



# **ALABAMA POWER COMPANY**

*BIRMINGHAM, ALABAMA*

## **MARTIN HYDROELECTRIC PROJECT**

*FERC NO. 349*

### **STUDY PLAN 12 (E) – EFFECTS OF A RULE CURVE CHANGE ON FEDERALLY THREATENED AND ENDANGERED SPECIES AT THE MARTIN PROJECT AND IN THE TALLAPOOSA RIVER BELOW THURLOW DAM**

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*Prepared by:*



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**1.0 GOALS AND OBJECTIVES OF STUDY**

Many stakeholder groups have requested that Alabama Power Company (APC) investigate the feasibility of raising the winter rule curve at Martin. In Study Plan 12 (a), APC proposes to conduct a study that will model an increase in the winter pool elevation in increments of 1 foot from el. 481 ft. msl<sup>1</sup> to el. 486 ft. msl. as well as to examine extending the summer pool level in the shoulder seasons (later winter/early spring and early fall). As a result of this modeling study, APC must address potential impacts to federally threatened and endangered species associated with a Lake Martin winter rule curve that is higher than existing levels of el 481 ft. msl. and may cause an increase in frequency, duration, and/or magnitude of flooding downstream of Thurlow Dam in the Tallapoosa River.

Objectives of this study would:

- determine if increased flooding (magnitude, frequency and/or duration) would affect existing aquatic and terrestrial populations of federally threatened and endangered species in the lower Tallapoosa River.
- determine if a higher Martin lake level during the winter would potentially impact any existing aquatic and terrestrial populations of federally threatened and endangered species in the Martin Project boundary.

**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. Potential impacts to federally protected threatened or endangered (T&E) species as a result in change to project operations would be of concern to the USFWS. The ADCNR has developed a policy to enhance T&E species through protection of habitat, supplemental stocking, and/or reintroduction of species to historic habitats. Protection and or enhancement of any populations of aquatic and terrestrial T&E species within the project boundary would be a positive action for sustaining T&E species associated with the project.

**3.0 BACKGROUND AND EXISTING INFORMATION**

Several preliminary surveys have been performed for T&E 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

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<sup>1</sup> Elevation 481 ft msl is equivalent to el. 480 Martin Datum (MD).

- annual bald eagle surveys on the lake.

Initial modeling analysis indicates that a change in the winter drawdown on Lake Martin could result in increased flooding on the Tallapoosa River downstream of Thurlow Dam.

#### **4.0 PROJECT NEXUS**

The Project is licensed by FERC and all proposed operational changes must be disclosed and affects addressed in the license application to FERC. The study would determine if any of the existing populations of T&E species within the project boundary and in the Tallapoosa River downstream of Thurlow Dam would be impacted by a change in existing project operations.

#### **5.0 STUDY AREA AND STUDY SITES**

The study area includes all of the waters located within the Martin Project boundary and the tailrace of the Project. It also includes looking at the effects of increased flooding in the Tallapoosa River downstream of the Thurlow Project.

#### **6.0 PROPOSED METHODOLOGY**

The overall purpose of this study would be to gather additional data for determination of the presence and location of aquatic and terrestrial T&E species within the project boundary and in the Tallapoosa River downstream of Thurlow Dam to determine if a change in the current project operations may affect these populations. To accomplish this, the study will involve three components:

- 1) APC performed a literature search of the USFWS, Natural Heritage Trust, and Alabama Lands Division T&E species databases was performed as part of the PAD to see if any documented populations of T&E species occur within or adjacent to the project boundary. APC will also review these sources for documented population data for T&E species located in the Tallapoosa River downstream of Thurlow Dam.
- 2) Field surveys have been and will be performed by qualified investigators in specific areas of the project associated with the Lake Martin project boundary as part of the MIG 1 Study Plan #5. These surveys will determine the presence or absence of T&E species within the project boundary. Historic surveys in the Tallapoosa River downstream of Thurlow Dam were conducted as part of the Yates and Thurlow relicense. That information will be reviewed for locations of aquatic and terrestrial T&E species in the Tallapoosa River.
- 3) T&E location information will be compared with modeling data to determine potential areas of impact that may occur with a change in project operation. This information will be incorporated into the Section 7 consultation with the USFWS.

**7.0 CONSISTENCY WITH GENERALLY ACCEPTED SCIENTIFIC PRACTICE**

This study employs generally accepted practices for evaluating T&E distributions at hydroelectric projects. The study methodology provided here will be reviewed by the USFWS and the ADCNR prior to submission to the FERC.

**8.0 PRODUCTS**

This study will identify the potential impacts of project operation rule-curve change existing population of T&E species in the Lake Martin Project and in the Tallapoosa River from Thurlow Dam to the confluence with the Coosa River. Data and analyses, including maps (both hard copy and electronic) from this study will be included in periodic reports to ADCNR, USFWS, and the MIG 3<sup>2</sup>. 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 T&E abundance and/or distribution within the Lake Martin Project.

**9.0 SCHEDULE**

This schedule is draft and APC intends to develop a formal schedule with MIG 3 members upon Final FERC approval of the study.

APC files Final Study Plan .....	November 2008
Anticipated FERC Approval.....	May 2009
MIG 3 Consultation .....	May 2009 – December 2010
Review of T&E Information.....	June 2009 – September 2009
Compare Model Data with.....	October – November 2009
T&E Distribution data:	
Draft Report .....	February 2010
Final Report .....	September 2010

**10.0 LEVEL OF EFFORT AND COST**

APC estimates that consultation with the MIG 3 and development of models and analysis on the potential rule curve change at Lake Martin will cost approximately \$50,000.

**11.0 REFERENCES**

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

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<sup>2</sup> RTE location information is viewed as sensitive information and will not be distributed beyond state and federal agencies.