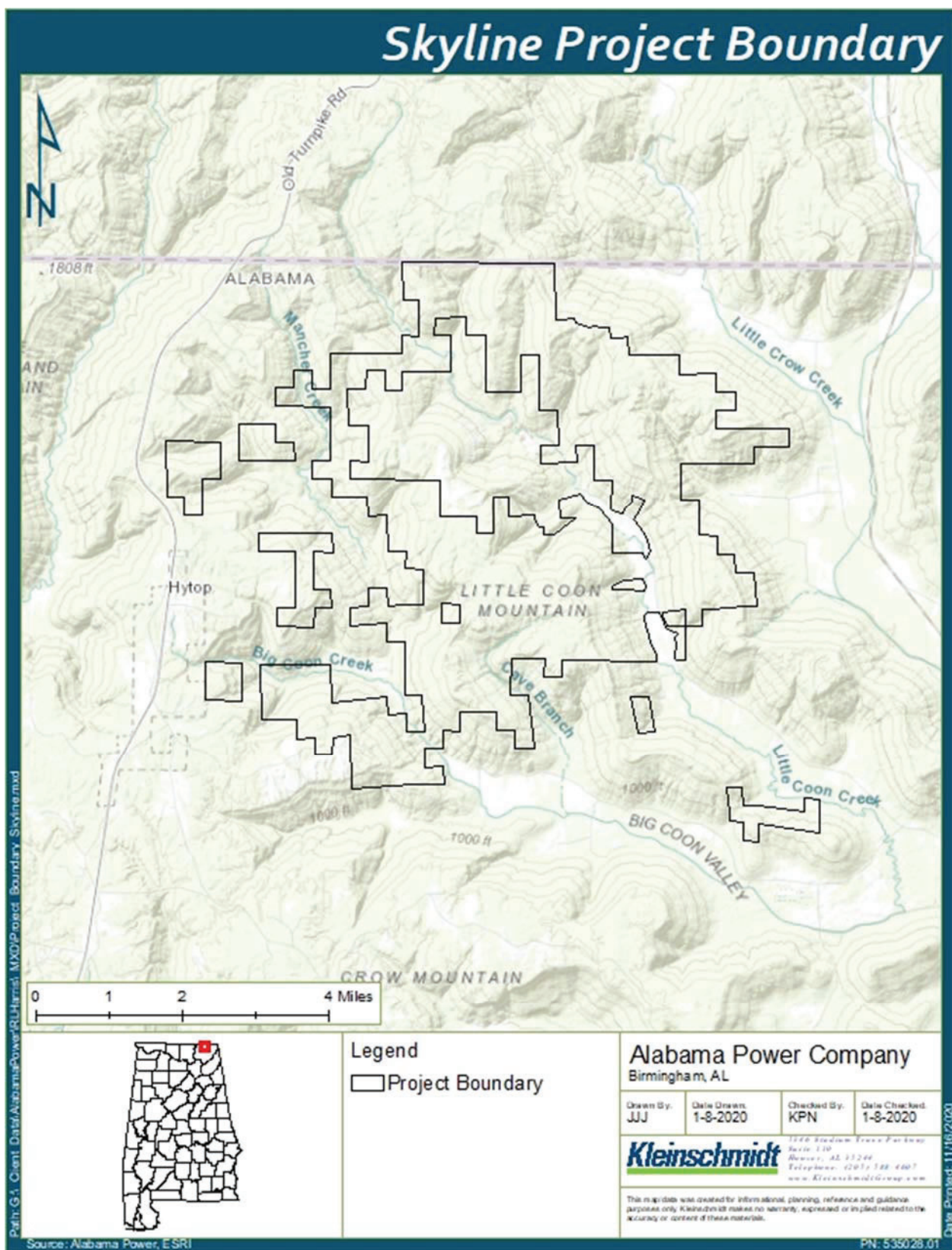


Figure 1-2 Skyline Project Boundary

2.0 PURPOSE OF THE PLAN

The overall purpose of this Wildlife Management Plan is to protect and enhance the available wildlife habitat within the Project boundaries of the Harris Project. The Plan consolidates numerous wildlife management activities into a single document and provides the additional technical information and management guidelines requested by resource agencies and other stakeholders during relicensing.

3.0 BACKGROUND AND EXISTING INFORMATION

3.1 BACKGROUND OF FERC-APPROVED PLANS

In accordance with Article 63 of the 1973 Harris Project license, Alabama Power developed a Wildlife Mitigation Plan in consultation with Alabama Department of Conservation and Natural Resources (ADCNR) and U.S. Fish and Wildlife Service (USFWS), which FERC approved on July 29, 1988 (1988 WMP)⁵. The 1988 WMP outlined specific measures to mitigate for the impacts to wildlife and habitats caused by the development of the Harris Project, including provisions for the management of 5,900 acres of existing Project lands and acquisition of 779.5 additional acres of land in the vicinity of the Harris Reservoir. The 1988 WMP required Alabama Power to install Wood Duck (*Aix sponsa*) boxes, install Osprey (*Pandion haliaetus*) nesting platforms, develop and implement a Canada Goose (*Branta canadensis*) restoration project, manage wildlife openings, and create artificial nesting structures. In addition, the 1988 WMP included provisions for Alabama Power to purchase and subsequently lease to ADCNR, over 15,000 acres of land adjacent to the already established Skyline Wildlife Management Area. A Skyline Wildlife Management Plan (1990 Skyline WMP) was developed to guide the development and maintenance of wildlife habitat, timber management, and recreational access. The Skyline WMP was approved by FERC on June 29, 1990⁶.

The specific management activities outlined under the 1988 WMP include:

- Waterfowl – Wood Duck (ongoing): identified 263 acres of suitable Wood Duck habitat, installed over 100 Wood Duck boxes, and continue to inspect boxes annually and perform necessary maintenance as needed.
- Waterfowl – Canada Goose (completed): developed and implemented a Canada Goose restoration project, including the release of Canada Geese to establish a population in and around Lake Harris, placement of floating nests in sheltered coves, and clear and strip-crop feeding area.
- Osprey (completed): installed nesting platforms along the reservoir shoreline

⁵ Accession No. 19880805-0321

⁶ 51 FERC ¶ 62,344

- Acquisition of 779.5 acres of land surrounding the reservoir (completed)
- Timber Management practices to meet the needs of wildlife species (ongoing)
- Managed Openings (ongoing): establish and manage 105 acres of permanent openings and manage 180 acres of right-of-way on project lands to provide diverse habitat that benefits both game and nongame species.
- Additional Nesting Structures (completed): constructed and installed 300 large animal and cavity-nesting bird structures and 300 small animal and cavity-nesting bird structures in addition to structures constructed and installed for Wood Duck, Canada Geese, and Osprey.
- Skyline Wildlife Management Area (ongoing): Acquire and lease approximately 15,300 acres in Jackson County, Alabama, providing funding to ADCNR for wildlife management, and provide public hunting opportunities.

The 1990 Skyline WMP provided the following additional specific management activities for Skyline:

- Development (completed): establish wildlife openings, construct firebreaks, construct waterholes, and add additional campsites as needed
- Maintenance (ongoing): Conduct annual boundary maintenance, upgrade roads to all-weather status and maintain annually, install and maintain gates, maintain campsites, and erect and maintain nest structures.
- Operations (ongoing): develop and maintain herbaceous and shrub plantings, manage wildlife openings, and conduct timber management.

In accordance with the 1988 WMP, Alabama Power has conducted annual monitoring and maintenance of the Wood Duck boxes installed around Lake Harris. Maintenance activities include repair and replacement of broken boxes, as well as the relocation of underutilized boxes. Double boxes were installed in most areas, but clusters of ten boxes were installed in higher use areas. Annual Wood Duck hatchlings ranged from 28 successful nests in 2011 to 47 successful nests in 2017, averaging 37 hatchlings since 2010. Other wildlife found utilizing the boxes included Eastern Screech Owl (*Megascops asio*), Eastern Gray Squirrel (*Sciurus carolinensis*), and flycatchers (Tyrannidae). Although Wood Ducks have utilized the artificial boxes, these

structures were installed as a mitigative measure for lost habitat associated with the initial impoundment of Harris Reservoir. Wood Ducks using the area have had time to adapt to the surrounding habitat, and likely have demonstrated tolerance, or the ability to habituate, to existing human presence, activities, and infrastructure at Lake Harris. Therefore, Alabama Power will not continue monitoring and maintenance of the Wood Duck box program under this Plan. Wood Duck boxes will be left in place until they are no longer usable. This will allow wildlife using the structures to transition to the surrounding suitable habitat.

Alabama Power installed Osprey platforms around Lake Harris. The platforms are constructed of concrete poles with a galvanized steel ring at the top to serve as a nesting platform. Due to construction materials, the platforms require minimal maintenance. While many of the platforms have been used by Osprey, they are not included in a monitoring program. Further, no additional platforms are planned for construction.

3.2 LAND USE AND EXISTING HABITAT – LAKE HARRIS

3.2.1 WILDLIFE RESOURCES

Harris Reservoir lies within the Northern Piedmont Upland district of the Piedmont Upland Physiographic Section. Harris Reservoir and surrounding woodland, agricultural, and residential areas provide high quality habitat for a variety of upland and semi-aquatic wildlife species. In addition to typical southeastern species, such as Gray Fox (*Urocyon cinereoargenteus*), White-tailed Deer (*Odocoileus virginianus*), Virginia Opossum (*Didelphis virginiana*), and Eastern Gray Squirrel, the area supports species characteristic of the Piedmont region, such as the Wood Frog (*Lithobates sylvatica*) and Copperhead (*Agkistrodon contortrix*) (Alabama Power 2018). Birdlife typical of the Lake Harris Project Area uplands includes game species such as Northern Bobwhite (*Colinus virginianus*), Eastern Wild Turkey (*Meleagris gallapavo silvestris*), and Mourning Dove (*Zenaida macroura*); resident songbirds include Downy Woodpecker (*Picoides pubescens*), American Robin (*Turdus migratorius*), Eastern Bluebird (*Sialia sialis*), and Eastern Meadowlark (*Sturnella magna*), and an abundance of neotropical migrants, including numerous warblers (Parulidae), vireos (Vireonidae), and hummingbirds (Trochilidae) (Alabama Power 2018). A number of raptors are known to occur in the Lake Harris Project Vicinity including

Osprey, American Kestrel (*Falco sparverius*), Broad-winged Hawk (*Buteo platypterus*), Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Barred Owl (*Strix varia*), Great Horned Owl (*Bubo virginianus*), and Eastern Screech Owl. Typical small mammals of uplands include North American Least Shrew (*Cryptotis parva*), Southern Flying Squirrel (*Glaucomys volans*), Eastern Woodrat (*Neotoma floridana*), Eastern Red Bat (*Lasiurus borealis*), and Big Brown Bat (*Eptesicus fuscus*). Reptiles and amphibians found in the Lake Harris Project Area uplands include Eastern Spadefoot Toad (*Scaphiopus holbrooki holbrooki*); Marbled Salamander (*Ambystoma opacum*) and Northern Slimy Salamander (*Plethodon glutinosus*); Green Anole (*Anolis carolinensis*) and Eastern Fence Lizard (*Sceloporus undulatus*); Five-lined Skink (*Plestiodon fasciatus*) and Broad-headed Skink (*Plestiodon laticeps*); Black Racer (*Coluber constrictor*), and Gray Ratsnake (*Pantherophis spiloides*); and Eastern Box Turtle (*Terrapene carolina carolina*) (Alabama Power 2018).

Although limited, Harris Reservoir's littoral zone provides habitat for North American River Otter (*Lontra canadensis*), American Mink (*Neovison vison*), Muskrat (*Ondatra zibethicus*), and Beaver (*Castor canadensis*), as well as seasonal and year-round habitat for waterfowl and wading birds including Mallard (*Anas platyrhynchos*), Gadwall (*Mareca strepera*), Wood Duck, Hooded Merganser (*Lophodytes cucullatus*), Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides virescens*), and Great Egret (*Ardea alba*). Birds such as Ring-billed Gull (*Larus delawarensis*), Osprey, Purple Martin (*Progne subis*), and Belted Kingfisher (*Megasceryle alcyon*) are also common in areas of open water. Littoral areas provide potential breeding habitat for aquatic and semi-aquatic amphibian species including Red-spotted Newt (*Notophthalmus viridescens viridescens*) and Central Newt (*Notophthalmus viridescens louisianensis*); Northern Red Salamander (*Pseudotriton ruber ruber*) and Northern Dusky Salamander (*Desmognathus fuscus*); and American Bullfrog (*Lithobates catesbeiana*), Northern Spring Peeper (*Pseudacris crucifer crucifer*), and Southern Leopard Frog (*Lithobates sphenoccephala*) (Alabama Power 2018). Reptile species typical of the littoral zone include Cottonmouth (*Agkistrodon piscivorus*), Red-bellied Water Snake (*Nerodia erythrogaster erythrogaster*), and Yellow-bellied Water Snake (*Nerodia erythrogaster flavigaster*); Alabama Map Turtle (*Graptemys pulchra*), River Cooter (*Pseudemys concinna*), and Red-eared Slider (*Trachemys scripta elegans*). Currently, no invasive wildlife species are being managed within the Lake Harris Project Area.

3.2.2 BOTANICAL RESOURCES

The Lake Harris Project Area is comprised of an impounded portion of the Tallapoosa River and includes mainly open water, deciduous, and evergreen forests with only small areas of agricultural and residential development.

The Southern Piedmont Dry Oak forest occurs in upland ridges and mid-slopes and is typically comprised of upland oaks (*Quercus* spp.); pines (Pinaceae) may be a significant component, especially in the southern part of the range. Overstory vegetation commonly found within this forest type includes upland oaks such as White Oak (*Quercus alba*), Northern Red Oak (*Quercus rubra*), Black Oak (*Quercus velutina*), Post Oak (*Quercus stellata*), Scarlet Oak (*Quercus coccinea*), and Southern Red Oak (*Quercus falcata*) as well as hickory species (*Carya* spp.) such as Pignut Hickory (*Carya glabra*) and Mockernut Hickory (*Carya alba*). Other common species include Loblolly Pine (*Pinus taeda*), Shortleaf Pine (*Pinus echinata*), Virginia Pine (*Pinus virginiana*), Red Maple (*Acer rubrum*), American Sweetgum (*Liquidambar styraciflua*), and Tulip Tree (*Liriodendron tulipifera*). Generally, there is a well-developed shrub layer, and species vary with soil chemistry. Shrub species may include Mountain Laurel (*Kalmia latifolia*), Common Sweetleaf (*Symplocos tinctoria*), Flowering Dogwood (*Cornus florida*), Deerberry (*Vaccinium stamineum*), and Farkleberry (*Vaccinium arboretum*). The herb layer is typically sparse (NatureServe 2009).

Botanical inventories were undertaken to catalog all plant species present at a 20-acre parcel and a 35-acre parcel at the rare Blake's Ferry Pluton, both parcels located adjacent to Alabama Power's Flat Rock Park on Lake Harris. The botanical inventories were intended to support Alabama Power's proposal to reclassify 57-acres of project lands near Flat Rock Park from "Recreational" to "Natural/Undeveloped", providing the natural plant and animal community at this location additional protection. The proximity of this 57-acre wooded tract to the rare granite pluton allows animals to take potential shelter during the heat of Alabama summer and creates safe habitat for vulnerable animals such as the Eastern Box Turtle during their breeding season. All plant species were identified either in the field, or in cases where identification was more difficult, a voucher specimen was taken for later identification in the laboratory. During the

inventory of the 20-acre parcel, 365 species of plants were documented from the Inventory Area and surrounding buffer areas. These 365 species represent 97 plant families. During the inventory of the 35-acre parcel, 401 species of plants were documented from the Inventory Area and surrounding buffer areas. These 401 species represent 106 plant families. Several of these species identified during both inventories are of federal and/or state conservation concern. No federally protected species were found during the survey.

3.2.3 RIPARIAN AND LITTORAL HABITAT

Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Lake Harris Project Boundary are classified as Southern Piedmont Small Floodplain and Riparian Forest (Section 5.5.1). This habitat type is often dominated by Tulip Tree, American Sweetgum, and Red Maple along with representative alluvial and bottomland species such as American Sycamore (*Platanus occidentalis*), River Birch (*Betula nigra*), Box Elder (*Acer negundo*), Sugarberry (*Celtis laevigata*), Green Ash (*Fraxinus pennsylvanica*), Swamp Chestnut Oak (*Quercus michauxii*), and Cherrybark Oak (*Quercus pagoda*). American Beech (*Fagus grandifolia*) may be present in drier areas. Loblolly Pine, Virginia Pine, American Sweetgum, and Tulip Tree are dominant in successional areas. The shrub layer is typically dominated by Mountain Laurel, American Witch-hazel (*Hamamelis virginiana*), Possumhaw (*Ilex decidua*), Spicebush (*Lindera benzoin*), and Yaupon Holly (*Ilex vomitoria*). Wandflower (*Galax urceolata*), Jack-in-the-pulpit (*Arisaema triphyllum*), Sensitive Fern (*Onoclea sensibilis*), and Fringed Sedge (*Carex crinita*) may be dominant in the herb layer (NatureServe 2009).

Alabama Power contracted Cahaba Consulting to identify, assess, and document possible wetlands located at, or below Alabama Power regulated property on Lake Harris. Cahaba Consulting identified three types of wetlands along the Lake Harris shoreline, including riverine wetlands, emergent/lacustrine fringe wetlands, and alluvial forested or scrub-shrub wetlands. Riverine wetlands are associated with the floodplains and riparian corridors of streams and rivers. In the Lake Harris Project Boundary, the riverine wetlands occur where perennial streams

flow into the reservoir. Primary hydrological inputs include overbank flow from the stream or river or groundwater connections between the stream channel and wetland. Other hydrological sources may include overland flow from neighboring uplands, tributary inflow, or precipitation. Riverine wetlands are typically associated with first order streams; however, perennial flow is not required for a riverine classification (Cahaba Consulting 2016 as cited in Alabama Power and Kleinschmidt 2018). One hundred sixty-five wetlands were identified and mapped on Harris Reservoir. Identified wetlands totaled 11.35 miles or 14.89 acres along the Lake Harris Shoreline.

3.3 LAND USE AND EXISTING HABITAT – SKYLINE

3.3.1 WILDLIFE RESOURCES

Skyline provides quality habitat for a variety of wildlife species. In addition to typical southeastern species, such as Gray Fox, White-tailed Deer, Virginia Opossum, and Gray Squirrel, the area supports species characteristic of the Cumberland Plateau Region of Alabama such as the American Toad (*Bufo americanus*), Green Anole, and Timber Rattlesnake (*Crotalus horridus*) (Alabama Power 2018). Birdlife typical of the Skyline Area includes game species such as Eastern Wild Turkey, Northern Bobwhite, and Mourning Dove; resident songbirds include Downy Woodpecker, Blue Jay (*Cyanocitta cristata*), and Eastern Bluebird. Other common bird species include American Crow (*Corvus brachyrhynchos*) and Pileated Woodpecker (*Dryocopus pileatus*) (Alabama Power 2018). Raptors known to occur in or near the Skyline area include American Kestrel, Broad-winged Hawk and Red-tailed Hawk, Barred Owl, Great Horned Owl, and Eastern Screech Owl (Alabama Power 2018). Small mammals common in or near Skyline include Southern Flying Squirrel, Big Brown Bat, Eastern Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), and Raccoon (*Procyon lotor*) (Alabama Power 2018). Reptiles and amphibians found in the Skyline area include Marbled Salamander and Northern Slimy Salamander; Eastern Fence Lizard; Five-lined Skink and Broad-headed Skink; Copperhead, Black Racer, and Gray Ratsnake; and Eastern Box Turtle (Alabama Power 2018).

3.3.2 BOTANICAL RESOURCES

Skyline is located in Jackson County, in the Cumberland Plateau Region of Alabama. This area is underlain by sandstones along with siltstones, shales, and coal. The landscape consists of flat-topped, high-elevation plateaus separated by deep, steep-sided valleys. The plateaus slope gently from the northeast to the southwest. Most of the area is forested, with Southern Ridge and Valley/Cumberland Dry Calcareous Forest and South-Central Interior Mesophytic Forest types. The Southern Ridge and Valley/Cumberland Dry Calcareous forest is comprised of dry-to-dry mesic calcareous forests in a variety of landscape positions, including ridge tops and upper and mid-slopes. They dominate vegetation type under natural conditions. High quality examples are characteristically dominated by White Oak, Chinkapin Oak (*Quercus muehlenbergii*), Post Oak, and Shumard's Oak (*Quercus shumardii*), with varying amounts of hickory, Sugar Maple (*Acer saccharum*), Southern Sugar Maple (*Acer floridanum*), Chalk Maple (*Acer leucoderme*), Red Maple, and other species. This system also includes successional communities resulting from logging or agriculture and are dominated by Tulip Tree, pine, Eastern Red Cedar (*Juniperus virginiana*), and Black Locust (*Robinia pseudoacacia*) (NatureServe 2009).

The South-Central Interior Mesophytic forest is primarily deciduous forests that typically occur in deep, enriched soils in protected landscape settings such as covers or lower slopes. This forest is generally highly diverse and is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood (*Tilia americana*), Northern Red Oak, Cucumber Tree (*Magnolia acuminata*), and Eastern Black Walnut (*Juglans nigra*). Eastern Hemlock (*Tsuga canadensis*) may be present in some stands. Common shrubs include Coralberry (*Symphoricarpos orbiculatus*), Bladdernut (*Staphylea trifolia*), American Strawberry Bush (*Euonymus americanus*), and Flowering Dogwood. The herb layer is often very plentiful and may include Licorice Bedstraw (*Galium circaezans*), Black Cohosh (*Actaea racemosa*), Southern Lady Fern (*Athyrium filix-femina* ssp. *asplenoides*), and Crownbeard (*Verbesina alternifolia*).

The Allegheny-Cumberland Dry Oak forest and woodland consists of dry hardwood forests found in nutrient-poor or acidic substrates on plateaus or ridges. Typical dominants include White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory. Shortleaf Pine and/or Virginia Pine may occur in

smaller amounts, particularly adjacent to steep cliffs or slopes or in area impacted by fire. White Pine (*Pinus strobus*) may be prominent in some stands in the absence of fire. American Chestnut (*Castanea dentata*) saplings may be found where it was once a common tree. The shrub layer may include Lowbush Blueberry (*Vaccinium angustifolium*), Bear Huckleberry (*Gaylussacia ursina*), Deerberry, Hillside Blueberry (*Vaccinium pallidum*), Oakleaf Hydrangea (*Hydrangea quercifolia*), and Mapleleaf Viburnum (*Viburnum acerifolium*). Common herbs include Boott's Sedge (*Carex picta*), Black Seed Speargrass (*Piptochaetium avenaceum*), Nakedflower Tick Trefoil (*Desmodium nudiflorum*), Longleaf Woodoats (*Chasmanthium sessiliflorum*), and Dwarf Violet Iris (*Iris verna* var. *smalliana*).

A small portion of one of the known populations of Price's Potato-beans may still occur, although recent surveys failed to detect the species, within the Skyline Project Boundary; however, Alabama Power will conduct additional surveys in the area of the known population prior to any timber management activities to ensure that the known population is not impacted if it is still present.

3.3.3 RIPARIAN AND LITTORAL HABITAT

Cahaba Consulting described the stream riparian zone as consisting of primarily mature forest vegetation. Riparian habitat is the vegetated zone that serves as a buffer between the upland vegetation community and the riverine environment. This zone provides streambank stability and sediment filtration. Based on the ecological systems classification developed by NatureServe (2009), much of the riparian areas for the streams within the Skyline Project Boundary are classified as Allegheny-Cumberland Dry Oak Forest and Woodland, South-Central Interior Mesophytic Forest, and Southern Ridge and Valley/Cumberland Dry Calcareous Forest (Section 5.5.1). The Southern Ridge and Valley is dominated by White Oak, Chinkapin Oak, Post Oak, and Shumard's Oak, with varying amounts of hickory, Sugar Maple, Southern Sugar Maple, Chalk Maple, Red Maple, and other species. The South-Central Interior is dominated by Sugar Maple, American Beech, Tulip Tree, American Basswood, Northern Red Oak, Cucumber Tree, and Eastern Black Walnut. The Allegheny-Cumberland is dominated by White Oak, Southern Red Oak, Chestnut Oak, Scarlet Oak, with lesser amounts of Red Maple, Pignut Hickory, and Mockernut Hickory (NatureServe 2009).

4.0 WILDLIFE MANAGEMENT OBJECTIVES

Specific wildlife management objectives for the Harris Project lands were initially identified during the scoping phase of the relicensing process. These objectives were further refined through subsequent meetings with ADCNR and USFWS and include:

- 1) Management of shoreline areas for native vegetative communities and enhanced value as wildlife habitat;
- 2) Implementation of timber management methods that result in enhanced value of Project lands as wildlife habitat;
- 3) Management of permanent openings for the benefit of both game and non-game species, including food plots;
- 4) Management of public hunting areas, including areas for the physically disabled.

5.0 SHORELINE MANAGEMENT

Protection and enhancement of available shoreline habitat for wildlife will be accomplished through implementation of the proposed Shoreline Management Plan (SMP). Pending approval by FERC, the SMP will be implemented for the 367 miles of shoreline within the Lake Harris Project Boundary.

5.1 MANAGEMENT ACTIONS

5.1.1 SHORELINE CLASSIFICATION SYSTEM AND SENSITIVE RESOURCES DESIGNATION

As part of the proposed SMP, Alabama Power developed a shoreline classification system to guide management and permitting activities within the Project Boundary and to protect natural resources, including wildlife habitat and wetlands. The shoreline classifications are based on an evaluation of existing and potential land use. While not solely designed for protection of wildlife habitat, the Sensitive Resources designation and the Natural/Undeveloped and Hunting shoreline management classifications often include valuable wildlife habitats. Best management practices (BMPs), associated designations, and classifications can be found within the SMP.

5.1.2 SHORELINE BUFFERS

As specified in the SMP, Alabama Power provides for preservation or establishment of a naturally managed vegetative filter strip along the shoreline to keep clearing of native trees and vegetation to a minimum⁷. Unmanaged vegetation associated with these buffers enhances available food and cover for wildlife species, provides corridors that enhance linkages between larger habitat patches, and protects nearshore environments. Nearshore environments provide important breeding and nursery areas for numerous fish and amphibian species and are utilized for feeding and cover by species such as North American River Otter, Beaver, and various wading birds and waterfowl. At a microhabitat level, accumulated leaf litter, pine needle duff,

⁷ The BMP recommended here does not in any way supersede or replace the requirements of the scenic easement. Scenic easements include covenants running with the land for the project purpose of protecting scenic and environmental values and, as such, are requirements and not recommendations.

and coarse, woody debris (fallen logs, etc.) in these vegetated buffers will provide much needed refugia for reptiles and amphibians. Specific management actions associated with shoreline buffers can be found in the SMP.

5.1.3 PLANTING OF NATIVE SPECIES

The SMP recommends, and in some instances requires, planting of native trees, shrubs, and plant species for landscaping and for purposes of shoreline stabilization. Plants native to the soils and climate of a particular area typically provide the best overall food sources for wildlife, while generally requiring less fertilizer, less water, and less effort in controlling pests. Planting of native species will be required on all lands within the SMP Recreation and Commercial Recreation classifications and recommended as a BMP on all other Project lands. Specific management actions associated with native plantings can be found in the SMP.

6.0 PERMANENT MANAGED OPENINGS

Under the 1988 WMP, Alabama Power established and managed permanent openings for the benefit of both game and non-game species. 105 acres of permanent openings were established at various locations at Lake Harris (illustrated in Figure 7-1). 55 acres of the 105 were established for annuals or perennials, and the remaining 50 acres were established as open areas. As part of the 1995 Land Use Plan update, certain tracts of project lands containing managed openings were removed from the project. However, new openings were established on lands which remained in the Project to replace the acreage that was removed.

Managed openings at Skyline were established as part of the 1990 Skyline WMA. ADCNR, through its lease for Skyline, manages all permanent openings at Skyline.

6.1 MANAGEMENT ACTIONS

6.1.1 LAKE HARRIS

Alabama Power will continue to manage permanent openings at Lake Harris. Openings located within the Harris Physically Disabled Hunting Area will be managed as food plots. Other established openings will continue to be mowed annually and maintained as “brushy” areas. In addition, Alabama Power will establish and coordinate a monitoring program with Alabama Power personnel, Alabama Power contractors, or others managing lands in the Project Boundary to monitor Project shorelines for any vandalism or looting activities of historic properties within the Lake Harris Project Boundary. The monitoring program will minimize any impacts that may occur to historic properties due to acts of vandalism or looting

6.1.2 SKYLINE

ADCNR will continue to manage wildlife openings located at Skyline for the benefit of both game and non-game species. In addition, Alabama Power will establish and coordinate a monitoring program with Alabama Power personnel, Alabama Power contractors, or others managing lands in the Skyline Project Boundary to monitor lands managed to provide hunting opportunities for any vandalism or looting activities of historic properties at Skyline. The

monitoring program will minimize any impacts that may occur to historic properties due to acts of vandalism or looting.

7.0 TIMBER MANAGEMENT

Alabama Power has had an active forest management program since World War II. Shortly after World War II, timber stands were inventoried, and long-range timber management plans were developed. These plans directed an all-aged, sustained-yield management scheme with the forest rotation age of 60 years. Under this management strategy, trees would be grown to an average age of 60 years and would produce forest products on a continuous basis. Saw timber would be harvested on 16 year cutting cycles and pulpwood would be thinned as a secondary product at interim periods of 10 years.

In the early 1970s, the cutting cycle for saw timber was lengthened to 20 years because power skidders were being used. As a result, more volume was being cut per acre and more reseeded was occurring (from the additional exposure of mineral soil caused by the skidders). The extended cutting cycle allowed for per acre volumes to recover and the young seedlings to put on additional volume. This all or uneven-aged management scheme has produced a notably diverse forest both in terms of species composition and in forest products. The result is not only the production of valuable high-quality products but the production of diverse quality habitat for both game and non-game wildlife species. These planned and controlled forest management practices have, over the years, aided in the protection of the watersheds of the associated reservoirs that indirectly have enhanced the fisheries habitat of these lakes, rivers, and streams. These practices have also produced habitats that have promoted and sustained several rare and endangered species of plants and animals.

Contemporary timber stands on Project lands at Lake Harris are dominated by Mixed Pine-Hardwood. Timber stand composition on the 6,269 acres within the Lake Harris Project Boundary is summarized in Table 7-1 and illustrated in Figure 7-1. Selective cutting is the primary means of timber harvest on Project Lands at Lake Harris. Currently, Alabama Power utilizes prescribed burns on approximately 160 acres every two years.

Contemporary timber stands on Project lands at Skyline are dominated by Upland Hardwood. Most of the timber stands are mature to over-mature mixed hardwood forest, made up primarily

of various upland species of red oak and White Oak, Tulip Tree, hard and soft maple (*Acer* spp.), and hickory. There is a small component of Shortleaf Pine, Loblolly Pine, and Virginia Pine. Historically, past harvesting practices have focused on removing higher value red oak and White Oak timber, resulting in many stands that are dominated by maple, hickory, Tulip Tree and Chestnut Oak (*Quercus montana*). Most stands have closed canopies resulting in little or no desirable understory species to provide the potential for future stands. Timber stand composition on the 15,063 acres within the Skyline Project Boundary is summarized in Table 7-2 and illustrated in Figure 7-2. Selective harvesting and natural regeneration are primary goals of timber harvest on Project Lands at Skyline. Prescribed burns are not utilized at Skyline. When associated with management objectives as outlined in the 1990 Skyline WMP, clear cutting is selectively conducted in small areas located on the mountain tops, as coordinated with ADCNR.

TABLE 7-1 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT LAKE HARRIS
(Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>47</u>	<u>2,938</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>18</u>	<u>1,109</u>
Upland Hardwood	<u>21</u>	<u>1,343</u>
Planted Pines	<u>8</u>	<u>476</u>
Other	<u>6</u>	<u>403</u>
Total	<u>100</u>	<u>6,269</u>

TABLE 7-2 TIMBER STAND COMPOSITION ON HARRIS PROJECT LANDS AT SKYLINE
 (Source: Alabama Power Timber Stand Data)

<u>Stand Type</u>	<u>Percent Cover</u>	<u>Acreage</u>
Mixed Pine-Hardwood	<u>0.15</u>	<u>23</u>
Natural Longleaf Pine	<u>0</u>	<u>0</u>
Natural Pine	<u>0</u>	<u>0</u>
Upland Hardwood	<u>99</u>	<u>14,922</u>
Planted Pines	<u>0</u>	<u>0</u>
Other	<u>0.85</u>	<u>118</u>
Total	<u>100</u>	<u>15,063</u>

Forest lands located within the Project Boundary of the Harris Project will be managed according to the actions described below. Potential impacts and associated conservation measures for the federally listed Northern Long-eared Bat (*Myotis septentrionalis*) and Indiana Bat (*Myotis sodalis*) will also be discussed.

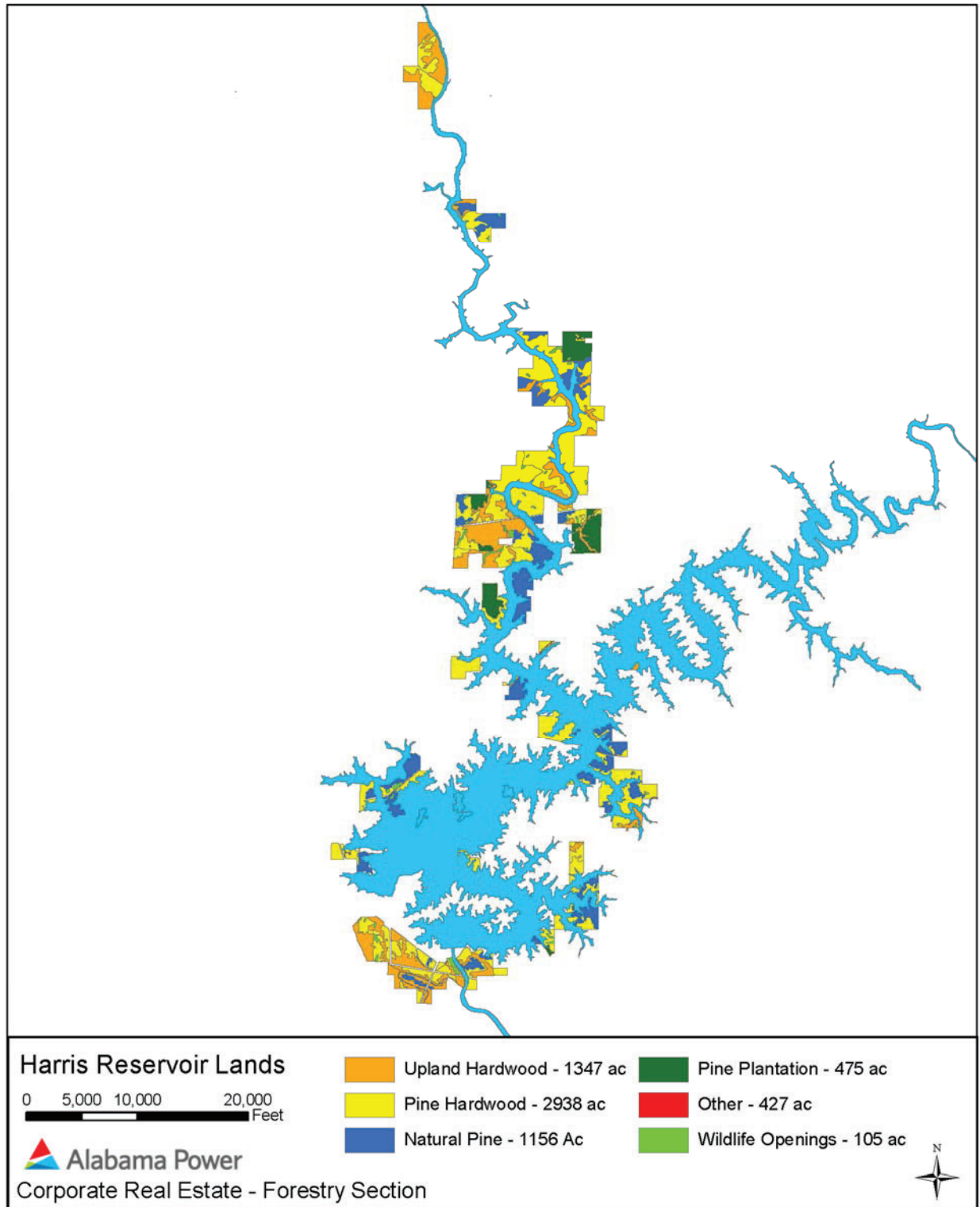


FIGURE 7-1 LAKE HARRIS TIMBER STANDS

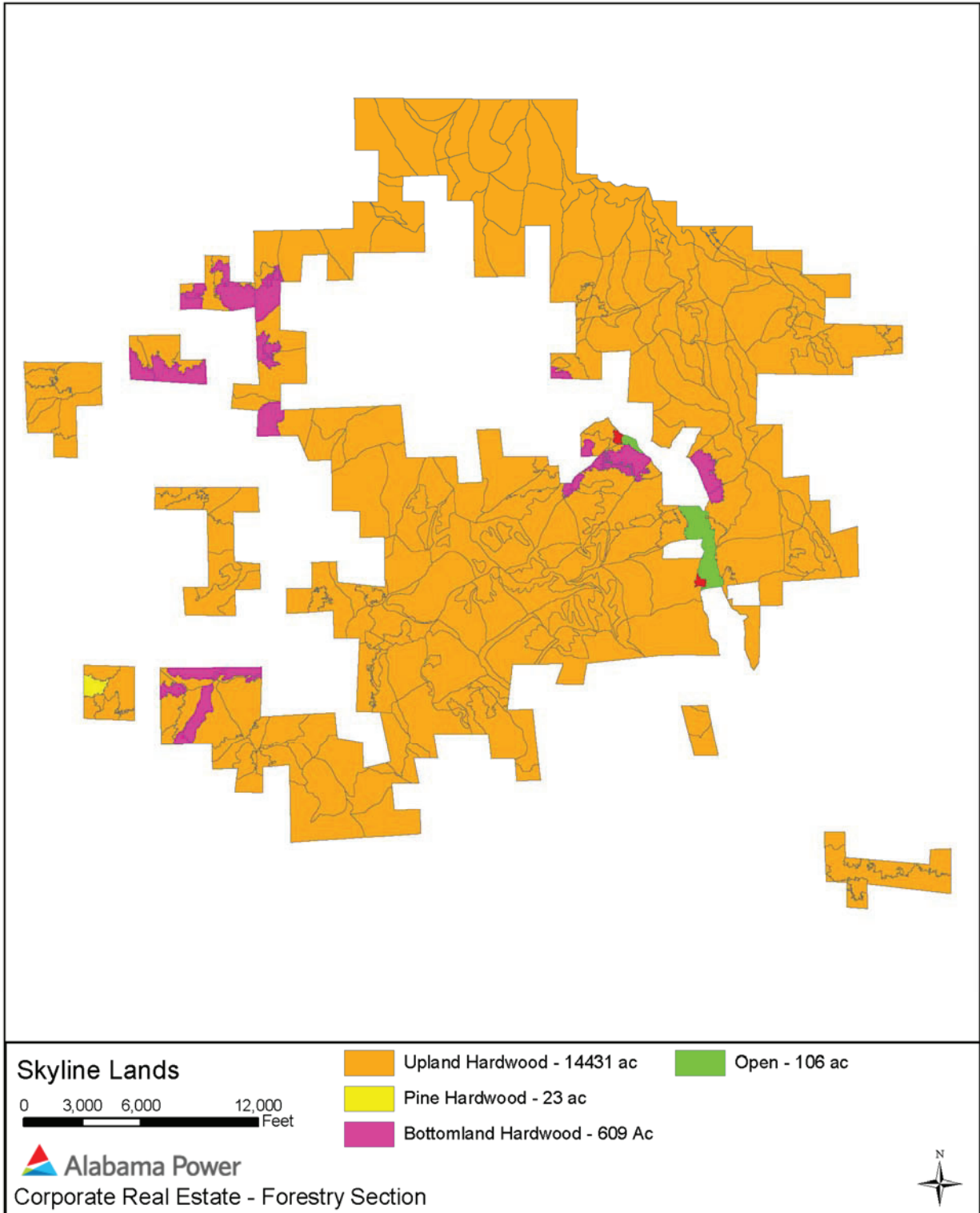


FIGURE 7-2 SKYLINE TIMBER STANDS

7.1 LAKE HARRIS

7.1.1 LAKE HARRIS TIMBER HARVEST

Alabama Power will continue to utilize selective cutting as the primary means of timber harvest at Lake Harris. Specifically, only trees marked for harvest will be cut. Furthermore, only live, standing pine trees 15" DBH (diameter at breast height) and greater will be marked for harvest. No hardwood of any species is harvested outside of the streamside management zones (SMZ), and no timber at all is harvested within the SMZ. Furthermore, trees with potential roost tree characteristics (exfoliating bark, cracks, crevices, or hollows) will not be marked for cutting and will be retained. The remaining overstory after a selective harvest will be grown until the trees reach sawtimber size (≥ 15 " DBH). At that time, standing pine trees 15" DBH and greater will be selectively harvested. Typically, this is a 20-year cutting cycle. Every effort will be made to avoid inadvertently damaging potential roost trees during harvest. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate artificial regeneration of pine species.

From 2016 through 2020, Alabama Power harvested a total of 257 acres at Lake Harris, comprised wholly by two sales resulting in an average of 128.5 acres per sale. If Alabama Power conducts at least one sale per year on average, it will result in 5,140 acres harvested over the life of the license (40 years). This likely represents a conservative estimate, as Alabama Power will not conduct a timber harvest every year.

7.1.2 LAKE HARRIS BEST MANAGEMENT PRACTICES

Alabama Power will continue to utilize best management practices that reduce or prevent impact to streams and waterbodies due to runoff, erosion, and sedimentation. Alabama Power will continue to incorporate Alabama's Best Management Practices for Forestry as provided by the Alabama Forestry Commission. These practices include: the establishment of SMZs; avoidance of crossing of streams by roads, skid trails, or firebreaks when possible; when unavoidable, the utilization of the fewest possible stream crossings located where the bank and SMZ will be least disturbed; the proper planning and location of roads (Alabama Forestry Commission 2021).

7.1.3 LAKE HARRIS TIMBER HARVEST CONSERVATION ACTIONS FOR THE PROTECTION OF LISTED BAT SPECIES

Occasionally, a tree exhibiting potential roost characteristics may be inadvertently damaged during harvest. If this occurs to a high-quality potential roost tree⁸ (MO eFOTG- Policy and Procedures 2003, USFWS 2015) outside the approved clearing season (October 15-March 31), Alabama Power will contact the USFWS Daphne Field Office. A particular emphasis will be made to avoid damaging potential high-quality roost trees during the pup season (May 1-July 15). For the southeast, the nonvolant period for the Indiana Bat occurs earlier than other regions, likely from May 1-July 15 (A. Edelman, J. Stober, pers. Comm. 2016 as cited in USFWS 2016 c). Recent surveys summarized by the South Carolina Department of Natural Resources (SCDNR) also observed early pupping in Northern Long-eared Bats (SCDNR 2019).

Additionally, Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat (NLEB) or Indiana Bat hibernacula or maternity roost trees occurring within the Lake Harris Project Boundary or within the buffer zones established by currently published avoidance guidance for both species. In regard to the Northern Long-eared Bat, there are no known hibernacula occurring within 0.25 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 150 feet of the Lake Harris Project Boundary (collectively, “areas within or adjacent to the Lake Harris Project Boundary”). Regarding the Indiana Bat, there are no P3 or P4⁹ hibernacula occurring within 5 miles of the Lake Harris Project Boundary, and no known maternity roosts occur within 2.5 miles of the Lake Harris Project Boundary (collectively, “areas within or adjacent to the Lake Harris Project Boundary”). Furthermore, there are no P1 or P2¹⁰ hibernacula occurring within the state or within 10 miles of the Lake Harris Project Boundary. Alabama Power will continue consulting the Alabama Natural Heritage Program and USFWS’s Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity

⁸ Live/or snag greater than 9” DBH with exfoliating bark, crevice, crack, or hollow

⁹ Priority 3 (P3) have current or observed historic winter populations 50 to 1,000 Indiana Bats. Priority (P4) have current or observed historic populations of less than 50 bats.

¹⁰ Priority 1 (P1) have current or observed historic winter populations of greater or equal to 10,000 Indiana Bats. Priority 2 (P2) have current or observed historic populations of greater than 1,000 but less than 10,000 bats.

roost trees are identified in areas within the Lake Harris Project Boundary, Alabama Power will adhere to the most up-to-date USFWS avoidance guidance, which, for the Northern Long-eared Bat currently include limiting the cutting, trimming, or destruction of trees on Project land within 0.25 miles of known hibernacula during any time of the year and prohibits removal of trees within 150 feet of known maternity roosts from June 1 - July 31, except for removal of hazardous or fallen trees for protection of human life (USFWS 2016). Avoidance guidance and streamlined consultation for the NLEB can be found on USFWS's website. Avoidance guidance for the Indiana Bat can be found in Range-wide Indiana Bat Protection and Enhancement Plan Guidelines (2009).

Selective harvest of only live pine trees 15" DBH and greater while avoiding trees that exhibit potential roost characteristics as well as implementation of published avoidance guidance should new maternity or hibernacula locations be discovered should avoid any potential adverse impacts to both listed bat species. Specifically, implementation of the above guidance will adhere to conditions outlined in the 4 (d) rule for the Northern Long-eared Bat, and no further consultation should be required for this species. Trees harvested under the described plan above do not meet the criteria for potential Indiana Bat roosting habitat. If a specific timber harvest plan does not adhere to the published avoidance guidelines or harvest prescriptions change, further consultation may be required.

7.2 SKYLINE

7.2.1 SKYLINE TIMBER HARVEST

The objective of timber management at Skyline is to ensure long-term health and sustainability of the forest, while enhancing wildlife management through ecological diversity and habitat improvement. Increasing the oak component of the forest through selective harvesting and natural regeneration is a primary goal. Prudent timber management ensures the long-term health and sustainability of the forest while increasing the oak component over time. The management of the timber not only works in concert with but also enhances the primary objectives of sound wildlife management, habitat improvement, and aesthetics.

Harvesting will follow a shelterwood prescription (regeneration method), as well as addressing intermediate management objectives of thinning. For the regeneration harvests, less desirable species across all size classes will be targeted for removal, and over-mature oak timber ($\geq 19''$ dbh) will also be removed. This results in a residual stand of trees. Furthermore, a review of stand data since 2014 show a residual tress per acre (TPA) ranging from 30-100+ TPA with most approximating over 100 TPA. Shagbark Hickory (*Carya ovata*) are not harvested and retained in most stands. Alabama Power will continue to harvest timber at Skyline according to this prescription. This type of harvesting will allow for at least two age classes to become established in treated stands, increasing options for future management. It will also change the light levels reaching the forest floor, in an attempt to favor the intermediately shade tolerant oak over less shade tolerant species such as Red Maple and Tulip Tree. By carefully selecting residual trees, growth will be concentrated on desirable species and choices can be made to retain trees that will contribute to other objectives (e.g., wildlife, aesthetics, biodiversity). Following these management actions will ensure a sustainable, healthy, mature forest, and will serve to maintain or increase the oak component. Occasionally, there may be the need to create wildlife openings on top of the mountains. These areas could average 15 acres in size, and all timber will be harvested in these areas. These prescriptions will provide and maintain optimal ecological diversity and improved wildlife habitat. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Typically, one to two harvest units will be targeted annually, and Alabama Power will be responsible for administering the timber sale. From 2016 through 2020, Alabama Power harvested (thinned) a total of 983 acres for an annual average of 164 acres per sale. Individual harvest units vary in size and are sometimes combined resulting in multiple harvest units harvested within the same year. However, using the 164 average acres per sale, at two sales per year would result in 13,120 acres over the life of the 40-year license. At this rate, it would take more than 45 years to cut across the entire Skyline Project Area.

As discussed in Section 3.3.2 above, Alabama Power will conduct additional surveys in the area of the known population of Price's Potato-bean prior to any timber management activities to ensure that the known population is not impacted if it is still present.

7.2.2 SKYLINE BEST MANAGEMENT PRACTICES

Little Coon Creek at Skyline is listed as impaired on the 303(d) Impaired Waters List due to siltation/habitat alteration. The sources of this impairment include non-irrigated crop production and pasture grazing on adjacent land, which more easily allows for soils loosened due to tilling or other agricultural practices to be washed into the creek, resulting in sedimentation of the creek bottom.

Alabama Power will continue to utilize best management practices that reduce or prevent impact to streams and waterbodies due to runoff, erosion, and sedimentation. Alabama Power will continue to incorporate Alabama's Best Management Practices for Forestry as provided by the Alabama Forestry Commission. These practices include: the establishment of SMZs; avoidance of crossing of streams by roads, skid trails, or firebreaks when possible; when unavoidable, the utilization of the fewest possible stream crossings located where the bank and SMZ will be least disturbed; the proper planning and location of roads (Alabama Forestry Commission 2021).

7.2.3 SKYLINE TIMBER HARVEST CONSERVATION ACTIONS FOR THE PROTECTION OF LISTED BAT SPECIES

Alabama Power will adhere to current USFWS guidance concerning known hibernacula and maternity roost trees. However, there are no known Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees occurring within the Skyline Project Boundary or within the buffer zones established by currently published avoidance guidance for both species. Regarding the Northern Long-eared Bat, no known hibernacula occur within 0.25 miles of the Skyline Project Boundary, and no known maternity roosts occur within 150 feet of the Skyline Project Boundary (collectively, "areas within or adjacent to the Skyline Project Boundary"). Regarding the Indiana Bat, there are no P3 or P4 hibernacula occurring within 5 miles of the Skyline Project Boundary, and no known maternity roosts occur within 2.5 miles of the Skyline Project Boundary (collectively, "areas within or adjacent to the Skyline Project Boundary"). Furthermore, there are no P1 or P2 hibernacula occurring within the state or the 10-mile buffer established by the current avoidance guidance. Alabama Power will continue consulting the

Alabama Natural Heritage Program and USFWS's Alabama Ecological Services Field Office regarding locations of any known maternity roost trees and hibernacula. If Northern Long-eared Bat or Indiana Bat hibernacula or maternity roost trees are identified in areas within or adjacent to the Skyline Project Boundary, Alabama Power will adhere to the most up-to-date USFWS avoidance guidance, which for the Northern Long-eared Bat currently includes limiting the cutting, trimming or destruction of trees on Project land within 0.25 miles of known hibernacula during any time of the year and prohibits removal of trees within 150 feet of known maternity roosts from June 1 - July 31, except for removal of hazardous or fallen trees for protection of human life. Avoidance guidance and streamlined consultation for the NLEB can be found USFWS's website. Avoidance guidance for the Indiana Bat can be found in Range-wide Indiana Bat Protection and Enhancement Plan Guidelines (2009).

In addition, Alabama Power will retain snags and live trees exhibiting damage, basal openings, or hollowing of the bole. Occasionally, a snag or potential roost tree exhibiting some of these characteristics will be inadvertently damaged during harvest. However, every attempt is made to avoid these trees during harvest with a particular emphasis placed on avoiding high quality snags (9-inch DBH and greater) during the pupping season (May 1-July 15). As mentioned above, the shelterwood prescription used during timber harvest at Skyline will result in approximately 30-100+ TPA retained with most cuts resulting in a TPA greater than 100 with most Shagbark Hickories retained. This, with a minimum of a 60-year cutting cycle, will result in a residual stand of high-quality potential roost trees retained on the landscape. Additionally, as mentioned above, there may be the occasional need to create wildlife openings on top of the mountains. These areas could average 15 acres in size, and all timber will be harvested in these areas. These prescriptions will provide and maintain optimal ecological diversity and improved wildlife habitat. Exceptions to this would be to allow for salvage operations that may be necessary due to wind, fire, or insect damage, or to facilitate natural regeneration of oak species.

Alabama Power will continue working with the USFWS to develop forestry management plans that are protective of listed species that may be present within the Project Boundary.

8.0 HARRIS HUNTING AREAS

As part of the original license, Alabama Power developed a Land Use Plan for the Project that FERC approved on September 21, 1984 (1984 Land Use Plan). Following the construction of the Project, site evaluations and use patterns indicated that uses under the 1984 Land Use Plan were dated, and Alabama Power determined that changes to the Land Use Plan were needed.

Therefore, Alabama Power developed in agency consultation a Revised Land Use Plan (1995 Land Use Plan) that FERC approved on September 22, 1998. The 1995 Land Use Plan was further revised in 2008 (2008 Land Use Plan) and approved by FERC on May 26, 2010. The 2008 Land Use Plan differs from the 1995 Land Use Plan only in that it was revised to reflect a land swap at Skyline that resulted in the modification of the Project Boundary and associated land uses of the parcels affected. The 2008 Land Use Plan (and the preceding 1995 Land Use Plan) included provisions for lands dedicated for hunting at both Lake Harris and Skyline as well as the addition of physically disabled hunting areas. Additionally, as part of the original license, Alabama Power developed the 1988 WMP and the 1990 Skyline WMP (discussed in Section 3.0 above), both which included provisions pertaining to lands dedicated for hunting.

Lands designated for hunting at Lake Harris provide hunting opportunities to the public. Additionally, in consultation with ADCNR, Alabama Power developed the Harris physically disabled hunting area, including the construction of four shooting houses specifically designed to accommodate disabled hunters, access roads, and greenfields.

Hunting opportunities provided at Skyline are managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits and the collection of data and maintenance records.

8.1 MANAGEMENT ACTIONS

8.1.1 LAKE HARRIS

Hunting opportunities at Lake Harris (with the exception of the Harris Physically Disabled Hunting Area) will be managed by ADCNR under a new lease agreement that will be executed upon issuance of a new Project license. Similar to the hunting opportunities currently managed by ADCNR at Skyline, permits, maps, and area rules and regulations will be issued by ADCNR to each hunter. Additionally, ADCNR will determine hunting seasons and bag limits as well as collect data and maintain records regarding usage.

8.1.2 SKYLINE

Hunting opportunities at Skyline will continue to be managed by ADCNR, including the issuance of permits and maps as well as the determination of regulations such as hunting seasons and bag limits.

8.1.3 HARRIS PHYSICALLY DISABLED HUNTING AREA

Hunting opportunities at the Harris Physically Disabled Hunting Area will be managed by Alabama Power. Alabama Power will continue to plant and maintain greenfields and/or other wildlife openings in the vicinity of the shooting houses annually. Shooting houses, specifically designed to accommodate disabled hunters, as well as road access to the shooting houses will be maintained.

9.0 REFERENCES

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