

Hydropower Project License Summary

COOSA RIVER, ALABAMA

COOSA HYDROELECTRIC PROJECT (P-2146)



Left: Lay Lake
Right: Logan Martin Dam

Photo Credit: American Rivers

This summary was produced by the

Hydropower Reform Coalition

and

River Management Society

COOSA RIVER, ALABAMA
COOSA HYDROELECTRIC PROJECT (P-2146)

DESCRIPTION:

The Coosa River projects encompass the following seven developments:

- Weiss, H. Neely Henry (Neely Henry), Logan Martin, Lay, and Bouldin developments (previously Coosa River projects)
- Mitchell (previously Mitchell dam project, P-82), and
- Jordan (previously Jordan dam project, P-618).

The Coosa River Basin drainage encompasses about 10,161 square miles in Alabama, Georgia, and Tennessee. The Coosa River begins at the confluence of the Oostanaula and Etowah rivers in northwest Georgia, and flows 267 miles in a southerly direction to its confluence with the Tallapoosa River, forming the Alabama River.

The Coosa River Basin supports rich and diverse assemblages of aquatic species, with 147 species of fish. Additionally, it supports the most diverse collection of freshwater mollusks in the world.

A. SUMMARY

1. License application filed: July 28, 2005
2. License Issued: June 20, 2013
3. License expiration: May 31, 2043
4. Capacity: 960.9 MW
5. Waterway: Coosa River
6. Counties: Cherokee, Etowah, Calhoun, St. Clair, Talladega, Shelby, Coosa, Chilton, and Elmore counties, Alabama, and Floyd County, Georgia.
7. Licensee: Alabama Power Company (APC)
8. Licensee Contact:
 - Barry Lovett - Project Manager - 205-257-4265
 - Mike Oakley - Public Relations/Communication Specialist - 205-257-4197
9. Project Website: <http://www.alabamapower.com/community/lakes/hydro/coosa-project/home.asp>
10. Project area: The Coosa River Project includes seven developments that occupy about 271.9 acres of federal lands administered by the U.S. Bureau of Land Management (BLM). The Coosa River Basin drainage encompasses about 10,161 square miles in Alabama, Georgia, and Tennessee. The Coosa River begins at the confluence of the Oostanaula and Etowah rivers near Rome, Georgia, and flows 267 miles in a southerly direction to its confluence with the Tallapoosa River.
11. Project Facilities: The Coosa River Project includes the following seven developments:
 - a. The Weiss development
 - located at river mile (RM) 226
 - provide seasonal storage for flood control and power during peak load periods
 - an approximately 1.5-mile-long diversion dam consisting of earthen east and west embankments
 - a 2.5-mile-long secondary dam including a powerhouse intake

- a 52-mile-long, 30,200-acre reservoir at normal pool elevation 564 feet mean sea level (msl)
 - a powerhouse on the secondary dam with three generating units with a total rated capacity of 87.75 MW
 - Additionally, a bypassed reach extends from the diversion dam to the outlet of the powerhouse tailrace channel on the Coosa River.
 - The Weiss bypassed reach is the only stretch of river in the project area upstream of the Jordan dam that has a significant reach not subject to a backwater effect, is federally designated as critical habitat for eight species of mussels, and serves as habitat for 46 species of fish and 19 species of mussels, including one federally endangered and one threatened mussel species.
- b. Neel Henry Development
- located at river mile (RM) 148
 - provide seasonal storage for flood control and power during peak load periods
 - an approximately 0.9-mile-long dam consisting of earthen east and west embankments and a powerhouse intake section
 - a 78-mile-long, 11,235-acre reservoir at normal pool elevation 508 feet
 - a powerhouse with three generating units with a total rated capacity of 72.9 MW
- c. Logan Martin Development
- located at river mile (RM) 99.5
 - provide seasonal storage for flood control and power during peak load periods
 - an approximately 1.2-mile-long dam consisting of earthen east and west dikes and a concrete powerhouse intake section
 - a 48.5-mile-long, 15,263-acre reservoir at normal pool elevation 477 feet
 - a concrete powerhouse containing three generating units with a total rated capacity of 128.25 MW
- d. Lay Development
- Located at river mile (RM) 51
 - Operated as run-of-river, with daily pool level change of 1 foot or less
 - an approximately 0.4-mile-long dam consisting of an earthen east embankment, concrete spillway with 26 gates, a concrete powerhouse intake section,
 - a 48.2-mile-long, 12,000-acre lake at normal pool elevation 396 feet
 - a powerhouse with six generating units with a total rated capacity of 177 MW
 - Alabama Power is in the process of upgrading turbine units 1 and 4 at this development, which will not affect the project's installed capacity but will increase generation.
- e. Mitchell Development
- Located at river mile (RM) 38
 - Operated as run-of-river, with daily pool level change of 1 foot or less
 - an approximately 0.32-mile-long dam
 - a 14-mile-long, 5,850-acre lake at normal pool elevation 312 feet

- two powerhouses, integral with the dam, the first with one operating generating unit and three non-operating generating units, and the second with three generating units, for a total rated capacity of 170 MW
- f. Jordan Development
- Located at river mile (RM) 18
 - Operated as run-of-river, with daily pool level change of 1 foot or less
 - an approximately 0.35-mile-long dam
 - an 18-mile-long, 5,880-acre lake at normal pool elevation 252 feet
 - a concrete powerhouse with four generating units with a total rated capacity of 100 MW
- g. Bouldin Development
- Located at river mile (RM) 18
 - Operated as run-of-river, with daily pool level change of 1 foot or less
 - located on a power canal adjacent to a bypassed section of the Coosa River. The power canal intake is located on Jordan Lake, about 1 mile upstream of Jordan dam, and the tailrace canal empties into the Coosa River downstream of Jordan dam
 - a 3-mile-long power canal and forebay lake, for a total of 920 acres at normal pool elevation 252 feet
 - an approximately 1.8-mile-long forebay dam
 - a concrete powerhouse with three generating units with a total rated capacity of 225 MW

B. IMPORTANT PROVISIONS AND REQUIREMENTS IN LICENSE

The license requires a number of measures to protect and enhance fish, wildlife, recreation, cultural, and aesthetic resources at the project.

1. Water Level Management [Reference: License Article 401]

Articles 401a to 401g of the license provide guidance and requirements for management of lake levels. There are specific rule curves for Weiss, Neel Henry and Logan Martin developments that specify the lake levels for flood control and during drought. The Lay Lake, Mitchell Lake, Jordan Lake and Bouldin Lake also have requirements regarding lake level. Details can be found in License Article 401, Page 100-106.

2. Flood Control [Reference: License Article 402]

Three reservoirs- Weiss, Neel Henry and Logan Martin- are used for flood control purposes. The Army Corps of Engineers controls the operation of the Weiss reservoirs for flood control per the June 2004 Alabama-Coosa River Basin Reservoir Regulation Manual, Weiss Reservoir (Weiss Manual). Similarly, the Neel Henry and the Logan Martin reservoirs are operated under the measures specified in the January 1979 Alabama-Coosa River Basin Reservoir Regulation Manual, H. Neely Henry Reservoir (Neely Henry Manual) and the June 2004 Alabama-Coosa River Basin Reservoir Regulation Manual, Logan Martin (Logan Martin Manual) respectively.

The manuals contain detailed information on flood control operations, pre-flood evacuation procedures and other relevant information.

3. Drought Management [Reference: License Article 403]

Drought management on the Coosa River is governed by the Coosa River portion of Alabama-ACT Drought Response Operations Proposal (ADROP), which provides a plan for managing the Coosa River operations during drought conditions of varying intensity. When drought indicators (rainfall and stream flow indicators) reach specified intensity levels, the Coosa River Project shall be operated to provide the specified monthly minimum flow releases from the Jordan dam.

4. Minimum Flows [Reference: License Article 405]

APC is required to provide the following minimum flows from Jordan dam to protect the federally listed tulotoma snail and to maintain adequate flows for recreation.

Dates	Flow Specifications
April 1 to May 31	4000 cfs continuous base flow from 3 pm to 9 am 8000 cfs pulse flow from 9 am to 3 pm
June 1 to June 15	reduce the continuous 4,000-cfs base flow at a rate of 66.7 cfs per day, and the daily 8,000-cfs pulse flow at a rate of 133.3 cfs per day.
June 16 to June 30	APC may cease release of the daily pulse flow but shall continue to release the continuous base flow, reducing it at a rate of 66.7 cfs per day.
July 1 to March 31	the licensee shall release a continuous minimum base flow of 2,000 cfs, regardless of inflow.

The license requires APC to release specific amounts of water for recreation purposes during the weekends from June 16 to October 31, during the Memorial and Labor Day weekends and on July 4th. The flow requirements vary and are specified in the license article 405 on pages 109 and 110 of the license.

5. Dissolved Oxygen [Reference: License Article 407 and Water Quality Certificate Conditions (Appendix A of the License)]

The license requires APC to Dissolved Oxygen (DO) Enhancement Plan for the Coosa River Project by November 2013 to maintain DO level in the Weiss bypassed reach of the river, the tailrace and the tailwaters of Weiss, Neely Henry, Logan Martin, Lay, Mitchell, Jordan, and Bouldin at no less than 4.9 mg/L at all times. APC is required to consult Alabama Department of Environmental Management, the Alabama Department of Conservation and Natural Resources, and the U.S. Fish and Wildlife Service during the preparation of the plan.

6. Fish Habitat [Reference: License Article 411]

The license requires APC to develop and submit a Fish Habitat Enhancement Plan in consultation with AL Dept. of Conservation and Natural Resources and US Fish and Wildlife Service within 4 months of license issuance. The plan shall include, but not be limited to:

- (1) a provision for introducing pea gravel or other appropriate substrates to the lakes to enhance spawning and cover for fish and to provide substrate for invertebrates;
- (2) measures to stabilize the Coosa River Project shorelines and the Weiss bypassed reach to improve water quality, control sedimentation, and provide cover for fish; and
- (3) a provision for providing brush piles and other woody debris in the lakes to provide cover for fish and to enhance angling opportunities at the project.

7. Wildlife Management [Reference: License Article 412]

The license requires APC to implement Sections 1 through 10 of the draft Wildlife Management Plan APC filed on July 28, 2005 as part of its relicense application. The purpose of the plan is to protect and enhance wildlife and wildlife habitat (aquatic and upland) on project lands.

8. Recreation [Reference: License Article 411]

The license requires APC to file a Recreation Plan by May 2014. The license requires APC to provide 42 recreation sites along with numerous improvements to recreational facilities such as boat launch, fishing pier, parking lots etc. at each of the developments.

9. Invasive Species [Reference: License Article 416]

By May 2013, APC is required to file an Invasive Species Management Plan, which shall include but not limited to the following:

- (1) an identification of invasive species that occur within the Coosa River Project boundary;
- (2) a discussion of the specific measures that will be used to control invasive species at the project, including identifying any herbicides and pesticides that are safe for aquatic resources that inhabit lands classified as Sensitive Resources Lands;
- (3) a provision to avoid the use of any herbicides and pesticides at the Jordan development that may harm the federally listed tulotoma snail (*Tulotoma magnifica*);
- (4) a provision to annually monitor the invasive species to evaluate the effectiveness of the implemented control measures;
- (5) a description of the mosquito control program; and
- (6) a description of the zebra mussel awareness program.

C. MAP

There are two convenient ways to become familiar with this project on the Hydropower Reform Coalition website, www.hydroreform.org.

- Go directly to the project page <http://www.hydroreform.org/projects/coosa-river-p-2146>
- To understand the geographical context of the project, visit the *On Your River* section of the site. This link (<http://www.hydroreform.org/on-your-river/South>) will take you to the section for rivers in the South. Zoom in towards Alabama. The Coosa River projects stretch along the Coosa River from Northeastern Alabama to just north of Montgomery, AL.