



ALABAMA POWER COMPANY

BIRMINGHAM, ALABAMA

MARTIN HYDROELECTRIC PROJECT

FERC NO. 349

STUDY PLAN 5 - RARE, THREATENED, AND ENDANGERED SPECIES SURVEYS

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Prepared by:



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BIRMINGHAM, ALABAMA**

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STUDY PLAN 5 - RARE, THREATENED, AND ENDANGERED SPECIES SURVEYS

1.0 GOALS AND OBJECTIVES OF STUDY

The U.S. Fish and Wildlife Service (USFWS) and the Alabama Department of Conservation and Natural Resources (ADCNR) (agencies) are concerned about the presence of any Federal and/or State Rare, Threatened, and Endangered (RTE) species that currently reside within the Martin project boundary.

The goal of this study is to identify the location and abundance of any RTE species within the project boundary and determine if project operation potentially impacts any species present. If there are project related impacts, the agencies would like to determine ways to limit those impacts. The agencies would also like to determine if there are opportunities to enhance or reintroduce species to specific areas within or near the project.

2.0 RELEVANT RESOURCE MANAGEMENT GOALS

The USFWS has mandatory federal authority under Section 7 of the Federal Power Act to identify and limit the impacts of hydropower projects on any Federally protected Threatened or Endangered species within the project boundary. A potential impact is fragmentation of species populations by the project and reduction of connectivity of populations. The ADCNR has developed a policy to enhance RTE species through protection of habitat, supplemental stocking, and/or reintroduction of species to historic habitats. Protection and or enhancement of any populations of RTE species within the project boundary would be a positive action for sustaining any RTE species identified.

3.0 BACKGROUND AND EXISTING INFORMATION

Several preliminary surveys have been performed for RTE species within the project boundary and include:

- unionid survey in various main channel and tributary areas of the project;
- red cockaded woodpecker surveys on project properties; and
- annual bald eagle surveys on the lake.

4.0 PROJECT NEXUS

The study would determine if there are existing populations of RTE species within the project boundary and if existing project operation impacts those populations. Fragmentation of the populations by the project is one area of impact to consider.

5.0 STUDY AREA AND STUDY SITES

The study area for this issue would include all of the lands and waters located within the project boundary of the Lake Martin project. Additional tributary sites may also be included if they are significantly influenced by project operations. During consultation, the USFWS stated that they would identify specific project sites to be surveyed.

6.0 PROPOSED METHODOLOGY

The overall purpose of this study would be to gather additional data for determination of the presence and location of RTE species within the project boundary and to determine if project operations affect these populations. To accomplish this, the study will involve three components:

- 1) A literature search of the USFWS, Natural Heritage Trust, and Alabama Lands Division RTE species databases was performed as part of the PAD to see if any documented populations of aquatic and terrestrial RTE species occur within or adjacent to the project boundary.
- 2) Field surveys have been and will be performed by qualified investigators in specific areas of the project identified by these databases or by ADCNR or USFWS personnel. These surveys will determine the presence or absence of RTE species within the project boundary. Initial consultation with the USFWS and ADCNR has led to unionid surveys in Manoy Creek, Blue Creek, Sandy Creek, the Tallapoosa River at Irwin Shoals, and the Tallapoosa River in the Martin Tailrace. USFWS has requested that qualitative and quantitative fish surveys be performed at each of the sites listed above. The USFWS may provide additional locations they believe should be surveyed for aquatic and terrestrial species.

Data Collection Techniques

Standardized fish community sampling and timed dive sampling for unionids (snails and mussels) will be performed at the following project site locations:

SITE	LOCATION
Tallapoosa River (TRM ~57)	downstream of Martin Dam
Tallapoosa River (TRM~90.5)	@ Irwin Shoals
Tallapoosa River (TRM~80)	Shoals upstream of Hillabee Cr confluence
Blue Creek	CR 39 upstream to
Sandy Creek	@ Hwy 49 and downstream
Manoy Creek	downstream of Madwind Rd
Hillabee Creek	lower shoals
Jaybird Creek	lower reaches

For unionid sampling, up to 1-hour of timed qualitative searches will be performed by a diver using a surface-supplied air dive system equipped with a hardwire

communication system. Most searches will be of 10 minutes in duration, but may extend longer when varying substrates were encountered. The diver will place all mussels and snails found during a search into a mesh bag and bring them to the surface for identification. Mussels will be identified and returned to the river bottom. Snails will be preserved for later identification. If a search encounters abundant snails and/or Asiatic clams (*Corbicula*), a representative sub-sample will be collected and sorted at the surface. All field data such as GPS coordinates, water depth, visibility, substrate type, dive times, and mussel/snails collected will be documented at each search location.

The fish community at each site will be sampled using either boat electrofishing or backpack electrofishing in combination with seining. Sampling will focus on identifying the range of species present at each sampling site.

Boat electrofishing sampling will be used to sample predominantly “deep sites” (greater than 2 feet deep) and will consist of 20 minutes of electrofishing at each site. Within each sampling site, all microhabitats (pools, riffles, runs, brush piles, stumps, boulders, etc.) will be sampled in an attempt to clearly describe the fishery community present. All stunned fish will be collected during sampling, placed in a live well or collection container and identified to species.

Backpack daytime electrofishing and seining will be used to sample the fish community at sites that are predominantly “shallow” (less than 2 feet deep). Up to 20 minutes of sampling will be used at each site. Sampling can include a combination of a seine haul through a pool, a seine set in a riffle or run where fishes are shocked into the seine, or a set length of shoreline shocked for fish. Within each sampling site, all microhabitats (pools, riffles, runs, brush piles, stumps, boulders, etc.) will be sampled in an attempt to clearly describe the fishery community present. All stunned fish will be collected during sampling, placed in a live well or collection container and identified to species.

Any problematic species identifications will be collected and preserved in 10% formalin or on ice and returned to the lab for identification and enumeration and addition to the data sheet. Other information pertinent to collections will also be recorded (date, time, weather conditions, sample location, collection technique, sampling effort, water temperature, DO, and secchi disc, etc.) as directed on each data sheet.

Specific areas within the Martin project boundary will be surveyed for RTE terrestrial species. Alabama Natural Heritage Program sighting forms will be completed for each rare plant population located or revisited. Sighting forms document each population and include detailed information, such as size of area occupied, habitat description, and associated plant species. Locations of populations will be mapped with the aid of a geographic positioning (GPS) unit and depicted on physical and electronic maps. Rare plant species will be photographed (close-ups of individual plants and more general habitat shots). Plants will be collected only when it is deemed necessary to identify the plant. When necessary, collections will be sent to taxonomic experts for final verification.

6.1 Data Analysis

The collected data will be summarized into a list of species collected at each site. Any threatened or endangered species will be identified and their habitat “requirements” included in the report. APC will use this information to develop a Biological Assessment in cooperation with USFWS as part of the required Section 7 Consultation needs.

7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE

This study employs generally accepted practices for evaluating RTE distributions at hydroelectric projects. The study methodology provided here was recommended by the USFWS and the ADCNR and is consistent with generally accepted sampling principles and practices for fish and unionid communities.

8.0 PRODUCTS

This study will have two products:

- an RTE database for the Lake Martin area; and
- a report of RTE locations, including maps (both electronic and hard copy)¹, within and/or adjacent to the Lake Martin Project.

Data and analyses from this study will be included in periodic reports to ADCNR, USFWS, and the MIG 1. Draft reports will be distributed to the MIG 1 for review and comment upon completion of the product. Final reports will be provided for each product as part of the draft license application and will contain all necessary data in tabular and graphic form to depict RTE abundance and/or distribution within the Lake Martin Project.

¹ RTE location information is viewed as sensitive information and will not be distributed beyond state and federal agencies.

9.0 SCHEDULE

This schedule is draft and APC intends to develop a formal schedule with MIG 1 members upon final FERC approval of the study.

Identify Field Survey sites	October 2008
APC files Final Study Plan	November 2008
Anticipated FERC Approval.....	May 2009
MIG 1 Consultation	May 2009 – December 2010
Conduct Field Surveys.....	April – August 2009
Finalize Report of Surveys.....	January 2010
Draft Report	June 2010
Final Report	September 2010

10.0 LEVEL OF EFFORT AND COST

APC estimates the cost of consulting on the study plan, developing the RTE database, performing field surveys, and preparing a report is approximately \$200,000 depending on the number of sites the USFWS identifies for field surveys.

11.0 REFERENCES

Alabama Power Company. 2008. Preliminary Application Document for the Martin Hydroelectric Project (FERC No. 349). Alabama Power Company, Birmingham, AL.