Alabama Power

600 North 18th Street
Hydro Services 16N-8180
Birmingham, AL 35203
205 257 2251 tel
arsegars@southernco.com

October 2, 2020

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Transmittal of the Final Phase 1 Project Lands Evaluation Study Report

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 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 Determination[1] (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, 2020. Stakeholders were to submit their comments to Alabama Power on the Draft Report by June 11, 2020. Comments on the Draft Report were submitted by FERC staff and the Alabama Department of Conservation and Natural Resources. These comments are included in the updated consultation record (May 2019 through September 2020) for this study (Attachment 1) and responses to these comments are provided in Attachment 2. The final Phase 1 Project Lands Evaluation Study Report is contained in Attachment 3.[2]

[1] Accession No. 20190412-3000

[2] Please note that the look and format of Harris relicensing study reports has changed since submittal of the Draft Report; however, the content of the report has not changed except for the edits made based on stakeholder comments.

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 – Project Lands Evaluation Consultation Record (May 2019-September 2020)
Attachment 2 – Comments and Responses on the Draft Phase 1 Project Lands Evaluation Study Report
Attachment 3 – Final Phase 1 Project Lands Evaluation Study Report

cc: Harris Stakeholder List

Attachment 1
Project Lands Evaluation Consultation Record
(May 2019-September 2020)

HAT 4 meeting - September 11, 2019

Anderegg, Angela Segars

Tue 8/13/2019 6:53 PM

To: 'harrisrelicensing@southernco.com' <harrisrelicensing@southernco.com>
Bcc damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; taconya.goar@dcnr.alabama.gov <taconya.goar@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>; nick.nichols@dcnr.alabama.gov <nick.nichols@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>; wtanders@southernco.com <wtanders@southernco.com>; jefbaker@southernco.com <jefbaker@southernco.com>; jcarlee@southernco.com <jcarlee@southernco.com>; kechandl@southernco.com <kechandl@southernco.com>; tpfreema@southernco.com <tpfreema@southernco.com>; cggoodma@southernco.com <cggoodma@southernco.com>; ammcvica@southernco.com <ammcvica@southernco.com>; tlmills@southernco.com <tlmills@southernco.com>; dolmoore@southernco.com <dolmoore@southernco.com>; scsmith@southernco.com <scsmith@southernco.com>; twstjohn@southernco.com <twstjohn@southernco.com>; lswinsto@southernco.com <lswinsto@southernco.com>; cchaffin@alabamarivers.org <cchaffin@alabamarivers.org>; clowry@alabamarivers.org <clowry@alabamarivers.org>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; kmo0025@auburn.edu <kmo0025@auburn.edu>; irwiner@auburn.edu <irwiner@auburn.edu>; chrisoberholster@birminghamaudubon.org <chrisoberholster@birminghamaudubon.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>; kate.cosnahan@kleinschmidtgroup.com <kate.cosnahan@kleinschmidtgroup.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; amanda.fleming@kleinschmidgroup.com <amanda.fleming@kleinschmidgroup.com>; henry.mealing@kleinschmidtgroup.com <henry.mealing@kleinschmidtgroup.com>; kelly.schaeffer@kleinschmidtgroup.com <kelly.schaeffer@kleinschmidtgroup.com>; sforehand@russelllands.com <sforehand@russelllands.com>; Tom Garland (lgarland68@aol.com) <lgarland68@aol.com>; Diane Lunsford (johndiane@sbcglobal.net) <johndiane@sbcglobal.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; mitchell.reid@tnc.org <mitchell.reid@tnc.org>; wmcampbell218@gmail.com <wmcampbell218@gmail.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>; evan_collins@fws.gov <evan_collins@fws.gov>; jennifer_grunewald@fws.gov <jennifer_grunewald@fws.gov>; jeff_powell@fws.gov <jeff_powell@fws.gov>

HAT 4,

Alabama Power will be hosting a series of HAT meetings on **Wednesday, September 11, 2019 at the Oxford Civic Center,** 401 Mccullars Ln, Oxford, AL 36203. The HAT 4 meeting will be from **12:30 to 1:15**. The purpose of the HAT 4 meeting is to present Alabama Power's proposed land use changes at the Harris Project, including lands that Alabama Power may propose to be removed or included in the project boundary, or those lands proposed to change land use classification.

Please RSVP by Friday, September 6, 2019. Lunch will be provided (~11:45) so please indicate any food allergies or vegetarian preferences on or before September 6, 2019. I encourage everyone to attend in person. If this is not feasible, we are also offering a Skype option (info below). It would be ideal to join on your computer as we will be viewing presentations and maps.

If you have any questions about the agenda or meetings, please email or call me at ARSEGARS@southernco.com or (205) 257-2251.

Join Skype Meeting [meet.lync.com]

Trouble Joining? Try Skype Web App [meet.lync.com]

Join by phone

Toll number: +1 (207) 248-8024

Find a local number [dialin.lync.com]

Conference ID: 892052380

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

APC Harris Relicensing

From: Smith, Sheila C.
Sent: Thursday, August 29, 2019 2:53 PM
To: Anderegg, Angela Segars
Subject: FW: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake
Attachments: Request for Modification of the RL Harris Land Use Plan w attachments.pdf

Sheila Smith / Land Supervisor
Office: 256-396-5093 / Cell: 256-610-3243

Alabama Power

one team one goal

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Thursday, August 29, 2019 2:26 PM
To: aanderegg@southernco.com
Cc: Bearden, Justin <JBEARDEN@SOUTHERNCO.COM>; Mark Carter <mark.carter@ferc.gov>; Edge, William <WAEDGE@southernco.com>; Robert Fletcher <robert.fletcher@ferc.gov>; Graham, Stacey A. <SGRAHAM@SOUTHERNCO.COM>; Haslbauer, Jennifer <jhaslbauer@adem.alabama.gov>; jeremy.jessup@ferc.gov; djmoore@adem.alabama.gov; James.R.Schauer@apc.com; Smith, Sheila C. <SCSMITH@southernco.com>; John Tinney <jctinney@hotmail.com>; White, Aimee B <ABWhite@adem.state.al.us>; Caton, Ross E <recaton@adem.alabama.gov>; John Taylor <john.taylor@al.usda.gov>; estreett@mccarter.com; vester.whitmore@gmail.com; Mark Prestridge <mprandolphwater@gmail.com>
Subject: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake

EXTERNAL MAIL: Caution Opening Links or Files

Please see the attached request.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com

NELSON & COMPANY, PC
Civil & Environmental Engineering
400 Emery Drive, Suite 300
Birmingham, Alabama 35244
(205) 989-5690 (205) 989-5672 FAX
Cell/Car (205) 585-4600
E-mail - SNelson@NelsonAndCo.com

Ms. Angie Anderegg, Project Manager,
Alabama Power Company - Hydro Re-licensing
600 North 18th Street
Birmingham, AL 35203

August 29, 2019

REF: Hwy 48 Raw Water Intake on RL Harris Reservoir
Owner: Randolph County Water, Sewer and Fire Protection Authority
Project: 111-46

Dear Anderegg:

We are the consulting engineers for the Randolph County Water, Sewer and Fire Protection Authority (here in after call the Authority). Over the past year, the Authority has investigated building a water treatment plant upstream of the RL Harris Reservoir on the Little Tallapoosa River. After much study and consultation with ADEM, it has been determined that the site studied on the Little Tallapoosa River would not meet the short term or long term needs of the Authority.

The Authority and ADEM agree that the Highway 48 Raw Water Pumping Station site on HL Harris Reservoir has superior water quality and will meet the long term needs of the Authority and is a far superior site because:

1. Ability to withdraw water from multiple water levels to get the highest quality raw water, (See attached very preliminary Drawings 111-46-4 and 5)
2. Ability to withdraw water far below the HL Harris minimum project water pool level
3. The site is downstream of the confluence of the Little Tallapoosa and the Tallapoosa Rivers where the water quality is far superior to the site studied on the Little Tallapoosa River.
4. The site is in close proximity to property on County Road 90 currently owned by the Authority for the construction of a water treatment plant.
5. The site is in close proximity to the Authority's constructed large diameter drinking water lines (16" DIP) near County Road 90.

The Authority hereby request that Alabama Power revise the RL Harris Land Use Plan for FERC approval to allow for the transfer of property and easements to the Authority shown on the Attached 1.1, D1, D2 and D3. If you like, we can set up a conference call for Tuesday September 3, 2019 at 2 pm with your office, the Authority, ADEM and FERC. Please advise.

Sincerely,
NELSON & COMPANY, PC
Civil and Environmental Engineering

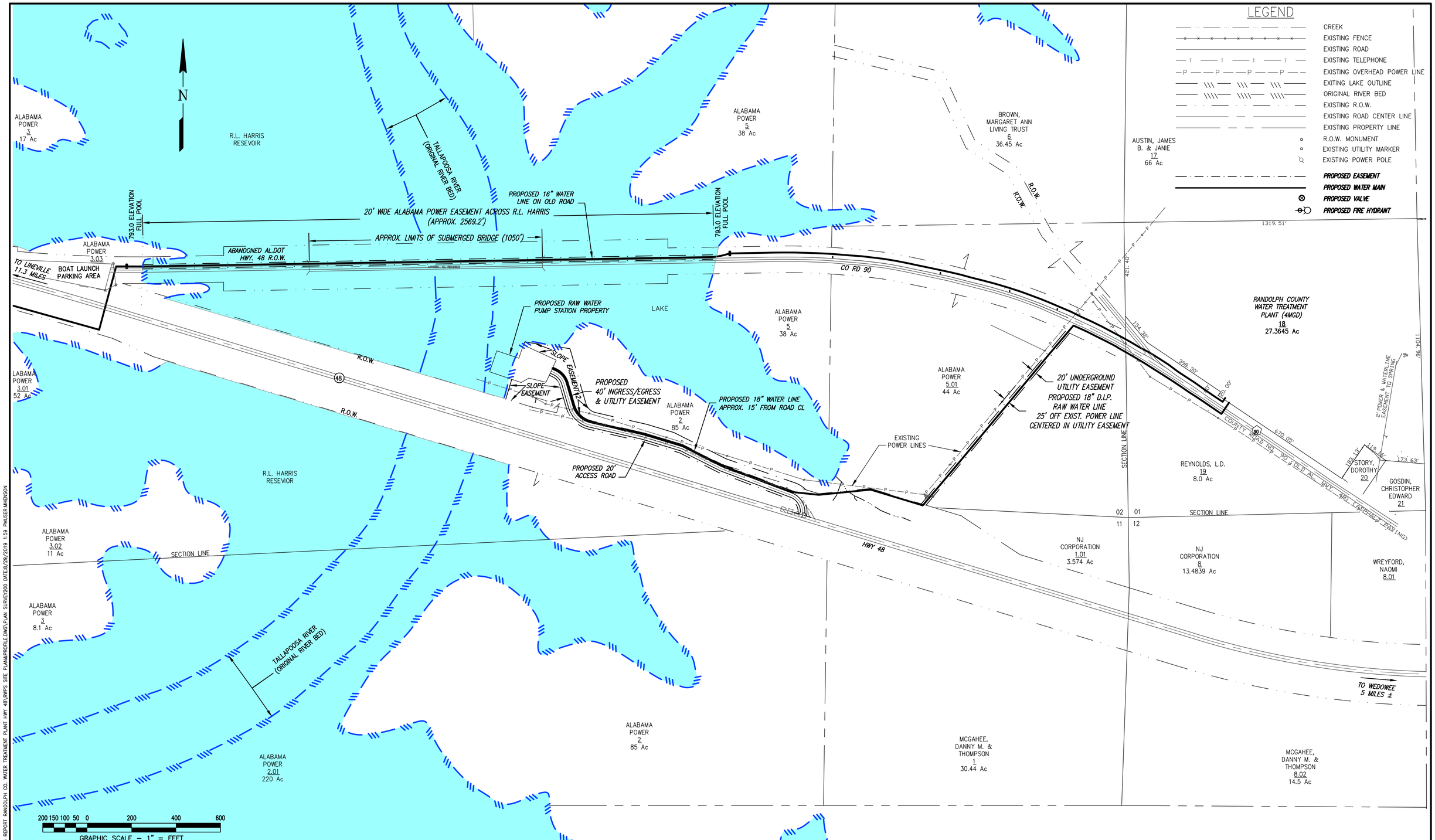
Stan Nelson

Stan Nelson
President

Vester Whitmore, Chairman - RCWS&FPA
John Tinney, Attorney for RCWS&FPA
Clay Tinney, Attorney
Emily Streett, McCarter & English – Washington, DC
John Taylor, State Engr. USDA-RD

Robert Fletcher, FERC
Mark Carter, FERC
Sheila Smith, APC

Ross Caton, ADEM
Jennifer Haslbauer, ADEM
David Moore, ADEM
Aimee White, ADEM



U:\RANDOLPH COUNTY\111-46 REPORT RANDOLPH CO. WATER TREATMENT PLANT HWY 48\RWPS SITE PLAN&PROFILE.DWG\PLAN SURVEY200 DATE:8/29/2019 1:59 PMUSERMHENSON

NO.	DATE	REVISIONS	CHKD.	APPR.
1	08/28/19	PROJECT 111-W46	RSN	RSN

NO.	DATE	REVISIONS	CHKD.	APPR.

DRAWN MGH
CHECKED SWN
APPROVED

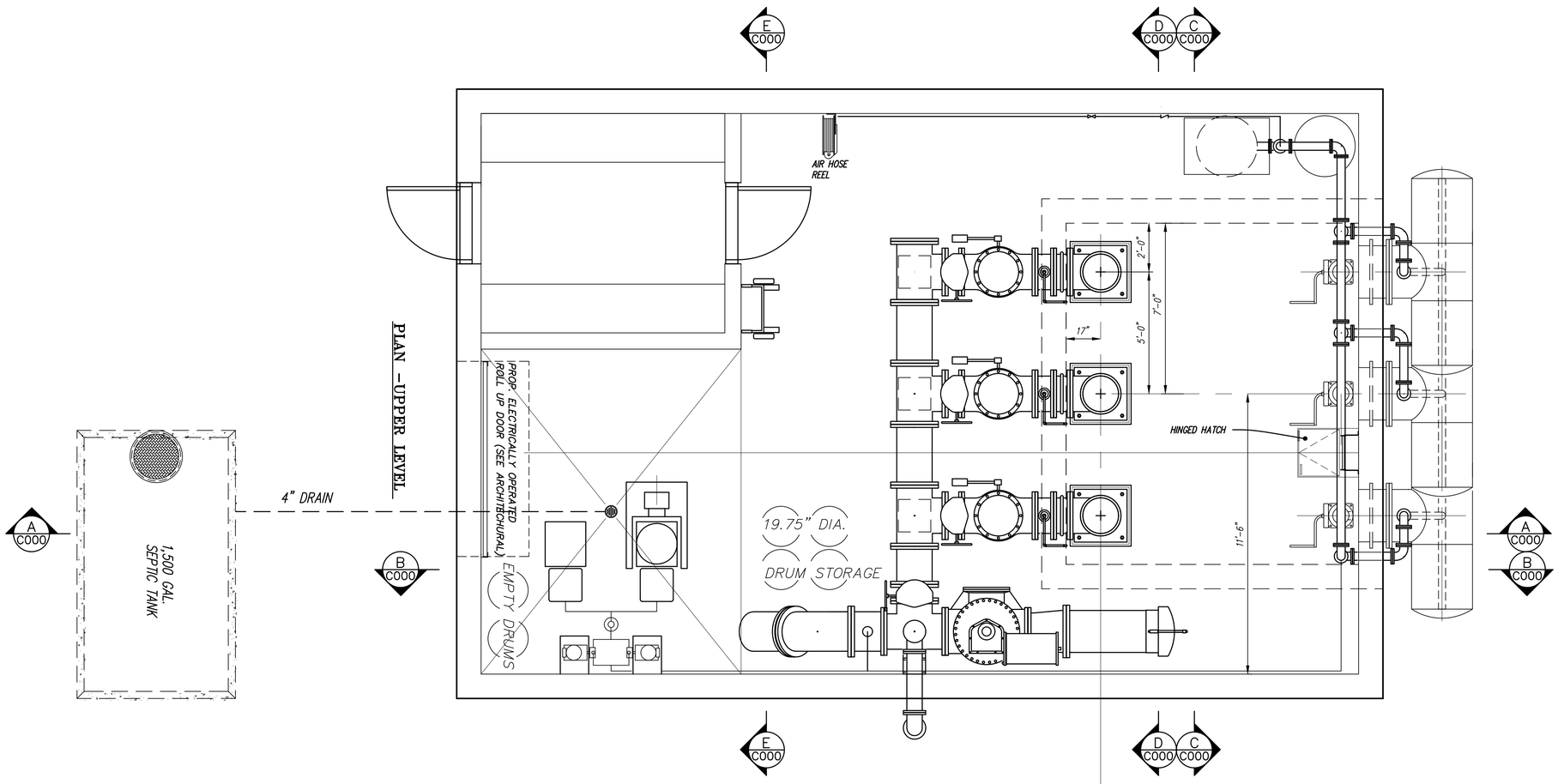
NELSON & COMPANY, PC
Civil and Environmental Engineering
400 Emery Drive – Suite 300
Birmingham, Alabama 35244
(205)989-5690 FAX (205)989-5672

RANDOLPH COUNTY, ALABAMA
MUNICIPAL WATER SYSTEM IMPROVEMENTS

PROPERTY & EASEMENTS NEEDED FROM ALABAMA POWER

REV. 1

111-46-FIG 1.1



PLAN –RAW WATER PUMP STATION AND INTAKE SCREENS w/AIR BURST

NO.	DATE	REVISIONS	CHKD.	APPR.

NO.	DATE	REVISIONS	CHKD.	APPR.

NO.	DATE	REVISIONS	CHKD.	APPR.

DRAWN MGH
CHECKED SWN
DATE 4/17/01
APPROVED

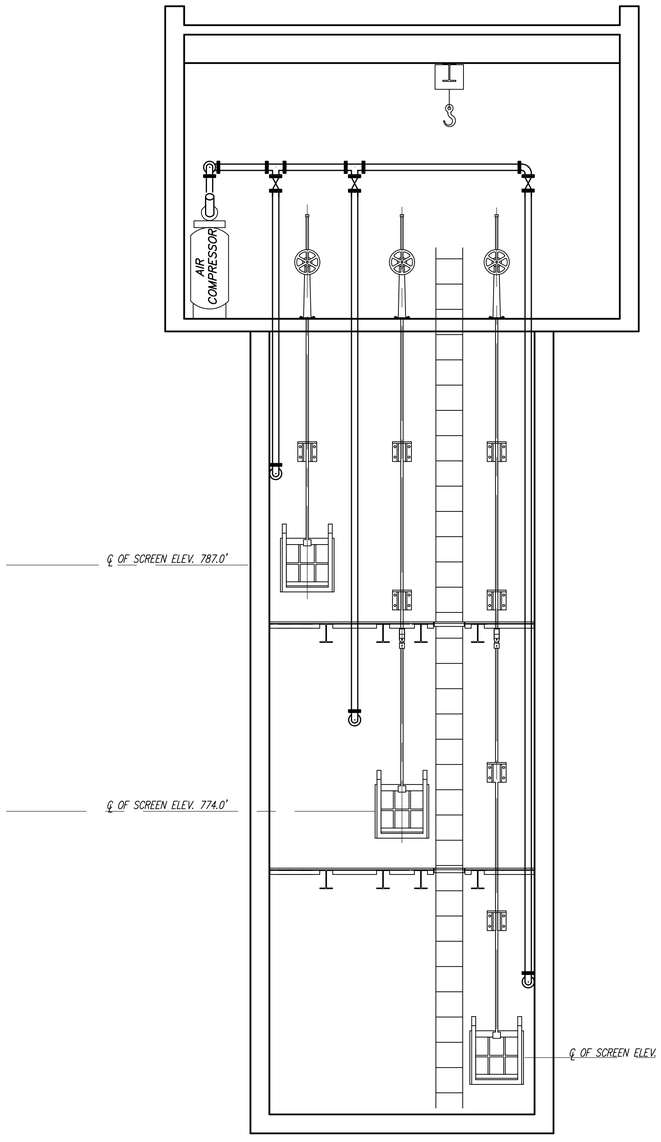
NELSON & COMPANY, PC
Civil and Environmental Engineering
400 Emery Drive – Suite 300
Birmingham, Alabama 35244
(205)989-5690 FAX (205)989-5672

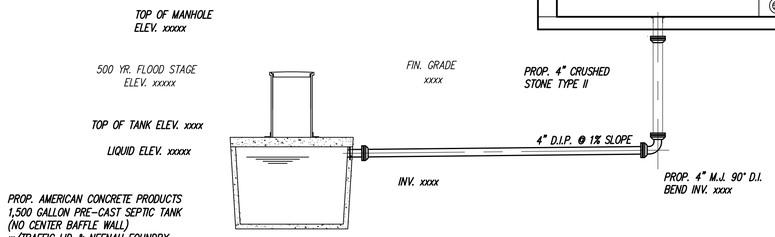
RANDOLPH COUNTY WATER AUTHORITY
HWY 48 PLANT

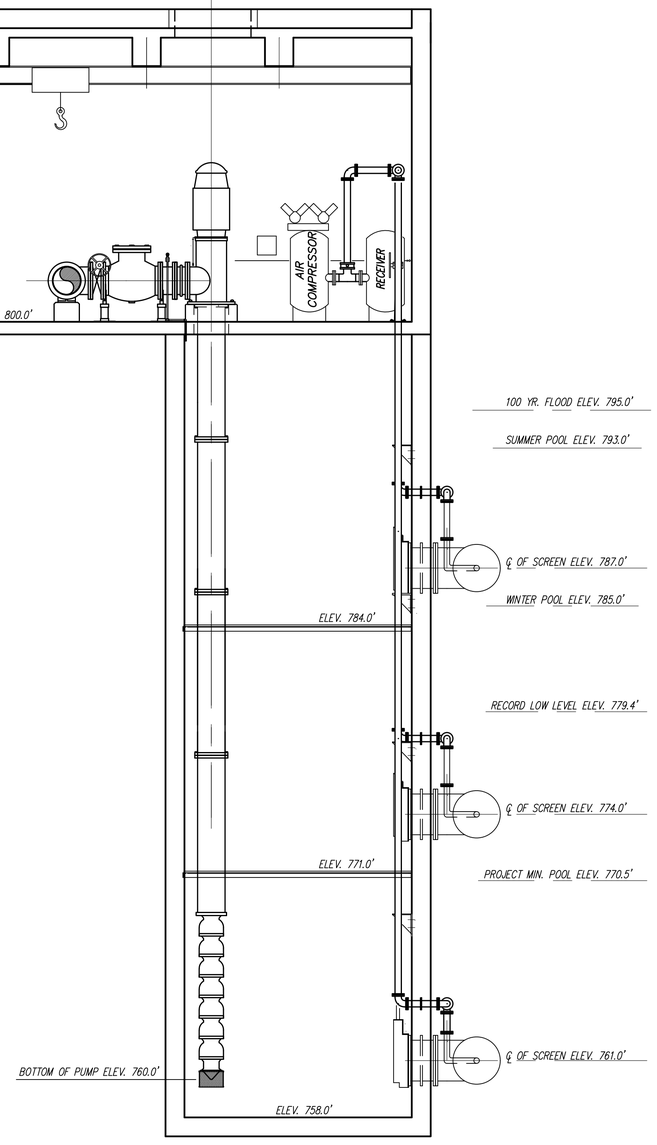
RAW WATER INTAKE

PLAN

REV. 0
111-46-3
SCALE AS SHOWN







0' 1' 2' 4' 8'

Scale Factor: 48.0

NO.	DATE	REVISIONS	CHKD.	APPR.

NO.	DATE	REVISIONS	CHKD.	APPR.

NO.	DATE	REVISIONS	CHKD.	APPR.

DRAWN MGH
CHECKED SWN
DATE 4/17/01
APPROVED

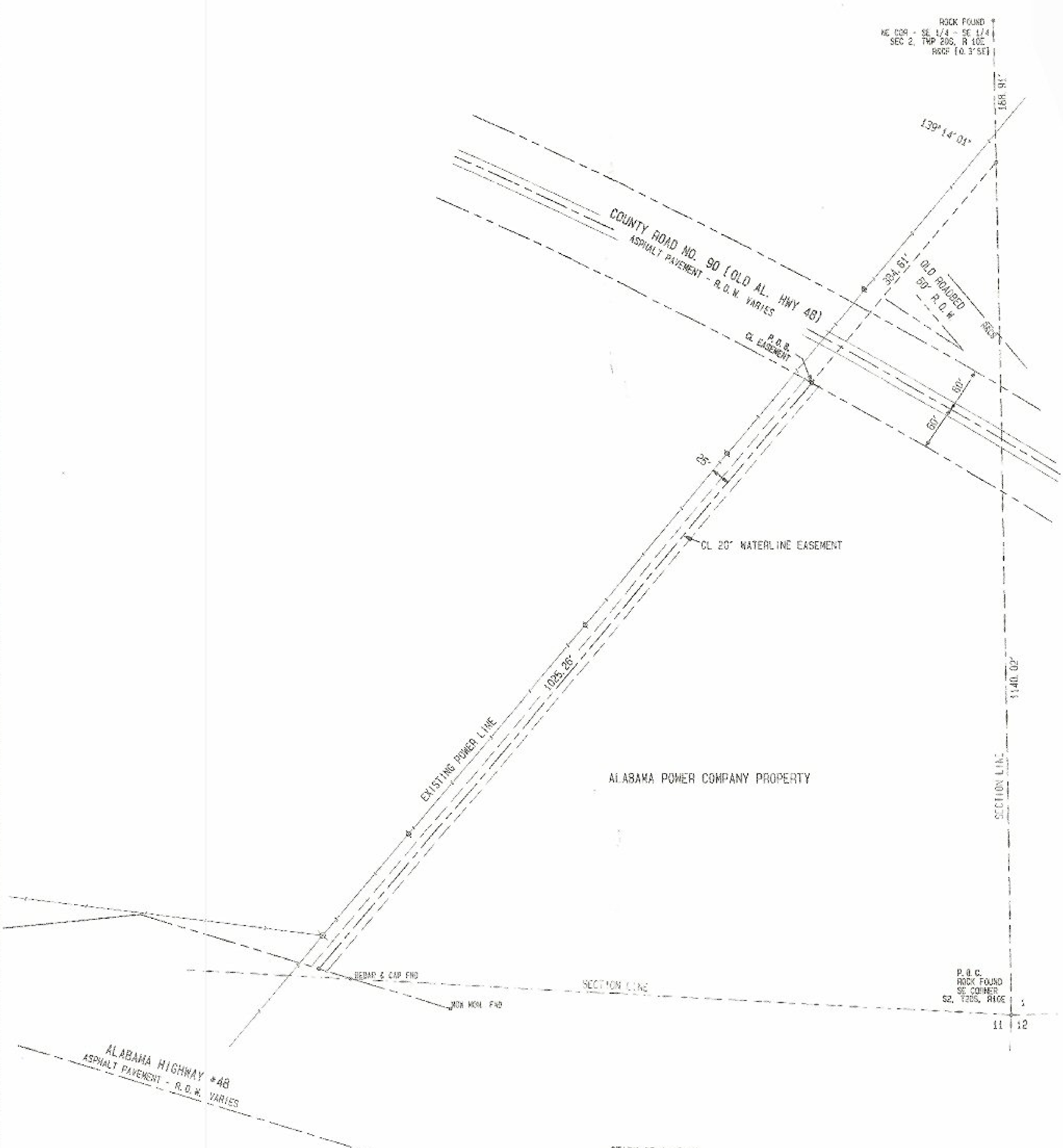
NELSON & COMPANY, PC
Civil and Environmental Engineering
400 Emery Drive – Suite 300
Birmingham, Alabama 35244
(205)989-5690 FAX (205)989-5672

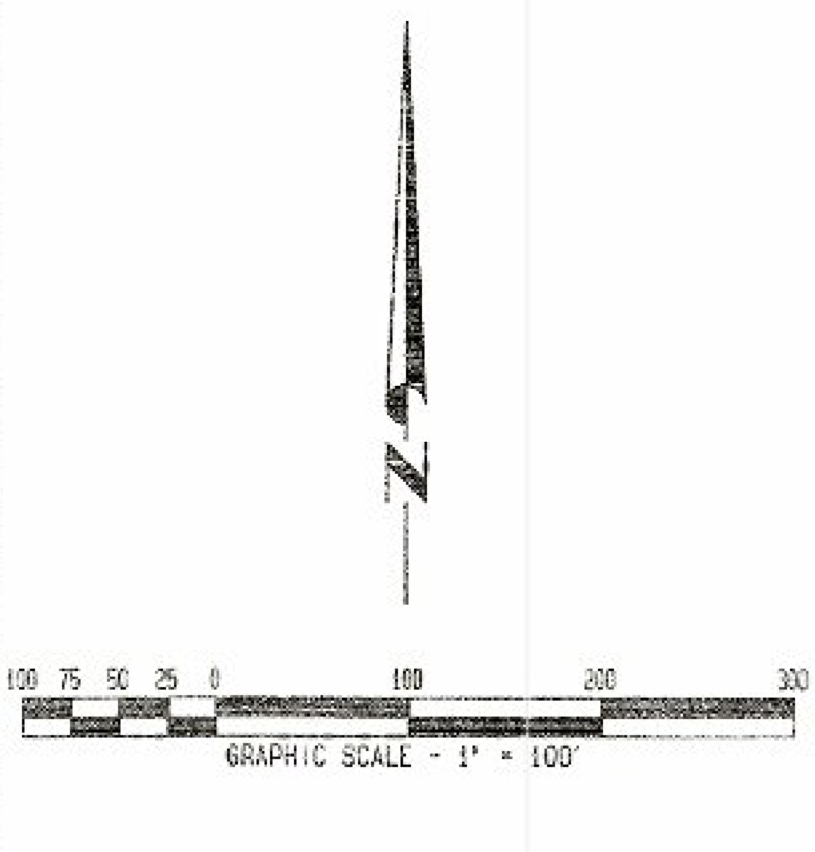
RANDOLPH COUNTY WATER AUTHORITY
HWY 48 PLANT

RAW WATER INTAKE

SECTIONS

REV. 0
111-46-4
SCALE AS SHOWN





PARAGON ENGINEERING, INC.
APR 26 2001
PRINTED

STATE OF ALABAMA
RANDOLPH COUNTY

A 20' easement located in the Southeast Quarter of the Southeast Quarter of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama, said easement lying 10 feet on either side of and parallel to the following described centerline, said centerline lying 25 feet Southeasterly of and parallel to an existing power transmission line, and being more particularly described as follows:

Commence at the Southeast corner of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama and run in a Northerly direction along the East line of said Section 1140.02 feet; thence deflect 139°14'01" and run to the left in a Southwesterly direction 384.61 feet more or less to the Southerly right of way of Randolph County Highway 90, (Old Alabama Highway 48), being the Point Of Beginning of the herein described centerline easement; thence continue along last described course in a Southwesterly direction 1025.26 feet more or less to the Northerly right of way of Alabama Highway No. 80 and the end of the herein described easement centerline.

Field survey completed on April 23, 2001.

Reference Information:
Alabama DOT right of way map for Highway 48.
Alabama DOT right of way map for Old Highway 48
Survey by Stothard Engineering
Alabama Power Company section plat

I hereby certify, to the best of my knowledge and belief, that all parts of this survey and drawing have been completed in accordance with the requirements of the Minimum Technical Standards for the Practice of Land Surveying in the State of Alabama.

Robbin E. Phillips [signature]
Robbin E. Phillips, Al. L.S. #14976

4/25/01
Date

REVISIONS

NO	DATE	DESCRIPTION	BY

PARAGON
ENGINEERING INC
SUITE 230
2320 HIGHLAND AVENUE SOUTH
BIRMINGHAM, ALABAMA 35205
(205) 939-1119

EASEMENT SURVEY
LOCATED IN
the SE 1/4 of the SE 1/4
SEC. 2, TWP 20S, RNG 10E
RANDOLPH COUNTY, ALABAMA

DRAWN REP	CHECKED AFC
DATE APRIL 25, 2001	
SCALE 1" = 100'	
F.B. 540	PAGE 1-17
DISC: OC	FILE:01019802
QUAD. NAME: OFELIA	
PROJECT NO: 8-01019	
SHEET NO: 1 OF 1	

STATE OF ALABAMA
RANDOLPH COUNTY

A parcel of land situated in the South Quarter of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama, being more particularly described as follows:

Commence at a rock marking the accepted Southeast corner of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama; thence turn an angle left of 73°47'15" from the accepted East line of the Southeast Quarter of the Southeast Quarter of said Section and run in a Northwesterly direction 2671.61 feet to the Point of Beginning of the herein described parcel, said point hereinafter known as Point A; thence deflect 80°40'13" and run to the left in a Southeasterly direction 110.00 feet; thence turn an interior angle of 100°57'16" and run to the right in a Northwesterly direction 79.43 feet; thence turn an interior angle of 223°36'05" and run to the left in a Southwesterly direction 40.00 feet; thence turn an interior angle of 131°24'34" and run to the right in a Northwesterly direction 150.00 feet; thence turn an interior angle of 90°00'00" and run to the right in a Northeasterly direction 100.00 feet; thence turn an interior angle of 90°00'00" and run to the right in an Southeasterly direction 105.00 feet; thence turn an interior angle of 270°00'00" and run to the left in a Northeasterly direction 63.25 feet; thence turn an interior angle of 84°02'05" and run to the right in an Southeasterly direction 162.90 feet to the point of beginning, containing 0.723 acres more or less.

Together with a forty foot ingress/egress and utility easement extending from the Easterly line of the above described parcel to the Northerly right of way of Alabama Highway #48, said easement lying twenty feet on either side of and parallel to the following described centerline:

Commence at the aforementioned Point A, being the Northeast corner of the above described parcel, and run in a Southwesterly direction along the Easterly line of said parcel 55.00 feet to the point of beginning of the herein described centerline easement; thence deflect 90°00'00" and run to the left in a Southeasterly direction 16.09 feet to a point of curvature; thence run along the arc of a curve to the right having a central angle of 49°04'22" and a radius of 80.00 feet in a Southeasterly direction 68.52 feet; thence run tangent to the last described curve in a Southeasterly direction 106.10 feet to a point of curvature; thence run along the arc of a curve to the left having a central angle of 27°18'16" and a radius of 120.00 feet in a Southeasterly direction 57.19 feet more or less to the Northerly right of way of Alabama Highway #48 and the end of the herein described centerline.

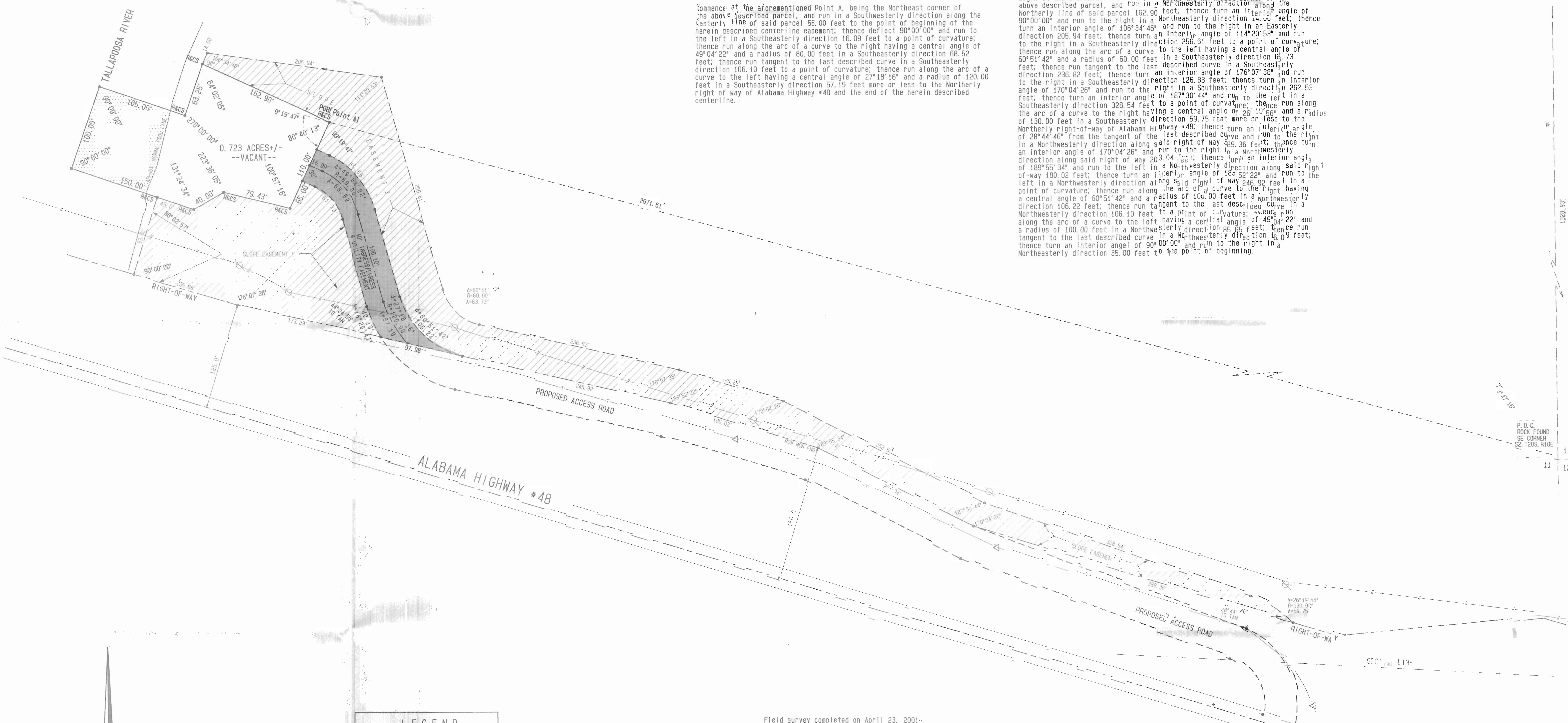
Also: Two slope easements of varying widths located adjacent to the above described parcels, being more particularly described as follows:

Slope easement 1:

Commence at the aforementioned Point A, being the Northeast corner of the above described parcel, and run in a Southwesterly direction along the Easterly line of said parcel 75.00 feet to the point of beginning of the herein described easement; thence deflect 90°00'00" and run to the left in a Southeasterly direction 16.09 feet to a point of curvature; thence run along the arc of a curve to the right having a central angle of 49°04'22" and a radius of 60.00 feet in a Southeasterly direction 51.39 feet; thence run tangent to the last described curve in a Southeasterly direction 106.10 feet to a point of curvature; thence run along the arc of a curve to the left having a central angle of 16°26'47" and a radius of 140.00 feet in a Southeasterly direction 40.19 feet more or less to the Northerly right of way of Alabama Highway #48; thence turn an interior angle of 44°24'55" from the tangent of the last described curve and run to the right in a Westerly direction along said right-of-way 173.29 feet; thence turn an interior angle of 176°07'38" and run to the right in a Northwesterly direction along said right of way 125.88 feet; thence turn an interior angle of 90°00'00" and run to the right in a Northeasterly direction 93.32 feet; thence turn an interior angle of 88°02'57" and run to the right in a Southeasterly direction 45.00 feet; thence turn an interior angle of 228°35'26" and run to the left in a Northeasterly direction 40.00 feet; thence turn an interior angle of 136°23'55" and run to the right in a Southeasterly direction 79.43 feet; thence turn an interior angle of 259°02'44" and run to the left in a Northeasterly direction 35.00 feet to the point of beginning.

Slope easement 2:

Begin at the aforementioned Point A, being the Northeast corner of the above described parcel, and run in a Northwesterly direction along the Northerly line of said parcel 162.90 feet; thence turn an interior angle of 90°00'00" and run to the right in a Northeasterly direction 14.00 feet; thence turn an interior angle of 106°34'46" and run to the right in an Easterly direction 205.94 feet; thence turn an interior angle of 114°20'53" and run to the right in a Southeasterly direction 256.61 feet to a point of curvature; thence run along the arc of a curve to the left having a central angle of 60°51'42" and a radius of 60.00 feet in a Southeasterly direction 63.73 feet; thence run tangent to the last described curve in a Southeasterly direction 236.82 feet; thence turn an interior angle of 176°07'38" and run to the right in a Southeasterly direction 126.83 feet; thence turn an interior angle of 170°04'26" and run to the right in a Southeasterly direction 262.53 feet; thence turn an interior angle of 187°30'44" and run to the left in a Southeasterly direction 328.54 feet to a point of curvature; thence run along the arc of a curve to the right having a central angle of 26°19'56" and a radius of 130.00 feet in a Southeasterly direction 59.75 feet more or less to the Northerly right-of-way of Alabama Highway #48; thence turn an interior angle of 28°44'46" from the tangent of the last described curve and run to the right in a Northwesterly direction along said right of way 389.36 feet; thence turn an interior angle of 170°04'26" and run to the right in a Northwesterly direction along said right of way 203.04 feet; thence turn an interior angle of 189°55'34" and run to the left in a Northwesterly direction along said right-of-way 180.02 feet; thence turn an interior angle of 183°52'22" and run to the left in a Northwesterly direction along said right of way 246.92 feet to a point of curvature; thence run along the arc of a curve to the right having a central angle of 60°51'42" and a radius of 100.00 feet in a Northwesterly direction 106.22 feet; thence run tangent to the last described curve in a Northwesterly direction 106.10 feet to a point of curvature; thence run along the arc of a curve to the left having a central angle of 49°04'22" and a radius of 100.00 feet in a Northwesterly direction 85.65 feet; thence run tangent to the last described curve in a Northwesterly direction 16.09 feet; thence turn an interior angel of 90°00'00" and run to the right in a Northeasterly direction 35.00 feet to the point of beginning.



LEGEND

—//—	OVERHEAD UTILITY LINES
⊘	POWER POLE
—T—	UNDERGROUND TELEPHONE
◁	TELEPHONE LINE MARKER
R&CS	REBAR AND CAP SET

60 45 30 15 0 60 120 180
GRAPHIC SCALE - 1" = 60'

Field survey completed on April 23, 2001.

Reference Information:
Alabama DOT right of way map for Highway 48.
Survey by Stothard Engineering
Alabama Power Company section plat

I hereby certify, to the best of my knowledge and belief, that all parts of this survey and drawing have been completed in accordance with the requirements of the Minimum Technical Standards for the Practice of Land Surveying in the State of Alabama.

Robbin E. Phillips, Al. L.S. #14976
4/25/01
Date

PARAGON ENGINEERING, INC.
APR 26 2001
PRINTED

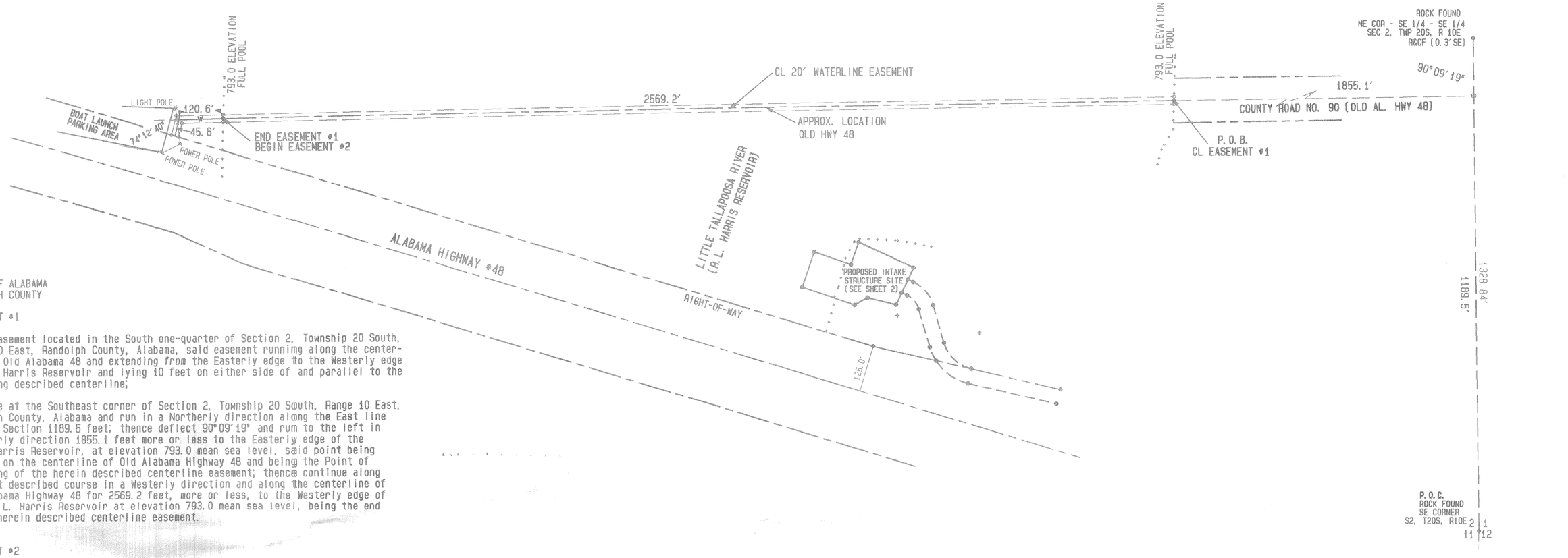
REVISIONS
NO. DATE DESCRIPTION BY

P A R A G O N
ENGINEERING INC
SUITE 230
2320 HIGHLAND AVENUE SOUTH
BIRMINGHAM, ALABAMA 35205

PARAGON ENGINEERING, INC. BIRMINGHAM, ALABAMA

BOUNDARY and EASEMENT SURVEY
a portion of
Alabama Power Company Property
LOCATED IN:
the South One-Quarter
SEC. 2, TWP 20S, RNG 10E

DRAWN REP	CHECKED AFC
DATE APRIL 25, 20	
SCALE 1" = 60'	
F.B. 540	PAGE 1
DISC: DC	FILE:01019
QUAD. NAME: OFELIA	
PROJECT NO: 8-01019	
SHEET NO: 1 OF 1	



STATE OF ALABAMA
RANDOLPH COUNTY

EASEMENT #1

A 20' easement located in the South one-quarter of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama, said easement running along the centerline of Old Alabama 48 and extending from the Easterly edge to the Westerly edge of R.L. Harris Reservoir and lying 10 feet on either side of and parallel to the following described centerline;

Commence at the Southeast corner of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama and run in a Northerly direction along the East line of said Section 1189.5 feet; thence deflect 90°09'19" and run to the left in a Westerly direction 1855.1 feet more or less to the Easterly edge of the R. L. Harris Reservoir, at elevation 793.0 mean sea level, said point being located on the centerline of Old Alabama Highway 48 and being the Point of Beginning of the herein described centerline easement; thence continue along the last described course in a Westerly direction and along the centerline of Old Alabama Highway 48 for 2569.2 feet, more or less, to the Westerly edge of said R. L. Harris Reservoir at elevation 793.0 mean sea level, being the end of the herein described centerline easement.

EASEMENT #2

A 20' easement located in the South one-quarter of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama, said easement lying 10 feet on either side of and parallel to the following described centerline:

Commence at the Southeast corner of Section 2, Township 20 South, Range 10 East, Randolph County, Alabama and run in a Northerly direction along the East line of said Section 1189.5 feet; thence deflect 90°09'19" and run to the left in a Westerly direction 4424.3 feet, more or less, to the Westerly edge of the R. L. Harris Reservoir, at elevation 793.0 mean sea level, said point being located on the centerline of Old Alabama Highway 48 and being the Point of Beginning of the herein described centerline easement; thence continue along the last described course in a Westerly direction and along the centerline of Old Alabama Highway 48 for 120.6 feet, thence deflect 74°12'40" to the left and run in a Southerly direction for 46 feet, more or less, to the Northerly right-of-way of the New Alabama Highway #48 and the end of the herein described centerline easement.

Field survey completed on April 23, 2001.

Reference Information:
Alabama DOT right of way map for Highway 48.
Alabama DOT right of way map for Old Highway 48
Survey by Stothard Engineering
Alabama Power Company section plat

I hereby certify, to the best of my knowledge and belief, that all parts of this survey and drawing have been completed in accordance with the requirements of the Minimum Technical Standards for the Practice of Land Surveying in the State of Alabama.

Robbin E. Phillips, Al. L.S. #14976 — Date 1/28/04

JAN 2 8 2004

SHEET NO:	4 OF 4
PROJECT NO:	8-01019
QUAD. NAME:	OFELIA
DISC: DC	FILE:01019BD2
F.B.	540
PAGE	1-19
SCALE	1" = 60'
DATE	JUNE 08, 2001
DRAWN	REP
CHECKED	AFC

EASEMENT SURVEY
a portion of
Alabama Power Company Property
LOCATED IN
the South One-Quarter
SEC. 2, TWP 20S, RNG 10E
RANDOLPH COUNTY, ALABAMA

PARAGON ENGINEERING, INC. PE BIRMINGHAM, ALABAMA

PARAGON
ENGINEERING INC
SUITE 230
2320 HIGHLAND AVENUE SOUTH
BIRMINGHAM, ALABAMA 35205
(205) 939-1119

If seal is not colored red, the drawing is a copy that should be assumed to contain unauthorized alterations. Certification contained on this document does not apply unless sealed in red.

REVISIONS

NO	DATE	DESCRIPTION	BY
1	1/23/04	MOVED PROPOSED CL E'SMT TO CL OLD HWY	rep
2	1/28	REMOVE OLD ROW	RER

APC Harris Relicensing

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Thursday, August 29, 2019 3:45 PM
To: Mark Carter
Cc: Anderegg, Angela Segars; Bearden, Justin; Edge, William; Robert Fletcher; Graham, Stacey A.; Haslbauer, Jennifer; Jeremy Jessup; David Moore; james.R.Schauer@apc.com; Smith, Sheila C.; jctinney@hotmail.com; abwhite@adem.state.al.us; recaton@adem.alabama.gov; john.taylor@al.usda.gov; estreett@mccarter.com; vester.whitmore@gmail.com; mprandolph@gmail.com
Subject: Re: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake

EXTERNAL MAIL: Caution Opening Links or Files

---

2 pm Central Time.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com

On Thu, Aug 29, 2019 at 3:44 PM Mark Carter <Mark.Carter@ferc.gov> wrote:

> Is this 2pm CST? I have a conflict at 2pm EST but can participate at 2pm CST.
>
> Thanks,
>
> Mark Carter
> Environmental Biologist
> Hydropower Administration and Compliance
> FERC - Atlanta Regional Office
> Phone: (678) 245-3083
> Fax: (678) 245-3010
>
> ---
>
> **From:** Anderegg, Angela Segars <ARSEGARS@southernco.com>
> **Sent:** Thursday, August 29, 2019 4:21:17 PM
> **To:** snelson@nelsonandco.com <snelson@nelsonandco.com>
> **Cc:** Bearden, Justin <JBEARDEN@SOUTHERNCO.COM>; Mark Carter <Mark.Carter@ferc.gov>; Edge, William <WAEDGE@southernco.com>; Robert Fletcher <Robert.Fletcher@ferc.gov>; Graham, Stacey A. <SGRAHAM@SOUTHERNCO.COM>; Haslbauer, Jennifer <jhaslbauer@adem.alabama.gov>; Jeremy Jessup <Jeremy.Jessup@ferc.gov>; 'David Moore' <djmoore@adem.alabama.gov>; james.R.Schauer@apc.com <james.R.Schauer@apc.com>; Smith, Sheila C. <SCSMITH@southernco.com>; jctinney@hotmail.com <jctinney@hotmail.com>; abwhite@adem.state.al.us <abwhite@adem.state.al.us>; recaton@adem.alabama.gov <recaton@adem.alabama.gov>; john.taylor@al.usda.gov <john.taylor@al.usda.gov>; estreett@mccarter.com

<estreett@mccarter.com>; vester.whitmore@gmail.com <vester.whitmore@gmail.com>; mprandolph@gmail.com <mprandolph@gmail.com>
Subject: FW: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake

Hi Stan,

I am available for a conference call Tuesday, September 3 at 2 PM.

Thanks,

Angie Anderegg

Hydro Services

(205)257-2251

arsegars@southernco.com

From: Smith, Sheila C. <SCSMITH@southernco.com>
Sent: Thursday, August 29, 2019 2:53 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Subject: FW: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake

Sheila Smith / Land Supervisor

Office: 256-396-5093 / Cell: 256-610-3243

Alabama Power

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Thursday, August 29, 2019 2:26 PM
To: aanderegg@southernco.com
Cc: Bearden, Justin <JBEARDEN@SOUTHERNCO.COM>; Mark Carter <mark.carter@ferc.gov>; Edge, William <WAEDGE@southernco.com>; Robert Fletcher <robert.fletcher@ferc.gov>; Graham, Stacey A. <SGRAHAM@SOUTHERNCO.COM>; Haslbauer, Jennifer <jhaslbauer@adem.alabama.gov>; jeremy.jessup@ferc.gov; djmoore@adem.alabama.gov; James.R.Schauer@apc.com; Smith, Sheila C. <SCSMITH@southernco.com>; John Tinney <jctinney@hotmail.com>; White, Aimee B <ABWhite@adem.state.al.us>; Caton, Ross E <recaton@adem.alabama.gov>; John Taylor <john.taylor@al.usda.gov>; estreett@mccarter.com; vester.whitmore@gmail.com; Mark Prestridge <mprandolphwater@gmail.com>
Subject: Request to Modify RL Harris Res. Land Use Plan For Randolph Co Raw Water Intake

EXTERNAL MAIL: Caution Opening Links or Files

Please see the attached request.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com

APC Harris Relicensing

From: APC Harris Relicensing
Sent: Tuesday, September 3, 2019 2:59 PM
To: snelson@nelsonandco.com; mprandolph@gmail.com
Subject: FW: HAT 4 meeting - September 11, 2019

Good afternoon,

Details for our HAT 4 meeting next week are below. I'll make sure you both are added to the HAT 4 stakeholder list so you get communications in the future.

Thanks,

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

From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Sent: Tuesday, August 13, 2019 1:54 PM
To: APC Harris Relicensing <g2apchr@southernco.com>
Subject: HAT 4 meeting - September 11, 2019

HAT 4,

Alabama Power will be hosting a series of HAT meetings on **Wednesday, September 11, 2019 at the Oxford Civic Center,** 401 Mccullars Ln, Oxford, AL 36203. The HAT 4 meeting will be from **12:30 to 1:15**. The purpose of the HAT 4 meeting is to present Alabama Power's proposed land use changes at the Harris Project, including lands that Alabama Power may propose to be removed or included in the project boundary, or those lands proposed to change land use classification.

Please RSVP by Friday, September 6, 2019. Lunch will be provided (~11:45) so please indicate any food allergies or vegetarian preferences on or before September 6, 2019. I encourage everyone to attend in person. If this is not feasible, we are also offering a Skype option (info below). It would be ideal to join on your computer as we will be viewing presentations and maps.

If you have any questions about the agenda or meetings, please email or call me at ARSEGARS@southernco.com or (205) 257-2251.

Join Skype Meeting [meet.lync.com]

Trouble Joining? Try Skype Web App [meet.lync.com]

Join by phone

Toll number: +1 (207) 248-8024

Find a local number [dialin.lync.com]

Conference ID: 892052380

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

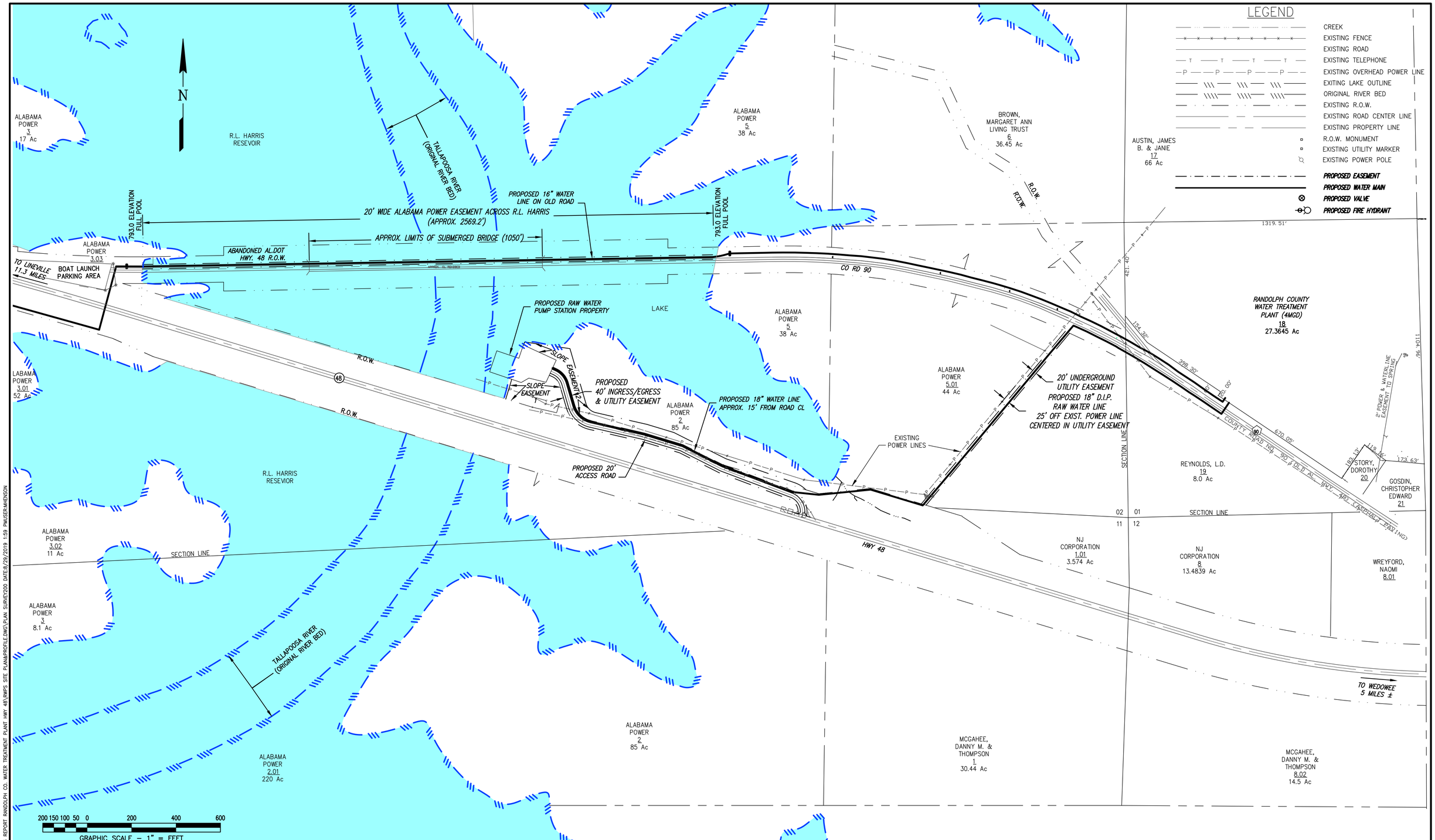
APC Harris Relicensing

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Wednesday, September 4, 2019 12:28 PM
To: Anderegg, Angela Segars
Cc: Mark Prestridge; vester.whitmore@gmail.com; John Tinney; Clay Tinney; John Taylor; Mark Carter; Robert Fletcher; pwebb@webbconcrete.com; phillweb@clarkmhc.com; dpwebb@gmail.com; dpwebb@webbconcrete.com; senator@shelby.senate.gov; Caton, Ross E; Randy.Price@alsenate.gov; bob.fincher@alhouse.gov
Subject: Randolph County Hwy 48 Water Plant - Followup on 9-3-19 Conf Call
Attachments: Followup of 9-3-19 Conference Call.pdf; 1.1 Alabama Power Needed Property.pdf

EXTERNAL MAIL: Caution Opening Links or Files

Please see the attached.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com



U:\RANDOLPH COUNTY\111-46 REPORT RANDOLPH CO. WATER TREATMENT PLANT HWY 48\RWPS SITE PLAN&PROFILE.DWG\PLAN SURVEY200 DATE:8/29/2019 1:59 PMUSERMHENSON

NO.	DATE	REVISIONS	CHKD.	APPR.
1	08/28/19	PROJECT 111-W46	RSN	RSN

NO.	DATE	REVISIONS	CHKD.	APPR.

DRAWN MGH
CHECKED SWN
APPROVED

NELSON & COMPANY, PC
Civil and Environmental Engineering
400 Emery Drive – Suite 300
Birmingham, Alabama 35244
(205)989-5690 FAX (205)989-5672

RANDOLPH COUNTY, ALABAMA
MUNICIPAL WATER SYSTEM IMPROVEMENTS

PROPERTY & EASEMENTS NEEDED FROM ALABAMA POWER

REV. 1

111-46-FIG 1.1

NELSON & COMPANY, PC
Civil & Environmental Engineering
400 Emery Drive, Suite 300
Birmingham, Alabama 35244
(205) 989-5690 (205) 989-5672 FAX
Cell/Car (205) 585-4600
E-mail - SNelson@NelsonAndCo.com

September 4, 2019

Ms. Angela Anderegg, Project Manager
Alabama Power Company
Hydro Re-licensing
600 North 18th Street
Birmingham, AL 35203

REF: Proposed Highway 48 Regional Water Treatment Plant
Owner: Randolph County Water, Sewer and Fire Protection Authority
Project No.: 111-46

Dear Ms. Anderegg:

I was very disappointed in your comments during our conference call yesterday, that the location of the proposed raw water intake is not compatible "with all that is going on" near that site. One of the most important functions that a government has is to provide a high quality, affordable, and dependable drinking water supply. Water is required for life and is more important than power generation, recreation, a marina, or the proposed resort. The selected site is very compatible with the adjacent Hwy 48 Bridge, as the concrete raw water intake structure is no less objectionable than the concrete piers that support the Bridge and is far less of an obstacle to boat traffic.

Section 10(a)(1) of the Federal Power Act charges the Federal Energy Regulatory Commission with ensuring that all licensed projects:

"be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, **water supply**, and recreational and other purposes referred to in section 4(e); and, if necessary, in order to secure such a plan, the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval."

The proposed raw water pump station and water treatment plant sites are not dependent on the RL Harris Reservoir. With the raw water pumping station being at the main channel of the Tallapoosa River, just downstream of the confluence of the Tallapoosa and the Little Tallapoosa Rivers, the raw water pump station is not dependant on the re-licensing of the RL Harris Reservoir, but does takes advantage of the reservoir by being able to withdraw water from different depths. The raw water pump station site is ideal, affords protection above the 500 year flood elevation; and is adjacent to existing power lines and Highway 48. The proposed water treatment facilities will provide a dependable supply of water forever to Randolph County and parts of the surrounding Clay, Cleburne, Chambers and Heard (Ga) Counties. The proposed facilities have been reviewed and

signed off by the following agencies:

East Alabama Regional Planning Commission
Randolph County Commission
Alabama Department of Environmental Management (ADEM)
Alabama Historical Commission
Alabama Department of Transportation
Alabama Office of Water Resources
Alabama Department of Conservation and Natural Resources
    Alabama Marine Police Division
    Alabama State Lands Division
US Environmental Protection Agency (EPA)
US Natural Resources Conservation Service (NRCS)
US Fish & Wildlife Service
US Army Corps of Engineers
USDA - Rural Development
Lake Wedowee Homeowners Association

I am confident that the RL Harris Land Use Plan can quickly be amended and approved by FERC to allow for the needed water facilities to serve the region.

Please advise how we can work together to cut the red tape and get the proposed Highway 48 water treatment system constructed as soon as possible.

Sincerely,
NELSON & COMPANY, PC
Civil and Environmental Engineering

Stan Nelson
President

Randolph County Water, Sewer and Fire Protection Authority - Board of Directors
Alabama Power - Board of Directors
Mark Carter, FERC
Senator Richard Shelby
US Representative Mike Rogers
Governor Kay Ivey
State Senator Randy Price
State Representative Bob Fincher (R-AL 37th District)
John Taylor, PE - USDA-Rural Development, State Engineer
Ross Caton, PE - Chief, ADEM Drinking Water Section

APC Harris Relicensing

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Thursday, September 5, 2019 5:12 PM
To: aanderegg@southernco.com
Cc: Mark Prestridge; vester.whitmore@gmail.com
Subject: 111-46 Randolph County Hwy 48 Regional WTP
Attachments: Enter Authority's Request in Minutes of HAT4 Meeting.pdf

EXTERNAL MAIL: Caution Opening Links or Files

Please see the attached. I look forward to seeing you next week at the HAT4 meeting.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com

NELSON & COMPANY, PC
Civil & Environmental Engineering
400 Emery Drive, Suite 300
Birmingham, Alabama 35244
(205) 989-5690 (205) 989-5672 FAX
Cell/Car (205) 585-4600
E-mail - SNelson@NelsonAndCo.com

September 5, 2019

Ms. Angela Anderegg, Project Manager
Alabama Power Company
Hydro Re-licensing
600 North 18th Street
Birmingham, AL 35203

REF: Proposed Highway 48 Regional Water Treatment Plant
Owner: Randolph County Water, Sewer and Fire Protection Authority (Authority)
Project No.: 111-46

Dear Ms. Anderegg:

I am confident that the RL Harris Land Use Plan can quickly be amended and approved by FERC to allow for the needed water facilities to serve the region. The proposed plant will serve parts of 5 counties in Alabama and Georgia.

Representatives of the Authority and I will attend your HAT 4 meeting next week. Please enter into the records of the meeting the Authority's request to secure property from Alabama Power to construct the Highway 48 Regional Water Treatment Plant. Support letters from the attached individuals and organizations will be requested and provided to you in the near future.

Please advise how we can work together to cut the red tape and get the proposed Highway 48 Regional Water Treatment system constructed as soon as possible.

Sincerely,
NELSON & COMPANY, PC
Civil and Environmental Engineering

Stan Nelson

Stan Nelson
President

Randolph County Water, Sewer and Fire Protection Authority - Board of Directors

Organization or Person Requested for Support	*Note:*
Town of Ranburne (Cleburne County), AL	Water customer
Town of Woodland (Randolph County), AL	Water customer
Town of Wadley (Randolph County), AL	Water customer
Town of Wedowee (Randolph County), AL	Water customer and two way interconnection
City of Roanoke (Randolph County), AL	Emergency water connection
East Alabama Water Authority (Chambers County)	Water customer
Heard County, Georgia Water Authority	Currently a one way feed should be converted to a two way emergency interconnection in 2020.
City of Lineville (Clay County), AL	Water customer (2020)
Clay County Water Authority	Water customer (2020)[1]
City of Ashland (Clay County), AL	Water customer (2020)
Randolph County Commission	
Randolph County Health Department	
Randolph County Industrial Development Board	
Randolph County Chamber of Commerce	
Clay County Commission	
Clay County Health Department	
Clay County Industrial Development Board	
Clay County Chamber of Commerce	
Chambers County Commission	
Chambers County Health Department	
Chambers County Industrial Development Board	
Lake Wedowee Property Owners Association	
Roanoke Rotary Club	
Roanoke Kiwanis Club	

[1]The interconnection between the Clay County Water Authority and the Randolph County Water, Sewer and Fire Protection Authority is currently under construction in Clay County. Completion is schedules for early 2020.

Organization or Person Requested for Support	*Note:*
Roanoke Lions Club	
Ashland Kiwanis Club	
Delta Exchange Club	
Emerald Triangle	
Wedowee Lions Club	
REGIONAL PLANNING	
East Alabama Regional Planning and Development Commission	Regional Planning and A95 Clearinghouse Review
FEDERAL	
President Donald J. Trump	
US Senator Richard Shelby, Alabama	
US Senator Doug Jones, Alabama	
US Representative Mike Rogers, AL 3rd Dis.	
US Senator Johnny Isakson, Georgia	
US Senator David Perdue, Georgia	
US Representative Drew Ferguson, GA 3rd Dis.	
FERC	
FERC Chairman Neil Chatterjee	
FERC Commissioner Richard Glick	
FERC Commissioner Bernard McNamee	
Mr. Robert Fletcher	FERC, Chief of Hydro Compliance Sec.
Mr. Mark Carter	FERC Atlanta, Office
US-EPA	Provided financing for a major portion of the water line that loops Randolph County and crosses Lake Wedowee.

Organization or Person Requested for Support	*Note:*
USDA - Rural Development	Have financed all of the water system improvements to the Randolph County Water System not funded by EPA, ARC and CDBG.
US Fish & Wildlife Service	
US Army Corps of Engineers	
STATE OF ALABAMA	
Governor Kay Ivey	
Alabama State Senator Randy Price	
Alabama State Representative Bob Fincher (AL 37th District)	
Alabama Department of Economic and Community Affairs	Have provided CDBG Grants to fund many of the water lines in Randolph County to serve low and moderate income residents
Alabama Department of Environmental Management (ADEM)	Have recommended Lake Wedowee as a water source over a site considered on the Little Tallapoosa River at Meadows Bridge
Alabama Department of Conservation and Natural Resources - Alabama State Lands Division	
Alabama Department of Conservation and Natural Resources - Alabama Marine Police Division	
Alabama Office of Water Resources	
STATE OF GEORGIA	
Governor Brian Kemp	
Georgia Senator Matt Brass, GA 28th Dis.	
Georgia Environmental Protection Division	

HAT 4 (Project Lands) Stakeholder Meeting Summary
September 11, 2019
12:30 pm to 1:30 pm
Oxford Civic Center, Oxford, AL

Participants:
See Attachment A

Participants by Phone:
Maria Clark – Environmental Protection Agency (EPA)
Keith Gauldin – Alabama Department of Conservation and Natural Resources-Division of Wildlife and Freshwater Fisheries (ADCNR)
Rachel McNamara – Federal Energy Regulatory Commission (FERC)
Sarah Salazar – FERC
Erwin Thompson – Economic Development Council
Kyrstin Wallach – FERC

Action Items:

- Alabama Power will post the HAT 4 meeting summary and all meeting materials to the Harris Relicensing website (www.harrisrelicensing.com)
- Stakeholders should submit their comments to Angie Anderegg at harrisrelicensing@southernco.com on the proposed land use changes on or before October 31, 2019.

Notes:
The following summarizes the September 11, 2019 Harris Action Team (HAT) 4 (Project Lands) meeting. The meeting presentation and maps are included in Attachment B; therefore, this meeting summary focuses on the overall meeting purpose, highlights of the presentation, and stakeholders' questions/comments and Alabama Power's responses.

Introduction – Angie Anderegg (Alabama Power)
Angie introduced the HAT 4 meeting purpose and introduced the participants on the phone. The purpose of the HAT 4 meeting is to present Alabama Power's proposed land use changes at the Harris Project, including lands that Alabama Power may propose to be removed or included in the project boundary, or those lands proposed to change land use classification.
.

Project Lands – Tina Mills (Alabama Power)
Tina Mills reviewed the FERC approved study plan including the four existing land use classifications and stated that Alabama Power is proposing to add a "commercial recreation" classification to the Harris Project land classifications. Tina reviewed Alabama Power's proposal for Project lands: reclassifications; lands added to the Harris Project Boundary; and lands removed from the Harris Project Boundary. Tina explained that reclassifications do not require a change in the Harris Project Boundary; it may be as simple as reclassifying a parcel of land from "recreation" to "natural/undeveloped". Lands that Alabama Power proposes to add to the Harris Project Boundary require a change in the Harris Project Boundary and would add property above elevation 800 feet mean sea level (msl). Lands proposed for removal would also require a change

in the Harris Project Boundary and would remove property above elevation 800' msl. Property within the 800' msl contour would remain in the Project. Tina reviewed each parcel of property included in Alabama Power's proposal. Maps and the presentation are available on the Harris Relicensing website. Keith Gauldin (ADCNR) asked if a parcel currently classified as "hunting" is leased by a private hunting club. Shelia Smith (Alabama Power) indicated that there is no hunting lease on the particular parcel in question.

Rachel McNamara (FERC) asked how Alabama Power would incorporate the results of other studies, such as the recreation study, into this proposal. She asked if the Project lands proposal reflects any results of ongoing studies. Angie and Tina explained that this is Alabama Power's draft proposal based on previous license compliance, FERC Form 80 data collection, and internal expertise but that the proposal may be modified following the results of other studies, particularly the recreation study.

Barry Morris (Lake Wedowee Property Owners Association-LWPOA) asked that if a parcel is reclassified as part of this relicensing process, how difficult would it be to have the parcel return to its original classification (e.g., a parcel that is currently "recreation" to be reclassified as "natural undeveloped"). Tina noted that Alabama Power would have to get FERC approval to change the land use classification. Sarah Salazar (FERC) reminded stakeholders to review the existing definitions of the land use classifications, because "natural/undeveloped" allows for some recreation activities.

Tina explained Alabama Power's proposal to add "commercial recreation" classification to the Harris Project land classifications. This classification would apply to the property where the Wedowee Marine South is located as well as Alabama Power's shoreline office. Donna Matthews (LWPOA) asked if Alabama Power would develop commercial recreation sites. Tina replied that facilities on those lands would be leased for commercial recreation use and that the areas could remain open to the public for recreation use. Rachel asked if Alabama Power uses the commercial recreation land use classification on any of their other FERC regulated lakes; Tina replied yes.

Stan Nelson (Nelson and Company) asked about the current land use classification for a parcel near the Highway 48 bridge. Tina explained that the parcel in question is currently classified as recreation. Stan explained to HAT 4 that Randolph County Water Authority is interested in locating a proposed raw water intake on a portion of this parcel and that he feels it is compatible with the existing uses of that parcel.

Harry Merrill (LWPOA) asked what it means to "remove" lands from the Project. Tina explained that lands "removed" are those lands no longer within the FERC-regulated Harris Project Boundary. Ken Wills (Alabama Glade Conservation Coalition-AGCC) asked if the lands removed from the Project would be sold. Tina stated that land sales are one option, but Alabama Power could retain lands for other non-project uses.

Tina explained Alabama Power is conducting a study on a 20-acre parcel adjacent to Flat Rock to support the AGCC's request to reclassify that parcel as "natural/undeveloped". Ken asked if Alabama Power wants the botanists surveying that area to also include the portion of property across from the powerlines. Angie noted that Alabama Power will work with the AGCC to determine if that area should be included in the fall 2019 inventory. FERC staff agreed that it would be advantageous to conduct the inventory on all lands proposed for reclassification.

Maria Clark (EPA) asked if Alabama Power was planning to have buffers to avoid potential erosion areas. Tina responded that all Project lands are managed using Best Management Practices (BMPs) to address erosion. Angie also stated that any lands classified as "natural/undeveloped" serve as a "buffer" due to the limited activities and development on these lands and that Alabama Power already has a scenic buffer around Lake Harris.

Rachel McNamara explained that all FERC licensees are required to include only those lands within their Project Boundary that are necessary for project purposes. Barry Morris asked if land removed from the Harris Project Boundary would be available for purchase. Tina responded yes, that those lands would no longer be subject to FERC jurisdiction (i.e., no longer Project lands) but reiterated that land sales are one option. Rachel asked if Alabama Power is conducting terrestrial and cultural surveys on lands that are proposed to be removed from the Harris Project Boundary; Tina confirmed that those lands are being surveyed.

Ken Wills asked if FERC provided licensees with guidance on maintaining green space, or percentages of recreation areas, in a project license. Angie noted that FERC has shoreline management guidelines, but there are no specific percentages of land in any given land use classification—it is very project specific.

Stan Nelson reiterated his request that Alabama Power move forward with the water treatment site proposed on land currently classified as "recreation". He noted that the intake would be located on 0.72 acres and that the raw water lines would parallel the existing electric lines. He noted that the facility must be in deep water that would not be affected by droughts and that the intake could be built to resemble a boat dock or courtesy pier. Angie responded that Alabama Power would add this request to the ongoing list of requests for land use changes. Stan asked what it means for something to be "tied up in relicensing". Angie noted that for sites that are part of a study or other stakeholder request for a land use classification change (reclassify, remove, or add), Alabama Power will need to review all the requests and determine if any conflicts exist and, if so, would seek to resolve any conflicts with the relicensing stakeholders. Any final decision would be made by FERC at the time it issues its licensing decision for the Harris Project.

Taconya Goar (ADCNR) asked if Alabama Power was looking at areas downstream of the Harris Dam for canoe/kayak put in and take out locations, particularly at Wadley. Angie Anderegg indicated that Alabama Power is studying the demand for additional access points and is reviewing potential areas for public access on the Tallapoosa River.

The meeting adjourned at 1:30 pm.

ATTACHMENT A
HARRIS ACTION TEAM 4 MEETING ATTENDEES

HARRIS DAM
RELICENSING

HARRIS PROJECT RELICENSING

HAT 4 SIGN-IN SHEET

September 11, 2019 9:00 AM

	Name/ Affiliation or Organization	Email
1	*John Smith/ Stakeholder*	*jsmith@email.com*
2	Brad Mitchell / Shda H	
3	DAVID SMITH	
4	Glenell Smith	
5	Kristie Coffman	
6	Taconya Goar, ADCNR	
7	Mitch Reid TNC	
8	Kelly Yates, Env. Affairs	klayates@southernco.com
9	Ken Wills - AGCC	ken.wills@jcdh.org
10	TOM GARLAND	
11	Mark Prestridge / Randolph County Water	mprandolphwater@gmail.com
12	ALBERT EILAND	

HARRIS DAM
RELICENSING

HARRIS PROJECT RELICENSING

HAT 4 SIGN-IN SHEET

September 11, 2019 9:00 AM

	Name/ Affiliation or Organization	Email
13	Dana Matthews	
14	Jennifer Rasbury	
15	Steve Nelson	Snelson@nelsonandco.com
16	Joel Stevens	
17	Trey Stevens	
18	Mike Holley	
19	Nathan Adcock	
20	Stag Thompson APC	
21	Tina Freeman	
22	Sheila Smith	
23	HARRY E. MERRILL	HARRY.MERRILL47@GMAIL.COM
24	Barry Morris, LWPOA	

HARRIS DAM
RELICENSING

HARRIS PROJECT RELICENSING

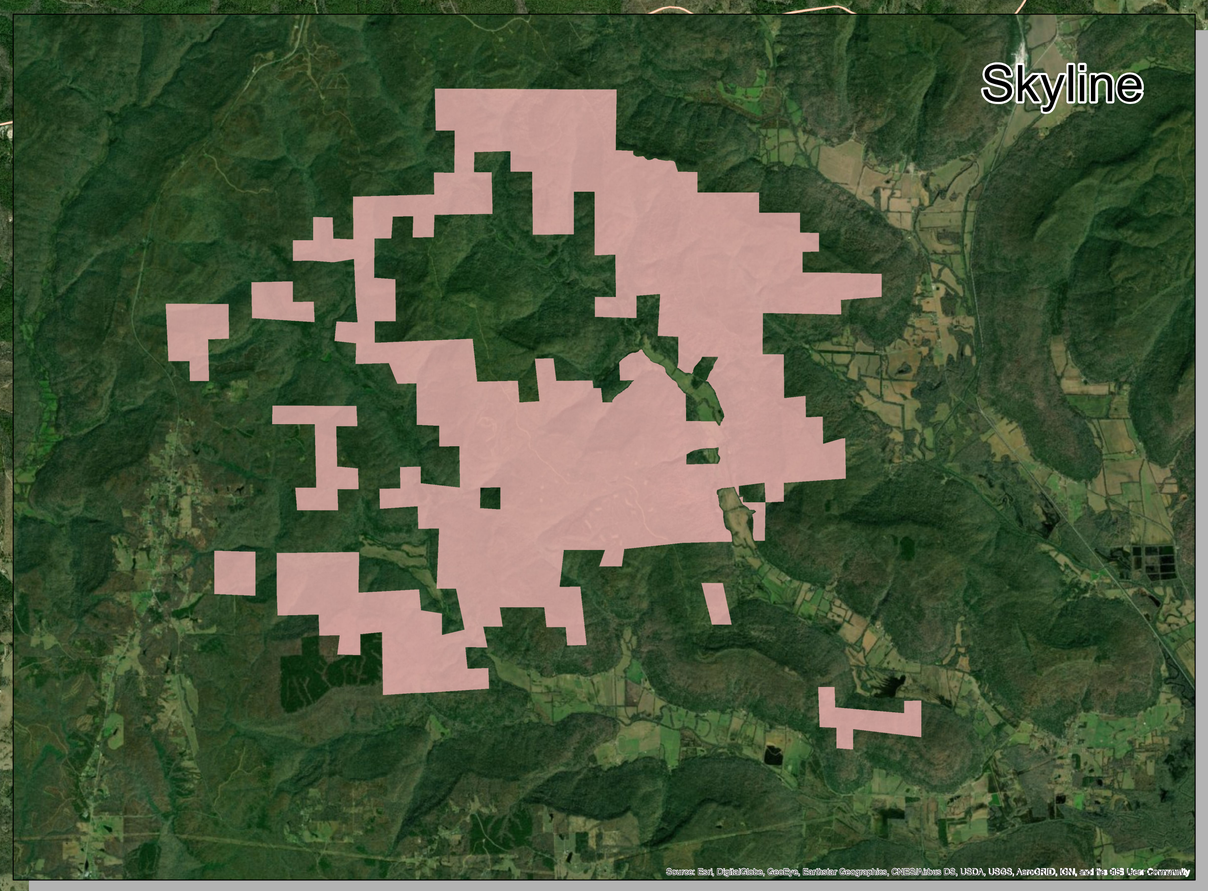
HAT 4 SIGN-IN SHEET

September 11, 2019 9:00 AM

	Name/ Affiliation or Organization	Email
25	Josh Yerby APC	
26	Jason Carlee APC	
27	Stacey Graham	
28		
29		
30		
31		
32		
33		
34		
35		
36		

ATTACHMENT B
SEPTEMBER 11, 2019 HAT 4 PRESENTATION

HAT 4
R.L. Harris Hydroelectric Project
Project Lands Evaluation



RC1 - Reclassify to Natural/Undeveloped

Lee's Bridge Public Launch

Fosters Public Launch

RC2 - Reclassify to Natural/Undeveloped

A1 - Add as Hunting Lands

Swagg Public Launch

Lonnie White Public Launch

R1 - Remove from Project

R3 - Remove from Project

A2 - Add as Natural/Undeveloped

R2 - Remove from Project

RC3 - Reclassify to Natural/Undeveloped

Crescent Crest Public Launch

A3 - Add as Commerical Recreation

RC4 - Reclassify to Commerical Recreation

Little Fox Creek Public Launch

Wedowee South Marine

Highway 48 Public Launch

RC5 - Reclassify to Natural/Undeveloped

A7 - Add as Natural/Undeveloped

RC8 - Reclassify to Natural/Undeveloped

A6 - Add as Natural/Undeveloped

Big Fox Creek Public Launch

A4 - Add as Natural/Undeveloped

RC7 - Reclassify to Natural/Undeveloped

A8 - Add as Natural/Undeveloped

R4 - Remove from Project

A5 - Add as Hunting lands

R5 - Remove from Project

R6 - Remove from Project

RC6 - Reclassify to Recreation

R7 - Remove from Project

Legend

Baseline Classifications

- Natural Undeveloped
- Hunting Lands
- Prohibited Access
- Recreation

Proposed Changes

- Proposed Reclassifications
- Proposed Removals
- Proposed Additions

Classification	*Baseline (ac)*	*Proposed (ac)*	*Difference*
Natural/Undeveloped (including islands)	2,440	2,773	333
Hunting Lands (near reservoir)	2,707	2,910	203
Skyline	15,063	15,063	0
Recreation	874	291	-583
Commercial Recreation	0	150	150
Prohibited Access	312	307	-5
Flood Storage	262	264	2
Scenic Buffer Zone	737	745	8
Total	***22,395***	***22,503***	***108***

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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HARRIS DAM
Alabama Power

0 0.5 1 2 3 4 Miles

Date Created: 09/10/2019
S:\Workgroups\APC Hydro Relicensing\Tina Mills\Projects\Harris\Relicensing\Research\Project Boundary and Land Use\GIS data\mxds\20190910 Project Lands Proposal v1.mxd

HAT 4
Project Lands

HARRIS DAM
RELICENSING

PROJECT LANDS EVALUATION

Goal

Identify lands around Lake Harris and at Skyline that are needed for Harris Project purposes and to classify these lands. Alabama Power will also 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. The study will identify lands to be added to, or removed from, the current Harris Project Boundary and/or be reclassified. Alabama Power proposes to use the project lands evaluation information to develop a Wildlife Management Plan (WMP) and a Shoreline Management Plan (SMP).

Geographic Scope

Harris Project Boundary and the associated Project Area.

Methods

Phase 1: Alabama Power will develop a draft map using GIS to show all proposed changes to Harris Project Lands. A botanical inventory of a 20-acre parcel at Flat Rock Park will be conducted and results will be used in the development of the SMP during Phase 2.

Phase 2: Using results of Phase 1, develop a SMP (Phase 2A) and a WMP (Phase 2B).

HARRIS DAM
RELICENSING

Current Land Use Classifications

- Prohibited Access
- Hunting Lands
- Recreation
- Natural Undeveloped Lands

Proposed Land Use Classifications

Commercial Recreation

HARRIS DAM RELICENSING

TYPES OF PROPOSED CHANGES

Reclassifications

- Do not change the Project Boundary
- Only changes the land classification for existing Project Lands

Removals

- Changes the Project Boundary
- Removes property above the 800’ msl contour
- Property within the 800’ msl contour remains in project; reclassified as
    - Flood Storage
    - Scenic Buffer Zone

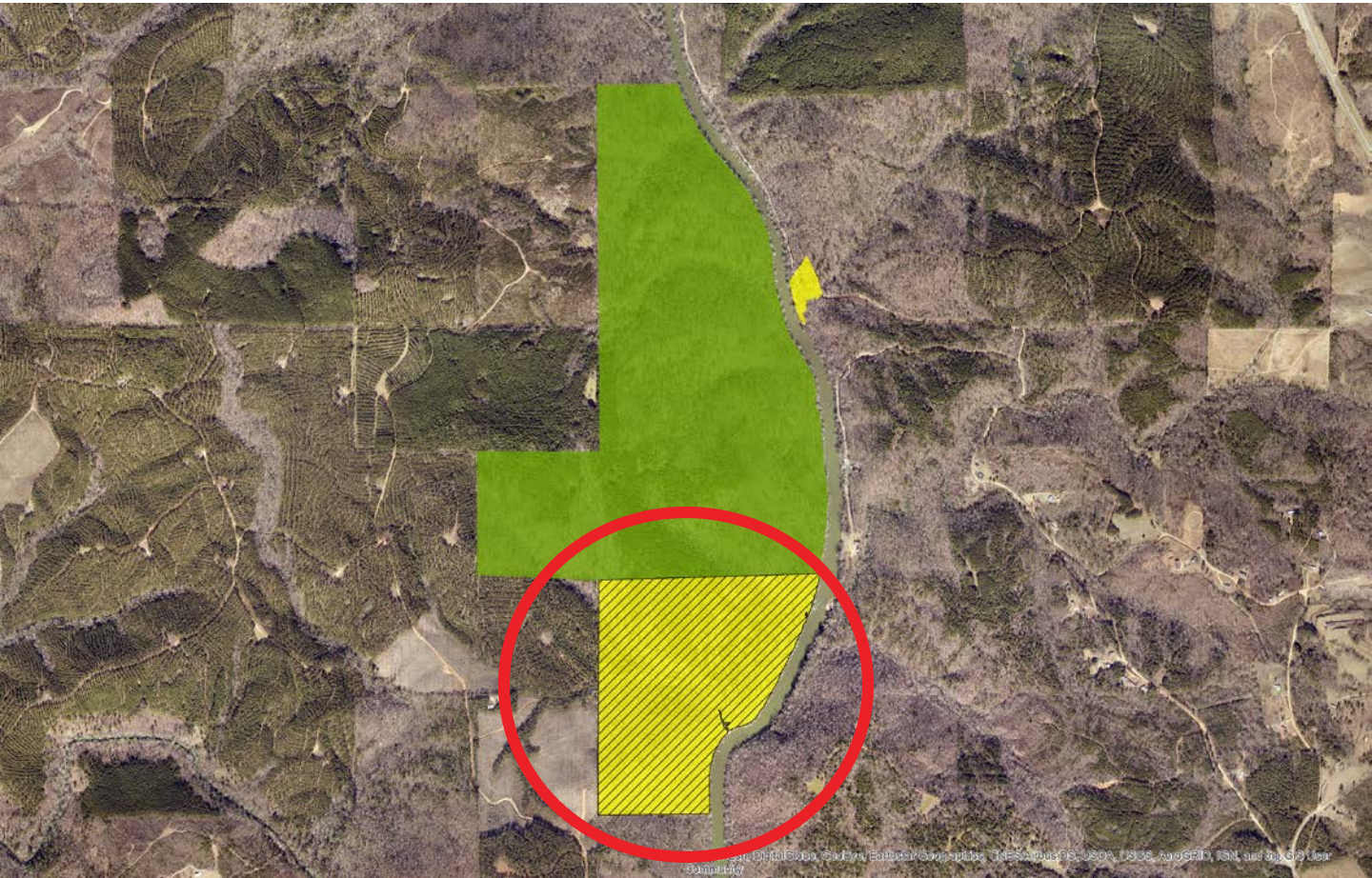
Additions

- Changes the Project Boundary
- Adds property above the 800’ msl contour
- Property within the 800’ msl contour is reclassified to match addition

HARRIS DAM RELICENSING

RECLASSIFICATIONS

RC1 – Reclassify to Natural Undeveloped + /- 105 acres



RECLASSIFICATIONS

RC2 – Reclassify to Natural Undeveloped + /- 63 acres

RECLASSIFICATIONS

RC3 – Reclassify to Natural Undeveloped + /- 61 acres

RECLASSIFICATIONS

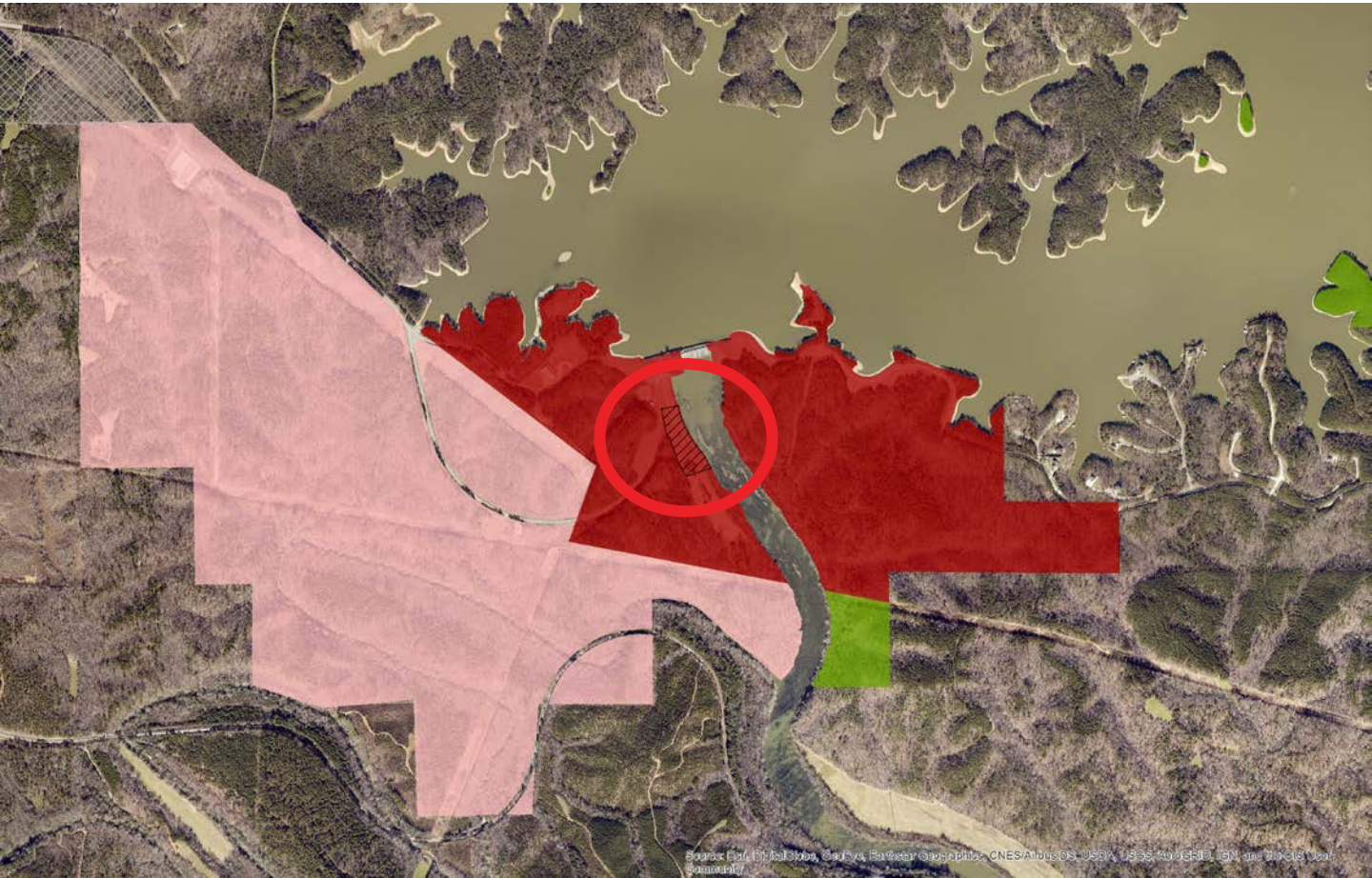
RC4 – Reclassify to Commercial Recreation + /- 148 acres

RECLASSIFICATIONS

RC5 – Reclassify to Natural Undeveloped + /- 69 acres

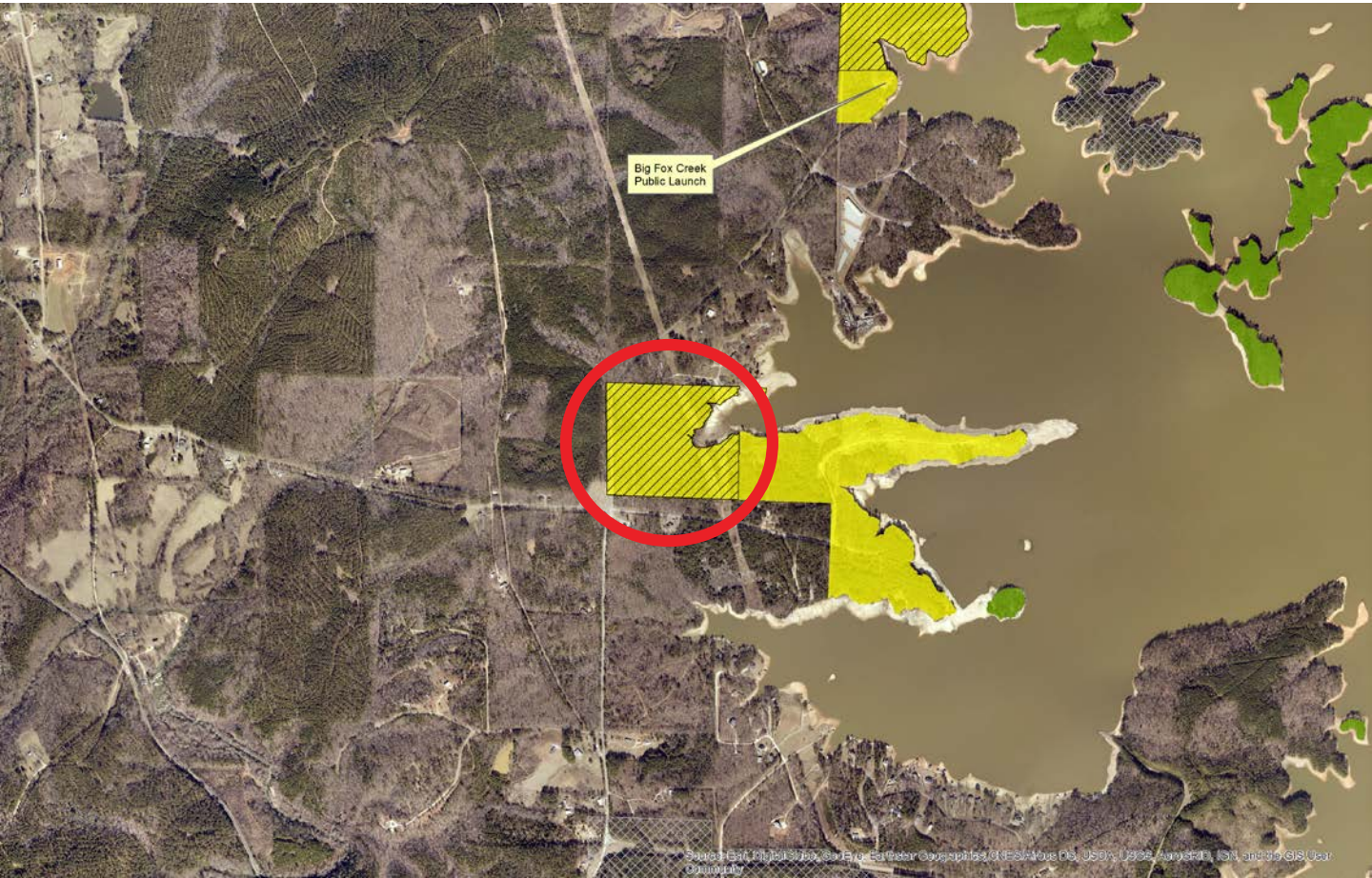
RECLASSIFICATIONS

RC6 – Reclassify to Recreation + /- 5 acres



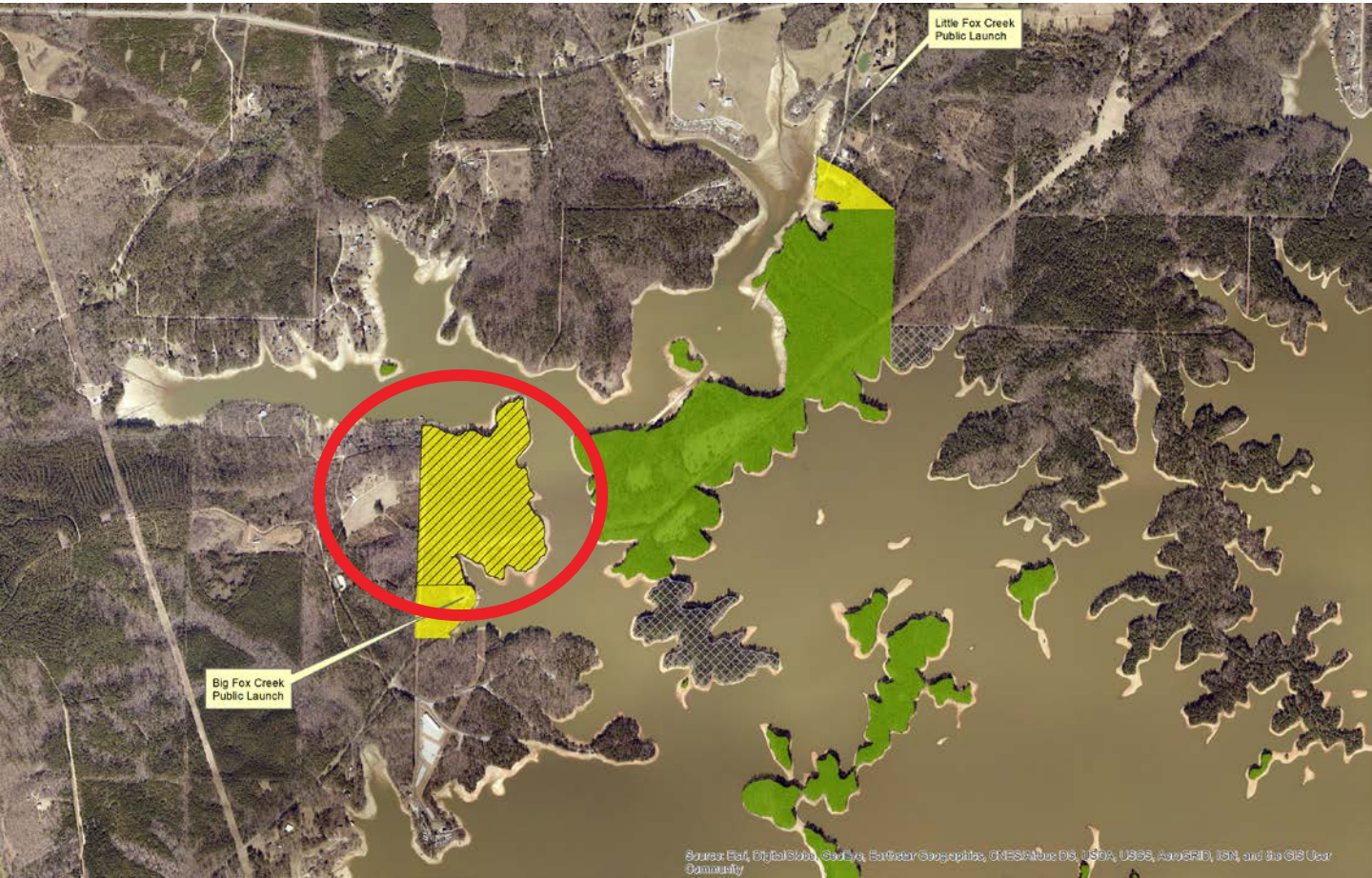
RECLASSIFICATIONS

RC7 – Reclassify to Natural Undeveloped + /- 40 acres



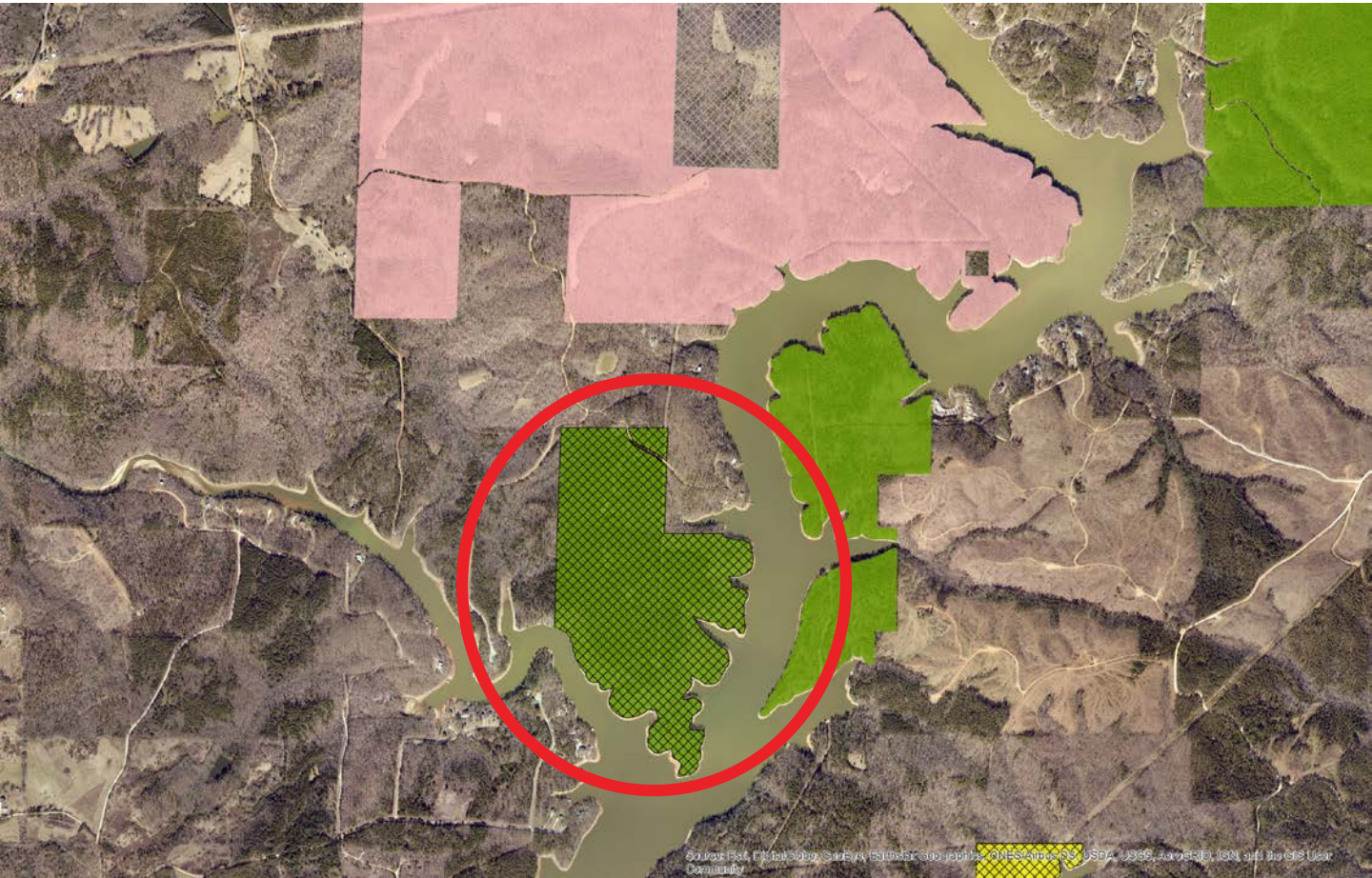
RECLASSIFICATIONS

RC8 – Reclassify to Natural Undeveloped + /- 50 acres



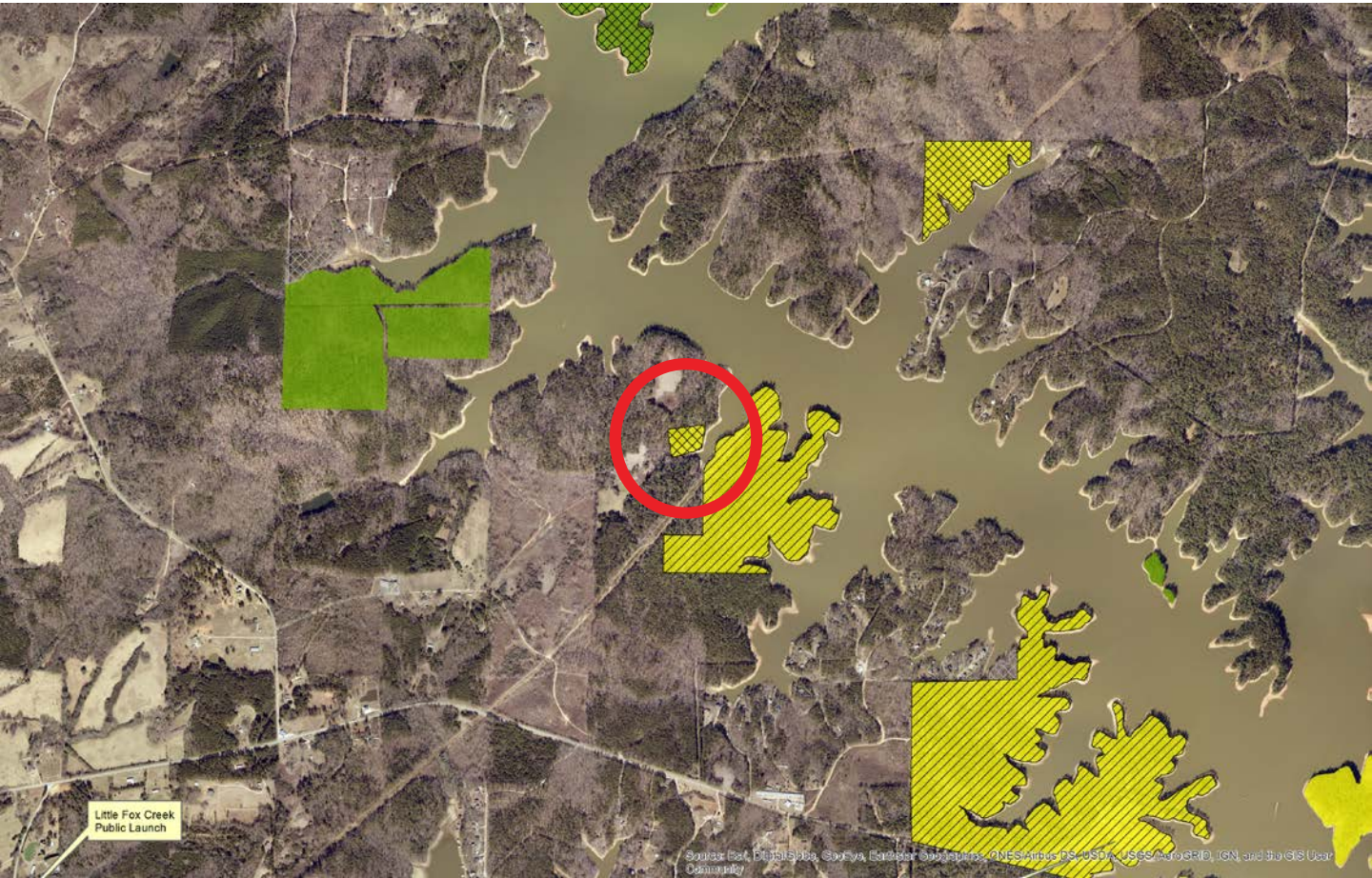
REMOVALS

R1 + /- 149 acres of Natural Undeveloped



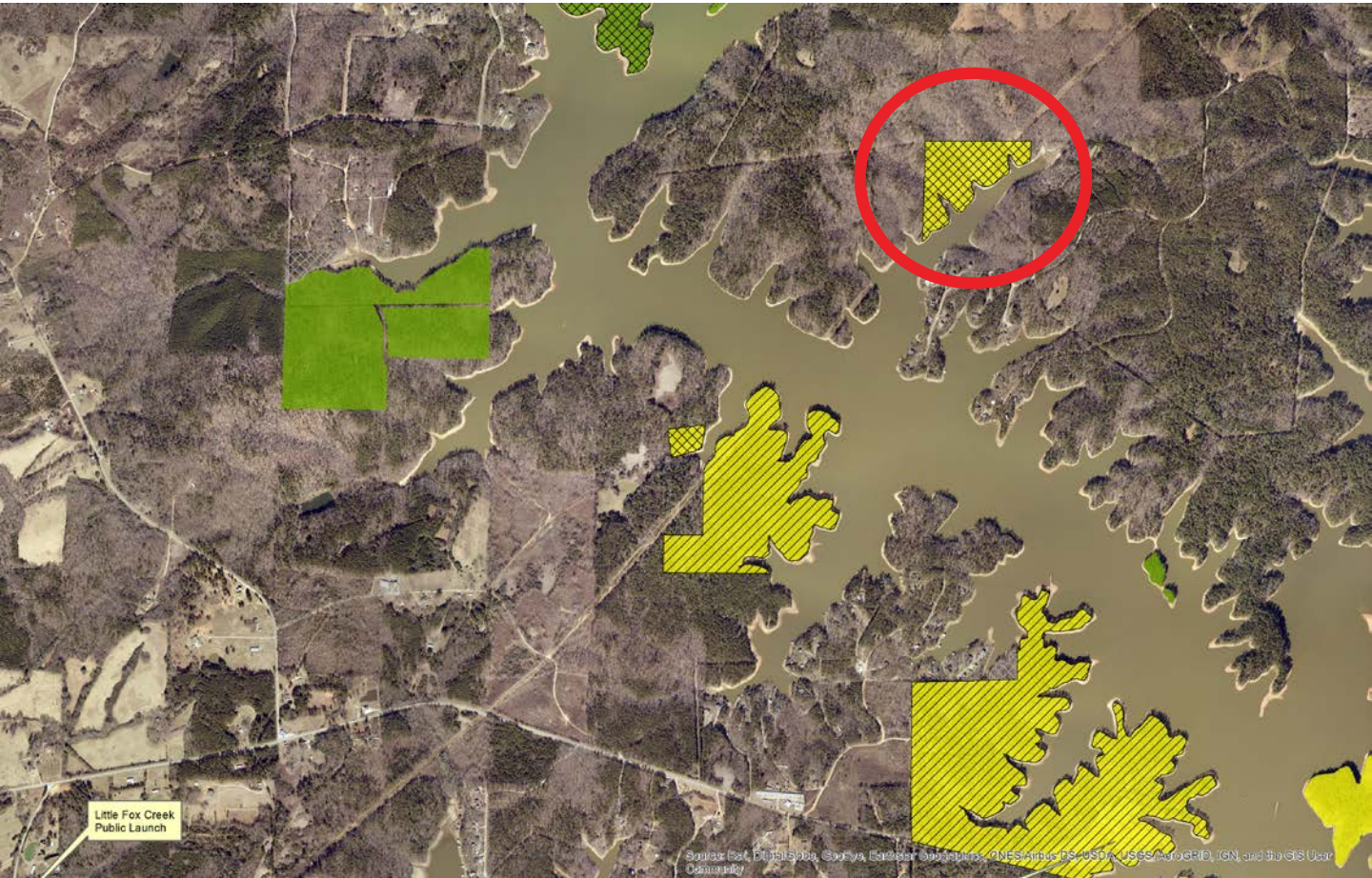
REMOVALS

R2 + /- 3 acres of Recreation



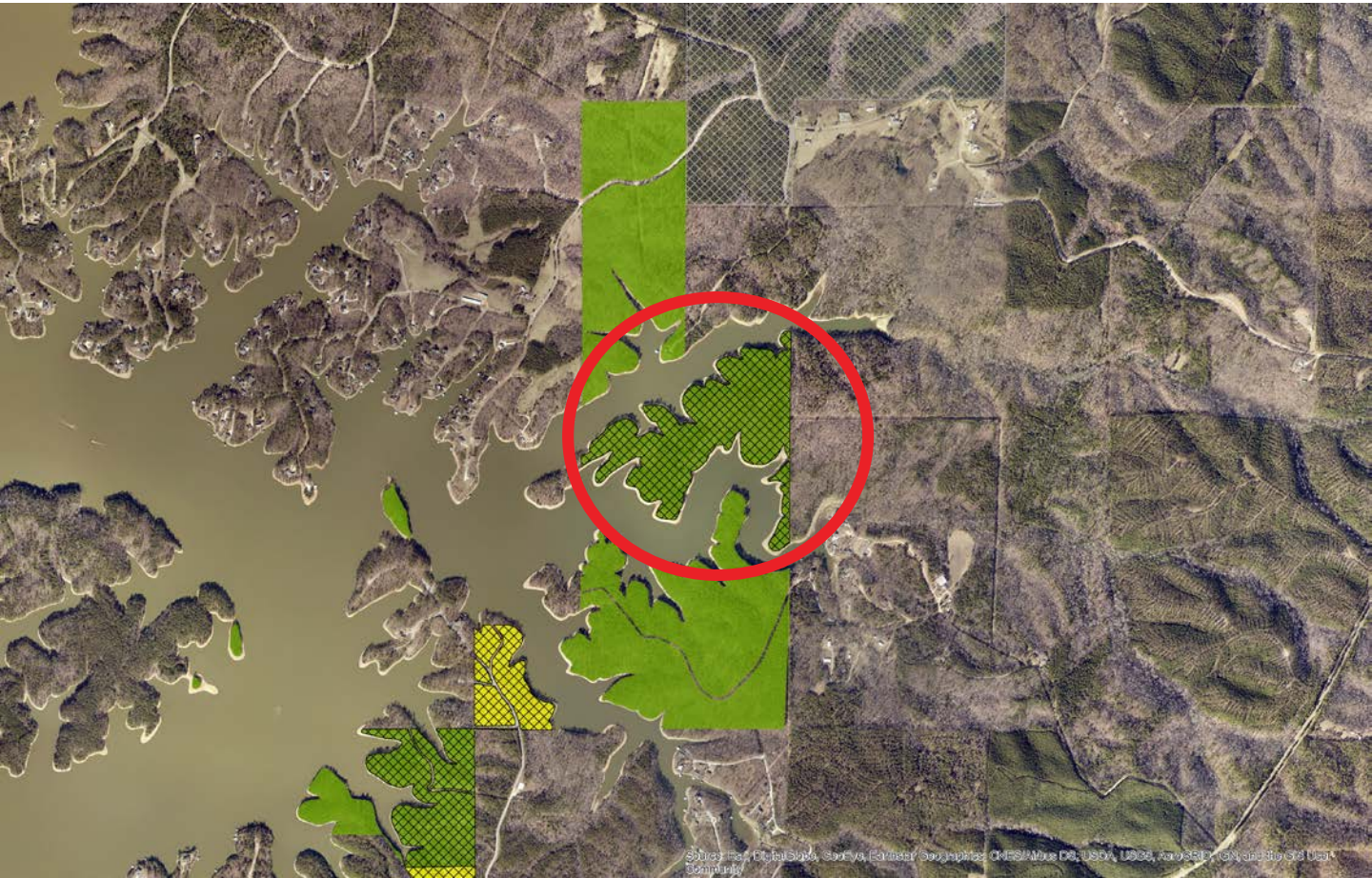
REMOVALS

R3 + /- 20 acres of Recreation



REMOVALS

R4 + /- 61 acres of Natural Undeveloped



REMOVALS

R5 + /- 19 acres of Recreation

REMOVALS

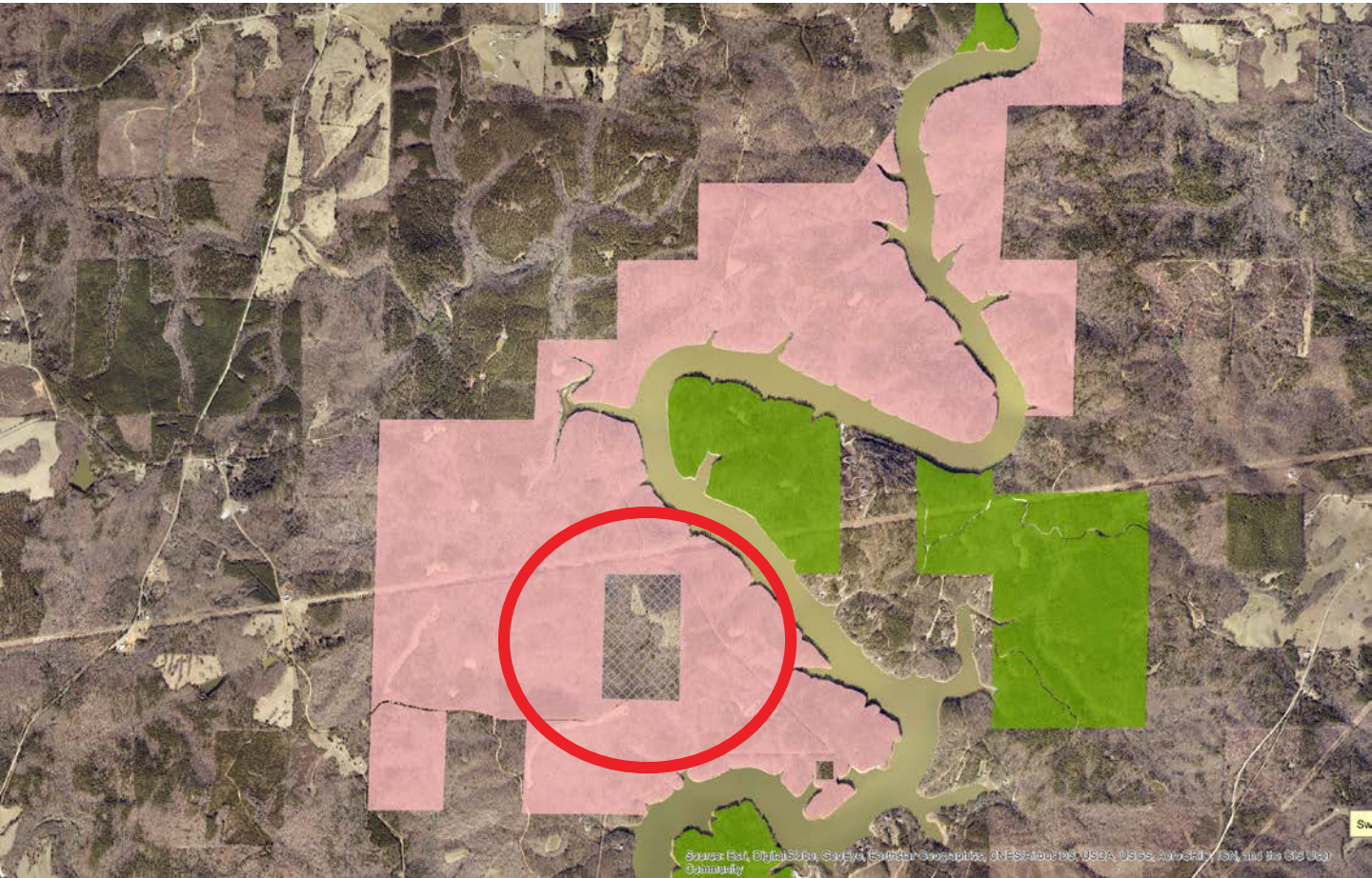
R6 + /- 37 acres of Natural Undeveloped

REMOVALS

R7 + /- 9 acres of Recreation

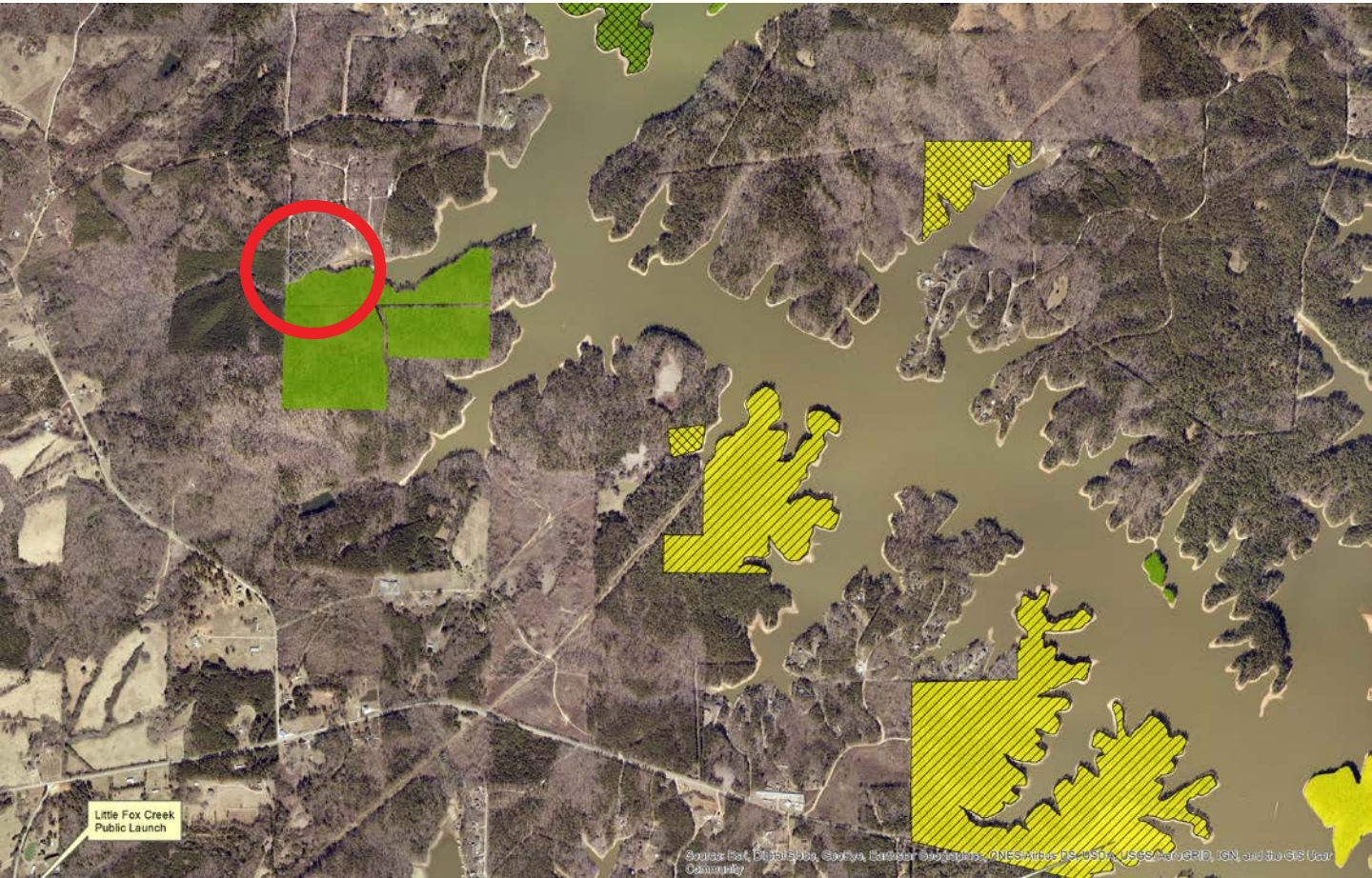
ADDITIONS

A1 + /- 64 acres as Hunting Lands



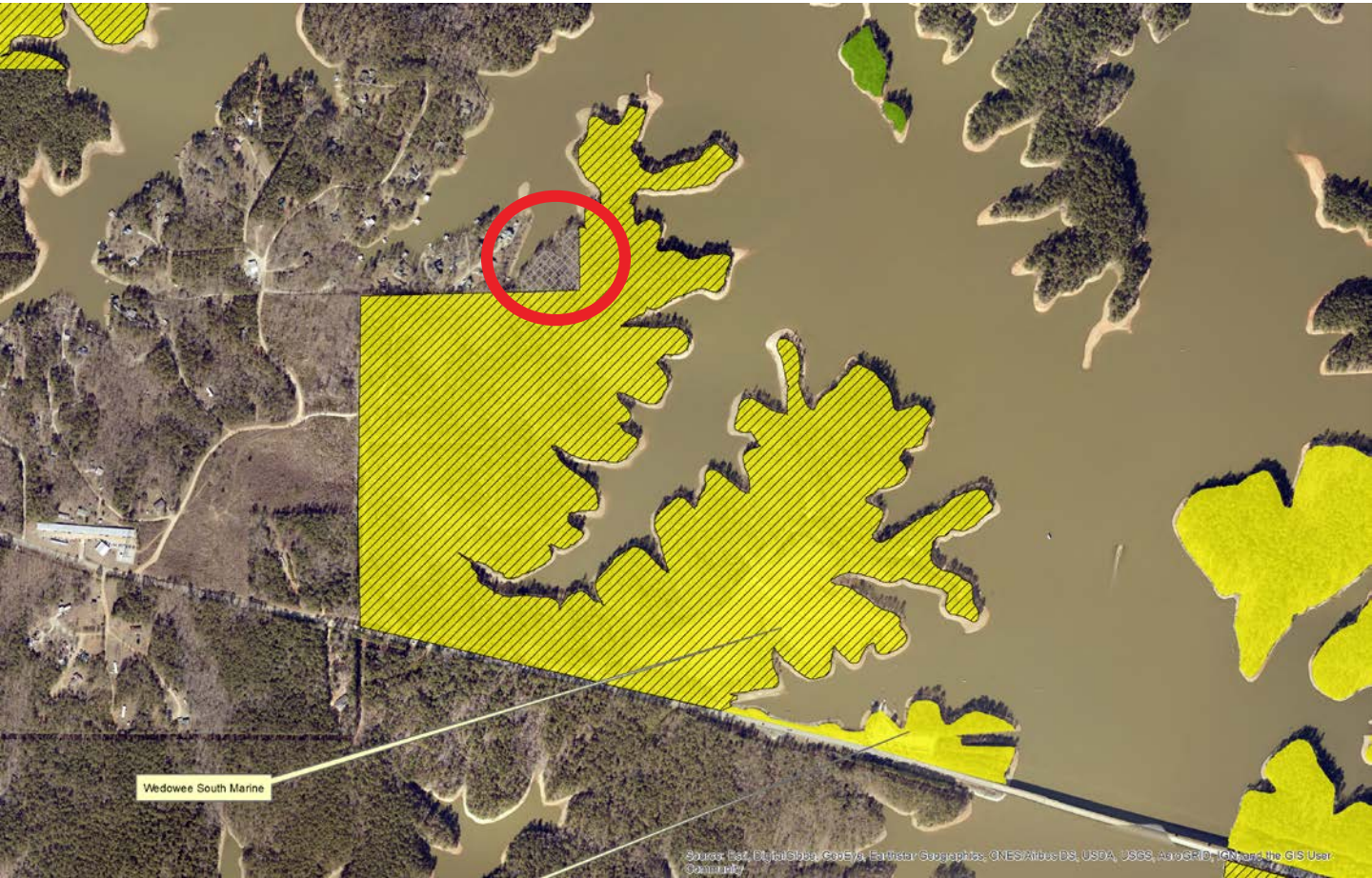
ADDITIONS

A2 + /- 4 acres as Natural Undeveloped



ADDITIONS

A3 + /- 2 acres as Commercial Recreation

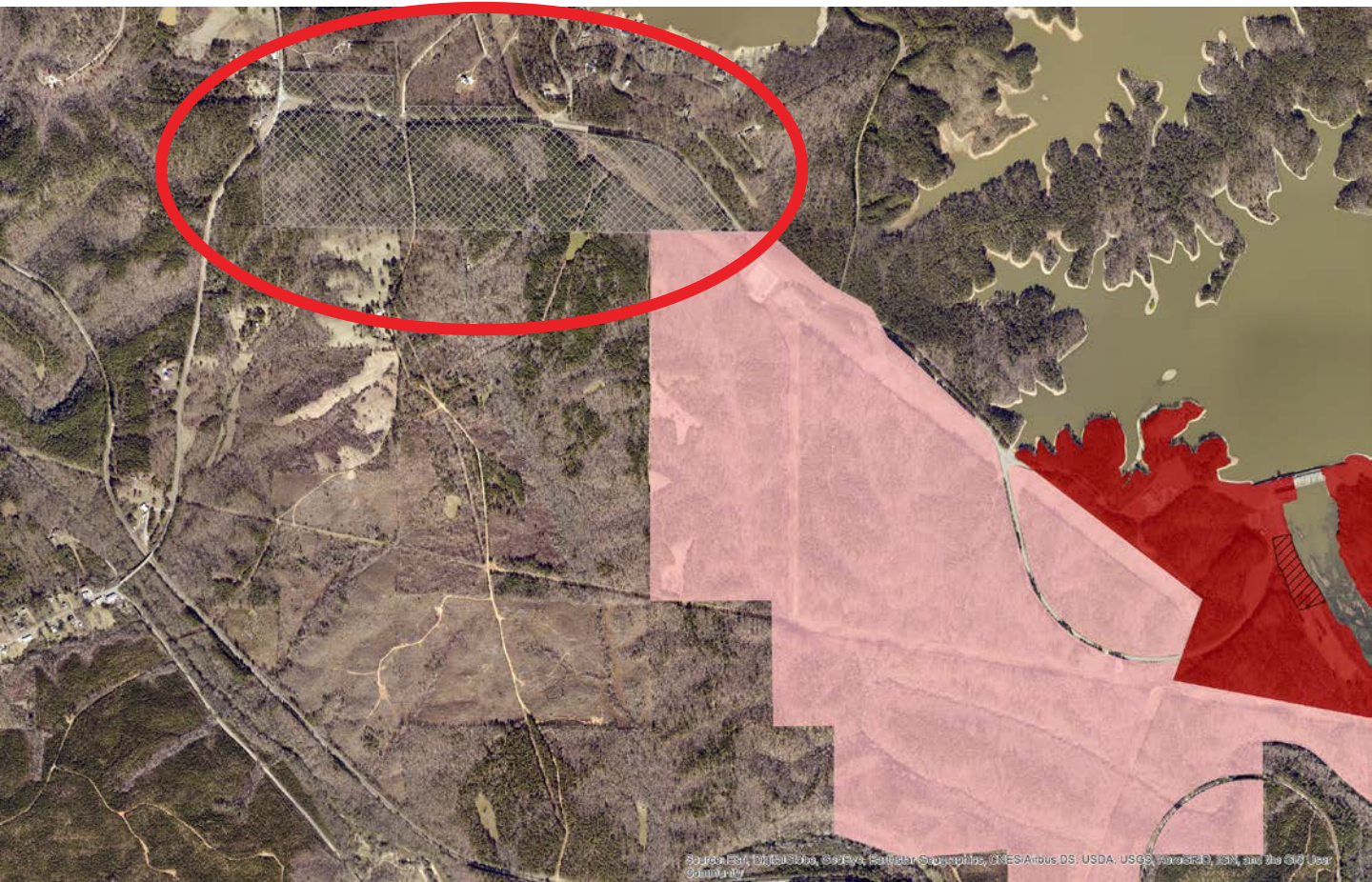


ADDITIONS

A4 + /- 160 acres as Natural Undeveloped

ADDITIONS

A5 + /- 157 acres as Hunting Lands



ADDITIONS

A6 + /- 14 acres as Natural Undeveloped

ADDITIONS

A7 + /- 6 acres as Natural Undeveloped

ADDITIONS

A8 + /- 0.25 acres as Natural Undeveloped

APC Harris Relicensing

From: Stan Nelson <snelson@nelsonandco.com>
Sent: Wednesday, September 11, 2019 4:48 PM
To: aanderegg@southernco.com
Cc: Anderegg, Angela Segars; Bearden, Justin; Mark Carter; Caton, Ross E; Ciamarra, Michael (Shelby); Edge, William; ferc.adr@ferc.gov; Robert Fletcher; Graham, Stacey A.; Jon Hamilton; Haslbauer, Jennifer; Mike Henson; Jeremy Jessup; David Moore; Barbara Nelson; Ryan Nelson; snelson@nelsonandco.com; O'Neil, Robert; Peeples, Alan L.; Mark Prestridge; Smith, Sheila C.; Streett, Emily; John Tinney; Walker, Shannon; White, Aimee B; Vester Whitmore; gene@wedoweelakehomes.com; Marilyn Lott; JJ Wendling; Irving Thompson; Roy Adamson; Terry Buttler; Mayor Donna McKay; Doyle Allen; Brent Wheeler; Tim Coe; John Harmon; Jerrell Hodges; alenmcdaniel@yahoo.com; Tony Segrest
Subject: 9-11-19 HAT-4 Meeting and Raw Water Intake

EXTERNAL MAIL: Caution Opening Links or Files

Ms. Anderegg:

I enjoyed today's meeting and hopefully we can work something out that will benefit the proposed day use park and the Authority. We look forward to sitting down with your staff next week.

The raw water intake can take many shapes and have a dual use as a high public viewing platform over the Lake in connection with the day use park.

The raw water line will be buried and no one will know its there. It will be more compatible with the day use park than the existing power lines.

The raw water structure can be designed to be very attractive at shown in the attached photo. Our design will be different with the gate operators on the inside of the building away from public access and the bridge to the structure will be shorter, wider and provide truck accessibility to the building during rare times of heavy maintenance.

Thanks again for inviting us to the HAT-4 meeting and look forward to meeting with you next week.

Stan Nelson, PE
NELSON & COMPANY, PC - Consulting Engineers
400 Emery Drive, Suite 300
Birmingham, AL 35244-4548
Work (205) 989-5690
Fax (205) 989-5672
Cell (205) 585-4600
snelson@nelsonandco.com

APC Harris Relicensing

From: Wills, Ken <Ken.Wills@jcdh.org>
Sent: Thursday, September 12, 2019 11:26 AM
To: Anderegg, Angela Segars; Kenneth Wills
Cc: APC Harris Relicensing
Subject: RE: Found major error on new Flat Rock Map

Hello Angie,

Thanks for addressing this so quickly. I look forward to seeing the next version of the map.

I will let you know if we find anything interesting on the other proposed Natural Undeveloped acreage to the west of the original botanical area.

I will also send you some personal comments on the overall land use plan. I thought the overall map looked good, but you might want to consider some factors before removing some tracts from the project. My comments outside the proposed botanical area at Flat Rock will just be given simply for your consideration with no strong recommendations.

Thanks again for addressing the Flat Rock map issue so quickly,
Ken Wills

From: Anderegg, Angela Segars [mailto:ARSEGARS@southernco.com]
Sent: Thursday, September 12, 2019 11:13 AM
To: Kenneth Wills <memontei@aol.com>; Wills, Ken <Ken.Wills@jcdh.org>
Cc: APC Harris Relicensing <g2apchr@southernco.com>
Subject: RE: Found major error on new Flat Rock Map

Hi Ken,

Thanks for taking a close look. You are correct that the original 20 acres was left out of what we presented yesterday. It was an inadvertent mapping error on our part and I assure you it will be corrected in the next version of this map.

In the next week or so, I will be soliciting comments from HAT 4. To avoid confusion, I'll be sending the map that was shown yesterday. However, we will definitely make sure that we incorporate your note and that the error is corrected once we have everyone's comments. So, the next version you'll see will have the correction.

Thanks again for taking a close look and letting us know!

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

From: Kenneth Wills <memontei@aol.com>
Sent: Wednesday, September 11, 2019 9:43 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; ken.wills@jcdh.org
Subject: Found major error on new Flat Rock Map

EXTERNAL MAIL: Caution Opening Links or Files

_____

Hello Angie,

I was looking at the proposed land use map for Harris in detail tonight and noticed the boundaries for the reclassification of 40 acres to Natural Undeveloped at Flat Rock Park excluded most of the original proposed 20 acre botanical area including most of the remaining pristine granite outcrop plant habitats. I am sure that is just a mapping mistake, but I hope that can be corrected as soon as possible. Otherwise the whole botanical survey and granite outcrop conservation project is basically for naught.

I don't have access to a scanner tonight, so I had to take photos to show you all what needs to be changed. The first photo is of the original proposed 20 acre botanical conservation area as shown in the botanical inventory proposal. The botanical area's eastern boundary is defined by the west side of the park entrance road and the edge of the woods to the west of the main granite outcrop of the developed park. This boundary includes all the remaining pristine granite outcrops as well as the critical wooded buffer surrounding them. That wooded buffer filters out overuse by general park users, and it protects the hydrology of the seepage habitats on the granite outcrops. The park road and edge of the woods are easily definable boundaries on maps and on the ground as well. These boundaries do not interfere with existing park uses or faculties in the developed portion of the park. As I understand it, any recreation expansion would happen along the water to the south of the existing park facilities. Therefore, the boundaries of the original 20 acre botanical area should present no conflicts with present and future recreation in Flat Rock Park.

The second photo shows the changes that need to happen to the proposed land use map to include all of the the originally proposed 20 acre botanical area in a Natural Undeveloped classification. I included the rough location of the major pristine granite outcrops to show why the original boundaries need to be included in Natural Undeveloped. As you know, I was pleased to see lands west of the power-line included in the Natural Undeveloped classification, but reclassifying all of the originally proposed 20 acre botanical area to Natural Undeveloped is critical.

Please let me know that you received this message, and let me know if and when the map can be changed to include the whole original 20 acre botanical area in the proposed reclassification to Natural Undeveloped. If you can send me an updated snippet of that section of the land-use map showing the change, that will help ensure we are all on the same page as the FERC and botanical area process continues.

Thanks for all you are doing to coordinate this process,
Ken Wills
Acting Coordinator Alabama Glade Conservation Coalition

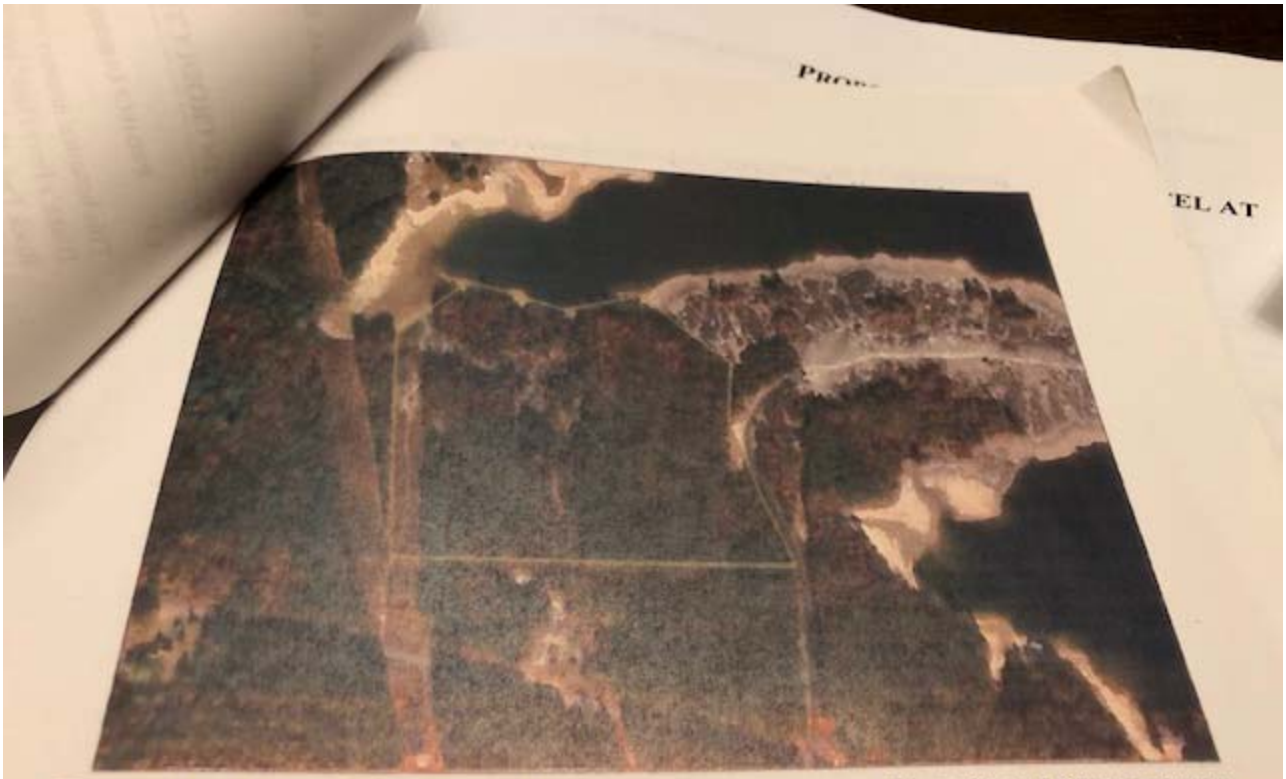
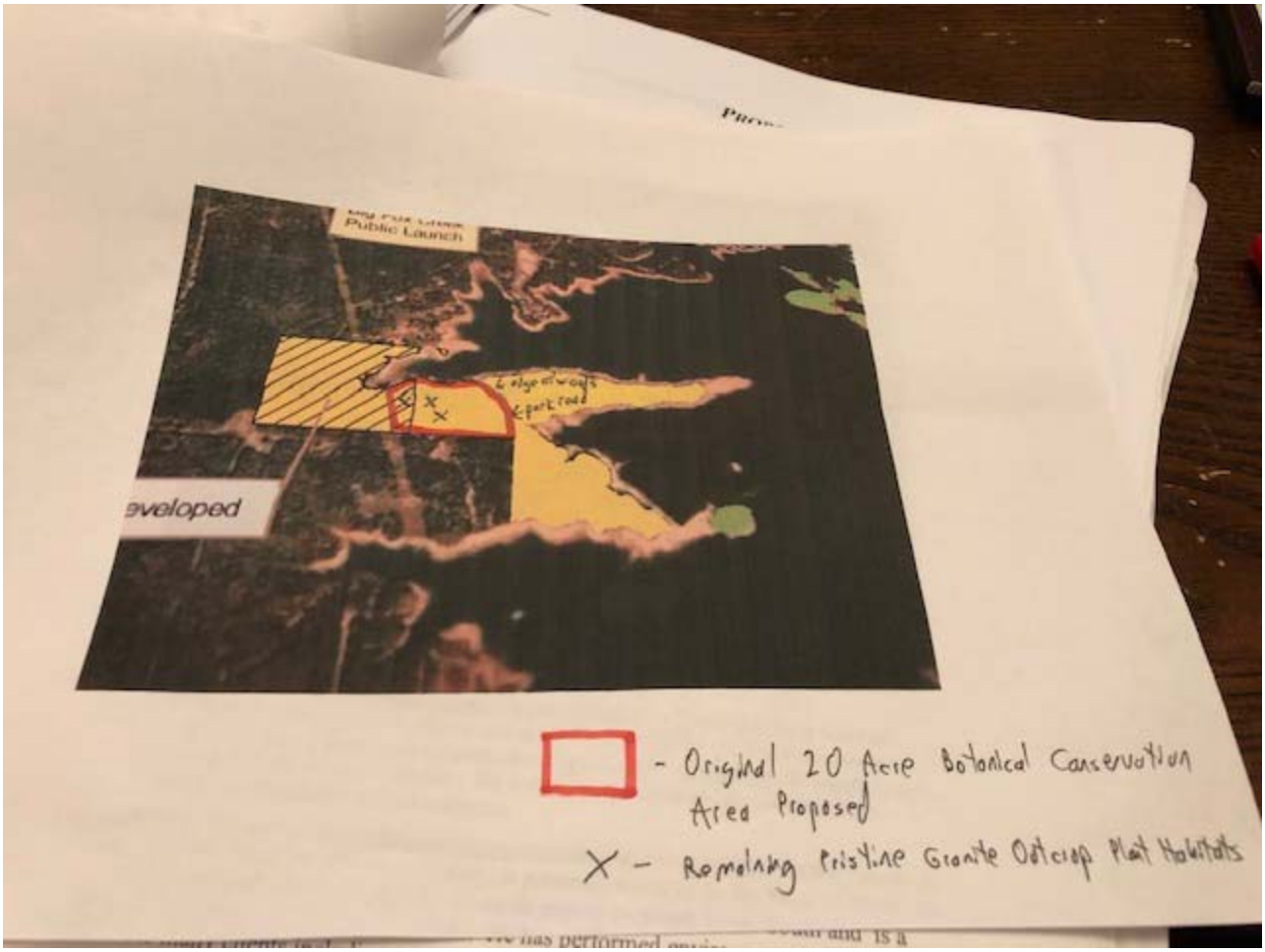


FIGURE 1 PROPOSED CONSERVATION/INVENTORY AREA FOR RARE PLANT COMMUNITIES OF GRANITE OUTCROPS, APPROXIMATELY 20-ACRES.

1.2 PROJECT TEAM



Sent from my iPhone

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Monday, September 30, 2019 2:45 PM
To: Ken Wills
Subject: RE: Comments on overall proposed Lake Harris Land Use Plan

Hi Ken,

Thank you for your feedback. We will incorporate your comments into our consultation record.

Thanks,

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

From: Ken Wills <memontei@aol.com>
Sent: Thursday, September 26, 2019 10:47 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>; ken.wills@jcdh.org
Subject: Comments on overall proposed Lake Harris Land Use Plan

EXTERNAL MAIL: Caution Opening Links or Files

Hello Angie,

While I became involved in the FERC re-licensing process for Lake Harris as a representative of a coalition to protect the back country granite outcrops at Flat Rock, since I have been participating in the FERC meetings for the overall Lake Harris project, I would
like to provide comments on that overall plan as an individual.

Overall, the proposed land use plan for Lake Harris Project is well planned from a conservation standpoint. The overall acreage proposed to be managed under the Natural Undeveloped and Hunting Lands classification will be increased from the previous land use land. Additional lands have been added that connect existing project conservation lands or fill in holes within conservation tracts. The proposed reclassifications to Natural Undeveloped in the back country at Flat Rock and around the Fox Creek Birding Trail will help ensure those habitats remain intact for various plants and animals including rare granite outcrop plant species.

However, I recommend the removal of some tracts from the Harris be reconsidered. Some tracts such as R2 and R3 make sense to remove from the project because they are very isolated from other company lands on the lake, but the wild/scenic and habitat values of other tracts should be reconsidered before they are removed from the project. While R1, R 4 and R6 do not touch other conservation tracts they are in close proximity to other significant blocks of project conservation lands and they help protect wild/scenic view sheds on large sections of sloughs around the lake. There is a value for visitors in seeing undeveloped scenery on both sides of a slough or section of the lake. As the lake becomes more developed over the years those remaining sections of the lake with wild/scenic view sheds will become more appreciated by visitors and residents alike. While those sections do not touch other conservation tracts they add to the overall block of contiguous habitat for more mobile species including birds and even some mammals and reptiles/amphibians that regularly swim between habitat blocks. Loss of those tracts to development would reduce the overall habitat for some species of birds and reptiles that need a larger matrix of habitat to survive such as the declining neotropical migrant birds. If access for other landowners across some of those tracts is an issue, it would seem potential

road corridors could be granted across those tracts without withdrawing the whole tracts from the project. I would encourage you all to consider the wild/scenic and habitat value of the above specified tracts before removing them from the project. All that being said, I realize Alabama Power/Southern Company is a multi faceted business with many factors to balance including overall profits, real estate development, and conservation/environmental protection, so I respect any decision you make on those tracts proposed to be withdrawn from the Harris Project.

Thanks for the opportunity to provide input on the overall plan,
Ken Wills
2253 Rockcreek Trail
Hoover, AL 35226

HAT 4 - September 11 meeting notes

APC Harris Relicensing

Tue 10/1/2019 6:01 PM

To: 'harrisrelicensing@southernco.com' <harrisrelicensing@southernco.com>
Bcc damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; keith.gauldin@dcnr.alabama.gov <keith.gauldin@dcnr.alabama.gov>; taconya.goar@dcnr.alabama.gov <taconya.goar@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>; 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>; tpfreema@southernco.com <tpfreema@southernco.com>; cggoodma@southernco.com <cggoodma@southernco.com>; ammcvica@southernco.com <ammcvica@southernco.com>; tlmills@southernco.com <tlmills@southernco.com>; dolmoore@southernco.com <dolmoore@southernco.com>; scsmith@southernco.com <scsmith@southernco.com>; twstjohn@southernco.com <twstjohn@southernco.com>; lswinsto@southernco.com <lswinsto@southernco.com>; cchaffin@alabamarivers.org <cchaffin@alabamarivers.org>; clowry@alabamarivers.org <clowry@alabamarivers.org>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; kmo0025@auburn.edu <kmo0025@auburn.edu>; irwiner@auburn.edu <irwiner@auburn.edu>; chrisoberholster@birminghamaudubon.org <chrisoberholster@birminghamaudubon.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>; kate.cosnahan@kleinschmidtgroup.com <kate.cosnahan@kleinschmidtgroup.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; amanda.fleming@kleinschmidgroup.com <amanda.fleming@kleinschmidgroup.com>; henry.mealing@kleinschmidtgroup.com <henry.mealing@kleinschmidtgroup.com>; kelly.schaeffer@kleinschmidtgroup.com <kelly.schaeffer@kleinschmidtgroup.com>; sforehand@russelllands.com <sforehand@russelllands.com>; Tom Garland (lgarland68@aol.com) <lgarland68@aol.com>; Diane Lunsford (johndiane@sbcglobal.net) <johndiane@sbcglobal.net>; bradandsue795@gmail.com <bradandsue795@gmail.com>; mitchell.reid@tnc.org <mitchell.reid@tnc.org>; wmcampbell218@gmail.com <wmcampbell218@gmail.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>; evan_collins@fws.gov <evan_collins@fws.gov>; jennifer_grunewald@fws.gov <jennifer_grunewald@fws.gov>; jeff_powell@fws.gov <jeff_powell@fws.gov>

HAT 4,

The meeting notes and materials from our September 11, 2019 HAT 4 meeting can be found on the Harris relicensing website under HAT 4 – Project Lands (www.harrisrelicensing.com). Please submit any comments or questions you may have on the proposed land use changes to harrisrelicensing@southernco.com on or before October 31, 2019.

Thanks,

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

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Saturday, October 5, 2019 10:31 PM
To: APC Harris Relicensing
Subject: Map and Land Use Change at Flat Rock
Attachments: IMG_7561.jpg; IMG_7562.jpg

Hello Angie and all,

Based on the instructions in last weeks email, I wanted to make sure my previous comments on the proposed map and land use changes at Flat Rock were sent to the correct email address. I have consolidated all my comments on the backcountry areas at Flat Rock into one email.

As I had previously mentioned in an email to a different address, the boundaries for the reclassification of 40 acres to Natural Undeveloped at Flat Rock Park excluded most of the original proposed 20 acre botanical area including most of the remaining pristine granite outcrop plant habitats that we are trying to protect. I understand that was just a mapping mistake, but please make sure that is corrected as soon as possible. Otherwise the whole botanical inventory and granite outcrop conservation project is basically for naught.

In support of this map correction, please see the attached crude map photos. The first photo is of the original proposed 20 acre botanical conservation area as shown in the botanical inventory proposal. The botanical area's eastern boundary is defined by the west side of the park entrance road and the edge of the woods to the west of the main granite outcrop of the developed park. This boundary includes all the remaining pristine granite outcrops as well as the critical wooded buffer surrounding them. That wooded buffer filters out overuse by general park users, and it protects the hydrology of the seepage habitats on the granite outcrops. The park road and edge of the woods are easily definable boundaries on maps and on the ground as well. These boundaries do not interfere with existing park uses or faculties in the developed portion of the park. As I understand it, any recreation expansion would happen along the water to the south of the existing park facilities. Therefore, the boundaries of the original 20 acre botanical area should present no conflicts with present and future recreation in Flat Rock Park.

The second photo shows the changes that need to happen to the proposed land use map to include all of the the originally proposed 20 acre botanical area in a Natural Undeveloped classification. I included the rough location of the major pristine granite outcrops to show why the original boundaries need to be included in Natural Undeveloped. As you know, we are pleased to see lands west of the power-line included in the Natural Undeveloped classification, but reclassifying all of the originally proposed 20 acre botanical area to Natural Undeveloped is critical.

In regards to the lands west of the power-line, as I had previously mentioned in another email to a different address, I was able to do a brief survey of the additional land at Flat Rock that is proposed to be reclassified as Natural Undeveloped. My background is focused on forest/habitat ecology rather than general botany, but from what I can see, classifying that additional land at Flat Rock as Natural Undeveloped would help protect botanical habitats and species that are rare to nonexistent in the originally proposed granite outcrop rare plant habitat focused 20 acre botanical area. This would lead to a more thorough conservation of the area's overall botanical diversity.

The additional proposed Natural Undeveloped lands on the other side of the power-line contains the floodplain of what appears to be a perennial stream. Those bottoms and adjacent sheltered slopes contain mesic hardwood forests and some floodplain forests including species such as American Beech, Sweetbay Magnolia, and Cane. I also saw some of the largest old growth American Beach that I have every seen on some of land's lower slopes. These scattered old trees were bypassed by the original logging of the property probably because they are hollow, but they are still impressive. The shady moist ground layers contains an abundance of various ferns not associated with drier habitats including Cinnamon and Chain ferns. These habitats and associated species are rare to nonexistent within the thin dry soils associated with granite outcrops of the originally proposed botanical area.

Also, the additional lands has the largest population of Running Cedar I have ever seen. In most places, you see a small patch, but evidently Piedmont soils are very favorable for this species, and it occurs over quarter acre or more in several locations on the property. The upland pine hardwood forest of additional lands also contains residual Longleaf and Shortleaf pine. It is unusual to find Longleaf pine this deep in the Piedmont. The deeper soil uplands of the additional

lands also support habitats and species rare to nonexistent within the Loblolly Pine-hardwood dominated forest around the granite outcrops in the core originally proposed botanical area.

While the originally proposed 20 acre botanical area is the most important area to conserve because of the rare plants found only on granite outcrop habitats, the protection of the adjacent lands west of the power-line as Natural Undeveloped will certainly ensure a greater diversity of botanical habitats and species of this Piedmont region are conserved for long-term study and appreciation. We support conserving both the core 20 acres containing the granite outcrops at Flat Rock as well as the recently proposed additional lands to the west as Natural Undeveloped. If we can obtain more information about the plants and animals of these additional lands we will share them with you.

Thanks for all you are doing to coordinate this process,
Ken Wills
Acting Coordinator Alabama Glade Conservation Coalition

FIGURE 1 PROPOSED CONSERVATION/INVENTORY AREA FOR RARE PLANT COMMUNITIES OF GRANITE OUTCROPS, APPROXIMATELY 20-ACRES.

1.2 PROJECT TEAM

- Original 20 Acre Botanical Conservation Area Proposed

X - Remaining Pristine Granite Outcrop Plant Habitats

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Saturday, October 5, 2019 10:38 PM
To: APC Harris Relicensing
Subject: Comments on overall proposed Lake Harris Land Use Plan

Hello Angie and all,

Based on this weeks email, I wanted to make sure my comments on the overall proposed Lake Harris Land Use Plan are sent to the corrected email address, so I am resending my prior comments sent to a different email address.

While I became involved in the FERC re-licensing process for Lake Harris as a representative of a coalition to protect the back country granite outcrops at Flat Rock, since I have been participating in the FERC meetings for the overall Lake Harris project, I would
like to provide comments on that overall plan as an individual.

Overall, the proposed land use plan for Lake Harris Project is well planned from a conservation standpoint. The overall acreage proposed to be managed under the Natural Undeveloped and Hunting Lands classification will be increased from the previous land use land. Additional lands have been added that connect existing project conservation lands or fill in holes within conservation tracts. The proposed reclassification to Natural Undeveloped in the back country at Flat Rock (once the map is corrected) and around the Fox Creek Birding Trail will help ensure those habitats remain intact for various plants and animals including rare granite outcrop plant species.

However, I recommend the removal of some tracts from the Harris be reconsidered. Some tracts such as R2 and R3 make sense to remove from the project because they are very isolated from other company lands on the lake, but the wild/scenic and habitat values of other tracts should be reconsidered before they are removed from the project. While R1, R 4 and R6 do not touch other conservation tracts they are in close proximity to other significant blocks of project conservation lands and they help protect wild/scenic view sheds on large sections of sloughs around the lake. There is a value for visitors in seeing undeveloped scenery on both sides of a slough or section of the lake. As the lake becomes more developed over the years those remaining sections of the lake with wild/scenic view sheds will become more appreciated by visitors and residents alike. While those sections do not touch other conservation tracts they add to the overall block of contiguous habitat for more mobile species including birds and even some mammals and reptiles/amphibians that regularly swim between habitat blocks. Loss of those tracts to development would reduce the overall habitat for some species of birds and reptiles that need a larger matrix of habitat to survive such as the declining neotropical migrant birds. If access for other landowners across some of those tracts is an issue, it would seem potential road corridors could be granted across those tracts without withdrawing the whole tracts from the project. I would encourage you all to consider the wild/scenic and habitat value of the above specified tracts before removing them from the project. All that being said, I realize Alabama Power/Southern Company is a multi faceted business with many factors to balance including overall profits, real estate development, and conservation/environmental protection, so I respect any decision you make on those tracts proposed to be withdrawn from the Harris Project.

Thanks for the opportunity to provide input on the overall plan,

Ken Wills
2253 Rockcreek Trail
Hoover, AL 35226

APC Harris Relicensing

From: Anderegg, Angela Segars
Sent: Tuesday, October 8, 2019 12:15 PM
To: Ken Wills
Cc: Kelly Schaeffer
Subject: RE: Information on additional land proposed to be reclassified at Flat Rock

Hi Ken,

Performing a separate inventory of these additional lands in 2020 will not be an issue. I will reach out to David Frings about sending us a new or revised scope of work.

Thanks!

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

From: Ken Wills <memontei@aol.com>
Sent: Wednesday, October 2, 2019 8:16 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Kelly Schaeffer <kelly.schaeffer@kleinschmidtgroup.com>
Subject: Re: Information on additional land proposed to be reclassified at Flat Rock

EXTERNAL MAIL: Caution Opening Links or Files

Hello Angie,

I was able to communicate with our plant inventory team, and they are all interested in doing a survey of the additional lands proposed to be classified as Natural Undeveloped which lies west of the original proposed botanical area. However, they are proposing to do the plant inventory of those lands as a separate inventory proposal which would be performed next year, Spring-Fall 2020. I am not sure how that would fit with the FERC Process timeline.

Even if the time line will not allow further inventories, we are very thankful for your support of the inventory of the core 20 acre botanical area around the backcountry granite outcrops. Just just let us know if and how you want to proceed with the inventory of the other lands to the west of the core botanical area, but we understand it does not fit the timeline.

Thanks,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition

-----Original Message-----
From: Anderegg, Angela Segars <ARSEGARS@southernco.com>
To: Kenneth Wills <memontei@aol.com>
Cc: Kelly Schaeffer <kelly.schaeffer@kleinschmidtgroup.com>
Sent: Tue, Oct 1, 2019 9:08 am
Subject: RE: Information on additional land proposed to be reclassified at Flat Rock

Hi Ken,

I understand if they aren't able to expand their scope of work. However, if you hear that they do want to, let me know as soon as possible. I do believe that doing a walk thru and sharing their findings, similar to what you have done, will be helpful information to have.

Thanks!

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

From: Kenneth Wills <memontei@aol.com>
Sent: Monday, September 30, 2019 9:16 PM
To: Anderegg, Angela Segars <ARSEGARS@southernco.com>
Subject: Re: Information on additional land proposed to be reclassified at Flat Rock

EXTERNAL MAIL: Caution Opening Links or Files

Hello Angie,

I am not sure if our botanical inventory team will be able to expand their inventory to the land west of the power line this Fall. They were going to try to do a walk thru and share what they find similar to what I did. However, I share this info with them and see what they want to do.

As to what I looked at, it was all the land proposed to be designated Natural Undeveloped that was to the west of the original 20 acre botanical area that contains the isolated pristine granite outcrops habitats. The boundaries matched the recently proposed land use map boundaries.

Thanks,
Ken Wills

Sent from my iPhone

On Sep 30, 2019, at 2:49 PM, Anderegg, Angela Segars <ARSEGARS@southernco.com> wrote:

> Hi Ken,
>
> If the botanical inventory will expand beyond the original 20 acres, we'll need to amend our contract to expand the scope of work and cost. We can certainly do that. We need to make sure those doing the fall inventory are on board. Also, please send a map of the area where the survey will be expanded so we can ensure it's within the project boundary, on Alabama Power property, etc.
>
> Thanks,
>
> **Angie Anderegg**
> Hydro Services
> (205)257-2251
> arsegars@southernco.com
>
> ---
>
> **From:** Ken Wills <memontei@aol.com>
> **Sent:** Thursday, September 26, 2019 9:35 PM
> **To:** Anderegg, Angela Segars <ARSEGARS@southernco.com>; ken.wills@jcdh.org
> **Subject:** Information on additional land proposed to be reclassified at Flat Rock
>
> **EXTERNAL MAIL: Caution Opening Links or Files**

Hello Angie,

I was able to do a brief survey of the additional land at Flat Rock that is proposed to be reclassified as Natural Undeveloped. My background is focused on forest/habitat ecology rather than general botany, but from what I can see, classifying that additional land at Flat Rock as Natural Undeveloped would help protect botanical habitats and species that are rare to nonexistent in the originally proposed granite outcrop rare plant habitat focused 20 acre botanical area. This would lead to a more thorough conservation of the area's overall botanical diversity.

The additional proposed Natural Undeveloped lands on the other side of the power line contains the floodplain of what appears to be a perennial stream. Those bottoms and adjacent sheltered slopes contain mesic hardwood forests and some floodplain forests including species such as American Beech, Sweetbay Magnolia, and Cane. I also saw some of the largest old growth American Beach that I have every seen on some of land's lower slopes. These scattered old trees were bypassed by the original logging of the property probably because they are hollow, but they are still impressive. The shady moist ground layers contains an abundance of various ferns not associated with drier habitats including Cinnamon and Chain ferns. These habitats and associated species are rare to nonexistent within the thin dry soils associated with granite outcrops of the originally proposed botanical area.

Also, the additional lands has the largest population of Running Cedar I have ever seen. In most places, you see a small patch, but evidently Piedmont soils are very favorable for this species, and it occurs over quarter acre or more in several locations on the property. The upland pine hardwood forest of additional lands also contains residual Longleaf and Shortleaf pine. It is unusual to find Longleaf pine this deep in the Piedmont. The deeper soil uplands of the additional lands also support habitats and species rare to nonexistent within the Loblolly Pine-hardwood dominated forest around the granite outcrops in the core originally proposed botanical area.

While the originally proposed 20 acre botanical area is the most important area to conserve because of the rare plants found only on granite outcrop habitats, the protection of the adjacent lands west of the power line as Natural Undeveloped will certainly ensure a greater diversity of botanical habitats and species of this Piedmont region are conserved for long-term study and appreciation. We support conserving both the core 20 acres containing the granite outcrops at Flat Rock as well as the recently proposed additional lands to the west as Natural Undeveloped. If we can obtain more information about the plants and animals of these additional lands we will share them with you.

Thanks,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition

From: Mitchell, Steven
To: Carlee, Jason
Cc: Mills, Tina L.; Baker, Jeffery L.
Subject: RE: Quail Habitat Evaluation for Harris/Skyline
Date: Friday, January 17, 2020 10:04:57 AM
Attachments: image001.png

EXTERNAL MAIL: Caution Opening Links or Files

Jason,
I'm not sure any of our quail survey points have been on Alabama Power property within Skyline, but I will check and put together what I have on quail surveys. Also, I will schedule a trip up and coordinate that with you.

Thanks,

Steven Mitchell
Upland Game Bird Coordinator
Alabama Department of Conservation and Natural Resources
Division of Wildlife and Freshwater Fisheries, Wildlife Section
64 North Union Street, Suite 584
Montgomery, AL 36104
Phone: 334.242.3469
steven.mitchell@dcnr.alabama.gov
www.outdooralabama.com

From: Carlee, Jason <JCARLEE@southernco.com>
Sent: Friday, January 17, 2020 9:27 AM
To: Mitchell, Steven <Steven.Mitchell@dcnr.alabama.gov>
Cc: Mills, Tina L. <tlmills@southernco.com>; Jeff Baker <jefbaker@southernco.com>
Subject: Quail Habitat Evaluation for Harris/Skyline

Steven,

As I mentioned on the phone, there is over 15,000 acres of property at Skyline that is leased to ADCNR by Alabama Power. The land was set aside as mitigation for land that was inundated by RL Harris Reservoir and is currently managed by ADCNR as part of the Skyline WMA. Alabama Power is currently relicensing the Harris project and we have a received a stakeholder request to evaluate potential quail habitat at the Skyline property. Our first step is to conduct a desktop analysis to see if there is suitable habitat and include any existing data. We plan to evaluate groundcover based on available GIS data. Please let me know if you have any additional data such as habitat surveys or population counts that could help with the evaluation. We will include a brief summary of how the evaluation was conducted and its results and add it to the Project Lands study report. The targeted deadline to complete this evaluation and provide the summary paragraphs is February 14th. I have copied Tina Mills in our Hydro group since she is pulling the report together and Jeff Baker who is one of our biologists.

I haven’t seen the property myself and would be glad to make up trip up there to look at it with you. Please let me know if you have any questions.

Thank you for your help!
Jason

Jason Carlee
Environmental Affairs
Alabama Power Company

From: Mills, Tina L.
Sent: Monday, January 27, 2020 3:51 PM
To: vester.whitmore@gmail.com; mprandolphwater@gmail.com
Cc: wdlndw@gmail.com; snelson@nelsonandco.com; Mark Carter; jctinney@hotmail.com; Smith, Sheila C.; St. John, Thomas W.; Anderegg, Angela Segars; Crew, James F.; Peeples, Alan L.; Graham, Stacey A.
Subject: Randolph County Water Pump Station

Good afternoon Mr. Whitmore and Mr. Prestridge,

Thank you again for your time this morning, and I enjoyed meeting you both. As we discussed in our meeting this morning, Alabama Power has reviewed the site south of the Hwy 48 bridge and does not currently have any objections to the installation of a water withdrawal at this site. Remember that this location is contingent on FERC approval, and we will need to establish a water withdrawal agreement, complete the Non-Residential Permitting Process, and complete various land rights documents. We've put together a list of next steps below. Your primary point of contact will be me, Tina Mills, (tlmills@southernco.com, 205-257-4892) with the exception of the water withdrawal contact, for which your contact will be (Alan Peeples, alpeeple@southernco.com, 205-257-1401). Please do not hesitate to let us know if you have any questions. Thank you.

General Overview of the process/next steps

1. Right of Entry: Randolph County Water Authority needs a Right of Entry from Alabama Power to conduct due diligence on the site located south of Highway 48.
2. Water Withdrawal Contract: Randolph County and Alabama Power will work together to execute a water withdrawal contract.
3. Non-Residential Permit: Once a final location is determined:
    a. Randolph County and Alabama Power will have an on-site meeting.
    b. Randolph County will submit a complete Non-Residential Permit Application to Alabama Power.
    c. Alabama Power will complete a full assessment of any sensitive resources.
    d. Alabama Power will conduct agency consultation. Typically, the NRP applicant conducts agency consultation. However, because this project involves several additional components, Alabama Power will conduct the agency consultation.
4. Land Rights: Randolph County and Alabama Power will work together to finalize land documents for the project, such as a lease for the pumping station location, an access agreement, slope easement, and/or easements for water lines.
5. FERC Process:
    a. Alabama Power will conduct agency consultation.
    b. Alabama Power will submit an application to FERC for approval, that will include:
        - Land Use Plan variance
        - Non-Residential Permit
        - Water Withdrawal contract
        - Change in land rights pertaining to the lease and easements on project lands
    c. FERC approval can take a year or longer. However, it is likely that it will not take as long, because FERC staff is already aware of this request.

Tina L Mills
Hydro Licensing Specialist - APC Hydro Licensing and Compliance
Southern Company Generation
Email: tlmills@southernco.com

600 North 18th Street
16N-8180
Birmingham, AL 35203
Phone: (205) 257-4892
Fax: (205) 257-1596

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From:	Wills, Ken
To:	APC Harris Relicensing
Subject:	RE: Harris Relicensing - March 19th HAT 3 meeting
Date:	Tuesday, February 25, 2020 8:54:37 AM

Thanks for the info.

From: APC Harris Relicensing [mailto:g2apchr@southernco.com]
Sent: Tuesday, February 25, 2020 8:54 AM
To: Wills, Ken <Ken.Wills@jcdh.org>
Subject: RE: Harris Relicensing - March 19th HAT 3 meeting

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hi Ken,

We won't be covering anything related to project lands or the botanical area at this meeting.

Thanks,

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

From: Wills, Ken <Ken.Wills@jcdh.org>
Sent: Friday, February 21, 2020 3:34 PM
To: APC Harris Relicensing <g2apchr@southernco.com>
Subject: RE: Harris Relicensing - March 19th HAT 3 meeting

Hello Angie,

I know the focus of this meeting is aquatics and threatened and endangered species. Will they be covering anything related to the botanical area or land use at this HAT 3 meeting?

Thanks,
Ken Wills

From: APC Harris Relicensing [mailto:g2apchr@southernco.com]
Sent: Friday, February 21, 2020 12:48 PM
To: APC Harris Relicensing <g2apchr@southernco.com>
Subject: Harris Relicensing - March 19th HAT 3 meeting

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opening attachments or clicking links, especially from unknown senders.

HAT 3,

Alabama Power Company will be hosting a series of HAT meetings on **Thursday, March 19, 2020 at the Oxford Civic Center,** 401 Mccullars Ln, Oxford, AL 36203. The HAT 3 meeting will be from **1:30-3:30** (see attached agenda). The purpose of the HAT 3 meeting is to review progress to date for the Threatened and Endangered Species, Downstream Aquatic Habitat and Aquatic Resources studies.

Please RSVP by Friday, March 13, 2020. Lunch will be provided (~11:15) so please indicate any food allergies or vegetarian preferences on or before March 13, 2020. I encourage everyone to attend in person. If this is not feasible, we are also offering a Skype option (info below). It would be ideal to join on your computer as we will be viewing presentations and maps.

If you have any questions about the agenda or meeting, please email or call me at ARSEGARS@southernco.com or (205) 257-2251.

Join Skype Meeting [linkprotect.cudasvc.com]

+1 (205) 257-2663

Conference ID: 3660816

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

ANNISTON MUSEUM OF NATURAL HISTORY
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2/28/2020

Kleinschmidt Associates and Southern Company
Re: Contract #: 09-4050-M-SCS
A Botanical Inventory of Flat Rock Park, Blake's Ferry, Alabama

To whom it may concern:

Please find attached the final report of the botanical inventory of the granite outcrop at Flat Rock Park, at Blake's Ferry, Alabama. During 2019, a three person team made up of Dan Spaulding, Katie Horton, and Tom Diggs visited the site once per month throughout the growing season and inventoried every species of plant we could detect on the site. We documented 365 species in 97 plant families, including many that had never been documented within Randolph County before. After careful review of the species and observation of site conditions, we have several recommendations regarding the future management of this site:

1) Many of the species documented are adapted to the unique soil, moisture, and light conditions present within the parcel of land surveyed, and some of them only occur in slight pits on the rock that were created by thousands of years of erosion. In order to protect these plants and the delicate ecosystem that they are part of, it is the recommendation of the authors that this land be re-classified as Natural/Undeveloped.
2) Actions should be taken to restore the Inventory Area to its natural quality using prescribed burns and, where necessary, physical removal of trash and invasive species such as *Ligustrum sinense* (Chinese privet).
3) In addition, it is recommended that vehicle traffic in the Inventory Area be more effectively restricted with signage and gates. During one inventory visit, the research team observed an SUV with several people in it drive through the most vulnerable and biodiverse part of the Inventory Area. In these habitats, a stray tire from a single vehicle could eliminate an entire population of vulnerable plants.

Thank you once again for the opportunity to work on this delicate and important natural site. We look forward to working with you in the future.

Sincerely,

James Diggs

Katie Horton

Dan Spaulding

P.O. Box 1587 · 800 Museum Drive · Anniston, Alabama 36202-1587 · Phone: 256-237-6766 · Fax: 256-237-6776 · E-mail: info@annistonmuseum.org

From:	Wills, Ken
To:	Carlee, Jason; Anderson, Wesley Taylor; Anderegg, Angela Segars; Tom Diggs (Tom.Diggs@ung.edu)
Cc:	Baker, Jeffery L.; Chitwood, John C.; Yerby, Joshua Newton
Subject:	RE: Damage at Flat Rock Park
Date:	Thursday, March 26, 2020 7:28:45 PM

EXTERNAL MAIL: Caution Opening Links or Files

Thanks Jason,

Sounds good. One thing I will mention is that there is an old logging type road that runs into this property from the adjacent landowner due south of the granite outcrops we are trying to protect. In the past, I saw signs that ATVs had crossed the trashed out granite outcrop of that adjacent property which is next to the road on the left before you get to the park gates, and then they followed the short log road north to the more pristine outcrops in the backcountry of Flat Rock Park. If that road could be signed or fenced/blocked at the property line that would probably help keep ATVs off the granite outcrops that may be entering from that way.

I have added Tom Diggs (who recently witnessed the damage) to this email chain in case he has some more specifics on where the ATV problem is coming from.

Thanks again,
Ken

From: Carlee, Jason [mailto:JCARLEE@southernco.com]
Sent: Thursday, March 26, 2020 1:30 PM
To: Wills, Ken <Ken.Wills@jcdh.org>; Anderson, Wesley Taylor <WTANDERS@SOUTHERNCO.COM>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Baker, Jeffery L. <JEFBAKER@southernco.com>; Chitwood, John C. <JCHITWOO@SOUTHERNCO.COM>; Yerby, Joshua Newton <JNYERBY@SOUTHERNCO.COM>
Subject: RE: Damage at Flat Rock Park

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Ken,

We're going to put up some signage this week to let people know that ATV traffic is prohibited. A few of us are also going to visit the site next week and try to develop a more effective, long-term solution.

I'll follow up once we have more information.

Thanks,
Jason

From: Wills, Ken <Ken.Wills@jcdh.org>
Sent: Thursday, March 26, 2020 8:15 AM
To: Carlee, Jason <JCARLEE@southernco.com>; Anderson, Wesley Taylor <WTANDERS@SOUTHERNCO.COM>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Baker, Jeffery L. <JEFBAKER@southernco.com>; Fitch, Robert Chadwick <RCFITCH@southernco.com>; Chitwood, John C. <JCHITWOO@SOUTHERNCO.COM>
Subject: RE: Damage at Flat Rock Park

EXTERNAL MAIL: Caution Opening Links or Files

Hello all,

Thanks so much, for addressing this. Some folks on this email list may not be familiar with the effort to protect this backcountry granite outcrop area of Flat Rock Park as a Botanical/Natural Undeveloped area through the FERC relicensing process, so if anybody has any questions about how to protect the proposed botanical area from vehicle traffic or questions about the species/habitats of this area, they can feel free to email me or call me on my cell (205) 960-8570.

Stay well,
Kenneth Wills
Acting Coordinator
Alabama Glade Conservation Coalition

From: Carlee, Jason [mailto:JCARLEE@southernco.com]
Sent: Thursday, March 26, 2020 8:01 AM
To: Anderson, Wesley Taylor <WTANDERS@SOUTHERNCO.COM>; Wills, Ken <Ken.Wills@jcdh.org>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Baker, Jeffery L. <JEFBAKER@southernco.com>; Fitch, Robert Chadwick <RCFITCH@southernco.com>; Chitwood, John C. <JCHITWOO@SOUTHERNCO.COM>
Subject: RE: Damage at Flat Rock Park

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Ken,

Thank you for bringing this to our attention. I'm sure there is much more traffic right now with all the kids out of school. We'll discuss some options in-house and follow up with you soon.

Jason

From: Anderson, Wesley Taylor <WTANDERS@SOUTHERNCO.COM>
Sent: Thursday, March 26, 2020 7:13 AM
To: Wills, Ken <Ken.Wills@jcdh.org>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Cc: Carlee, Jason <JCARLEE@southernco.com>; Baker, Jeffery L. <JEFBAKER@southernco.com>; Fitch, Robert Chadwick <RCFITCH@southernco.com>; Chitwood, John C. <JCHITWOO@SOUTHERNCO.COM>
Subject: RE: Damage at Flat Rock Park

Ken,
Good to hear from you, but sorry to hear the news about the ATV traffic at Flat Rock. I have included a few additional people to see if they have ideas to correct this issue. I also wanted to be sure that our biologists are also fully aware of this sensitive area.

Jason Carlee – Water Field Services Supervisor
Jeff Baker – Senior biologist
Chad Fitch – Senior biologist
John Chitwood – Transmission Right of Way Supervisor

Thanks,

Wes Anderson
Alabama Power Company
Environmental Affairs
205-664-6519 office
205-438-0465 mobile

From: Wills, Ken <Ken.Wills@jcdh.org>
Sent: Wednesday, March 25, 2020 7:11 PM
To: Anderson, Wesley Taylor <WTANDERS@SOUTHERNCO.COM>; Anderegg, Angela Segars <ARSEGARS@southernco.com>
Subject: Damage at Flat Rock Park

EXTERNAL MAIL: Caution Opening Links or Files

Hello Angie and Wes,

I hope you are doing well in this time of working from home and social distancing. I was communicating with Tom Diggs who is organizing the continuing botanical survey of the backcountry area at Flat Rock Park. He said on a recent survey trip he

noticed where vehicle traffic was damaging some of the rare plant habitats on the granite outcrops were are all working to preserve. We all knew that trespassing vehicles and ATVs driving the powerline corridor had the potential to damage that area, but it looks like someone has now actually driven through the rare plant habitats. Tom let me know that there are tire tracks a few feet away from the only population of spotted scorpionweed in the state of Alabama. Diamorpha pools have been badly damaged, and the habitat of another species recently discovered on the site, granite quillwort, is also threated by these vehicles.

I am not sure what you all can do with so much of our state's efforts focused on addressing corona and keeping utility services going during this uncertain time, but we had talked in the past about putting up a fence/gate where that powerline meets the road to help keep trespassing vehicles/ATVs out of that area. If resources are currently available to put in such a fence/gate that would be great. The glade itself may need to be fenced if a fence/gate next to the road will not keep the vehicles out of the rock outcrops. If this needs to wait until things return to normal I understand that as well.

Let me know how and when you want to handle this.

Thanks,
Ken Wills
Alabama Glade Conservation Coalition
(205) 515-9412 cell

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Alabama Power

600 North 18th Street
Hydro Services 16N-8180
Birmingham, AL 35203
205 257 2251 tel
arsegars@southernco.com

April 10, 2020

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Transmittal of the Initial Study Report

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 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 Determination (SPD)[1] 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 2019 and October 2020. Alabama Power filed the first of two Progress Updates on October 31, 2019.[2]

Pursuant to the Commission's Integrated Licensing Process (ILP) and 18 CFR § 5.15(c), Alabama Power is filing herein the Harris Project Initial Study Report (ISR) (Attachment). The enclosed ISR describes Alabama Power's overall progress to-date in implementing the study plan and schedule, a summary of the data, and any variances from the study plan and schedule. The ISR also includes modifications, if applicable, to ongoing studies. Alabama Power is not proposing any new studies.

Concurrent with this ISR filing, Alabama Power is filing six study reports and two cultural resources documents, including the consultation record for each of these six reports, which includes correspondence from May 2019 through March 2020. Table 1 outlines each study, the respective Harris Action Team (HAT), and the status of the study report. For those studies where a Draft Study Report is not due at the time of filing this ISR, the draft study report due date is noted.

[1] Accession Number 20190412-3000

[2] Accession Number 20191030-5053

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Table 1 – Summary of the Harris Studies and Study Reports Filed with FERC Concurrent with the ISR

Study Name	Harris Action Team (HAT)	Draft Study Report Filed Concurrent with ISR (YES/NO)
Operating Curve Change Feasibility Analysis	HAT 1	YES – Draft Report with consultation filed with FERC
Downstream Release Alternatives Study	HAT 1	YES – Draft Report with consultation filed with FERC
Erosion and Sedimentation Study	HAT 2	YES – Draft Report with consultation filed with FERC
Water Quality Study	HAT 2	YES – Draft Report with consultation filed with FERC
Aquatic Resources Study	HAT 3	NO – Draft Report due July 2020
Downstream Aquatic Habitat Study	HAT 3	NO – Draft Report due June 2020
Threatened and Endangered Species Study	HAT 3	YES – Draft Desktop Assessment with consultation filed with FERC
Project Lands Evaluation	HAT 4	YES – Draft Phase 1 Study Report with consultation filed with FERC
Recreation Evaluation Study	HAT 5	NO – Draft Report due June 2020 (requesting variance to August 2020)
Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study	HAT 6	YES – Inadvertent Discovery Plan; Traditional Cultural Properties Identification Plan; consultation filed with FERC; No – Area of Potential Effect (due April 2020; requesting variance to June 2020)

The SPD schedule for the HAT 1, HAT 3, and HAT 5 studies included hosting HAT meetings in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host these HAT meetings.

Alabama Power is requesting a schedule variance for the following studies:

1) Water Quality Study – Alabama Power stated that it would submit a Section 401 Water Quality Certification (WQC) to ADEM in 2020; however, following discussions with ADEM, Alabama Power intends to submit the 401 WQC application to ADEM in April 2021.

2) Draft Recreation Evaluation Study Report - Alabama Power added the Tallapoosa River Downstream Landowner Survey and the Tallapoosa River Recreation User Survey in 2020[3]. Due to the additional study elements and extended deadline for landowners and the public to participate in the surveys, Alabama Power will file the Draft Recreation Evaluation Study Report in August 2020 rather than June

[3] Accession Number 20191219-5186

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2020. Alabama Power is not requesting a schedule variance for the Final Recreation Evaluation Study Report due November 2020.

3) The Area of Potential Effect (APE) – Alabama Power is continuing consultation with the Alabama Historical Commission to finalize the APE as part of the Cultural Resources Study; therefore, Alabama Power will file the APE and associated consultation in June 2020.

Pursuant to 18 CFR §5.15(c)(2), Alabama Power will host the Initial Study Report Meeting (Meeting) with stakeholders and FERC on April 28, 2020 by conference call ([205] 257-2663 **or** [404] 460-0605, conference ID 489472). Note that Alabama Power consulted with FERC staff on hosting this Meeting one day later than the date required by the ILP schedule due to a state holiday on April 27, 2020, and to provide stakeholders adequate time to review the ISR prior to the Meeting. The Meeting will begin at 9:00 AM and conclude by 4:00 PM. The purpose of the Meeting is to provide an opportunity to review the contents of the ISR and to discuss the study results and proposals to modify the study plan, if any, in light of the progress of the studies and data collected.

Alabama Power will file the Initial Study Report Meeting Summary by May 12, 2020. Stakeholders will have until June 11, 2020, to file comments on the ISR and Meeting Summary with FERC.

Stakeholders may access the ISR 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 ISR 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 – Initial Study Report

cc: Harris Stakeholder List

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Attachment
Initial Study Report

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HARRIS DAM
RELICENSING

INITIAL STUDY REPORT

R. L. HARRIS PROJECT

FERC NO. 2628

Prepared by:

ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA

Alabama Power

APRIL 2020

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INITIAL STUDY REPORT

R. L. HARRIS PROJECT
FERC NO. 2628

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INITIAL STUDY REPORT

R. L. HARRIS PROJECT
FERC NO. 2628

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 or Commission). Alabama Power is relicensing of the 135-megawatt 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

[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).

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by, the State of Alabama for wildlife management and public hunting and are part of the Skyline WMA.

For the purposes of this report, “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.

Commonly used acronyms and abbreviations that may appear in this Initial Study Report (ISR) are included in Appendix A.

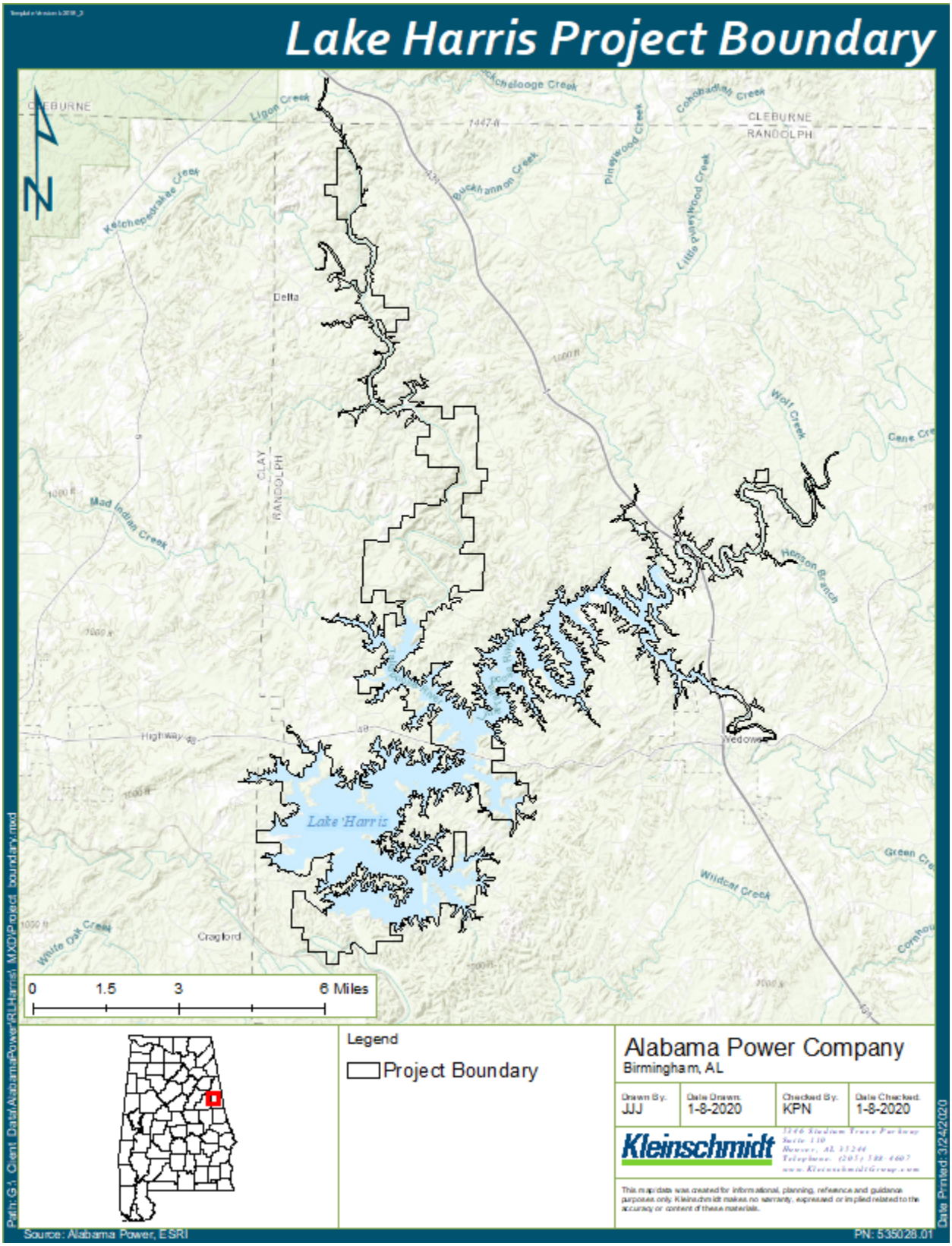

FIGURE 1 LAKE HARRIS PROJECT BOUNDARY

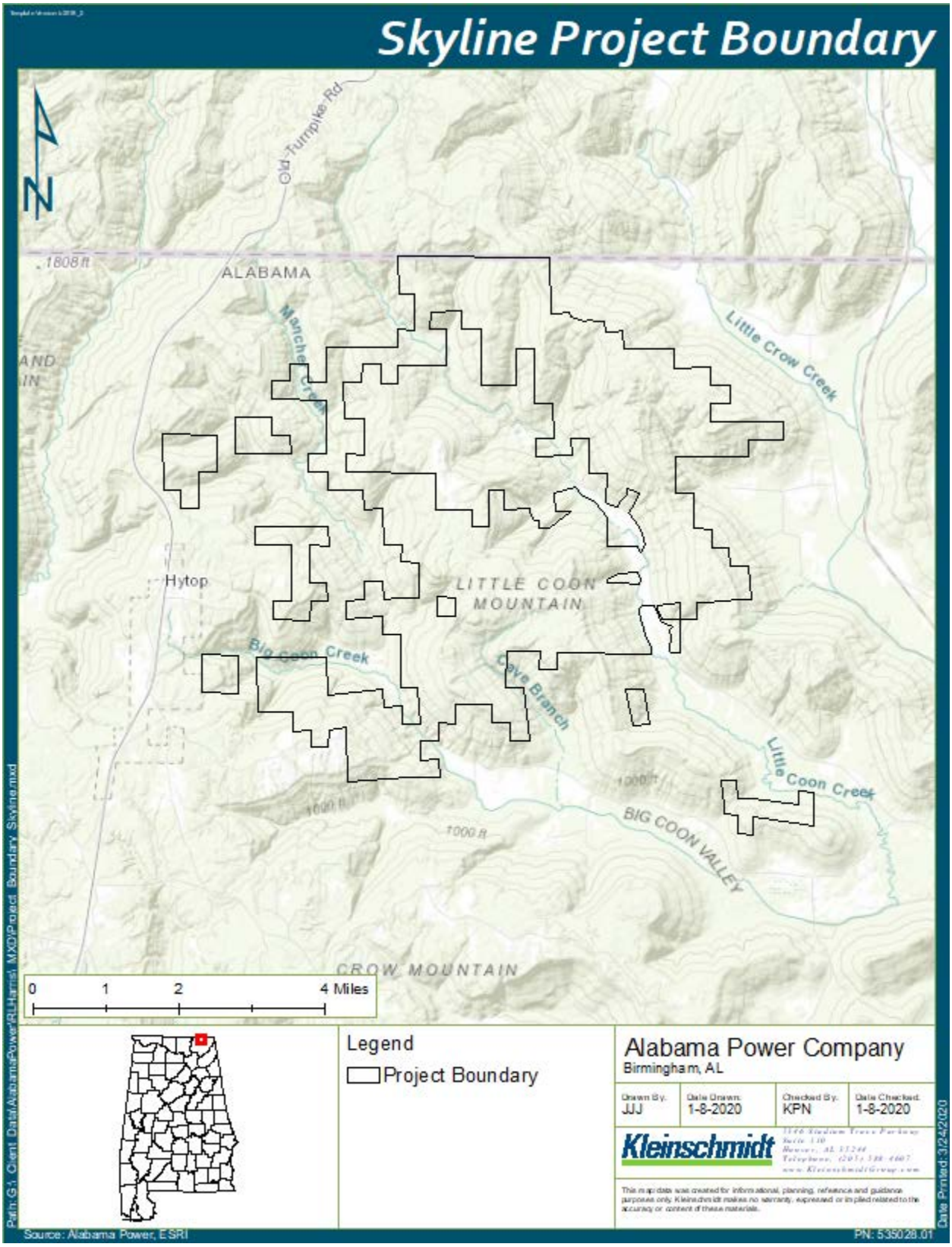

FIGURE 2 SKYLINE PROJECT BOUNDARY

2.0 HARRIS STUDY PLAN 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 Meetings[2] 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 (T&E) 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, 2019. FERC issued a Study Plan Determination (SPD)[3] 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, 2019[4]. According to the FERC's process plan and schedule for the Harris Project, Alabama Power's ISR is due to FERC on or before April 12, 2020.

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:

- HAT 1 – Project Operations
- HAT 2 – Water Quality and Use

[2] Accession Nos. 20181010-4002 and 20181010-4003
[3] Accession No. 20190412-3000
[4] Accession No. 20190513-5093

- HAT 3 – Fish and Wildlife
- HAT 4 – Project Lands
- HAT 5 – Recreation
- HAT 6 – Cultural Resources

The HATs met throughout 2019 and into 2020 to discuss the various studies and to provide input regarding the study process.

Pursuant to FERC's SPD, Alabama Power is filing six draft study reports and two cultural resources documents concurrently with the ISR filing. These include:

- Draft Operating Curve Change Feasibility Analysis Phase 1 Report
- Draft Downstream Release Alternatives Phase 1 Report
- Draft Erosion and Sedimentation Study Report
- Draft Water Quality Report
- Draft Threatened and Endangered Species Desktop Assessment
- Draft Phase 1 Project Lands Evaluation Study Report
- Inadvertent Discovery Plan (IDP)
- Traditional Cultural Properties (TCP) Identification Plan

The filings containing the draft study reports and the cultural resources documents include HAT meeting summaries and presentations, and documentation of consultation between May 2019 through March 2020. Alabama Power will file with FERC the study reports for the Aquatic Resources and Downstream Aquatic Habitat studies according to the due date in the FERC SPD. Alabama Power will file the Draft Recreation Evaluation study report in August 2020[5]. The filing containing these draft study reports will include documentation of consultation from May 2019 to the date the respective study reports are filed with FERC.

Sections 3 through 12 of this ISR summarize the 10 FERC-approved studies in accordance with 18 Code of Federal Regulations (CFR), Section 5.15, including 1) the purpose of the study and summary of methods; 2) the study progress, including data collected; 3) any variance from the

[5] This is a variance in the schedule from the June 2020 date in the FERC SPD.

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FERC SPD and schedule; and 4) remaining activities and any modifications to the existing study or new studies proposed by Alabama Power.

3.0 OPERATING CURVE CHANGE FEASIBILITY ANALYSIS STUDY

3.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Operating Curve Change Feasibility Analysis Study evaluates, in increments of 1 foot from 786 feet msl to 789 feet msl (i.e., 786, 787, 788, and 789 feet msl; collectively "winter pool alternatives" or "alternatives"), Alabama Power's ability to increase the winter pool elevation and continue to meet Project purposes. Any changes to the Harris Project operating curve could have the potential to impact downstream communities and, therefore, downstream impacts must be identified in the analysis.

This study is divided into two phases: During Phase 1, Alabama Power performed extensive modeling and analysis of the hydrologic record and baseline information for the Project to identify potential impacts of a winter operating curve change on hydropower generation, flood control, navigation, drought operations, Green Plan flows,[6] and downstream release alternatives. In Phase 2, Alabama Power will conduct qualitative and quantitative evaluations of potential resource impacts (water quality; water use; erosion and sedimentation, including invasive species; aquatic resources; wildlife, threatened and endangered species; terrestrial wetlands; recreation; and cultural resources).

Phase 1 study methods included using existing data (hydrologic record and baseline information) to develop the appropriate simulation models to evaluate, in increments of 1 foot from 786 feet msl to 789 feet msl, Alabama Power's ability to increase the winter pool elevation and continue to meet Project purposes. The simulation models developed as part of this study provided the tools needed to identify impacts to operational parameters and resources.

The study methods also included calibrating the models and defining the model boundaries. These methods and models are described in detail in Sections 1 through 4 of the Draft Operating Curve Change Feasibility Phase 1 Report.

[6] See Section 4.2.1.1 of the Draft Operating Curve Change Feasibility Analysis Phase 1 Report for discussion of the Green Plan.

3.2 STUDY PROGRESS

Alabama Power formed HAT 1 to provide stakeholders an opportunity to participate in issues related to Project operations. Alabama Power presented the models and assumptions to HAT 1 on September 11, 2019. As noted in Section 2.0, the Draft Operating Curve Change Feasibility Analysis Phase 1 Report is being filed concurrently with the ISR and the filing contains the relevant HAT 1 meeting summaries, presentations, and documentation of consultation. The Phase 1 draft report presents results for seven operational parameters: hydropower generation, flood control, navigation, drought operations, Green Plan flows, Harris Reservoir levels, and downstream release alternatives.

The Phase 1 Hydrologic Engineering Center-River Analysis System (HEC-RAS) modeling using the Hydrologic Engineering Center-Reservoir System Simulation (HEC-ResSim) model output indicates that any increase in the winter pool elevation at the Harris Dam will result in increased area, depth, and duration of flooding at points downstream of Harris Dam. Due to the natural channel geometry, for long stretches of the Tallapoosa River there is not significantly more area affected by increases in the winter pool; however, there are increases in the areas affected by flooding where tributary streams with low lying floodplains enter the Tallapoosa River. The proposed operating curve changes not only increase inundation areas but also increase the depth of flooding.

The Green Plan minimum releases from Harris were met or exceeded for the period of record for all alternatives. No changes were found in the ability to pass Green Plan flows from Harris Dam due to an increase in the winter pool. With the discharge target based on flows upstream of the reservoir at Heflin, the required releases were the same for all alternatives.

Using the HydroBudget model, Alabama Power determined that each of the four operating curve alternatives resulted in a loss in hydropower generation. While the greatest annual economic loss occurs in the + 4-foot (789-feet msl) winter pool alternative, this loss represents a relatively small decrease in hydropower generation for the Alabama Power hydroelectric system as a whole.

The four alternatives had no effect, compared to baseline, on Alabama Power's ability to maintain the Harris Reservoir levels, implement drought operations, or support navigation

downstream. Finally, the four alternatives did not affect Alabama Power's ability to release the downstream release alternatives being evaluated in the Downstream Release Alternatives Study Plan.

3.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

Alabama Power conducted the Operating Curve Change Feasibility Analysis Phase 1 Study in full conformance with FERC's SPD; however, Alabama Power's schedule included hosting a HAT 1 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

3.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond those in the FERC SPD.

Remaining activities include:

- Review comments on the Draft Operating Curve Change Feasibility Analysis Phase 1 Report and modify the Final Report, as appropriate. For any comments not addressed in the Final Report, Alabama Power will provide an explanation of why these comments were not incorporated.
- Alabama Power will use the information in the Phase 1 Final 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 and sedimentation (including invasive species), aquatic resources, wildlife, T&E species, terrestrial wetlands, recreation resources, and cultural resources.
- In Phase 2, Alabama Power will analyze how the proposed operating curve alternatives could potentially affect existing structures (houses, barns, sheds, etc.) downstream of Harris Dam during flood events. Analysis will include identifying structures inundated under the various alternatives, including depth of inundation and duration.
- The modeling results combined with other environmental study analyses will result in a final recommendation from Alabama Power on any change in the operating curve at Harris.

4.0 DOWNSTREAM RELEASE ALTERNATIVES STUDY

4.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Downstream Release Alternatives Study evaluates the effects of pre- and post-implementation of the Green Plan operations, a continuous minimum flow of 150 cfs (which is roughly the equivalent daily volume of three ten-minute pulses), and an alternative/modified Green Plan operation[7] (i.e., changing the time of day in which Green Plan pulses are released) on Project resources.

This study is being conducted in two phases. In Phase 1, Alabama Power used models developed in other Harris Project FERC-approved studies and conducted modeling simulations using specific methods, tools, and processes (as described in the FERC-approved Study Plan) to evaluate impacts to existing operational parameters, including reservoir levels, hydropower generation, flood control, navigation, and drought operations. In Phase 2, Alabama Power will analyze the effects of the downstream release alternatives on other resources, including water quality, water use, erosion and sedimentation (including invasive species), downstream aquatic resources (temperature and habitat), wildlife and terrestrial resources, T&E species, recreation, and cultural resources.

Study methods included using existing data (hydrologic record and baseline information) to develop the appropriate simulation models to conduct the analysis of the downstream release alternatives. The primary tool for this study is HEC-RAS; however, Alabama Power used other HEC models to address the effects of downstream release alternatives. Tools included: 1) Alabama-Coosa-Tallapoosa (ACT) unimpaired flow database and other U.S. Geological Survey (USGS), U.S. Army Corps of Engineers (USACE), and Alabama Power records; 2) HEC-RAS; HEC-ResSim; Hydrologic Engineering Center- Data Storage System and Viewer (HEC-DSSVue); and Alabama Power's HydroBudget. These models are described in detail in Section 4 of the Draft Downstream Release Alternatives Phase 1 Report.

Impacts to the Harris Project were evaluated by modeling the current operations combined with each downstream release alternative through the daily HEC Res-Sim for the ACT Basin. During

[7] The alternative/modified Green Plan operation downstream release alternative will be evaluated as part of Phase 2. Results from the other three scenarios as well as from the Aquatic Resources Study are needed to design the alternative to be studied.

Phase 2 of this study, the outflow hydrographs from HEC-ResSim will be routed downstream using HEC-RAS to assess effects on alternative release scenarios on Project resources.

4.2 STUDY PROGRESS

Alabama Power formed HAT 1 to provide stakeholders an opportunity to participate in issues related to Project operations. Alabama Power presented the Phase 1 Downstream Release Alternatives models and assumptions to HAT 1 on September 11, 2019. As noted in Section 2.0, the Draft Downstream Release Alternatives Study Phase 1 Report is being filed concurrently with the ISR and the filing contains the relevant HAT 1 meeting summaries, presentations, and documentation of consultation.

The Phase 1 HEC-RAS modeling using the HEC-ResSim output indicates that Pre-Green Plan, Green Plan, and 150 cfs continuous minimum flow have no effect on Harris Reservoir levels, flood control, navigation, or drought operations. Comparing the Pre-Green Plan and Green Plan using HydroBudget shows that returning to Pre-Green Plan operations would result in an annual economic gain to Alabama Power customers from a hydropower generation perspective because all hydropower generation would occur during peak times rather than a portion of generation occurring during off-peak pulsing operations. In evaluating the 150 cfs minimum flow alternative, there are too many unknowns at this time to generate reliable/accurate HydroBudget results; however, if the 150 cfs minimum flow is provided through a non-generation mechanism, the impact to hydropower generation will be the same or slightly worse than the impact from Green Plan operations. The capital and operation and maintenance costs associated with a generating or non-generating mechanism for providing a 150 cfs minimum flow will be considered in other economic analyses required by the relicensing process if it is part of Alabama Power's proposal.

4.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

Alabama Power conducted the Downstream Release Alternatives Study in full conformance with FERC's SPD; however, Alabama Power's schedule included hosting a HAT 1 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

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4.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond those in the FERC SPD**.**

Remaining Activities include:

- Review comments on the Draft Downstream Release Alternatives Study Phase 1 Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.
- Alabama Power will use the information in the Phase 1 Final 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, downstream erosion, aquatic resources, wildlife, terrestrial, and T&E resources, recreation, and cultural resources.
- The modeling results combined with other environmental study analyses will result in a final recommendation from Alabama Power on any downstream release at Harris.

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5.0 WATER QUALITY STUDY

5.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Draft Water Quality Study Report supplements information included in the 2016 Baseline Water Quality Report. Data sources include Alabama Power, Alabama Department of Environmental Management (ADEM), and Alabama Water Watch (AWW). AWW data was not available to Alabama Power to include in the 2016 Baseline Water Quality Report. Therefore, this study report summarizes data collected from 2017 through 2019 with the exception of AWW data which also includes years prior to 2017. No additional data than what was included in the 2016 Baseline Water Quality Report were available for streams at Skyline. Because the current 303(d) list includes a section of Little Coon Creek at Skyline as impaired due to siltation, it is addressed in the Draft Erosion and Sedimentation Report.

In an effort to support obtaining the required 401 Water Quality Certification (WQC), Alabama Power conducted dissolved oxygen and temperature monitoring in the tailrace at a location previously approved by ADEM, approximately 800-feet-downstream of the Harris Dam on the west bank of the river, from June 1 through October 31 (2017 through 2019). Measurements of dissolved oxygen and temperature were recorded continuously at 15-minute intervals during generation. Alabama Power also collected monthly vertical profiles of temperature and dissolved oxygen in the Harris Reservoir forebay between March and October of 2018 and 2019 for comparison to historic profiles.

In addition to the monitoring to support the 401 WQC, Alabama Power monitored dissolved oxygen and temperature approximately 0.5 mile downstream of Harris Dam. Data were recorded continuously at 15-minute intervals beginning March 1 through October 31, 2019. Alabama Power provided discharge data during the March 1 through October 31 monitoring period to allow for data comparison.

Additionally, Alabama Power worked with HAT 2 participants to identify areas of water quality concern (areas believed to have degraded water quality conditions) and determined if identified areas warrant further examination as well as compiled available water quality information for those areas.

5.2 STUDY PROGRESS

Alabama Power developed HAT 2 to provide stakeholders an opportunity to participate in issues related to water quality. Alabama Power held a HAT 2 meeting on September 11, 2019 and distributed the Draft Water Quality Study Report to HAT 2 participants on March 9, 2020. The Draft Water Quality Report presented results on water quality parameters in the Harris Reservoir as well as in the Tallapoosa River downstream of the Harris Dam. As noted in Section 2.0, the Draft Water Quality Study Report is being filed concurrently with the ISR and the filing contains the relevant HAT 2 meeting summaries, presentations, and documentation of consultation.

Alabama Power collected dissolved oxygen and temperature data as described in the study methods at two locations downstream of the dam, in addition to the monthly vertical profiles collected in the Harris Reservoir forebay.

HAT 2 stakeholders identified one location, the Foster's Bridge area at Lake Harris, as an area of water quality concern with regard to potential nutrient enrichment and associated impacts. Alabama Power used existing and historical data to assess the Foster's Bridge area.

Data collected during generation immediately downstream of Harris Dam in 2018 and 2019 indicated dissolved oxygen was greater than 5 milligrams per liter (mg/L) for 94 percent of all measurements (91 percent in 2018 and 99.6 percent in 2019). Data from the continuous monitoring station that recorded data during both generation and non-generation in 2019 indicated dissolved oxygen levels were greater than 5 mg/L for 99.9 percent of all measurements. Monitoring data collected by Alabama Power in 2017 showed numerous events where dissolved oxygen was less than 5 mg/L. The low dissolved oxygen events in 2017 may be attributed to conditions in the Harris Reservoir that were impacted by severe drought in the summer and fall of 2016, where inflows to the lake were at historic lows. A variance that allowed for the lake to be filled two feet above the normal rule curve earlier in the year was likely another contributing factor. Harris Reservoir became more strongly stratified earlier in the year compared to other years. Dissolved oxygen levels at depths below 20 feet in the lake were hypoxic/anoxic from June through October 2017.

Data collected by ADEM on the Tallapoosa River at Harris Dam, Wadley, and Horseshoe Bend showed dissolved oxygen levels were well above 5 mg/L during each of their sampling events.

Data from the recently installed continuous monitor at Malone indicated that dissolved oxygen levels were greater than 5 mg/L for 99 percent of the monitoring period.

5.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

Alabama Power conducted the Water Quality Study in full conformance with FERC's SPD; however, following discussions with ADEM, Alabama Power intends to submit an application to ADEM for the 401 WQC in April 2021, not in April 2020 as noted in the FERC SPD.

5.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining Activities include:

- Review comments on the Draft Water Quality Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.
- Alabama Power will prepare the 401 WQC application and submit to ADEM in April 2021.

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6.0 EROSION AND SEDIMENTATION STUDY

6.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Erosion and Sedimentation Study identified problematic erosion sites and sedimentation areas at the Harris Project and downstream of Harris Dam to Horseshoe Bend and determined the likely causes. Erosion and sedimentation sites were solicited from HAT 2 participants.

Methods for evaluating erosion sites on Lake Harris and the Tallapoosa River downstream of Harris Dam included photographing, georeferencing, and examining each site identified by HAT 2 participants, either in the field or via aerial imagery analysis, to determine the cause of the erosion (i.e., Harris Project operations, land disturbance [development], or natural processes). Additionally, a High Definition Stream Survey (HDSS) was conducted to evaluate streambank conditions on the Tallapoosa River downstream of Harris Dam to Horseshoe Bend. Regarding sedimentation areas, light, detection and ranging (LIDAR) and available satellite imagery/aerial photography were used to examine identified areas. The analysis of both erosion and sedimentation areas was supported by field observations. The identified sedimentation areas will be surveyed for nuisance aquatic vegetation.

Little Coon Creek, which flows through portions of the Project Boundary at Skyline, is currently listed as impaired by ADEM due to siltation. The sources of this impairment include non-irrigated crop production and pasture grazing. Study methods included a GIS analysis of land use classifications within the Project Boundary at Skyline to assess the impact of agriculture on Little Coon Creek. Land use data was provided by the multi-resolution land characteristics (MRLC) consortium.

6.2 STUDY PROGRESS

Alabama Power developed HAT 2 to provide stakeholders an opportunity to participate in issues related to erosion and sedimentation. During the October 19, 2017 issue identification workshop, several stakeholders noted the location of possible erosion and sedimentation areas. Alabama Power distributed an email on May 1, 2019 to HAT 2 participants providing maps of erosion and sedimentation areas previously identified for evaluation and requesting identification of additional areas of erosion and sedimentation concerns. Alabama Power held a HAT 2 meeting on September 11, 2019 where it presented geographic information system (GIS) overlays and

maps of erosion and sedimentation sites that would be included in the field assessment. Following the September 11, 2019 HAT 2 meeting, a stakeholder requested, and Alabama Power agreed, to include an additional erosion site in the field assessment. On March 17, 2020, Alabama Power distributed the Draft Erosion and Sedimentation Study Report to HAT 2. As noted in Section 2.0, the Draft Erosion and Sedimentation Study Report is being filed concurrently with the ISR and the filing contains the relevant HAT 2 meeting summaries, presentations, and documentation of consultation.

6.2.1 LAKE HARRIS

Twenty-four erosion sites were identified for field assessment; field assessments were conducted in December 2019 during the winter drawdown when the sites were dewatered and could be fully assessed. Each site was photographed and examined to determine the cause of erosion. No significant signs of active erosion were present at 8 of the 24 sites.

Nine sedimentation areas were identified by stakeholders and by examining available satellite imagery/aerial photography and LIDAR data using GIS. The identified sedimentation areas were limited to areas exposed during the winter pool drawdown due to limitations of LIDAR in measuring below water surfaces. Therefore, approximate surface area for each identified sedimentation area was measured using contours established in a 2015 LIDAR survey of the lake during the drawdown. Limited aerial imagery of the lake during winter draw down and historic LIDAR data for the reservoir did not allow for a comparison to historic conditions. On December 4, 2019, Alabama Power visited all sedimentation areas that were accessible via boat to conduct field verification.

Sedimentation areas on Lake Harris are primarily concentrated in the Little Tallapoosa arm where riverine flows enter the impoundment zone created by Lake Harris. To assess potential causes for sediment introduction to the system, land use classifications were analyzed for the Little Tallapoosa River Basin in 2001 and compared to 2016. Twenty-five percent of the Little Tallapoosa River Basin has been converted to hay/pasture fields. Land clearing and conversion to agricultural fields is a significant contributing factor of sedimentation in the Little Tallapoosa arm of Lake Harris.

6.2.2 TALLAPOOSA RIVER DOWNSTREAM OF HARRIS DAM

Streambank condition point data collected during the downstream HDSS was averaged into 0.1-mile segments to help facilitate finding any failing streambank areas. Using these data, a ranking system was developed to understand specific areas of failing streambanks on the Tallapoosa River and to identify any significantly impaired areas. Notably, only one area scored as impaired to non-functional (located on the right bank between river mile [RM] 16.3 to 16.9).

The downstream HDSS results were also used to assess the condition of identified erosion sites 22 and 23. These sites were assessed using the same criteria as the erosion sites located within Lake Harris. Both sites were confirmed to have areas of erosion primarily caused by adjacent land use/clearing and natural riverine processes.

6.2.3 SKYLINE

A GIS analysis of land use classifications within the Project Boundary at Skyline was used to assess the impact of agriculture on Little Coon Creek. A comparison of land use within the watershed boundary of Little Coon Creek was conducted using the earliest available MRLC landcover dataset (2001) and the most recent (2016). This analysis indicated that 8.8 percent of the land within the watershed is used for agriculture (i.e. cultivated crops and hay/pasture), increasing from 2001 to 2016. The proximity of these areas to Little Coon Creek more easily allows for soils loosened due to tilling or other agricultural practices to be washed into Little Coon Creek, resulting in sedimentation of the creek bottom.

6.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

There are no variances from the study plan or schedule.

Alabama Power conducted the Erosion and Sedimentation Study in full conformance with FERC's SPD.

6.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

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Remaining Activities include:

- Alabama Power will perform additional reconnaissance at identified sedimentation sites on Lake Harris during full (summer) pool conditions to determine if any nuisance aquatic vegetation is present and provide the results of that assessment to HAT 2 in the form of a technical memorandum.
- Review comments on the Draft Erosion and Sedimentation Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.

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7.0 AQUATIC RESOURCES STUDY

7.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Aquatic Resources Study evaluates the effects of the Harris Project on aquatic resources. Monitoring conducted since the initiation of the Green Plan[8] indicated a positive fish community response and increased shoal habitat availability; however, little information exists characterizing the extent that the Green Plan enhanced the aquatic habitat from Harris Dam downstream through Horseshoe Bend. Furthermore, the Alabama Department of Conservation and Natural Resources (ADCNR) noted the abundance of some species is below expected levels, which could be due to several factors including sampling methodologies, thermal regime, flow regime, and/or nutrient availability.

Stakeholders noted that stream temperatures in the Tallapoosa River downstream of Harris Dam are generally cooler than other unregulated streams in the same geographic area, and this portion of the Tallapoosa River experiences temperature fluctuations due to peaking operations at Harris Dam. There is concern that the lower stream temperatures and temperature fluctuations are impacting the aquatic resources (especially fish) downstream of Harris Dam. ADCNR recommended use of a bioenergetics model to evaluate the potential effects of temperature fluctuations due to current Project operations on fish downstream of Harris Dam.

Questions have also been raised regarding potential effects the Harris Project may have on other aquatic fauna within the Project Area, including macroinvertebrates such as mollusks and crayfish. Alabama Power is investigating the effects of the Harris Project on these aquatic species and is performing an assessment of the Harris Project's potential effects on species mobility and population health.

These study tasks are being accomplished through desktop assessments, field studies, and laboratory studies. Alabama Power has been compiling and summarizing data from existing information sources to provide a comprehensive characterization of aquatic resources within the Project Area. Alabama Power is also working with Auburn University to conduct field and

[8] Generally, the Green Plan specifies short (10 to 30 minute) pulses from Harris Dam, with the pulse duration determined by conditions at a gage on an unregulated section of the Tallapoosa River upstream of Harris Reservoir. The purpose of the Green Plan was to reduce the effects of peaking operations on the aquatic community downstream.

laboratory studies of the fish populations in the Tallapoosa River downstream of Harris Dam through Horseshoe Bend to determine how Harris Dam may be affecting the fish community in this reach.

7.2 STUDY PROGRESS

Alabama Power developed HAT 3 to provide stakeholders an opportunity to participate in issues related to fish and wildlife resources. Alabama Power is performing a desktop assessment summarizing relevant current and historic information characterizing aquatic resources at the Harris Project. Sources of information include reservoir fisheries management reports, scientific literature from aquatic resource studies conducted in the Study Area, ADCNR Natural Heritage Database data, Alabama Power faunal survey data, and state and federal faunal survey data.

Currently, Alabama Power is finalizing this desktop assessment and will include it in the Draft Aquatic Study Report to be filed with FERC in July 2020.

A literature review of temperature requirements of target species (Redbreast Sunfish, Channel Catfish, Tallapoosa Bass, and Alabama Bass) is being conducted by Auburn University. Because the Alabama Bass is recently described, there is little information on its temperature requirements; therefore, temperature data for the spotted bass, a closely related species, is being used. Alabama Power and USGS have provided Auburn University with historic temperature data to incorporate into its analysis.

Auburn University has been sampling the fish community at four sites: Horseshoe Bend, Wadley, Lee's Bridge (control site), and the Harris Dam tailrace. Sampling was conducted in April, May, July, September, November 2019, and January 2020, with six, 10-minute sampling transects occurring each sampling day. Individual fish were weighed, measured, sexed, had gonads removed and weighed, had diets removed from stomachs and preserved, and had otoliths removed and stored to be evaluated. To date, all diets have been quantified, all prey items identified, and a subsample measured, and all diet data have been entered into a databank for evaluation.

Representative specimens of the target fish collected at the four sites are being used in intermittent flow static respirometry tests to assess their baseline, or resting, metabolic rates under multiple temperatures. The metabolic rates will be used in bioenergetics models for each

target species at each of the four sites. Swimming respirometry is also being used to quantify both performance capabilities of fish and their active metabolic rates. Diet, size distributions, and growth rates are currently being estimated for bioenergetics model simulations.

As noted in Section 2.0, Alabama Power will file the Draft Aquatic Resources Study Report with consultation documentation in July 2020.

7.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

To date, Alabama Power has conducted the Aquatic Resources Study in full conformance with FERC's SPD; however, Alabama Power's schedule included hosting a HAT 3 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

Auburn University is exploring alternatives to electromyogram radio tags because of their limited ability to quantify fish swimming energetic costs and the relatively large size of these tags. Acoustic/radio (CART) tags are being considered, and the study plan will be revised if needed, to track the activity of individual fish from small watercraft and to detect their position.

7.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining tasks include**:**

- Incorporate the Aquatic Resources Desktop Assessment into the Draft Aquatic Resources Study Report.
- Obtain temperature data at the USGS and Alabama Power monitors and the 20 temperature and level loggers stationed downstream of Harris Dam (recording through July 2020 or later). Temperatures recorded from 2019 and 2020 will be consolidated with historical data.
- Gather and review literature and any available information on temperature tolerances, preferences, or optima for target species.
- Continue fish sampling at each site every other month, conditions permitting, through November 2020.
- Consider an alternative "control" site upstream of the reservoir because the flow regime at the current upstream site (Lee's Bridge) appears to be more closely affected by dam operations than expected.

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- Tag and track fish with CART tags during summer of 2020.
- Continue static respirometry tests and complete at both 10 degrees Centigrade (10^{o}C) and 21°C in 2020.
- Continue to measure active metabolic rates using a combination of increasing water velocity and decreasing water temperature.
- Incorporate the necessary physiological parameters into the bioenergetics model to conduct simulations needed to test potential influence of water temperature and flow on growth rates of fishes below Harris Dam. Auburn University will estimate annual growth of the target fish species using temperature regimes and diets observed in upstream control sites compared to downstream treatment sites along more impacted sections of the Tallapoosa River.
- Alabama Power will distribute the Draft Aquatic Resources Study Report and file with FERC in July 2020. Alabama Power will review comments on the Draft Aquatic Resources Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.

8.0 DOWNSTREAM AQUATIC HABITAT STUDY

8.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Downstream Aquatic Habitat Study describes the relationship between Project operations and aquatic habitat in the Tallapoosa River from Harris Dam through Horseshoe Bend. This study includes the following:

- **Mesohabitat Analysis** - A desktop analysis of the types of available habitat in the Tallapoosa River using GIS, aerial imagery, and visual observations.
- **Hydrologic Data Collection and Analysis** – Collection and analysis of water level, river channel, and water temperature data.
- **Modeling** – Development of a HEC-RAS model to evaluate the effect of current operations on the amount and persistence of wetted aquatic habitat, especially shoal/shallow-water habitat.

8.2 STUDY PROGRESS

Alabama Power developed HAT 3 to provide stakeholders an opportunity to participate in issues related to fish and wildlife resources. Alabama Power held a HAT 3 meeting on December 11, 2019, to review methods for calculating the habitat types using HEC-RAS. Due to low attendance in December 2019, Alabama Power held an additional HAT 3 meeting on February 20, 2020. Alabama Power will file the Draft Downstream Aquatic Habitat Study Report, along with the relevant documentation of consultation, with FERC in June 2020.

The desktop mesohabitat analysis concluded that the 47-mile reach of the Tallapoosa River below Harris Dam is comprised of approximately 46 percent pool habitat, 44 percent riffle habitat, and 10 percent run habitat with current operations. The analysis indicated these habitat types are relatively evenly distributed along the reach, except for a reach between 7 miles and 14 miles downstream of Harris Dam where the amount of riffle habitat per mile is nearly twice that of other reaches.

Water level loggers installed at twenty locations in the Tallapoosa River below Harris Dam began recording water level and water temperature at 15-minute intervals in April 2019 and will continue through June 2020. During deployment and subsequent visits to perform maintenance

and download logger data, technicians performed bathymetric surveys at approximately 200 cross-sections to acquire accurate riverbed elevation data for use in the hydraulic model.

The existing HEC-RAS model[9] terrain was updated using newly collected riverbed elevation and LIDAR data. Based on the USACE's unimpaired flow data set for the Tallapoosa River, 2001 was selected as an "average" water year for modeling purposes. Alabama Power ran simulations using hydrographs created with Harris Dam operations data for 2001. Alabama Power is currently analyzing the results to determine the effects on downstream aquatic habitat.

8.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

To date, Alabama Power has conducted the Downstream Aquatic Habitat Study in full conformance with FERC's SPD; however, Alabama Power's schedule included hosting a HAT 3 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

8.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining activities include:

- Continue analyzing the results of Green Plan model simulations based on input and recommendations. Note that effects on downstream aquatic habitat from modifications to current operations are addressed in the Phase 2 of the Downstream Release Alternatives Study.
- Continue collecting level logger data through June 2020.
- Alabama Power will distribute a Draft Downstream Aquatic Habitat Report in June 2020. Alabama Power will review comments on the Draft Aquatic Resources Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.

[9] The HEC-RAS model developed for the Operating Curve Change Feasibility Analysis and the Downstream Release Alternatives Study was used for this downstream aquatic habitat study.

9.0 THREATENED AND ENDANGERED SPECIES STUDY

9.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Threatened and Endangered Species Study assesses the probability of populations of currently listed federal and/or state protected species and/or their critical habitat occurring within the Harris Project Boundary or Project Area and determine if there are Project related impacts.

The study methods include conducting a desktop analysis of habitat information and maps, compiling a list of federally and state protected T&E species, and identifying critical habitats that occur within the Harris Project Vicinity and the downstream reach of the Tallapoosa River from the Harris Dam through Horseshoe Bend. This study includes reviewing habitat requirements and range of existing and extirpated species and identifying environmental factors potentially affecting each species.

9.2 STUDY PROGRESS

Alabama Power developed HAT 3 to provide stakeholders an opportunity to participate in issues related to fish and wildlife resources. Alabama Power held a HAT 3 meeting on August 27, 2019 to discuss the T&E Species Study Plan and methods. Alabama Power and the USFWS met on November 21, 2019 to survey for fine-lined pocketbook on an approximate 3.75-mile stretch of the Tallapoosa River starting from the County 36 bridge and extending to the shoal below the Highway 431 bridge. The USFWS and Alabama Power agreed to conduct additional surveys on the fine-lined pocketbook in Spring 2020.[10]

Alabama Power distributed the Draft Threatened and Endangered Species Desktop Assessment to stakeholders on February 21, 2020. As noted in Section 2.0, the Draft Threatened and Endangered Species Desktop Assessment is being filed concurrently with the ISR and the filing contains the relevant HAT 3 meeting summaries, presentations, and consultation records.

The draft desktop assessment determined the probability of populations of currently listed T&E species and/or their critical habitat occurring within the Harris Project Boundary or Project Area. A list of species potentially occurring in Alabama counties in the Project Vicinity was compiled

[10] The date of survey may be modified due to COVID-19 restrictions. Alabama Power will consult with the USFWS on survey dates.

from the T&E species list using ADCNR, USFWS, and Alabama Natural Heritage Program databases.

Results and maps were obtained and summarized from USFWS Recovery Plans and 5-Year Reviews, the Federal Register Listings and Critical Habitat Designations, and USFWS Environmental Conservation Online System (ECOS). Maps depicting current species ranges and critical habitats were developed using GIS data available on the USFWS' ECOS online system. This information was used to determine whether further assessments of identified species and habitat are necessary.

The Alabama counties in the vicinity of the Harris Project overlap with the habitat range, critical habitat, and extant populations of 20 federal and state protected T&E species. Nine of these species have habitat ranges intersecting with the Project Boundaries, five of which have a range occurring in the Project Boundary at Skyline, and six of which have a range occurring in the Project Boundary at Lake Harris. Additionally, the USFWS has designated critical habitat for 6 of the 20 total species identified (finelined pocketbook, Indiana bat, rabbitsfoot, slabside pearlymussel, southern pigtoe, and spotfin chub). In addition to critical habitat ranges, specific extant populations were identified for ten species. Seven of the ten listed mussels (Alabama lampmussel, fine-rayed pigtoe, pale lilliput, rabbitsfoot, snuffbox, shiny pigtoe, and slabside pearlymussel), and one of the two listed fish (palezone shiner) have extant populations in the Paint Rock River, which is located 3.9 linear miles from the closest Project Boundary at Skyline. The desktop review of federally listed species and their habitats identified potential habitat for three bat species, two mussels species, two plant species, and a bird that may have habitat within the Project Boundary at Lake Harris and Skyline.

9.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

To date, Alabama Power has conducted the Threatened & Endangered Species Study in full conformance with FERC's SPD; however, Alabama Power's schedule included hosting a HAT 3 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

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9.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining Activities include:

- Review comments on the Draft Threatened and Endangered Species Desktop Assessment and modify the Final Assessment, as applicable. For any comments not included in the Final Assessment, Alabama Power will provide an explanation why these comments were not incorporated.
- Alabama Power will continue working with USFWS to complete field surveys at Harris and Skyline WMA to determine if T&E species are located within the Harris Project Boundary. Species to be surveyed in Spring/Summer 2020[11] include: the palezone shiner at Skyline WMA and the fine-lined pocketbook mussel upstream of Harris Dam.
- The Final T&E Species Study Report will include the Desktop Assessment, the results of all field investigations, and other tasks described in the FERC SPD T&E Species Study Plan.

[11] The date of survey may be modified due to COVID-19 restrictions. Alabama Power will consult with the USFWS on survey dates.

10.0 PROJECT LANDS EVALUATION STUDY

10.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Harris Project Lands Evaluation identifies lands around Lake Harris and at Skyline that are needed for Harris Project purposes and classifies these lands based upon use. Alabama Power evaluated the land use classifications for the Harris Project and determined changes needed to conform to Alabama Power's current land classification system and other Alabama Power FERC-approved Shoreline Management Plans (SMP). This Phase 1 portion of the study identified lands to be added to, or removed from, the current Harris Project Boundary and/or be reclassified. Phase 2 will use the results of Phase 1 and other Harris relicensing studies to develop a Wildlife Management Program (WMP) and a SMP.

The process and methods for Phase 1 included: meeting with HAT 4 members to discuss potential changes to the Harris Project lands (add, delete, or reclassify); a desktop analysis utilizing GIS data such as T&E species, wetlands, and cultural resources (i.e., "Sensitive Areas"), timber management tracts and current practices, and ADEM's data on impaired waters; and developing a draft map using GIS to show all proposed changes to Harris Project lands.

Phase 2 includes development of a SMP (Phase 2A) and a WMP (Phase 2B) to file with the final license application. In addition to the results from the Phase 1 Project Lands Evaluation, Alabama Power will incorporate information collected during other relicensing studies (e.g., T&E, water quality, and recreation studies), as appropriate, to the SMP and WMP. Specific activities for developing the SMP and WMP are included in FERC's SPD.

10.2 STUDY PROGRESS

Alabama Power developed HAT 4 to provide stakeholders an opportunity to participate in issues related to Project lands, the WMP, and SMP. Alabama Power held a HAT 4 meeting on September 11, 2019, to review proposed land use changes, including lands to be added to the Project Boundary, lands to be removed from the Project Boundary, and proposed changes in land use classifications of existing Project lands. Alabama Power presented the proposed changes in GIS overlays. Following the September 11, 2019 HAT 4 meeting, Alabama Power solicited feedback from HAT 4 regarding the Project Lands proposal. As noted in Section 2.0, the Draft Phase 1 Project Lands Evaluation Study Report is being filed concurrently with the ISR and the

filing contains the relevant HAT 4 meeting summaries, presentations, and documentation of consultation.

Alabama Power identified lands around Lake Harris and at Skyline that are needed for Harris Project purposes and classified these lands based upon use. In addition, Alabama Power evaluated acreage at Skyline to determine availability of suitable bobwhite quail habitat and prepared the Draft Phase 1 Project Lands Evaluation Study Report. Finally, Samford University conducted a botanical inventory of a 20-acre parcel at Flat Rock Park.

10.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

There are no variances from the study plan or schedule.

Alabama Power conducted the Project Lands Evaluation in full conformance with FERC's SPD.

10.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining activities include:

- Alabama Power will review comments on the Draft Phase 1 Project Lands Evaluation Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation of why these comments were not incorporated.
- Samford University will conduct a botanical survey on an additional 21 acres of land adjacent to the previously surveyed area.
- Complete the Project Lands Evaluation Study Plan methods for Phase 2 SMP and WMP.

11.0 RECREATION EVALUATION STUDY

11.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Harris Recreation Evaluation Study Plan and subsequent relevant FERC filings contain several components to determine potential recreational impact of the Harris Project: 1) recreational use of the Harris Project (Lake Harris Public Access); 2) recreational use of the Tallapoosa River below Harris Dam (Tallapoosa River User); and, 3) as introduced in the December 19, 2019 FERC filing, the Tallapoosa River Landowner Survey Research Plan[12].

The Lake Harris Public Access component includes gathering baseline information on existing Project recreation facilities, existing Project recreational use and capacity, and estimated future demand and needs at the Harris Project. For this component, Alabama Power has completed the following:

- Reviewed existing information and inventoried and mapped (using GIS) existing Project recreation sites and access areas within the Project Boundary;
- Summarized who owns, operates, and maintains each Project recreation site;
- Evaluated the condition of the Harris Project recreation sites and facilities within the Project Boundary; and
- Estimated current recreation use and the current and projected use capacity at Harris Project recreation sites[13].

To determine how flows in the Tallapoosa River downstream of Harris Dam affect recreational users and their activity, Alabama Power has completed the following:

- Calculated total visitation (effort) and daily effort levels by user groups during the study period (May 1, 2019 to October 31, 2019);
- Measured user attitudes/perceptions about instream flow and trip satisfaction on the day they were intercepted during this period;
- Obtained catch information from anglers intercepted during this period; and

[12] Accession No. 20191219-5186.
[13] Alabama Power worked with Southwick Associates on this component of the study and as of April 2020, this information is still preliminary and will be presented to stakeholders in the Draft Recreation Evaluation Report.

- Determined how instream flow affected a) overall effort, b) daily effort by each user group, c) perception of instream flow and trip satisfaction by user group, and d) species of fish targeted, caught, and retained[14].

Alabama Power is also surveying landowners downstream of Harris Dam[15] as well as recreational users of the Tallapoosa River regarding their recreation use of the Tallapoosa River. Alabama Power:

- Reviewed county tax records to identify residential, vacation, forestry, agricultural, or vacant land adjacent to the Tallapoosa River in Randolph, Chambers, or Tallapoosa Counties that could be used for river-related recreation and obtained their mailing address;
- Developed a survey instrument to collect information from downstream landowners on their recreational use of the Tallapoosa River, use by others they may provide access to on their property, landowner perception of instream flow, and their attitudes about recreation and other resource issues on the Tallapoosa River downstream of Harris Dam to Jaybird Landing Boat Ramp; and
- Sent landowners an introductory pre-survey letter via first-class mail informing them of the study, followed one week later with a first-class mailing with a request to participate in study. This mailing included a paper copy of the survey, including a self-addressed stamped envelope for return, and also provided directions to fill out the survey online.

11.2 STUDY PROGRESS

Alabama Power developed HAT 5 to provide stakeholders an opportunity to participate in issues related to recreation. Alabama Power held a HAT 5 meeting on December 11, 2019, to discuss the Tallapoosa River Landowner Survey Research Plan. Alabama Power will file the Draft Downstream Recreation Evaluation Study Report, along with the relevant documentation of consultation, with FERC in August 2020.

Alabama Power conducted Lake Harris Public Access questionnaires and counts from March to December 2019 (counts were conducted almost daily and employed nine recreation clerks who conducted 1,357 questionnaires) [16]. Alabama Power also conducted Tallapoosa River User Surveys and counts from May to October 2019 (40 count days with approximately 200 surveys).

[14] Alabama Power worked with Dr. Kevin Hunt on this component of the survey and as of April 2020, this information is still preliminary and will be presented to stakeholders in the Draft Recreation Evaluation Report.
[15] As described in the December 19, 2019 Tallapoosa River Landowner Survey Research Plan.
[16] The start date for the counts was March 11, 2019. The survey questionnaire started on May 10, 2019. The last date for both was December 15, 2019.

Additionally, ADCNR provided data on recreation use at the Skyline WMA (man-days hunted and harvest estimates were conveyed in August 2019). In October 2019, Alabama Power inventoried recreation facilities at the Lake Harris Public Access sites (12 Harris Project Recreation sites[17], Lakeside Marina, and Wedowee Marine).

At the conclusion of the Tallapoosa River User Survey, researchers noted a lack of information from downstream landowners. To supplement data collected at public recreation sites on the Tallapoosa River downstream of the Project, Alabama Power developed a survey for downstream landowners regarding river-related recreation. Alabama Power facilitated a HAT 5 meeting on December 11, 2019, to provide stakeholders the opportunity to comment on the proposed Tallapoosa River Downstream Landowner Survey. Alabama Power incorporated several comments from HAT 5 members into the Tallapoosa River Landowner Survey Research Plan (including distributing a paper copy of the survey and delaying the start of the survey). Per stakeholder suggestions at the December 2019 HAT meeting, Alabama Power added an anonymous internet survey (Tallapoosa River Recreation User Survey) for river users to express opinions regarding their recreation experience on the Tallapoosa River. Initially, Alabama Power was only assessing landowners who owned residential, vacation, agricultural land that may be used as a residence, or non-industrial vacant land that was tied to an individual landowner. Alabama Power expanded the landowner categories to include forest landowners (known businesses in this category were removed so that only private individuals remained) and extended the response deadline for the Tallapoosa River Downstream Landowner Survey to April 15, 2020 (original deadline was March 31, 2020).

11.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

To date, Alabama Power conducted the Recreation Evaluation Study in full accordance with the methods and schedule described in the FERC SPD with the exception of the following variances:

- Alabama Power added the Tallapoosa River Downstream Landowner Survey and Tallapoosa River Recreation User Survey described above.
- Alabama Power will file the Draft Harris Project Recreation Evaluation report in August 2020 (rather than June 2020) due to the additional study elements and extended

[17] Lee's Bridge Boat Ramp; Foster's Bridge Boat Ramp; Swagg Boat Ramp; Lonnie White Boat Ramp; Crescent Crest Boat Ramp; Highway 48 Bridge Boat Ramp; Wedowee Marine South Marina; Little Fox Creek Boat Ramp Big Fox Creek Boat Ramp; Flat Rock Park Day Use Park; R. L. Harris Management Area; and Harris Tailrace Fishing Platform.

participation deadlines. Alabama Power will keep with the schedule and file the Final Harris Project Recreation Evaluation report in November 2020.

Alabama Power's schedule included hosting a HAT 5 meeting in March 2020. Due to COVID-19 and related travel and public gathering restrictions, and statewide office closures, Alabama Power did not host this meeting.

11.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Due to the additional surveys and subsequent processing and analysis of the data, Alabama Power will file the Draft Recreation Evaluation Study Report in August 2020 rather than in June 2020. Alabama Power is not proposing to change the Final Report due date in November 2020.

Remaining activities include:

- Use information collected from the Tallapoosa River Downstream Landowner Survey and Tallapoosa River Recreation User Survey to characterize use of the Tallapoosa River downstream of Harris Dam to Jaybird Landing Boat Ramp.
- Use information on river flow to determine how instream flow affects landowner recreational use and satisfaction on the Tallapoosa River downstream of Harris Dam.
- Combine Tallapoosa River Downstream Landowner Survey and Tallapoosa River Recreation User Survey with data gathered at public recreation sites in 2019.
- In August 2020, Alabama Power will distribute a Draft Recreation Evaluation Study Report. Alabama Power will review comments on the Draft Recreation Evaluation Study Report and modify the Final Report, as applicable. For any comments not addressed in the Final Report, Alabama Power will provide an explanation why these comments were not incorporated.

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12.0 CULTURAL RESOURCES STUDY

12.1 STUDY PURPOSE AND SUMMARY OF METHODS

The Harris Project Cultural Resources[18] 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 will develop a Historic Properties Management Plan (HPMP) for the Harris Project. The HPMP will describe the Harris Project, APE, anticipated effects, and Alabama Power's proposed measures to protect historic properties.

As part of this study, Alabama Power will determine the need for, and if required, develop a draft Programmatic Agreement (PA) (among FERC, the State Historic Preservation Office [SHPO], Alabama Power, and applicable federally recognized tribes[19]) for managing historic properties that may be affected by a new license issued to Alabama Power for the continued operation of the Harris Project. FERC will issue the draft PA with any draft National Environmental Policy Act (NEPA) documents (Environmental Assessment or Environmental Impact Statement) and then issue the final PA with the final NEPA analysis.

12.2 STUDY PROGRESS

Alabama Power formed HAT 6 to provide stakeholders an opportunity to participate in issues related to cultural resources. Alabama Power has conducted several HAT 6 meetings in 2019 and 2020. These meetings covered numerous topics, summarized below:

- May 22, 2019 - Sites Selected for Further Evaluation, TCP Identification Plan, APE, HPMP outline
- July 9, 2019 - Sites Selected for Further Evaluation

[18] FERC has the responsibility to consult with the Advisory Council on Historic Preservation (Advisory Council) and the Alabama Historical Commission (AHC or State Historic Preservation Office [SHPO]) pursuant to the Advisory Council's regulations (36 U.S. Code of Federal Regulation [C.F.R.] part 800) implementing the National Historic Preservation Act (NHPA) (54 U.S. States Code [U.S.C.] 306108; hereinafter, "Section 106".

[19] Applicable tribes as of March 2019- Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Coushatta Tribe of Louisiana, Kialegee Tribal Town, Muscogee (Creek) Nation, Poarch Band of Creek Indians, and Thlopthlocco Tribal Town.

- November 6, 2019 - Muscogee August 19, 2019 Letter, Fish Weir Information, Final Determination of Lake Harris Sites for Further Evaluation, Lake Harris Survey Schedule, Lake Harris Site Evaluation Methods, Skyline Site Selection and Evaluation Methods, HPMP, IDP, and TCP Identification Plan outline discussion
- March 2, 2020 - Draft IDP, Draft TCP Identification Plan, Proposed APE

Alabama Power and the Office of Archeological Research (OAR) reviewed existing information on the 330 previously recorded archeological sites and identified sites for further evaluation. Of the 96 sites identified for preliminary archeological assessments, 79 were identified through OAR research and 17 additional sites were requested by the Muscogee (Creek) Nation[20]. Per the OAR, the preliminary archaeological assessment was intended to determine the general disposition of previously recorded archaeological sites selected in concert with consulting parties that were considered potentially significant cultural resources. The preliminary archeological assessment was conducted to determine the location, setting, and general condition of the sites. It involved both a literature/records search and, if needed, an on-site field reconnaissance. In addition, Alabama Power and OAR performed cultural resources assessments[21] at several sites at Skyline (previous surveys identified 141 sites as Undetermined in regard to their National Register of Historic Places [National Register] status in the Alabama State Site File). Finally, Alabama Power and OAR evaluated a sample of the 236 known caves recorded in Skyline (13 caves were investigated by using digital photography, mapping rock art locations, and documenting other utilization)[22].

The FERC SPD specified that "Alabama Power should also include both a written description of the APE, a map clearly identifying the APE and its relationship to the Harris Project Boundary, and concurrence from, the Alabama SHPO on the APE prior to conducting fieldwork (5.9(b)(6)." Beginning in May 2019, Alabama Power consulted with stakeholders to establish the Harris Project APE and Alabama Power is continuing to work with Alabama SHPO to finalize the APE.

[20] Filed on August 16, 2019.
[21] Cultural Resource Assessments conducted at Skyline and those to be conducted around Lake Harris comply with the Alabama SHPO guidelines. Methods for both the preliminary archeological assessments and cultural resources assessments were shared with appropriate HAT 6 members following the November 6, 2019 meeting.
[22] These investigations were led by Scott Shaw. Scott did the initial assessment of the caves and bat populations prior to field crews entering to conduct documentation. Scott made efforts to avoid large hibernating populations and record any bat species encountered within each visited cave. This information was shared with Alabama Power for dissemination as appropriate to USFWS and ADCNR.

In addition, Alabama Power worked with HAT 6 to develop the IDP and the TCP Identification Plan.

Per section 304 of the National Historic Preservation Act (NHPA), as amended, and 36 CFR 800.11(c), Alabama Power will "withhold any information about the location, character, or ownership of a historic property from public disclosure when disclosure may cause a significant invasion of privacy, risk harm to the historic property, or impede the use of a traditional religious site by practitioners." Alabama Power will file all such information collected to date as "privileged."

As noted in Section 2.0, the cultural documents filed concurrently with this ISR contain HAT 6 meeting summaries, presentations, and documentation of consultation.

12.3 VARIANCE FROM THE STUDY PLAN AND SCHEDULE

Alabama Power conducted the Cultural Resources Programmatic Agreement and Historic Properties Management Plan Study in full conformance with FERC's SPD.

Alabama Power continues to work with the Alabama SHPO for concurrence regarding the Harris APE and plans to file the final APE (with maps) by June 30, 2020.

12.4 REMAINING ACTIVITIES/MODIFICATIONS OR OTHER PROPOSED STUDIES

Alabama Power does not propose any additional studies beyond that in FERC's SPD.

Remaining Activities include:

- Alabama Power will complete consultation and determine the final Harris APE.
- Alabama Power will complete survey work and TCP identification by February 2021 and complete eligibility assessments for known cultural resources by July 2021.
- Alabama Power will conduct a cultural resources assessment for the sites identified during the Lake Harris preliminary archeological assessment.
- Alabama Power will begin drafting an HPMP, which will include provisions for future National Register eligibility evaluation of the Harris Project facilities in 2033, when the Project would reach an age of 50 years.
- Alabama Power will continue to determine and document the presence of cultural resources within the Project's APE; evaluate any known cultural resources for National Register eligibility (including the piers at Miller Covered Bridge); and determine if

authorized use of the Harris Project, including any proposed changes in Project operation proposed under a new license, would cause changes in the character or use of historic properties, if such properties exist.

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APPENDIX A

ACRONYMS AND ABBREVIATIONS

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ACRONYMS AND ABBREVIATIONS

A

A&I	Agricultural and Industrial
ACFWRU	Alabama Cooperative Fish and Wildlife Research Unit
ACF	Apalachicola-Chattahoochee-Flint (River Basin)
ACT	Alabama-Coosa-Tallapoosa (River Basin)
ADCNR	Alabama Department of Conservation and Natural Resources
ADECA	Alabama Department of Economic and Community Affairs
ADEM	Alabama Department of Environmental Management
ADROP	Alabama-ACT Drought Response Operations Plan
AHC	Alabama Historical Commission
Alabama Power	Alabama Power Company
AMP	Adaptive Management Plan
ALNHP	Alabama Natural Heritage Program
APE	Area of Potential Effects
ARA	Alabama Rivers Alliance
ASSF	Alabama State Site File
ATV	All-Terrain Vehicle
AWIC	Alabama Water Improvement Commission
AWW	Alabama Water Watch

B

BA	Biological Assessment
B.A.S.S.	Bass Anglers Sportsmen Society
BCC	Birds of Conservation Concern
BLM	U.S. Bureau of Land Management
BOD	Biological Oxygen Demand

C

°C	Degrees Celsius or Centrigrade
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulation
cfs	Cubic Feet per Second
cfu	Colony Forming Unit
CLEAR	Community Livability for the East Alabama Region
CPUE	Catch-per-unit-effort
CWA	Clean Water Act

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D

DEM	Digital Elevation Model
DIL	Drought Intensity Level
DO	Dissolved Oxygen
dsf	day-second-feet

E

EAP	Emergency Action Plan
ECOS	Environmental Conservation Online System
EFDC	Environmental Fluid Dynamics Code
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act

F

°F	Degrees Fahrenheit
ft	Feet
F&W	Fish and Wildlife
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FNU	Formazin Nephelometric Unit
FOIA	Freedom of Information Act
FPA	Federal Power Act

G

GCN	Greatest Conservation Need
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
GPS	Global Positioning Systems
GSA	Geological Survey of Alabama

H

Harris Project	R.L. Harris Hydroelectric Project
HAT	Harris Action Team
HEC	Hydrologic Engineering Center
HEC-DSSVue	HEC-Data Storage System and Viewer
HEC-FFA	HEC-Flood Frequency Analysis
HEC-RAS	HEC-River Analysis System
HEC-ResSim	HEC-Reservoir System Simulation Model
HEC-SSP	HEC-Statistical Software Package

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HDSS	High Definition Stream Survey
hp	Horsepower
HPMP	Historic Properties Management Plan
HPUE	Harvest-per-unit-effort
HSB	Horseshoe Bend National Military Park

I

IBI	Index of Biological Integrity
IDP	Inadvertent Discovery Plan
IIC	Intercompany Interchange Contract
IVM	Integrated Vegetation Management
ILP	Integrated Licensing Process
IPaC	Information Planning and Conservation
ISR	Initial Study Report

J

JTU	Jackson Turbidity Units

K

kV	Kilovolt
kva	Kilovolt-amp
kHz	Kilohertz

L

LIDAR	Light Detection and Ranging
LWF	Limited Warm-water Fishery
LWPOA	Lake Wedowee Property Owners' Association

M

m	Meter
m^3	Cubic Meter
M&I	Municipal and Industrial
mg/L	Milligrams per liter
ml	Milliliter
mgd	Million Gallons per Day
µg/L	Microgram per liter
µs/cm	Microsiemens per centimeter
mi^2	Square Miles
MOU	Memorandum of Understanding

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MPN	Most Probable Number
MRLC	Multi-Resolution Land Characteristics
msl	Mean Sea Level
MW	Megawatt
MWh	Megawatt Hour

N

n	Number of Samples
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Unit
NWI	National Wetlands Inventory

O

OAR	Office of Archaeological Resources
OAW	Outstanding Alabama Water
ORV	Off-road Vehicle
OWR	Office of Water Resources

P

PA	Programmatic Agreement
PAD	Pre-Application Document
PDF	Portable Document Format
pH	Potential of Hydrogen
PID	Preliminary Information Document
PLP	Preliminary Licensing Proposal
Project	R.L. Harris Hydroelectric Project
PUB	Palustrine Unconsolidated Bottom
PURPA	Public Utility Regulatory Policies Act
PWC	Personal Watercraft
PWS	Public Water Supply

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Q

QA/QC	Quality Assurance/Quality Control

R

RM	River Mile
RTE	Rare, Threatened and Endangered
RV	Recreational Vehicle

S

S	Swimming
SCORP	State Comprehensive Outdoor Recreation Plan
SCP	Shoreline Compliance Program
SD1	Scoping Document 1
SH	Shellfish Harvesting
SHPO	State Historic Preservation Office
Skyline WMA	James D. Martin-Skyline Wildlife Management Area
SMP	Shoreline Management Plan
SU	Standard Units

T

T&E	Threatened and Endangered
TCP	Traditional Cultural Properties
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TRB	Tallapoosa River Basin
TSI	Trophic State Index
TSS	Total Suspended Soils
TVA	Tennessee Valley Authority

U

USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

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W

WCM	Water Control Manual
WMA	Wildlife Management Area
WMP	Wildlife Management Plan
WQC	Water Quality Certification

From: APC Harris Relicensing

To: "harrisrelicensing@southernco.com"

Bcc: 1942jthompson420@gmail.com; 9sling@charter.net; alcondir@aol.com; allan.creamer@ferc.gov; alpeeple@southernco.com; amanda.fleming@kleinschmidtgroup.com; amanda.mcbride@ahc.alabama.gov; amccartn@blm.gov; ammcvica@southernco.com; amy.silvano@dcnr.alabama.gov; andrew.nix@dcnr.alabama.gov; arsegars@southernco.com; athall@fujifilm.com; aubie84@yahoo.com; awhorton@corblu.com; bart_roby@msn.com; baxterchip@yahoo.com; bboozer6@gmail.com; bdavis081942@gmail.com; beckyrainwater1@yahoo.com; bill_pearson@fws.gov; blacklake20@gmail.com; blm_es_inquiries@blm.gov; bob.stone@smimail.net; bradandsue795@gmail.com; bradfordt71@gmail.com; brian.atkins@adeca.alabama.gov; bruce.bradford@forestry.alabama.gov; bsmith0253@gmail.com; butchjackson60@gmail.com; bwhaley@randolphcountyeda.com; carolbuggknight@hotmail.com; celestine.bryant@actribe.org; cengstrom@centurytel.net; ceo@jcchamber.com; cggoodma@southernco.com; cgnav@uscg.mil; chad@cleburnecountychamber.com; chandlermary937@gmail.com; chiefknight2002@yahoo.com; chimneycove@gmail.com; chris.goodell@kleinschmidtgroup.com; chris.greene@dcnr.alabama.gov; chris.smith@dcnr.alabama.gov; chris@alaudubon.org; chuckdenman@hotmail.com; clark.maria@epa.gov; claychamber@gmail.com; clint.lloyd@auburn.edu; cljohnson@adem.alabama.gov; clowry@alabamarivers.org; cmnix@southernco.com; coetim@aol.com; colin.dinken@kleinschmidtgroup.com; cooper.jamal@epa.gov; coty.brown@alea.gov; craig.litteken@usace.army.mil; crystal.davis@adeca.alabama.gov; crystal.lakewedoweedocks@gmail.com; crystal@hunterbend.com; dalerose120@yahoo.com; damon.abernethy@dcnr.alabama.gov; dbronson@charter.net; dcnr.wffdirector@dcnr.alabama.gov; decker.chris@epa.gov; devridr@auburn.edu; dfarr@randolphcountyalabama.gov; dhayba@usgs.gov; djmoore@adem.alabama.gov; dkanders@southernco.com; dolmoore@southernco.com; donnamat@aol.com; doug.deaton@dcnr.alabama.gov; dpreston@southernco.com; drheinzen@charter.net; ebt.drt@numail.org; eilandfarm@aol.com; el.brannon@yahoo.com; elizabeth-toombs@cherokee.org; emathews@aces.edu; eric.sipes@ahc.alabama.gov; evan.lawrence@dcnr.alabama.gov; evan_collins@fws.gov; eveham75@gmail.com; fal@adem.alabama.gov; fredcanoes@aol.com; gardenergirl04@yahoo.com; garyprice@centurytel.net; gene@wedoweelakehomes.com; georgettraylor@centurylink.net; gerryknight77@gmail.com; gfhorn@southernco.com; gjobsis@americanrivers.org; gld@adem.alabama.gov; glea@wgsarrell.com; gordon.lisa-perras@epa.gov; goxford@centurylink.net; granddadth@windstream.net; harry.merrill47@gmail.com; helen.greer@att.net; henry.mealing@kleinschmidtgroup.com; holliman.daniel@epa.gov; info@aeconline.com; info@tunica.org; inspector_003@yahoo.com; irapar@centurytel.net; irwiner@auburn.edu; j35sullivan@blm.gov; james.e.hathorn.jr@sam.usace.army.mil; jason.moak@kleinschmidtgroup.com; jcandler7@yahoo.com; jcarlee@southernco.com; jec22641@aol.com; jeddins@achp.gov; jefbaker@southernco.com; jeff_duncan@nps.gov; jeff_powell@fws.gov; jennifer.l.jacobson@usace.army.mil; jennifer_grunewald@fws.gov; jerrelshell@gmail.com; jessecunningham@msn.com; jfcrew@southernco.com; jhancock@balch.com; jharjo@alabama-quassarte.org; jhaslbauer@adem.alabama.gov; jhouser@osiny.org; jkwdurham@gmail.com; jlowe@alabama-quassarte.org; jnyerby@southernco.com; joan.e.zehrt@usace.army.mil; john.free@psc.alabama.gov; johndiane@sbcglobal.net; jonas.white@usace.army.mil; josh.benefield@forestry.alabama.gov; jpsparrow@att.net; jsrasber@southernco.com; jthacker@southernco.com; jthroneberry@tnc.org; judymcrealtor@gmail.com; jwest@alabamarivers.org; kajumba.ntale@epa.gov; karen.brunso@chickasaw.net; kate.cosnahan@kleinschmidtgroup.com; kcarleton@choctaw.org; kechandl@southernco.com; keith.gauldin@dcnr.alabama.gov; keith.henderson@dcnr.alabama.gov; kelly.schaeffer@kleinschmidtgroup.com; ken.wills@jcdh.org; kenbarnes01@yahoo.com; kenneth.boswell@adeca.alabama.gov; kmhunt@maxxsouth.net; kmo0025@auburn.edu; kodom@southernco.com; kpritchett@ukb-nsn.gov; kristina.mullins@usace.army.mil; lakewedoweedocks@gmail.com; leeanne.wofford@ahc.alabama.gov; leon.m.cromartie@usace.army.mil; leopoldo_miranda@fws.gov; lewis.c.sumner@usace.army.mil; lgallen@balch.com; lgarland68@aol.com; lindastone2012@gmail.com; llangley@coushattatribela.org; lovvornt@randolphcountyalabama.gov; lswinsto@southernco.com; lth0002@auburn.edu; mark@americanwhitewater.org; matt.brooks@alea.gov; matthew.marshall@dcnr.alabama.gov; mayo.lydia@epa.gov; mcoker@southernco.com; mcw0061@aces.edu; mdollar48@gmail.com; meredith.h.ladart@usace.army.mil; mhpwedowee@gmail.com; mhunter@alabamarivers.org; michael.w.creswell@usace.army.mil; midwaytreasures@bellsouth.net; mike.holley@dcnr.alabama.gov; mitchell.reid@tnc.org; mlen@adem.alabama.gov; mnedd@blm.gov; monte.terhaar@ferc.gov; mooretn@auburn.edu; mprandolphwater@gmail.com; nancyburnes@centurylink.net; nanferebee@juno.com; nathan.aycock@dcnr.alabama.gov; orr.chauncey@epa.gov; pace.wilber@noaa.gov; partnersinfo@wwfus.org; patti.powell@dcnr.alabama.gov; patty@ten-o.com; paul.trudine@gmail.com; ptrammell@reddyice.com; publicaffairs@doc.gov; rachel.mcnamara@ferc.gov; raebutler@mcn-nsn.gov; rancococ@teleclipse.net; randall.b.harvey@usace.army.mil; randy@randyrogerslaw.com; randy@wedoweemarine.com; rbmorris222@gmail.com; rcodydeal@hotmail.com; reuteem@auburn.edu; richardburnes3@gmail.com; rick.oates@forestry.alabama.gov; rickmcwhorter723@icloud.com; rifraft2@aol.com; rjdavis8346@gmail.com; robert.a.allen@usace.army.mil; roger.mcneil@noaa.gov; ron@lakewedowee.org; rosoweka@mcn-nsn.gov; russtown@nc-cherokee.com; ryan.prince@forestry.alabama.gov; sabrinawood@live.com; sandnfrench@gmail.com; sarah.salazar@ferc.gov; sbryan@pci-nsn.gov; scsmith@southernco.com; section106@mcn-nsn.gov; sforehand@russelllands.com; sgraham@southernco.com; sherry.bradley@adph.state.al.us; sidney.hare@gmail.com; simsthe@aces.edu; snelson@nelsonandco.com; sonjahollomon@gmail.com; steve.bryant@dcnr.alabama.gov; stewartjack12@bellsouth.net; straylor426@bellsouth.net; sueagnew52@yahoo.com; tdadunaway@gmail.com; thpo@pci-nsn.gov; thpo@tttown.org; timguffey@jcch.net; tlamberth@russelllands.com; tlmills@southernco.com; todd.fobian@dcnr.alabama.gov; tom.diggs@unq.edu; tom.lettieri47@gmail.com; tom.littlepage@adeca.alabama.gov; tpfreema@southernco.com; trayjim@bellsouth.net; triciastearns@gmail.com; twstjohn@southernco.com; variscom506@gmail.com; walker.mary@epa.gov; william.puckett@swcc.alabama.gov; wmcampbell218@gmail.com; wrighr2@aces.edu; wsgardne@southernco.com; wtanders@southernco.com

Subject: Harris Relicensing - Initial Study Report
Date: Friday, April 10, 2020 2:59:07 PM

Harris relicensing stakeholders,

Pursuant to FERC's Integrated Licensing Process, Alabama Power filed its Harris Project Initial Study Report (ISR) today. Concurrent with the ISR filing, Alabama Power filed six draft study reports and two cultural resources documents, including consultation records for each. Stakeholders may access the ISR and the draft study reports on FERC's website (http://www.ferc.gov) by going to the "eLibrary" link and entering the docket number (P-2628). The ISR and study reports are also available on the Project relicensing website at https://harrisrelicensing.com.

The Initial Study Report meeting will be held on **April 28, 2020**. Please hold this date from 9:00 am to 4:00 pm central time. A few days before the meeting I will send final call-in information and instructions, the agenda, and the presentations we will be reviewing during the meeting.

Alabama Power will file a summary of the ISR meeting by **May 12, 2020**. Comments on the ISR and ISR meeting summary should be submitted to FERC by **June 11, 2020**.

Comments on the draft study reports should be submitted to Alabama Power at harrisrelicensing@southernco.com by **June 11, 2020**.

Thanks,

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

From: APC Harris Relicensing

To: "harrisrelicensing@southernco.com"

Bcc: 1942jthompson420@gmail.com; 9sling@charter.net; alcondir@aol.com; allan.creamer@ferc.gov; alpeeple@southernco.com; amanda.fleming@kleinschmidtgroup.com; amanda.mcbride@ahc.alabama.gov; amccartn@blm.gov; ammcvica@southernco.com; amy.silvano@dcnr.alabama.gov; andrew.nix@dcnr.alabama.gov; arsegars@southernco.com; athall@fujifilm.com; aubie84@yahoo.com; awhorton@corblu.com; bart_roby@msn.com; baxterchip@yahoo.com; bboozer6@gmail.com; bdavis081942@gmail.com; beckyrainwater1@yahoo.com; bill_pearson@fws.gov; blacklake20@gmail.com; blm_es_inquiries@blm.gov; bob.stone@smimail.net; bradandsue795@gmail.com; bradfordt71@gmail.com; brian.atkins@adeca.alabama.gov; bruce.bradford@forestry.alabama.gov; bsmith0253@gmail.com; butchjackson60@gmail.com; bwhaley@randolphcountyeda.com; carolbuggknight@hotmail.com; celestine.bryant@actribe.org; cengstrom@centurytel.net; ceo@jcchamber.com; cggoodma@southernco.com; cgnav@uscg.mil; chad@cleburnecountychamber.com; chandlermary937@gmail.com; chiefknight2002@yahoo.com; chimneycove@gmail.com; chris.goodell@kleinschmidtgroup.com; chris.greene@dcnr.alabama.gov; chris.smith@dcnr.alabama.gov; chris@alaudubon.org; chuckdenman@hotmail.com; clark.maria@epa.gov; claychamber@gmail.com; clint.lloyd@auburn.edu; cljohnson@adem.alabama.gov; clowry@alabamarivers.org; cmnix@southernco.com; coetim@aol.com; colin.dinken@kleinschmidtgroup.com; cooper.jamal@epa.gov; coty.brown@alea.gov; craig.litteken@usace.army.mil; crystal.davis@adeca.alabama.gov; crystal.lakewedoweedocks@gmail.com; crystal@hunterbend.com; dalerose120@yahoo.com; damon.abernethy@dcnr.alabama.gov; dbronson@charter.net; dcnr.wffdirector@dcnr.alabama.gov; decker.chris@epa.gov; devridr@auburn.edu; dfarr@randolphcountyalabama.gov; dhayba@usgs.gov; djmoore@adem.alabama.gov; dkanders@southernco.com; dolmoore@southernco.com; donnamat@aol.com; doug.deaton@dcnr.alabama.gov; dpreston@southernco.com; drheinzen@charter.net; ebt.drt@numail.org; eilandfarm@aol.com; el.brannon@yahoo.com; elizabeth-toombs@cherokee.org; emathews@aces.edu; eric.sipes@ahc.alabama.gov; evan.lawrence@dcnr.alabama.gov; evan_collins@fws.gov; eveham75@gmail.com; fal@adem.alabama.gov; fredcanoes@aol.com; gardenergirl04@yahoo.com; garyprice@centurytel.net; gene@wedoweelakehomes.com; georgettraylor@centurylink.net; gerryknight77@gmail.com; gfhorn@southernco.com; gjobsis@americanrivers.org; gld@adem.alabama.gov; glea@wgsarrell.com; gordon.lisa-perras@epa.gov; goxford@centurylink.net; granddadth@windstream.net; harry.merrill47@gmail.com; helen.greer@att.net; henry.mealing@kleinschmidtgroup.com; holliman.daniel@epa.gov; info@aeconline.com; info@tunica.org; inspector_003@yahoo.com; irapar@centurytel.net; irwiner@auburn.edu; j35sullivan@blm.gov; james.e.hathorn.jr@sam.usace.army.mil; jason.moak@kleinschmidtgroup.com; jcandler7@yahoo.com; jcarlee@southernco.com; jec22641@aol.com; jeddins@achp.gov; jefbaker@southernco.com; jeff_duncan@nps.gov; jeff_powell@fws.gov; jennifer.l.jacobson@usace.army.mil; jennifer_grunewald@fws.gov; jerrelshell@gmail.com; jessecunningham@msn.com; jfcrew@southernco.com; jhancock@balch.com; jharjo@alabama-quassarte.org; jhaslbauer@adem.alabama.gov; jhouser@osiny.org; jkwdurham@gmail.com; jlowe@alabama-quassarte.org; jnyerby@southernco.com; joan.e.zehrt@usace.army.mil; john.free@psc.alabama.gov; johndiane@sbcglobal.net; jonas.white@usace.army.mil; josh.benefield@forestry.alabama.gov; jpsparrow@att.net; jsrasber@southernco.com; jthacker@southernco.com; jthroneberry@tnc.org; judymcrealtor@gmail.com; jwest@alabamarivers.org; kajumba.ntale@epa.gov; karen.brunso@chickasaw.net; kate.cosnahan@kleinschmidtgroup.com; kcarleton@choctaw.org; kechandl@southernco.com; keith.gauldin@dcnr.alabama.gov; keith.henderson@dcnr.alabama.gov; kelly.schaeffer@kleinschmidtgroup.com; ken.wills@jcdh.org; kenbarnes01@yahoo.com; kenneth.boswell@adeca.alabama.gov; kmhunt@maxxsouth.net; kmo0025@auburn.edu; kodom@southernco.com; kpritchett@ukb-nsn.gov; kristina.mullins@usace.army.mil; lakewedoweedocks@gmail.com; leeanne.wofford@ahc.alabama.gov; leon.m.cromartie@usace.army.mil; leopoldo_miranda@fws.gov; lewis.c.sumner@usace.army.mil; lgallen@balch.com; lgarland68@aol.com; lindastone2012@gmail.com; llangley@coushattatribela.org; lovvornt@randolphcountyalabama.gov; lswinsto@southernco.com; lth0002@auburn.edu; mark@americanwhitewater.org; matt.brooks@alea.gov; matthew.marshall@dcnr.alabama.gov; mayo.lydia@epa.gov; mcoker@southernco.com; mcw0061@aces.edu; mdollar48@gmail.com; meredith.h.ladart@usace.army.mil; mhpwedowee@gmail.com; mhunter@alabamarivers.org; michael.w.creswell@usace.army.mil; midwaytreasures@bellsouth.net; mike.holley@dcnr.alabama.gov; mitchell.reid@tnc.org; mlen@adem.alabama.gov; mnedd@blm.gov; monte.terhaar@ferc.gov; mooretn@auburn.edu; mprandolphwater@gmail.com; nancyburnes@centurylink.net; nanferebee@juno.com; nathan.aycock@dcnr.alabama.gov; orr.chauncey@epa.gov; pace.wilber@noaa.gov; partnersinfo@wwfus.org; patti.powell@dcnr.alabama.gov; patty@ten-o.com; paul.trudine@gmail.com; ptrammell@reddyice.com; publicaffairs@doc.gov; rachel.mcnamara@ferc.gov; raebutler@mcn-nsn.gov; rancococ@teleclipse.net; randall.b.harvey@usace.army.mil; randy@randyrogerslaw.com; randy@wedoweemarine.com; rbmorris222@gmail.com; rcodydeal@hotmail.com; reuteem@auburn.edu; richardburnes3@gmail.com; rick.oates@forestry.alabama.gov; rickmcwhorter723@icloud.com; rifraft2@aol.com; rjdavis8346@gmail.com; robert.a.allen@usace.army.mil; robinwaldrep@yahoo.com; roger.mcneil@noaa.gov; ron@lakewedowee.org; rosoweka@mcn-nsn.gov; russtown@nc-cherokee.com; ryan.prince@forestry.alabama.gov; sabrinawood@live.com; sandnfrench@gmail.com; sarah.salazar@ferc.gov; sbryan@pci-nsn.gov; scsmith@southernco.com; section106@mcn-nsn.gov; sforehand@russelllands.com; sgraham@southernco.com; sherry.bradley@adph.state.al.us; sidney.hare@gmail.com; simsthe@aces.edu; snelson@nelsonandco.com; sonjahollomon@gmail.com; steve.bryant@dcnr.alabama.gov; stewartjack12@bellsouth.net; straylor426@bellsouth.net; sueagnew52@yahoo.com; tdadunaway@gmail.com; thpo@pci-nsn.gov; thpo@tttown.org; timguffey@jcch.net; tlamberth@russelllands.com; tlmills@southernco.com; todd.fobian@dcnr.alabama.gov; tom.diggs@unq.edu; tom.lettieri47@gmail.com; tom.littlepage@adeca.alabama.gov; tpfreema@southernco.com; trayjim@bellsouth.net; triciastearns@gmail.com; twstjohn@southernco.com; variscom506@gmail.com; walker.mary@epa.gov; william.puckett@swcc.alabama.gov; wmcampbell218@gmail.com; wrighr2@aces.edu; wsgardne@southernco.com; wtanders@southernco.com

Subject: Harris Relicensing - Initial Study Report meeting agenda and call-in details
Date: Friday, April 24, 2020 10:23:13 AM
Attachments: 2020-04-28 ISR Meeting Agenda.doc

Good morning

Please join us for the Initial Study Report (ISR) meeting on **April 28, 2020, starting at 9 am central time**. The agenda for the meeting is attached. On Monday April 27th, the presentation will be made available on our website (www.harrisrelicensing.com [harrisrelicensing.com]) and distributed to stakeholders as a pdf.

If you have questions regarding the ISR that you would like Alabama Power to address during the meeting, please send your questions to harrisrelicensing@southernco.com by 4 pm on April 27th. There will also be an opportunity to ask questions during the meeting.

Below is the Skype link and call in instructions. Participating via the Skype link is preferred in order to reduce audio issues. However, if you don't have access to Skype, you can call the number below and follow along with the presentation we'll send out on April 27th.

Join Skype Meeting

To join the ISR Meeting via phone, please call (205) 257-2663 OR (404) 460-0605. At the prompt, enter conference ID 489472 followed by the pound (#) sign.

When you join the call, you will be in the virtual lobby and directed that you are waiting on the leader to admit you. As you are admitted, you will be instructed that you are now joining the meeting and that the meeting has been locked. As soon as everyone has joined, we will conduct a roll call of attendees by organization (for example, I will ask who is on the call from the Alabama Department of Conservation and Natural Resources, etc.). If you do not belong to an organization, you will be given a chance at the end of the roll call to state your name and affiliation. Once the roll call is over, your phone will be muted and the first presentation will begin. As noted above, Alabama Power will take questions following each study review and will unmute participants during that time. Once the phones are unmuted, you will have to press star 6 (*6) in order to be heard.

Please let me know if you have any questions.

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

Meeting Agenda
April 28, 2020
9:00 AM
Skype Meeting

Meeting Purpose: Review the information presented in the Initial Study Report (ISR) filed with FERC on April 10, 2020.

Welcome, Roll Call, Safety, and Agenda

HAT 6: Cultural Resources

HAT 5: Recreation Evaluation

HAT 4: Project Lands

HAT 1: Project Operations

Operating Curve Feasibility Analysis

Downstream Release Alternatives

HAT 2: Water Quality and Use

Water Quality

Erosion and Sedimentation

HAT 3: Fish and Wildlife

Threatened and Endangered Species

Downstream Aquatic Habitat

Aquatic Resources

Next Steps and Questions

From: APC Harris Relicensing

To: "harrisrelicensing@southernco.com"

Bcc: 1942jthompson420@gmail.com; 9sling@charter.net; alcondir@aol.com; allan.creamer@ferc.gov; alpeeple@southernco.com; amanda.fleming@kleinschmidtgroup.com; amanda.mcbride@ahc.alabama.gov; amccartn@blm.gov; ammcvica@southernco.com; amy.silvano@dcnr.alabama.gov; andrew.nix@dcnr.alabama.gov; arsegars@southernco.com; athall@fujifilm.com; aubie84@yahoo.com; awhorton@corblu.com; bart_roby@msn.com; baxterchip@yahoo.com; bboozer6@gmail.com; bdavis081942@gmail.com; beckyrainwater1@yahoo.com; bill_pearson@fws.gov; blacklake20@gmail.com; blm_es_inquiries@blm.gov; bob.stone@smimail.net; bradandsue795@gmail.com; bradfordt71@gmail.com; brian.atkins@adeca.alabama.gov; bruce.bradford@forestry.alabama.gov; bsmith0253@gmail.com; butchjackson60@gmail.com; bwhaley@randolphcountyeda.com; carolbuggknight@hotmail.com; celestine.bryant@actribe.org; cengstrom@centurytel.net; ceo@jcchamber.com; cggoodma@southernco.com; cgnav@uscg.mil; chad@cleburnecountychamber.com; chandlermary937@gmail.com; chiefknight2002@yahoo.com; chimneycove@gmail.com; chris.goodell@kleinschmidtgroup.com; chris.greene@dcnr.alabama.gov; chris.smith@dcnr.alabama.gov; chris@alaudubon.org; chuckdenman@hotmail.com; clark.maria@epa.gov; claychamber@gmail.com; clint.lloyd@auburn.edu; cljohnson@adem.alabama.gov; clowry@alabamarivers.org; cmnix@southernco.com; coetim@aol.com; colin.dinken@kleinschmidtgroup.com; cooper.jamal@epa.gov; coty.brown@alea.gov; craig.litteken@usace.army.mil; crystal.davis@adeca.alabama.gov; crystal.lakewedoweedocks@gmail.com; crystal@hunterbend.com; dalerose120@yahoo.com; damon.abernethy@dcnr.alabama.gov; dbronson@charter.net; dcnr.wffdirector@dcnr.alabama.gov; decker.chris@epa.gov; devridr@auburn.edu; dfarr@randolphcountyalabama.gov; dhayba@usgs.gov; djmoore@adem.alabama.gov; dkanders@southernco.com; dolmoore@southernco.com; donnamat@aol.com; doug.deaton@dcnr.alabama.gov; dpreston@southernco.com; drheinzen@charter.net; ebt.drt@numail.org; eilandfarm@aol.com; el.brannon@yahoo.com; elizabeth-toombs@cherokee.org; emathews@aces.edu; eric.sipes@ahc.alabama.gov; evan.lawrence@dcnr.alabama.gov; evan_collins@fws.gov; eveham75@gmail.com; fal@adem.alabama.gov; fredcanoes@aol.com; gardenergirl04@yahoo.com; garyprice@centurytel.net; gene@wedoweelakehomes.com; georgettraylor@centurylink.net; gerryknight77@gmail.com; gfhorn@southernco.com; gjobsis@americanrivers.org; gld@adem.alabama.gov; glea@wgsarrell.com; gordon.lisa-perras@epa.gov; goxford@centurylink.net; granddadth@windstream.net; harry.merrill47@gmail.com; helen.greer@att.net; henry.mealing@kleinschmidtgroup.com; holliman.daniel@epa.gov; info@aeconline.com; info@tunica.org; inspector_003@yahoo.com; irapar@centurytel.net; irwiner@auburn.edu; j35sullivan@blm.gov; james.e.hathorn.jr@sam.usace.army.mil; jason.moak@kleinschmidtgroup.com; jcandler7@yahoo.com; jcarlee@southernco.com; jec22641@aol.com; jeddins@achp.gov; jefbaker@southernco.com; jeff_duncan@nps.gov; jeff_powell@fws.gov; jennifer.l.jacobson@usace.army.mil; jennifer_grunewald@fws.gov; jerrelshell@gmail.com; jessecunningham@msn.com; jfcrew@southernco.com; jhancock@balch.com; jharjo@alabama-quassarte.org; jhaslbauer@adem.alabama.gov; jhouser@osiny.org; jkwdurham@gmail.com; jlowe@alabama-quassarte.org; jnyerby@southernco.com; joan.e.zehrt@usace.army.mil; john.free@psc.alabama.gov; johndiane@sbcglobal.net; jonas.white@usace.army.mil; josh.benefield@forestry.alabama.gov; jpsparrow@att.net; jsrasber@southernco.com; jthacker@southernco.com; jthroneberry@tnc.org; judymcrealtor@gmail.com; jwest@alabamarivers.org; kajumba.ntale@epa.gov; karen.brunso@chickasaw.net; kate.cosnahan@kleinschmidtgroup.com; kcarleton@choctaw.org; kechandl@southernco.com; keith.gauldin@dcnr.alabama.gov; keith.henderson@dcnr.alabama.gov; kelly.schaeffer@kleinschmidtgroup.com; ken.wills@jcdh.org; kenbarnes01@yahoo.com; kenneth.boswell@adeca.alabama.gov; kmhunt@maxxsouth.net; kmo0025@auburn.edu; kodom@southernco.com; kpritchett@ukb-nsn.gov; kristina.mullins@usace.army.mil; lakewedoweedocks@gmail.com; leeanne.wofford@ahc.alabama.gov; leon.m.cromartie@usace.army.mil; leopoldo_miranda@fws.gov; lewis.c.sumner@usace.army.mil; lgallen@balch.com; lgarland68@aol.com; lindastone2012@gmail.com; llangley@coushattatribela.org; lovvornt@randolphcountyalabama.gov; lswinsto@southernco.com; lth0002@auburn.edu; mark@americanwhitewater.org; matt.brooks@alea.gov; matthew.marshall@dcnr.alabama.gov; mayo.lydia@epa.gov; mcoker@southernco.com; mcw0061@aces.edu; mdollar48@gmail.com; meredith.h.ladart@usace.army.mil; mhpwedowee@gmail.com; mhunter@alabamarivers.org; michael.w.creswell@usace.army.mil; midwaytreasures@bellsouth.net; mike.holley@dcnr.alabama.gov; mitchell.reid@tnc.org; mlen@adem.alabama.gov; mnedd@blm.gov; monte.terhaar@ferc.gov; mooretn@auburn.edu; mprandolphwater@gmail.com; nancyburnes@centurylink.net; nanferebee@juno.com; nathan.aycock@dcnr.alabama.gov; orr.chauncey@epa.gov; pace.wilber@noaa.gov; partnersinfo@wwfus.org; patti.powell@dcnr.alabama.gov; patty@ten-o.com; paul.trudine@gmail.com; ptrammell@reddyice.com; publicaffairs@doc.gov; rachel.mcnamara@ferc.gov; raebutler@mcn-nsn.gov; rancococ@teleclipse.net; randall.b.harvey@usace.army.mil; randy@randyrogerslaw.com; randy@wedoweemarine.com; rbmorris222@gmail.com; rcodydeal@hotmail.com; reuteem@auburn.edu; richardburnes3@gmail.com; rick.oates@forestry.alabama.gov; rickmcwhorter723@icloud.com; rifraft2@aol.com; rjdavis8346@gmail.com; robert.a.allen@usace.army.mil; robinwaldrep@yahoo.com; roger.mcneil@noaa.gov; ron@lakewedowee.org; rosoweka@mcn-nsn.gov; russtown@nc-cherokee.com; ryan.prince@forestry.alabama.gov; sabrinawood@live.com; sandnfrench@gmail.com; sarah.salazar@ferc.gov; sbryan@pci-nsn.gov; scsmith@southernco.com; section106@mcn-nsn.gov; sforehand@russelllands.com; sgraham@southernco.com; sherry.bradley@adph.state.al.us; sidney.hare@gmail.com; simsthe@aces.edu; snelson@nelsonandco.com; sonjahollomon@gmail.com; steve.bryant@dcnr.alabama.gov; stewartjack12@bellsouth.net; straylor426@bellsouth.net; sueagnew52@yahoo.com; tdadunaway@gmail.com; thpo@pci-nsn.gov; thpo@tttown.org; timguffey@jcch.net; tlamberth@russelllands.com; tlmills@southernco.com; todd.fobian@dcnr.alabama.gov; tom.diggs@unq.edu; tom.lettieri47@gmail.com; tom.littlepage@adeca.alabama.gov; tpfreema@southernco.com; trayjim@bellsouth.net; triciastearns@gmail.com; twstjohn@southernco.com; variscom506@gmail.com; walker.mary@epa.gov; william.puckett@swcc.alabama.gov; wmcampbell218@gmail.com; wrighr2@aces.edu; wsgardne@southernco.com; wtanders@southernco.com

Subject:	FW: Harris Relicensing - Initial Study Report meeting agenda and call-in details
Date:	Monday, April 27, 2020 9:50:21 AM
Attachments:	2020-04-28 ISR Meeting Agenda.doc 2020-4-28 Harris Relicensing - Initial Study Report Meeting presentation.pdf

Good morning,

Attached is the presentation for tomorrow's Initial Study Report meeting. This presentation can also be found on the relicensing website: www.harrisrelicensing.com.

Thanks,

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

From: APC Harris Relicensing
Sent: Friday, April 24, 2020 10:24 AM
To: 'harrisrelicensing@southernco.com' <harrisrelicensing@southernco.com>
Subject: Harris Relicensing - Initial Study Report meeting agenda and call-in details

Good morning

Please join us for the Initial Study Report (ISR) meeting on **April 28, 2020, starting at 9 am central time**. The agenda for the meeting is attached. On Monday April 27th, the presentation will be made available on our website (www.harrisrelicensing.com [harrisrelicensing.com]) and distributed to stakeholders as a pdf.

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When you join the call, you will be in the virtual lobby and directed that you are waiting on the leader to admit you. As you are admitted, you will be instructed that you are now joining the meeting and that the meeting has been locked. As soon as everyone has joined, we will conduct a

roll call of attendees by organization (for example, I will ask who is on the call from the Alabama Department of Conservation and Natural Resources, etc.). If you do not belong to an organization, you will be given a chance at the end of the roll call to state your name and affiliation. Once the roll call is over, your phone will be muted and the first presentation will begin. As noted above, Alabama Power will take questions following each study review and will unmute participants during that time. Once the phones are unmuted, you will have to press star 6 (*6) in order to be heard.

Please let me know if you have any questions.

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

APC Harris Relicensing

From: Sullivan, John M <j35sullivan@blm.gov>
Sent: Monday, April 27, 2020 4:08 PM
To: Anderegg, Angela Segars
Subject: Fw: [EXTERNAL] RE: HAT 6 meeting
Attachments: AL TB Vol L2 p200.jpg; AL TB Vol L2 p196.jpg

EXTERNAL MAIL: Caution Opening Links or Files

Hi Angie,
I owe a HUGE apology, I did not follow up with you on this after I received this info!
It does appear we may (or may) not own T 19 S, R 11 E Section 14, Fraction B.

We're looking into what it means. As far as the re-licencing, we're obviously not going to stop it. I'm going to try and get on the presentation tomorrow.

jms

John M. Sullivan
State Archaeologist-Tribal Liaison
Deputy Preservation Officer
Bureau of Land Management
Eastern States State Office
Southeastern States District Office
273 Market Street
Flowood, Mississippi 39206
Office: 601-919-4675 | (fax) 601-919-4700
(cell) 601-717-3600
j35sullivan@blm.gov
Interior Region 1: North Atlantic - Appalachian
Interior Region 2: South Atlantic - Gulf
Interior Region 3: Great Lakes
Interior Region 4: Mississippi Basin
https://www.blm.gov/office/southeastern-states [blm.gov]

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"Indian Nations had always been considered as distinct, independent political communities, retaining their original natural rights, as the undisputed possessors of the soil … The very term 'nation,' so generally applied to them, means 'a people distinct from others.'"
John Marshall, 1832 Worcester v. Georgia, 31 U.S. (6 Pet.) 515, 561

From: Morgan, Frankie T <fmorgan@blm.gov>
Sent: Friday, May 17, 2019 6:18 AM
To: Sullivan, John M <j35sullivan@blm.gov>
Subject: Re: [EXTERNAL] RE: HAT 6 meeting

Good Morning John,

The lands in Township 19 South, Range 11 East: Fraction G of Section 1 (48.90 acres) and Fraction F of Section 15 (9.27 acres) were withdrawn and reserved from entry, location, and disposal under Sec. 24 of the Act of June 10, 1920 and included in Power Project No. 20 (Filed by Alabama Power Co.) - Approved April 10, 1967.

The lands in Township 19 South, Range 11 East: Fraction B of Section 14 does not show up in the tract book. There are no conveyances.

I've attached images of the tract book page that shows the withdrawn lands and also the page for Sec. 14.

Please let me know if you have additional questions.

On Wed, May 15, 2019 at 2:45 PM Morgan, Frankie <fmorgan@blm.gov> wrote:

Hey John,

I'll have to check all of the land status records to determine if, when, who and how these lands were transferred. I can put together a response on Friday when I'm back in the office. I'm teleworking tomorrow so I won't have access to the records. But I'm on it.

Hope all is well. Tell Mr. Sullivan I said hello also!!!

On Wed, May 15, 2019 at 3:36 PM Sullivan, John <j35sullivan@blm.gov> wrote:

Hi Frankie,
First hope things are well with you, second Mr. Sullivan says hello! I was out there 2 weeks ago shovel testing :)
So I got this notice back in March and did my best to look some of it up. How would I find out if BLM does in fact own these bit of land?

Thank you
jms

---------- Forwarded message ---------
From: **Anderegg, Angela Segars** <ARSEGARS@southernco.com>
Date: Fri, Mar 1, 2019 at 1:34 PM
Subject: RE: [EXTERNAL] RE: HAT 6 meeting
To: Sullivan, John <j35sullivan@blm.gov>

Hi John,
Before we finalize removing you guys from our Harris stakeholder list, I wanted to double check on the BLM lands topic.

Historically, the total number of federal lands within the R.L. Harris Project has been stated as 58.20 acres. This total is the sum of the acreage as shown on the 1834 BLM Survey of Township 19 South, Range 11 East: Fraction G of Section 1 (48.90 acres) and Fraction F of Section 15 (9.27 acres). However, following the issuance of the original license for R.L. Harris, Alabama Power obtained additional information, which contradicts the total acreage of federal lands. It appears that the discrepancies are a result of the following:

- Fraction B of Section 14 was not identified as federal lands prior to the Order Issuing the License and this acreage was not included in later totals
- Fraction G of Section 1 was mapped incorrectly on the 1834 BLM survey or the location of the river within this Section has changed over time. Additionally, the total acreage of the Fraction was included within the

calculation as opposed to the acreage that falls within the project, which would only include that acreage located below the 800-foot contour
- Fraction F of Section 15 includes the total acreage of the Fraction as opposed to the acreage that falls within the project, which would only include that acreage located below the 800-foot contour

In 2016, we began preparing for relicensing, and filed an application to amend the Harris license to correct this discrepancy. A copy of our filing and a supplemental report (that discusses these discrepancies in further detail) can be viewed on FERC's eLibrary website at: http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20170117-5274 [elibrary.ferc.gov]

With all of this said, Alabama Power's information states that the Harris Project includes 4.9 acres of BLM lands, located in Randolph County, Alabama, Township 19 South, Range 11 East: Fraction G of Section 1, Fraction B of Section 14, and Fraction F of Section 15.

Can you please verify whether or not the lands located in these fractions are no longer under federal jurisdiction? Additionally, if these lands are no longer federal, can you please provide information as to when these lands were sold? Alternatively, if these lands remain federal lands but are not under BLM's jurisdiction, can you please advise us as to which federal agency is responsible for the management of these lands?

Please do not hesitate to call if you have any question or would like to discuss further and thank you for your help.

Angie Anderegg
Hydro Services
(205)257-2251
arsegars@southernco.com
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John M. Sullivan, RPA
BLM Eastern States Office
Southeastern States District
State Archaeologist/Tribal Liaison
Deputy Preservation Officer
273 Market Street
Flowood MS 39232

601-919-4675 (Office)
601-717-3600 (Cell)
601-919-4700 (Fax)

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"Indian Nations had always been considered as distinct, independent political communities, retaining their original natural rights, as the undisputed possessors of the soil … The very term 'nation,' so generally applied to them, means 'a people distinct from others.'"
John Marshall, 1832 Worcester v. Georgia ,31 U.S. (6 Pet.) 515, 561

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John M. Sullivan, RPA
BLM Eastern States Office
Southeastern States District

State Archaeologist/Tribal Liaison
Deputy Preservation Officer
273 Market Street
Flowood MS 39232

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Frankie Morgan
Land Law Examiner
Division of Geospatial Services
Lands and Realty
Bureau of Land Management - Eastern States
202-912-7738

--
John M. Sullivan, RPA
BLM Eastern States Office
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Frankie Morgan
Land Law Examiner
Division of Geospatial Services
Lands and Realty
Bureau of Land Management - Eastern States
202-912-7738

603.96	14	19	11						
E½ S E¼	"	"	"	80	00	1 25	100	00	Charles Foster
Fraction A.	"	"	"	37	75	1 25	47	19	Elijah Moore
N E¼ 22 & S W¼ S W¼	"	"	"	200	15	50	100	07	Jefferson M. Hearn
Fraction C	"	"	"	63	04	25	15	76	Hamilton Mc Cain
Fraction B	"	"	"	49	00	1 25	61	25	William H. Cunningham Trustee of Cynthia P. Berryman
Fraction D.	"	"	"	46	00	50	23	00	Squire M. Berryman Trustee Cynthia P. Berryman
Act 50 Fr C 11 & Fr F.	"	"	"	64	28	M L Warrt No 38996			James Bolt
W½ S E¼	"	"	"	80	00	50	40	00	Hamilton Mc Cain
S E¼ S W¼	"	"	"	40	00	1 25	50	00	Thomas Strickland
N W¼ N E¼	"	"	"	40	00	1 25	50	00	William H. Cunningham Trustee of Cynthia P. Berryman
S½ N E¼	"	"	"	80	00	1 25	100	00	James W. Gwinn

S. N.C. Mitchell & Roberts. Deposited Jany 11. 1851. No. 262 o/2.

1843 March 11	6,731	
Feby 6, 1851	13,103	
28 Dec. 1854	17956	
14 Nov. 1859	22,506	
April 1. 1851	13,484	
21 Dec. 1854	17930	
11 March 1852		
18 Jany. 1859	21179	
25 March 1847	2581	
April 1. 1851	13485	
Feby 8. 1851	13,143	

Subject to October 1834.

Township No. 19 Range No. 11 E , District of

Lot 2 sec 1, Lot 1 sec 12, Withdrawn and reserved from entry, location & letter original under sec 24 - Act June 25, 1910 and included in power Project No 120 filed by Alabama Power Co & approved April 10, 1917 - ES 2740

DESCRIPTION OF TRACT. Part of Section	Section.	Township.	Range.	CONTENTS. Acres.	100ths.	RATE PER ACRE. Dollars.	Cents	PURCHASE MONEY. Dollars.	Cents.	NAME OF THE PURCHASER.	DATE OF SALE.	Number of Receipt and Certificate of Purchase.	TO WHOM PATENTED.	DATE OF PATENT.	WHERE RECORDED. Volume.	Page.
E 203.40 W 391.15	1	19 S	11 E													
NW¼ NW¼	"	"	"	40	05	1	25	50	06	Worley D. Linville	10 March	1854	16475			
Fraction A	"	"	"	39	50	1	25	49	37½	Joben V. McKee	1860. Feby. 3.		22784	E of SE & Agy Farmer Duplicate Jany 18 1851 No. 2630.		
NW¼ NE¼ SW¼ NW¼ 36.18.11 and NE¼ NW¼	"	"	"	120	12	2.	50	60	06	Isaac M. Newell	5 Jany. 1858.		21159			
Fraction B.	"	"	"	58	00	1	25	72	50	Worley D. Linville	17 Dec. 1853.		16038			
Fraction C.	"	"	"	39	50		50	19	75	Worley D. Linville	1 Jany. 1855		17981			
Fraction D.	"	"	"	67	50	1	25	84	38	Worley Linville	27 Feby 1849		11023			
Fraction E.	"	"	"	66	50	1	25	83	12	Worley D. Linville	4 Feby 1854		16372			
Lot F. or SW¼ SE¼	"	"	"	43	50	1	25	54	37	Mathew B. Downing	1 Dec. 1851		13970			
NE¼ SE¼ & Fraction H.	"	"	"	71	00		50	35	50	John T. Heflin	26 Dec. 1855		17370			
Old Fraction "I"	"	"	"	48	70			6	00	Jordan T. Smith	16 Sept 1869		1847	Cancld, See letter to R R. Feby 27. 1879		
Act 1850. SE¼ SE¼	"	"	"	40	00	Mil. Ct.		37	50	Lindsey McKee	23 Feby 1852					
~~W½ NW¼, NW¼ NE¼, (or Lot "G")~~	"	"	"	48	90					William W. Horton,	Nov. 20 1918		08719	Montgomery - Canceled by C June 21-1919.		

From:	Sarah Salazar
To:	Anderegg, Angela Segars
Cc:	Allan Creamer; Rachel McNamara; Monte Terhaar (CTR)
Subject:	RE: Harris Relicensing - Initial Study Report meeting agenda and call-in details
Date:	Monday, April 27, 2020 5:21:04 PM
Attachments:	FERC-prelim-ISR-Comments+Questions_4-27-20.docx

EXTERNAL MAIL: Caution Opening Links or Files

Hi Angie,

Thanks for the information below about the Skype option for the meeting and for the call back today. As I mentioned, I'm forwarding the attached list of some preliminary (informal) questions we put together for the ISR mtg. tomorrow. We didn't label whose questions they were, but they are generally grouped by study report/topic. So for the most part the questions originate from our team member who is covering that resource area during relicensing. Feel free to call me tomorrow before the meeting if you have any follow-up questions or concerns.

Thanks again,

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: APC Harris Relicensing <g2apchr@southernco.com>
Sent: Monday, April 27, 2020 10:51 AM
To: APC Harris Relicensing <g2apchr@southernco.com>
Subject: FW: Harris Relicensing - Initial Study Report meeting agenda and call-in details

Good morning,

Attached is the presentation for tomorrow's Initial Study Report meeting. This presentation can also be found on the relicensing website: www.harrisrelicensing.com [harrisrelicensing.com].

Thanks,

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

From: APC Harris Relicensing
Sent: Friday, April 24, 2020 10:24 AM
To: 'harrisrelicensing@southernco.com' <harrisrelicensing@southernco.com>
Subject: Harris Relicensing - Initial Study Report meeting agenda and call-in details

Good morning

Please join us for the Initial Study Report (ISR) meeting on **April 28, 2020, starting at 9 am central time**. The agenda for the meeting is attached. On Monday April 27th, the presentation will be made available on our website (www.harrisrelicensing.com [harrisrelicensing.com]) and distributed to stakeholders as a pdf.

If you have questions regarding the ISR that you would like Alabama Power to address during the meeting, please send your questions to harrisrelicensing@southernco.com by 4 pm on April 27th. There will also be an opportunity to ask questions during the meeting.

Below is the Skype link and call in instructions. Participating via the Skype link is preferred in order to reduce audio issues. However, if you don't have access to Skype, you can call the number below and follow along with the presentation we'll send out on April 27th.

Join Skype Meeting

To join the ISR Meeting via phone, please call (205) 257-2663 OR (404) 460-0605. At the prompt, enter conference ID 489472 followed by the pound (#) sign.

When you join the call, you will be in the virtual lobby and directed that you are waiting on the leader to admit you. As you are admitted, you will be instructed that you are now joining the meeting and that the meeting has been locked. As soon as everyone has joined, we will conduct a roll call of attendees by organization (for example, I will ask who is on the call from the Alabama Department of Conservation and Natural Resources, etc.). If you do not belong to an organization, you will be given a chance at the end of the roll call to state your name and affiliation. Once the roll call is over, your phone will be muted and the first presentation will begin. As noted above, Alabama Power will take questions following each study review and will unmute participants during that time. Once the phones are unmuted, you will have to press star 6 (*6) in order to be heard.

Please let me know if you have any questions.

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

4/27/20

R.L. Harris Initial Study Report (ISR):

FERC Licensing Team's Preliminary Comments and Questions

General Comments and Questions:

1. Comments on all the studies should be filed with the Commission by 6/11/20, as stated in the cover letter of the ISR, and not (solely) sent directly to Alabama Power via email, as stated in the cover letters of the Draft Downstream Release Alternatives Phase 1 Report, Draft Operating Curve Change Feasibility Analysis Phase 1 Report, Draft Erosion and Sedimentation Study Report, Draft Water Quality Study Report, Draft T&E Species Assessment, Draft Phase 1 Project Lands Evaluation Study Report, and the Traditional Cultural Properties Identification Plan and Inadvertent Discovery Plan.

2. Several of the studies reference the use of Geographic Information System (GIS) data. To facilitate stakeholder review and analysis of the study results it would be helpful if all GIS data collected or developed as part of the studies is filed with the study reports.

3. Please describe whether you have experienced or anticipate any delays to studies as a result of COVID-19 related closures or social distancing measures.

Draft Operating Curve Change Feasibility Analysis (Phase 1) Report:

1. As we understand it, downstream effects with regard to flooding were assessed for a 100-year design flood. However, the relationship between the downstream flow alternative analysis and the Harris Reservoir winter flood pool analysis is not clear under alternative flood scenarios. What would happen in a scenario other that a 100-year flood? Would operations at Harris Dam under the alternative flood scenario, including different flow release scenarios, have any impact on the Harris Reservoir winter pool analysis, or vice versa?

2. Table 5-2, page 51 of the report…What is it about RM 115.7 that appears to create a hydraulic control, such that the maximum increase in depth under any winter pool elevation scenario occur about mid-way down the Tallapoosa River?

3. Figures 5-20 and 5-21 appear incomplete, as they only show the results for one alternative…baseline (? based on color). Please address this apparent omission.

Draft Downstream Release Alternatives (Phase 1) Report:

1. Modeling scenarios…as it stands now, the report presents the results for three downstream release alternatives: Pre-Green Plan operation, Green Plan operation, and Pre-Green Plan operation with a 150 cfs continuous minimum flow. Why was modelling of minimum flow limited to 150 cfs? Also, have you considered modeling Green Plan releases with continuous minimum flow scenarios? On what basis did you choose not to do so?

Draft Erosion and Sedimentation Report:

1. Section 5.0, Discussion and Conclusions states that at some sites, "land clearing and landscaping, and other construction activities affecting runoff towards the reservoir" cause erosion. Is it possible to provide areal images showing the areas of active erosion in relation to the project boundary as part of the final study report?

2. Appendix D – photos…it would be helpful if the captions for the photos included better location descriptors (e.g., Harris Reservoir, Harris Reservoir-?? Embayment, Harris Reservoir-?? River Arm, Tallapoosa River, etc.). For the Harris Reservoir sites, it would be helpful if the contours within which peaking operations occur (lake fluctuation zone) could be identified.

3. Could you make the video footage that was collected as part of this study available for stakeholders to view?

4. Will the nuisance aquatic vegetation surveys still be possible to conduct in Lake Harris this summer?

5. On page 24, in section 3.2, the report includes the following statement: "A total of 20 sites, rather than 15 sites, were provided for the left bank segments as many segments were tied with a score of (slightly impaired)." Please explain what is meant by many of the streambank segments being "tied with a score of (slightly impaired" and clarify the relationship between the number of streambank segments/sites and the bank condition score.

6. On page 25, in Table 3-2, shouldn't the heading/label of the first column of the table be "Site Number" instead of "Rank" given that the rank options are only 1 through 5 (according to Table 3-1) and there appear to be 20 sites?

7. On page 11, of the Tallapoosa River High Definition Stream Survey Final Report (Appendix E of the Erosion and Sedimentation Study Report), it states that prior to the survey, flows were monitored to ensure relatively normal flow conditions

during the survey. For clarity, what were the "relatively normal flow conditions" during the survey? Were they slightly higher or lower than average?

8. In Figures 13 and 16 of the Tallapoosa River High Definition Stream Survey Final Report, the scale is small and so it appears that most of the riverbanks are unmodified and the modified banks identified on the individual site surveys are not visible. It would be helpful if the figures in the report showed labeled points for the erosion/sedimentation sites that are identified in the report.

9. Page 20 of Tallapoosa River High Definition Stream Survey Final Report states that a confidence rating was used to indicate the clarity of the streambanks in the video and figures 14 and 17 of that report show areas where the video clarity was impaired and therefore the confidence in the accuracy of the streambank conditions/classifications is lower. As stated above, it would be helpful if the figures in the report showed labeled points for the erosion/sedimentation sites that are identified in the report. Do any of the areas with impaired video clarity coincide with areas that stakeholders identified as erosion/sedimentation sites or other sites that Alabama Power identified as part of this study? Do you intend to take any steps to deal with the impaired clarity data? Is so, how?

10. In Figure 18 of the Tallapoosa River High Definition Stream Survey Final Report, there appears to be a missing ranking at river mile 37 for the right streambank. Could you explain this gap in the ranking?

11. For Figures 20 through 23 of the Tallapoosa River High Definition Stream Survey Final Report, please label the river mile ranges on the maps to help reviewers understand the starting and ending points of the study area and which segments of river are included.

12. In Figure 26 of the Tallapoosa River High Definition Stream Survey Final Report, please move the scale bar and sources so that they are not covering the river segment and bank conditions at the bottom of the map.

13. Can you identify where peaking pulses are attenuated downstream from Harris Dam under the current operating regime and volume of typical downstream releases? If so, are there any patterns in the downstream streambank conditions and observed levels of erosion along the segments of streambanks within the attenuation zone? Where are the identified erosion sites in relation to the length of the attenuation zone?

Draft Water Quality Report:

1. Page 18…figure 3-8…please explain what is happening with the vertical DO profiles where DO increases in May, June, July, and August, where otherwise the DO should be declining.

2. Page 23 discusses Alabama DEM monitoring data for the Harris Dam tailrace (i.e., immediately downstream from Harris Dam). Was this data collected during generation, or does it also reflect non-generation periods?

3. Pages 39-41 present DO and temperature data for downstream continuous water quality monitoring station. On page 16 of the ISR, Alabama Power is not proposing any additional monitoring beyond what was approved in the Commission's SPD. Why is there not a second year of monitoring for the downstream continuous monitoring station? How confident are Alabama Power and the HAT2 members that 1 year of monitoring at the downstream station includes a worst-case scenario?

Draft T&E Species Report:

1. Have the GIS overlays of T&E species habitat information and maps been completed (i.e., the map figures in Appendix B of the draft T&E species study report)? Or are there still steps to complete this component of the study?

   We suggest including project features, recreation areas, and other managed areas (e.g., timber harvest areas, wildlife management areas, etc.) on the T&E species maps in order to help determine the proximity of species ranges/habitats to project-related activities and identify the need for species-specific field surveys.

2. While the draft T&E species study report indicates that additional field surveys for the fine-lined pocketbook freshwater mussel are planned for May 2020, the report does not include a description of the criteria used to determine which of the species on FWS's official (IPaC) list of T&E species would be surveyed in the field. Please describe which species will be surveyed in the field and explain how and why they were selected. In addition, please describe any correspondence Alabama Power has had with FWS and state agencies regarding the T&E species selected for additional field surveys.

3. Page 7 lists the sources for the ESA species information. The sources included FWS's Environmental Conservation Online System (ECOS) but did not include IPaC. The official list is obtained through the IPaC report. Has an IPaC report been downloaded or are you using the IPaC report filed to the record by FERC staff?

4. Page 8 states that the existing land use data is not specific enough to determine if the 3,068 acres of coniferous forest within the project boundary at Lake Harris would be suitable for red cockaded woodpecker. How do you propose assess the suitability for red cockaded woodpecker?

5. On pages 3, 10, and 26 there is mention of additional fieldwork planned for two mussel species (i.e., fine-lined pocketbook and Southern pigtoe) for May 2020. Please elaborate on the details of the additional survey work (e.g., survey location(s), sampling protocols and methodologies employed, and clarify which species will be included in the May 2020 assessment, etc.).

6. The descriptions of Alabama lampmussel and rabbitsfoot mussel on pages 11, 13, and 14 do not provide these species' host fish species. Are the host fish species currently unknown, or was this an inadvertent omission?

7. There appears to be a typo on page 16, in the description of southern pigtoe mussel. The middle of the first paragraph refers to the glochidia of the finelined pocketbook mussel. Is this sentence misplaced, or does the information pertain to the southern pigtoe mussel (the subject of section 3.12)? Please clarify.

8. On page 19, in the first paragraph about the northern long-eared bat (NLEB), it is unclear why the discussion includes the statement about a low occurrence of this species in the "…southwestern region of Alabama" given that the project areas are located in the northeastern and mid-eastern portions of Alabama. Please clarify or correct this statement.

9. The draft T&E species study report states that there are no known NLEB hibernacula or maternity roost trees *within the project boundary*. However, it does not include information on known NLEB hibernacula *within 0.25 mile of the project boundary* and known NLEB maternity roosts *within 150 feet of the project boundary* (i.e., at Harris Lake and Skyline). In addition, the report mentions a couple of best management practices (BMPs), protective of some bat species, that Alabama Power implements during timber harvest activities and states that the BMPs have been expanded but not incorporated in the existing license. However, the report does not include the locations of Alabama Power's timber harvesting and other tree removal activities, or detailed descriptions of timber harvesting protocols and BMPs currently implemented within the project boundary. This information is important to understanding the affected environment for Indiana bat, NLEB, and/or other T&E species. This information could also be used for the streamlined consultation option for analyzing the potential project effects on NLEB (including within the buffer areas for hibernacula and maternity roost trees).

Please complete the FWS's NLEB streamlined consultation form and include it in the final T&E species study report. This form can be found at: https://www.fws.gov/southeast/pdf/guidelines/northern-long-eared-bat-streamlined-checklist.pdf. We recommend using FWS's definition of "tree removal" to guide your responses on the form (i.e., "cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats").[1]

Also, please update figures 3.14-1, 3.14-2, 3.14-3, 3.15-1, 3.15-2, and 3.15-3 which currently show "forested area" or "karst landscape" in relation to NLEB and Indiana bat habitats, to show Alabama Power's timber management areas within the project boundary, and other proposed managed areas (e.g., new/improved recreation areas, new quail management areas). This type of information is needed to meet another component of this study (i.e., "determine if [T&E species habitat at the project] are potentially impacted by Harris Project operations", as described on slide 5 of the Aug. 27, 2019, HAT 3 meeting).

10. On page 21 and 22, in section 3.17, the discussion mentions an occurrence of little amphianthus within the project boundary at Lake Harris (Flat Rock Park) that was documented in 1995 and may be extirpated. Did the botanical surveys in that area of the project target that species? The top of page 22, states that "Vernal pools were not identified due to a lack of available data." Did the botanical surveys identify vernal pools in this area?

11. On page 22, in section 3.18, the report states that the National Wetland Inventory data is not detailed enough to identify wetlands within the project area that contain white fringeless orchid's unique wetland habitat characteristics. Do you propose collecting more data on this subject?

12. On page 23, in section 3.19, the report states that the 16 extant populations of Prices' potato bean in Jackson County, occur on Sauta Cave National Wildlife Refuge, and near Little Coon Creek in the Skyline WMA. Please clarify whether or not any of the 16 populations occur within the project boundary at Skyline WMA.

13. In Appendix B, figure 3.19, showing Price's potato-bean habitat range, there is a 100-foot Stream Buffer within the Limestone Landscape layer shown on the map and legend. Please explain the significance of this buffer, including any regulatory

[1] 81 Fed. Reg. 1902 (January 14, 2016).

requirements associated with this buffer. Please include this information in the final T&E species study report.

14. In the August 27, 2019, HAT 3 meeting summary, please clarify the following:
    a. How does Alabama Power define terms such as "sensitive time periods" in the context of timber harvesting?
    b. Evan Collins, of FWS, stated that the palezone shiner may be present in some of the lower reaches of the Tennessee River tributaries. Please clarify where these tributaries are located in relation to the project boundary.

Draft Lands Evaluation (Phase 1) Report:

1. On page 9, the proposed definition for the "Recreation" classification includes a reference to permitting processes for various types of recreations activities. Will the permitting processes be updated as part of the revised SMP?

2. On page 9, the proposed definition of the "Hunting" classification includes a reference to the existing Harris Project Wildlife Mitigation Plan. How do you envision the existing Project Wildlife Mitigation Plan relating to the proposed Wildlife Management Plan that is to be developed as part of Phase 2 of the Lands Evaluation?

3. On page 9, the proposed definition of the "Natural/Undeveloped" classification mentions that one of the allowable uses would be "normal forestry management practices." Please clarify what these practices would include.

4. On page 10, there are descriptions of two new proposed land use classifications, including "Flood Storage" which would include lands between the 793 ft and 795 ft msl contours, and "Scenic Buffer Zone" which would include lands between the 795 ft and 800 ft msl contours. Would these classifications overlap with other land use classifications? Also, are there any buildings/structures currently within these elevation bands around Lake Harris?

5. Page 11 discusses the results of the desktop evaluation and site visit to identify any suitable bobwhite quail habitat within the project boundary at Skyline WMA. Could you elaborate on the methods for evaluating the availability of bobwhite quail habitat and how it was determined that no suitable habitat occurred within the project boundary at Skyline WMA? Also, could the report include a figure showing a map of the 7 locations in the Skyline WMA where Alabama DCNR conducts spring/fall quail call surveys, and has documented quails, relative to the project boundary at Skyline WMA?

6. Appendix B provides maps and general descriptions of proposed changes in land use classifications at Lake Harris that were also discussed during the 9/11/19 HAT 4 meeting. It would be helpful if the maps of the proposed changes in land use classifications included legends to identify the various classifications, as well as north arrows and scale bars to facilitate orientation and review.

   In addition, during the 9/11/19 HAT 4 meeting, we (FERC staff) asked if terrestrial and cultural resource surveys were being conducted on lands proposed for removal from the project boundary and Alabama Power staff responded that they were. Could you provide descriptions of the terrestrial and riparian habitat types for areas that you are proposing to remove from the project boundary. Could you also describe the terrestrial and riparian habitat types for area "RC4" that you propose to reclassify from "Recreation" to "Commercial Recreation"? Do these areas contain suitable habitat for any of the T&E species that may occur at the Harris Lake portion of the project? What were the results of the cultural resource surveys for areas proposed to be removed from the project boundary?

   Also, it would be helpful if the map of area A6 included the existing birding trail and the proposed extension of the trail.

7. Appendix C provides the Anniston Museum of Natural History's Flat Rock Botanical Inventory (inventory) report and the consultation record includes the Anniston Museum of Natural History's letter transmitting the report, Ken Wills' (Coordinator of the Alabama Glade Conservation Coalition) emails, along with several additional observations and recommendations from them.

   Approximately 365 plant species, including some rare species were documented at the site during the botanical inventory. The surveyors, Ken Wills, and FERC staff observed damages caused by vehicles traversing the site (SUV observed by surveyors; ATVs tire marks on granite outcrops observed by Ken Wills and FERC staff during scoping/environmental site review). The consultation record for this study includes recommendations from Anniston Museum of Natural History and Ken Wills' to manage/preserve/restore the site. The proposed definition of the "Natural/Undeveloped" classification, proposed for the rare plant site, does not indicate what types of recreation activities/vehicle access would be prohibited or how Alabama Power would manage such a site. Considering all of this, do you think that Alabama Power's proposed definition of "Natural/Undeveloped" would be effective in protecting this site? Could the definition of this classification be expanded/more detailed, or would you consider another, more protective land use classification type/designation for this site?

   Also, what has Alabama Power done to protect the rare plants that were identified during the inventory and were subsequently damaged by ongoing ATV use

observed by Ken Wills? Can vehicles be excluded from these sensitive areas to protect rare plants while the relicensing process proceeds?

8. Has the request from Randolph County regarding the proposed water treatment intake/plant been resolved/processed?

Draft Inadvertent Discovery Protocol (IDP)

1. Section 2.3.1 of the IDP includes provisions for previously unidentified human remains and or historic properties.

    a. Staff recommend changing the term "historic properties" to "cultural resources" because at the time a previously-undocumented resource is discovered, it has not been assessed for eligibility for the National Register of Historic Places, and cannot, by definition, be considered a "historic property" until its eligibility is determined.

    b. Item 2.3.1(b) seems to indicate that at some point after discovery, an evaluation of eligibility for a newly discovered cultural resource will occur. The process for determining National Register-eligibility should be outlined in the plan.

Draft Traditional Cultural Property Identification Plan

2. No specific comments.

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Alabama Power

600 North 18th Street
Hydro Services 16N-8180
Birmingham, AL 35203
205 257 2251 tel
arsegars@southernco.com

May 12, 2020

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Initial Study Report Meeting Summary

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 utilizing the Federal Energy Regulatory Commission's (FERC) Integrated Licensing Process (ILP) to complete the relicensing process for the Harris Hydroelectric Project (FERC No. 2628-065). On April 28, 2020, Alabama Power held an Initial Study Report Meeting pursuant to 18 C.F.R. Section 5.15 (c) of the ILP. Due to concerns with COVID-19, Alabama Power held the Initial Study Report meeting via conference call.

The meeting summary, including a list of attendees and the meeting presentation, is attached.

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 - Initial Study Report Meeting Summary

cc: Harris Stakeholder List

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Meeting Summary

Initial Study Report Meeting via Conference Call

April 28, 2020 ~ 9:00 AM to 4 PM

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APPENDICES

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1 OVERVIEW

Angie Anderegg (Alabama Power) opened the Harris Project (FERC No. 2628) (Project) Initial Study Report (ISR) meeting and reviewed the ISR meeting purpose. Angie conducted a roll call, reviewed phone etiquette, and presented a safety moment. A list of participants is included in Appendix A[1]. Alabama Power presented information on the progress of each study, which included applicable study results, requested variances, and any additional studies or requested study modifications. The ISR presentation was made available to all participants on the Harris Relicensing website (www.harrisrelicensing.com) prior to the meeting and is included in this report as Appendix B.

In this ISR Meeting Summary, Alabama Power presents the questions and comments that were provided prior to and during the ISR meeting[2]. Each question or comment is followed by Alabama Power's responses and discussion in **bold** text. FERC staff as well as three stakeholders submitted written questions/comments in advance of the ISR meeting via email. Where appropriate, Alabama Power provides a full response. However, many responses to the questions will be addressed in the applicable Final Study Reports and in additional analyses (Phase 2) to be conducted in 2020/2021.

FERC staff raised three general questions in its April 27, 2020 email to Alabama Power. Alabama Power's responses to FERC's general questions are provided below.

1.1 FERC's Questions submitted in advance of the meeting

- Q1 - Comments on all the studies should be filed with the Commission by 6/11/20, as stated in the cover letter of the ISR, and not (solely) sent directly to Alabama Power via email, as stated in the cover letters of the Draft Downstream Release Alternatives Phase 1 Report, Draft Operating Curve Change Feasibility Analysis Phase 1 Report, Draft Erosion and Sedimentation Study Report, Draft Water Quality Study Report, Draft T&E Species Assessment, Draft Phase 1 Project Lands Evaluation Study Report, and the Traditional Cultural Properties Identification Plan and Inadvertent Discovery Plan.

  Alabama Power emphasized that all stakeholders should file comments with FERC on the Harris Project (P-2628-065) on or before June 11, 2020. Alabama Power also noted that if any stakeholder has a question about filing comments with FERC, they could email those questions to harrisrelicensing@southernco.com.

- Q2 - Several of the studies reference the use of Geographic Information System (GIS) data. To facilitate stakeholder review and analysis of the study results it would be helpful if all GIS data collected or developed as part of the studies is filed with the study reports.

[1] Because this meeting was conducted over Skype, there may be participants who joined after the roll call and are not listed in Appendix A.

[2] These notes summarize the major items discussed during the meeting and are not intended to be a transcript or analysis of the meeting.

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Alabama Power will file GIS data, as applicable, with the Final Study reports.

- Q3 - Please describe whether you have experienced or anticipate any delays to studies as a result of COVID-19 related closures or social distancing measures.

  Alabama Power has experienced delays conducting field work and meeting with the Harris Action Teams (HATs) due to COVID-19 closures and restrictions. Alabama Power anticipates that it may be months before HATs can meet in person. However, meetings can still occur using teleconferencing.

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2 CULTURAL RESOURCES PROGRAMMATIC AGREEMENT AND HISTORIC PROPERTIES MANAGEMENT PLAN STUDY

Amanda Fleming (Kleinschmidt) presented the Cultural Resources documents that were filed with the ISR: the Inadvertent Discovery Plan (IDP) and the Traditional Cultural Properties (TCP) Identification Plan. Amanda reviewed the study purpose, data collection to date, initial results, and a variance request to file the Area of Potential Effects (APE) in June 2020.

2.1 FERC's Questions submitted in advance of the meeting

- Q1 - Staff recommend changing the term "historic properties" to "cultural resources" because at the time a previously-undocumented resource is discovered, it has not been assessed for eligibility for the National Register of Historic Places, and cannot, by definition, be considered a "historic property" until its eligibility is determined.

  Alabama Power will make adjustments to the term "historic properties" and will include both the Inadvertent Discovery Plan (IDP) and Traditional Cultural Properties (TCP) Identification Plan as appendices to the Historic Properties Management Plan (HPMP).

- Q2 - Item 2.3.1(b) seems to indicate that at some point after discovery, an evaluation of eligibility for a newly discovered cultural resource will occur. The process for determining National Register-eligibility should be outlined in the plan.

  Alabama Power will add this process to the IDP. The National Register-eligibility process will also be addressed in the Historic Properties Management Plan (HPMP) being developed by Alabama Power.

- Q3 - Rachel McNamara asked about defining the area of potential effects (APE) and the possibility of extending the APE downstream. Rachel stated there is a need for more discussion.

  Alabama Power noted that it intends to schedule a Harris Action Team (HAT) 6 meeting in May to further discuss the APE.

2.2 Carol Knight's Questions submitted in advance of the meeting

- Q4 - How far down river from the dam does Alabama Power have responsibility for the river?

  Alabama Power's responsibility downstream of Harris dam is the Harris Project Boundary below the dam.

- Q5 - How far up each side of the bank does Alabama Power have below the dam?

The State of Alabama owns the river channel, and the riverbanks are private property.

- Q6 - How do they (Alabama Power) enforce their responsibilities?

  Alabama Power follows all guidelines and regulations for lands and waters within the Harris Project Boundary.

- Q7 - Are they [Alabama Power] aware of archaeological sites that are endangered below the dam? That each time they open the flood gates, erosion occurs washing away cultural remains?

  Alabama Power is reviewing potential effects of Harris Project operations on cultural resources downstream of the dam in the Tallapoosa River. However, Alabama Power cannot enforce preservation policies on private lands. If a landowner encounters a burial site, they should report it immediately to the State Historic Preservation Officer (SHPO)/Alabama Historical Commission (AHC). The SHPO or AHC can provide additional details on regulations and authority regarding archaeological properties or cultural remains.

- Q8 - Are they [Alabama Power] aware of the destruction of the fish weirs down river?

  Alabama Power is reviewing potential effects of Harris Project operations on cultural resources downstream of the dam in the Tallapoosa River. In addition, Alabama Power may work with stakeholders to develop best management practices related to cultural resources.

2.3 Participant Questions

- Q9 - Elizabeth Toombs (Cherokee Nation) – Do the HPMP, TCP Identification Plan, and IDP documents apply to the Skyline portion of the Project or is this limited to the reservoir?

  Yes, all of the cultural resources documents and procedures apply to all lands within the Harris Project Boundary.

3 RECREATION EVALUATION STUDY

Amanda Fleming (Kleinschmidt) presented the Recreation Evaluation Study progress. Amanda reviewed the study purpose, data collection to date, initial results, and a variance request to file the draft Recreation Evaluation Study Report in August 2020 instead of June 2020.

3.1 Donna Matthews' Questions submitted in advance of the meeting

- Q1 - Increased downstream, Alabama Power managed, public access. An impediment to public use of the river to swim, fish or float is lack of access. What plans are underway to correct this omission?

  Alabama Power is evaluating downstream use as part of the recreation study, and any additional access needs will be discussed with HAT 5 and addressed in the licensing proposal.

- Q2 - Safety from Rapid Water Level Rises. Over the last 40 years, even locals have been dissuaded from using their river because of erratic and dramatic variations in water levels. Completely aside from the issue of how unnaturally the river is distended from pre-dam normals on an hour by hour basis remains the unaddressed danger to humans recreating in/on the river during episodes of rapid water level rise. The potential threat is created by water release at the dam. APC must alert downstream subscribers of planned and imminent water release. Current cell phone technology is well suited to send safety alerts.

  Alabama Power is evaluating downstream flows and recreation use as part of the recreation evaluation study as well as gathering information/input from public access sites, downstream landowners, and Tallapoosa River users.

  Alabama Power uses the Smart Lakes App and the Alabama Power website to inform stakeholders of water releases. There are times, however, that system demands require a change in the generation schedule. Prior to any generation releases, Alabama Power sounds a notification siren. The generating units will not load unless the siren activates.

3.2 Participant Questions

- Q3 - Ken Wills (Alabama Glade Conservation Coalition) - Why was the operating schedule reduced for Flat Rock and will the operating schedule be modified in 2020 due to COVID-19?

  The operating schedule in August 2019 was condensed based on low attendance. Last year's schedule is not indicative of the 2020 summer schedule. Currently, no changes from the normal operating schedule are proposed, and the goal is to open

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by Memorial Day. Alabama Power will follow all state and federal guidelines related to COVID-19.

- Q4 - Several questions and comments were raised by participants about flood control operations and water releases downstream.

  Alabama Power addresses operational questions in Section 6 of this meeting summary.

- Q5 - Keith Henderson, Alabama Department of Conservation and Natural Resources (ADCNR) - Why did the Lake Harris questionnaires start in May 2019 (rather than March 2019) and what were the four survey questions?

  In its April 2019 Study Plan Determination, FERC requested that Alabama Power add the Lake Harris questionnaire. Therefore, Alabama Power started those surveys in May 2019. The study questions are listed in Appendix C to the Recreation Evaluation Study Plan, which can be found at www.harrisrelicensing.com.

4 PROJECT LANDS EVALUATION STUDY

Kelly Schaeffer (Kleinschmidt) presented the Project Lands Phase 1 Evaluation Study Report progress. Kelly reviewed the study purpose and data collection to date, which included the development of maps showing Alabama Power's proposal to add, remove, or modify lands in the Project Boundary. Kelly also reviewed the remaining activities in this study, which include the use of other relicensing studies to develop the Phase 2 Wildlife Management Program (WMP) and the Shoreline Management Plan (SMP). Kelly noted that no variances to this study plan are requested. Alabama Power distributed the Draft Phase 1 Project Lands Evaluation Report to stakeholders in April 2020, concurrently with filing the ISR.

4.1 FERC's Questions submitted in advance of the meeting

- Q1 - On page 9, the proposed definition for the "Recreation" classification includes a reference to permitting processes for various types of recreations activities. Will the permitting processes be updated as part of the revised Shoreline Management Plan (SMP)?

  Alabama Power will review the existing permitting processes during development of the SMP and determine if any updates are needed.

- Q2 - On page 9, the proposed definition of the "Hunting" classification includes a reference to the existing Harris Project Wildlife Mitigation Plan. How do you envision the existing Project Wildlife Mitigation Plan relating to the proposed Wildlife Management Plan that is to be developed as part of Phase 2 of the Lands Evaluation?

  Any existing information (i.e., the existing Wildlife Mitigation Plan) will be reviewed to determine if any portion of the plan might apply to the new WMP, which would be implemented in the next license term.

- Q3 - On page 9, the proposed definition of the "Natural/Undeveloped" classification mentions that one of the allowable uses would be "normal forestry management practices." Please clarify what these practices would include.

  All forestry practices that would be allowable in the Natural/Undeveloped land use classification will be included in the WMP, which will be filed with the final license proposal.

- Q4 - Rachel McNamara (FERC) - Some lands classified as "Recreation" are proposed to be changed to "Natural/Undeveloped". She noted that it may be helpful in the final report for Alabama Power to be very clear about the project purpose in retaining those lands rather than removing from the project boundary.

  Alabama Power intends to clearly state the project purpose of all lands proposed to be reclassified in the Final Licensing Proposal.

- Q5 - On page 10, there are descriptions of two new proposed land use classifications, including "Flood Storage" which would include lands between the 793 ft and 795 ft msl

contours, and "Scenic Buffer Zone" which would include lands between the 795 ft and 800 ft msl contours. Would these classifications overlap with other land use classifications? Also, are there any buildings/structures currently within these elevation bands around Lake Harris?

The land use classifications will not overlap. In areas where the lands above the 800 ft msl contour (i.e. "back acreage") are project lands, the project lands below the 800 ft msl contour would be classified to match the back acreage. In areas where the lands above the 800 ft msl contour are non-project lands, the lands below the 800 ft msl contour would consist of these two classifications. However, the classifications would not overlap but would be adjacent (one band in front of the other). Alabama Power could not confirm at the meeting whether any buildings or structures currently exist within those contours, but current permitting practices allow property owners to build piers, etc. in these bands.

- Q6 - Page 11 discusses the results of the desktop evaluation and site visit to identify any suitable bobwhite quail habitat within the project boundary at Skyline WMA. Could you elaborate on the methods for evaluating the availability of bobwhite quail habitat and how it was determined that no suitable habitat occurred within the project boundary at Skyline WMA? Also, could the report include a figure showing a map of the 7 locations in the Skyline WMA where Alabama DCNR conducts spring/fall quail call surveys, and has documented quail, relative to the project boundary at Skyline WMA?

  The Final Phase 1 Project Lands Evaluation Report will contain detailed methods for the evaluation of suitable bobwhite quail habitat at Skyline. Alabama Power will also include a figure showing the ADCNR's quail call survey locations.

- Q7 - Appendix B provides maps and general descriptions of proposed changes in land use classifications at Lake Harris that were also discussed during the 9/11/19 HAT 4 meeting. It would be helpful if the maps of the proposed changes in land use classifications included legends to identify the various classifications, as well as north arrows and scale bars to facilitate orientation and review.

  Alabama Power will add a legend, north arrows, and a scale bar to the final maps in the Final Phase 1 Project Lands Evaluation Report.

- Q8 - In addition, during the 9/11/19 HAT 4 meeting, we (FERC staff) asked if terrestrial and cultural resource surveys were being conducted on lands proposed for removal from the project boundary and Alabama Power staff responded that they were. Could you provide descriptions of the terrestrial and riparian habitat types for areas that you are proposing to remove from the project boundary. Could you also describe the terrestrial and riparian habitat types for area "RC4" that you propose to reclassify from "Recreation" to "Commercial Recreation"? Do these areas contain suitable habitat for any of the T&E species that may occur at the Harris Lake portion of the project? What were the results of the cultural resource surveys for areas proposed to be removed from the project boundary?

Many other resource studies are being conducted concurrently with the development of the Project lands proposal. Alabama Power intends to use information from other relicensing studies to inform the final decision on the Project lands proposal, which will be included in the final licensing proposal. Additionally, Alabama Power will include within its final licensing proposal descriptions of the terrestrial and riparian habitat types for all areas proposed to be removed from the Project as well as the area "RC4" proposed to be reclassified to "Commercial Recreation".

- Q9 - Sarah Salazar (FERC) - Alabama Power needs to be sure to get information on the record so that FERC can use that information to inform their decision on the project related effects. The Final Phase 1 Project Lands Evaluation should explain the rationale for adding, removing or reclassifying lands in the Project Boundary. Also, it would be helpful if the map of area A6 included the existing birding trail and the proposed extension of the trail.

  The project purpose for the lands to be removed, added, or reclassified will be included in the final licensing proposal. Alabama Power will also add the birding trail and trail extension on the respective map as included in the Final Phase 1 Project Lands Evaluation Report.

- Q10 - Appendix C provides the Anniston Museum of Natural History's Flat Rock Botanical Inventory (inventory) report and the consultation record includes the Anniston Museum of Natural History's letter transmitting the report, Ken Wills' (Coordinator of the Alabama Glade Conservation Coalition) emails, along with several additional observations and recommendations from them.

  Approximately 365 plant species, including some rare species were documented at the site during the botanical inventory. The surveyors, Ken Wills, and FERC staff observed damages caused by vehicles traversing the site (SUV observed by surveyors; ATVs tire marks on granite outcrops observed by Ken Wills and FERC staff during scoping/environmental site review). The consultation record for this study includes recommendations from Anniston Museum of Natural History and Ken Wills' to manage/preserve/restore the site. The proposed definition of the "Natural/Undeveloped" classification, proposed for the rare plant site, does not indicate what types of recreation activities/vehicle access would be prohibited or how Alabama Power would manage such a site. Considering all of this, do you think that Alabama Power's proposed definition of "Natural/Undeveloped" would be effective in protecting this site? Could the definition of this classification be expanded/more detailed, or would you consider another, more protective land use classification type/designation for this site?

  Also, what has Alabama Power done to protect the rare plants that were identified during the inventory and were subsequently damaged by ongoing ATV use observed by Ken Wills? Can vehicles be excluded from these sensitive areas to protect rare plants while the relicensing process proceeds?

Alabama Power noted that that it has SMPs for its other projects that contain different classifications because of unique areas and circumstances. Therefore, the Natural/Undeveloped land use classification may need to be modified to address the rare plants at Flat Rock Park. Alabama Power will work with the HAT on reviewing the classifications and their definitions.

Sheila Smith (Alabama Power) noted that Alabama Power has been working with a contractor to barricade the area to prevent vehicle traffic. The barricade work has been completed. Alabama Power plans to continue monitoring the site to discourage vehicle and all-terrain vehicle (ATV) access.

- Q11 - Sarah Salazar (FERC) asked if the area also gets a lot of mountain bike use?

  Ken Wills (AGCA) noted that vehicles are the primary issue in that area and that mountain biking would not likely cause the effects they are seeing. He also noted that in the rural areas, ATVs were much more common.

- Q12 - Has the request from Randolph County regarding the proposed water treatment intake/plant been resolved/processed?

  Alabama Power is working with Randolph County to find an acceptable site that is similar to their original request. Alabama Power intends to file a land use variance request with FERC's Division of Hydropower Administration and Compliance, and, therefore, this request would not be a part of the relicensing process.

4.2 Participant Questions

- Q13 - Maria Clarke (EPA): It was my understanding there was a court case that involved Skyline Property. What happened? Why was the Skyline property reduced? Is this case closed?

  Alabama Power filed an application with FERC to amend its current Harris Project Boundary at Skyline (Accession No. 20200302-5424), which would add 13.1 acres of land and remove 62.2 acres of land, all within the approximately 15,063 acres of the Harris Project Boundary at Skyline.

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5 OPERATING CURVE CHANGE FEASIBILITY ANALYSIS STUDY

Kelly Schaeffer (Kleinschmidt) presented the Operating Curve Change Feasibility Analysis Phase 1 Report progress. Kelly reviewed the study purpose and data collected to date, which included the development of models and the initial modeling results. Kelly also reviewed the remaining activities for this study, including the use of other relicensing studies to conduct the Phase 2 analyses. Kelly noted that no variances to this study plan are requested. Alabama Power distributed the Draft Operating Curve Change Feasibility Analysis Phase 1 Report to stakeholders in April 2020, concurrently with filing the ISR.

5.1 FERC's Questions submitted in advance of the meeting

- Q1 - As we understand it, downstream effects with regard to flooding were assessed for a 100-year design flood. However, the relationship between the downstream flow alternative analysis and the Harris Reservoir winter flood pool analysis is not clear under alternative flood scenarios. What would happen in a scenario other that a 100-year flood? Would operations at Harris Dam under the alternative flood scenario, including different flow release scenarios, have any impact on the Harris Reservoir winter pool analysis, or vice versa?

  The "100-year flood" scenario used for modeling is based on an actual local storm event in the Tallapoosa River basin that is scaled up to equal a 100-year flood event. Other flood flow scenarios would likely have downstream flooding effects but at a smaller amount and duration. Alabama Power evaluated the effects of the 100-year flood, because FEMA uses the 100-year flood for its analysis and is the "gold standard". This is also consistent with modeling efforts that Alabama Power has conducted in previous relicensing processes. Kenneth Odom (Alabama Power) explained that if a 50-year flood scenario is used, there will still be downstream flooding. It will just result in less of an impact than the 100-year scenario. If Alabama Power used a 25-year flood, there would be fewer impacts than the 50-year flood scenario. Ultimately, reducing the flood frequency interval reduces the total amount of flow. However, there is no way to determine the differences in the total amount of flow downstream without modeling.

- Q2 - Table 5-2, page 51 of the report…What is it about RM 115.7 that appears to create a hydraulic control, such that the maximum increase in depth under any winter pool elevation scenario occur about mid-way down the Tallapoosa River?

  The surveyed bathymetric transects of the river indicate that the channel bottom rises at RM 113.63 and RM 114.5, constricting the channel area and creating a hydraulic control. Examination of aerial imagery shows what appears to be a shoal across the river at RM 114.5 and a shoal and island complex at RM 113.63.

- Q3 - Figures 5-20 and 5-21 appear incomplete, as they only show the results for one alternative…baseline (? based on color). Please address this apparent omission.

These figures are complete. However, Alabama Power will review them to determine if the information can be presented with more clarity. The Y axis shows the different winter curve change alternative elevations (+1 is 786 ft, +2 is 787 ft, etc.). For example, at the 786 ft msl winter pool elevation, there are 12 additional days of spill over baseline. Figure 5-21 is similar but includes the additional days of capacity operations for each alternative.

5.2 Participant Questions

- Q4 - Jimmy Traylor, Donna Matthews, and Albert Eiland (Downstream Landowners) expressed concern regarding how Alabama Power is operating the Harris Project, particularly during high flow events. All expressed that flood control has been worse since the dam has been in place. There were specific comments regarding various dates where flow conditions were a concern including February 6, 11, and 13, 2020. There were also questions regarding operations and use of flood gates on April 9, 2020. This discussion on operations during high flow events transitioned to comments and questions on the efficiency of the turbines at Harris and whether Alabama Power ever evaluated the efficiency of the turbines. Does raising the winter pool help with the generation efficiency, or are there any studies ongoing to improve the efficiency of generation for the dam? What about the dam turbines or equipment upgrades?

  Alabama Power operates Harris in accordance with U.S. Army Corps of Engineers flood control procedures provided in the Harris Reservoir Regulation Manual. Alabama Power follows these procedures and cannot evacuate water in anticipation of a high flow event. Kenneth Odom (Alabama Power) explained that raising the winter pool to the levels being evaluated in this study does not appreciably affect the efficiency of generation. Turbine or powerhouse equipment upgrades have a much greater impact on efficiency. However, the order of magnitude for total generation capacity for Harris would remain the same regardless of any equipment upgrades. Kenneth noted that the efficiency of the turbines is addressed during a turbine upgrade, which typically occurs at the end of the useful life of the turbine. There are no planned turbine upgrades during this relicensing.

  Additionally, Kenneth Odom reviewed the reservoir levels that were raised by a stakeholder earlier in the meeting. He noted that on February 6, 2020, the reservoir level was 785 ft msl. A large rain event had occurred, and both units were generating at best gate. The reservoir's elevation rose to 790 ft msl (5 feet above winter curve) on February 11, 2020 and both units began operating at full gate. The reservoir continued to rise. On February 13, 2020, the Harris reservoir was 6.5 feet above the winter curve elevation of 785 ft msl. In accordance with Harris flood control procedures, Alabama Power opened flood gates. Kenneth further confirmed that Alabama Power was not using any flood gates to pass water downstream of Harris Dam on April 9, 2020.

- Q5 - Donna Matthews (Downstream Landowner): Is the public ever involved in discussions regarding turbine or equipment upgrades; why not consider using the HEC-RAS modeling to redesign the turbines? Could you find the optimal solution to turbine

design and flow scenarios to solve those issues? How do we know what to ask for if all the possible solutions aren't offered for us to consider?

Angie Anderegg (Alabama Power) stated that the public is not usually involved with discussions on equipment upgrades. She noted that there seemed to be confusion between the turbine design/efficiency versus the downstream flow scenarios. The two existing turbines have a specific capacity and generate a finite number of megawatts with the amount of water that passes through them, which is inherent in the design of the turbines. When it is time to upgrade, Alabama Power desires to achieve more power with less water, creating an increase in efficiency. It is not possible to completely redesign the turbines, because the Harris Project was originally designed to generate a certain number of megawatts using a certain amount of water at specific times (i.e., peak) to support system operations. Angie gave an example of the system peak that happens during a hot summer afternoon and how hydropower is used to meet the system demand. As part of the downstream release alternatives study, the benefit or impact of providing a continuous minimum flow are being analyzed (a continuous minimum flow would also ideally produce power). Angie reiterated that the results from this study, as well as the other studies, will be analyzed together to develop the best proposal.

Kenneth Odom (Alabama Power) added that a redesign of the turbines or new "runners" would focus on improving the efficiency but deliver the same general number of megawatts.

FERC staff stated that, if a licensee determines that upgrades are necessary, it must file a license amendment application with FERC. She explained that license amendment applications are subject to the NEPA process, and depending on the potential for environmental effects, FERC would issue a public notice and solicit public input.

- Q6 - Donna Matthews: Who controls the amount of number of megawatts generated? What if the number of megawatts is too much for the river? Why can't you change it?

  The number of megawatts that a project is authorized to generate is set by FERC, as described in the original license order. Changing the generating capacity would affect the energy grid beyond Harris, because Alabama Power is required to supply a certain amount of power across the entire system. There is a reliability factor from the Harris Project that supports the entire power grid.

- Q7 - Question from Instant Messenger, Martha Hunter (Alabama Rivers Alliance): Wasn't there a turbine upgrade a few years ago?

  No, a turbine upgrade has not been completed at the Harris Project.

- Q8 - James Hathorn (USACE): How were the intervening flows considered in the Harris model?

The intervening flow hydrograph for the contributions to the Tallapoosa River from the drainage area between Harris and Wadley was calculated by Alabama Power, as described in Section 4.4 of the study report. The hydrograph was included in the model as a uniform lateral hydrograph entering the river between RM 136.6 and 122.97. Kleinschmidt developed an intervening flow hydrograph for the contributions to the river from the drainage area between Wadley and Horseshoe Bend by comparing the daily flood hydrographs from the Wadley and Horseshoe Bend gages for the March 1990 event. A comparison of the daily average flow hydrographs gages showed a similar shape for both gages. The hourly hydrograph for the Wadley intervening flow, calculated by Alabama Power, was adjusted by multiplying each hourly ordinate of the hydrograph by a ratio of the Horseshoe Bend to Wadley gages. The data was then adjusted to subtract out the flow from the Wadley gage so that the lateral inflow was only equal to the flow intervening between the two gages. The hydrograph was included as a uniform lateral inflow between RM 122.97 and RM 93.66. The development of the hydrograph is described in Section 4.5.3 of the report.

- Q9 - James Hathorn: What types of structures will be analyzed in the phase 2 structure study? Will there be any crop/farmland analysis?

  Alabama Power has not conducted a full economic analysis of each structure, land type, or property type. Crop or farmland analysis is not currently in the FERC-approved methodology.

- Q10- James Hathorn: For the HEC-RAS modeling, it only uses a 100-year design flood, or different types of storms?

  Alabama Power has not proposed to model other storm events. However, if FERC needs this information for its analysis, Alabama Power can model other storm events.

  Angie Anderegg (Alabama Power) explained that the 100-year flood has been used as the standard by FEMA. To move forward with other flood scenarios, Alabama Power will need to know exactly which additional floods need to be modeled.

  Sarah Salazar (FERC) reiterated that the process is in the information gathering stage, and no decisions are being made right now. However, we do want to know all of the alternatives that are possible moving forward in order to make the best decision later. She encouraged all stakeholders to file comments on or before June 11, 2020.

- Q11 - Alan Creamer (FERC) - Regarding the flood design, what would the downstream flows look like using a 50-year or 25-year flood scenario? I know the worst-case scenario is the 100-year flood. I'm wondering if it would present as a straight line, or a curve in terms of how it presents downstream? Maybe the 100-year flood isn't the end–all.

Kelly Schaeffer (Kleinschmidt) asked if FERC was requesting that Alabama Power add specific flood events other than the 100-year flood to the study plan (the 25 and 50-year flood scenarios).

Alan Creamer (FERC) answered that he thought it would be helpful to see how the flows would work under different scenarios.

Kelly Schaeffer responded that if there are additional modeling requests, Alabama Power would need to know those scenarios as soon as possible to avoid getting to December 2020 (after completing the majority of the Phase 2 analysis) and have to re-run the model for additional flood events and revisit the Phase 2 analyses.

Kenneth Odom (Alabama Power) explained that the "100-year flood" scenario that Alabama Power uses for modeling is based on a local storm event in the Tallapoosa River basin, but it is scaled up to equal a 100-year flood event. If it is a 50-year flood scenario, downstream flooding will still occur. It is just less impact than the 100-year scenario. If Alabama Power used a 25-year flood, there would be fewer impacts than the 50-year flood scenario. FEMA bases its flood maps on the 100-year flood. Other storms can be examined, but ultimately, reducing the flood frequency interval reduces the total amount of flow. However, there is no way to determine what the differences would be in the total amount of flow downstream without modeling.

Angie Anderegg (Alabama Power) commented that Alabama Power's intent is to use the 100-year flood to determine whether it will propose a lake level change.

- Q12 - Regarding the 100-year flood, are they taking climate change into account when they're looking at these scenarios? Martha Hunter also added that along with additional rains we are seeing we need to anticipate the different droughts that are coming and wants that to be part of the decision for how the river is operated in the next 50 years.

  Alan Creamer (FERC) stated that he did not recall that climate change was part of the study design or approved study plan.

- Q13 - Maria Clark (EPA) noted that that the EPA, U.S. Geological Survey, and FEMA have been working together to address data shortfalls on climate information. She noted that the 100-year event may not be appropriate at this point or if Alabama Power does use the 100-year, they should also supplement with local events. Maria plans to pass along this information from EPA.

  Kelly Schaeffer (Kleinschmidt) asked if Maria could include that information or provide a reference in its comments on the ISR. Kenneth Odom (Alabama Power) also noted that the 100-year design flood used in the Harris modeling was based on an actual storm event that was scaled up to equal a 100-year event.

- Q14 – Charles Denman via email following the meeting: I believe a comparison of historical (pre-dam) and recent flooding downstream of the dam would help stakeholders understand the effectiveness of the Dam for flood control. Also include a model with

same parameters (land use, storm intensity and duration, etc.) but without the dam attenuation. This would help downstream stakeholders understand what effects the Dam has on flooding downstream. Are the original studies and permitting materials available for stakeholders to review?

The Harris Project, as it exists today, is considered baseline with regard to FERC analyses and is used in FERC's decision whether to issue a new operating license and under what conditions. Alabama Power structured this study to review and analyze flood conditions with the Harris Dam in place, consistent with FERC's guidance on existing projects and the evaluation of pre-project conditions. FERC approved this study plan in April 2019. All Harris Relicensing study plans, meeting documentation, and other permitting materials are available to stakeholders at www.harrisrelicensing.com. These documents may also be provided upon request if needed.

6 DOWNSTREAM RELEASE ALTERNATIVES STUDY

Kelly Schaeffer (Kleinschmidt) presented the Draft Downstream Release Alternatives Phase 1 Study Report progress. Kelly reviewed the study purpose and the data collected to date, which included the development of models and initial modeling results. Kelly also reviewed the remaining activities for this study, including the use of other relicensing studies to conduct the Phase 2 analyses. Kelly noted that no variances to this study plan are requested. Alabama Power distributed the Draft Downstream Release Alternatives Phase 1 Report to stakeholders in April 2020, concurrently with filing the ISR.

6.1 FERC's Questions submitted in advance of the meeting

- Q1 - Modeling scenarios…as it stands now, the report presents the results for three downstream release alternatives: Pre-Green Plan operation, Green Plan operation, and Pre-Green Plan operation with a 150 cfs continuous minimum flow. Why was modelling of minimum flow limited to 150 cfs? Also, have you considered modeling Green Plan releases with continuous minimum flow scenarios? On what basis did you choose not to do so?

  Alabama Power proposed these three modeling scenarios for downstream releases in the study plan. These scenarios have been discussed for at least 18 months with stakeholders and were developed in the study plan process and approved by FERC in its April 12, 2019 Study Plan Determination.

6.2 Alabama Rivers Alliance's Questions submitted in advance of the meeting

- Q2 - Why is the only continuous minimum flow regime being studied a 150 cfs flow? Why was this particular value chosen? Previous commenters have encouraged the study of a wide variety of flow conditions and operational scenarios. Does Alabama Power plan to study a broader range of continuous minimum flows?

  As noted above, the various flow scenarios were determined in the development of the study plan. The 150 cfs minimum flow is equal to the same daily volume as three 10-minute Green Plan pulses. If stakeholders desire additional flow conditions and operational scenarios, they need to request additional modeling per the FERC study plan modification process. Kelly Schaeffer (Kleinschmidt) explained that the modeling is resource intensive and while the HEC-RAS model is built and functioning, the process to review other flow scenarios is resource intensive.

- Q3 - The study report states that with full power storage available, Harris is programmed to generate 3.84 hours per day. Is all of that peaking generation, or is some percentage of the programmed operation for non-peaking generation?

  Yes, that number is in the daily Res-SIM model. It is really an average of all the plants in Alabama Power's system at full pool. That number is not connected to peaking operations.

- Q4 - In the Green Plan Release Criteria attached as Exhibit B, item 4 concerns Spawning Windows and states that "Spring and Fall spawning windows will be scheduled as conditions permit. The operational criteria during spawning windows will supersede the above criteria." Can you elaborate on when "conditions permit" for scheduling spawning windows?

  It is dependent on where the reservoir elevation is in relation to its rule curve and what flows are coming into the reservoir to provide stable operations. Keith Chandler (Alabama Power) gave an example: Alabama Power tried to hold a spawning window and only ran 10-minute pulses to see what it would do downstream. By going by the criteria (three 10-minute pulses) Alabama Power wanted to see if it would create a spawning window for the downstream fishery.

- Q5 - Jack West (Alabama Rivers Alliance) asked if Alabama Power had data that permitted for the spawning windows.

  There is some data. Alabama Power's Reservoir Management group has summaries of each year, and the effort in the most recent year is summarized in the baseline report included with the Pre-Application Document (PAD). A portion of this analysis is being done as part of the aquatic resources study and will be detailed in the Draft Aquatic Resources Report.

6.3 Participant Questions

- Q6 - Lisa Gordon (EPA) asked if she could be directed to the 3 downstream release alternative scenarios to find the document where the analysis occurred to model 150 cfs continuous minimum flow. So continuous minimum flow means there is no pulsing?

  Correct; there will not be pulsing with a continuous minimum flow. The flow scenarios are documented in the meeting summaries from December 2018, as well as meetings and filings in 2019 prior to the FERC Study Plan Determination (April 12, 2019). Angie Anderegg (Alabama Power) noted that all the meeting summaries and presentations (from PAD to present) are available on the Harris relicensing website.

- Q7 - Lisa Gordon asked if flows would be adaptively managed. Would these be set, locked in flows, or would there be modified flows when needed?

  Alabama Power is evaluating a continuous minimum flow with no variations or modifications; however, Alabama Power is currently in the data gathering and analysis phase. With this information, a decision about flows can be made. What Alabama Power has been doing in the years leading up to relicensing is an adaptive management process. Alabama Power also has another project that flows are being adaptively managed in a bypassed reach.

- Q8 - Sarah Salazar recalls during the study plan meeting that we discussed alternatives and the stakeholders generally didn't feel comfortable proposing alternatives at that point but said they would once they saw results from the three modeled scenarios included in

Alabama Power's study plan. The information gathering stage does not last forever so now is the time to propose other flow scenarios for modeling. Alabama Power needs those flow scenarios now.

- Q9 - Alan Creamer (FERC) said he agreed with Sarah's summary. Alan would like to see an operating scenario that includes the Green Plan with minimum flows. Alan acknowledged that the fisheries studies have not been completed, so stakeholders do not currently have that information. Once all the studies are complete and reports are available, Alan noted that there should be another opportunity for stakeholders to revisit phase 1 in terms of modeling and not simply go to phase 2 once all the information is presented to stakeholders. Also, what does the 150 cfs represent in terms of percentage of average annual flow? Where does it fall on flow duration curve?

  Alabama Power is in the process of getting that additional information by conducting the FERC approved studies. However, Alabama Power needs to hear from stakeholders now—based on the extensive amount of data currently available on the project—regarding alternative flow scenarios. Any additional scenarios are needed now. Once the phase 2 portions of the operations studies begin, any need to come back to modeling various flow scenarios may result in delays and an incomplete application, which is not acceptable to Alabama Power. There is a lot of data on the Harris Project that has been compiled and presented, and Alabama Power wants stakeholders to meet halfway with regard to putting forward additional flow alternatives to analyze.

- Q10 - Alan Creamer agreed but also reiterated that he doesn't believe we have complete information and that stakeholders should have the opportunity to modify the study plan after receiving and reviewing the study results. Alan noted that there are three studies that are not complete, and FERC and Alabama Power will have to work through this issue so that there is an additional opportunity. Normally at an ISR, Alan stated that all the first-year studies are done. In this case, there are still outstanding studies. He indicated that he doesn't think there is adequate information for stakeholders to make suggestions on alternative flow scenarios.

  The due dates in the studies were approved by FERC. Alabama Power and FERC discussed the draft study reports that were not scheduled to be included in the ISR and discussed the two studies for which Alabama Power is requesting a variance. Angie Anderegg (Alabama Power) noted that the Recreation Evaluation Draft Report is delayed, because Alabama Power incorporated a stakeholder request for an additional survey, which was just completed in April. However, the original due date approved by FERC for the Draft Recreation Evaluation Report was June 2020. Alabama Power stated that there are some reports that were not scheduled to be filed as part of the ISR. The ILP may anticipate that studies will be completed in one year and reports filed as part of the ISR, but that is not a requirement of the ILP or the ISR.

- Q11 - Sarah said that in Alabama Power's proposed and revised study plan that the schedule listed the ISR as a milestone and FERC interpreted that to mean that all the first

phases of the study would be complete by then. Any other milestone that went beyond that phase would be a follow up of that report. FERC sets up the study seasons for one year. There are usually two study seasons in each ILP, and she noted that perhaps this accounts for the disparity between FERC and Alabama Power's understanding of where we should be at this moment. Maybe we need to have another discussion.

Six study reports are available for review and comment. If there is disagreement after stakeholder review and comment of the remaining three reports and cultural documents, Alabama Power would enlist FERC for a dispute resolution. Alabama Power desires that everyone has the opportunity to comment on these study reports. Angie Anderegg (Alabama Power) referred to the study schedule and noted that Alabama Power has met the ILP obligations and, where necessary, Alabama Power has asked for a variance on two studies (Recreation and Cultural APE document).

- Q12 - Rachel McNamara agreed with Alabama Power's characterization of the Recreation Evaluation and understood the rationale for modifying the schedule. For the Recreation Evaluation Draft Report, Rachel emphasized that there's need for adequate time for stakeholders to comment on the draft report and that all comments be filed with FERC. There are ways we [FERC] can handle the comment period and I think FERC staff needs to discuss that and figure out the best strategy to address comments and study plan modifications.

  Angie Anderegg (Alabama Power) assured the participants that they would have ample time to comment on the remaining draft study reports (Recreation, Aquatic Resources, Downstream Aquatic Habitat, and the Cultural APE document).

- Q13 - Jimmy Traylor raised the issue of the downstream temperature and the relationship with the minimum flow. He noted that the Tallapoosa River below Harris Dam is not supposed to be a cold-water fishery. If Alabama Power is going to release a 150 cfs continuous minimum flow, it has to be at a temperature that more like that of a warm water fishery.

  Angie Anderegg (Alabama Power) indicated that temperature would be addressed in the aquatic resources' studies (HAT 3) and requested that this question be addressed later in the meeting.

- Q14 - Barry Morris (LWPOA) asked if he was right in assuming these alternative releases would have no impacts on the lake level. Barry asked if 150 cfs was equivalent to the Green Plan flow, would it be twice as much water?

  Based on the model, a 150 cfs minimum flow would not affect the lake level. However, a larger continuous minimum flow could impact lake levels. Regarding the amount of water, Kenneth Odom (Alabama Power) stated that in response to Barry's second question, no, it is not twice as much water. Kenneth stated that the part of generation that is now used solely for Green Plan flows would be replaced by 150 cfs continuous flow. Alabama Power would not pass a continuous minimum flow and continue to pulse.

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- Q15 - Rachel asked if you are generating with minimum flow.

  Yes, ideally the minimum flow would be generating, not spill. Chris Goodman (Alabama Power) said that a 150 cfs minimum flow would not affect lake levels but would constrain Alabama Power's ability to peak with the same flexibility as they currently have.

- Q16 - Maria Clark (EPA) encouraged Alabama Power to review their March 2019 comments on this issue. She asked why 2001 was selected as an average year.

  2001 was an average or normal water year determined by the Flood Frequency Analysis study for the Tallapoosa. Additionally, 2001 was pre-Green Plan, which provided pre-Green Plan operations and hourly data to run through HEC-RAS model.

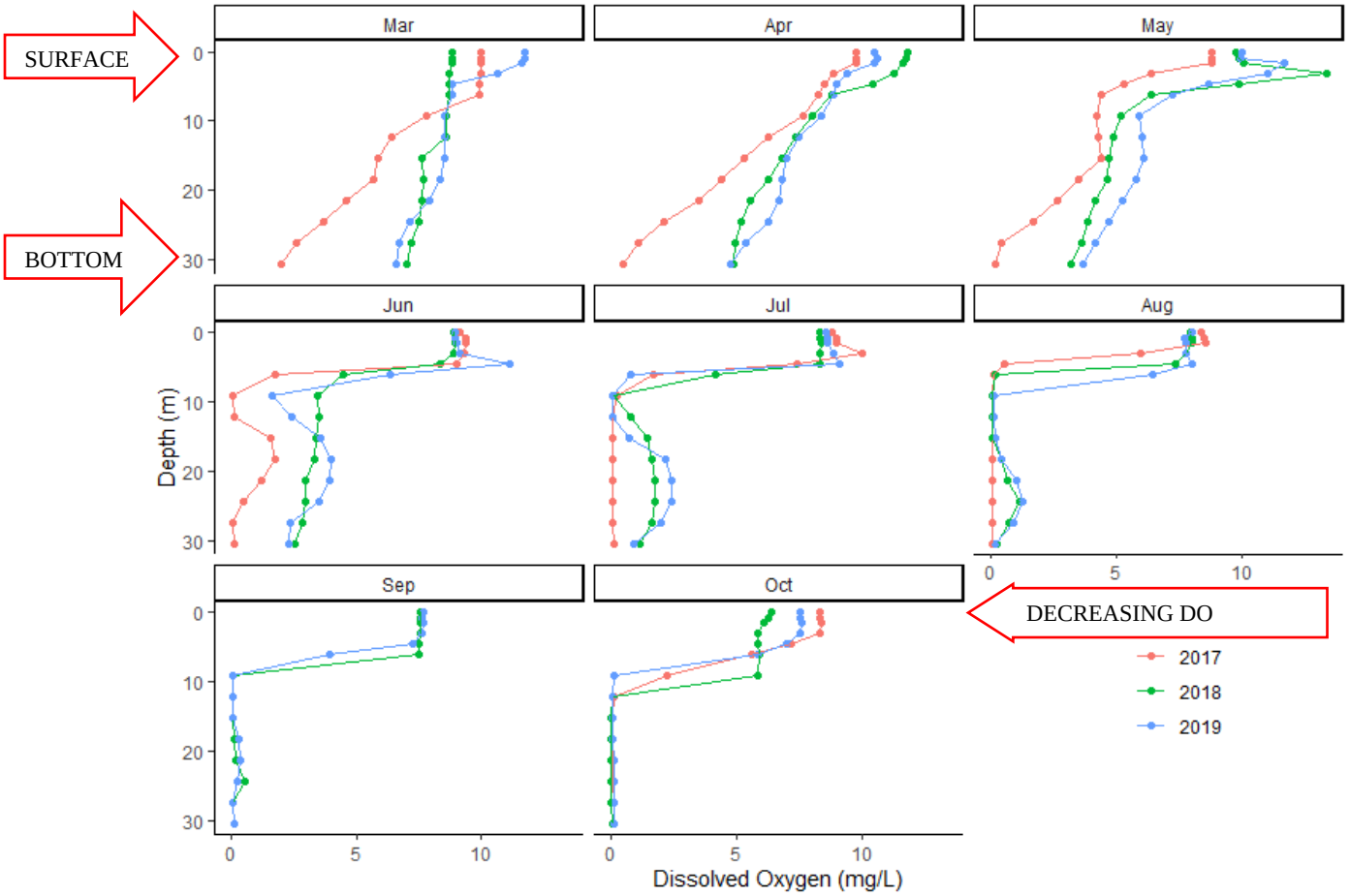
7 WATER QUALITY STUDY

Jason Moak (Kleinschmidt) presented the progress on the Draft Water Quality Study, which included the study purpose, data and activities collected to date, and remaining activities. Jason noted that no variances to this study plan are requested. However, the schedule has been updated to reflect Alabama Power's plan to file the 401 Water Quality Certification application in April 2021. Alabama Power distributed the Draft Water Quality Study report to stakeholders on March 9, 2020, and also in April 2020, concurrently with filing the ISR.

7.1 FERC's Questions submitted in advance of the meeting

- Q1 - Page 18…figure 3-8…please explain what is happening with the vertical DO profiles where DO increases in May, June, July, and August, where otherwise the DO should be declining.

  Jason Moak (Kleinschmidt) said it could be how the graphs are interpreted. The data shows the reservoir stratifying as expected in a reservoir during the warmer months of the year. Jason recommended an offline discussion but stated that Alabama Power will also try to clarify in the Final Water Quality Study Report.



- Q2 - Page 23 discusses Alabama DEM monitoring data for the Harris Dam tailrace (i.e., immediately downstream from Harris Dam). Was this data collected during generation, or does it also reflect non-generation periods?

  These were events when ADEM went out monthly and took a grab sample. All samples were completed during non-generation. Alabama Power will clarify this in the Final Water Quality Study Report.

- Q3 - Pages 39-41 present DO and temperature data for downstream continuous water quality monitoring station. On page 16 of the ISR, Alabama Power is not proposing any additional monitoring beyond what was approved in the Commission's SPD. Why is there not a second year of monitoring for the downstream continuous monitoring station? How confident are Alabama Power and the HAT 2 members that 1 year of monitoring at the downstream station includes a worst-case scenario?

  A second year of monitoring was not included in the FERC-approved study plan. Alabama Power is confident in the data collected thus far. Regarding a worst-case scenario, Alabama Power could monitor for 5 years and may not see a worst-case scenario. Although 2017 may have been a bad year, Alabama Power missed that opportunity to collect a continuous data set at the approved location in the study plan.

7.2 Alabama Rivers Alliance's Questions submitted in advance of the meeting

- Q4 - Previous data from 2017-2019 mentioned in Table 1-1 is not continuous, year-round data. Is Alabama Power now collecting continuous, year-round data at multiple locations?

  No. The study plan approved collecting continuous data at the downstream monitor during 2019.

- Q5 - The Alabama Power data listed on Table 1-1 shows monitoring during generation only. Is data during non-generation periods available prior to 2019?

  No.

- Q6 - The report states that a continuous monitor was "recently installed" at Malone. Was it installed on March 12, 2019 corresponding to the "Downstream Monitor 2019" tab of the WQ data excel spreadsheet?

  The monitor at Malone is owned and operated by ADEM. Data from the Malone monitor was not included in the spreadsheet. However, Alabama Power can add it to the Final Water Quality Report.

- Q7 - Is there only the one continuous monitoring station downstream from Harris Dam at Malone?

  Yes.

- Q8 - The Draft Water Quality Study Report contains significant water temperature data, but the discussion and conclusions focus almost exclusively on dissolved oxygen levels, and do not discuss temperature. Will the effects of temperature be discussed in the final report or reported on in the Aquatic Habitat or Aquatic Resources study reports?

  The effects of temperature on aquatic resources will be addressed in the Aquatic Resources Report.

- Q9 - Is Alabama Power studying, or planning to study, methods to account for low water temperatures, including using an alternative intake structure that would allow for mixing of warmer and cooler water to raise average temperatures or withdrawing water from a higher depth in the reservoir to allow for warmer releases?

  Alabama Power intends to study technologies that can address temperature, as needed, once a temperature issue has been determined and defined through on-going study and data analyses.

7.3 Participant Questions

- Q10 - Alan Creamer (FERC) noted that there was only one year of continuous monitoring data. How confident is Alabama Power that the data represents what could be a worst-case drought or is truly reflective of the worst water quality could be? Also, Alan asked why Alabama Power couldn't get more than one year of continuous data? If stakeholders want to look at this and want to know how confident Alabama Power is in this data and that it truly represents a drought period.

  Jason Moak (Kleinschmidt) said he does not think 2019 was a worst-case scenario and that it is not known if 2020 would be either. Angie Anderegg (Alabama Power) said that Alabama Power proposed one year of monitoring in the study plan, which was approved. Angie also noted that it is time consuming and expensive to service the continuous monitor but that will not prevent further monitoring should it be required.

  Alan stated that when FERC approved the Water Quality Study Plan, it was with the intent that collectively, we would use year one data to determine if additional data were needed. Angie Anderegg (Alabama Power) asked if FERC sees a need for an additional year. Alan said there are instances where we drop below what we are trying to achieve, so if this is not the worst-case scenario, you could have more years where the DO drops below that criteria. Alan further stated that it is hard to make decisions on just one year. Alan also pointed out that the one year included in the report was not one that could be considered a drought, so in a drought Alabama Power may only meet water quality criteria 90% of the time. Angie noted that because Alabama Power is filing the 401 application in 2021, Alabama Power is collecting data at the tailrace monitor in 2020, resulting in an additional year of data. Alan Creamer noted that the tailrace monitor is only capturing generation. He indicated that FERC wants to know what happens to water quality during both generation and non-generation.

Keith Chandler (Alabama Power) noted that 2019 was not a drought year, but it was a hot year and that ADEM is continuing to collect data downstream. Keith further said Alabama Power ran only green plan flows a lot of the time during the monitoring season.

Alan Creamer said the most important part of this is what is happening right below Harris Dam or less than half a mile downstream. The other gages further downstream are also accounting for other influence. In reading this report Alabama Power met the criteria near 100% of the time but that may not be reflective of what's happening closer to the dam.

- Q11 - Jimmy Traylor (Downstream Landowner) asked if anyone has identified the sulfur smell in released water? Jimmy said he noticed it in the summer especially during the first 45 minutes or so of generation. Near Malone you get a foul smell. Seems to go hand-in-hand with drought conditions. As you get further into the summer months, it worsens.

  Alabama Power is not aware of a sulfur smell in the water. Jason Moak (Kleinschmidt) asked if there was a time of year that the smell is worse. Jason said he has noticed that smell at other hydro projects and said it probably had something to do with natural lake stratification and biological processes that occur on the lake bottom.

- Q12 - Sarah Salazar (FERC) asked if the Draft Water Quality Report covered where in the water column that Alabama Power is drawing water from in Lake Harris? This would be helpful to include in the report.

  The intake at Harris has a movable sill. Alabama Power will add this information to the Final Water Quality Report.

- Q13 - Albert Eiland (Downstream Landowner) asked to please summarize the conversation between him and Jason Moak about mercury. Has the content changed in the reservoir? How bad is it in the lake?

  Jason Moak (Kleinschmidt) said he was not sure. It could be coming from atmospheric deposition in the lake. Jason noted it is a widespread issue among reservoirs all over the country and an issue with large bodies of water and fish.

- Q14 - Maria Clark mentioned a Georgia Project where they do maintenance in the intake because a lot of debris accumulates, and they let the water run which causes the debris to mix into the water that is being released. Clearing that helped alleviate the smell. This was a smaller dam.

  Jason Moak (Kleinschmidt) said there is not much of a debris issue due to the size of the Harris Dam.

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8 EROSION AND SEDIMENTATION STUDY

Jason Moak (Kleinschmidt) presented the progress on the Draft Erosion and Sedimentation Study, which included the study purpose, data and activities collected to date, and remaining activities. Jason noted that no variances to this study plan are requested. Alabama Power distributed the Draft Study report to stakeholders on March 17, 2020, and also in April 2020, concurrently with filing the ISR.

8.1 FERC's Questions submitted in advance of the meeting

- Q1 - Section 5.0, Discussion and Conclusions states that at some sites, "land clearing and landscaping, and other construction activities affecting runoff towards the reservoir" cause erosion. Is it possible to provide areal images showing the areas of active erosion in relation to the project boundary as part of the final study report?

  Yes. Alabama Power will add aerial photos showing the project boundary, winter pool, and summer pool contours.

- Q2 - Appendix D – photos…it would be helpful if the captions for the photos included better location descriptors (e.g., Harris Reservoir, Harris Reservoir-?? Embayment, Harris Reservoir-?? River Arm, Tallapoosa River, etc.). For the Harris Reservoir sites, it would be helpful if the contours within which peaking operations occur (lake fluctuation zone) could be identified.

  Alabama Power will add captions with location descriptors to the photos in Appendix D. Because Harris is a storage reservoir, there are no daily fluctuations in reservoir level, only seasonal fluctuations in accordance with the operating curve.

- Q3 - Could you make the video footage that was collected as part of this study available for stakeholders to view?

  Yes, Alabama Power is investigating how to make the video footage available.

- Q4 - Will the nuisance aquatic vegetation surveys still be possible to conduct in Lake Harris this summer?

  Yes, the nuisance aquatic vegetation surveys are scheduled for summer 2020.

- Q5 - On page 24, in section 3.2, the report includes the following statement: "A total of 20 sites, rather than 15 sites, were provided for the left bank segments as many segments were tied with a score of (slightly impaired)." Please explain what is meant by many of the streambank segments being "tied with a score of slightly impaired" and clarify the relationship between the number of streambank segments/sites and the bank condition score.

Alabama Power will edit the text to make this section clearer. All assessed streambank segments (each 0.1 mi of the study reach) were sorted based on their condition score, from lowest to highest. Sites with the 15 worst scores (i.e., ranked 1 through 15) were presented in Table 3-2. Since 14 of the left bank segments in the list had the same score for condition (3.0), they were included in the list.

- Q6 - On page 25, in Table 3-2, shouldn't the heading/label of the first column of the table be "Site Number" instead of "Rank" given that the rank options are only 1 through 5 (according to Table 3-1) and there appear to be 20 sites?

  Please see the response to Q5 above. Alabama Power understands that this table is confusing and will rework it to make the results clearer in the Final Erosion and Sedimentation Study Report.

- Q7 - On page 11, of the Tallapoosa River High Definition Stream Survey Final Report (Appendix E of the Erosion and Sedimentation Study Report), it states that prior to the survey, flows were monitored to ensure relatively normal flow conditions during the survey. For clarity, what were the "relatively normal flow conditions" during the survey? Were they slightly higher or lower than average?

  As seen in the graphs of discharge on page 12 of Appendix E, flows during the study were very close to the long-term median value.

- Q8 - In Figures 13 and 16 of the Tallapoosa River High Definition Stream Survey Final Report, the scale is small and so it appears that most of the riverbanks are unmodified and the modified banks identified on the individual site surveys are not visible. It would be helpful if the figures in the report showed labeled points for the erosion/sedimentation sites that are identified in the report.

  Alabama Power will provide figures with a larger scale and with labeled erosion sites in the Final Report.

- Q9 - Page 20 of Tallapoosa River High Definition Stream Survey Final Report states that a confidence rating was used to indicate the clarity of the streambanks in the video and figures 14 and 17 of that report show areas where the video clarity was impaired and therefore the confidence in the accuracy of the streambank conditions/classifications is lower. As stated above, it would be helpful if the figures in the report showed labeled points for the erosion/sedimentation sites that are identified in the report. Do any of the areas with impaired video clarity coincide with areas that stakeholders identified as erosion/sedimentation sites or other sites that Alabama Power identified as part of this study? Do you intend to take any steps to deal with the impaired clarity data? Is so, how?

  Alabama Power will reexamine these areas to determine if sites with lower confidence coincided with identified erosion sites. If so, we will perform targeted surveys of these areas and update the Final Report accordingly.

- Q10 - In Figure 18 of the Tallapoosa River High Definition Stream Survey Final Report, there appears to be a missing ranking at river mile 37 for the right streambank. Could you explain this gap in the ranking?

  Alabama Power is reexamining this area and will include rankings in the Final Report.

- Q11 - For Figures 20 through 23 of the Tallapoosa River High Definition Stream Survey Final Report, please label the river mile ranges on the maps to help reviewers understand the starting and ending points of the study area and which segments of river are included.

  In Figure 26 of the Tallapoosa River High Definition Stream Survey Final Report, please move the scale bar and sources so that they are not covering the river segment and bank conditions at the bottom of the map.

  Alabama Power will revise this figure accordingly.

- Q12 - Can you identify where peaking pulses are attenuated downstream from Harris Dam under the current operating regime and volume of typical downstream releases? If so, are there any patterns in the downstream streambank conditions and observed levels of erosion along the segments of streambanks within the attenuation zone? Where are the identified erosion sites in relation to the length of the attenuation zone?

  Alabama Power will incorporate a discussion of water level fluctuations and any potential correlations with streambank erosion into the discussion section of the Final Report.

8.2 Alabama Rivers Alliance's Questions submitted in advance of the meeting

- Q13 - Will we have access to the High Definition Stream Survey video created by Trutta Environmental Solution as part of the Downstream Bank Stability Report?

  Yes, Alabama Power is investigating how to make the video footage available.

- Q14 - Table 3-2 shows streambank scored for the 15 most impaired areas downstream of Harris Dam. How was the Average Combination Bank Condition score (final column) computed? It does not appear to be an average of the "Average Left Bank Condition" and "Average Right Bank Condition" scores, which would yield a lower average scored. The averages showing for the left and right banks are mostly 3.0 or higher while the average combined bank condition scores are mostly below 3.0.

  Jason Moak (Kleinschmidt) noted that one column looks only at left bank and the other the only right bank. Every tenth mile those scores were averaged and ranked. Jack West (Alabama Rivers Alliance) said it still doesn't make sense why you have larger averages on both sides, and they are reduced in combination. Sarah Salazar (FERC) said that part of the table was confusing as well, and she is not certain that last column is informative. Jason said he agrees and was thinking that it may only make sense when there are impacts on both sides, like a transmission line crossing.

- Q15 - The report concludes in Section 5.0 that "None of the erosion sites surveyed were the result of fluctuations due to project operations." This conclusion seems in conflict with the assessment in the HDSS that impairment areas "were due to the fluctuating flows eroding the streambank within a few feet of the water surface and streambank interface." (Pg. 43 of Trutta Report).

  This statement refers to the reservoir. Because Harris is a storage reservoir, most of the erosion occurring in the reservoir is due to wave action from boats or winds.

- Q16 - Is Alabama Power completing a total suspended sediment analysis during the pre-pulse, pulse, and post-pulse time periods to see what sediment is getting moved from and to various locations?

  No, Alabama Power is not completing a total suspended sediment analysis.

- Q17 - Is Alabama Power conducting a historical, cumulative effects study of erosion since the dam's construction?

  Alabama Power is not performing a cumulative effects study.

- Q18 - Is Alabama Power assessing whether having a continuous minimum flow downstream may help with erosion and sedimentation problems?

  Yes. Alabama Power will use the model outputs to assess the difference in water level fluctuations.

- Q19 - Jack West asked why it seems that none of the erosion sites are due to operations.

  Most of the erosion issues downstream are not due exclusively to operations. For example, areas where trees and vegetation are being cleared are not due exclusively to operations, but water fluctuations could exacerbate erosion.

8.3 Donna Matthews' Questions submitted in advance of the meeting

- Q20 - Better Visualization of Erosion over the Past 50 Years: Do the erosion studies conducted during this permitting period compare pre-dam (baseline) river shape/contour with the current status of the river? Pre-dam analog photographs exist for comparison to current satellite imagery.

  Alabama Power has not compared pre-dam conditions to current conditions. Historical photographs may provide useful information for the cumulative impacts section of the license application and for FERC's use.

8.4 Participant Questions

- Q21 - Jimmy Traylor (Downstream Landowner) said he has no trees on the bank at his property and has little bank remaining. He asked Jason what he would consider that? Mr. Traylor noted that his trees have been falling in and steps that his grandfather built are disappearing since the dam was built and operation.

Jason Moak said he would locate Mr. Traylor's property on the data file to see how that area was scored. Jimmy Traylor responded that the Draft Erosion and Sedimentation Report says, "not much erosion" at his property. Mr. Traylor also noted that there is significant sedimentation in areas like Cornhouse Creek and No Business Creek where the water backs up during generation. He characterized it as "a mud pit" and this has significantly affected these tributaries. He believes Alabama Power is missing the mark on erosion. Mr. Traylor also noted that since the inception of the Green Plan, erosion has decreased. He noted that a continuous minimum flow would also help reduce erosion. Jack West (ARA) asked about data Alabama Power may have regarding bank conditions and erosion from the 1980s (pre-project and just after project was constructed), 1990s, and in the 2000s to do a cumulative effects study. If there is data, he asked that Alabama Power make it available so we can assess the impacts on a larger scale.

Carol Knight concurs with Jimmy Traylor and Albert Eiland can give anecdotal evidence of how the banks have eroded. Carol indicated that she has old maps from 40s and 50s of conditions during that time to compare what it is now. Those trees weren't necessarily clear cut. People downstream know what it used to be, and they know what it is now. She noted that they are having a hard time reconciling these things. There is significant erosion. It is not just because somebody is cutting trees or that they are letting cows access the river.

Jason Moak (Kleinschmidt) explained that he was not suggesting that where erosion occurs it is the landowners' fault. Jason emphasized that it is very important for downstream property owners to comment on any areas that downstream property owners believe the Draft Erosion and Sedimentation Report has mischaracterized the erosion and source of the erosion.

Maria Clark wanted to know why not do a GIS study. We have a lot of data, including the areas that are impaired. We have pictures. What I can see by following the data you have looks like the erosion is mostly in the river bends. With other projects, we have seen landowners have a lot to do with it by cutting trees for their river view. If we analyze with GIS what happened when the dam was built and 50 years later, we will be able to see the development. It is important to bring this information out for Alabama Power to show more clearly these project impacts using GIS.

Donna Matthews said she's been playing with maps and someone took old aerial photos and coordinates from landowners when they came to a meeting and shared erosion hot spots. One set is from 1964 and one set is from the 1940s. Donna indicated that if anyone is interested, they can overlay the google earth pictures. There are certain markers that local people have put together.

Jimmy Traylor said that his land is undeveloped except for maybe 200 yards and said they have never cut the timber, one of the last virgin hardwood bottoms around. Losing trees and losing bank. That is erosion.

Albert Eiland noted he lives about 2 miles below Jimmy Traylor and is on the outside of a natural curve, which will experience more damage than an inside curve. Mr. Eiland noted that historically there were 7-8 islands in the Tallapoosa River. Those old maps will show that. There is only one island left. Jimmy asked if it's Hodge's island. Albert said the island is on an inside curve, that's why it's still there. In spring of 2017 we experienced a lot of flooding. I lost 2 big trees. Has been losing trees and the bank. We have hauled a lot of rocks in there to keep it from washing away. Would be eroded away without the rocks.

Relevant to this discussion, Carol Knight submitted a comment via IM from a participant that had to drop off the meeting conference call. Her issue is that there are serious erosion issue and has gotten worse this year with all the rain and the river fluctuating up and down. Several places have large holes in the banks and many of the trees have washed away. She indicated that the water is extremely high even if there isn't a scheduled release.

- Q29 - Lake Watch: Has there been assessment/consideration of sedimentation in the Tallapoosa where it enters Lake Martin, where the bulk of the sediment settles out as the river current declines, as seen by large sediment bars that have formed below where Hillabee Creek enters the river?

  An assessment has not been done in that area. The Study Area extends through Horseshoe Bend. It is likely that bedload sediment naturally transported down Hillabee Creek settles out as it enters the upper reaches of Lake Martin, similar to what happens in the Little Tallapoosa River at the headwaters of Lake Harris.

- Q30 - Rachel asked about erosion areas on the lake that are anthropogenically attributed: She recommended that Alabama Power include in the Final Study Report the shoreline management classifications in the area where it appears erosion is occurring. Rachel noted that FERC identified erosion and sedimentation as something they would analyze for cumulative effects. There is a sense that the license application will need information on cumulative effects. Some of this will be anecdotal and this information may go into the analysis. FERC does look at cumulative effects, but it may not be something addressed directly by study report.

  Summer and winter pool contours would also be helpful for cumulative effects analysis, and Alabama Power will add the suggested information to the Final Report.

- Q31 – Charles Denman via email following the meeting: I agree with other participants that a comparison of historical photos with current conditions of the river would help to understand the flushing effects operations of the dam have on downstream erosion.

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9 THREATENED AND ENDANGERED SPECIES STUDY

Jason Moak (Kleinschmidt) presented the progress on the Draft Threatened and Endangered Species study, which included the study purpose, data and activities collected to date, and remaining activities. Additional fieldwork is planned for summer 2020 for this study. Jason noted that no variances to this study plan are requested. Alabama Power distributed the Draft Desktop Assessment Report to stakeholders in April 2020, concurrently with filing the ISR.

9.1 FERC's questions submitted in advance of the meeting

- Q1 - Have the GIS overlays of T&E species habitat information and maps been completed (i.e., the map figures in Appendix B of the draft T&E species study report)? Or are there still steps to complete this component of the study? We suggest including project features, recreation areas, and other managed areas (e.g., timber harvest areas, wildlife management areas, etc.) on the T&E species maps in order to help determine the proximity of species ranges/habitats to project-related activities and identify the need for species-specific field surveys.

  Those maps are completed. Alabama Power will consider making the suggested additions.

- Q2 - While the draft T&E species study report indicates that additional field surveys for the fine-lined pocketbook freshwater mussel are planned for May 2020, the report does not include a description of the criteria used to determine which of the species on USFWS's official (IPaC) list of T&E species would be surveyed in the field. Please describe which species will be surveyed in the field and explain how and why they were selected. In addition, please describe any correspondence Alabama Power has had with FWS and state agencies regarding the T&E species selected for additional field surveys.

  Alabama Power is consulting with USFWS to determine which species have known historical occurrences or critical habitat intersecting the Project boundary or could reasonably be found within the Project boundary. Surveys will be performed for the palezone shiner due to information from USFWS regarding the possibility of existence in some tributaries within Skyline. Surveys of fine-lined pocketbook are being performed due to existing critical habitat in the upper Tallapoosa River above Lake Harris. Correspondence between Alabama Power and USFWS and state agencies as of the ISR filing is included as Attachment 2 of the Draft Threatened and Endangered Species Desktop Assessment.

- Q3 - Page 7 lists the sources for the ESA species information. The sources included USFWS's Environmental Conservation Online System (ECOS) but did not include IPaC. The official list is obtained through the IPaC report. Has an IPaC report been downloaded or are you using the IPaC report filed to the record by FERC staff?

The ECOS website was used as a source for life history, habitat, and range information in preparation of the desktop assessment. The IPaC list was used to identify species to include in the desktop assessment and potential field surveys.

- Q4 - Page 8 states that the existing land use data is not specific enough to determine if the 3,068 acres of coniferous forest within the Project Boundary at Lake Harris would be suitable for red-cockaded woodpecker. How do you propose to assess the suitability for red-cockaded woodpecker?

  Field observation at these coniferous forests could determine whether these areas contain suitable habitat. Specifically, Alabama Power would look for areas with little or no hardwood mid-story and over-story trees. Alabama Power would also look for larger, older longleaf pines, which make ideal cavity trees for this species in areas that were lacking hardwood mid-story and over-story. Alabama Power will perform this field observation if USFWS deems it necessary.

- Q5 - On pages 3, 10, and 26 there is mention of additional fieldwork planned for two mussel species (i.e., fine-lined pocketbook and Southern pigtoe) for May 2020. Please elaborate on the details of the additional survey work (e.g., survey location(s), sampling protocols and methodologies employed, and clarify which species will be included in the May 2020 assessment, etc.).

  In November 2019, surveys were conducted for fine-lined pocketbook on a 3.75 mile stretch of the Tallapoosa River where critical habitat is known to occur from the County 36 bridge to a shoal below the Highway 431 bridge. This endpoint was chosen, because only pool habitat was available another half mile downstream of this bridge. Six surveyors including USFWS, Alabama Power, and Kleinschmidt searched for the target species in 20-minute to one-hour segments at areas containing critical habitat and searched for additional areas with suitable habitat. Silty areas and piles of shells left by muskrats and raccoons were also searched. The introduced *Corbicula fluminea* (Asian clam) was the only bi-valve species observed in these piles. Because high water impeded the search in some areas and the cold weather may have caused mussels to burrow out of site, USFWS suggested another effort be made in the spring. Surveyors will search for fine-lined pocketbook and suitable habitat again in late spring/summer 2020, pending any COVID-19 restrictions. Southern pigtoe is not a species that we would reasonably expect to find in the Project boundary. It is known to occur in Cleburne County, which overlaps the Project boundary. However, documented historical range in that county exists exclusively in the Coosa River drainage basin. The Lake Harris Project Area does not contain any critical habitat areas for Southern pigtoe identified by the USFWS.

- Q6 - The descriptions of Alabama lampmussel and rabbitsfoot mussel on pages 11, 13, and 14 do not provide these species' host fish species. Are the host fish species currently unknown, or was this an inadvertent omission?

  The host fish species are currently unknown. Suitable hosts for rabbitsfoot populations west of the Mississippi River are shiner species such as blacktail shiner, cardinal shiner, red shiner, spotfin shiner, and bluntface shiner. There is not much

available information about rabbitsfoot host fishes east of the Mississippi River. Research has shown that lampmussels can successfully utilize rock bass, green sunfish, bluegill, smallmouth bass, spotted bass, largemouth bass, and redeye bass as host fish. It has also been reported that banded sculpin are potential host fish for lampmussels.

- Q7 - There appears to be a typo on page 16, in the description of Southern pigtoe mussel. The middle of the first paragraph refers to the glochidia of the finelined pocketbook mussel. Is this sentence misplaced, or does the information pertain to the southern pigtoe mussel (the subject of section 3.12)? Please clarify.

  This is a typo, and the information refers to the Southern pigtoe. The host fishes are accurate.

- Q8 - On page 19, in the first paragraph about the northern long-eared bat (NLEB), it is unclear why the discussion includes the statement about a low occurrence of this species in the "…southwestern region of Alabama" given that the project areas are located in the northeastern and mid-eastern portions of Alabama. Please clarify or correct this statement.

  This information is correct. The sentence is intended to describe the general distribution of the species in Alabama.

- Q9 - The draft T&E species study report states that there are no known NLEB hibernacula or maternity roost trees *within the Project Boundary*. However, it does not include information on known NLEB hibernacula *within 0.25 mile of the Project Boundary* and known NLEB maternity roosts *within 150 feet of the Project Boundary* (i.e., at Harris Lake and Skyline). In addition, the report mentions a couple of best management practices (BMPs), protective of some bat species, that Alabama Power implements during timber harvest activities and states that the BMPs have been expanded but not incorporated in the existing license. However, the report does not include the locations of Alabama Power's timber harvesting and other tree removal activities, or detailed descriptions of timber harvesting protocols and BMPs currently implemented within the Project Boundary. This information is important to understanding the affected environment for Indiana bat, NLEB, and/or other T&E species. This information could also be used for the streamlined consultation option for analyzing the potential project effects on NLEB (including within the buffer areas for hibernacula and maternity roost trees).

  Please complete the USFWS's NLEB streamlined consultation form and include it in the final T&E species study report. This form can be found at: https://www.fws.gov/southeast/pdf/guidelines/northern-long-eared-bat-streamlined-checklist.pdf. We recommend using FWS's definition of "tree removal" to guide your responses on the form (i.e., "cutting down, harvesting, destroying, trimming, or

manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats").[3]

Also, please update figures 3.14-1, 3.14-2, 3.14-3, 3.15-1, 3.15-2, and 3.15-3 which currently show "forested area" or "karst landscape" in relation to NLEB and Indiana bat habitats, to show Alabama Power's timber management areas within the Project Boundary, and other proposed managed areas (e.g., new/improved recreation areas, new quail management areas). This type of information is needed to meet another component of this study (i.e., "determine if [T&E species habitat at the project] are potentially impacted by Harris Project operations", as described on slide 5 of the Aug. 27, 2019, HAT 3 meeting).

Alabama Power will complete the NLEB streamlined consultation form to be included in the Final T&E Species Report and update the requested figures.

- Q10 - On page 21 and 22, in section 3.17, the discussion mentions an occurrence of little amphianthus within the Project Boundary at Lake Harris (Flat Rock Park) that was documented in 1995 and may be extirpated. Did the botanical surveys in that area of the project target that species? The top of page 22, states that "Vernal pools were not identified due to a lack of available data." Did the botanical surveys identify vernal pools in this area?

  The botanical inventory targeted all plant species existing within the Inventory Area, which is defined as the Blake's Ferry Pluton and is located adjacent to Flat Rock Park. Of the 365 plant species documented in the Inventory Area. Vernal pools were observed during surveys performed in 2019, however little amphianthus was not found in any of the pools.

- Q11 - On page 22, in section 3.18, the report states that the National Wetland Inventory data is not detailed enough to identify wetlands within the project area that contain white fringeless orchid's unique wetland habitat characteristics. Do you propose collecting more data on this subject?

  Alabama Power is consulting with USFWS and Alabama Natural Heritage Program experts to determine if these habitats are present within the Project Boundary.

- Q12 - On page 23, in section 3.19, the report states that the 16 extant populations of Prices' potato bean in Jackson County, occur on Sauta Cave National Wildlife Refuge, and near Little Coon Creek in the Skyline WMA. Please clarify whether or not any of the 16 populations occur within the Project Boundary at Skyline WMA.

  One extant population intersects the Project Boundary at Skyline and comprises 11 percent of the extant population occurring at Little Coon Creek. However, 89 percent of this single population occurs outside of the Project Boundary.

[3] 81 Fed. Reg. 1902 (January 14, 2016).

- Q13 - In Appendix B, figure 3.19, showing Price's potato bean habitat range, there is a 100-foot Stream Buffer within the Limestone Landscape layer shown on the map and legend. Please explain the significance of this buffer, including any regulatory requirements associated with this buffer. Please include this information in the Final T&E Species Study Report.

  Price's potato bean is known to exist in Little Coon Creek. This species seems to prefer low areas along near or along the banks of streams and rivers. The buffer indicated on the figure is not regulatory. It is meant to depict areas where this species could potentially occur based on known habitat preferences. We will include this information in the final report.

- Q14 - In the August 27, 2019, HAT 3 meeting summary, please clarify the following: How does Alabama Power define terms such as "sensitive time periods" in the context of timber harvesting? Evan Collins, of FWS, stated that the palezone shiner may be present in some of the lower reaches of the Tennessee River tributaries. Please clarify where these tributaries are located in relation to the Project Boundary.

  Alabama Power will include its timber harvesting BMPs as an appendix to the Final T&E species study report. Alabama Power is consulting with USFWS to perform an assessment to determine if palezone shiner are present in Little Coon Creek, which flows through portions of the Project Boundary at Skyline.

9.2 Alabama Rivers Alliance's Questions submitted in advance of the meeting

- Q15 - Is the additional fieldwork to identify mussels scheduled for May being pushed back or proceeding on schedule?

  The mussel identification fieldwork is proceeding on schedule; however, fieldwork dates are subject to change due to COVID-19 restrictions. Alabama Power will proceed with fieldwork at the earliest possible date during the spring/summer 2020.

9.3 Participant Questions

- Q16 - Ken Wills (Alabama Glade Conservation Association) - Are the 138.4 acres of granite geology west of the Project Boundary on Alabama Power land, other private land, or public land? How much is public and private land and how much is Flat Rock?

  There are private property outcroppings in that area. The Flat Rock Park itself is approximately 25 acres.

- Q17 - Jimmy Traylor asked why there are no [Threatened and Endangered Species] studies below the dam and how Skyline effects water below the dam.

  Based on consultation with USFWS, no threatened or endangered species have been identified below the dam. Skyline does not affect the water below the dam.

- Q18 - Sarah Salazar (Federal Energy Regulatory Commission (FERC) asked if Alabama Power could elaborate on how they decided which species to perform field surveys for. How was the list of species being surveyed narrowed down with USFWS?

  Determining which species to search for in the field is an ongoing process. The consultation details will be in the final report. This desktop assessment is being used as an initial step toward determining which species to focus on in the field.

- Q19 - Sarah asked if IPaC was being used to determine which threatened or endangered species were in the Project Boundary. If USFWS makes any changes to the inventory of listed species in the Project Boundary, that needs to be considered.

  The ECOS website was used as a source for life history, habitat, and range information in preparation of the desktop assessment. The IPaC list was used to identify species to include in the desktop assessment and potential field surveys.

- Q20 - Sarah said that additional information is needed for a streamlined consultation on the Northern long-eared bat. The buffer zones, which are within 0.25 miles of a hibernaculum at any time or within 150 feet of a known occupied maternity roost tree from June through July, were not included in the report. The report seems to be focused on what has been reported in the Project Boundary, but the effects of tree removal need to be analyzed.

  Consultation on the Northern long-eared bat is ongoing.

- Q21 - Evan Collins (USFWS) said he does not have a copy of the best management practices for consultation on bats and that information would be beneficial to mapping the buffer zone.

  Alabama Power has this information and will provide it to Evan Collins.

- Q22 - Jimmy Traylor asked why no federally listed species below the dam are being studied.

  No listed species have been documented in the Tallapoosa River below the Harris Dam.

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10 DOWNSTREAM AQUATIC HABITAT STUDY

Jason Moak (Kleinschmidt) presented the progress on the Downstream Aquatic Habitat Study, which included the study purpose, data and activities collected to date, and remaining activities. Jason noted that no variances to this study plan are requested, and the Draft Study Report will be distributed to stakeholders in June 2020.

10.1 Participant Questions

- Q1 - Jimmy Traylor (Downstream Landowner) asked if the temperature component would be included in the draft report? Jimmy commented that 3 months of data will not provide enough information.

  Depending upon the timeframe for date processing, Alabama Power may be able to include the temperature component in the draft report. Jason Moak (Kleinschmidt) clarified that the level loggers have been operational since June 2019 and will continue to gather data through June 2020.

- Q2 - Alan Creamer (FERC) stated that only a limited number of alternatives are being tested and that there may be additional scenarios that stakeholders would like to see modeled based on the outcomes of these studies. Alan suggested that FERC may need to meet with Alabama Power to decide how best to approach this study and decide whether a modified study plan is needed.

  Jason Moak (Kleinschmidt) indicated that once the model is complete, it would be possible to run different operational scenarios.

- Q3 - Donna Matthews asked if the completed model could analyze optimal conditions, or what would be needed to achieve optimal conditions. Could the model be adjusted to see the effects of change on the outputs?

  Alan Creamer (FERC) suggested that FERC may need to meet with Alabama Power to decide how best to approach this study and decide whether a modified study plan is needed.

- Q4 - Jimmy Traylor (Downstream Landowner) asked if Elise Irwin's studies are being considered.

  The previous studies conducted by Elise Irwin are being used in the Aquatic Resources study and in the desktop assessment.

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11 AQUATIC RESOURCES STUDY

Jason Moak (Kleinschmidt) presented the progress on the Aquatic Resources Study, which included the study purpose, data and activities collected to date, and remaining activities. Auburn University has a primary role in conducting this study, which includes fieldwork and laboratory testing (i.e., bioenergetics). Jason noted that no variances to this study plan are requested, and the Draft Study Report will be distributed to stakeholders in July 2020.

11.1 Participant Questions

- Q1 - Ken Wills asked if there were any dates set for our next electronic meeting.

  Angie Anderegg said meetings have not been scheduled to-date, but Alabama Power will let the HAT participants know as soon as dates are selected.

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12 NEXT STEPS IN THE ILP

Kelly Schaeffer reviewed the next steps in the ILP. She noted that participants should file their comments on the ISR meeting summary and the draft study reports with FERC no later than June 11, 2020.

- Q1 - Maria Clark asked if the questions or comments would be posted on the website?

  Alabama Power will file the ISR meeting summary with FERC on May 12, 2020, and the document will also be posted on the Harris relicensing website (www.harrisrelicensing.com).

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APPENDIX A

ISR Meeting Participants

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Harris Relicensing Initial Study Report Meeting
April 28, 2020

Attendees:

Alabama Department of Conservation and Natural Resources
Damon Abernethy
Todd Fobian
Keith Gauldin
Keith Henderson
Matt Marshall
Amy Silvano
Chris Smith

Alabama Department of Economic and Community Affairs, Office of Water Resources
Brian Atkins
Dow Johnston

Alabama Department of Environmental Management
Jennifer Haslbauer
Fred Leslie
David Moore

Alabama Glade Conservation Coalition
Ken Wills

Alabama Historical Commission
Amanda McBride
Eric Sipes

Alabama Power
Angie Anderegg
Dave Anderson
Wes Anderson
Jeff Baker
Jason Carlee
Keith Chandler
Jim Crew
William Gardner
Mike Godfrey
Chris Goodman
Stacey Graham
Rodger Jennings
Ashley McVicar
Tina Mills

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Alabama Power (continued)
Kenneth Odom
Courtenay O'Mara (Georgia Power)
Alan Peeples
Jennifer Rasberry
Shelia Smith
Thomas St. John

Alabama Rivers Alliance
Martha Hunter
Jack West

Auburn University
Dennis Devries
Ehlana Stell
Rusty Wright

Cherokee Nation
Elizabeth Toombs

Downstream Property Owners
David Chandler, Historian
Albert Eiland, Wadley
Carol Knight, Wadley
Donna Matthews, Wedowee
Jimmy Traylor, Malone
Melissa Willis, Clay County Extension

Environmental Protection Agency
Maria Clark
Lisa Perras Gordon
Lydia Mayo

Federal Energy Regulatory Commission
Allan Creamer
Danielle Elefritz
Rachel McNamara
Sarah Salazar
Monte Terhaar

General Stakeholders
Charles Denman
Matthew Stryker

Kleinschmidt
Kate Cosnahan
Colin Dinken
Amanda Fleming
Mike Hross
Jason Moak
Kevin Nebiolo
Kelly Schaeffer
Dr. Kevin Hunt - Recreation Subconsultant

Lake Martin Resource Association
Steve Forehand
John Thompson

Lake Wedowee Property Owners Association
Barry Morris

Muscogee (Creek) Nation
RaeLynn Butler
Turner Hunt
LeeAnn Wendt

National Park Service
Jeff Duncan

U.S. Army Corps of Engineers
Cindy Donald
James Hathorn

U.S. Fish and Wildlife Service
Evan Collins

U.S. Geological Survey
Elise Irwin

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APPENDIX B

ISR Meeting Presentation

R.L. Harris Dam Relicensing
FERC No. 2628

Initial Study Report Meeting
April 28, 2020

HARRIS DAM
RELICENSING

Welcome and Roll Call

Roll Call by Organization

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 each section of the presentation

HARRIS DAM
RELICENSING

Agenda

- ❑ 9 AM Introduction/Roll Call/Safety Moment
- ❑ Initial Study Report Overview
  - Cultural Resources (HAT 6)
  - Recreation Evaluation (HAT 5)
  - Project Lands Evaluation (HAT 4)
  - Operating Curve Feasibility Analysis and Downstream Release Alternatives (HAT 1)
  - Water Quality and Erosion and Sedimentation (HAT 2)
  - Threatened and Endangered Species; Downstream Aquatic Habitat; Aquatic Resources (HAT 3)
- ❑ Next Steps in the FERC Process

HARRIS DAM RELICENSING

HAT 6 Cultural Resources

Cultural Resources Programmatic Agreement and Historic Properties Management Plan

Study Purpose and Methods Summary

- ❑ Develop Historic Properties Management Plan and Programmatic Agreement.

Study Progress

- ❑ Identify Sites for Further Evaluation and Initial Evaluation Methods
- ❑ Propose Historic Properties Management Plan Outline
- ❑ Five HAT Meetings, including one Site Visit
- ❑ Inadvertent Discovery Plan, Traditional Cultural Properties Identification Plan Filed in April 2020

HARRIS DAM RELICENSING

Cultural Resources Programmatic Agreement and Historic Properties Management Plan

Variance from Study Plan and Schedule

- ❑ Alabama Power continues to work with the Alabama SHPO for concurrence regarding the Harris APE
- ❑ File the final APE (with maps) by June 30, 2020

Remaining Activities /Modifications/Other Proposed Studies

- ❑ Survey of Sites Identified for Further Evaluation (96 sites)
- ❑ Finalize Area of Potential Effects (June 2020)
- ❑ Continue developing Historic Properties Management Plan
- ❑ Complete survey work and TCP identification (February 2021)
- ❑ Complete eligibility assessments for known cultural resources (July 2021)
- ❑ Issue determination of effect on historic properties (July 2021)
- ❑ Draft HPMP (July 2021)
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

HAT 5 Recreation Evaluation

Recreation Evaluation

Study Purpose and Summary of Methods

- ❑ Evaluate baseline recreation at the Harris Project and downstream
  - Gather baseline information on existing Project recreation facilities, existing Project recreational use and capacity, and estimated future demand and needs at the Harris Project
  - Determine how flows in the Tallapoosa River downstream of Harris Dam affect recreational users and their activity

Study Progress

- ❑ Lake Harris Public Access User Counts – March to December 2019
- ❑ Lake Harris Public Access Questionnaires – May to December 2019
- ❑ Tallapoosa River User and Surveys – May to October 2019
- ❑ Skyline Use Data from ADCNR – August 2019
- ❑ Recreation Facilities Inventory – October 2019
- ❑ HAT 5 Meeting to discuss Tallapoosa River Landowner Survey Research Plan (Research Plan) - December 11, 2019
- ❑ Downstream Landowner and Anonymous User Surveys – February – April 2020

HARRIS DAM RELICENSING

Recreation Evaluation –Details of Lake Harris Public Access, User Counts

- 1,368 Shifts
- Paper Forms Vehicle and Activity Counts
- “Instantaneous Count”
- Reduced Flat Rock Park Schedule
- Daylight Savings Time
- Data Cleaning
- Data Analysis

HARRIS DAM RELICENSING

Recreation Evaluation –Details of Lake Harris Public Access, Questionnaires

- 1,357 Completed
- Majority Collected at Highway 48, Flat Rock Park, and Big Fox Creek
- Four Questions
- Intercept Technique
- Paper Forms

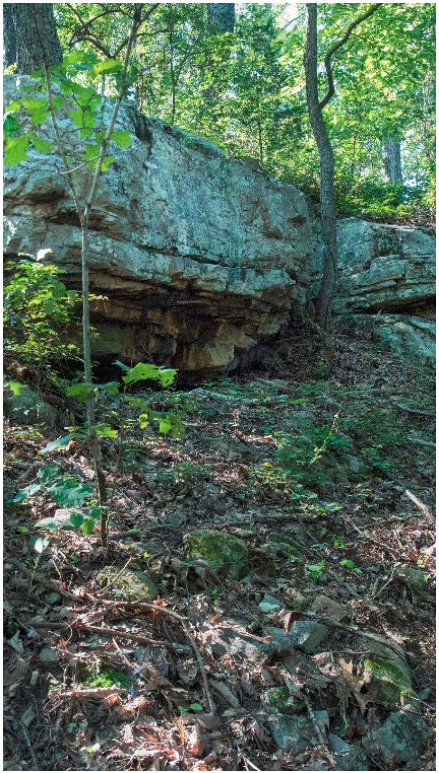
HARRIS DAM RELICENSING

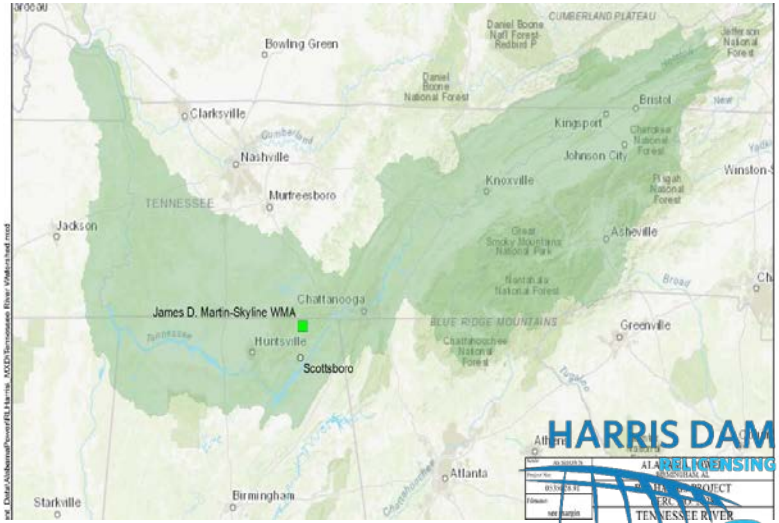
Recreation Evaluation – Tallapoosa River User, Methods

- Calculated Total Visitation (Effort) and Daily Use
- Measured User Attitudes/Perceptions About Instream Flow and Trip Satisfaction
- Obtained Catch Information from Anglers
- Determined How Instream Flow Affected Effort, Perception of Instream Flow and Trip Satisfaction, and Species of Fish Targeted, Caught, and Retained

HARRIS DAM RELICENSING

Recreation Evaluation- Skyline Use Data (ADCNR)





Recreation Evaluation –Details of Lake Harris Public Access, Inventory

- ❑ Inventoried and Mapped
- ❑ Summarized Who Owns, Operates, and Manages
- ❑ Evaluated the Condition of the Recreation Sites and Facilities
  - Opportunities for Persons with Disabilities to Participate in Recreation, Where Feasible
  - Public Safety Features

Recreation Evaluation – Tallapoosa River Landowners Survey Research Plan

- ❑ Downstream Landowners
- ❑ Recreational Users
- ❑ December 11, 2019 HAT 5 Meeting
- ❑ December 19, 2019 Tallapoosa River Landowner Survey Research Plan

Preview- Draft Recreation Evaluation Report

- Introduction
- Background
- Methods
  - Data Collection
  - Analysis
- Results
  - Existing Use
  - Future Use
  - Needs
- Conclusions
- References
- Appendices

HARRIS DAM RELICENSING

RECREATION EVALUATION

Variance from the Study Plan and Schedule

- ❑ Added the Tallapoosa River Downstream Landowner Survey and Tallapoosa River Recreation User Survey
- ❑ File the Draft Harris Project Recreation Evaluation report in August 2020 (rather than June 2020)
- ❑ March 2020 HAT 1 meeting cancelled due to COVID-19

Remaining Activities/Modifications/Other Proposed Studies

- ❑ Recreation Data Reports from Subcontractors
- ❑ Draft Recreation Evaluation Study Report
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

HAT 4 Project Lands Evaluation

HARRIS DAM
RELICENSING

PROJECT LANDS EVALUATION

Study Purpose and Methods Summary

- **Phase I**: Identified lands to be added to, removed from, or reclassified within the current Harris Project Boundary.
  - HAT 4 meeting, desktop analysis, draft map of changes
- **Phase II**: develop a Wildlife Management Program (WMP) and a Shoreline Management Plan (SMP) to be filed with License Application.
  - Utilizes results from Phase I evaluation, incorporation of study data

Study Progress

- Presented proposed land changes, including tract by tract description and maps
- HAT 4 meeting to discuss proposed changes (09/11/2019)
- Requested feedback from HAT 4 regarding the Project Lands proposal
- Evaluated acreage at Skyline to determine suitability for bobwhite quail habitat
- Prepared Draft Phase 1 Project Lands Evaluation Study Report
- Conducted a botanical inventory of a 20-acre parcel at Flat Rock (field work & final report complete)

HARRIS DAM RELICENSING

PROJECT LANDS EVALUATION

Variance from the Study Plan and Schedule

- ❑ No variance from the study plan or schedule.

Remaining Activities/Modification/Other Proposed Studies

- ❑ Review comments on Draft Phase 1 Project Lands Study Report and modify Final Report, as applicable
- ❑ Conduct the botanical inventory survey on additional 21 acres adjacent to previously surveyed area at Flat Rock Park (Spring and Fall 2020; report in January 2021)
- ❑ Complete Phase 2 methods and develop draft Wildlife Management Plan and Shoreline Management Plan
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

HAT 1 Project Operations

- ❑Operating Curve Change Feasibility Analysis
- ❑Downstream Release Alternatives

HARRIS DAM
RELICENSING

Operating Curve Change Feasibility Analysis

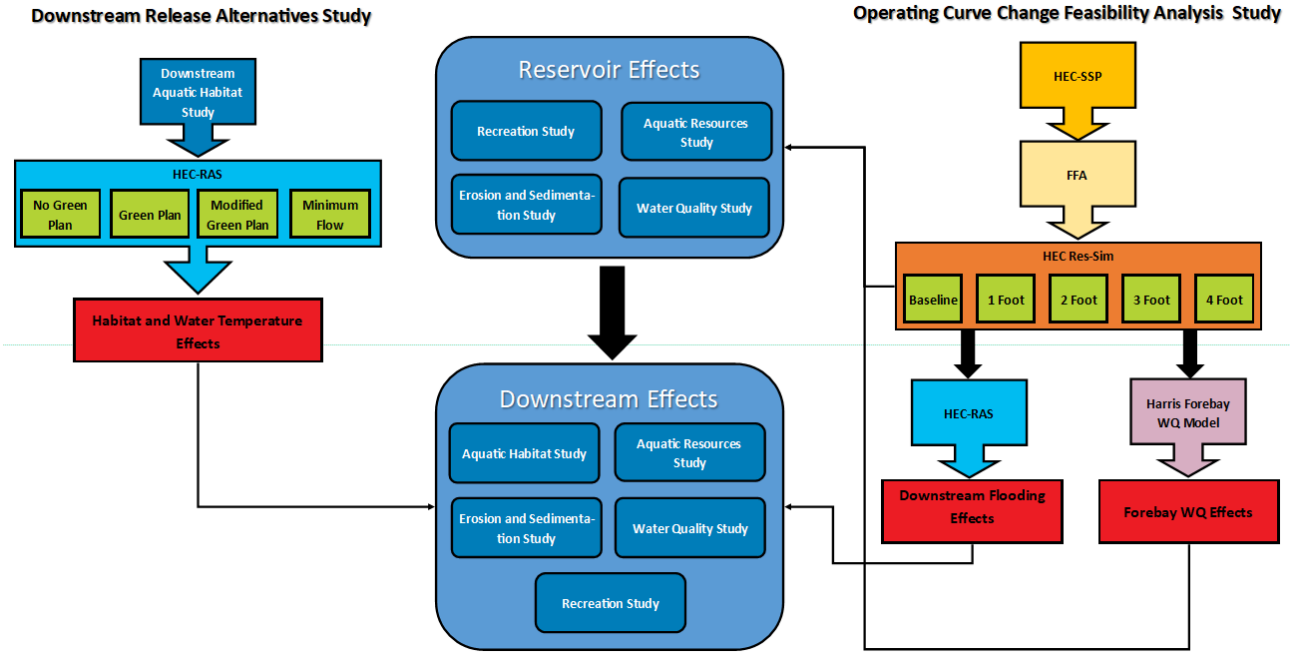
Study Purpose and Methods Summary

- ❑ To evaluate, in increments of 1 foot, from 786 feet msl to 789 feet msl, Alabama Power's ability to increase the winter pool elevation and continue to meet Project purposes

Study Progress

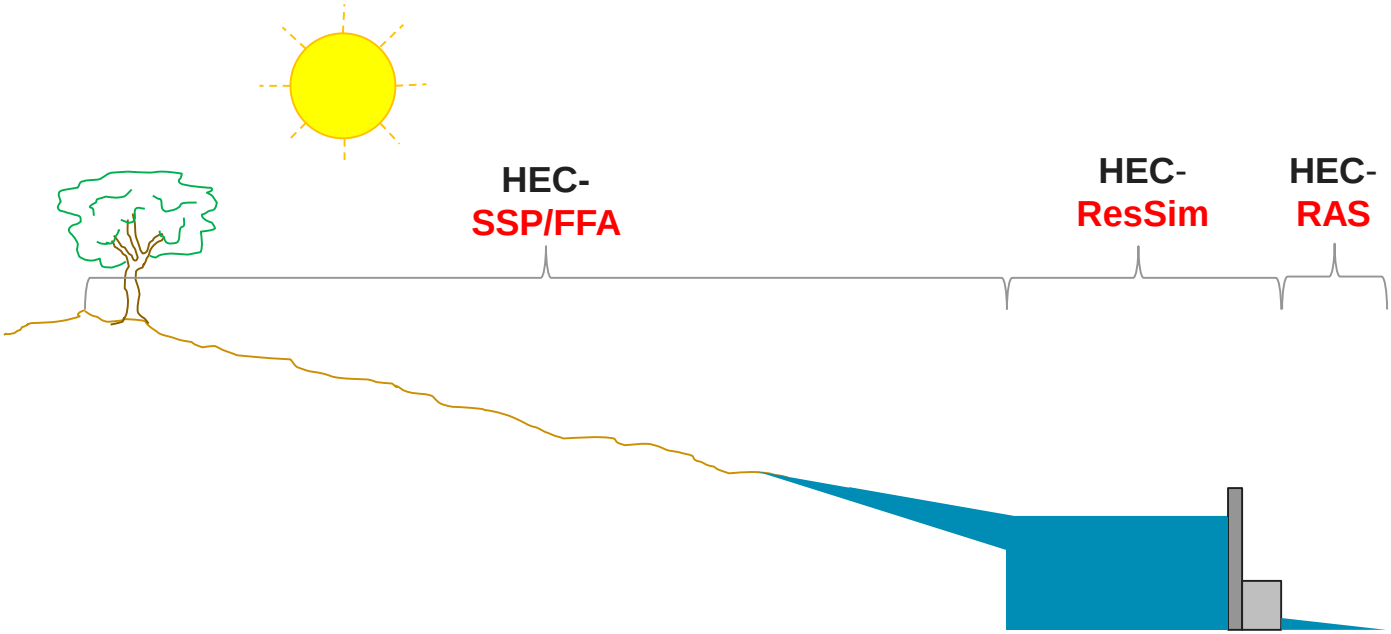
- ❑ RES-Sim outflow hydrographs developed
- ❑ HEC-RAS model complete; all four winter curve changes have been modeled with design flood
- ❑ Navigation, ADROP and Hydrobudget analyses
- ❑ Flood frequency analysis
- ❑ Draft report distributed to stakeholders

HARRIS DAM
RELICENSING



HARRIS DAM RELICENSING

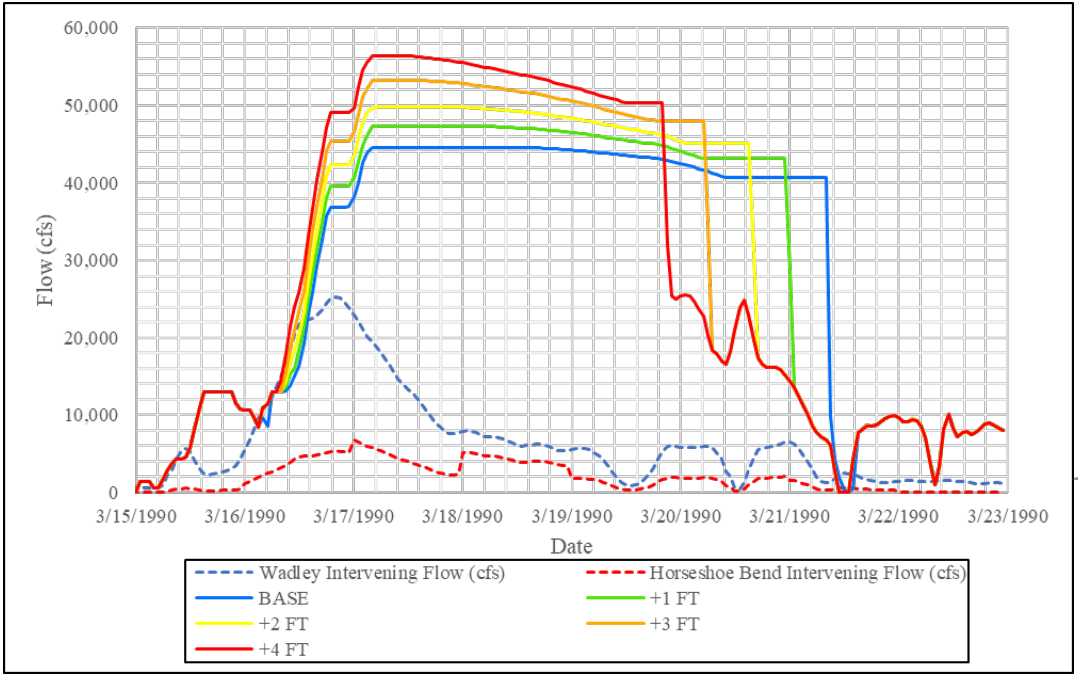
Where the models are used…



HARRIS DAM
RELICENSING

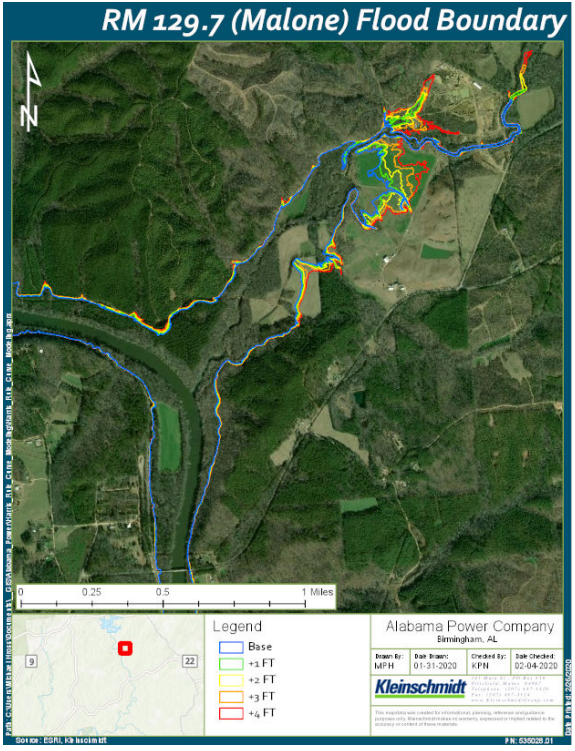
HEC-RAS – MODELED FLOWS

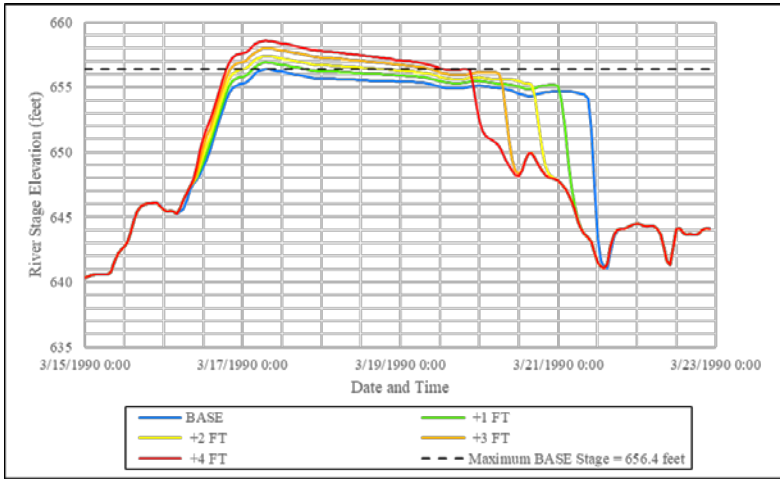
- Base scenario (i.e., existing) and 4 rule curve simulations
  - +1 ft, +2 ft, +3 ft, +4ft
- Intervening flows included in model
  - Flows contributed to river by watershed downstream of the dam
  - Between Harris Dam and Wadley, AL
  - Between Wadley, AL and Horseshoe Bend



HARRIS DAM RELICENSING

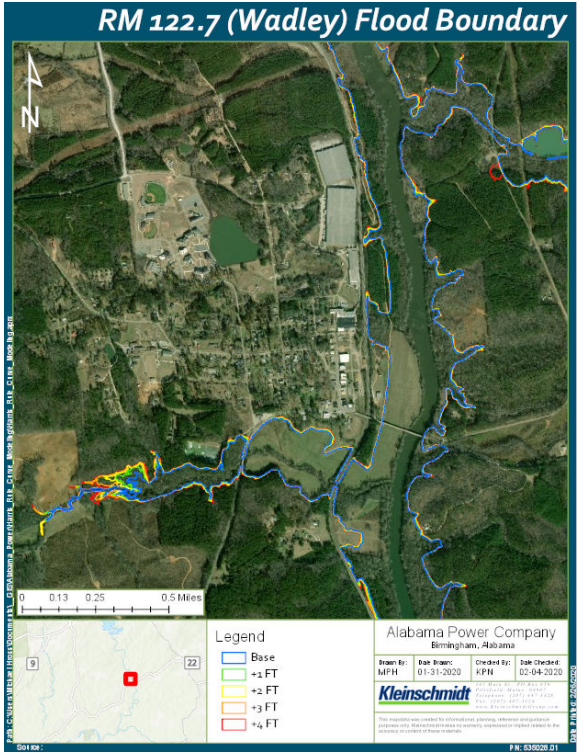
HEC-RAS – MODELING RESULTS

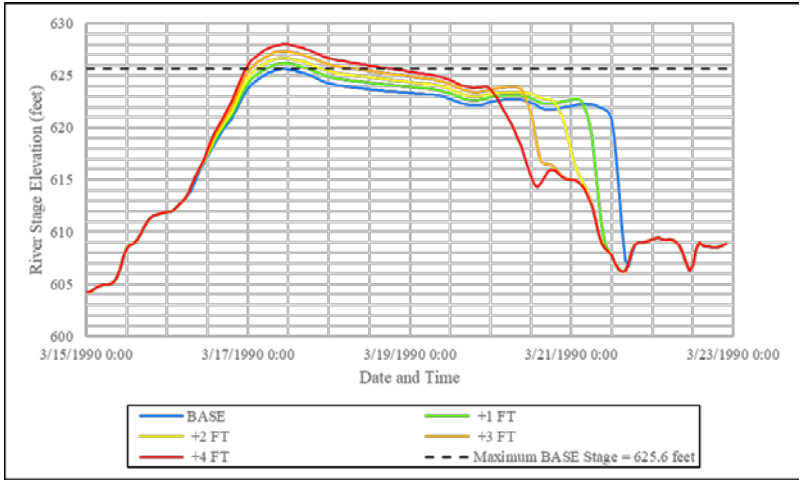




HARRIS DAM
RELICENSING

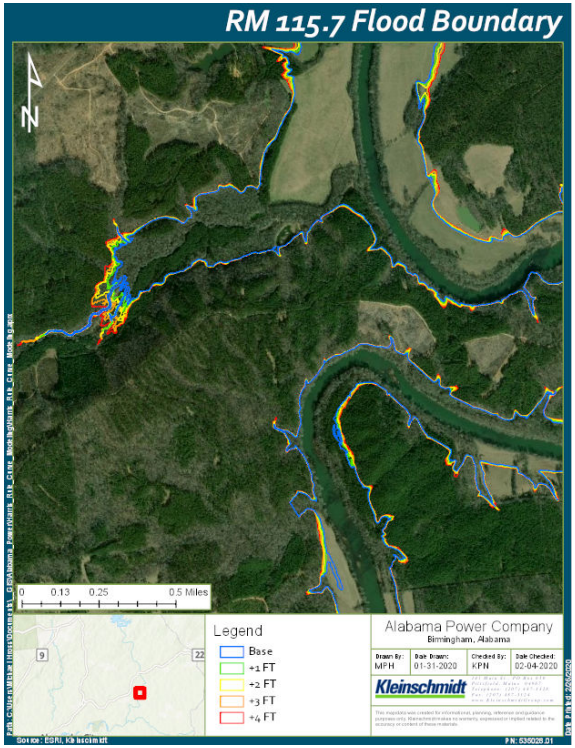
HEC-RAS – MODELING RESULTS

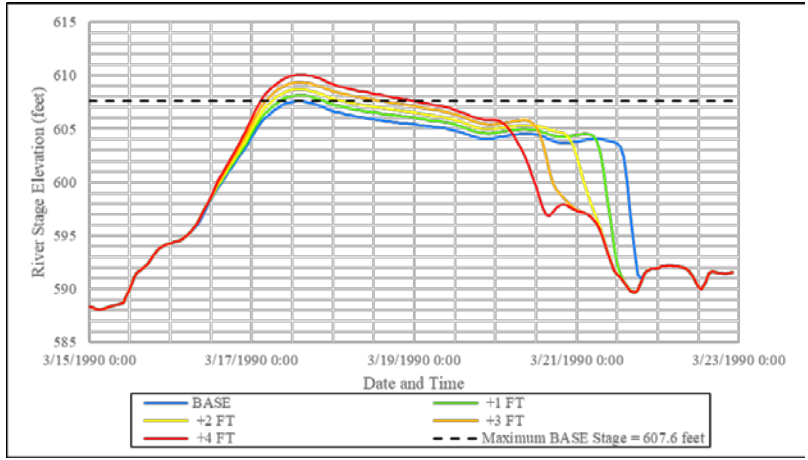




HARRIS DAM
RELICENSING

HEC-RAS – MODELING RESULTS





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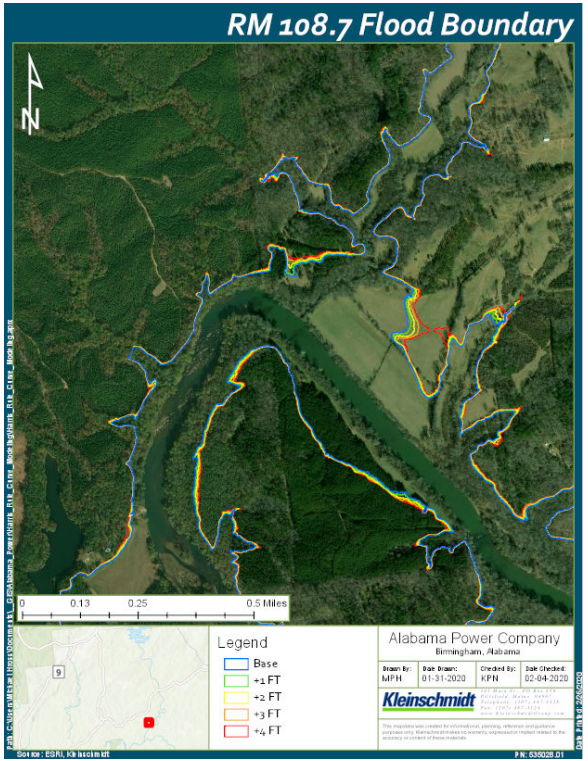
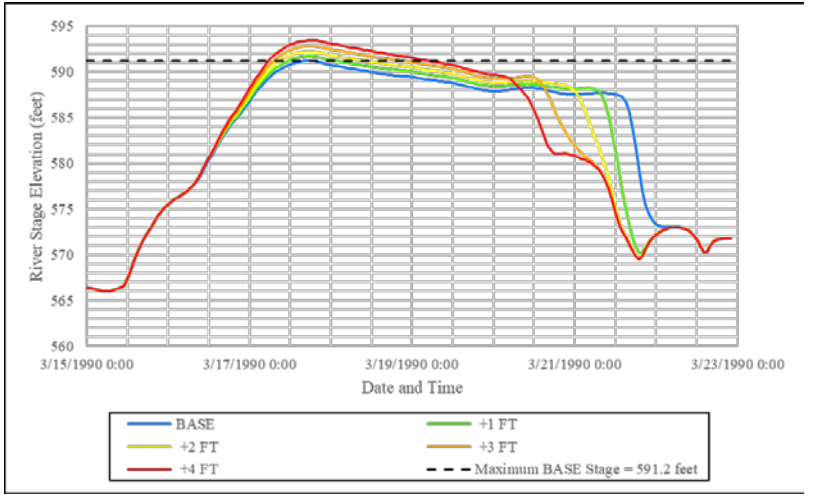
RELICENSING

HEC-RAS – MODELING RESULTS





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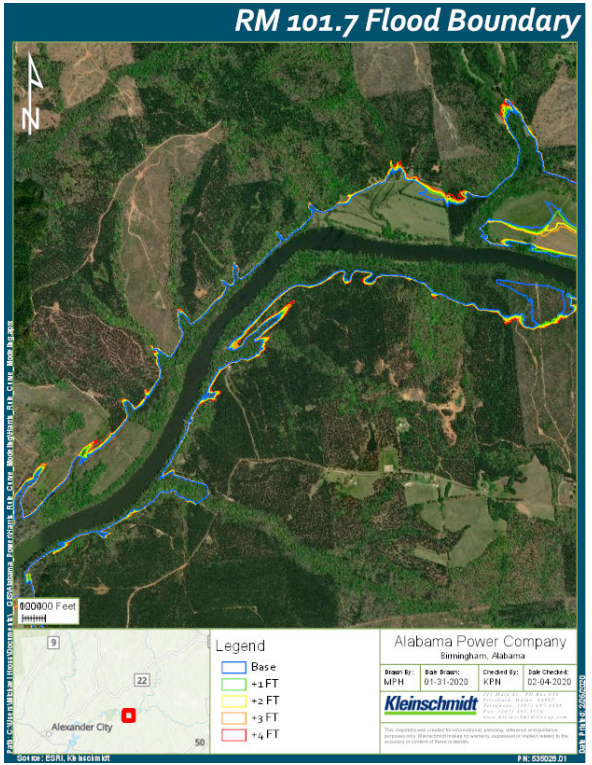
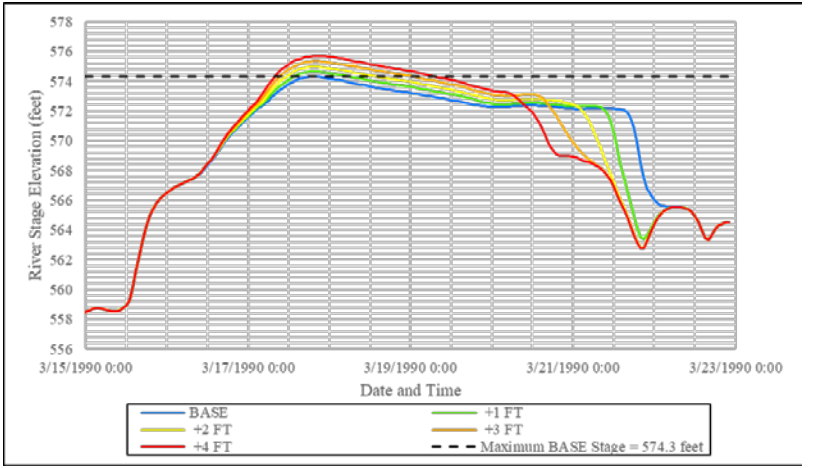
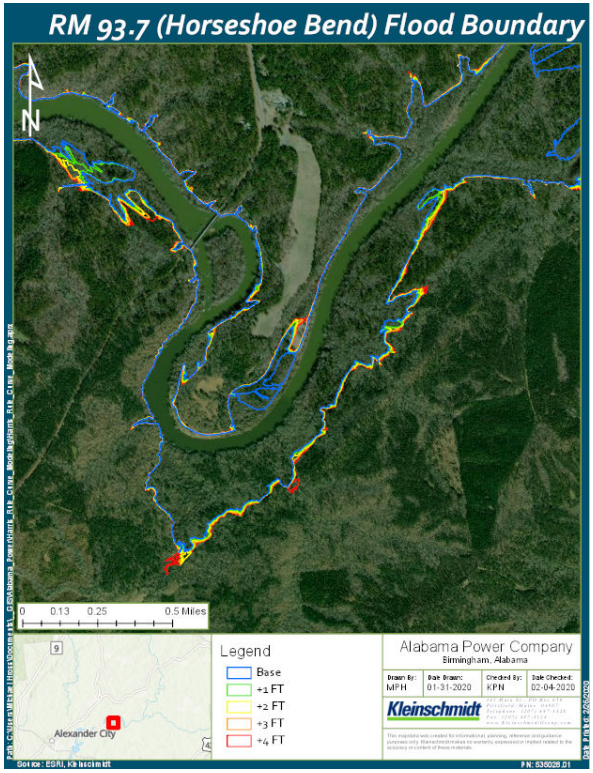
HEC-RAS – MODELING RESULTS

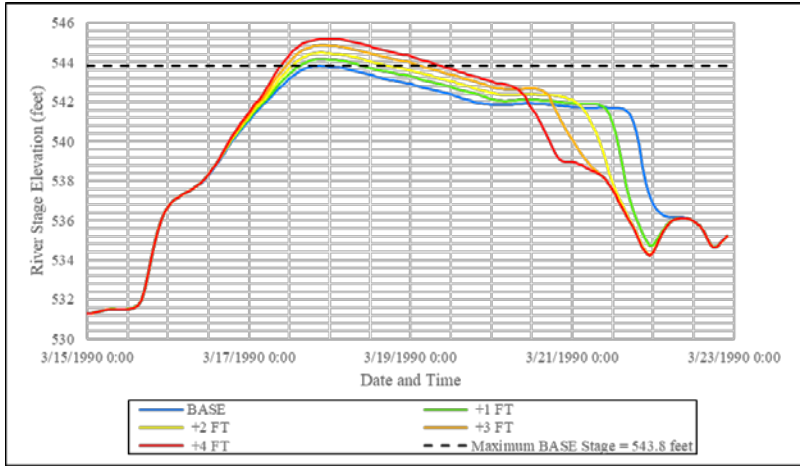




HARRIS DAM
RELICENSING

HEC-RAS – MODELING RESULTS





HARRIS DAM RELICENSING

HEC-RAS – MODEL RESULTS

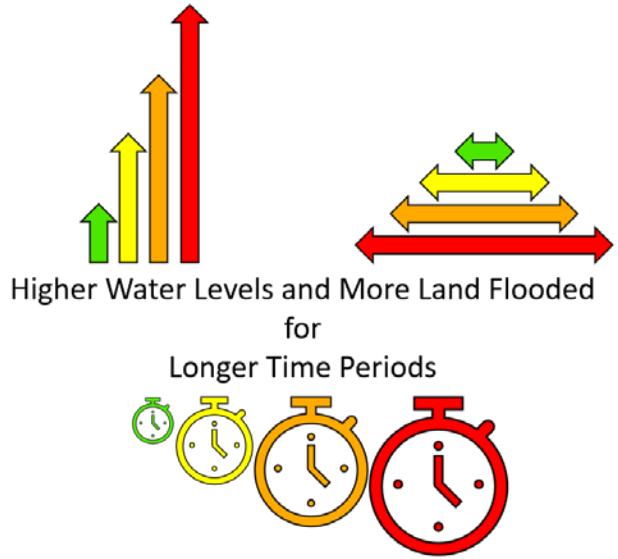
Location	Distance from Dam (miles)	Max Water Surface Rise (feet)			
		+ 1 foot	+ 2 feet	+ 3 feet	+ 4 feet
RM 129.7 (Malone, AL)	7	0.5	1.0	1.6	2.2
RM 122.7 (Wadley, AL)	14	0.5	1.1	1.7	2.4
RM 115.7	21	0.6	1.1	1.8	2.5
RM 108.7	28	0.5	1.0	1.6	2.2
RM 101.7	35	0.4	0.7	1.1	1.4
RM 93.7 (Horseshoe Bend)	43	0.3	0.7	1.0	1.4

Location	Distance from Dam (miles)	Duration above Baseline Condition Max Elevation (hours)			
		+ 1 foot	+ 2 feet	+ 3 feet	+ 4 feet
RM 129.7 (Malone, AL)	7	15	43	61	67
RM 122.7 (Wadley, AL)	14	12	19	32	43
RM 115.7	21	13	21	34	46
RM 108.7	28	14	26	38	48
RM 101.7	35	17	27	40	48
RM 93.7 (Horseshoe Bend)	43	18	29	39	47

HARRIS DAM
RELICENSING

HEC-RAS - SUMMARY

- ❑Any change in the operating curve causes:
  - ❑ increased maximum stage
  - ❑ increase in inundation,
  - ❑ increase in duration
- ❑ Most flooding occurs where tributaries enter Tallapoosa River
- ❑ Will need to evaluate effects on downstream structures



HARRIS DAM
RELICENSING

Operating Curve Change Feasibility Analysis

Variance from Study Plan and Schedule

- ❑ March 2020 HAT 1 meeting cancelled due to COVID-19

Remaining Activities/Modification/Other Proposed Studies

- ❑ Draft Phase 1 study report comments due June 11, 2020
- ❑ Begin Phase 2 analysis on effects of winter operating curve on other resources
- ❑ Present methods for the Lake Recreation Structure Usability at Winter Pool Alternatives phase 2 analysis to HAT 1 and HAT 5
- ❑ Present methods for evaluating effects on inundated structures downstream of Harris Dam
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

Downstream Release Alternatives

Study Purpose and Methods Summary

- ❑ To evaluate the effects of pre- and post- implementation of Green Plan operations, a continuous minimum flow of 150 cfs, and an alternative/modified Green Plan operation on Project resources.

Study Progress

- ❑ RES-Sim outflow hydrographs developed
- ❑ HEC-RAS model complete;
- ❑ Navigation, ADROP and Hydrobudget analyses
- ❑ Draft report distributed to stakeholders

HARRIS DAM RELICENSING

HEC-RAS – MODELED SCENARIOS

- 3 Downstream Release Alternative Plans
  - Pre-Green
  - Green Plan
  - 150 cfs Continuous Minimum Flow
- 2001 Selected as an average year
  - Intervening flows included in model
    - Flows contributed to river by watershed downstream of the dam
    - Between Harris Dam and Wadley, AL
    - Between Wadley, AL and Horseshoe Bend
  - Intervening flow data from USGS gages at Wadley, 02414500 and near Horseshoe Bend, 02414715

HARRIS DAM RELICENSING

PHASE 1 MODELING RESULTS

- ❑Lake Level Impacts: none
- ❑Generation Impacts
  - Pre-Green Plan: + $357,000 per year
  - Green Plan: none (current operation mode)
  - 150 cfs Continuous Minimum Flow: undetermined
- ❑Flood Control Impacts: none
- ❑Navigation Impacts: none
- ❑Drought Operation Impacts: none

HARRIS DAM
RELICENSING

DOWNSTREAM RELEASE ALTERNATIVES

Variance from Study Plan and Schedule

- ❑ March 2020 HAT 1 meeting cancelled due to COVID-19

Remaining Activities/Modification/Other Proposed Studies

- ❑ Draft Phase 1 study report comments due June 11, 2020
- ❑ Begin Phase 2 analysis on effects of downstream release alternatives on other resources
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

HAT 2 Water Quality and Use

- ❑ Water Quality Study
- ❑ Erosion and Sedimentation Study

HARRIS DAM
RELICENSING

WATER QUALITY

Study Purpose and Methods Summary

- Summarizes data collected from 2017 through 2019 from Alabama Power, Alabama Department of Environmental Management (ADEM), and Alabama Water Watch (AWW)
- Supports the required 401 Water Quality Certification by conducting dissolved oxygen and water temperature monitoring in the tailrace and Harris Reservoir forebay
- Identifies any possible areas of water quality concern by HAT 2 participants

Study Progress

- Held HAT 2 meeting on September 11, 2019
- HAT 2 stakeholders identified one location of water quality concern: the Foster's Bridge area at Lake Harris
- Distributed Draft Water Quality Report March 9, 2020
- Collected dissolved oxygen (DO) and temperature data at two locations downstream of the dam and monthly vertical profiles in the Harris Reservoir forebay

HARRIS DAM RELICENSING

WATER QUALITY

Data Collection Results

- ❑ Generation data immediately downstream of Harris Dam in 2018 and 2019 had dissolved oxygen (DO) readings greater than 5 milligrams per liter (mg/L) for 94 percent of all measurements
- ❑Continuous monitoring for generation and non-generation in 2019 had DO levels greater than 5 mg/L for 99.9 percent of all measurements
- ❑Several low DO level readings in 2017 can be attributed to severe drought that impacted the Harris Reservoir in the summer and fall of 2016, where inflows to the lake were at historic lows, causing stronger stratification of Lake Harris
- ❑Data collected by ADEM at Harris Dam, Wadley, and Horseshoe Bend had DO levels above 5 mg/L at each sampling event
- ❑Continuous monitoring at Malone indicated that the DO levels were greater than 5 mg/L for 99 percent of the monitoring period

WATER QUALITY

Variance from the Study Plan and Schedule

- ❑Alabama Power intends to submit an application to ADEM for the 401 Water Quality Certification in April 2021, not in April 2020 as noted in the FERC SPD.

Remaining Activities/Modification/Other Proposed Studies

- ❑Comments on Draft Water Quality Study Report due June 11, 2020
- ❑Review comments on the Draft Water Quality Study Report and modify the Final Report, as applicable
- ❑ Prepare the 401 WQC application and submit to ADEM in April 2021
- ❑ No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

EROSION AND SEDIMENTATION

Study Purpose and Methods Summary

- ❑ Identify any problematic erosion sites and sedimentation areas and determine the likely causes
  - Identify erosion and sedimentation sites
  - Assess lake erosion sites using a qualified Erosion and Sediment Control Professional
  - Assess bank erosion susceptibility in Tallapoosa River from Harris Dam through Horseshoe Bend
  - Assess sedimentation sites by examining available lake photography and data (LIDAR) and analyzing with Geographic Information System (GIS)

Study Progress

- ❑ May 1, 2019 email to HAT 2 members distributed maps of sites identified for assessment and requested additional sites
- ❑ September 11, 2019 HAT 2 meeting – Reviewed study plan and last call for erosion and sedimentation sites
- ❑ Lake erosion site assessments performed in December 2019
- ❑ Bank erosion susceptibility assessment performed in May 2019
- ❑ Draft Erosion and Sedimentation Study Report distributed to HAT 2 on March 17, 2020

HARRIS DAM RELICENSING

Erosion and Sedimentation

Lake Harris Erosion Assessment

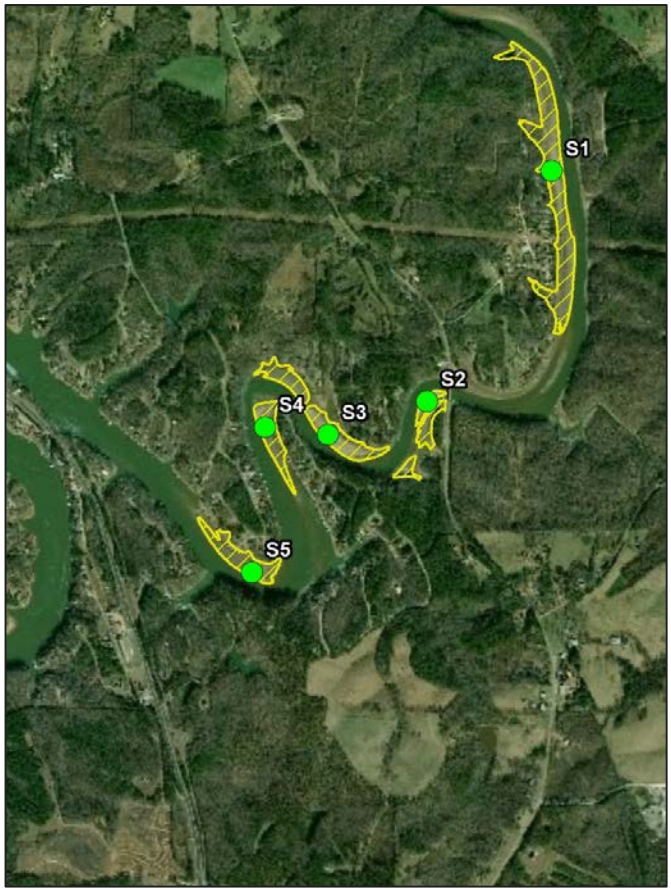
- 24 sites assessed
  - 8 sites – no erosion
  - 16 sites with erosion due to land use (12), anthropogenic (6), and/or natural factors independent of Project operations (8).

HARRIS DAM RELICENSING

Erosion and Sedimentation

Lake Harris Sedimentation Assessment

- 9 sites assessed – most in Little Tallapoosa arm
- GIS analysis estimated 120 acres
- 25% of Little Tallapoosa River basin is hay/pasture fields



EROSION AND SEDIMENTATION

Tallapoosa River Assessment

- ❑High Definition Stream Survey (HDSS)
- ❑Left and right banks scored independently
- ❑Only one area was impaired to non-functional

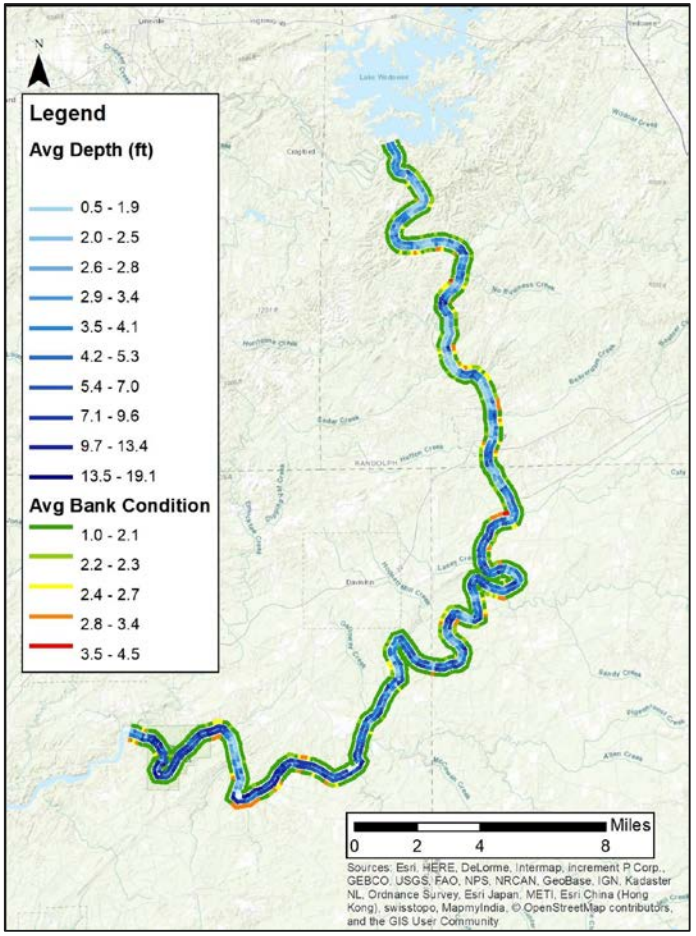
Bank Condition Score	Bank Condition Class	Description	Erosion Potential	Human Impact
1	Fully Functional	Banks with low erosion potential, such as, bedrock outcroppings, heavily wooded areas with low slopes and good access to flood plain.	Low to High	Low to High
2	Functional	Banks in good condition with minor impacts present, such as, forested with moderate bank angles and adequate access to flood plains.		
3	Slightly Impaired	Banks showing moderate erosion impact or some impact from human development.		
4	Impaired	Surrounding area consists of more than 50% exposed soil with low riparian diversity or surface protection. Obvious impacts from cattle, agriculture, industry, and poorly protected streambanks		
5	Non-functional	Surrounding area consists of short grass or bare soil and steep bank angles. Evidence of active bank failure with very little stabilization from vegetation. Contribution of sediment likely to be very high in these areas.		

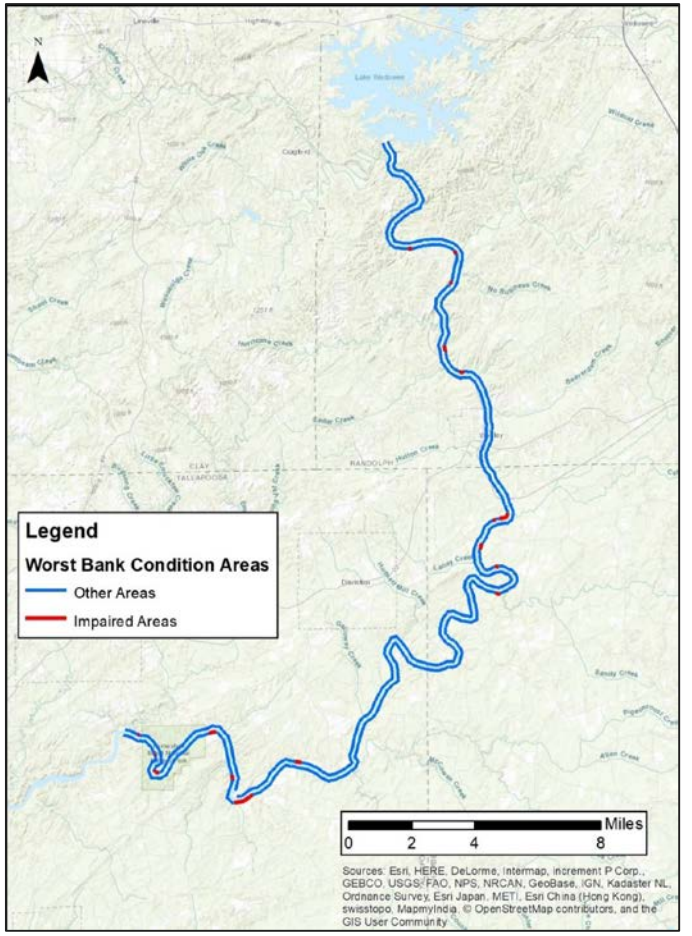
HARRIS DAM RELICENSING

Erosion and Sedimentation

HARRIS DAM
RELICENSING

Erosion and Sedimentation





EROSION AND SEDIMENTATION

Variance from the Study Plan and Schedule

- No variance from the study plan or schedule.

Remaining Activities/Modification/Other Proposed Studies

- Draft Erosion and Sedimentation Study Report comments due June 11, 2020
- Additional reconnaissance at Lake Harris sedimentation site during full (summer) pool conditions to determine if any nuisance aquatic vegetation is present
- No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

HAT 3 Fish and Wildlife

- ❑Threatened and Endangered Species Study
- ❑Downstream Aquatic Habitat Study
- ❑ Aquatic Resources Study

HARRIS DAM
RELICENSING

THREATENED & ENDANGERED SPECIES

Study Purpose and Methods Summary

- ❑Determine if listed species occur in the Project Area and identify potential project impacts
  - Compile a list of T&E species and critical habitats
  - Review literature of agreed upon species to gather habitat requirement data and describe historical range.
  - Identify factors affecting the status of each species.
  - Use GIS to map habitat information to determine possible areas in the geographic scope that T&E species may utilize.
  - Summarize collected data of areas within the geographic scope that provide habitat requirements for T&E species.
  - Determine if these areas are potentially impacted by Harris Project operations.
  - Perform field surveys, as appropriate

Study Progress

- ❑August 27, 2019 – Reviewed Study Plan and discussed need for field surveys
- ❑Surveyed for fine-lined pocketbook (mussel) in Tallapoosa River (November 2019)
- ❑Draft Threatened and Endangered Species Desktop Assessment complete

HARRIS DAM RELICENSING

THREATENED & ENDANGERED DESKTOP STUDY

Federally Threatened and Endangered Species Potentially Occurring in AL Counties within Project Vicinity

- 20 species: 7 threatened, 13 endangered
  - Harris – 7 species
    - Red-cockaded woodpecker
    - Southern pigtoe and fine-lined pocketbook
    - Indiana bat and northern long-eared bat
    - Little amphianthus and white fringeless orchid
  - Skyline – 16 species
    - Palezone shiner and spotfin chub
    - 8 mussel species
    - Indiana bat, northern long-eared bat, and gray bat
    - White fringeless orchid, Price's potato bean, Morefield's leather flower

HARRIS DAM RELICENSING

Threatened & Endangered Desktop Study

	Habitat Occurrence	
Species	Skyline	Lake Harris
Fine-lined pocketbook		✓
Southern pigtoe		✓
Gray bat	✓	
Indiana bat	✓	✓
Northern long-eared bat	✓	✓
Little amphianthus		✓
Price's potato bean	✓	
White fringeless orchid	✓	✓
Red-cockaded woodpecker		✓

HARRIS DAM RELICENSING

THREATENED & ENDANGERED DESKTOP STUDY

USFWS Designated Critical Habitat

- ❑Fine-lined pocketbook
- ❑Indiana bat
- ❑Rabbitsfoot
- ❑Slabside pearlymussel
- ❑Southern pigtoe
- ❑Spotfin chub

HARRIS DAM RELICENSING

THREATENED & ENDANGERED SPECIES

Variance from the Study Plan and Schedule

- ❑March 2020 HAT 3 meeting was cancelled due to COVID-19

Remaining Activities/Modifications/Other Proposed Studies

- ❑Comments on Draft Threatened and Endangered Species Desktop Assessment due June 11, 2020
- ❑Additional consultation with USFWS as needed
- ❑Additional surveys in spring/summer 2020: palezone shiner and fine-lined pocketbook
- ❑No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

Downstream Aquatic Habitat

Study Purpose and Methods Summary

- ❑To develop a model that describes the relationship between Green Plan operations and aquatic habitat.

Study Progress

- ❑Use HEC-RAS to evaluate the effect of current operations on the amount and persistence of wetted aquatic habitat, especially shoal/shallow-water habitat.
  - Model runs of Green Plan vs Pre-Green Plan operations
- ❑Mesohabitat analysis (classified as riffle, run, or pool) complete
- ❑20 Level/temperature loggers deployed in 2019
- ❑HAT 3 March 20, 2019 Meeting – Reviewed Study Plan and draft mesohabitat analysis
- ❑HAT 3 December 11, 2019 – Reviewed study progress and proposed methodology for analyzing results from HEC-RAS
- ❑February 20, 2020 – HAT 3 Meeting to review proposed analysis methodology and initial results of wetted perimeter analysis

HARRIS DAM RELICENSING

DOWNSTREAM AQUATIC HABITAT

Variance from the Study Plan and Schedule

- ❑March 2020 HAT 3 meeting was cancelled due to COVID-19

Remaining Activities/Modifications/Other Proposed Studies

- ❑Level loggers continue to collect data through June 2020
- ❑Analysis of HEC-RAS results
- ❑Develop temperature component of HEC-RAS model (spring 2020)
- ❑Draft Report in June 2020
- ❑No additional studies have been proposed beyond that in FERC's SPD

QUESTIONS?

HARRIS DAM RELICENSING

AQUATIC RESOURCES

Study Purpose and Methods Summary

❑Evaluate the effects of the Harris Project on aquatic resources.

Study Progress

❑Desktop Assessment of Aquatic Resources (Kleinschmidt)

❑Downstream Fish Population Research (Auburn)

- Fish Temperature Requirements
- Assessment of Temperature Data from Regulated and Unregulated Reaches
- Fish Community Surveys
  - Wadeable standardized (30+2) sampling
  - Boat Electrofishing
- Bioenergetics Modeling

HARRIS DAM RELICENSING

Downstream Fish Population Research

- Literature review of temperature requirements of target species: Redbreast Sunfish, Channel Catfish, Tallapoosa Bass, and Alabama Bass
  - Spotted Bass temperature review will be used in place of Alabama Bass
- Fish sampling at Horseshoe Bend, Wadley, Lee's Bridge (control site), and Harris Dam tailrace
  - Sampling in April, May, July, September, November 2019 and January and March 2020
  - Individual fish weighed, measured, sexed, had gonads removed and weighed, had diets removed from stomachs and preserved, and had otoliths removed and stored to be evaluated
  - To date, all diets quantified, all prey items identified, and all diet data entered into databank
- Target species specimens being used in respirometry tests
  - Intermittent flow static respirometry tests: data will be used in bioenergetics models
  - Swimming respirometry to quantify performance capabilities of fish

HARRIS DAM RELICENSING

AQUATIC RESOURCES

Variance from Study Plan and Schedule

- ❑March 2020 HAT 3 meeting was cancelled due to COVID-19
- ❑Auburn University exploring alternatives to electromyogram radio tags

Remaining Activities/Modifications/Other Proposed Studies

- ❑Desktop Assessment of Aquatic Resources
- ❑Downstream Fish Population Research
  - Fish Temperature Requirements
  - Assessment of Temperature Data from Regulated and Unregulated Reaches
  - Fish Community Surveys
    - Wadeable standardized (30+2) sampling
    - Boat Electrofishing
  - Bioenergetics Modeling
  - Consider Alternative “Control” Site Upstream of Reservoir
  - Tag and Track Fish During Summer 2020
  - Continue Static Respirometry Tests at 10 and 21°C
  - Continue Measuring Active Metabolic Rates (Combination of Increasing Water Velocity and Decreasing Water Temperature)
- ❑Draft Aquatic Resources Study Report in July 2020
- ❑No additional studies have been proposed beyond that in FERC’s SPD

QUESTIONS?

HARRIS DAM RELICENSING

Next Steps

HARRIS DAM
RELICENSING

Next Steps

- ❑Alabama Power will file a summary of the ISR meeting on **May 12, 2020**
- ❑Comments on the ISR and ISR meeting summary should be submitted to FERC by **June 11, 2020**
- ❑ Any requests for modifying the FERC approved study plan must follow 18 CFR Section 5.15 (d) and (e)
- ❑Comments on the draft study reports should be submitted to Alabama Power at harrisrelicensing@southernco.com by **June 11, 2020**

HARRIS DAM
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Next Steps in Relicensing Process

- ❑Additional HAT meetings (2020-2021)
- ❑Second Study Season/Phase II (2020/2021)
- ❑Progress Update (10/2020)
- ❑File Updated Study Report (4/12/2021)
- ❑ File Updated Study Report Meeting Summary (4/27/2021)
- ❑File Preliminary Licensing Proposal (PLP) (by 7/3/2021)
- ❑Comments on Preliminary Licensing Proposal, Additional Information Request (if necessary) (90 days from issuance of PLP or by 10/1/2021)
- ❑File Final License Application (11/30/2021)

Questions?

HARRIS DAM RELICENSING


HARRIS DAM
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Alabama Power

From: APC Harris Relicensing

To: "harrisrelicensing@southernco.com"

Bcc: eddieplemons@charter.net; 1942jthompson420@gmail.com; 9sling@charter.net; alcondir@aol.com; allan.creamer@ferc.gov; alpeeple@southernco.com; amanda.fleming@kleinschmidtgroup.com; amanda.mcbride@ahc.alabama.gov; amccartn@blm.gov; ammcvica@southernco.com; amy.silvano@dcnr.alabama.gov; andrew.nix@dcnr.alabama.gov; arsegars@southernco.com; athall@fujifilm.com; aubie84@yahoo.com; awhorton@corblu.com; bart_roby@msn.com; baxterchip@yahoo.com; bboozer6@gmail.com; bdavis081942@gmail.com; beckyrainwater1@yahoo.com; bill_pearson@fws.gov; blacklake20@gmail.com; blm_es_inquiries@blm.gov; bob.stone@smimail.net; bradandsue795@gmail.com; bradfordt71@gmail.com; brian.atkins@adeca.alabama.gov; bruce.bradford@forestry.alabama.gov; bsmith0253@gmail.com; butchjackson60@gmail.com; bwhaley@randolphcountyeda.com; carolbuggknight@hotmail.com; celestine.bryant@actribe.org; cengstrom@centurytel.net; ceo@jcchamber.com; cggoodma@southernco.com; cgnav@uscg.mil; chad@cleburnecountychamber.com; chandlermary937@gmail.com; chiefknight2002@yahoo.com; chimneycove@gmail.com; chris.goodell@kleinschmidtgroup.com; chris.greene@dcnr.alabama.gov; chris.smith@dcnr.alabama.gov; chris@alaudubon.org; chuckdenman@hotmail.com; clark.maria@epa.gov; claychamber@gmail.com; clint.lloyd@auburn.edu; cljohnson@adem.alabama.gov; clowry@alabamarivers.org; cmnix@southernco.com; coetim@aol.com; colin.dinken@kleinschmidtgroup.com; cooper.jamal@epa.gov; coty.brown@alea.gov; craig.litteken@usace.army.mil; crystal.davis@adeca.alabama.gov; crystal.lakewedoweedocks@gmail.com; crystal@hunterbend.com; dalerose120@yahoo.com; damon.abernethy@dcnr.alabama.gov; dbronson@charter.net; dcnr.wffdirector@dcnr.alabama.gov; decker.chris@epa.gov; devridr@auburn.edu; dfarr@randolphcountyalabama.gov; dhayba@usgs.gov; djmoore@adem.alabama.gov; dkanders@southernco.com; dolmoore@southernco.com; donnamat@aol.com; doug.deaton@dcnr.alabama.gov; dpreston@southernco.com; drheinzen@charter.net; ebt.drt@numail.org; eilandfarm@aol.com; el.brannon@yahoo.com; elizabeth-toombs@cherokee.org; emathews@aces.edu; eric.sipes@ahc.alabama.gov; evan.lawrence@dcnr.alabama.gov; evan_collins@fws.gov; eveham75@gmail.com; fal@adem.alabama.gov; fredcanoes@aol.com; gardenergirl04@yahoo.com; garyprice@centurytel.net; gene@wedoweelakehomes.com; georgettraylor@centurylink.net; gerryknight77@gmail.com; gfhorn@southernco.com; gjobsis@americanrivers.org; gld@adem.alabama.gov; glea@wgsarrell.com; gordon.lisa-perras@epa.gov; goxford@centurylink.net; granddadth@windstream.net; harry.merrill47@gmail.com; helen.greer@att.net; henry.mealing@kleinschmidtgroup.com; holliman.daniel@epa.gov; info@aeconline.com; info@tunica.org; inspector_003@yahoo.com; irapar@centurytel.net; irwiner@auburn.edu; j35sullivan@blm.gov; james.e.hathorn.jr@sam.usace.army.mil; jason.moak@kleinschmidtgroup.com; jcandler7@yahoo.com; jcarlee@southernco.com; jec22641@aol.com; jeddins@achp.gov; jefbaker@southernco.com; jeff_duncan@nps.gov; jeff_powell@fws.gov; jennifer.l.jacobson@usace.army.mil; jennifer_grunewald@fws.gov; jerrelshell@gmail.com; jessecunningham@msn.com; jfcrew@southernco.com; jhancock@balch.com; jharjo@alabama-quassarte.org; jhaslbauer@adem.alabama.gov; jhouser@osiny.org; jkwdurham@gmail.com; jlowe@alabama-quassarte.org; jnyerby@southernco.com; joan.e.zehrt@usace.army.mil; john.free@psc.alabama.gov; johndiane@sbcglobal.net; jonas.white@usace.army.mil; josh.benefield@forestry.alabama.gov; jpsparrow@att.net; jsrasber@southernco.com; jthacker@southernco.com; jthroneberry@tnc.org; judymcrealtor@gmail.com; jwest@alabamarivers.org; kajumba.ntale@epa.gov; karen.brunso@chickasaw.net; kate.cosnahan@kleinschmidtgroup.com; kcarleton@choctaw.org; kechandl@southernco.com; keith.gauldin@dcnr.alabama.gov; keith.henderson@dcnr.alabama.gov; kelly.schaeffer@kleinschmidtgroup.com; ken.wills@jcdh.org; kenbarnes01@yahoo.com; kenneth.boswell@adeca.alabama.gov; kmhunt@maxxsouth.net; kmo0025@auburn.edu; kodom@southernco.com; kpritchett@ukb-nsn.gov; kristina.mullins@usace.army.mil; lakewedoweedocks@gmail.com; leeanne.wofford@ahc.alabama.gov; leon.m.cromartie@usace.army.mil; leopoldo_miranda@fws.gov; lewis.c.sumner@usace.army.mil; lgallen@balch.com; lgarland68@aol.com; lindastone2012@gmail.com; llangley@coushattatribela.org; lovvornt@randolphcountyalabama.gov; lswinsto@southernco.com; lth0002@auburn.edu; mark@americanwhitewater.org; matt.brooks@alea.gov; matthew.marshall@dcnr.alabama.gov; mayo.lydia@epa.gov; mcoker@southernco.com; mcw0061@aces.edu; mdollar48@gmail.com; meredith.h.ladart@usace.army.mil; mhpwedowee@gmail.com; mhunter@alabamarivers.org; michael.w.creswell@usace.army.mil; midwaytreasures@bellsouth.net; mike.holley@dcnr.alabama.gov; mitchell.reid@tnc.org; mlen@adem.alabama.gov; mnedd@blm.gov; monte.terhaar@ferc.gov; mooretn@auburn.edu; mprandolphwater@gmail.com; nancyburnes@centurylink.net; nanferebee@juno.com; nathan.aycock@dcnr.alabama.gov; orr.chauncey@epa.gov; pace.wilber@noaa.gov; partnersinfo@wwfus.org; patti.powell@dcnr.alabama.gov; patty@ten-o.com; paul.trudine@gmail.com; ptrammell@reddyice.com; publicaffairs@doc.gov; rachel.mcnamara@ferc.gov; raebutler@mcn-nsn.gov; rancococ@teleclipse.net; randall.b.harvey@usace.army.mil; randy@randyrogerslaw.com; randy@wedoweemarine.com; rbmorris222@gmail.com; rcodydeal@hotmail.com; reuteem@auburn.edu; richardburnes3@gmail.com; rick.oates@forestry.alabama.gov; rickmcwhorter723@icloud.com; rifraft2@aol.com; rjdavis8346@gmail.com; robert.a.allen@usace.army.mil; robinwaldrep@yahoo.com; roger.mcneil@noaa.gov; ron@lakewedowee.org; rosoweka@mcn-nsn.gov; russtown@nc-cherokee.com; ryan.prince@forestry.alabama.gov; sabrinawood@live.com; sandnfrench@gmail.com; sarah.salazar@ferc.gov; sbryan@pci-nsn.gov; scsmith@southernco.com; section106@mcn-nsn.gov; sforehand@russelllands.com; sgraham@southernco.com; sherry.bradley@adph.state.al.us; sidney.hare@gmail.com; simsthe@aces.edu; snelson@nelsonandco.com; sonjahollomon@gmail.com; steve.bryant@dcnr.alabama.gov; stewartjack12@bellsouth.net; straylor426@bellsouth.net; sueagnew52@yahoo.com; tdadunaway@gmail.com; thpo@pci-nsn.gov; thpo@tttown.org; timguffey@jcch.net; tlamberth@russelllands.com; tlmills@southernco.com; todd.fobian@dcnr.alabama.gov; tom.diggs@unq.edu; tom.lettieri47@gmail.com; tom.littlepage@adeca.alabama.gov; tpfreema@southernco.com; trayjim@bellsouth.net; triciastearns@gmail.com; twstjohn@southernco.com; variscom506@gmail.com; walker.mary@epa.gov; william.puckett@swcc.alabama.gov; wmcampbell218@gmail.com; wrighr2@aces.edu; wsgardne@southernco.com; wtanders@southernco.com

Subject: Harris Relicensing - Initial Study Report Meeting Summary
Date: Tuesday, May 12, 2020 12:16:34 PM
Attachments: 2020-05-12 ISR Meeting Summary.pdf

Harris relicensing stakeholders,

The meeting summary from the April 28th Initial Study Report meeting, including a list of attendees and the meeting presentation, was filed with FERC today. The meeting summary is attached and can also be found at www.harrisrelicensing.com.

Thanks,

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

APC Harris Relicensing

From: Ken Wills <memontei@aol.com>
Sent: Wednesday, June 10, 2020 9:27 PM
To: APC Harris Relicensing
Subject: Support for Botanical Area Designation of Flat Rock Backcountry Within Harris Relicensing Project

Hello all,

On behalf of the Alabama Glade Conservation Coalition, I want to thank Alabama Power for all their cooperation in working with us to protect the special botanical resources in and around the backcountry granite outcrop habitat at Flat Rock Park. The initial results of the commissioned botanical surveys show that the pristine backcountry outcrops and surrounding backcountry habitats have rare species found in few other places within Alabama and are indeed worthy of the protection afforded by the proposed land use change from Recreation to Natural Undeveloped. In relation and as follow-up on a recent discussion in a HAT meeting, we highly endorse the idea of giving this area its on special Botanical Area designation in the land use plan for the Harris Relicensing Project.

Such a Botanical Area designation should have the same protections afforded lands under the Natural Undeveloped classification as well as additional protections tailored to protecting the special and sensitive botanical resources of this area. Botanical Area classification should emphasize protection of the area from motorized vehicle disturbance (for which Alabama Power has recently made great progress), removal of exotic species such as Chinese Privet (which volunteers from groups like the Glade Coalition could help with), and possibly the reintroduction of fire through controlled burns (which other conservation organizations could possibly help with). The botanists and others involved in the Alabama Glade Conservation Coalition would be happy to help draft specifications for a Botanical Area land use classification as well as a specific management plan for the backcountry area at Flat Rock Park.

Thanks again for all your cooperation in protecting the special backcountry granite outcrop and surrounding habitats at Flat Rock Park. Let us know how we can be of futher assistance in this process.

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

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
June 10, 2020

OFFICE OF ENERGY PROJECTS

Project No. 2628-065 – Alabama
R.L. Harris Hydroelectric Project
Alabama Power Company

VIA FERC Service

Ms. Angie Anderegg
Harris Relicensing Project Manager
Alabama Power Company
600 North 18th Street Birmingham,
AL 35203

Subject: Staff Comments on the Initial Study Report and Initial Study Report Meeting Summary for the R.L. Harris Hydroelectric Project

Dear Ms. Anderegg:

Staff have reviewed Alabama Power Company's (Alabama Power) Initial Study Report (ISR) and associated draft study reports for the R.L. Harris Hydroelectric Project (Harris Project) filed on April 10, 2020, attended the ISR Meeting held via teleconference on April 28, 2020, and reviewed the ISR Meeting Summary filed on May 12, 2020. Alabama Power filed its ISR two days earlier than the published deadline of April 12, 2020. However, staff is maintaining the original deadline posted in previously issued process plans, June 11, 2020, for filing: comments on the ISR and draft study reports; comments on the ISR Meeting summary; requests for modifications to the approved study plan; and proposals for new studies.

Any stakeholder requests for study plan modifications or new studies should follow the Commission's regulations at 18 C.F.R. § 5.9(b) and 5.15 (2019), which are attached for stakeholder convenience (Attachment B). A copy of the Commission's Integrated Licensing Process (ILP) schedule for the Harris Project pre-filing milestones is attached as a reminder (Attachment C).

Based on a review of the ISR, associated draft study reports, discussions at the ISR Meeting, and a review of the ISR Meeting Summary, 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 Updated Study Report or the

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preliminary licensing proposal and license application, as appropriate. Alabama Power's requests for variances to their approved schedules for the Water Quality Study, the Draft Recreation Evaluation Study Report, and the Cultural Resources Study[1] will be addressed after the close of the ISR comment period.

If you have questions please contact Sarah Salazar at (202) 502-6863, or at sarah.salazar@ferc.gov.

Sincerely,

Allan E. Creamer

for Stephen Bowler, Chief
South Branch
Division of Hydropower Licensing

Enclosures: Attachment A
Attachment B
Attachment C

[1] Alabama Power intends to submit its Clean Water Act section 401 Water Quality Certification application to the Alabama Department of Environmental Management in April 2021 instead of in 2020, as originally proposed. Alabama Power proposes to file its Draft Recreation Evaluation Study Report in August 2020 instead of June 2020 to allow time to complete two new recreation surveys, the Tallapoosa River Downstream Landowner Survey and the Tallapoosa River Recreation User Survey. Alabama Power also proposes to finalize the Area of Potential Effect (APE) for its Cultural Resources Study and file it with documentation of consultation in June 2020.

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Attachment A

Staff comments on the Initial Study Report (ISR) and Initial Study Report Meeting Summary

Draft Operating Curve Change Feasibility Analysis (Phase 1) Study Report

1. Figure 5-3, on page 39 of the Draft Operating Curve Change Feasibility Analysis (Phase 1) Study Report, shows how changing the winter pool elevation from the current project operating curve to the +1, +2, +3, and +4-foot winter operating curves could affect reservoir elevations in Lake Harris throughout the year. Moreover, the figure documents the interaction between higher winter pool levels and low-inflow periods. During the period between 2006 and 2008, which encompasses two low-flow periods, the model showed that increasing the winter pool elevation can result in higher reservoir elevations during low-flow years, compared to the existing operating curve. However, Figure 5-3 shows that from about July 2007 through mid-February 2008, modeled reservoir levels for the +2 and +3-foot winter pool curve alternatives were lower than that of the other operating curve alternatives for the same operating period. Please explain what appears to be an anomaly in the modeling result in the final report.

Draft Downstream Release Alternatives (Phase 1) Study Report

2. During the ISR Meeting, Alabama Power requested that stakeholders provide downstream flow alternatives for evaluation in the models developed during Phase 1 of the Downstream Release Alternatives Study. Stakeholders expressed concerns about their ability to propose flow alternatives without having the draft reports for the Aquatic Resources and Downstream Aquatic Habitat Studies, which are scheduled to be available in July 2020 and June 2020, respectively. It is our understanding that during Phase 2 of this study, Alabama Power would run stakeholder-proposed flow alternatives that may be provided with ISR comments, as well as additional flow alternatives that stakeholders may propose after the results for the Aquatic Resources and Downstream Aquatic Habitat Studies are available. Please clarify your intent by July 11, 2020, as part of your response to stakeholder comments on the ISR.

3. According to the approved study plan, the goal of the Downstream Release Alternatives Study is to evaluate the effects of four downstream flow release alternatives on project resources. The four release alternatives are: (1) the Green Plan, or Alabama Power's current pulsing operation; (2) the Pre-Green Plan, or Alabama Power's historic peaking operation; (3) the Pre-Green Plan with a continuous baseflow of 150 cubic feet per second (cfs); and (4) a modified Green Plan. The Phase 1 Report, filed on April 10, 2020, presented complete results for Pre-Green Plan operation and Green Plan operation, partial results for the Pre-Green Plan with a 150-cfs baseflow, and no results for the modified Green-Plan alternative.

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During the ISR Meeting, Alabama Power requested that stakeholders identify and propose downstream flow release alternatives so that the proposed alternative's effects on environmental resources can be assessed during Phase 2 of the study. To facilitate modelling of downstream flow release alternatives, we recommend that Alabama Power run base flows of 150 cfs, 350 cfs, 600 cfs, and 800 cfs through its model for each of the three release scenarios (i.e., the Pre-Green Plan, the Green Plan, and the modified Green Plan flow release approach). The low-end flow of 150 cfs was proposed by Alabama Power as equivalent to the daily volume of three 10-minute Green Plan pulses. This flow also is about 15 percent of the average annual flow at the United States Geological Survey's flow gage (#02414500) on the Tallapoosa River at Wadley, Alabama, and represents "poor" to "fair" habitat conditions.[1] We recommend 800 cfs as the upper end of the base flow modeling range because it represents "good" to "excellent" habitat,[2] and is nearly equivalent to the U.S. Fish and Wildlife Service's Aquatic Base Flow guideline for the Tallapoosa River at the Wadley gage.[3] The proposed base flows of 350 cfs and 600 cfs cover the range between 150 cfs and 800 cfs.

In addition, we recommend that the modeling for Alabama Power's Aquatic Resources Study and Downstream Aquatic Habitat Study,[4] as well as any Phase 2

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[1] *See* Tennant, D.L. 1976. Instream flow regimens for fish, wildlife, recreation, and related environmental resources. in Instream flow needs, Volume II: Boise, ID, Proceedings of the symposium and specialty conference on instream flow needs, May 3-6, American Fisheries Society, p. 359-373. Tennant (1976) defines habitat quality (measured by average depth and velocity of flow) as a percentage of the average annual flow. Poor habitat is represented by 0.1 (10 percent of the average annual flow), fair habitat is represented by 0.1 to 0.3 (10 to 30 percent of the average annual flow), and good habitat is represented by 0.3 to 0.4 (30 to 40 percent of the average annual flow), depending on season.

[2] *Id*.

[3] For purposes of this analysis, we assumed an aquatic base flow of 0.5 cubic feet per second per square mile (or cfsm) of drainage area (1,675 square miles at the Wadley gage). *See* U.S. Fish and Wildlife Service. 1981. Interim Regional Policy for New England Streams Flow Recommendations. Region 5. Boston, Massachusetts.

[4] The Aquatic Resources Study involves the use of a bioenergetics model to conduct simulations needed to test potential influence of water temperature and flow on growth rates of fish species downstream from Harris Dam. The Downstream Aquatic Habitat Study involves using a HEC-RAS model to evaluate the effect of alternative operations on the amount and persistence of wetted aquatic habitat in the Tallapoosa River downstream from Harris Dam.

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assessment(s) include all the downstream flow release alternatives identified and evaluated as part of the Downstream Flow Release Alternatives Study. The results of all the modeling for the Aquatic Resources Study and Downstream Aquatic Habitat Study should be included in the final study reports and filed with the Updated Study Report, due by April 12, 2021.

4. The Draft Downstream Release Alternatives (Phase 1) Study Report refers to data sets (e.g., topographic and geometric data on pages 12-13 and 17-19) that were used to develop the models. To assist us in interpreting the models, we recommend including in the final study report a table and/or figure that summarizes all of the data sets used in the models and identifies their spatial extents in terms such as watershed segments, river miles (RMs), and square miles covered by each dataset (as appropriate), with reference to other geographic landmarks (e.g., nearest city, dam, bridge, etc.). Please incorporate into the table and/or figure, the stakeholder- and Alabama Power-identified erosion areas of concern. In addition, please provide the metadata for each data set used.

5. Page 14 of the Draft Downstream Release Alternatives (Phase 1) Study Report includes a description of the HEC-ResSim model that was developed for the project. Harris Dam was modeled in HEC-ResSim with both a minimum release requirement and maximum constraint at the downstream gage at Wadley. The draft report states that the minimum release requirement is based on the flow at the upstream Heflin gage, which is located on the Tallapoosa River arm of Harris Reservoir and has 68 years of discharge records. Page 5 of the draft report indicates that there is also a gage (Newell) on the Little Tallapoosa River Arm of the reservoir, which has 45 years of discharge records. It appears that only the Heflin gage was used in developing the minimum release requirement. As part of your response to stakeholder comments on the ISR, please explain the rationale for basing the minimum releases in the HEC-ResSim model only on the flows at the Heflin gage and not also on the flows at the Newell gage.

6. Pages 15 and 16 of the Draft Downstream Release Alternatives (Phase 1) Study Report, state that the drought indicator thresholds, or triggers, are only evaluated on the 1st and the 15th of every month in the model and that once a drought operation is triggered, the drought intensity level can only recover from drought condition at a rate of one level per "period." Please clarify in the final report if one "period" is equal to 15 days (i.e., the interval for evaluating drought triggers) and if this protocol is used for managing reservoir operations currently, or if it is only a parameter used in the model.

Draft Erosion and Sedimentation Study Report

7. The Erosion and Sedimentation Study in the approved study plan states that Alabama Power would analyze its existing lake photography and Light Detection and Ranging (LIDAR) data using a geographic information system (GIS) to identify elevation or contour changes around the reservoir from historic conditions and quantify changes in

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lake surface area to estimate sedimentation rates and volumes within the reservoir. In addition, the approved study plan states that Alabama Power will verify and survey sedimentation areas for nuisance aquatic vegetation. According to the study schedule, Alabama Power will prepare the GIS overlay and maps from June through July 2019 and conduct field verification from fall 2019 through winter 2020.

The Draft Erosion and Sedimentation Study Report does not include a comparison of reservoir contour changes from past conditions or the results of nuisance aquatic vegetation surveys. The report states that limited aerial imagery of the lake during winter draw down and historic LIDAR data for the reservoir did not allow for comparison to historic conditions and that Alabama Power will conduct nuisance aquatic vegetation surveys during the 2020 growing season.

It is unclear why the existing aerial imagery and Alabama Power's LIDAR[5] data did not allow for comparison with past conditions or why the nuisance aquatic vegetation surveys will be conducted during the 2020 growing season instead of during the approved field verifications from fall 2019 to winter 2020. As part of your response to stakeholder comments on the ISR, please clarify what existing aerial imagery and LIDAR data was used and why it was not suitable for comparison with past conditions. Also, please explain the change in timing for conducting the nuisance aquatic vegetation surveys.

Draft Water Quality Report

8. Figure 3-8, on page 18 of the Draft Water Quality Study Report shows dissolved oxygen (DO) profiles for the Harris Project forebay. While much of the data is typical of the DO stratification pattern in a southern reservoir, the figure also shows that in June, July, and August of 2017 and 2019, there was a 2.0 to 3.0 milligram per liter increase in DO concentration at a depth of about 20 to 25 meters in Lake Harris, which is uncommon in such reservoirs. Please include Alabama Power's interpretation of this DO anomaly in the final Water Quality Study Report.

Draft Threatened and Endangered (T&E) Species Study Report

9. The goals of Alabama Power's T&E Species Study are to assess the probability of T&E species populations and/or their critical habitat occurring within the Harris Project boundary or project area and determine if there are project related impacts (i.e., lake fluctuations, downstream flows, recreation and shoreline management activities, timber

[5] During the June 4, 2020 Harris Action Team #1 and #5 meeting, Alabama Power stated it has LIDAR data sets from different years and would check its records to confirm the number of LIDAR data sets, and for which years the LIDAR data were collected.

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management, etc.) to those species and critical habitats. According to the study schedule, Alabama Power would develop the GIS overlays and maps from April through July 2019, and conduct field verifications, if required, from October 2019 through September 2020.

The Draft T&E Species Study Report does not provide information on the presence or absence of potentially suitable habitat within the project boundary for all of the T&E species (e.g., red cockaded woodpecker,[6] northern long-eared bat,[7] pool sprite,[8] and white fringeless orchid[9]) on the official species list for the project.[10] Therefore, Alabama Power was unable to determine whether or not these species are likely to occur within the project boundary or identify a complete list of T&E species that require field surveys.

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[6] Page 8 the report states that land use data is not specific enough to determine if the 3,068 acres of coniferous forest in the project boundary at Lake Harris has the specific habitat characteristics suitable for red-cockaded woodpeckers.

[7] Page 19 of the report states that the Lake Harris and Skyline project boundaries fall within the range of the northern long eared bat and that there are no known hibernacula or summer roost trees within the project boundaries. However, as discussed in the ISR meeting, the report does not state whether any known northern long-eared bat hibernacula occur within a 0.25-mile radius of the project boundaries, or whether known summer roost trees occur within a 150-foot radius of the project boundaries. The report also does not provide information about timber/vegetation management practices within the project boundary. This information is needed in order to determine known occurrences of northern long-eared bats within or adjacent to the project boundaries and to determine potential project effects to this species.

[8] Page 21 of the reports states that pool sprite was documented at Lake Harris in Flat Rock Park in 1995. While subsequent surveys have not detected pool sprite, the report indicates that there are 138.4 acres of granite geology within the project boundary at Lake Harris. However, this species' vernal pool habitat was not identified at the project due to "a lack of available data."

[9] Page 22 the report states that National Wetland Inventory data is not detailed enough to identify potentially suitable habitat for white fringeless orchid within the project boundary.

[10] See FWS's official lists of T&E species within the Harris Project boundaries (i.e., at Lake Harris and Skyline) that were accessed on July 27, 2018, by staff using the FWS's Information for Planning and Conservation website (https://ecos.fws.gov/ipac/) and filed on July 30, 2018.

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As part of your response to stakeholder comments on the ISR, please provide: (1) the maps and assessment of the availability of potentially suitable habitat within the project boundary for all of the T&E species on the official species list for the project; (2) documentation of consultation with FWS regarding the species-specific criteria for determining which T&E species on the official species list will be surveyed in the field; (3) a complete list of T&E species that will be surveyed during the 2nd study season as part of the T&E Species Study; and (4) confirmation that Alabama Power will complete the field verification scheduled by September 2020.

Draft Project Lands Evaluation (Phase 1) Report

10. The goals of the Project Lands Evaluation include: (1) identifying and classifying lands at the project that are needed for Harris Project purposes; (2) evaluating existing land use classifications at Lake Harris 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.

Appendix B of the Draft Project Lands Evaluation (Phase 1) Report includes a small scale map of Lake Harris and the existing shoreline classifications, as well as larger scale maps showing parcels of land within the project boundary for which Alabama Power is considering either changing the existing land use classification, adding parcels to the project boundary, or removing parcels from the project boundary. However, the report does not include large scale maps showing the land use classifications for all of the existing shoreline. To facilitate review of the existing shoreline land use classifications, please file larger scale maps of all the shoreline areas as a supplement to the Draft Project Lands Evaluation Report, as part of your response to stakeholder comments on the ISR. Please include land use classifications on the maps. In addition, if available, please file the GIS data layers of the existing and proposed shoreline land use classifications.

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Attachment B

Excerpt from 18 C.F.R. § 5.15

(d) *Criteria for modification of approved study*. Any proposal to modify an ongoing study . . . must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a demonstration that:

(1) Approved studies were not conducted as provided for in the approved study plan; or

(2) The study was conducted under anomalous environmental conditions or that environmental conditions have changed in a material way.

(e) *Criteria for new study*. Any proposal for new information gathering or studies . . . must be accompanied by a showing of good cause why the proposal should be approved, and must include, as appropriate to the facts of the case, a statement explaining:

(1) Any material changes in the law or regulations applicable to the information request;

(2) Why the goals and objectives of any approved study could not be met with the approved study methodology;

(3) Why the request was not made earlier;

(4) Significant changes in the project proposal or that significant new information material to the study objectives has become available; and

(5) Why the new study request satisfies the study criteria in § 5.9(b).

Excerpt from 18 C.F.R. § 5.9(b)

(b) *Content of study request*. Any information or study request must:

(1) Describe the goals and objectives of each study proposal and the information to be obtained;

(2) If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;

(3) If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;

(4) Describe existing information concerning the subject of the study proposal, and the need for additional information;

(5) Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how

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the study results would inform the development of license requirements;

(6) Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate filed season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and

(7) Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.

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Attachment C

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

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STATE OF ALABAMA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
WILDLIFE AND FRESHWATER FISHERIES DIVISION

64 North Union Street, Ste. 567
P. O. Box 301456
Montgomery, AL 36130-1456
Phone: (334) 242-3465 Fax: (334) 242-3032
www.outdooralabama.com

KAY IVEY
GOVERNOR

CHRISTOPHER M. BLANKENSHIP
COMMISSIONER

EDWARD F. POOLOS
DEPUTY COMMISSIONER

The mission of the Wildlife and Freshwater Fisheries Division is to manage, protect, conserve, and enhance the wildlife and aquatic resources of Alabama for the sustainable benefit of the people of Alabama.

CHARLES F. "CHUCK" SYKES
DIRECTOR

FRED R. HARDERS
ASSISTANT DIRECTOR

June 11, 2020

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

RE: Comments on the Harris Project Initial Study Report (ISR) including Project Lands Evaluation, Operating Curve Change Feasibility, Downstream Release Alternatives Study, Water Quality Study, Erosion and Sedimentation Study, Threatened and Endangered Species Desktop Assessment, Cultural Resources Programmatic Agreement and Historic Properties, Management Plan Study, Area of Potential Effects (APE) and Harris Relicensing Initial Study Report Meeting April 28, 2020 for the R. L. Harris Hydroelectric Project (FERC No. 2628).

Dear Ms. Bose:

The Alabama Department of Natural Resources (ADCNR) Division of Wildlife and Freshwater Fisheries (WFF), has reviewed the filed Harris Project Initial Study Report (ISR) in regards to the relicensing of R.L. Harris Hydroelectric Project No. 2628 and submits the following comments and recommendations for your consideration:

Initial Study Report (ISR)

- On page 11, section 4.1 of Initial Study Report, "*i.e.*" ("that is") should be changed to "*e.g.*" ("for example"). The alternative/modified Green Plan operation downstream release alternative will be evaluated as part of Phase 2. Results from the other three scenarios as well as from the Aquatic Resources Study are needed to design the alternative to be studied. Downstream Aquatic Habitat Study and Recreational Evaluation Study results should be included in footnotes in order to fully evaluate and recommend an alternative Green Plan to be modeled and evaluated as a downstream release alternative. Without the ability to fully evaluate the Aquatic Resources Study, Downstream Aquatic Habitat Study and Recreational Evaluation Study results at this time, ADCNR recommends multiple base flow scenarios calculated from available aquatic inflow and base flow records and guidelines representative for the tailwaters downstream to the Horseshoe Bend with Pre-Green Plan, Green Plan and Modified Green Plan be modeled during the evaluation process. All operational changes to downstream releases should evaluate methods for how these flows could be provided while maintaining state dissolved oxygen guidelines and a natural temperature regime, at all times for the sustainable benefit of aquatic resources.

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- On page 12, section 4.2 of Initial Study Report, remove the descriptive words "slight" and "worse" when detailing if alternatives will increase or decrease average annual economic costs to Alabama Power customers and provide estimated amount ranges for each alternative. If, "there are currently too many unknowns at this time to generate accurate and reliable Hydro Budget results", please explain how an assumption of whether it will be "same" or "worse" can be made. For comparisons of alternatives, additional details are recommended to provide how a Pre-Green Plan peaking operation with a 150 cfs continuous minimum flow regardless of generation or no generation to produce the minimum flow would not be a significant economic gain, if not evaluating capital and O&M costs into the equation.

- On page 15, section 5.2 of Initial Study Report, remove "well' in statement, "showed dissolved oxygen levels were well above 5 mg/L during each of their sampling events."

- On page 15, section 5.2 of Initial Study Report, additional data, evidence or other alternatives should be provided to make the statement that "The low dissolved oxygen events in 2017 may be attributed to conditions in the Harris Reservoir that were impacted by severe drought in the summer and fall of 2016, where inflows to the lake were at historic lows." On page 17, Figure 3-7 of the Water Quality Study does not indicate that temperature stratification occurred differently in 2017 verses 2018 or 2019. Year 2017 data, on page 37, Figure 4-4, and downstream water quality data on page 46, Figure 6-1 of the Water Quality Study disputes the theory that conditions were caused by previous year conditions. Inflows were above average during 2017, which means discharge was higher. This is another reason low dissolved oxygen could have been more pronounced in 2017. This same scenario has been observed in Lake Martin, where higher spring/summer rainfall leads to increased discharge, which leads to poorer water quality below the thermocline (Sammons and Glover, 2013). If a dam is drawing from the hypolimnion under these conditions, it can lead to a discharge of lower oxygenated water during a high precipitation spring/summer. In addition to evaluating potential causes of the 2017 low dissolved oxygen events, changes and improvements that can be made to detect, adjust and improve operations to prevent another 2017 event from occurring again should be considered and evaluated for the sustained benefit of downstream aquatic resources.

- On page 17, section 6.1 of Initial Study Report delete "likely" and insert, "potential" prior to cause(s).

- On page 18, section 6.2.1 of Initial Study Report, include additional details of how causes of erosion were determined. Methods primarily cover how sites of erosion were identified, not caused.

- On page 18, section 6.2.1 of Initial Study Report, verify and confirm accuracy of statement "Twenty-five percent of the Little Tallapoosa River basin has been converted to hay/pasture fields (MRLC 2019)". Table 2-3, of the Erosion and Sedimentation Study, indicate a net loss of Hay/Pasture in the Little Tallapoosa River Basin of -8,815.1 acres from 2001 to 2016. These two statements appear to be contradictory.

- On page 19, section 6.2.2 of Initial Study Report, it states "Notably, only one area scored as impaired to non-functional (located on the right bank between river mile [RM] 16.3 to 16.9)." On page 33, Figure 21 of Appendix E Downstream Bank Stability Study Report of the Erosion and Sedimentation Study, a red section is downstream of No Business Creek within the 3.5-5 range appears present. Explain and verify that this area is not considered a second impaired site.

- On page 19, section 6.2.2 of Initial Study Report, "primarily caused" should be changed to "potentially caused". Remove "natural riverine processes" and replace with "regulated riverine processes" or define how natural riverine processes are defined in this context and occur below a controlled and regulated tailrace.

- On page 19 section 6.2.2. of Initial Study Report. Providing the dissolved oxygen percent of measurements greater than 5 milligrams per liter is correct but misleading in regards to aquatic resources protection. It is important to note when presenting this data that it only takes a single incident of depleted dissolved oxygen to cause an aquatic species kill event. A caveat or footnote is recommended to address this fact.

- On page 19, section 6.2.2 of Initial Study Report, it states, "Questions have also been raised regarding potential effects the Harris Project may have on other aquatic fauna within the Project Area, including macroinvertebrates such as mollusks and crayfish. Alabama Power is investigating the effects of the Harris

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Project on these aquatic species and is performing an assessment of the Harris Project's potential effects on species mobility and population health." There are currently records of mussel species Under Review for federal listing with substantial 90-day findings that occur and occurred historically in the Tallapoosa River and its tributaries. Alabama Spike (*Elliptio arca*) and Delicate Spike (*Ellipto arctata*) are currently state protected species and Under Review by United States Fish and Wildlife Service (USFWS) with a substantial 90-day finding. Threatened and Endangered Species study plan states in the methods that additional species of concern may be added at the request of USFWS and/or ADCNR if determined to be appropriate. Please provide details on what specific mollusks and crayfish species will be evaluated. A list of state protected species currently being evaluated during the relicensing process is recommended.

- Page 27, section 9.1 of Initial Study Report, there are additional state protected species that are not T&E. The final report may not address all state protected species and a statement should be included to clarify. The Initial Study Report plan used the term "and/or".

Draft Phase 1 Project Lands Evaluation Study Report

- Appendix B includes Figure of Maps and Supporting Information of Proposed Changes of the Project Lands Evaluation Study Report. These maps indicate there are several recreational properties which are being re-classified away from recreation (net loss of 600 acres- page 14, Table 6-1). In addition to the acreages provided, it would be beneficial to provide and understand the amount of linear feet of shoreline for each parcel being proposed for addition, re-classification or removal. Undisturbed natural shorelines and shorelines designated for recreational use benefit wildlife and aquatic resources and also provide recreational opportunities for anglers and hunters. Impacts to shoreline habitat in Lake Harris can negatively impact aquatic, semi-aquatic, and terrestrial species. Studies have shown that undeveloped shoreline areas provide the most suitable habitat for maintaining abundance, diversity, and species richness of aquatic, semi-aquatic, and terrestrial species. We recommend that natural vegetated shorelines remain undisturbed as much as possible when evaluating land classifications and future shoreline land use. When evaluating classification changes, linear lake front footage would be a useful metric to provide. ADCNR would like to ensure a suitable site(s) is(are) identified and reserved for future construction of an appropriately sized boating access facility(ies). Future boating demand on Lake Harris is currently unknown for the entire duration of the license, therefore ADCNR continues to request consultation with Alabama Power in the selection of future recreational sites to safeguard they are located in suitable areas for anglers and boaters. The sites need to be large enough to suit any future demand of boaters and anglers and the sites need to meet the engineering requirements for an appropriately sized facility. We recommend any suitable identified property continue to be classified as recreational. The distribution of public boat ramps in the lake should be fully evaluated when considering reclassifying recreation zoned areas. In areas of the lake with few public boating access points or high boat ramp usage, there should be recreational zoned properties for future boat ramp additions available to meet angler demand.

- Appendix B, Figures R1-R6 of the Project Lands Evaluation Study Report, indicates that these acreages are not suitable for recreation due to their location within areas of the lake with limited demand for public recreation opportunities. ADCNR requests the opportunity to evaluate the results from the Recreation Evaluation Study prior to this determination for these zoning reclassifications.

- On page 9, of the Project Lands Evaluation Study Report, the third bullet named Project Operations (formerly titled Prohibited Access) states "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." ADCNR recommends that bank fishing be included in the "some cases" exemptions statement for these areas. Canoe or kayak access points should also be evaluated in these areas during the relicensing process, since they are currently nonexistent.

Draft Operating Curve Change Feasibility Analysis Phase1 Report

- On page 6, section 2.1.1.5 Lower Tallapoosa River of the Operation Curve Change Feasibility Analysis Study discusses downstream gages. Include years of discharge and stage data for these gages, similar to previous gages years of discharge and stage data discussed and included in the document.

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- On pages 45-50, Figures 5-7 through 5-12 of the Operation Curve Change Feasibility Analysis Study visually indicate inundation boundaries for the baseline of four winter pool alternatives. Include a Table with calculated totals of inundated acreages for the baseline and four winter pool increase alternatives to assist with the quantitative evaluation of inundation effects downstream of the dam.

Draft Downstream Release Alternatives Phase 1 Report

- The Downstream Release Alternatives Study as is, presents the results for three downstream release alternatives: Pre-Green Plan operation, Green Plan operation, and Pre-Green Plan operation with a 150 cfs continuous minimum flow. Throughout the document the "Pre-Green Plan operation with a 150 cfs continuous minimum flow", is often referenced as "continuous minimum flow of 150 cfs". When referencing this downstream release alternative in the document it would be helpful to use the full "Pre-Green Plan operation with a 150 cfs continuous minimum flow" to clarify and fully identify the alternative. If a modified Green Plan, details pending, is evaluated with a continuous minimum flow, the addition will assist in differentiating the alternatives.

- A fourth Modified Green Plan downstream release alternative was included to be evaluated in the initial Study Plan for the Downstream Release Alternatives Study. ADCNR maintains its recommendation for a fourth alternative Modified Green Plan be fully evaluated. Details and design of a Modified Green Plan alternative are pending results from the Aquatic Resources Study. For a complete Downstream Release Alternative Study comparing four release alternatives, the Modified Green Plan alternative should be completed and included in this study or Phase 2. ADCNR requests the opportunity to provide specific recommendations for the Modified Green Plan alternative after assessing all of the planned study reports. ADCNR has consistently stated and provided published peer reviewed references that support recommendations for downstream flows to mimic a natural flow regime with an adaptive management of flows that follows state dissolved oxygen guidelines and provides natural temperature regimes, at all times for the sustained long term benefit and conservation of aquatic species (See *ADCNR*, P-2628-005 FERC ¶ 20181002-5006).

- On page 1, section 1.0 of the Downstream Release Alternatives Study, replace "However, some stakeholders noted that the temperature of the turbine releases could have potential effects on aquatic resources in the Tallapoosa River below Harris Dam." with "However, some stakeholders noted that the temperature of the turbine releases has documented negative impacts on aquatic resources in the Tallapoosa River below Harris Dam." (See *ADCNR*, P-2628-005 FERC ¶ 20181002-5006).

- On page 2, section 1.1, of the Downstream Release Alternatives Study, change "*i.e.*" to "*e.g.*" It should be "for example" not "that is" if an Aquatic Resources Study is required to evaluate and design the alternative to be studied as stated in footnote of the page. Downstream Aquatic Habitat Study and Recreational Evaluation Study results should be considered as inclusions in the footnote as prerequisites to fully evaluate and recommend an alternative Modified Green Plan to be modeled and evaluated as a downstream release alternative.

- On page 21, section 4.3.3 Model Flow Data of the Downstream Release Alternatives Study, ADCNR recommends re-stating that the Modified Green Plan alternative is not included in this model section pending results from additional studies and will be evaluated in Phase 2. This section states why 2001 data was used and presented but does not specify why the date range of 1/1/01-1/31/01 was specifically selected from the entire year data. ADCNR recommends including why this month was selected and providing additional figures similar to Fig. 4-3. showing a months' worth of data at four 1-month intervals covering spring, summer and fall sample portions of hydrographs to fully illustrate model flow data throughout the year.

- On page 25, section 5.2 of the Downstream Release Alternatives Study, remove the descriptive words "slight" and "worse" when detailing if alternatives will increase or decrease average annual economic costs to Alabama Power customers and provide estimated amount ranges for each alternative. If, "there are currently too many unknowns at this time to generate accurate and reliable Hydro Budget results", please explain how an assumption of whether it will be "same" or "worse" can be made. For comparisons of alternatives,

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additional details should be provided describing how a Pre-Green Plan peaking operation with a 150 cfs continuous minimum flow, regardless of generation or no generation to produce the minimum flow, would not be a significant economic gain, if not evaluating capital and O&M costs into the equation.

- On page 27, section 6.0 Conclusions of the Downstream Release Alternatives Study, a space between "results indicate" should be included.

Draft Water Quality Study Report

- On pages ii-iv., Table of Contents, of the Water Quality Study, some of the page numbering does not coincide with the document contents. For example, Lake Levels and Hydrology page 7 of Table of Contents is on page 8.

- On page 3, section 1.1, of the Water Quality Study, after "A summary of data sources for this report is provided in" a large space creates and extra page that appears to be unnecessary and should be removed.

- On page 8, section 2.0, of the Water Quality Study "October of 2107" should be changed to 2017.

- On page 9, Figure 2-2 of the Water Quality Study, specify if the 1987-2016 data is a monthly average or long-term average in the figure key or label.

- On page 22, Table 3-2 of the Water Quality Study, include minimum and maximum ranges of data to this Table, if available.

- On page 25, Figure 4-1 of the Water Quality Study, provide major tributary names and periodic river mile markings to aid in location descriptions.

- On page 27, Table 4-3 of the Water Quality Study, include minimum and maximum ranges of data to this Table, if available.

- On page 39, of the Water Quality Study, "Error! Reference source not found?" should be removed or corrected.

- On page 42, Table 4-11 of the Water Quality Study, if available, separate and provide this data into Pre-Green Plan and Post-Green Plan implementation year groupings to further examine if operational differences affect water quality.

- On page 46, section 6.2 of the Water Quality Study, additional data, evidence or other alternatives should be provided to make the statement that "The low dissolved oxygen events in 2017 may be attributed to conditions in Harris Reservoir that were impacted by severe drought in the summer and fall of 2016, where inflows to the lake were at historic lows (Figure 6-1)" On page 17, Figure 3-7 of the Water Quality Study does not indicate that temperature stratification occurred differently in 2017 versus 2018 or 2019. Year 2017 data, on page 37, Figure 4-4, and downstream water quality data on page 46, Figure 6-1 of the Water Quality Study disputes the theory that conditions were caused by previous year conditions. Inflows were above average during 2017, which means discharge was higher. This is another reason low dissolved oxygen could have been more pronounced in 2017. This same scenario has been observed in Lake Martin, where higher spring/summer rainfall leads to increased discharge, which leads to poorer water quality below the thermocline (Sammons and Glover 2013). If a dam is drawing from the hypolimnion under these conditions, it can lead to a discharge of lower oxygenated water during a high precipitation spring/summer. In addition to evaluating potential causes of the 2017 low dissolved oxygen events, changes and improvements that can be made to detect, adjust and improve operations to prevent another 2017 event from occurring again should be considered and evaluated for the sustained benefit of downstream aquatic resources.

Draft Erosion and Sedimentation Study Report

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- Throughout the Erosion and Sedimentation Study when referencing "cause of erosion" change to "potential cause(s) of erosion/sedimentation." On page 2, section 2.0 Goals and Objectives in the Erosion and Sedimentation Study Plan it states, "The goals of this study are to identify any problematic erosion sites and sedimentation areas and determine the likely causes." "Once areas are identified, Alabama Power will perform assessments and collect additional information, as necessary, to describe and categorize each area according to its severity and potential cause(s)."

- On page 6, section 2.0 Lake Harris, 2.1 Methods in the Erosion and Sedimentation Study, replace, "determine the cause of erosion:" with "determine areas of erosion and potential cause(s):" For the potential cause(s) categories considered, provide a definition of each and additional details into the methods utilized to characterize how each cause was determined and differentiated. The methods described appear to detail how areas of erosion were identified but do not detail how potential cause(s) were determined. A reference to the Erosion and Sedimentation Study Plan Study Plan methods or inclusion of section 4.1 study plan methods should be provided.

- On page 12, section 2.2 Results, 2.2.1 Erosion Survey in the Erosion and Sedimentation Study insert "potential cause(s)" into "Each site was photographed and examined to determine the cause of erosion."

- On page 20, section, of the Erosion and Sedimentation Study, verify and confirm accuracy that Table 2-3 indicates a net loss of Hay/Pasture in the Little Tallapoosa River Basin of -8,815.1 acres from 2001 to 2016. Text indicates a "Twenty-five percent of the Little Tallapoosa River basin has been converted to hay/pasture fields (MRLC 2019)" These two statements appear to be contradictory.

- On page 24, section 3.2 Results of the Erosion and Sedimentation Study, change "primarily caused" to "potentially caused". Remove "natural riverine processes" and replace with "regulated riverine processes" or define how natural riverine processes are defined in this context and occur below a controlled and regulated tailrace.

- On page 25, Table 3-2 of the Erosion and Sedimentation Study, add score ranges (minimum and maximum scores) in addition to the means. If previous sites E22 and E23 are included in this Table, provide an asterisk and footnote specifying which ones they are. Include in discussion section how this scoring method compared to the method used at sites E22 and E23.

- On page 26, Figure 3-1 of the Erosion and Sedimentation Study, include site numbers from Table 3-2 into this map or provide incremental river mile markers.

- On page, Table 4-1 of the Erosion and Sedimentation Study indicates a 592.1 acreage increase in deciduous forest. Deciduous forest stream buffers have been shown to reduce nitrogen, phosphorous and sedimentation from surface water runoff into streams, lakes and estuaries. This could be included in the discussion section as a positive observed land use trend in the area (Klapproth and Johnson 2009; Roy *et al.* 2006).

- On page 31, Section 5.0 Discussion and Conclusions of the Erosion and Sedimentation Study, provide additional information on definitions and methodology in how cause(s) were determined before the conclusion that erosion was a result of anthropogenic and/or natural processes independent of project operations. As is, the use of the word "potential" should be included. Provide the current definition of "project operations" for this study and include it prior to other document "project operations" statements. If referring to "fluctuations" from project operations, this should be clearly stated throughout Erosion and Sedimentation Study. Among Study plans there appears to be variations in the provided definition of "Project operations" and "project related impacts". For example, on page 4 the Erosion and Sedimentation Study Plan states "Project operations" as "(*i.e.*, water level fluctuations or construction/maintenance activities on/at Project facilities or lands)", but on page 2 of the Threatened and Endangered Species Study Plan it states "project related impacts" as "(*i.e.*, lake fluctuations, downstream flows, recreation and shoreline management activities, timber management, etc.)". Providing consistency of these definitions among studies would be beneficial during the relicensing evaluation process. In addition, including "etc." which indicates that "further, similar items are included" after using "*i.e.*" or "that is" is a contradictory use of the terms.

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- On page 31, section 5.0 Discussion and Conclusions of the Erosion and Sedimentation Study, replace "extremely small" with "relatively small".

- On page 31, section 5.0 Discussion and Conclusions of the Erosion and Sedimentation Study, insert "potentially" prior to "affected"

- On page 31, section 5.0 Discussion and Conclusions of the Erosion and Sedimentation Study, insert "potentially" prior to "clear-cut". Reword sentence to read: "The observed erosion at the these sites is the potential result of adjacent land use and clearing of riparian plant cover destabilizing soils along the affected banks, although erosion at these sites may have been initially caused or exacerbated as result of altered flow releases from Harris Dam."

- On page 31, section 5.0 Discussion and Conclusions of the Erosion and Sedimentation Study, insert "in the reservoir" after decrease in "Sedimentation in Lake Harris is most pronounced in the Little Tallapoosa River arm where sediment transported from upstream settles out of the water column as water velocities decrease" statement.

- In Appendix E Downstream Bank Stability Study Report of the Erosion and Sedimentation Study, include periodic river mile markers and corresponding segment numbers in figures of the study.

- On page 33, Figure 21 of Appendix E Downstream Bank Stability Study Report of the Erosion and Sedimentation Study, a red section in downstream of No Business Creek within the 3.5-5 range appears present. In results or discussion explain how this area is not included as a second impaired site.

- On page 34, Table 3 of Appendix E Downstream Bank Stability Study Report of the Erosion and Sedimentation Study, if available, include ranges (minimum and maximum scores) with segment data.

- On page 43, Conclusions section of Appendix E Downstream Bank Stability Study Report of the Erosion and Sedimentation Study include a definition and discussion about the potential for head cutting in tributaries due to main river channel operations. Head cutting is a process by which the upstream portion of a stream channel becomes destabilized and erodes progressively in an upstream direction. Accelerated velocities can lead to an increase in head cutting upstream from affected areas (Annear *et al.* 2002).

Draft Threatened and Endangered Species Desktop Assessment

- Throughout the Threatened and Endangered Species Desktop Assessment, capitalize species common names. When a species is first used in the document, include the scientific name in parentheses. The common name can then be used in the remaining sections of the document.

- Range Figures included in the Threatened and Endangered Species Desktop Assessment illustrating aquatic species habitat ranges, include the tributaries and streams names on the maps.

- On page 6, Table 1-1 of the Threatened and Endangered Species Desktop Assessment in Scientific names column change "*Villosa trabalis*" to "*Venustaconcha trabalis*", "*Quadrula cylindrica*" to "*Theliderma cylindrica*". Correct error for scientific name of Shiny Pigtoe to "*Fusconaia cor*" (Williams *et al.* 2017).

- On page 6, Table 1-1 of the Threatened and Endangered Species Desktop Assessment all of the species listed in this table are now State Protected, see Alabama Regulations relating to game, fish and furbearing animals. 2019-2020. Alabama Department of Conservation and Natural Resources, with the exception of the plant species listed, Little Amphianthus, White Fringeless Orchid, Price's Potato-bean and Morefield's Leather Flower.

- On page 6, Table 1-1 of the Threatened and Endangered Species Desktop Assessment change column heading "Occurrence" column to "Recent Documented Occurrence in Harris Project Boundary". Within the

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document "Recent" should be defined, for example, "In this report any documented occurrence within the past 25 years will be classified as a Recent Documented Occurrence".

- On page 6, Table 1-1 of the Threatened and Endangered Species Desktop Assessment, Williams *et al.* (2008) is cited but this resource is not utilized anywhere else in the document. Recommend including the most up to date resources in the following species descriptions.

- On Page 9, 3.2 Palezone Shiner section of the Threatened and Endangered Species Desktop Assessment if an updated survey is proposed for this species suggest including and discussing or note that it will be included in an additional Phase 2 study report.

- On page 10, 3.4 Finelined Pocketbook section of the Threatened and Endangered Species Desktop Assessment, include "primarily" in the statement, "this mussel lives in large to small streams in habitats "primarily" above the fall line." See Williams *et al.* 2008 distribution map and distribution descriptions.

- On page 10, 3.4 Finelined Pocketbook section of the Threatened and Endangered Species Desktop Assessment, include, if any, the last mussel survey completed in the Tallapoosa Harris Tailrace and tributaries. Include a statement indicating if a mollusk tailrace study has been considered in the study plan development process and why it was not deemed necessary for this species.

- On page 10, 3.4 Finelined Pocketbook section of the Threatened and Endangered Species Desktop Assessment, a statement should be included notifying that ADCNR and USFWS are currently reintroducing the Finelined Pocketbook into suitable historical habitats within the state (USFWS 2019).

- On page 10, 3.4 Finelined Pocketbook section of the Threatened and Endangered Species Desktop Assessment, the reasons for decline could be updated and improved by summarizing statements from USFWS (2019), Nine Mobile River Basin mussels (Finelined Pocketbook (*Hamiota (=Lampsilis) altilis*), Orangenacre Mucket (*Hamiota (=Lampsilis) perovalis*), Alabama Moccasinshell, (*Medionidus acutissimus*), Coosa Moccasinshell (*Medionidus parvulus*), Southern Clubshell (*Pleurobema decisum*), Dark Pigtoe *(Pleurobema furvum*), Southern Pigtoe (*Pleurobema georgianum*), Ovate Clubshell (*Pleurobema perovatum*), Triangular Kidneyshell (*Ptychobranchus greenii*)) 5-year review. This review states that suitable habitats and water quality, free of excessive sedimentation and other pollutants, are required for Finelined Pocketbook. The primary cause of curtailment of range and fragmentation of habitat for these mussel species has been contributed to the historic construction of dams and impoundment of large reaches of major river channels (Federal Register 58 FR 14330). Although most of these actions took place in the past, the impacted conditions and habitat continue to affect the species. In recent years, some improvements have been made to improve riverine conditions. For example, flow improvements have been made below Weiss Dam on the Coosa River that benefit existing populations of Southern Clubshell. Watershed-specific threats continue to negatively impact the species. These threats include: 1) coal mining activities 2) oil and gas exploration 3) water withdrawal 4) hypolimnetic discharges 5) poor water quality due to insufficient releases from dams 6) instream aggregate mining 7) navigation channel maintenance activities (8) agricultural practices that degrade water quality by increasing nutrients, herbicide/surfactant compounds, and hormones in surface waters; (9) hydropeaking dams that alter downstream flow conditions, water temperatures, and dissolved oxygen (10) increasing urban development that degrades water quality and stream geomorphology; and (11) climate change, which is expected to result in more frequent and extreme dry and wet years in the Southeast over the next century.

- On page 10, 3.4 Finelined Pocketbook section of the Threatened and Endangered Species Desktop Assessment, change statement "No populations were identified within the Project Boundary at Lake Harris, but future surveys have been proposed by Alabama Power." to "To date, no populations were identified within the Project Boundary at Lake Harris, but surveys focused on the 3.75 mile stretch of the Tallapoosa River where critical habitat is known to occur from the County 36 bridge to a shoal below the Highway 431 bridge are currently being conducted by Alabama Power and USFWS."

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- On page 11, 3.5 Alabama Lampmussel section of the Threatened and Endangered Species Desktop Assessment, a statement should be included notifying that ADCNR and USFWS is currently reintroducing the Alabama Lampmussel into suitable historical habitats within the state (USFWS 2012).

- On page 11, 3.5 Alabama Lampmussel section of the Threatened and Endangered Species Desktop Assessment, reasons for imperilment should be updated and improved summarizing statements from USFWS released a Five-Year Review for the species (USFWS 2012).

- On page 11, 3.5 Alabama Lampmussel section of the Threatened and Endangered Species Desktop Assessment, include that in laboratory trials Alabama Lampmussel glochidia have been found to utilize Rock Bass (*Ambloplites rupestris*), Green Sunfish (*Lepomis cyanellus*), Bluegill (*Lepomis macrochirus*), Smallmouth Bass (*Micropterus dolomieu*), Spotted Bass (*Micropterus punctulatus*), Largemouth Bass (*Micropterus salmoides*), and Redeye Bass (*Micropterus coosae*) as host fish and that Banded Sculpin (Cottus carolinae) appear to be marginal hosts (Williams et. Al. 2008).

- On page 12, 3.6 Cumberland Bean section of the Threatened and Endangered Species Desktop Assessment, a statement should be included notifying that ADCNR and USFWS is currently reintroducing the Cumberland Bean into suitable historical habitats within the state (USFWS 2020).

- On page 12, 3.6 Cumberland Bean section of the Threatened and Endangered Species Desktop Assessment, reasons for imperilment should be updated and improved summarizing statements from USFWS released a Five-Year Review for the species (USFWS 2020).

- On page 12, 3.7 Fine-Rayed Pigtoe section of the Threatened and Endangered Species Desktop Assessment, reasons for species decline should be updated and improved summarizing statements from USFWS released a Five-Year Review for the species (USFWS 2013b).

- On page 13, 3.8 Pale Lilliput section of the Threatened and Endangered Species Desktop Assessment, a statement should be included notifying that ADCNR and USFWS is currently reintroducing the Pale Lilliput Mussel into suitable historical habitats within the state (USFWS 2011).

- On page 13, 3.8 Pale Lilliput section of the Threatened and Endangered Species Desktop Assessment, reasons for imperilment should be updated and improved summarizing statements from USFWS released a Five-Year Review for the species (USFWS 2011).

- On page 13, 3.8 Pale Lilliput section of the Threatened and Endangered Species Desktop Assessment, include, in laboratory trials by ADCNR, Pale Lilliput glochidia have been found to utilize Northern Studfish (*Fundulus catenatus*), Blackspotted Topminnow (*Fundulus olivaceus*) and Blackstripe Topminnow (*Fundulus notatus*) as primary hosts. (Fobian *et al.* 2015)

- On page 13, 3.9 Rabbitsfoot section of the Threatened and Endangered Species Desktop Assessment, a statement should be included notifying that ADCNR and USFWS is currently reintroducing the Rabbitsfoot into suitable historical habitats statewide.

- On page 13, 3.9 Rabbitsfoot section of the Threatened and Endangered Species Desktop Assessment, include, suitable fish hosts for Rabbitsfoot populations west of the Mississippi River include Blacktail Shiner (*Cyprinella venusta*) from the Black and Little rivers and Cardinal Shiner (*Luxilus cardinalis*), Red Shiner (*Cyprinella lutrensis*), Spotfin Shiner (*Cyprinella spiloptera*), and Bluntface Shiner (*Cyprinella camura*) from the Spring River, but host suitability information is lacking for most of the eastern range (Fobian 2007). A host study by ADCNR in 2011, found Scarlet Shiner (*Lythrurus fasciolari*), Whitetail Shiner (*Cyprinella galactura*) and Striped Shiner (*Luxilus chrysocephalus*) to be sympatric hosts with Rabbitsfoot from Paint Rock River, AL. Marginal minnow hosts from studies have included Central Stoneroller (*Campostoma anomalum*), Emerald Shiner (*Notropis atherinoides*), Rosyface Shiner (*Notropis rubellus*), Bullhead Minnow (*Pimephales vigilax*) and Rainbow Darter (*Etheostoma caeruleum*), but not in all stream populations tested (Fobian 2007, Watters *et al.* 2005).

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- On page 14, 3.10 Snuffbox section of the Threatened and Endangered Species Desktop Assessment, update and include that in 2019, USFWS released a Five-Year Review for the species (USFWS 2019b). Reasons for imperilment could be added and improved summarizing statements from this document as well.

- On page 15, 3.11 Shiny Pigtoe Mussel section of the Threatened and Endangered Species Desktop Assessment, reasons for imperilment should be updated and improved summarizing statements from USFWS released a Five-Year Review for the species (USFWS 2013c).

- On page 16, 3.12 Southern Pigtoe section of the Threatened and Endangered Species Desktop Assessment, change "finelined pocketbook mussel" to "Southern Pigtoe".

- On page 16, 3.12 Southern Pigtoe section of the Threatened and Endangered Species Desktop Assessment, the reasons for decline could be updated and improved by summarizing statements from USFWS (2019), Nine Mobile River Basin mussels (Finelined Pocketbook (*Hamiota (=Lampsilis) altilis*), Orangenacre Mucket (*Hamiota (=Lampsilis) perovalis*), Alabama Moccasinshell, (*Medionidus acutissimus*), Coosa Moccasinshell (*Medionidus parvulus*), Southern Clubshell (*Pleurobema decisum*), Dark Pigtoe *(Pleurobema furvum*), Southern Pigtoe (*Pleurobema georgianum*), Ovate Clubshell (*Pleurobema perovatum*), Triangular Kidneyshell (*Ptychobranchus greenii*)) 5-year review. This review states that suitable habitats and water quality, free of excessive sedimentation and other pollutants, are required for Southern Pigtoe. The primary cause of curtailment of range and fragmentation of habitat for mussel species has been contributed to the historic construction of dams and impoundment of large reaches of major river channels (Federal Register 58 FR 14330). Although most of these actions took place in the past, the impacted conditions and habitat continue to affect the species. In recent years, some improvements have been made to improve riverine conditions. For example, flow improvements have been made below Weiss Dam on the Coosa River that benefit existing populations of Southern Clubshell. Watershed-specific threats continue to negatively impact the species. These threats include: 1) coal mining activities 2) oil and gas exploration 3) water withdrawal 4) hypolimnetic discharges 5) poor water quality due to insufficient releases from dams 6) instream aggregate mining 7) navigation channel maintenance activities (8) agricultural practices that degrade water quality by increasing nutrients, herbicide/surfactant compounds, and hormones in surface waters; (9) hydropeaking dams that alter downstream flow conditions, water temperatures, and dissolved oxygen (10) increasing urban development that degrades water quality and stream geomorphology; and (11) climate change, which is expected to result in more frequent and extreme dry and wet years in the Southeast over the next century.

- On page 17, 3.13 Slabside Pearlymussel section of the Threatened and Endangered Species Desktop Assessment, include that in 2013, USFWS designated critical habitat for the species (Federal Register 78:59555-59620). A statement similar to the Rabbitsfoot section could be included for consistency.

- On page 25, Discussion and Conclusions: section of the Threatened and Endangered Species Desktop Assessment, include a caveat statement or footnote reiterating that this is a desktop assessment and that to be certain of species occurrence, surveys should be conducted by qualified biologists to determine if a sensitive species occurs within a project area. Species not listed for a specific area does not imply that they do not occur there, only that their occurrence there is as yet unrecorded by state or federal agencies. This assessment is currently under review and reflects only our current understanding of species distributions.

- On page 25, Discussion and Conclusions: section of the Threatened and Endangered Species Desktop Assessment, change "…extant populations of 20 federal and state protected T&E species (Appendix B)." to "….extant populations of 20 federally T&E species of which 16 are state protected (Appendix B)."

- Appendix B Species Habitat Range Maps of the Threatened and Endangered Species Desktop Assessment, all figures with "extant population" shown. change to "Recent Documented Occurrence". In addition, make sure "Current Range" and "Documented Historic Range" terminology is defined in the assessment. As is, all Figure Titles in Appendix B should have "Current" inserted before Habitat Range and after the Species name.

- Figure 3.12-1 Appendix B of the Threatened and Endangered Species Desktop Assessment, Southern Pigtoe does not occur in the Tennessee River system. It does not have critical habitat in the Paint Rock River system. This map appears to be inaccurate and should be deleted.

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- Figure 3.13-1 Appendix B of the Threatened and Endangered Species Desktop Assessment, The Paint Rock River has designated critical habitat for this species. See Federal Register 78:59555-59620 for critical habitat details that should be included.

Cultural Resources Programmatic Agreement and Historic Properties, Management Plan Study

- ADCNR has no comments or recommendations at this time.

Area of Potential Effects (APE)

- ADCNR has no comments or recommendations at this time.

Harris Relicensing Initial Study Report Meeting April 28, 2020

- Recreational Evaluation Study discussion. Recreation use data was collected at recreational facilities from March to December 2019, however questionnaires were only filled out from May to December 2019. The Questionnaires missed an active time for anglers. ADCNR is concerned that recreational anglers may not be adequately represented in this data. ADCNR would like to make sure that anglers are adequately represented in the survey since it asks specific questions about specific facilities.

- Downstream Release Alternatives Study discussion. A fourth alternative is proposed in the study plan. It was to be a Modified Green Plan. Aquatic Resources Study is required to evaluate and design the alternative to be studied as stated in the footnotes.

- Erosion and Sedimentation Study discussion. ADCNR recommends including the APC response statement "Most of the erosion issues downstream are not due exclusively to operations. For example, areas where trees and vegetation are being cleared are not due exclusively to operations, but water fluctuations could exacerbate erosion." into the discussion section of the study.

- Threatened and Endangered Species Desktop Assessment discussion. APC stated that "No listed species have been documented in the Tallapoosa River below the Harris Dam." Should be changed to "No listed species have recently been documented in the Tallapoosa River between Harris Dam and Lake Martin." The Documented Historic Range for Finelined Pocketbook includes the Tallapoosa River.

Thank you for the opportunity to comment on the R.L. Harris Hydroelectric Project relicensing filed Harris Project Initial Study Report (ISR). We look forward to continuing our cooperative efforts with the Federal Energy Regulatory Commission, Alabama Power, and other stakeholders during this process.

If you have any questions regarding these comments, please contact me at (334-353-7484) or Todd.Fobian@dcnr.alabama.gov.

Sincerely,

Todd Fobian

Environmental Affairs Supervisor

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Bham Now

Here are Alabama’s next 10 natural wonders and how you can help protect them

Sponsored

White-topped pitcher plants and Forever Wild's Splinter Hill Bog. Photo by Billy Pope.

Twenty-three years ago, the Alabama Environmental Council (AEC) ushered in one of the greatest periods of conservation in Alabama history. What did designating 10 Natural Wonders across the state achieve? Take a look.

Cahaba lilies at Cahaba River Park in Shelby County. Photo by Jim Schmalz for Bham Now

Shortly after shining a spotlight on Natural Wonders like the Cahaba River, Talladega Mountains, Little River Canyon, Monte Sano Mountain and the Mobile-Tensaw Delta, legislators, conservation officials and conservationists racked up an impressive list of accomplishments in those special places.

They included:

- Establishment of the Dugger Mountain Wilderness by Congress
- Establishment of the Mountain Longleaf National Wildlife Refuge and Cahaba River National Wildlife Refuge by Congress
- The state's largest conservation land acquisition, located in the Mobile-Tensaw Delta—fueled by the recently enacted Forever Wild Program
- Expansion of Monte Sano State Park, Historic Blakeley State Historical Park and Old Cahawba

- Creation of nature preserves such as the Sipsey River Swamp and much more

2020 Natural Wonders List

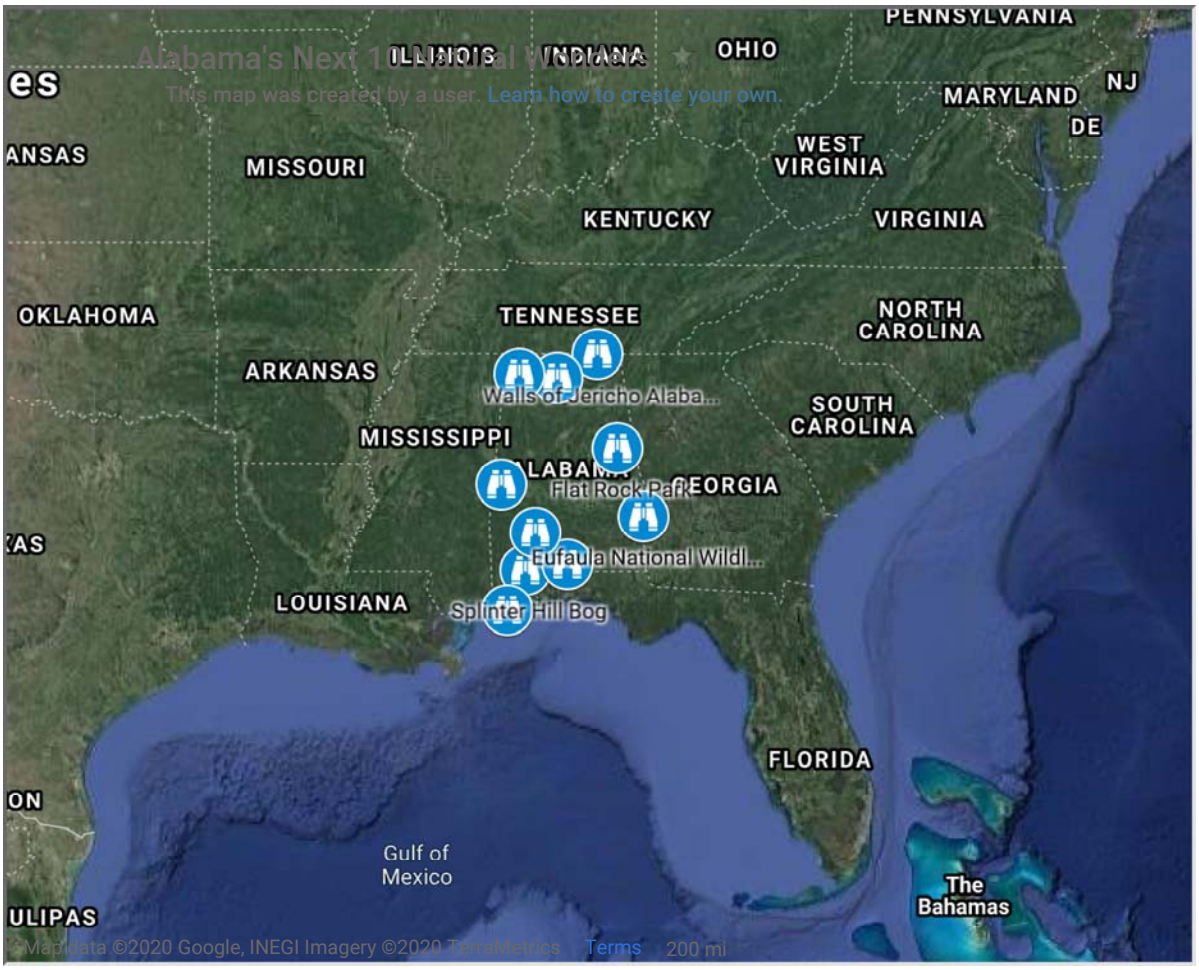
Bankhead National Forest. Photo by Robert Austin Wiley. Photo courtesy of Alabama Department of Conservation and Natural Resources

Can we repeat history? We think so.

In this, our third and final installment about Alabama's Natural Wonders, we asked Ken Wills, the AEC staffer who helped create the original 1997 list, to provide us with a list of 10 new Natural Wonders for 2020.

Along with his list, we have included "friends" groups and organizations dedicated to protecting and preserving these special places to help you get involved now.

Here is a map that notes locations of the Natural Wonders you can join us on our journey.



Wheeler National Wildlife Refuge—Winter Home to one of the Rarest Birds in the World

Photo by Keith Bozeman, Kayak at sunset at Wheeler National Wildlife Refuge near Decatur, Alabama. Courtesy of the Alabama Department of Natural Resources and Conservation

> *"Wheeler is the flagship National Wildlife Refuge in Alabama and it is the oldest," according to Ken Wills, co-author of the book Exploring Wild Alabama: A Guide to the State's Publicly Accessible Natural Areas. "It was a New Deal experiment to see if wildlife would use a manmade reservoir."*

Sandhill crane at the Wheeler National Wildlife Refuge, photo by David Frings, December 9, 2017

The area is home to almost every kind of duck imaginable, each year the ducks are joined in the winter by 10,000-15,000 sandhill cranes. Recently, the refuge's biggest celebrity has been the whooping crane, one of the rarest birds in the world. How rare? There are only a little over 400 whooping cranes in the wild. About 100 of the "whoopers" winter East of the Mississippi River. Out of that number, 25 more or less annually reside at Wheeler during the winter—that makes Wheeler key to the whooping crane's survival.

Advocates on behalf of the Wheeler National Wildlife Refuge: Friends of Wheeler National Wildlife Refuge & International Crane Foundation.

Cane Creek Canyon Nature Preserve—A Family Shares their Garden of Eden

Located just outside the city of Tuscumbia in Colbert County, Cane Creek Canyon Nature Preserve is a 700-acre private nature preserve that was opened in 1986 and is owned by Jim and Faye Lacefield. For anyone who has ever visited the place, it truly is Alabama's Garden of Eden.

> "This is a really special place," said Wills, who has known the Lacefields since his days at the University of Alabama. "The Lacefields have a real public recreation and conservation mindset. They have opened the property up to the public, created a series of trails and nice bridges. There are rare plants everywhere including French's 'Shooting stars.' He has even got some native cane stands."

If Jim Lacefield's name sounds familiar, he has written one of the most popular books about geology in the state, titled Lost Worlds in Alabama's Rocks. A must-read.

Granted official status as a nature preserve through a conservation easement with The Nature Conservancy of Alabama, Cane Creek Canyon is:

- Open to the public year-round Friday – Sunday and holidays (other days by appointment) 7 AM until 5 PM.
- There is no charge for hiking and other outdoor educational and recreational activities.

A**dvocates on behalf of Cane Creek Nature Preserve**: Friends of Cane Creek Canyon Nature Preserve and of course the Nature Conservancy in Alabama.

Walls of Jericho and the Paint Rock Forest—A Mythical Place

Walls of Jericho waterfall. Photo by ADCNR/Hannah Sumner

Wills listed the Walls of Jericho and the Skyline Mountains/Paint Rock watershed as his third natural wonder in North Alabama.

> "The walls are a mythical place," *described Wills.* "Forever Wild bought it several years ago, and if you take the trail down into it you better be prepared."

The trail to the walls is **rated difficult** by AllTrails.com. As many of the commenters say on their website, enjoy the steep hike down (even though it can be tricky), because traveling back you face a 1699-foot elevation gain.

Wills called the Walls a "big bowl with sinkholes." He said one of the highlights is to see the place after it rains, when "water goes shooting out the walls."

Walls of Jericho. Photo courtesy of the Nature Conservancy in Alabama.

Along with the Walls, the Skyline Mountains and Paint Rock watershed are natural wonders all to themselves. Bill Finch, Executive Director of the Paint Rock Forest Research Center said in an interview with Bham Now in October 2017, "the Paint Rock Forest is the center of deciduous forest diversity in North America and that it is probably one of the richest forests in the world."

Advocates on behalf of Walls of Jericho and the Paint Rock Forest: The Nature Conservancy in Alabama, Paint Rock Forest Research Center, Forever Wild Program

Livingston Lake "Lake LU" at University of West Alabama—Genuine Black Belt Prairie

Livingston Lake, which is also called Lake LU, on the campus of the University of West Alabama. Photo from Alabama Birding Trails Facebook page

Once one of the richest soils in North America if not on planet earth, over 350,000 acres of Back Belt prairie stretches from Alabama to Mississippi. Today, less than 1 percent of the prairies have survived.

> *"If you want to go show your family what a Black Belt Prairie looks like, go to the University of West Alabama, and there is an area called the Livingston Lake." directed Wills. "They have taken old*

> *hay fields and restored them to Black Belt Prairie. It is not a huge natural wonder but it is significant."*

Unbeknownst to most Alabamians, much of our state was prairie at the time of statehood. Lost to over-cultivation and cotton fields, there is a movement afoot to bring back Alabama's original landscape.

Advocates on behalf of Lake LU: Southeastern Grasslands Initiative, University of West Alabama

Flat Rock Park—From Rough Hangout to Park

Thanks to Alabama Power, Flat Rock in Randolph County, formerly a rough local "hangout" has been turned into a park. Located near Lake Harris, a few years ago the Alabama Glade Conservation Coalition sponsored a bioblitz in the backcountry

area of the park. It was there, they surveyed some of the last remaining pristine isolated granite outcrops in Alabama.

The coalition, for which Ken Wills is one of the founding members, aims to work cooperatively with Alabama Power to conserve this rare place. Their goal: conserve the first granite outcrop plant community habitat in Alabama.

Advocates on behalf of Flat Rock Park: Birmingham Botanical Gardens, Alabama Glade Conservation Coalition and Alabama Power

Splinter Hill Bog—Just Right Off I-65

Pitcher plant at The Nature Conservancy's Splinter Hill Bog, photo courtesy of The Nature Conservancy in Alabama

Want to see one of the most biodiverse places in Alabama, where plants eat bugs?

Wills tells you how to visit Splinter Hill Bog.

> *"If you are going to the Gulf Coast there are more places to stop than Peach Park, Priester's Pecans and Bates House of Turkey. One of the places to stop is one of the largest intact seepage bogs—pitchers plant bog in Alabama. Just three miles east off I-65 at the Raburn/Perdido exit, you can visit the Forever Wild land on one side and the Nature Conservancy land on the other side. You will see thousands of these carnivorous pitcher plants and sundews."*

How diverse is the place? Pull out that beach blanket you were going to use. For an area the size of the blanket there are 40-50 different kinds of species of plants and insects.

Advocates on behalf of Splinter Hill Bog: Forever Wild Program and The Nature Conservancy in Alabama

Conecuh National Forest—Home of the Gopher Tortoise

Hatchling Gopher Tortoise, photo by Mark Bailey

When you think of National Forests in Alabama, the Bankhead with Sipsey Wilderness and Talladega with Cheaha and Dugger Mountain Wildernesses tend to get all the publicity. Not any more, according to Wills. People are discovering the importance of the Conecuh National Forest.

> *"When you talk about Covington County, which the Wiregrass region is part of, that region was named after the flat plains of wiregrass and scattered pine, like a pine savannah. Some of the original cowboys in the south were in this region. It stayed that way until the advent of fertilizer after the civil war. They found the soils were easy to till, and started growing cotton. After the boll weevil, they grew peanuts. Due to cultivation and fire suppression, wiregrass is basically extinct in the wiregrass region."*

Fortunately, one of the few places you can find wiregrass today is in and around the Conecuh National Forest and Geneva State Forest. It's one of the last strongholds. The forest also provides great habitat for the declining threatened gopher tortoise. It is the only place you can find known gopher frogs in the state. And just recently, biologists have been reintroducing the endangered indigo snake.

Advocates on behalf of the Conecuh National Forest: Friends of Conecuh National Forests

Red Hills of Alabama—Like being in a hardwood forest in the Appalachians

The Red Hills Salamander (Phaeognathus hubrichti) is listed as the IUCN as an endangered species but the United States only listed them as a threatened species. They are only found in the Red Hills of Alabama.
📷 John P. Clare
learn more at https://buff.ly/2VhtleY

2 Comment Share

Pop quiz! What is the state salamander of Alabama?

Answer: The Red Hill Salamander

Despite its location on the Coastal Plain, the Red Hills of Alabama have big deep ravines and hardwood forests that make you feel like you are in the Appalachians.

For years, this unique landscape which is primarily in Monroe County, has been unprotected until this year when the Forever Wild Program purchased over 4300+ acres of Red Hills habitat for recreation and yes a home for our state salamander. Forest-wise, like Paint Rock in the northern part of the state, this forest is an undiscovered biological hotspot that we are beginning to understand.

> *"If you are a first-time visitor, the easiest parcel of public land to go see this type of habitat is at Haines Island Park. It is a Corps of Engineers park on the Alabama River," added Wills.*

Advocates on behalf of the Red Hills: Alabama Birding Trails

Eufaula National Wildlife Refuge—Ducks and Alligators

Wow! Lots of other wading birds and critters taking advantage of declining water elevations in our impoundments too. (Photo credit: Kessler)

14 Comment 4

Years ago, on my first visit to the city of Eufaula, I saw a young man wearing a t-shirt that said,

> *"Support your local hookers."*

Of course, they meant the local sport fishing businesses.

Eufaula National Wildlife Refuge is like the Wheeler Refuge in South Alabama," Wills said. "What's kinda neat is in the uplands in the refuge. They are taking old pine plantations and thinning them out. They are trying to create a pine savanna. The area was renowned as 'quail country' in Alabama. Now, they don't have much of that land on the public lands, so they are trying to restore that too."

The entire region is an outdoor recreation paradise. In addition to the National Wildlife Refuge there is Lakepoint State Park, Forever Wild's Wehle tract and the Barbour Wildlife Management Area.

Lots of birds, fish and yes, alligators! They do like to hang out in the sun in the summer, according to Wills.

Advocates on behalf of Eufaula National Wildlife Refuge: Ducks Unlimited, Friends of Eufaula National Wildlife Refuge

Dauphin Island—Finding Sanctuary for Birds

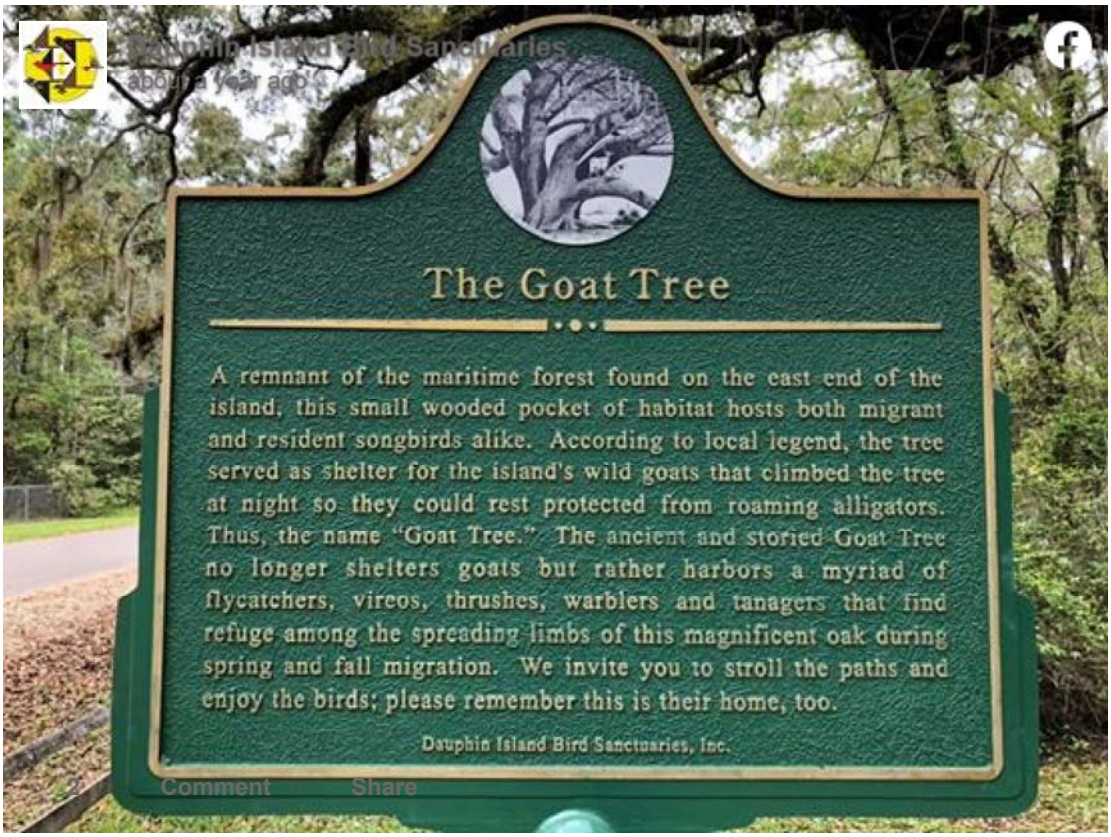
Indigo Bunting at Dauphin Island. Photo by Alabama Audubon

The last natural wonder Ken Wills added to his list was Dauphin Island.

> "Everybody thinks about Dauphin Island developing back in the 1950s, but that is part of its charm—it didn't become part of the condo coast. It is an extremely significant region for birds for several reasons."

According to Wills, when songbirds fly across the Gulf of Mexico from the Yucatan, they need a place to land. They need that coastal forest.

> *"Even vacant lots on Dauphin Island have value to those birds."*



In fact, Dauphin Island has been officially recognized as a *Globally Important Bird Area* by the National Audubon Society. Over 350 species of birds have been recorded on the Island.

Locally the "go-to" group is Dauphin Island Bird Sanctuaries. In a nutshell, the organization works with partners to protect bird habitat on the island. The Dauphin Island Bird Sanctuaries is the key to their survival.

Advocates on behalf of Dauphin Island: Dauphin Island Bird Sanctuaries, Alabama Audubon, Alabama Ornithological Society

2020 is the Year of Natural Wonders

Little River Canyon. Photo by Mary Jo Schmalz

This past April 22nd the Alabama Tourism Department declared 2020 the Year of Alabama Natural Wonders.

Are your favorite natural wonders on the 1997 Alabama Environmental Council, Ken Wills or Tourism's list? Let us know your special places in Alabama.

Visit Alabama's Natural Wonders and get involved. Let's usher in another "greatest era" in Alabama conservation history.

Sponsored by:

EBSCO Industries, Inc.

Pat Byington

Longtime conservationist. Former Executive Director at the Alabama Environmental Council and Wild South. Publisher of the Bama Environmental News for more than 18 years. Career highlights include playing an active role in the creation of Alabama's Forever Wild program, Little River Canyon National Preserve, Dugger Mountain Wilderness, preservation of special places throughout the East through the Wilderness Society and the strengthening (making more stringent) the state of Alabama's cancer risk and mercury standards.

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Get an inside look at Alabama's 10 Natural Wonders 23 years later

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Pat Byington / June 15, 2020

APC Harris Relicensing

From: APC Harris Relicensing
Sent: Wednesday, June 17, 2020 10:09 AM
To: Ken Wills
Cc: Mills, Tina L.; Smith, Sheila C.
Subject: RE: Support for Botanical Area Designation of Flat Rock Backcountry Within Harris Relicensing Project

Hi Ken,

Thank you for sending us your thoughts on the botanical area land use classification and for your continued participation in the relicensing process. We will be consulting with stakeholders over the course of the next year to finalize our land use proposal.

Thanks,

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

From: Ken Wills <memontei@aol.com>
Sent: Wednesday, June 10, 2020 9:27 PM
To: APC Harris Relicensing <g2apchr@southernco.com>
Subject: Support for Botanical Area Designation of Flat Rock Backcountry Within Harris Relicensing Project

Hello all,

On behalf of the Alabama Glade Conservation Coalition, I want to thank Alabama Power for all their cooperation in working with us to protect the special botanical resources in and around the backcountry granite outcrop habitat at Flat Rock Park. The initial results of the commissioned botanical surveys show that the pristine backcountry outcrops and surrounding backcountry habitats have rare species found in few other places within Alabama and are indeed worthy of the protection afforded by the proposed land use change from Recreation to Natural Undeveloped. In relation and as follow-up on a recent discussion in a HAT meeting, we highly endorse the idea of giving this area its on special Botanical Area designation in the land use plan for the Harris Relicensing Project.

Such a Botanical Area designation should have the same protections afforded lands under the Natural Undeveloped classification as well as additional protections tailored to protecting the special and sensitive botanical resources of this area. Botanical Area classification should emphasize protection of the area from motorized vehicle disturbance (for which Alabama Power has recently made great progress), removal of exotic species such as Chinese Privet (which volunteers from groups like the Glade Coalition could help with), and possibly the reintroduction of fire through controlled burns (which other conservation organizations could possibly help with). The botanists and others involved in the Alabama Glade Conservation Coalition would be happy to help draft specifications for a Botanical Area land use classification as well as a specific management plan for the backcountry area at Flat Rock Park.

Thanks again for all your cooperation in protecting the special backcountry granite outcrop and surrounding habitats at Flat Rock Park. Let us know how we can be of futher assistance in this process.

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

ALABAMA NEWSCENTER
GOOD NEWS FROM HOME

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Flat Rock Park a ‘natural wonder’ for recreation and biological diversity

By Michael Sznajderman

June 23, 2020

Elf orpine is one of the rare and colorful plants growing at Flat Rock Park in Randolph County. (Katie Horton)

Alabama is blessed with many places of natural beauty and biological importance. That is the basis for 2020 being designated as the “Year of Natural Wonders” (https://tourism.alabama.gov/2020/04/explore-alabamas-amazing-natural-wonders/) by the Alabama Tourism Department.

State officials have compiled their list of “20 for 2020” (https://alabama.travel/experience-alabama/outdoor/natural-wonders) natural wonders to explore. The designation has also spurred conversations about other unique places in the state where biological diversity is thriving.

One of those places is Flat Rock Park (https://toureastalabama.com/attraction/flat-rock-park/) in Randolph County, which was recently included in a list of the “Next 10 natural wonders” (https://bhamnow.com/2020/06/15/alabama-natural-wonders-2020/) in Alabama.

“Just to see that habitat – it is absolutely amazing,” said Dan Spaulding, senior curator at the Anniston Museum of Natural History (https://www.exploreamag.org/) and a co-author of a recent inventory of plant life found at or near Flat Rock Park.

Operated and managed by Alabama Power (https://apcshorelines.com/recreation/parks/), Flat Rock is a 25-acre day-use park that sits on a shelf of granite overlooking the company's Lake Harris (https://apcshorelines.com/our-lakes/harris/), also known as Lake Wedowee. Part of the granite shelf, or outcrop, extends 20 acres beyond the recreation area and hosts a remarkable variety of plants.

(https://i2.wp.com/alabama
content/uploads/2020/06/F
Katie-Horton.jpg?ssl=1)

(https://i0.wp.com/alabamanewscenter.com/content/uploads/2020/06/Flat-Rock-bloom-by-Katie-Horton.jpg?ssl=1)

Tom Diggs, a botanist at the University of North Georgia (https://ung.edu/), led the survey team that included Spaulding and Katie Horton, a Ph.D. student at the University of Missouri (https://missouri.edu/). They spent months identifying the plant life on and near Flat Rock. In a report issued in February, the team tallied 365 plant species growing at the site during the course of the 2019 growing season. Among them were 67 species never recorded in the county before. The spotted scorpion weed in Alabama grows only on rock outcrops in Randolph County.

Granite outcrops are rare and present a unique habitat for plants that are tough enough to exist in harsh conditions, especially during the heat of summer.

“They look like a moonscape,” Spaulding said.

And yet, during the hottest times of the year, granite outcrops can explode in colorful flora, Diggs said. “Late winter, early spring you have these incredible plants that come out of these vernal pools.”

Vernal pools are small, eroded depressions that fill up with clear, nutrient-poor water that collects off the rock shelf during rains.

One of the more showy and rare plants at Flat Rock is the elf orpine, which – if conditions are ripe – will bloom in a burst of red with tiny white blooms, Diggs said.

In summer, the granite outcrop can explode with thousands of knee-high stone mountain daisies and longleaf sunflowers, along with purple, small-head blazing star.

“These flat rock outcrops, large numbers of species are associated with them and them only,” Diggs said.

(https://i2.wp.com/alabamanewscenter
content/uploads/2020/06/Flat-Rock-
landscape-2-by-Katie-Horton.jpg?ssl=1)

In the report, surveyors documented 10 “species of conservation concern” found at Flat Rock that face some, or even serious, risk of extinction because of their rarity, their restricted range or because their populations have seen steep declines. Among them are the spotted scorpion weed, Harper’s dodder and granite flatsedge.

The survey listed a number of invasive plants, such as Japanese privet, yellow bristlegrass and sheep sorrell, that have made their way into the ecosystem.

Jeff Baker, a biologist at Alabama Power, said the company is working with the survey team, the Alabama Glades Conservation Coalition and others to help preserve the habitat, which is adjacent to but distinct from Flat Rock Park’s popular recreation area. He said the company has taken steps to protect the area from vehicular traffic while still allowing pedestrian access for those who want to enjoy its scenic beauty and botanical bounty.

“Alabama Power has been very responsive,” Diggs said.

Baker said, “This is a unique opportunity to work with others to protect the outcrop and help manage the unique and rare plant community so that people can enjoy it for years to come.” And with Pollinator Week **(https://www.pollinator.org/pollinator-week)** 2020 underway, Baker noted, “Many of the flowering plants found at the outcrop are an important food source for many pollinators as well. Pollinators benefit from conservation of natural areas like this.”

Spaulding said the diversity of plant species at Flat Rock isn't the only reason protecting the granite outcrop habitat is important.

"There's a lot of reasons you want to preserve the diversity. It's an interwoven web – a delicate balance in nature. We don't know, if you remove species, what will happen and topple.

"It's not only the diversity. It's beneficial to humankind – for its educational value, and for its psychological and aesthetic value," Spaulding said. "It is just beautiful."

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Alabama Power

600 North 18th Street
Hydro Services 16N-8180
Birmingham, AL 35203
205 257 2251 tel
arsegars@southernco.com

July 10, 2020

VIA ELECTRONIC FILING

Project No. 2628-065
R.L. Harris Hydroelectric Project
Response to Initial Study Report (ISR) Disputes or Requests for Modifications of Study Plan

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 April 10, 2020, Alabama Power filed the Initial Study Report (ISR) along with six Draft Study Reports and two cultural resources documents. Alabama Power held the ISR Meeting with stakeholders and FERC on April 28, 2020. On May 12, 2020, Alabama Power filed the ISR Meeting Summary. Comments on the ISR, draft reports, and ISR Meeting Summary were due on June 11, 2020.

On June 10, 2020, FERC staff provided comments on the ISR and the ISR Meeting Summary.[1] FERC requested that Alabama Power respond to specific comments by July 11, 2020. Attachment A of this filing includes Alabama Power's responses to those questions for which FERC requested a July 11 response.

Stakeholders and FERC provided three Additional Study Requests and two study modifications as part of comments on the ISR and ISR Meeting Summary. Two of the requested studies do not meet the criteria outlined in FERC's regulations at 18 C.F.R. § 5.9(b) and 5.15 and/or address pre-project conditions. Although, the other study request meets FERC's criteria, Alabama Power is not incorporating the study request into the relicensing process for the Harris Project. The complete response to these study requests is in Attachment B.

FERC staff, Alabama Rivers Alliance (ARA)[2], and the U.S. Environmental Protection Agency (EPA)[3] also requested the inclusion of additional downstream flow release alternatives as modifications to Alabama

[1] Accession No. 20200610-3059.

[2] Accession No. 20200611-5114.

[3] Accession Nos. 20200612-5025 and 20200612-5079.

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Power's existing Downstream Release Alternatives Study. Alabama Power's response to the recommended modifications is also provided in Attachment B.

Within preliminary comments on the Draft Water Quality Study Report as well as during the ISR Meeting and within comments on the ISR and ISR Meeting Summary, multiple stakeholders requested that Alabama Power continue monitoring water quality downstream of Harris Dam in 2020 and 2021. To collect dissolved oxygen and water temperature data in 2020, Alabama Power installed the continuous monitor on May 4, following the ISR meeting. The generation monitor was installed on June 1 to align with the monitoring season start date in the Water Quality Study Plan. Alabama Power also agrees to 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.

The EPA recommended inclusion of water quality monitoring data with the Water Quality report. Alabama Power notes that the Draft Water Quality Study Report contains an appendix with the 2017 – 2019 water quality monitoring data, and the Final Water Quality Study Report will contain a similar appendix with the complete set of water quality monitoring data (including 2020). Any data collected in 2021 and after the Final Water Quality Study Report is provided will be included within the Final Licensing Proposal.

Alabama Power reviewed FERC and stakeholder comments on the ISR and Draft Study Reports and will address all other comments in any Final Study Reports (filed in 2020 and 2021), the Updated Study Report (USR) (due April 10, 2021), or the Preliminary Licensing Proposal (PLP) (due on or before July 3, 2021).

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 A: Alabama Power's Response to FERC's June 10, 2020 Staff Comments on the Initial Study Report and Initial Study Report Meeting Summary for the R.L. Harris Hydroelectric Project
Attachment B: Alabama Power's Response to Study Modifications and Additional Study Requests Following the May 12, 2020 Initial Study Report and Initial Study Report Meeting Summary for the R.L. Harris Hydroelectric Project

cc: Harris Stakeholder List

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Attachment A

Alabama Power's Response to FERC's June 10, 2020 Staff Comments on the Initial Study Report and Initial Study Report Meeting Summary for the R.L. Harris Hydroelectric Project

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FERC questions are presented in italic text and the specific information requested is highlighted in yellow; Alabama Power's response follows.

Draft Downstream Release Alternatives (Phase 1) Study Report

Question #2: During the ISR Meeting, Alabama Power requested that stakeholders provide downstream flow alternatives for evaluation in the models developed during Phase 1 of the Downstream Release Alternatives Study. Stakeholders expressed concerns about their ability to propose flow alternatives without having the draft reports for the Aquatic Resources and Downstream Aquatic Habitat Studies, which are scheduled to be available in July 2020 and June 2020, respectively. It is our understanding that during Phase 2 of this study, Alabama Power would run stakeholder-proposed flow alternatives that may be provided with ISR comments, as well as additional flow alternatives that stakeholders may propose after the results for the Aquatic Resources and Downstream Aquatic Habitat Studies are available. Please clarify your intent by July 11, 2020, as part of your response to stakeholder comments on the ISR.

Alabama Power Response:

Alabama Power's response to evaluating additional flow alternatives is discussed in Attachment B.

Regarding the Aquatic Resources and Downstream Aquatic Habitat Studies, it is Alabama Power's intent to provide stakeholders 30 days to review, provide comments, and recommend any additional flow analyses based on the information in the draft reports. It is also Alabama Power's intent to meet with the Harris Action Teams (HATs) between Fall 2020 and Spring 2021 to present preliminary results, including the bioenergetics modeling, and obtain stakeholder input on additional analyses.

Question #5: Page 14 of the Draft Downstream Release Alternatives (Phase 1) Study Report includes a description of the HEC-ResSim model that was developed for the project. Harris Dam was modeled in HEC-ResSim with both a minimum release requirement and maximum constraint at the downstream gage at Wadley. The draft report states that the minimum release requirement is based on the flow at the upstream Heflin gage, which is located on the Tallapoosa River arm of Harris Reservoir and has 68 years of discharge records. Page 5 of the draft report indicates that there is also a gage (Newell) on the Little Tallapoosa River Arm of the reservoir, which has 45 years of discharge records. It appears that only the Heflin gage was used in developing the minimum release requirement. As part of your response to stakeholder comments on the ISR, please explain the rationale for basing the minimum releases in the HEC-ResSim model only on the flows at the Heflin gage and not also on the flows at the Newell gage.

Alabama Power Response:

The HEC-ResSim model bases the releases on the Green Plan, which specifies the use of the Heflin gage. During development of the Green Plan, the Heflin gage was considered the gage that best mimicked the unregulated, natural flow of the Tallapoosa River. Based on available information from stakeholder meetings in early 2000, the Newell gage was not considered. Stakeholders involved in the Green Plan development process did acknowledge that the Heflin gage excluded the flow from Little Tallapoosa River.

Below is a brief summary of the recorded stakeholder discussions that reference the use of the Heflin gage.

- 5/21/2003 Stakeholder Meeting: Stan Cook (Alabama Department of Conservation and Natural Resources (ADCNR)) stated that the Heflin gage is being used to mimic natural events and that the “Big” Tallapoosa River better reflects a larger scale drainage.
- 8/4/2003 Stakeholder Meeting: Elise Irwin presents findings on the models indicate that the Heflin gage is a promising location.
- 11/3/2003 Stakeholder Meeting: Alabama Rivers Alliance (ARA) stated they wanted Alabama Power to evaluate use of a house turbine that would provide capabilities to duplicate the Heflin gage flows. During this meeting, it was mentioned that the Heflin gage does not include flows from the Little Tallapoosa River, and no one stated opposition to use of the Heflin gage.
- 1/1/2006 Stakeholder Meeting: Stakeholders commented that mimicking Heflin flows would allow for some natural variability of flow in the regulated part of the river.

Draft Erosion and Sedimentation Study Report

Question #7: The Erosion and Sedimentation Study in the approved study plan states that Alabama Power would analyze its existing lake photography and Light Detection and Ranging (LIDAR) data using a geographic information system (GIS) to identify elevation or contour changes around the reservoir from historic conditions and quantify changes in lake surface area to estimate sedimentation rates and volumes within the reservoir. In addition, the approved study plan states that Alabama Power will verify and survey sedimentation areas for nuisance aquatic vegetation. According to the study schedule, Alabama Power will prepare the GIS overlay and maps from June through July 2019 and conduct field verification from fall 2019 through winter 2020.

The Draft Erosion and Sedimentation Study Report does not include a comparison of reservoir contour changes from past conditions or the results of nuisance aquatic vegetation surveys. The report states that limited aerial imagery of the lake during winter draw down and historic LIDAR data for the reservoir did not allow for comparison to historic conditions and that Alabama Power will conduct nuisance aquatic vegetation surveys during the 2020 growing season. It is unclear why the existing aerial imagery and Alabama Power's LIDAR data did not allow for comparison with past conditions or why the nuisance aquatic vegetation surveys will be conducted during the 2020 growing season instead of during the approved field verifications from fall 2019 to winter 2020. As part of your response to stakeholder comments on the ISR, please clarify what existing aerial imagery and LIDAR data was used and why it was not suitable for comparison with past conditions.

Alabama Power Response:

Alabama Power has 2007 and 2015 Light Detection and Ranging (LiDAR) data for Lake Harris that it will use to develop a comparison for the Final Erosion and Sedimentation Study Report.

Ms. Donna Matthews proposed a new study of the Tallapoosa River downstream of Harris Dam to use historic images overlaid on current imagery to evaluate changes in the Tallapoosa River.[1] Alabama Power's response to this study request is addressed in Attachment B; however, Ms. Matthews noted in the ISR Meeting that she would share various images of the Tallapoosa River pre-Harris Dam and after construction. Alabama Power intends to facilitate obtaining copies of these images to provide to FERC for its use in addressing cumulative effects, as noted in FERC's November 16, 2018 Scoping Document 2.[2]

Regarding the nuisance aquatic vegetation component of the Erosion and Sedimentation study, the growing season is late spring into summer, which did not correspond with the fall 2019 to winter 2020 in the FERC-approved study plan schedule. Therefore, Alabama Power plans to conduct the nuisance aquatic vegetation survey in summer 2020. These results will be provided to HAT 2 participants as a technical memo to supplement the Draft Erosion and Sedimentation Study Report.

[1] Accession No. 20200612-5018.

[2] Accession No. 20181116-3065.

Question #9: (comment provided below includes only the information requested by FERC) As part of your response to stakeholder comments on the ISR, please provide:

1) the maps and assessment of the availability of potentially suitable habitat within the project boundary for all of the T&E species on the official species list for the project;
2) documentation of consultation with FWS regarding the species-specific criteria for determining which T&E species on the official species list will be surveyed in the field;
3) a complete list of T&E species that will be surveyed during the 2nd study season as part of the T&E Species Study; and
4) confirmation that Alabama Power will complete the field verification scheduled by September 2020.

Alabama Power Response:

1) The maps and assessment of the availability of potentially suitable habitat within the Harris Project Boundary were included in the draft Threatened and Endangered Species Desktop Assessment Report and were prepared based on available sources of information. Any maps and assessments of habitat suitability that could not be resolved in the desktop assessment will be included in the Final Threatened and Endangered Species Study Report. Alabama Power is actively consulting with U.S. Fish and Wildlife Service (USFWS) regarding Threatened and Endangered Species (T&E species) where existing information is insufficient to determine their presence/absence and habitat suitability. Alabama Power plans to continue to work with USFWS and the Alabama Natural Heritage Program (ANHP) to resolve questions about the species and perform field surveys as deemed appropriate.

2) Alabama Power met with HAT 3 participants on August 27, 2019 to discuss species included in the Threatened and Endangered Species Study Plan. As a result of that meeting and based on recommendations from USFWS, Alabama Power conducted surveys for Finelined Pocketbook in the Tallapoosa River and Palezone Shiner in Little Coon Creek. Additional surveys for Finelined Pocketbook in tributaries to Lake Harris are ongoing and should be completed in Summer 2020. Alabama Power is consulting with the USFWS and ANHP to determine the need for additional surveys. If requested, Alabama Power may perform surveys for additional species and/or assessments to determine suitability of habitat that could not be resolved in the Threatened and Endangered Species Desktop Assessment. All consultation regarding this process will be included as an appendix to the Final Threatened and Endangered Species Study Report.

3) Alabama Power plans to conduct additional surveys for Finelined Pocketbook in Summer 2020. Based on ongoing consultation with USFWS and with input from ANHP, Alabama Power may perform surveys for Price's Potato Bean, White Fringeless Orchid, and Little Amphianthus (pool sprite) as well as assessments to determine if suitable habitat exists for Red-cockaded Woodpecker and Little Amphianthus.

4) Alabama Power plans to complete field verifications by September 2020.

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Question #10: To facilitate review of the existing shoreline land use classifications, please file larger scale maps of all the shoreline areas as a supplement to the Draft Project Lands Evaluation Report, as part of your response to stakeholder comments on the ISR. Please include land use classifications on the maps. In addition, if available, please file the GIS data layers of the existing and proposed shoreline land use classifications.

Alabama Power Response:

Included with this filing are the larger scale maps, including land classifications, and the GIS files of the existing and proposed shoreline land use classifications.

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Attachment B

Alabama Power's Response to Study Modifications and Additional Study Requests Following the May 12, 2020 Initial Study Report and Initial Study Report Meeting Summary for the R.L. Harris Hydroelectric Project

Alabama Power received two recommendations to modify the existing FERC-approved studies and three Additional Study Requests. Alabama Power's response to the study modifications and Additional Study Requests is discussed below.

A. Modifications to Existing Studies

1) FERC Question #3:[1] "To facilitate modelling of downstream flow release alternatives, we recommend that Alabama Power run base flows of 150 cfs, 350 cfs, 600 cfs, and 800 cfs through its model for each of the three release scenarios (i.e., the Pre-Green Plan, the Green Plan, and the modified Green Plan flow release approach). The low-end flow of 150 cfs was proposed by Alabama Power as equivalent to the daily volume of three 10-minute Green Plan pulses. This flow also is about 15 percent of the average annual flow at the United States Geological Survey's flow gage (#02414500) on the Tallapoosa River at Wadley, Alabama, and represents "poor" to "fair" habitat conditions. We recommend 800 cfs as the upper end of the base flow modeling range because it represents "good" to "excellent" habitat and is nearly equivalent to the U.S. Fish and Wildlife Service's Aquatic Base Flow guideline for the Tallapoosa River at the Wadley gage. The proposed base flows of 350 cfs and 600 cfs cover the range between 150 cfs and 800 cfs."

2) ARA's June 11, 2020 comments:[2] "While reserving the right to request other release alternatives be considered once more information is made available to stakeholders, ARA proposes the following study modification request pursuant to 18 C.F.R. § 5.15(d) for additional flow scenarios be analyzed as part of the Downstream Release Alternatives Study:

   (i) A variation of the existing Green Plan where the Daily Volume Release is 100% of the prior day's flow at the USGS Heflin stream gage, rather than the current 75%;

   (ii) A hybrid Green Plan that incorporates both a base minimum flow of 150 cfs and the pulsing laid out in the existing Green Plan release criteria;

   (iii) A constant but variable release that matches the flow at the USGS Wadley stream gage to the UGSG Heflin stream gage to mimic natural flow variability, and

   (iv) 300 cfs and 600 cfs minimum flows.

   Some of these flows, particularly items (iii) and (iv) may have been modeled internally by Licensee as part of the original adaptive management process; however, those models are not currently available as part of this relicensing. Studying a wider range of potential flows during the ILP could result in improved diversity and abundance of aquatic life and habitat, more recreation opportunities, decreased erosion and sedimentation, and gains in water quality."

[1] Accession No. 20200610-3059.

[2] Accession No. 20200611-5114.

3) In its June 11, 2020 comments[3], EPA "requests that the flow scenarios include the evaluation of an option including both the pulses of the Green Plan with a minimum flow, and a higher minimum flow.

Alabama Power's Response:

Based on FERC, ARA, and EPA's recommendation to modify the Downstream Release Alternatives study, Alabama Power will model the following additional downstream flow scenarios:

- A variation of the existing Green Plan where the Daily Volume Release is 100% of the prior day's flow at the USGS Heflin stream gage, rather than the current 75%;
- A hybrid Green Plan that incorporates both a base minimum flow of 150 cfs and the pulsing laid out in the existing Green Plan release criteria;
- 300 cfs continuous minimum flow;
- 600 cfs continuous minimum flow; and a
- 800 cfs continuous minimum flow.

These recommended flow release alternatives are in addition to Alabama Power's release alternatives in the FERC-approved Study Plan that include:

- Pre-Green Plan (peaking only; no pulsing or continuous minimum flow);
- Green Plan (existing condition);
- Modified Green Plan (changing the time of day in which the Green Plan pulses are released); and
- 150 cfs continuous minimum flow.

Alabama Power has not included ARA's recommended "constant but variable release that matches the flow at the USGS Wadley streamgage to the UGSG Heflin streamgage to mimic natural flow variability", as an alternative to model. This alternative would eliminate peaking operations, which would significantly reduce or eliminate use of the Harris Project for voltage support and system reliability, including black start operations. Alabama Power regards this alternative as a complete change in Project operations (from peaking to run-of-river) that is not consistent with Project purposes.[4]

Furthermore, the units are not capable of adjusting to the extent of simulating natural river flows. The flow through the Harris units varies only to the extent of changes in gross head (the difference between the forebay elevation and tailwater elevation) and the wicket gate opening. Small wicket gate openings lead to excessive pressure drops, which is the primary driver of cavitation[5] initiation. The best way to minimize cavitation and its associated detrimental vibrations is to quickly move the wickets gates from a closed position to the best gate setting. The best gate setting is a permanent setting on the governor system to ensure that the control system will force a fast movement of the wicket gates through the "rough zone" to the best gate position thereby minimizing the time spent in the rough zone. The rough zone is an area on the operating curve where flows that are less than efficient gate cause increased vibrations in the turbine

[3] Accession Nos. 20200612-5025 and 20200612-5079.

[4] For additional explanation, see Alabama Power's March 13, 2019 letter to FERC (Accession No. 20190313-5060).

[5] Cavitation is a phenomenon in which rapid changes of pressure in a liquid lead to the formation of small vapor-filled cavities in places where the pressure is relatively low.

and cavitation along the low-pressure surfaces of the turbine runner. For these reasons, this is not a viable alternative.

Alabama Power also declines FERC's recommendation to study all of the continuous minimum flows combined with the Pre-Green Plan, Green Plan, and Modified Green Plan. Alabama Power asserts that modeling one combination of a continuous minimum flow AND pulsing (the hybrid Green Plan listed above) is adequate to determine the effect of this downstream release alternative on Project operations and other resources. The eight alternatives Alabama Power will model will provide sufficient information to evaluate the resources of interest, determine any downstream release proposal, and determine protection, mitigation, and enhancement (PM&E) measures to be incorporated into the new license for the Project.

B. Proposed Additional Studies

1) ARA proposed a new study for "Battery Storage Feasibility Study to Retain Full Peaking Capabilities While Mitigating Hydropeaking Impacts".

Alabama Power's Response:

While ARA's additional study request appears to conform to FERC's regulations and criteria for additional study requests, Alabama Power respectfully declines to complete this study for the Harris Project relicensing. Our reasons are provided below:

a. ARA notes that there is a data gap around Project ramping rates. The Harris Project units are not capable of ramping; rather they were designed as peaking units to quickly react to electrical grid needs, and as such, the turbines were not designed to operate in a gradually loaded state—or restricted ramping rate—over an extended period of time. In fact, restricted ramping is avoided to prevent damage to hydroturbine machinery. When transitioning from spinning mode to generating mode, the wicket gates are opened over a period of approximately 45 seconds. One reason for this method of operating is so the turbine spends a minimal amount of time in the rough zone.

b. The goal of this study, as outlined by ARA, is to determine whether a battery energy storage system (BESS) could be economically integrated at Harris. This technology is very new and there is no established methodology for integrating BESS at hydropower facilities. The cost of a BESS system with restricted hydraulic ramping is concerning because the cost must include not only the battery but also the cost of replacing both turbine runners and determining the extent of the effect on the balance of plant. Each unit at Harris makes approximately 60 megawatts (MW) at efficient gate. For an example, a 60 MW/60-megawatt hour (MWhr), 1-hour duration, standalone battery including construction and installation, is estimated to cost $36M dollars.[6] This battery would need to be sized to produce up to 60 MW for one hour so that the full capacity of the turbine could be supplemented from battery power. The battery would need this capacity because ramping would essentially begin at zero MWs with a very small wicket gate opening and then gradually open over the period of one hour. A smaller MW battery would not be large enough to make up the lost MWs in a full ramping scenario. For example, if a 5 MW battery

[6] Fu, Remo and Margolis, "2018 U.S. Utility-Scale Photovoltaics-Plus-Energy Storage System Costs Benchmark", National Renewable Energy Laboratory, NREL/TP-6A20-71714.

were used, the unit would have to ramp very quickly, within 30 to 45 seconds, to an output of 55 MW. The 5 MW battery would then make up for the remaining power to reach the original power output of 60 MW. To be clear, a battery smaller than the unit's power at efficient gate does not allow for full ramping because the unit must quickly be brought up to a point where the unit's power plus the battery's power equals 60 MW.

The cost of $36M would be doubled to $72M since there are two units at Harris Dam and peaking requires the availability of both units. Additionally, this is a one-hour battery, so the unit(s) must be at efficient gate at one hour past the start of generation. If a longer ramping rate was desired, the battery would likely need to be even larger. The cost to upgrade the turbine runners in order to have a much wider operating range would also need to be considered. It is also important to note that it is undetermined, due to the site-specific conditions and the geometry of the water passages in the powerhouse, if a suitable turbine runner with a wide operating range can even be produced.

c. While information and access to battery storage technology is increasing, as ARA notes, integrating BESS at hydropower projects is a relatively new field with no established methodology. This is especially true for the size of BESS needed to replace the full megawatt capacity at Harris. Furthermore, full-scale redesign of the existing turbines is not being considered by Alabama Power during this relicensing.

For these reasons, Alabama Power declines this study proposal and contends that the downstream release alternatives study will provide information for Alabama Power and the stakeholders to effectively evaluate effects of downstream releases on Project resources (both on Lake Harris and in the Tallapoosa River below Harris Dam) and for Alabama Power to propose an operating scenario for the next license term.

2) Pre-and Post-Dam Analysis of Downstream Impacts, including flooding, erosion, and habitat changes to flora and fauna.

Alabama Power's Response:

Mr. Chuck Denman[7] proposed that Alabama Power conduct an additional study that analyzes pre-dam and post-dam impacts on flooding, erosion, plants, and fisheries. This study request did not meet FERC's criteria for an additional study; however, Alabama Power notes that many of the analyses requested by Mr. Denman are in fact occurring as part of the Harris relicensing. FERC does not require a licensee to evaluate pre-project conditions in a relicensing. In FERC's "*Guide to Understanding and Applying the Integrated Licensing Process Study Criteria*" (2012), FERC notes that where information is being sought solely to look at historic effects, FERC staff will not require an applicant to reconstruct pre-project conditions, because that is not the baseline from which the FERC conducts its environmental analysis. The FERC's choice of current environmental conditions as the baseline for environmental analysis in relicense cases was affirmed in American Rivers v. FERC, 187 F.3d 1007, amended and rehearing denied, 201 F.3d 1186 (9th Cir., 1999); Conservation Law Foundation v. FERC, 216 F.3d 41 (D. C. Cir. 2000).

[7] Accession No 20200611-5174.

Alabama Power has consistently communicated and explained that it will use the 100-year flood event to model effects from a change in Harris Project operations on downstream resources. Alabama Power has also completed an erosion evaluation and is reviewing all stakeholder comments on lake and downstream erosion and sedimentation and will address those comments in the Final Erosion and Sedimentation Report. Alabama Power is also evaluating how changes to current Project operations may affect nuisance aquatic vegetation. Finally, Alabama Power has compiled a large amount of existing information on the Tallapoosa River fisheries community and is also conducting three studies investigating fish habitat, aquatic resources in the Tallapoosa River, and water quality and water temperature in both Lake Harris and in the Tallapoosa River. For these reasons, Alabama Power believes the issues raised by Mr. Denman are covered in the FERC-approved Study Plan and a new study is not warranted.

3) A New Study of the Downstream River Using Historic Images Overlaid onto Current Imagery

Alabama Power's Response:

Ms. Donna Matthews[8] proposed that Alabama Power conduct a new study using GIS to compare historic imagery to current imagery to evaluate effects of releases downstream of Harris Dam. Ms. Matthews notes that existing data can be used and that Alabama Power can gather historic images and overlay them on current images to determine the effects of the dam on the river downstream. The primary purpose of this study is to address "significant and persistent concerns about erosion" in the Tallapoosa River downstream of Harris Dam.

Alabama Power notes that while this study does not conform to FERC's criteria for additional studies, Alabama Power is committed to evaluating erosion and sedimentation effects on Lake Harris and in the Tallapoosa River downstream of Harris Dam. Alabama Power is reviewing stakeholder comments on the Draft Erosion and Sedimentation Report and will address these comments in the Final Erosion and Sedimentation Report. Further, the FERC-approved Erosion and Sedimentation Study Plan provides adequate methodology to address erosion and sedimentation issues resulting from Harris Project operations.

As noted above, FERC does not require licensees in the relicensing process to study pre-project conditions; however, Ms. Matthews volunteered in the April 28, 2020 ISR Meeting to provide images to Alabama Power that FERC may consider in conducting its cumulative effects analysis for soils and geologic resources, specifically erosion and sedimentation. Alabama Power intends to contact Ms. Matthews to obtain copies of these photos.

[8] Accession No. 20200611-5169.

Note: The large-scale maps referenced in the response to Question #10 are not included in this version of the filing due to file size recommendations for eFiling.

Harris relicensing - response to ISR comments

APC Harris Relicensing <g2apchr@southernco.com>

Fri 7/10/2020 6:58 PM

To: 'harrisrelicensing@southernco.com' <harrisrelicensing@southernco.com>
Bcc: 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; 9sling@charter.net <9sling@charter.net>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; alpeeple@southernco.com <alpeeple@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_roby@msn.com <bart_roby@msn.com>; baxterchip@yahoo.com <baxterchip@yahoo.com>; bboozer6@gmail.com <bboozer6@gmail.com>; bdavis081942@gmail.com <bdavis081942@gmail.com>; beckyrainwater1@yahoo.com <beckyrainwater1@yahoo.com>; bill_pearson@fws.gov <bill_pearson@fws.gov>

1 attachments (143 KB)

2020-07-10 Response to ISR Comments.pdf;

Harris relicensing stakeholders,

On April 10, 2020, Alabama Power filed the Initial Study Report (ISR) along with six Draft Study Reports and two cultural resources documents. Alabama Power held the ISR Meeting with stakeholders and FERC on April 28, 2020. On May 12, 2020, Alabama Power filed the ISR Meeting Summary. Comments on the ISR, draft reports, and ISR Meeting Summary were due on June 11, 2020.

Alabama filed a response to ISR comments with FERC today. The response is attached and can also be found on the relicensing website: www.harrisrelicensing.com under “Relicensing Documents.” Note that the larger scale maps requested by FERC can be found in the HAT 4 – Project Lands folder.

Thanks,

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

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, DC 20426
August 10, 2020

OFFICE OF ENERGY PROJECTS

Project No. 2628-065 – Alabama
R.L. Harris Hydroelectric Project
Alabama Power Company

VIA FERC Service

Angie Anderegg
Harris Relicensing Project Manager
Alabama Power Company
600 North 18th Street
Birmingham, AL 35203

Reference: Determination on Requests for Study Modifications for the R.L. Harris Hydroelectric Project

Dear Ms. Anderegg:

Pursuant to 18 C.F.R. § 5.15 of the Commission's regulations, this letter contains the determination on requests for modifications to the approved study plan for Alabama Power Company's (Alabama Power) R.L. Harris Hydroelectric Project No. 2628 (Harris Project). The determination is based on the study criteria set forth in sections 5.9(b) and 5.15(d) and (e) of the Commission's regulations, applicable law, Commission policy and practice, and Commission staff's review of the record of information.

Background

Commission staff issued the study plan determination (SPD) for the Harris Project on April 12, 2019. Alabama Power filed an initial study report (ISR) and associated draft study reports on April 10, 2020, held an ISR meeting on April 28, 2020, and filed an ISR meeting summary on May 12, 2020. Comments on the ISR and meeting summary were filed by Commission staff on June 10, 2020, and by Alabama Department of Conservation and Natural Resources, Alabama Rivers Alliance, David Bishop, Dana Chandler, Wayne Cotney, Chuck Denman, Albert Eiland, Nelson Hay, Sharon Holland, Carol Knight, Joe Meigs, David Royster, Ronnie Siskey, Mike Smith, Michelle Waters, and John Carter Wilkins on June 11, 2020. The Alabama Department of Environmental Management, the U.S. Environmental Protection Agency (EPA), and Donna Matthews

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filed comments on June 12, 2020,[1] and the National Park Service filed comments June 29, 2020. Alabama Power filed reply comments on July 10, 2020.

Comments

Some of the comments received do not specifically request modifications to the approved study plan. This determination does not address these types of comments, which include: comments on the presentation of data and results; requests for additional information; disagreements on study results; recommendations for protection, mitigation, or enhancement measures; or issues that were previously addressed in either the November 16, 2018 Scoping Document 2 or the April 12, 2019 SPD.

Study Plan Determination

Pursuant to section 5.15(d) of the Commission's regulations, any proposal to modify a required study must be accompanied by a showing of good cause, and must demonstrate that: (1) the approved study was not conducted as provided for in the approved study plan, or (2) the study was conducted under anomalous environmental conditions or that environmental conditions have changed in a material way. As specified in section 5.15(e), requests for new information gathering or studies must include a statement explaining: (1) any material change in law or regulations applicable to the information request, (2) why the goals and objectives of the approved study could not be met with the approved study methodology, (3) why the request was not made earlier, (4) significant changes in the project proposal or that significant new information material to the study objectives has become available, and (5) why the new study request satisfies the study criteria in section 5.9(b).

Alabama Power agreed with requests to modify its Water Quality Study, as discussed immediately below. As indicated in Appendix A, two additional study modifications were requested, one of which Alabama Power partially agreed to and is required with staff modifications. In addition, three new studies were requested, one of which is approved herein, with staff modifications. The bases for modifying the study plan or approving new studies are explained in Appendix B (Requested Modifications to Approved Studies). Commission staff considered all study plan criteria in section 5.9 of

[1] Alabama Department of Environmental Management (Alabama DEM) and Donna Matthews' comments were filed on June 11, 2020, just after close of Commission business at 5:00 p.m. EST. Section 385.2001(a)(2) of the Commission's regulations provide that any filing received on a regular business day after close of Commission business is considered filed on the next regular business day. Therefore, the comments by Alabama Department of Environmental Management and Donna Matthews are considered filed on the next regular business day, or June 12, 2020.

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the Commission's regulations; however, only the specific study criteria particularly relevant to the study in question are referenced in Appendix B.

Water Quality Study

The draft Water Quality Study Report includes measurements of dissolved oxygen concentration and water temperature at a generation monitor located in the Harris Dam tailrace (3 years of data) and at a continuous monitor located about 0.5 mile downstream from Harris Dam (1 year of data). As requested by Alabama Rivers Alliance and other stakeholders, in its ISR reply comments,[2] Alabama Power agrees to collect additional water quality data in 2020 and 2021. Alabama Power provided a monitoring schedule for 2021 but did not do so for 2020 other than to say that monitoring began on May 4, 2020. Because the approved study plan requires Alabama Power to monitor dissolved oxygen and water temperature through October 31, the 2020 monitoring period should extend until October 31, 2020.

Threatened and Endangered Species Study

As noted in staff's comments on the ISR, the draft Threatened and Endangered (T&E) Species Study Report does not provide an assessment of T&E species populations and/or their habitats at the project, or a record of consultation with the U.S. Fish and Wildlife Service (FWS) regarding the need for field surveys for all of the species on the official T&E species list.[3] In its reply comments, Alabama Power states that existing information is insufficient to determine some of the T&E species' presence/absence and habitat suitability in the project area. Alabama Power also states that it may conduct additional field surveys[4] for T&E species and/or their potentially suitable habitat based on ongoing consultation with the FWS and Alabama Natural Heritage Program, and will provide documentation of this consultation in the Final T&E Species Report which will be filed in January 2021, per the approved study plan schedule filed on May 13, 2019.

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[2] *See* Alabama Power's July 10, 2020 Reply Comments at 2. Alabama Power indicates that the continuous monitor was installed on May 4, 2020, and the tailrace monitor was installed on June 1, 2020.

[3] *See* the official list of T&E species within the Harris Project boundaries (i.e., at Lake Harris and Skyline), accessed on July 27, 2018, by staff using the FWS's Information for Planning and Conservation website (https://ecos.fws.gov/ipac/) and filed on July 30, 2018.

[4] Alabama Power confirmed it would complete T&E species field verifications by September 2020, per the approved study plan schedule.

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Requested Variances

In the ISR, Alabama Power requests variances to the approved schedules for the Draft Recreation Evaluation Study Report and the Cultural Resources Study.[5] Specifically, Alabama Power proposes to file its Draft Recreation Evaluation Study Report in August 2020, instead of June 2020, to allow time to complete two new recreation surveys, a Tallapoosa River Downstream Landowner Survey and a Tallapoosa River Recreation User Survey. Alabama Power also proposes to finalize the Area of Potential Effect (APE) for its Cultural Resources Study and file it with documentation of consultation in June 2020, which it did on June 29, 2020. No stakeholders objected to the requested variances and these changes to the approved study schedule will not affect the overall relicensing schedule. Therefore, the requested variances are approved.

Please note that nothing in this determination is intended, in any way, to limit any agency's proper exercise of its independent statutory authority to require additional studies.

If you have any questions, please contact Sarah Salazar at sarah.salazar@ferc.gov or (202) 502-6863.

Sincerely,

for
Terry L. Turpin
Director
Office of Energy Projects

Enclosures: Appendix A – Summary of determinations on requested modifications to approved studies and new study requests

[5] Alabama Power also requested a variance to the approved schedule for the Water Quality Study, proposing to submit its Clean Water Act section 401 water quality certification (certification) application to the Alabama DEM in April 2021, instead of as originally proposed in 2020. 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.

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Appendix B – Commission staff's recommendations on requested modifications to approved studies and new study requests

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APPENDIX A

SUMMARY OF DETERMINATIONS ON REQUESTED MODIFICATIONS TO APPROVED STUDIES (see Appendix B for discussion)

Study	Recommending Entity	Approved	Approved with Modifications	Not Required
Requested Modifications to Approved Studies				
Downstream Release Alternatives Study	Commission staff, Alabama Rivers Alliance, EPA		X	
Operating Curve Change Feasibility Analysis Study and Downstream Release Alternatives Study – Climate Change Assessment	Donna Matthews			X
New Study Requests				
Battery Storage Feasibility Study	Alabama Rivers Alliance		X	
Pre-and Post-Dam Analysis of Downstream Impacts	Chuck Denman			X
Study of the Downstream River Using Historic, Pre-Dam Images Overlaid onto Current, Post-Dam Imagery	Donna Matthews			X

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APPENDIX B

STAFF RECOMMENDATIONS ON REQUESTED MODIFICATIONS TO APPROVED STUDIES AND NEW STUDY REQUESTS

Downstream Release Alternatives Study

Background

Alabama Power designed and constructed the Harris Project, which began operation in 1983, as a peaking project. Prior to 2005, Alabama Power, while operating in a peaking mode, would alternately generate electricity for part of the day, and store flow in the reservoir for the rest of the day.[6] While storing flows, there would be no downstream flow releases into the Tallapoosa River other than a license required minimum release of 45 cubic feet per second (cfs), as measured at the United States Geological Survey (USGS) gage located 14 miles downstream at Wadley, Alabama.

In 2005, Alabama Power voluntarily modified project operation to provide downstream pulse flow releases ranging from 15 minutes to 4 hours in length during non-generation periods for the benefit of the aquatic community downstream (called "Green Plan").

The goal of the approved Downstream Release Alternatives Study is to evaluate the effects of the current Green Plan and the historic peaking operation, along with alternative downstream releases, on environmental and developmental resources affected by the project. Throughout the study planning and implementation process, Alabama Power has requested that stakeholders provide alternative flow releases to model as part of the study.[7]

Requested Study Modification

The approved study plan requires Alabama Power to model four downstream release scenarios, including: (1) current operation (the Green Plan); (2) the project's historic peaking operation; (3) a modified Green Plan (i.e., modifying the time of day during which the pulses are released); and (4) a downstream continuous minimum flow of 150 cfs under a historic peaking operation scenario. Based on the findings in the draft Downstream Release Alternatives Study Report, in comments on the ISR, Commission

[6] *See* Final Downstream Release Alternatives Study Report at 1.

[7] *See* Study Plan Meeting Summary in the Revised Study Plan filed on March 13, 2019; the ISR Meeting Summary filed on May 12, 2020; and Alabama Power's ISR reply comments filed on July 10, 2020.

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staff, the Environmental Protection Agency (EPA), and Alabama Rivers Alliance, request that Alabama Power evaluate additional downstream release alternatives. Commission staff request that Alabama Power model continuous minimum flows of 150, 350, 600, and 800 cfs under the historic peaking, Green Plan, and modified Green Plan release scenarios. EPA requests that Alabama Power evaluate: (1) the Green Plan with minimum flows; and (2) continuous minimum flows higher than 150 cfs. Alabama River Alliance requests Alabama Power evaluate the following downstream flow alternatives:

1. a variation of the existing Green Plan where the Daily Volume Release is 100 percent of the prior day's flow at the upstream USGS Heflin stream gage (rather than the current 75 percent);
2. a hybrid Green Plan that incorporates a downstream continuous minimum flow of 150 cfs;
3. releases from the Harris Project that match flow at the downstream USGS Wadley stream gage to the USGS Heflin stream gage to mimic natural flow variability; and
4. downstream continuous minimum flows of 300 and 600 cfs.

Comments on Requested Study Modification

In Attachment B of its reply comments, Alabama Power proposes to model the following five downstream release alternative model runs, in addition to the required four initial alternative model runs, for a total of nine alternative model runs:

1. a variation to the existing Green Plan where the Daily Volume Release is 100 percent of the prior day's flow at the USGS Heflin stream gage;
2. a 150-cfs continuous minimum flow with Green Plan releases;
3. a 300-cfs continuous minimum flow with historic peaking operation;[8]
4. a 600-cfs continuous minimum flow with historic peaking; and
5. an 800-cfs continuous minimum flow with historic peaking.

Alabama Power does not propose to model Alabama Rivers Alliance's requested alternative for a release from the Harris Project that mimics the natural flow variability in the Tallapoosa River. Alabama Power states that such operation would significantly reduce or eliminate use of the project for peaking. Moreover, Alabama Power states that the project's units are not capable of adjusting, to the extent necessary, to simulate natural

[8] In the draft Downstream Release Alternatives Study Report, Alabama Power refers to the continuous minimum flow alternatives solely as minimum flows. To eliminate confusion, we recommend Alabama Power define the minimum flow alternatives, with regard to the associated operational scenario (e.g., 150-cfs continuous minimum flow with Green Plan operation).

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river flows. Alabama Power also does not propose to model staff's requested range of minimum flows with the Green Plan (except 150 cfs) or modified Green Plan releases (with any flow). Alabama Power states that modeling one combination of a minimum flow (150 cfs) and Green Plan releases is adequate to determine the effect of this downstream release alternative on project resources.

Discussion and Staff Recommendation

The purpose of the Green Plan releases is to reduce the effects of peaking operation on the aquatic community, including habitat, in the Tallapoosa River downstream from Harris Dam. Monitoring conducted since initiation of the Green Plan in 2005 indicates that there has been an increase in shoal habitat availability, but the response by the fish community has been mixed (Irwin, 2019).

Alabama Rivers Alliance's request for a downstream release alternative, whereby releases from the Harris Project would mimic the Tallapoosa River's natural flow variability, which could benefit the habitat and aquatic community downstream from Harris Dam, would require a change in project operation from peaking to run-of-river. As detailed by Alabama Power in its July 10, 2020, comments,[9] the turbine-generator units at the Harris Project are designed to be operated at best gate and are not capable of adjusting to the extent necessary to simulate natural river flows (i.e., it is unable to operate in a run-of-river mode). Operating the units in this manner would lead to cavitation, which would damage the units. Therefore, operating the Harris Project to mimic the river's natural flow variability under a run-of-river mode would likely require significant redesign and redevelopment of the project (e.g., structural modifications, intake redesign, turbine retrofits, etc.). Because run-of-river operation is not feasible at the Harris Project without a major redesign and redevelopment of the project, we do not consider it to be a reasonable alternative for further consideration as part of our eventual environmental analysis. Therefore, we do not recommend modifying the study to include a release alternative that mimics natural flow variability in the Tallapoosa River.

With respect to the modified Green Plan releases requested by staff, we no longer recommend that Alabama Power model continuous minimum flows with this release strategy because, other than shifting the time of day of the releases, the release characteristics, model results, and environmental benefits would be the same as those for the continuous minimum flows and the Green Plan release strategy being modeled.

As noted above, the current license requires Alabama Power to release flows from the project such that a 45-cfs minimum flow is provided at the downstream USGS Wadley streamflow gage. Incrementally higher minimum flows (e.g., 150, 300, 600, and

[9] *See* Alabama Power's July 10, 2020 comments, Attachment B, page 2.

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800 cfs) would provide additional wetted width, which could improve habitat availability between pulsing releases. Therefore, there is the potential for additional enhancement and protection that we will need to consider as part of our environmental analysis. Modeling a range of continuous minimum flows with the existing Green Plan releases would allow for an evaluation of flows that could improve downstream aquatic habitat. Therefore, in addition to the nine alternative model runs identified by Alabama Power,[10] we recommend Alabama Power model three additional continuous minimum flows with the Green Plan releases (i.e., 300, 600, and 800 cfs).[11]

Operating Curve Change Feasibility Analysis Study and Downstream Release Alternatives Study – Climate Change Assessment

Background

The approved study plan includes two operations-related modeling studies: an Operating Curve Change Feasibility Analysis Study and a Downstream Release Alternative Study. The respective objectives of these approved studies are to: (1) evaluate proposed incremental increases to the winter rule curve for Harris Lake; and (2) evaluate the effects of the historic peaking, existing Green Plan, and alternative downstream release alternatives, on environmental and developmental resources affected by the project.

Requested Study Modification

Donna Matthews requests that the Operating Curve Change Feasibility Analysis and Downstream Release Alternative Studies be modified to include additional modeling of the effect of climate change on flows and Harris Project operation. The additional modeling would use predictive data from climate change studies.

Comments on Requested Study Modification

No comments were filed on this requested study modification.

[10] *See* Alabama Power's July 10, 2020 Reply Comments at Appendix B, page 2.

[11] These flows were selected because they are consistent with those minimum flows selected by Alabama Power for their historic peaking model runs.

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Discussion and Staff Recommendation

We are not aware of any available climate change model or assessment, including the climate change assessment referenced by Ms. Matthews,[12] that would support, with any degree of accuracy and reliability, a prediction of water availability at the individual project level. However, there is historical streamflow data available for the Tallapoosa River upstream of, and downstream from, the Harris Project. This data can be used to evaluate whether climate change has resulted in any changes to hydrologic inputs over time at the project. Therefore, we do not recommend modifying either the Operating Curve Change Feasibility Analysis Study or Downstream Release Alternative Study to include additional modeling using predictive data from climate change studies.

[12] Ms. Matthews references U.S. Department of Energy (2017), which was cited in EPA's March 29, 2019 comments on Alabama Power's Revised Study Plan.

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STAFF RECOMMENDATIONS ON REQUESTED NEW STUDIES

Battery Energy Storage Systems (BESS) Study

Background

Harris Lake is a storage reservoir in which flows are stored to supplement inflows from April through December. The daily discharge from the project is based on a percentage of flows measured at the upstream USGS Heflin gage (i.e., the Green Plan calls for daily discharge to be at least 75 percent of flows at Heflin). Hydropower is typically generated during hours when demand for electrical power is highest (i.e., peak energy), causing significant variations in downstream flows. Daily hydropower releases from the dam vary from 0 cfs during off-peak periods to as much as 16,000 cfs, which is approximately best gate,[13] or the maximum turbine discharge.

The project has two turbine-generating units, rated at 67.5 megawatts (MW) each, which produce about 60 MW and have a hydraulic capacity of 8,000 cfs each at best gate opening. Lake elevations can vary 0.5- to 1.5-feet during a 24-hour period as a result of daily peak releases. Daily tailwater levels can vary significantly (up to 5 feet) because of peaking hydropower operations at Harris Dam, characterized by a rapid rise in downstream water levels immediately after generation is initiated, and a rapid fall in elevations as generation is ceased. Except during high flow conditions when hydropower may be generated for more extended periods of time, this peaking power generation scenario with daily fluctuating downstream flows is repeated nearly every weekday. Under the voluntary Green Plan, environmental flows are released through the turbines daily for short periods of time (i.e., 15 minutes to 4 hours).

Recommended New Study

In its comments on the ISR, Alabama Rivers Alliance requests a new study titled "Battery Storage Feasibility Study to Retain Full Peaking Capabilities While Mitigating Hydropeaking Impacts." The goal of the study is to determine whether a battery energy storage system (BESS) could be economically integrated at Harris to mitigate the impacts of peaking, while retaining full system peaking capabilities. Under such a scenario, the BESS would be used to provide power during peak demand periods, which would

[13] In its reply comments, Alabama Power notes that the best gate setting is a permanent setting on the governor system to ensure that the control system will force a fast movement of the wicket gates to the best gate position thereby minimizing the time spent in the rough zone (i.e., an area on the operating curve in which flows that are less than efficient gate cause increased vibrations in the turbine and cavitation along the low-pressure surfaces of the turbine runner).

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decrease the need for peak generation flow releases and reduce flow fluctuations downstream of the project. The objectives of the study are to evaluate battery type and size configurations, costs, and ownership options, as well as technical barriers to implementing BESS. The study would also assess how much operational flexibility could be provided by BESS and allow for more control of discharges downstream of the dam.

Alabama Rivers Alliance acknowledges that BESS at hydropower projects is a new field with no established methodologies. Alabama Rivers Alliance requests a desktop analysis to evaluate the feasibility of BESS at the Harris Project, including a preliminary cost/benefit analysis. Alabama Rivers Alliance estimates the cost of this study would be $20,0000 to $30,000.

Comments on the Study Request

Alabama Power did not adopt this study because it believes the system would have a high cost and the turbines at Harris Dam are not designed to operate in a gradually loaded rate over an extended period. Rather, the turbines are peaking units designed to quickly react to electrical grid needs. Restricted ramping may be possible; however, it would require replacement of both turbine runners at a cost in addition to the cost of the batteries. Alabama Power estimates the cost of one 60 MW-1-hour storage battery unit equivalent to the power of one turbine, would be $36,000,000. A battery equivalent to the power of both turbines would be $72,000,000. There would be additional cost for any necessary modification of the project turbine-generator units. (Alabama Power did not provide an estimate for the cost of modifying/replacing the turbine runners.) Alabama Power dismisses the feasibility of a smaller MW battery. Alabama Power states that a smaller MW battery, i.e., 5 MW, would not be large enough to make up the lost power in full ramping mode. A battery smaller than the turbine's efficient gate would not allow for full ramping of that turbine.

Discussion and Staff Recommendation

We reviewed Alabama Power's cost estimate for the installation of a BESS at the Harris Project. Alabama Power's cost of the battery is based on a 2018 National Renewable Energy Report which estimates the cost of a 60 MW, 1-hour reserve battery at $601/kWh, or about $36,0000,000 to be used in place of the MWs from one turbine at Harris (DOE, 2018). This cost does not include any modifications to the turbine-generator units, which would be necessary. In addition, a battery with 4 hours reserve storage may be necessary, because the Harris Project can generate up to 4 hours in peaking mode. The 2018 National Renewable Energy Report estimates the cost of a 60 MW, 4-hour reserve battery at $380/kWh, or about $91,0000,000 to mirror the MW

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from one unit at Harris. This option would also require modification of the turbine runners at additional costs.

The goal of Alabama Rivers Alliance's study is to evaluate the feasibility of a storage system which could be economically implemented at the Harris Project. Such a study would require evaluating not only the cost of installing the battery units, but also the potential benefits to both developmental and non-developmental resources. Installing a BESS at the Harris Project has the potential to mitigate project effects on water levels in Harris Lake, and fluctuations in flows released downstream during peaking operations. Potential hydrologic changes could be achieved by spreading out the releases throughout the day/night rather than releasing most of flows during peak hours. Assuming the same daily volume of flow is released, installing one 60-MW battery to provide an equivalent amount of the power provided by one turbine-generator unit could reduce daily fluctuations in Harris Lake by half. Harris Lake water levels, which currently fluctuate up to 1.5 feet daily, could be reduced to 0.75 feet daily. Downstream releases during peaking could be reduced from 16,000 cfs to 8,000 cfs, and the tailwater surface elevation could be reduced by 2.8 feet.[14] To consider the environmental benefits potentially associated with such changes in hydrologic conditions described above, the changes in releases from the project would have to be considered in the context of Alabama Power's approved Downstream Release Alternatives Study, which provides for identifying and evaluating Alternative Release scenarios.

Sections 4(e) and 10(a) of the Federal Power Act require the Commission to give equal consideration to all uses of the waterway on which a project is located. When reviewing a proposed action, the Commission must consider the environmental, recreational, fish and wildlife, and other non-developmental values of the project. We currently have insufficient information to evaluate the potential environmental benefits of a BESS. The cost of conducting the study, between $20,000 and $30,000, is relatively low and would provide information that does not already exist and is needed for our analysis.

Alabama Rivers Alliance's study methodology includes a description of operational flexibility associated with installing a range of battery sizes. Alabama Power did not consider a smaller battery because of the operational limits of the existing turbines. Alabama Power's analysis should not be limited to the existing turbines but should also consider the feasibility and cost of modifying or replacing a turbine necessary to support operation of a smaller battery, which may be more cost-effective and provide some environmental benefits. At minimum, the study should look at the costs and

[14] The tailwater elevation below Harris dam is 667.7 feet msl when two units are operating and 664.9 feet msl when one unit is operating, a difference of 2.8 feet.

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environmental benefits of replacing one 60 MW unit, as discussed above, and at least one smaller battery and its associated changes in project releases.

Alabama Rivers Alliance's study methodology includes a survey of battery cost estimates based on public resources, future projections for battery costs, and potential incentives to offset battery cost. Alabama Power used a 2018 Department of Energy Report which provides a reasonable methodology for estimating the cost of a technology which has not been widely implemented in hydropower. The cost of batteries, however, is rapidly decreasing,[15] and future projections in the cost of a battery should be considered in the cost analysis.

In summary, we recommend that Alabama Power conduct a BESS Study, along with the Downstream Release Alternative Study. The Downstream Release Alternative Study should be amended to 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). Alabama Power should 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, consistent with the Downstream Release Alternative Study Plan, Alabama Power should evaluate how each of these release alternatives (i.e., items (a) and (b) above) would affect recreation and aquatic resources in the project reservoir and downstream.

Change Analyses: Project Operation Effects on Environmental Resources in the Tallapoosa River Downstream from Harris Dam

Background

The purpose of the Erosion and Sedimentation Study relative to downstream resources is to identify problematic erosion sites and sedimentation areas on the Tallapoosa River downstream from Harris Dam as well as determine the likely causes. The plan calls for sites downstream of Harris Dam to be identified, including by stakeholders; documented by observation and video; and assessed for the location, extent, and potential causes of erosion or sedimentation. As outlined in the approved study plan, during Phase 1 of the Operating Curve Change Feasibility Analysis Study, Alabama Power modeled the effect of increasing the winter elevation of Harris Lake by 1-, 2-, 3-, and 4-feet on the ability to provide flood control and downstream releases, among other operational parameters. Information from the Erosion and Sedimentation Study will be used in Phase 2 of both the Downstream Release Alternatives Study and the Operating

[15] The National Energy Research Laboratory reports that since 2018, battery costs have been reduced by about 15 percent, with further decreases expected.

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Curve Change Feasibility Analysis Study to assess the effects of potential changes in project operation on resources downstream from Harris Dam, including erosion and sedimentation in the Tallapoosa River.

Recommended New Studies

Pre-and Post-Dam Analysis of Downstream Impacts

Chuck Denman requests a new study with the goal of analyzing pre-dam and post-dam impacts on environmental resources downstream from Harris Dam, including flooding, erosion, and habitat changes to flora and fauna. Specifically, Mr. Denman requests the following information:

1. a storm runoff model comparing 25-, 50-, and 100-year 24-hour storm events.
2. use of available remote sensing materials to identify erosion by comparing the current river channel and islands' sizes and shapes with pre-dam conditions.
3. use of remote sensing to map flag grass[16] and invasive plant communities to compare changes from pre-dam conditions.
4. review available materials from local individuals in the community, as well as fish and game and other resources to determine what effect the dam has had on downstream fish species and population sizes.

Study of the Downstream River Using Historic, Pre-Dam Images Overlaid onto Current, Post-Dam Imagery

Donna Matthews states that erosion is a significant and persistent concern that is problematic for landowners, flora, and fauna in and around the Tallapoosa River downstream from Harris Dam. Ms. Matthews requests that Alabama Power use existing aerial imagery[17] and other available data to analyze changes in erosion, fisheries, and other environmental resources downstream from Harris Dam. As part of the study, Ms. Matthews requests that Alabama Power prepare a detailed geographic information system (GIS) map with existing information relating fish populations and other parameters in three dimensions (3D). The 3D GIS map would display presence/absence of species along the river length and during different decades, where data are available. Ms.

[16] Staff assumes that "flag grass" here refers to a non-native plant in the genus *Acorus*, such as *Acorus calamus*, given that the range of the native *Acorus americanus*, or "American sweetflag," is northern United States and Canada (USDA, 2020).

[17] Ms. Matthews filed an image of the Tallapoosa River in the Harris Project area from 1942 and provided a source for obtaining additional existing aerial imagery of the project area from 1950, 1954, 1964, and 1973.

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Matthews states that the results could be used to evaluate the potential effects of future changes to downstream flow patterns.

Comments on the Study Requests

Alabama Power indicates that it is conducting many of the requested analyses as part of the approved study plan, including evaluations of how existing operation affects, and alternative operations may affect, erosion and sedimentation, nuisance aquatic vegetation, fisheries/aquatic resources, and water quality in the Tallapoosa River downstream from Harris Dam. Alabama Power also states that the approved Erosion and Sedimentation Study provides an adequate methodology to evaluate project-related effects on erosion and sedimentation downstream from Harris Dam. To support the Commission's cumulative effects analysis for soils and geologic resources (i.e., erosion and sedimentation), Alabama Power indicates that it intends to contact Ms. Matthews to obtain copies of the aerial images referenced in her study request and file them with the Commission.[18]

Discussion and Staff Recommendation

Mr. Denman and Ms. Matthews present their new study requests as collecting data on pre-dam conditions, which is not necessary with the context of the Commission's environmental baseline (i.e., current conditions) for evaluating project effects during a relicensing proceeding and does not relate to the eventual proposed action, which is relicensing an existing hydroelectric project.[19] The images of the project area that Ms. Matthews identifies were all taken prior to the construction and operation of the Harris Project. Analysis of these images would not be helpful in evaluating project-related erosion.

The flood analysis component of the Operating Curve Change Feasibility Analysis is intended to assess the effects of a large-scale flood, which could address some of the existing stormwater runoff and erosion issues that Mr. Denman identifies in his proposed study. The Downstream Release Alternatives Study calls for Alabama Power to model potential changes in operational flow releases. Modeling these potential operational scenarios will support an analysis of flow effects downstream of Harris Dam under a range of scenarios more effectively than additional modeling of smaller floods. The 100-year flood serves as a representative large flood for risk assessment and planning purposes. Therefore, modeling the 100-year flood scenario is sufficient.

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[18] *See* Alabama Power August 4, 2020 Memo.

[19] *Am. Rivers v. FERC*, 187 F.3d 1007, *amended by and denying reh'g*, 201 F.3d 1186 (9th Cir. 1999); *Conservation Law Found. v. FERC*, 216 F.3d 41 (D. C. Cir. 2000).

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The data collected as part of the approved studies, including the Downstream Release Alternatives Study, Erosion and Sedimentation Study, Aquatic Resource Study, and Downstream Aquatic Habitat Study, include much of the information that Mr. Denman and Ms. Matthews request with regard to current conditions. The results of Phase 2 of the Downstream Release Alternatives Study that is being conducted currently (during the second study season, April 2020 through April 2021) will also provide information responsive to most of Mr. Denman and Ms. Mathews' requests. The information gained through the approved studies should be adequate to assess the effects of project operation on downstream resources, including erosion and sedimentation and related invasive species effects, fisheries, water quality and use, terrestrial resources, recreation, and cultural resources. Therefore, we do not recommend that Alabama Power conduct Mr. Denman's or Ms. Matthews' requested new studies.

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Determination on Study Modifications

APC Harris Relicensing <g2apchr@southernco.com>

Wed 8/12/2020 8:45 PM

To: APC Harris Relicensing <harrisrelicensing@southernco.com>
Bcc: 1942jthompson420@gmail.com <1942jthompson420@gmail.com>; 9sling@charter.net <9sling@charter.net>; allan.creamer@ferc.gov <allan.creamer@ferc.gov>; alpeeple@southernco.com <alpeeple@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_roby@msn.com <bart_roby@msn.com>; baxterchip@yahoo.com <baxterchip@yahoo.com>; bboozer6@gmail.com <bboozer6@gmail.com>; bdavis081942@gmail.com <bdavis081942@gmail.com>; beckyrainwater1@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>; bsmith0253@gmail.com <bsmith0253@gmail.com>; butchjackson60@gmail.com <butchjackson60@gmail.com>; bwhaley@randolphcountyeda.com <bwhaley@randolphcountyeda.com>; carolbuggknight@hotmail.com <carolbuggknight@hotmail.com>; celestine.bryant@actribe.org <celestine.bryant@actribe.org>; cengstrom@centurytel.net <cengstrom@centurytel.net>; ceo@jcchamber.com <ceo@jcchamber.com>; cggoodma@southernco.com <cggoodma@southernco.com>; cgnav@uscg.mil <cgnav@uscg.mil>; chad@cleburnecountychamber.com <chad@cleburnecountychamber.com>; chandlermary937@gmail.com <chandlermary937@gmail.com>; chiefknight2002@yahoo.com <chiefknight2002@yahoo.com>; chimneycove@gmail.com <chimneycove@gmail.com>; chris.goodell@kleinschmidtgroup.com <chris.goodell@kleinschmidtgroup.com>; chris.greene@dcnr.alabama.gov <chris.greene@dcnr.alabama.gov>; chris.smith@dcnr.alabama.gov <chris.smith@dcnr.alabama.gov>; chris@alaudubon.org <chris@alaudubon.org>; chuckdenman@hotmail.com <chuckdenman@hotmail.com>; clark.maria@epa.gov <clark.maria@epa.gov>; claychamber@gmail.com <claychamber@gmail.com>; clint.lloyd@auburn.edu <clint.lloyd@auburn.edu>; cljohnson@adem.alabama.gov <cljohnson@adem.alabama.gov>; clowry@alabamarivers.org <clowry@alabamarivers.org>; cmnix@southernco.com <cmnix@southernco.com>; coetim@aol.com <coetim@aol.com>; colin.dinken@kleinschmidtgroup.com <colin.dinken@kleinschmidtgroup.com>; cooper.jamal@epa.gov <cooper.jamal@epa.gov>; coty.brown@alea.gov <coty.brown@alea.gov>; craig.litteken@usace.army.mil <craig.litteken@usace.army.mil>; crystal.davis@adeca.alabama.gov <crystal.davis@adeca.alabama.gov>; crystal.lakewedoweedocks@gmail.com <crystal.lakewedoweedocks@gmail.com>; crystal@hunterbend.com <crystal@hunterbend.com>; dalerose120@yahoo.com <dalerose120@yahoo.com>; damon.abernethy@dcnr.alabama.gov <damon.abernethy@dcnr.alabama.gov>; dbronson@charter.net <dbronson@charter.net>; dcnr.wffdirector@dcnr.alabama.gov <dcnr.wffdirector@dcnr.alabama.gov>; decker.chris@epa.gov <decker.chris@epa.gov>; devridr@auburn.edu <devridr@auburn.edu>; dfarr@randolphcountyalabama.gov <dfarr@randolphcountyalabama.gov>; dhayba@usgs.gov <dhayba@usgs.gov>; djmoore@adem.alabama.gov <djmoore@adem.alabama.gov>; dkanders@southernco.com <dkanders@southernco.com>; dolmoore@southernco.com <dolmoore@southernco.com>; donnamat@aol.com <donnamat@aol.com>; doug.deaton@dcnr.alabama.gov <doug.deaton@dcnr.alabama.gov>; dpreston@southernco.com <dpreston@southernco.com>; drheinzen@charter.net <drheinzen@charter.net>; ebt.drt@numail.org <ebt.drt@numail.org>; Eddie Plemons <eddieplemons@charter.net>; eilandfarm@aol.com <eilandfarm@aol.com>; el.brannon@yahoo.com <el.brannon@yahoo.com>; elizabeth-toombs@cherokee.org <elizabeth-toombs@cherokee.org>; emathews@aces.edu <emathews@aces.edu>; eric.sipes@ahc.alabama.gov <eric.sipes@ahc.alabama.gov>; evan.lawrence@dcnr.alabama.gov <evan.lawrence@dcnr.alabama.gov>; evan_collins@fws.gov <evan_collins@fws.gov>; eveham75@gmail.com <eveham75@gmail.com>;

fal@adem.alabama.gov <fal@adem.alabama.gov>; fredcanoes@aol.com <fredcanoes@aol.com>; gardenergirl04@yahoo.com <gardenergirl04@yahoo.com>; garyprice@centurytel.net <garyprice@centurytel.net>; gene@wedoweelakehomes.com <gene@wedoweelakehomes.com>; georgettraylor@centurylink.net <georgettraylor@centurylink.net>; gerryknight77@gmail.com <gerryknight77@gmail.com>; gfhorn@southernco.com <gfhorn@southernco.com>; gjobsis@americanrivers.org <gjobsis@americanrivers.org>; gld@adem.alabama.gov <gld@adem.alabama.gov>; glea@wgsarrell.com <glea@wgsarrell.com>; gordon.lisa-perras@epa.gov <gordon.lisa-perras@epa.gov>; goxford@centurylink.net <goxford@centurylink.net>; granddadth@windstream.net <granddadth@windstream.net>; harry.merrill47@gmail.com <harry.merrill47@gmail.com>; helen.greer@att.net <helen.greer@att.net>; henry.mealing@kleinschmidtgroup.com <henry.mealing@kleinschmidtgroup.com>; holliman.daniel@epa.gov <holliman.daniel@epa.gov>; info@aeconline.com <info@aeconline.com>; info@tunica.org <info@tunica.org>; 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<mlen@adem.alabama.gov>; mnedd@blm.gov <mnedd@blm.gov>; monte.terhaar@ferc.gov <monte.terhaar@ferc.gov>; mooretn@auburn.edu <mooretn@auburn.edu>; mprandolphwater@gmail.com <mprandolphwater@gmail.com>; nancyburnes@centurylink.net <nancyburnes@centurylink.net>; nanferebee@juno.com <nanferebee@juno.com>; nathan.aycock@dcnr.alabama.gov <nathan.aycock@dcnr.alabama.gov>; orr.chauncey@epa.gov <orr.chauncey@epa.gov>; pace.wilber@noaa.gov <pace.wilber@noaa.gov>; partnersinfo@wwfus.org <partnersinfo@wwfus.org>; patti.powell@dcnr.alabama.gov <patti.powell@dcnr.alabama.gov>; patty@ten-o.com <patty@ten-o.com>; paul.trudine@gmail.com <paul.trudine@gmail.com>; ptrammell@reddyice.com <ptrammell@reddyice.com>; publicaffairs@doc.gov <publicaffairs@doc.gov>; rachel.mcnamara@ferc.gov <rachel.mcnamara@ferc.gov>; raebutler@mcn-nsn.gov <raebutler@mcn-nsn.gov>; rancococ@teleclipse.net <rancococ@teleclipse.net>; randall.b.harvey@usace.army.mil <randall.b.harvey@usace.army.mil>; randy@randyrogerslaw.com <randy@randyrogerslaw.com>; randy@wedoweemarine.com <randy@wedoweemarine.com>; rbmorris222@gmail.com <rbmorris222@gmail.com>; rcodydeal@hotmail.com <rcodydeal@hotmail.com>; reuteem@auburn.edu <reuteem@auburn.edu>; richardburnes3@gmail.com <richardburnes3@gmail.com>; rick.oates@forestry.alabama.gov <rick.oates@forestry.alabama.gov>; rickmcwhorter723@icloud.com <rickmcwhorter723@icloud.com>; rifraft2@aol.com <rifraft2@aol.com>; rjdavis8346@gmail.com <rjdavis8346@gmail.com>; robert.a.allen@usace.army.mil <robert.a.allen@usace.army.mil>; robinwaldrep@yahoo.com <robinwaldrep@yahoo.com>; roger.mcneil@noaa.gov <roger.mcneil@noaa.gov>; ron@lakewedowee.org <ron@lakewedowee.org>; rosoweka@mcn-nsn.gov <rosoweka@mcn-nsn.gov>; russtown@nc-cherokee.com <russtown@nc-cherokee.com>; ryan.prince@forestry.alabama.gov <ryan.prince@forestry.alabama.gov>; sabrinawood@live.com <sabrinawood@live.com>; sandnfrench@gmail.com <sandnfrench@gmail.com>; sarah.salazar@ferc.gov <sarah.salazar@ferc.gov>; sbryan@pci-nsn.gov <sbryan@pci-nsn.gov>; scsmith@southernco.com <scsmith@southernco.com>; section106@mcn-nsn.gov <section106@mcn-nsn.gov>; sforehand@russelllands.com <sforehand@russelllands.com>; sgraham@southernco.com <sgraham@southernco.com>; sherry.bradley@adph.state.al.us <sherry.bradley@adph.state.al.us>; sidney.hare@gmail.com <sidney.hare@gmail.com>; simsthe@aces.edu <simsthe@aces.edu>; snelson@nelsonandco.com <snelson@nelsonandco.com>; sonjahollomon@gmail.com <sonjahollomon@gmail.com>; steve.bryant@dcnr.alabama.gov <steve.bryant@dcnr.alabama.gov>; stewartjack12@bellsouth.net <stewartjack12@bellsouth.net>; straylor426@bellsouth.net <straylor426@bellsouth.net>; sueagnew52@yahoo.com <sueagnew52@yahoo.com>; tdadunaway@gmail.com <tdadunaway@gmail.com>; thpo@pci-nsn.gov <thpo@pci-nsn.gov>; thpo@tttown.org <thpo@tttown.org>; timguffey@jcch.net <timguffey@jcch.net>; tlamberth@russelllands.com <tlamberth@russelllands.com>; tlmills@southernco.com <tlmills@southernco.com>; todd.fobian@dcnr.alabama.gov <todd.fobian@dcnr.alabama.gov>; tom.diggs@ung.edu <tom.diggs@ung.edu>; tom.lettieri47@gmail.com <tom.lettieri47@gmail.com>; tom.littlepage@adeca.alabama.gov <tom.littlepage@adeca.alabama.gov>; tpfreema@southernco.com <tpfreema@southernco.com>; trayjim@bellsouth.net <trayjim@bellsouth.net>; triciastearns@gmail.com <triciastearns@gmail.com>; twstjohn@southernco.com <twstjohn@southernco.com>; variscom506@gmail.com <variscom506@gmail.com>; walker.mary@epa.gov <walker.mary@epa.gov>; william.puckett@swcc.alabama.gov <william.puckett@swcc.alabama.gov>; wmcampbell218@gmail.com <wmcampbell218@gmail.com>; wrighr2@aces.edu <wrighr2@aces.edu>; wsgardne@southernco.com <wsgardne@southernco.com>; wtanders@southernco.com <wtanders@southernco.com>

Harris relicensing stakeholders,

Yesterday FERC issue a determination on study modifications for the Harris Project. It can be found on FERC elibrary and on the Harris relicensing website (www.harrisrelicensing.com) in the Relicensing Documents folder.

Thanks,

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

Attachment 2
Comments and Responses on the
Draft Phase 1 Project Lands Evaluation Study Report

Commenting Entity	Date of Comment & FERC Accession Number	Comment – Project Lands	Alabama Power Response
Federal Energy Regulatory Commission (FERC) Note: footnotes included in the original letter have been omitted from this table	6/10/2020 20200610-3059	The goals of the Project Lands Evaluation include: (1) identifying and classifying lands at the project that are needed for Harris Project purposes; (2) evaluating existing land use classifications at Lake Harris 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. Appendix B of the Draft Project Lands Evaluation (Phase 1) Report includes a small scale map of Lake Harris and the existing shoreline classifications, as well as larger scale maps showing parcels of land within the project boundary for which Alabama Power is considering either changing the existing land use classification, adding parcels to the project boundary, or removing parcels from the project boundary. However, the report does not include large scale maps showing the land use classifications for all of the existing shoreline. To facilitate review of the existing shoreline land use classifications, please file larger scale maps of all the shoreline areas as a supplement to the Draft Project Lands Evaluation Report, as part of your response to stakeholder comments on the ISR. Please include land use classifications on the maps. In addition, if available, please file the GIS data layers of the existing and proposed shoreline land use classifications.	Larger scale maps and GIS files were filed with FERC as part of Alabama Power's Response to Initial Study Report Disputes or Requests for Modifications of Study Plan (Accession No. 20200710-5122). Additionally, larger scale maps are included as an appendix to the Final Phase 1 Project Lands Evaluation Study Report.

Commenting Entity	Date of Comment & FERC Accession Number	Comment – Project Lands	Alabama Power Response
Alabama Department of Conservation and Natural Resources (ADCNR) Note: footnotes included in the original letter have been omitted from this table	6/11/2020 20200611-5152	Appendix B includes Figure of Maps and Supporting Information of Proposed Changes of the Project Lands Evaluation Study Report. These maps indicate there are several recreational properties which are being re- classified away from recreation (net loss of 600 acres- page 14, Table 6-1). In addition to the acreages provided, it would be beneficial to provide and understand the amount of linear feet of shoreline for each parcel being proposed for addition, re-classification or removal. Undisturbed natural shorelines and shorelines designated for recreational use benefit wildlife and aquatic resources and also provide recreational opportunities for anglers and hunters. Impacts to shoreline habitat in Lake Harris can negatively impact aquatic, semi-aquatic, and terrestrial species. Studies have shown that undeveloped shoreline areas provide the most suitable habitat for maintaining abundance, diversity, and species richness of aquatic, semi-aquatic, and terrestrial species. We recommend that natural vegetated shorelines remain undisturbed as much as possible when evaluating land classifications and future shoreline land use. When evaluating classification changes, linear lake front footage would be a useful metric to provide. ADCNR would like to ensure a suitable site(s) is(are) identified and reserved for future construction of an appropriately sized boating access facility(ies). Future boating demand on Lake Harris is currently unknown for the entire duration of the license, therefore ADCNR continues to request consultation with Alabama Power in the selection of future recreational sites to safeguard they are located in suitable areas for anglers and boaters. The sites need to be large enough to suit any future demand of boaters and anglers and the sites need to meet the engineering requirements for an appropriately sized facility. We recommend any suitable identified property continue to be classified as recreational. The distribution of public boat ramps in the lake should be fully evaluated when considering reclassifying recreation zoned areas. In areas of the lake with few public boating access points or high boat ramp usage, there should be recreational zoned properties for future boat ramp additions available to meet angler demand.	Shoreline footages were added to the Revised Maps in Appendix B; the need for additional facilities will be evaluated following completion of the recreation study and analyses. Discussions of enhancement measures will occur with the Harris Action Teams during winter 2020/spring 2021.
ADCNR		Appendix B, Figures R1-R6 of the Project Lands Evaluation Study Report, indicates that these acreages are not suitable for recreation due to their location within areas of the lake with limited demand for public recreation opportunities. ADCNR requests the opportunity to evaluate the results from the Recreation Evaluation Study prior to this determination for these zoning reclassifications.	Alabama Power agrees to use the results of the Recreation Evaluation study in making a final determination for these areas.

Commenting Entity	Date of Comment & FERC Accession Number	Comment – Project Lands	Alabama Power Response
ADCNR		On page 9, of the Project Lands Evaluation Study Report, the third bullet named Project Operations (formerly titled Prohibited Access) states “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.” ADCNR recommends that bank fishing be included in the “some cases” exemptions statement for these areas. Canoe or kayak access points should also be evaluated in these areas during the relicensing process, since they are currently nonexistent.	Alabama Power will discuss with ADCNR during development of the SMP.

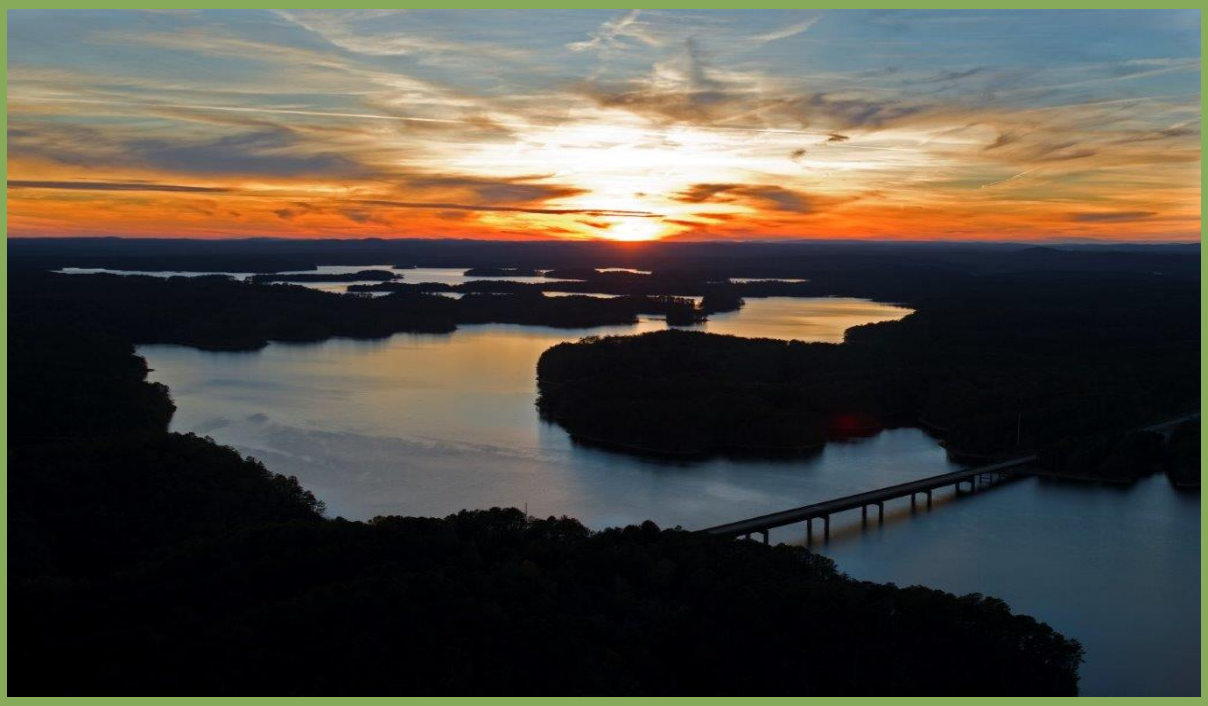
Attachment 3
Final Phase 1 Project Lands Evaluation Study Report

Phase 1 Project Lands Evaluation Study Report

R.L. Harris Hydroelectric Project

FERC No. 2628

HARRIS DAM RELICENSING



Prepared by:

Alabama Power Company

and

Kleinschmidt Associates

September 2020

Alabama Power

Kleinschmidt

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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. 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)[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 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 (ADCNR 2016).

For the purposes of this study report, "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

[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).

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 (Alabama Power Company 2018).

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.

Commonly used acronyms that may appear in this report are included in Appendix A.

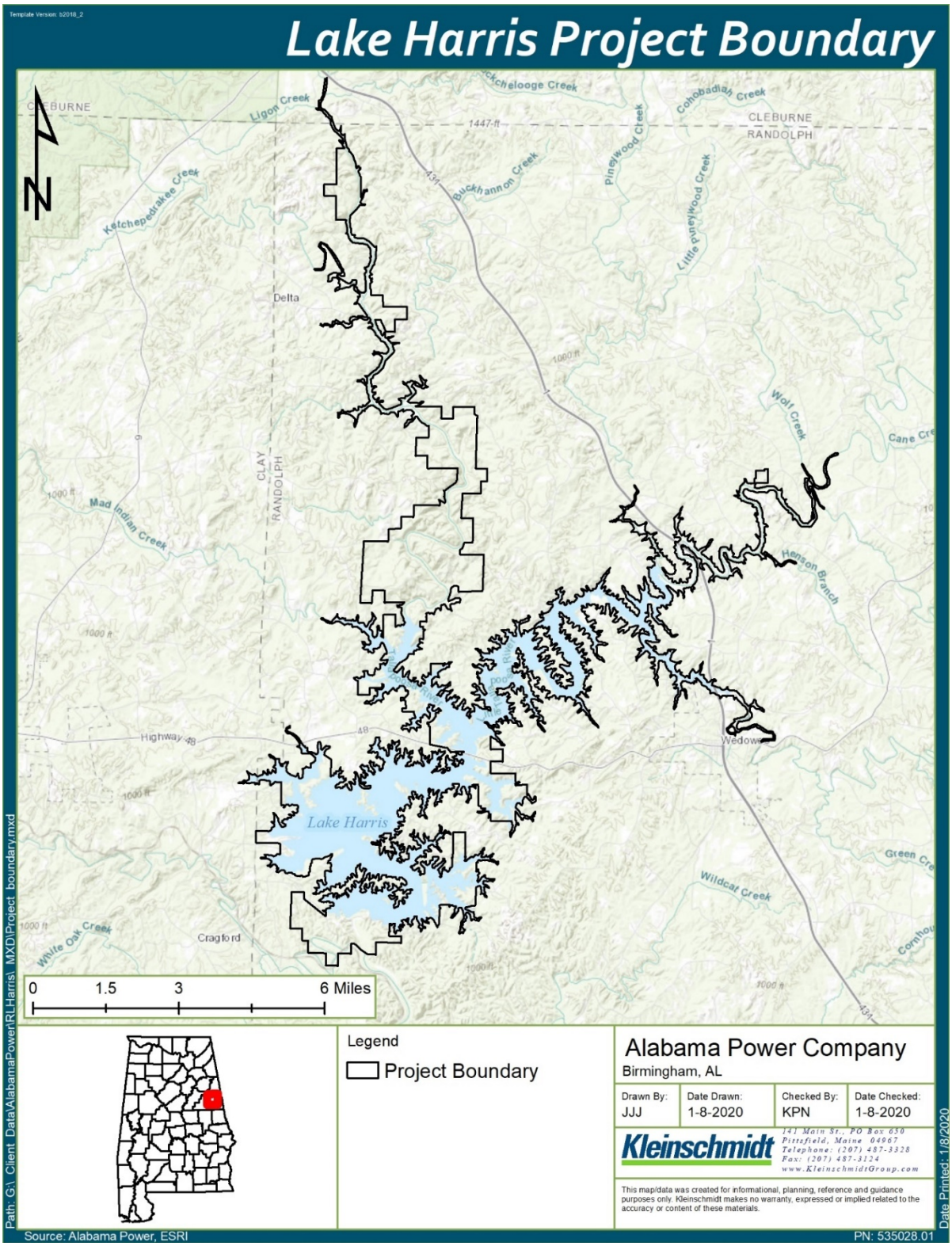

Figure 1-1 Lake Harris Project Boundary

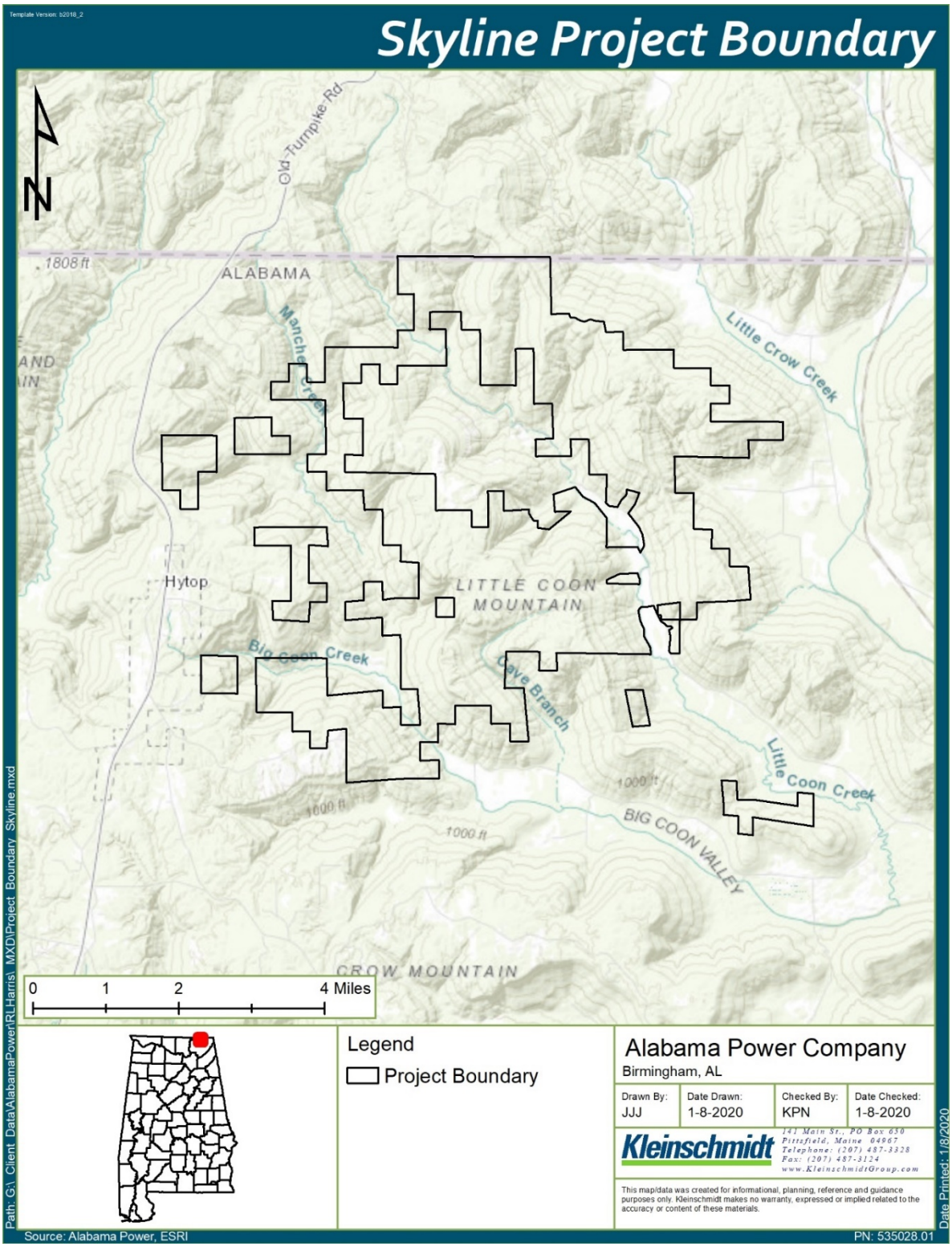

Figure 1-2 Skyline Project Boundary

1.1 Study Background

During the October 19, 2017 issue identification workshop, several stakeholders noted issues related to Project lands, including the Wildlife Management Plan (WMP) and the Shoreline Management Plan (SMP). 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. 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, 2019.

The goal of Phase 1 of the Project Lands Evaluation Study is to identify lands around Lake Harris and at Skyline that are needed for Harris Project purposes and to classify these lands. Alabama Power evaluated the land use classifications for Harris and determined if any changes are needed to conform to Alabama Power's current land classification system and other Alabama Power FERC-approved SMPs. Lands to be added to, or removed from, the current Harris Project Boundary and/or be reclassified were identified. The geographic scope for the Project Lands Evaluation Study includes the Harris Project Boundary and the associated Project Area.

Alabama Power formed the Harris Action Team (HAT) 4 to specifically address Project lands' issues at Skyline and the Harris Project Boundary and Project Area. Alabama Power held a HAT 4 meeting on September 11, 2019, to review proposed land use changes, including lands to be added to the Project Boundary, lands to be removed from the Project Boundary, and proposed changes in land use classifications of existing Project lands. Alabama Power presented the proposed changes in GIS overlays and posted the September 11, 2019 HAT 4 meeting summary on the Harris Relicensing website. Following the September 11, 2019 HAT 4 meeting, Alabama Power solicited feedback from HAT 4 on the Project Lands proposal. All stakeholder feedback will be considered in developing the final proposal to be included in the Preliminary Licensing Proposal (PLP) and Final License Application.

Alabama Power developed this study report to present the results of the Phase 1 Project Lands Evaluation. Appendix B includes maps and supporting information for Alabama Power's proposed changes. Appendix C includes large scale maps of Project Lands.

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 Wildlife Management Plan (WMP) and a Shoreline Management Plan (SMP).

2.0 METHODS

This study is divided into two phases: Phase 1, project lands evaluation and Phase 2, developing the WMP and SMP based on the results of Phase 1. The methods used during the Phase 1 evaluation are detailed below.

1. Desktop Analysis: Alabama Power performed a spatial analysis in a Geographic Information System (GIS) using the following data: existing Project Boundary information, existing information regarding the location of any threatened or endangered species (T&E), wetlands, and cultural resources (i.e., "Sensitive Areas"), timber management tracts and current practices, the impaired waters GIS layer developed by the Alabama Department of Environmental Management (ADEM), the results of the Bobwhite quail habitat analysis (discussed below), and the results of the Flat Rock Botanical Inventory (see Section 5.0). Additionally, Alabama Power incorporated anecdotal information provided by Alabama Power staff and Harris relicensing stakeholders regarding historical and current trends in economic development, access to Project lands, and recreation needs. High resolution imagery and topographical data (LIDAR) supplemented the desktop analysis. As results from other ongoing Harris relicensing studies become available (i.e., threatened and endangered species, cultural resources, recreation), Alabama Power will incorporate these results in its Project lands evaluation.
2. Maps: Alabama Power developed a draft map using the above described GIS analysis to show all proposed changes to Harris Project Lands.
3. Meetings: Alabama Power held a Harris Action Team (HAT) 4 meeting on September 11, 2019, to review proposed land use changes, including lands to be added to the Project Boundary, lands to be removed from the Project Boundary, and proposed changes in land use classifications of existing Project lands. Alabama Power presented the proposed changes in GIS overlays and posted the September 11, 2019 HAT 4 meeting summary on the Harris Relicensing website at www.harrisrelicensing.com.
4. Stakeholder comments: Following the September 11, 2019 HAT 4 meeting, Alabama Power solicited feedback from HAT 4 on the Project Lands proposal. Documentation of the feedback received is included within the consultation record, and all stakeholder

feedback will be considered in developing the final proposal to be included in the Preliminary Licensing Proposal (PLP) and Final License Application.

3.0 RESULTS

3.1 Current Land Classifications

Alabama Power's current Harris Land Use Plan defines land use categories within the existing Project Boundary (Alabama Power 2008). Harris Project classifications are Recreational Use, Hunting, Prohibited Access, and Natural Undeveloped, as defined below.

- *Recreational Use (Public Use Areas)* – Includes lands where existing public recreation access and facilities occur and those lands set aside for future recreational use access depending on future recreation demand and needs. Within these areas, specific locations are identified as "Quasi-Public Use Areas" to provide potential use by non-profit groups, such as scouts, youth organizations, and educational groups, for outdoor recreational activities.

- *Hunting* – 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 Mitigation Plan. 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.

- *Prohibited Access* – Includes lands where public use and access are prohibited to avoid hazards to the public and to prevent interference or damage to Harris Project facilities and operations (the tailrace fishing area is one exception to this use type where public access is allowed).

- *Natural Undeveloped* – Includes lands to remain in an undeveloped state to serve as protective buffer zones around public recreation areas and shoreline areas, preserve natural aesthetic qualities, prevent overcrowding, as well as to protect environmentally sensitive areas. These lands allow public access for hiking and primitive camping activities and are managed for timber production in accordance with the existing Harris Wildlife Mitigation Plan.

3.2 Proposed Classifications

At this time, Alabama Power is not proposing any substantive changes to the current Harris Project land use classification definitions. However, all classification definitions will be slightly modified to match the definitions included within other Alabama Power SMPs (i.e., Coosa, Warrior, and Martin Projects). These definitions will be further reviewed during the development of the SMP in Phase 2 of the Project Lands Evaluation Study. For example, Alabama Power does not plan to continue using the *Quasi-Public Use Area* subcategory as defined in the current Land Use Plan. Rather, the proposed definition for recreation will not include any subcategories and will encompass all subcategories included in the current Land Use Plan. Additionally, the existing permtting processes conducted for each land use classification will be evaluated during the development of the SMP in Phase 2 of the Project Lands Evaluation Study.

As such, Alabama Power is proposing to use the following land use classification definitions, which match the definitions described within the SMPs of other Alabama Power projects:

1. 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 structures, such as parks with boat slips, beach areas, dry boat storage facilities, trails, etc. to be permitted through the appropriate process.
2. 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 Mitigation Plan. 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.
3. Project Operations (formerly titled Prohibited Access) – 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.

4. 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.

    This classification allows for public hiking trails, nature studies, primitive camping, wildlife management (excluding hunting), and normal forestry management practices. Alabama Power typically owns these Project lands in fee simple title and manages them for effective protection of associated resource values.

Additionally, Alabama Power is proposing to add the following land use classifications, the definitions of which will be finalized during the development of the SMP in Phase 2 of the Project Lands Evaluation Study:

1. "Commercial Recreation": This classification will include lands developed for commercial recreation purposes. Alabama Power's draft definition for the new land use classification is: "Lands containing existing 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."
2. "Flood Storage": This classification will include 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.

3. "Scenic Buffer Zone": This classification will include all lands located between the 795' msl contour and the 800' msl contour[2], 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.

[2]Or, in specified areas not to the 800' msl, 50 horizontal feet from 793' msl, whichever is less, but never less than 795 feet msl.

4.0 BOBWHITE QUAIL HABITAT

As outlined in the FERC-approved study plan, Alabama Power evaluated acreage at Skyline to determine availability of suitable bobwhite quail habitat.

Bobwhite quail are adapted to habitats dominated by forbs (annual broad-leafed herbaceous plants) transitioning to native perennial bunchgrasses and scattered brush. They are found in abandoned weedy fields and open pinelands or savanna with extensive groundcover of forbs, native grasses, and scattered brush thickets (ADCNR 2020).

The Alabama Department of Conservation and Natural Resources (ADCNR) conducts spring/fall quail call surveys at approximately seven locations (Figure 4-1) located at Skyline WMA and in the vicinity of (but not located within) the Skyline Project Boundary. From 2017 to 2019, ADCNR documented quail occurrences at all seven sites; however, in most instances only 1 to 2 males or a single covey was detected.

Alabama Power performed an evaluation to identify potential habitat sites within the Skyline Project Boundary. The desktop assessment included using local ADCNR personnel knowledge of the Skyline WMA. Contour lines of the seven ADCNR locations where quail are currently monitored were compared with contour lines on property within the Skyline Project Boundary in an effort to identify areas with the greatest potential to have open weedy fields, open pineland, or open savanna. Typical habitat at Skyline includes steeply sloped areas with dense hardwoods that prevent the annual broad-leafed herbaceous ground cover and perennial bunchgrass preferred by bobwhite quail. One area in particular was identified as having some potential to have open abandoned weedy fields potentially containing the native herbaceous ground cover that would comprise quail habitat. A site visit to this area was conducted on January 30, 2020. A qualitative assessment of the site indicated that it would not currently support bobwhite quail. ADCNR discussed interest in incorporating the site into their spring/fall quail call survey sampling to confirm the assessment.

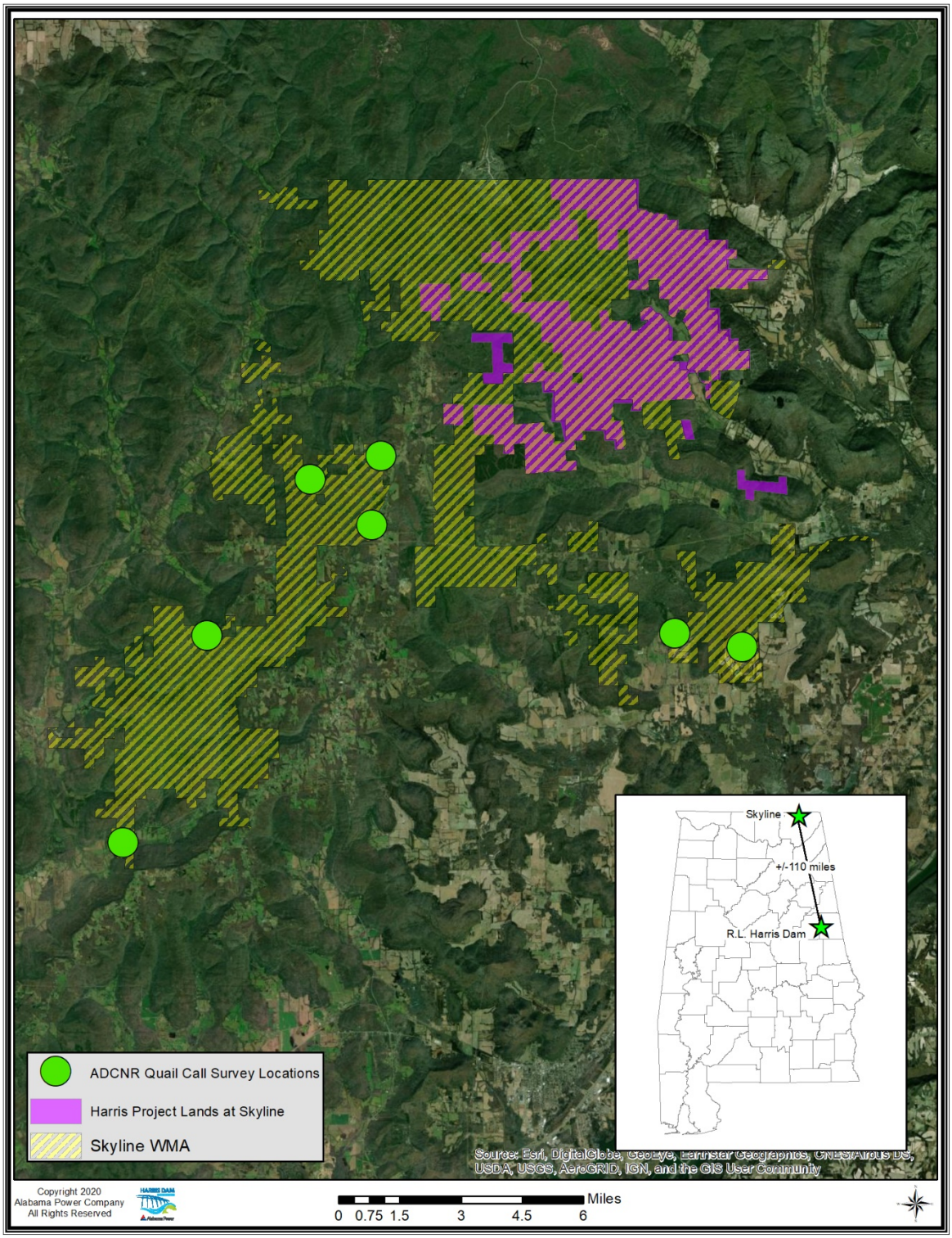

Figure 4-1 ADCNR Quail Call Survey Locations

5.0 FLAT ROCK BOTANICAL INVENTORY

Alabama Power is proposing to reclassify +/-57 acres of existing Project lands from Recreation to Natural/Undeveloped (illustrated as RC7 in Appendix B) due to the presence of the rare Blake's Ferry Pluton. The need for a special land use classification for this area (in lieu of Natural/Undeveloped) will be reviewed during the development of the SMP in Phase 2 of the Project Lands Evaluation Study.

During the spring and fall 2019, Samford University conducted a botanical inventory of a 20-acre parcel at Flat Rock Park for the purposes of cataloguing all plants present at the rare Blake's Ferry Pluton located adjacent to Alabama Power's Flat Rock Park.

Information collected during this inventory includes a description of the biological setting, inventory dates and methods, results and conclusions (including a list of all species found in the study area and their conservation status), and an assessment of the biological significance or ecological quality of the project site in a local and regional context. Additionally, a GIS map of all state and federally listed species found in the study area is included. A copy of the Flat Rock Botanical Inventory report is included as Appendix D.

6.0 DISCUSSION AND CONCLUSION

6.1 Proposed Changes

During the Phase 1 evaluation, Alabama Power identified the following types of proposed changes:

1. Reclassifications: Reclassifications are proposed changes to the land use classification of existing Harris Project Lands. These proposed changes do not modify the current Project Boundary but merely reclassify the Project lands to a more appropriate classification.
2. Removals: Removals are proposed changes to existing Project Lands where Alabama Power proposes to remove lands from the Project Boundary. These proposed changes will result in a change to the Project Boundary. However, only that portion of the property located above the 800' msl contour will be removed. The property located within the 800' msl contour will be reclassified as discussed in Section 5.2 above.
3. Additions: Additions are proposed changes to the existing Project Boundary where Alabama Power proposes to add lands. These proposed changes will result in a change to the Project Boundary. Additionally, the portions of the property located below the 800' msl contour will be reclassified to match the classification of the added property.

The acreage totals of the baseline (i.e., existing condition) and Alabama Power's proposal are provided in Table 6-1. Additionally, maps and supporting information by tract are provided in Appendix B. As results from other phase 1 studies are finalized and as the SMP and WMP are prepared, Alabama Power's Project lands proposal may change.

Table 6-1 Summary of Proposed Land Changes in Acres by Classification[3]

Classification	Baseline (ac)	Proposed (ac)	Difference
Natural/Undeveloped (including islands)	2,440	2,790	350
Hunting (near reservoir)	2,707	2,910	203
Skyline	15,063	15,063	0
Recreation	874[4]	274	-600
Commercial Recreation	0	150	150
Prohibited Access	312	307	-5
Flood Storage	262	264	2
Scenic Buffer Zone	737	745	8
Total	**22,395**	**22,503**	**108**

Source: Alabama Power 2019

Key: ac acre

[3] This table has been updated since the September 11, 2019 HAT 4 meeting based upon mapping errors discovered following the meeting (See RC7 below).

[4] Includes lands currently subclassified as Quasi-Public; as discussed in Section 3.2, Alabama Power is not proposing to continue subclassifications of Recreation.

7.0 REFERENCES

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Alabama Power Company. 2008. 1995 Land Use Plan for the R.L. Harris Project (Revised 2008) submitted to the Federal Energy Regulatory Commission by Alabama Power Company, on June 30, 2008. Alabama Power Company, Birmingham, AL.

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APPENDIX A

ACRONYMS AND ABBREVIATIONS

ACRONYMS AND ABBREVIATIONS

A

A&I	Agricultural and Industrial
ACFWRU	Alabama Cooperative Fish and Wildlife Research Unit
ACF	Apalachicola-Chattahoochee-Flint (River Basin)
ACT	Alabama-Coosa-Tallapoosa (River Basin)
ADCNR	Alabama Department of Conservation and Natural Resources
ADECA	Alabama Department of Economic and Community Affairs
ADEM	Alabama Department of Environmental Management
ADROP	Alabama-ACT Drought Response Operations Plan
AHC	Alabama Historical Commission
Alabama Power	Alabama Power Company
AMP	Adaptive Management Plan
ALNHP	Alabama Natural Heritage Program
APE	Area of Potential Effects
ARA	Alabama Rivers Alliance
ASSF	Alabama State Site File
ATV	All-Terrain Vehicle
AWIC	Alabama Water Improvement Commission
AWW	Alabama Water Watch

B

BA	Biological Assessment
B.A.S.S.	Bass Anglers Sportsmen Society
BCC	Birds of Conservation Concern
BLM	U.S. Bureau of Land Management
BOD	Biological Oxygen Demand

C

°C	Degrees Celsius or Centrigrade
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulation
cfs	Cubic Feet per Second
cfu	Colony Forming Unit
CLEAR	Community Livability for the East Alabama Region
CPUE	Catch-per-unit-effort
CWA	Clean Water Act

D

DEM	Digital Elevation Model
DIL	Drought Intensity Level
DO	Dissolved Oxygen
dsf	day-second-feet

E

EAP	Emergency Action Plan
ECOS	Environmental Conservation Online System
EFDC	Environmental Fluid Dynamics Code
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act

F

°F	Degrees Fahrenheit
ft	Feet
F&W	Fish and Wildlife
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FNU	Formazin Nephelometric Unit
FOIA	Freedom of Information Act
FPA	Federal Power Act

G

GCN	Greatest Conservation Need
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
GPS	Global Positioning Systems
GSA	Geological Survey of Alabama

H

Harris Project	R.L. Harris Hydroelectric Project
HAT	Harris Action Team
HEC	Hydrologic Engineering Center
HEC-DSSVue	HEC-Data Storage System and Viewer
HEC-FFA	HEC-Flood Frequency Analysis
HEC-RAS	HEC-River Analysis System
HEC-ResSim	HEC-Reservoir System Simulation Model
HEC-SSP	HEC-Statistical Software Package

HDSS	High Definition Stream Survey
hp	Horsepower
HPMP	Historic Properties Management Plan
HPUE	Harvest-per-unit-effort
HSB	Horseshoe Bend National Military Park

I

IBI	Index of Biological Integrity
IDP	Inadvertent Discovery Plan
IIC	Intercompany Interchange Contract
IVM	Integrated Vegetation Management
ILP	Integrated Licensing Process
IPaC	Information Planning and Conservation
ISR	Initial Study Report

J

JTU	Jackson Turbidity Units

K

kV	Kilovolt
kva	Kilovolt-amp
kHz	Kilohertz

L

LIDAR	Light Detection and Ranging
LWF	Limited Warm-water Fishery
LWPOA	Lake Wedowee Property Owners' Association

M

m	Meter
m^3	Cubic Meter
M&I	Municipal and Industrial
mg/L	Milligrams per liter
ml	Milliliter
mgd	Million Gallons per Day
µg/L	Microgram per liter
µs/cm	Microsiemens per centimeter
mi^2	Square Miles
MOU	Memorandum of Understanding

MPN	Most Probable Number
MRLC	Multi-Resolution Land Characteristics
msl	Mean Sea Level
MW	Megawatt
MWh	Megawatt Hour

N

n	Number of Samples
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTU	Nephelometric Turbidity Unit
NWI	National Wetlands Inventory

O

OAR	Office of Archaeological Resources
OAW	Outstanding Alabama Water
ORV	Off-road Vehicle
OWR	Office of Water Resources

P

PA	Programmatic Agreement
PAD	Pre-Application Document
PDF	Portable Document Format
pH	Potential of Hydrogen
PID	Preliminary Information Document
PLP	Preliminary Licensing Proposal
Project	R.L. Harris Hydroelectric Project
PUB	Palustrine Unconsolidated Bottom
PURPA	Public Utility Regulatory Policies Act
PWC	Personal Watercraft
PWS	Public Water Supply

Q

QA/QC	Quality Assurance/Quality Control

R

RM	River Mile
RTE	Rare, Threatened and Endangered
RV	Recreational Vehicle

S

S	Swimming
SCORP	State Comprehensive Outdoor Recreation Plan
SCP	Shoreline Compliance Program
SD1	Scoping Document 1
SH	Shellfish Harvesting
SHPO	State Historic Preservation Office
Skyline WMA	James D. Martin-Skyline Wildlife Management Area
SMP	Shoreline Management Plan
SU	Standard Units

T

T&E	Threatened and Endangered
TCP	Traditional Cultural Properties
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TRB	Tallapoosa River Basin
TSI	Trophic State Index
TSS	Total Suspended Soils
TVA	Tennessee Valley Authority

U

USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

W

WCM	Water Control Manual
WMA	Wildlife Management Area
WMP	Wildlife Management Plan
WQC	Water Quality Certification

APPENDIX B

MAPS AND SUPPORTING INFORMATION OF PROPOSED CHANGES

(FILED SEPARATELY)

APPENDIX C

LARGE SCALE MAPS OF R.L. HARRIS PROJECT LANDS

(FILED SEPARATELY)

APPENDIX D

FLAT ROCK BOTANICAL INVENTORY REPORT

A BOTANICAL INVENTORY OF A 20-ACRE PARCEL AT FLAT ROCK PARK, BLAKE'S FERRY, ALABAMA

A report prepared for

ALABAMA POWER COMPANY

by

James T. Diggs, Daniel D. Spaulding, Katie N. Horton, David M. Frings

In partial fulfillment of contract# 09-4050-M-SCS

February 18, 2020

Introduction

This botanical inventory, begun in March 2019, was undertaken to catalogue all plants present at a 20-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 granite pluton supports a unique assemblage of plants and represents a very rare, rapidly disappearing ecosystem type endemic to the eastern United States. This botanical inventory is intended to support the Alabama Glade Conservation Coalition's August 28, 2018 request to reclassify this 20-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 approximately 20 acres of woodland and granite "flat rock" habitat adjacent to the popular Flat Rock recreational area on Lake Harris. The Inventory Area is separated from Flat Rock by forested land and because of this, remains largely unaffected by the large numbers of visitors to Flat Rock. The authors of this report completed a botanical inventory at the Inventory Area to support the proposed change in land use designation.

The field team of botanists (Diggs, Spaulding, and Horton) began this inventory in March, 2019, and visited the site at least monthly throughout the growing season, with the final field day occurring on September 29, 2019. During each visit, we walked the entire 20-acre property, paying careful attention to specialized habitats on the parcel that were likely to harbor additional or more specialized species (wetlands, granite glades, 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 Atlas[2].

In all, 365 species of plants were documented from the Inventory Area and surrounding buffer areas. These 365 species represent 97 plant families. The inventory team documented 1 species which had never been documented in the state of Alabama (denoted as "state record" within the comments of Table 2), and 67 species which had never been documented in Randolph County (denoted as "county record" within the comments of Table 2). These results are presented in Table 2. Several of these species are of federal and/or state conservation concern. These species

[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. Ginzbarg, 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.

and their ranks are presented in Table 1. One of these species, *Phacelia maculata*, has only ever been recorded in the state of Alabama from the Inventory Area. The approximate locations for representative populations of the rare species found in Table 1 are shown in the map in Figure 2. There are 20 species which are considered invasive by the Southeast Exotic Pest Plant Council (SE-EPPC).[3] These are designated as "invasive" in Table 2.

FIGURE 1: INVENTORY AREA FOR RARE PLANT COMMUNITIES OF GRANITE OUTCROPS, APPROXIMATELY 20-ACRES.

FIGURE 2: REPRESENTATIVE LOCATIONS FOR POPULATIONS OF RARE SPECIES FROM TABLE 1.

[3] Miller, J., Chambliss, E., and Bargeron, C. 2004. Invasive Plants of the Thirteen Southern States. https://www.invasive.org/south/seweeds.cfm

TABLE 1: SPECIES OF CONSERVATION CONCERN DOCUMENTED IN INVENTORY AREA

Species	Conservation rank
Cuscuta harperi, Harper's dodder	S2, G2G3
Cyperus granitophilus, granite flatsedge	S2, G3
Diamorpha smallii, elf orpine	S3
Gentiana saponaria, soapwort gentian	S3
Helianthus longifolius, longleaf sunflower	S1S2, G3
Helianthus porteri, confederate daisy	S2
Hypopitys monotropa, pinesap	S2
Mononeuria glabra, Appalachian sandwort	G3
Phacelia maculata, spotted scorpion weed	S1, G1
Phemeranthus mengesii, Menges' fameflower	S2S3, G3

Legend: In all of the 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 or 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

Taxon name	Common name	Family	Comments
Acer rubrum	red maple	Aceraceae	
Aesculus pavia	red buckeye	Hippocastanaceae	
Agalinis fasciculata	beach false foxglove	Orobanchaceae	
Agalinis tenuifolia	slenderleaf false foxglove	Orobanchaceae	
Agave virginica	eastern false aloe	Agavaceae	
Agrostis hyemalis	winter bentgrass	Poaceae	
Agrostis perennans	autumn bentgrass	Poaceae	
Albizia julibrissin	mimosa	Fabaceae	not native, invasive
Allium cepa	garden onion	Alliaceae	not native, state record
Allium vineale	field garlic	Alliaceae	not native, invasive
Alnus serrulata	tag alder	Betulaceae	
Alopecurus carolinianus	Carolina foxtail grass	Poaceae	
Ambrosia artemisiifolia	common ragweed	Asteraceae	
Amelanchier arborea	downy serviceberry	Rosaceae	
Andropogon ternarius	splitbeard bluestem	Poaceae	
Andropogon virginicus	broom sedge	Poaceae	
Antennaria plantaginifolia	plantain pussytoes	Asteraceae	
Apios americana	American groundnut	Fabaceae	
Aralia spinosa	devil's walking stick	Araliaceae	
Arenaria serpyllifolia	large thyme-leaved sandwort	Caryophyllaceae	not native, invasive
Arisaema pusillum	small-flowered jack-in-the-pulpit	Araceae	
Aristida purpurascens	arrowfeather	Poaceae	county record
Arthraxon hispidus	basket grass	Poaceae	not native, invasive
Arundinaria gigantea	river cane	Poaceae	
Asclepias amplexicaulis	clasping milkweed	Apocynaceae	
Asclepias tuberosa	butterfly weed	Apocynaceae	
Asclepias verticillata	whorled milkweed	Apocynaceae	
Asimina parviflora	small-flowered pawpaw	Annonaceae	
Asplenium platyneuron	ebony spleenwort	Aspleniaceae	
Athyrium asplenioides	southern lady fern	Athyriaceae	
Axonopus fissifolius	common carpetgrass	Poaceae	county record
Baccharis halimifolia	groundsel tree	Asteraceae	
Bidens discoidea	few-bracted beggar ticks	Asteraceae	county record
Bidens frondosa	devil's beggar ticks	Asteraceae	
Bignonia capreolata	cross-vine	Bignoniaceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Boechera canadensis	Canada rockcress	Brassicaceae	county record
Botrychium dissectum	cutleaf grape fern	Ophioglossaceae	
Briza minor	lesser quaking grass	Poaceae	
Bromus commutatus	meadow brome	Poaceae	not native, county record
Bromus hordeaceus	lopgrass	Poaceae	not native, county record
Bulbostylis capillaris	common hairsedge	Cyperaceae	
Callicarpa americana	American beautyberry	Lamiaceae	
Callitriche heterophylla	common water-starwort	Plantaginaceae	county record
Campsis radicans	trumpet creeeper	Bignoniaceae	
Cardamine hirsuta	hairy bittercress	Brassicaceae	not native
Cardamine parviflora var. arenicola	sand bittercress	Brassicaceae	
Carex albolutescens	greenish-white sedge	Cyperaceae	
Carex complanata	hirsute sedge	Cyperaceae	county record
Carex crinita	fringed sedge	Cyperaceae	
Carex lupulina	hop sedge	Cyperaceae	
Carex lurida	sallow sedge	Cyperaceae	
Carex nigromarginata	black-edged sedge	Cyperaceae	
Carex striatula	lined sedge	Cyperaceae	
Carex styloflexa	bent sedge	Cyperaceae	
Carex tribuloides	blunt broom sedge	Cyperaceae	
Carpinus caroliniana	American hornbeam	Fagaceae	
Carya pallida	sand hickory	Juglandaceae	
Carya tomentosa	mockernut hickory	Juglandaceae	
Centrosema virginianum	spurred butterfly pea	Fabaceae	
Cephalanthus occidentalis	buttonbush	Rubiaceae	
Chamaecrista fasciculata	common partridge pea	Fabaceae	
Chamaecrista nictitans	common sensitive plant	Fabaceae	
Chasmanthium sessiliflorum	longleaf woodoats	Poaceae	
Chimaphila maculata	pipsissewa	Ericaceae	
Cicuta maculata	water hemlock	Apiaceae	county record
Cirsium horridulum	common thistle	Asteraceae	county record

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Cirsium vulgare	Canada thistle	Asteraceae	not native, invasive
Clematis virginiana	virgin's bower	Ranunculaceae	
Clitoria mariana	butterfly pea	Fabaceae	
Cocculus carolinus	carolina snailseed	Menispermaceae	
Coleataenia anceps	beaked panic grass	Poaceae	
Coleataenia longifolia var. longifolia	long-leaved panic grass	Poaceae	county record
Commelina erecta var. erecta	erect dayflower	Commelinaceae	
Coreopsis grandiflora var. grandiflora	large-flowered tickseed	Asteraceae	
Coreopsis major	woodland tickseed	Asteraceae	
Cornus florida	flowering dogwood	Cornaceae	
Crataegus uniflora	one-flower hawthorn	Rosaceae	
Croton willdenowii	outcrop rushfoil	Euphorbiaceae	
Cuscuta harperi	Harper's dodder	Convolvulaceae	county record, S2, G2G3
Cyperus granitophilus	granite flatsedge	Cyperaceae	S2, G3G4
Cyperus iria	rice flatsedge	Cyperaceae	not native
Cyperus retrorsus	pinebarren flatsedge	Cyperaceae	county record
Cyperus virens	green flatsedge	Cyperaceae	county record
Dactyloctenium aegyptium	crowfoot grass	Poaceae	not native
Danthonia sericea	downy oatgrass	Poaceae	
Danthonia spicata	poverty oatgrass	Poaceae	
Desmodium ciliare	hairy small-leaf tick-trefoil	Fabaceae	
Desmodium rotundifolium	prostrate tick-trefoil	Fabaceae	
Desmodium tenuifolium	slim-leaf tick-trefoil	Fabaceae	county record
Desmodium viridiflorum	velvetleaf tick-trefoil	Fabaceae	
Diamorpha smallii	elf orpine	Crassulaceae	S3, G3G4
Dichanthelium acuminatum var. acuminatum	woolly witchgrass	Poaceae	county record
Dichanthelium acuminatum var. lindheimeri	woolly witchgrass	Poaceae	county record
Dichanthelium boscii	Bosc's witchgrass	Poaceae	
Dichanthelium commutatum	variable witchgrass	Poaceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Dichanthelium depauperatum	starved witchgrass	Poaceae	
Dichanthelium dichotomum var. dichotomum	forked witchgrass	Poaceae	
Dichanthelium laxiflorum	lax-flowered witchgrass	Poaceae	
Dichanthelium microcarpon	small-fruit witchgrass	Poaceae	county record
Dichanthelium ravenelii	Ravenel's witchgrass	Poaceae	
Dichanthelium scoparium	velvet witchgrass	Poaceae	
Dichanthelium sphaerocarpon	round-fruit witchgrass	Poaceae	
Diodia virginiana	Virginia buttonweed	Rubiaceae	
Diospyros virginiana	American persimmon	Ebenaceae	
Dulichium arundinaceum	three-way sedge	Cyperaceae	county record
Eclipta prostrata	yerba de tajo	Asteraceae	not native, county record
Eleocharis acicularis	needle spikerush	Cyperaceae	county record
Eleocharis microcarpa	small-fruit spikerush	Cyperaceae	county record
Eleocharis obtusa	blunt spikerush	Cyperaceae	
Elephantopus tomentosus	woolly elephant's foot	Asteraceae	
Elymus virginicus	Virginia wild rye	Poaceae	
Endodeca serpentaria	Virginia snakeroot	Aristolochiaceae	county record
Eragrostis hirsuta	big top lovegrass	Poaceae	
Eragrostis lugens	mourning lovegrass	Poaceae	not native, county record
Eragrostis pectinacea	Carolina lovegrass	Poaceae	county record
Eragrostis refracta	coastal lovegrass	Poaceae	county record
Eragrostis spectabilis	purple lovegrass	Poaceae	
Erechtites hieraciifolius	American burnweed	Asteraceae	
Erianthus alopecuroides	silver plume grass	Poaceae	
Erigeron canadensis	common horseweed	Asteraceae	
Erigeron philadelphicus	Philadelphia fleabane	Asteraceae	
Erigeron strigosus	common eastern fleabane	Asteraceae	
Eryngium prostratum	creeping eryngo	Apiaceae	
Euonymus americanus	American strawberry bush	Celastraceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Eupatorium capillifolium	common dog fennel	Asteraceae	
Eupatorium hyssopifolium	hyssop-leaf thoroughwort	Asteraceae	
Eupatorium serotinum	late-flowering thoroughwort	Asteraceae	
Euphorbia maculata	spotted sandmat	Euphorbiaceae	county record
Euphorbia pubentissima	false flowering spurge	Euphorbiaceae	
Eutrochium fistulosum	hollow-stem joe pye weed	Asteraceae	
Fagus grandifolia	American beech	Fagaceae	
Fimbristylis autumnalis	slender fimbry	Cyperaceae	
Fraxinus pennsylvanica	green ash	Oleaceae	
Fuirena squarrosa	hairy umbrella sedge	Cyperaceae	
Galactia regularis	eastern milk pea	Fabaceae	
Galium pilosum	hairy bedstraw	Rubiaceae	
Galium uniflorum	one-flower bedstraw	Rubiaceae	
Gamochaeta coarctata	elegant cudweed	Asteraceae	
Gentiana saponaria	soapwort gentian	Gentianaceae	S3
Glyceria striata	fowl manna grass	Poaceae	
Gonolobus suberosus	angle pod	Apocynaceae	
Gratiola virginiana	Virginia hedge hyssop	Plantaginaceae	
Hedeoma hispida	rough false pennyroyal	Lamiaceae	
Helenium amarum	bitterweed	Asteraceae	
Helianthus angustifolius	narrowleaf sunflower	Asteraceae	
Helianthus divaricatus	woodland sunflower	Asteraceae	county record
Helianthus hirsutus	hairy sunflower	Asteraceae	
Helianthus longifolius	longleaf sunflower	Asteraceae	S1S2, G3
Helianthus microcephalus	small head sunflower	Asteraceae	
Helianthus porteri	confederate daisy	Asteraceae	S2, G4
Heuchera parviflora	small-flower alumroot	Saxifragaceae	county record
Hexasepalum teres	poor joe	Rubiaceae	
Hexastylis arifolia	little brown jug	Aristolochiaceae	
Hibiscus moscheutos	common marsh mallow	Malvaceae	county record
Hieracium gronovii	hairy hawkweed	Asteraceae	
Hordeum pusillum	mouse barley	Poaceae	
Houstonia caerulea	common bluet	Rubiaceae	
Houstonia longifolia	eastern longleaf bluet	Rubiaceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Houstonia micrantha	southern bluet	Rubiaceae	county record
Houstonia pusilla	tiny bluet	Rubiaceae	
Houstonia tenuifolia	slender leaf bluet	Rubiaceae	
Hydrangea quercifolia	oak-leaf hydrangea	Hydrangeaceae	
Hydrocotyle verticillata	whorled pennywort	Araliaceae	
Hypericum crux-andreae	St. Peter's wort	Hypericaceae	
Hypericum gentianoides	orange grass	Hypericaceae	
Hypericum hypericoides	St. Andrew's cross	Hypericaceae	
Hypericum punctatum	spotted St. John's wort	Hypericaceae	
Hypericum walteri	greater marsh St. John's wort	Hypericaceae	county record
Hypochaeris radicata	hairy cat's ear	Asteraceae	not native, county record
Hypopitys monotropa	pinesap	Ericaceae	S2
Hypoxis hirsuta	common star grass	Hypoxidaceae	
Ilex opaca	American holly	Aquifoliaceae	
Impatiens capensis	orange jewelweed	Balsaminaceae	
Ipomoea pandurata	man of the earth	Convolvulaceae	
Iris virginica	blue flag iris	Iridaceae	county record
Jacquemontia tamnifolia	hairy clustervine	Convolvulaceae	
Juncus acuminatus	sharp fruit rush	Juncaceae	
Juncus diffusissimus	slim pod rush	Juncaceae	
Juncus effusus	soft rush	Juncaceae	
Juncus secundus	lopsided rush	Juncaceae	
Juncus tenuis	path rush	Juncaceae	
Juncus validus	round head rush	Juncaceae	
Juniperus virginiana	eastern redcedar	Cupressaceae	
Kellochloa verrucosa	warty panic grass	Poaceae	county record
Krigia virginica	Virginia dwarf dandelion	Asteraceae	
Lactuca serriola	prickly lettuce	Asteraceae	county record
Lamium purpureum	purple dead nettle	Lamiaceae	not native
Lechea racemulosa	oblong fruit pinweed	Cistaceae	
Leersia oryzoides	rice cutgrass	Poaceae	county record
Lespedeza cuneata	Chinese bush clover	Fabaceae	not native, invasive

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Lespedeza procumbens	trailing bush clover	Fabaceae	
Lespedeza repens	creeping bush clover	Fabaceae	
Lespedeza virginica	slender bush clover	Fabaceae	
Liatris microcephala	small head blazing star	Asteraceae	
Ligustrum sinense	Chinese privet	Oleaceae	not native, invasive
Linaria canadensis	common toadflax	Plantaginaceae	
Linum striatum	ridged yellow flax	Linaceae	county record
Liquidambar styraciflua	sweetgum	Altingiaceae	
Liriodendron tulipifera	tulip poplar	Magnoliaceae	
Liriope spicata	creeping turf lily	Ruscaceae	not native, county record
Lolium arundinaceum	tall fescue	Poaceae	not native
Lonicera japonica	Japanese honeysuckle	Caprifoliaceae	not native, invasive
Lorinseria areolata	netted chain fern	Blechnaceae	
Ludwigia alternifolia	alternate leaf seedbox	Onagraceae	
Ludwigia decurrens	wingstem water primrose	Onagraceae	
Ludwigia palustris	marsh seedbox	Onagraceae	
Luzula echinata	hedgehog wood rush	Juncaceae	
Lycopus virginicus	Virginia bugleweed	Lamiaceae	
Lygodium japonicum	Japanese climbing fern	Lygodiaceae	not native, invasive, county record
Magnolia grandiflora	southern magnolia	Magnoliaceae	county record
Magnolia virginiana	sweet bay magnolia	Magnoliaceae	
Maianthemum racemosum	Solomon's plume	Ruscaceae	
Malaxis unifolia	green adder's mouth orchid	Orchidaceae	
Matelea carolinensis	Carolina milkvine	Apocynaceae	
Mazus pumilus	Japanese mazus	Mazaceae	not native, county record
Melica mutica	two flower melic grass	Poaceae	
Micranthes virginiensis	early saxifrage	Saxifragaceae	
Microstegium vimineum	Japanese stilt grass	Poaceae	not native, invasive
Mikania scandens	climbing hempvine	Asteraceae	
Mitchella repens	partridge berry	Rubiaceae	
Monarda fistulosa var. mollis	eastern bergamot	Lamiaceae	
Mononeuria glabra	Appalachian sandwort	Caryophyllaceae	G4

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Morus rubra	red mulberry	Moraceae	
Mosla dianthera	minature beefsteak plant	Lamiaceae	not native, invasive, county record
Muscadinia rotundifolia	muscadine	Vitaceae	
Nabalus altissimus	tall rattlesnake root	Asteraceae	
Nyssa biflora	swamp tupelo	Nyssaceae	
Nyssa sylvatica	black gum	Nyssaceae	
Oenothera biennis	common evening primrose	Onagraceae	
Oenothera fruticosa var. subglobosa	flatrock sundrops	Onagraceae	
Oenothera linifolia	threadleaf sundrops	Onagraceae	
Opuntia cespitosa	red-flowered prickly pear	Cactaceae	county record
Opuntia mesacantha	prickly pear	Cactaceae	county record
Osmundastrum cinnamomeum	cinnamon fern	Osmundaceae	
Oxalis dillenii	gray green wood sorrel	Oxalidaceae	
Oxalis florida	slender wood sorrel	Oxalidaceae	
Oxalis stricta	common yellow wood sorrel	Oxalidaceae	
Oxalis violacea	violet wood sorrel	Oxalidaceae	
Oxydendrum arboreum	sourwood	Ericaceae	
Packera anonyma	Appalachian ragwort	Asteraceae	
Parthenocissus quinquefolia	Virginia creeper	Vitaceae	
Paspalum laeve	field crowngrass	Poaceae	
Paspalum notatum	bahia grass	Poaceae	not native, invasive
Paspalum urvillei	Vasey's grass	Poaceae	not native
Passiflora incarnata	purple passion flower	Passifloraceae	
Passiflora lutea	yellow passion flower	Passifloraceae	
Persicaria punctata	dotted smartweed	Polygonaceae	county record
Persicaria setacea	bog smartweed	Polygonaceae	
Phacelia maculata	spotted scorpion weed	Hydrophyllaceae	
Phemeranthus mengesii	Menges' rock pink	Montiaceae	S2S3, G3
Photinia serratifolia	Taiwanese redtip	Rosaceae	not native
Phytolacca americana	American pokeweed	Phytolaccaceae	
Pinus taeda	loblolly pine	Pinaceae	
Pinus virginiana	Virginia pine	Pinaceae	county record

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Pityopsis graminifolia	narrowleaf silkgrass	Asteraceae	county record
Plantago aristata	large bract plantain	Plantaginaceae	
Plantago rugelii	black seed plantain	Plantaginaceae	
Plantago virginica	Virginia plantain	Plantaginaceae	
Pleopeltis michauxiana	resurrection fern	Polypodiaceae	
Pluchea camphorata	common camphor weed	Asteraceae	
Poa annua	annual bluegrass	Poaceae	not native, invasive
Polygala curtissii	Appalachian milkwort	Polygalaceae	
Polygonatum biflorum	Solomon's seal	Ruscaceae	
Polypremum procumbens	rustweed	Tetrachondraceae	
Polystichum acrostichoides	Christmas fern	Dryopteridaceae	
Pontederia cordata	pickerel weed	Pontederiaceae	
Portulaca oleracea	common purslane	Portulacaceae	not native, county record
Potentilla indica	mock strawberry	Rosaceae	not native, invasive
Potentilla simplex	common cinquefoil	Rosaceae	
Prunella vulgaris var. lanceolata	American self heal	Lamiaceae	county record
Prunus serotina	black cherry	Rosaceae	
Pseudognaphalium obtusifolium	eastern rabbit tobacco	Asteraceae	
Ptilimnium capillaceum	herb William	Apiaceae	
Pycnanthemum loomisii	Loomis' mountain mint	Lamiaceae	
Pycnanthemum tenuifolium	narrowleaf mountain mint	Lamiaceae	county record
Pyrrhopappus carolinianus	Carolina false dandelion	Asteraceae	
Pyrus calleryana	Bradford pear	Rosaceae	not native, invasive, county record
Quercus alba	northern white oak	Fagaceae	
Quercus nigra	water oak	Fagaceae	
Quercus rubra	northern red oak	Fagaceae	county record
Quercus stellata	post oak	Fagaceae	
Quercus velutina	black oak	Fagaceae	county record
Ranunculus pusillus	low buttercup	Ranunculaceae	
Rhexia mariana	pale meadow beauty	Melastomataceae	
Rhododendron canescens	piedmont azalea	Ericaceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Rhus copallinum	winged sumac	Anacardiaceae	
Rhus glabra	smooth sumac	Anacardiaceae	
Rhynchosia tomentosa	twining snout bean	Fabaceae	
Rhynchospora globularis	globe beakrush	Cyperaceae	
Rhynchospora glomerata	clustered beakrush	Cyperaceae	
Rhynchospora inexpansa	nodding beakrush	Cyperaceae	county record
Rubus flagellaris	whiplash dewberry	Rosaceae	
Rubus pensylvanicus	southern blackberry	Rosaceae	
Ruellia carolinensis	hairy wild petunia	Acanthaceae	
Rumex acetosella	sheep sorrel	Polygonaceae	not native, invasive
Salix nigra	black willow	Salicaceae	
Salvia lyrata	lyre leaf sage	Lamiaceae	
Sambucus canadensis	common elderberry	Adoxaceae	
Sanicula canadensis	Canadian black snakeroot	Apiaceae	
Sanicula smallii	Small's black snakeroot	Apiaceae	
Sassafras albidum	sassafras	Lauraceae	
Schizachyrium scoparium	little bluestem	Poaceae	
Scirpus cyperinus	wool grass	Cyperaceae	
Scleria oligantha	little head nutrush	Cyperaceae	
Scutellaria elliptica	hairy skullcap	Lamiaceae	county record
Sericocarpus linifolius	narrowleaf white top aster	Asteraceae	county record
Setaria parviflora	knotroot bristlegrass	Poaceae	
Setaria pumila	yellow bristlegrass	Poaceae	not native, invasive
Seymeria cassioides	yaupon black senna	Orobanchaceae	
Silene stellata	starry campion	Caryophyllaceae	
Silene virginica	fire pink	Caryophyllaceae	
Smilax bona-nox	saw greenbrier	Smilacaceae	
Smilax glauca	white leaf catbrier	Smilacaceae	
Smilax rotundifolia	common greenbrier	Smilacaceae	
Smilax smallii	Jackson brier	Smilacaceae	
Solanum carolinense	Carolina horse nettle	Solanaceae	
Solidago altissima	tall goldenrod	Asteraceae	
Solidago caesia	wreath goldenrod	Asteraceae	
Solidago erecta	slender goldenrod	Asteraceae	
Solidago nemoralis	eastern gray goldenrod	Asteraceae	
Solidago odora	sweet goldenrod	Asteraceae	

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Solidago petiolaris	ragged goldenrod	Asteraceae	
Solidago rugosa var. aspera	wrinkle-leaf goldenrod	Asteraceae	county record
Sorghastrum nutans	yellow indian grass	Poaceae	
Sparganium americanum	American bur weed	Typhaceae	
Spiranthes lacera var. gracilis	southern slender ladies' tresses	Orchidaceae	
Sporobolus indicus	smut grass	Poaceae	not native
Steinchisma hians	gaping panic grass	Poaceae	
Stylosanthes biflora	sidebeak pencil flower	Fabaceae	
Symphyotrichum dumosum	white bushy aster	Asteraceae	
Symphyotrichum lateriflorum	calico aster	Asteraceae	county record
Symphyotrichum patens	late purple aster	Asteraceae	
Symphyotrichum pilosum	white oldfield aster	Asteraceae	
Taxodium distichum	southern baldcypress	Cupressaceae	county record
Tephrosia spicata	spiked hoary pea	Fabaceae	
Tephrosia virginiana	Virginia goat's rue	Fabaceae	
Thyrsanthella difformis	climbing dogbane	Apocynaceae	
Tipularia discolor	cranefly orchid	Orchidaceae	
Toxicodendron radicans	eastern poison ivy	Anacardiaceae	county record
Tradescantia ohiensis	Ohio spiderwort	Commelinaceae	
Tragia urticifolia	nettle-leaf noseburn	Euphorbiaceae	
Tridens flavus	purple top grass	Poaceae	
Triodanis perfoliata	clasping leaf venus' looking glass	Campanulaceae	
Ulmus alata	winged elm	Ulmaceae	
Urochloa platyphylla	broadleaf signal grass	Poaceae	county record
Uvularia sessilifolia	sessile leaf bellwort	Colchicaceae	
Vaccinium arboreum	sparkleberry	Ericaceae	
Vaccinium elliottii	mayberry	Ericaceae	
Vaccinium fuscatum	black highbush blueberry	Ericaceae	
Vaccinium pallidum	early lowbush blueberry	Ericaceae	
Vaccinium stamineum	deerberry	Ericaceae	
Valerianella radiata	beaked cornsalad	Caprifoliaceae	
Verbascum thapsus	woolly mullein	Scrophulariaceae	not native, invasive
Verbena brasiliensis	Brazilian vervain	Verbenaceae	not native, invasive
Verbena incompta	clasping verbena	Verbenaceae	not native, invasive, county record

TABLE 2 (CONT'D): SPECIES DOCUMENTED WITHIN INVENTORY AREA

Taxon name	Common name	Family	Comments
Vernonia flaccidifolia	woodland ironweed	Asteraceae	county record
Vernonia gigantea	giant ironweed	Asteraceae	
Veronica peregrina	common purslane speedwell	Plantaginaceae	not native
Viburnum rufidulum	rusty blackhaw	Adoxaceae	county record
Viola affinis	sand violet	Violaceae	
Viola bicolor	field pansy	Violaceae	
Viola sagittata var. sagittata	arrowleaf violet	Violaceae	county record
Vitis aestivalis	summer grape	Vitaceae	
Xyris jupicai	Richard's yellow-eyed grass	Xyridaceae	
Yucca flaccida	flaccid leaf yucca	Agavaceae	county record