FISH & WILDLIFE ISSUE SHEET

MARTIN ISSUE GROUP ONE (MIG 1)

Determine the overall health and abundance of fish and wildlife habitat and populations on Lake Martin and examine the effect(s) the Project has on fish and wildlife species.

DESCRIPTION OF ISSUE

Stakeholders expressed concerns regarding the Project's potential impact on fish and wildlife at Lake Martin, such as habitat availability, project land use planning, operations, and recreation.

Specific issues or areas of potential effect include:

Fish Habitat

- Effect of continuing the fish habitat program
- Project impact on migratory fish (e.g., American eel, mooneye, paddlefish)
- The effects of deep (cold) water discharge on native fish populations in the Tallapoosa River
- The lack of adequate water quality for fish species such as striped bass, especially during the summer in Lake Martin
- Habitat alteration/fragmentation of the Tallapoosa River due to the Martin Project
- Account for striped bass mortality and/or fish distributions that could be associated with a rule curve change, limited thermal refuges, dissolved oxygen (DO) and current operations
- Inadequate nutrient levels in Lake Martin and the effect on larval/juvenile fish growth
- Why is the crappie fishery declining? Can it be improved?
- What is the effect of the commercial fishery on the Lake?
- Effect on formerly connected stream systems interrupted by impoundment and dam on native fishes and mollusks

Threatened and Endangered Species

- Restore long leaf pine habitat
- Determine presence and abundance of Threatened and Endangered Species (Bald eagle nesting sites, Red Cockaded woodpecker, mussels, snails)

Project Lands

- Are additional lands needed for wildlife?
- Retain natural undeveloped area and manage for wildlife
- Do the islands provide unique habitats that need protection? Protect islands from erosion and destruction
- Control the type of bulkheads and make more "fish friendly"

Project Operations

- Lake level fluctuation impacts on fish production
- Effect on the fishery population from entrainment/impingement from project operations
- Are project operations causing the number of amphibians to decline in lake (especially frogs)?
- What are the effects of a new winter drawdown on grassy vegetation establishment along the shoreline and aquatic plants in general?
- Determine effect(s) of rule curve change and current operations on striped bass
- Shoreline seeding - is it legal and does it provide a benefit?
- Littoral and stream habitat effects in reservoir drawdown zone from Project operation
- Effects of potential changes in project operation on hydrology (e.g., water storage and generation patterns [monthly/seasonal time steps]) on native fishes and mollusks
- Effects of Project operation on sediment delivery to Tallapoosa River below Martin dam and associated impacts to native fish and mollusk habitats
- Effects of Project operation on water temperature, dissolved oxygen, total dissolved gases, and associated effects to native fish and mollusks
- Determine need for continuous minimum flow below Martin; understand how releases from Martin affect Yates reservoir

Recreation and Land Use

- What is the impact to the quality of the fishery resources from fishing tournaments? Are there too many tournaments?
- There should be a requirement to place rip rap at the base of sea walls
- The balance between property improvements and impacts to fishery habitat

ADDITIONAL ISSUES IDENTIFIED FROM PAD QUESTIONNAIRE

- No additional issues identified

GEOGRAPHIC SCOPE

- APC-owned lands within the Project Boundary, but include areas of tributaries where habitat for species of concern is present

EXISTING INFORMATION

- Rare, threatened & endangered species: Inventory reports with county-level information.
- Alabama Department of Conservation & Natural Resources, Wildlife and Freshwater Fisheries Division, Fisheries Section - Martin Reservoir Reports for the following years: 1988, 1989, 1991, 1992, 1995, 1998,200001,2003-04, and 2005.
- Alabama Department of Conservation & Natural Resources, Wildlife and Freshwater Fisheries Division, Fisheries Section - Bass Anglers Information Team Annual Report for the following years: 1986, 1987, 1988, 1989, 1990, 1991,1992,1993,1994,1995,1996,1997, 1998, 1999,2000,2001,2002, 2003, 2004, and 2005.
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- R. Jason Dickey. 2006. Oligotrophication effects following diversion of waste effluent from an embayment of Lake Martin, Alabama. Master's Thesis, Auburn University, Dept. of Fisheries and Allied Aquacultures.
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CURRENT ANALYSIS/STUDY

- APC is preparing a white paper regarding Water Quality and Summer Die-off of Striped Bass on Lake Martin
- Historic and current water quality data report presented in the PID
- Threatened and endangered species surveys for aquatic and terrestrial species (Red cockaded woodpeckers, snails, and mussels)
- APC is collecting LIDAR (Light Detection and Ranging) data that can be used to identify littoral zones and determine seasonal or annual wetted habitat changes with a proposed change in the rule curve and determine impacts to fishery and invasive aquatic plant species
- Report of Auburn studies on tournament effects on fish structure within Martin Reservoir in the PAD

ADDITIONAL STUDY/INFO

- Evaluate effects of rule curve alternatives
- Desktop entrainment/mortality study
- Striped Bass Tagging/Hydroacoustic study
- Literature analysis of diadromous species distributions – emphasis on historic patterns of migratory fish especially American eel in the Tallapoosa River and associated recovery plans
- Rare, Threatened, and Endangered species surveys of Lake Martin and tributaries – Research of historic species distributions – possible identification of dam removal projects
- Develop a Wildlife Management Plan for the Martin Project – inclusion of RCW's
- Develop a study plan to determine species type and abundance of fish adjacent to a variety of shoreline stabilization types – including natural habitat
- Develop a survey of the existing aquatic resources of the Martin tailrace (fish & unionids) – document water level changes that occur on Yates as a result of Martin releases and the Thurlow minimum flow – document mechanical/operational limitations at the Martin Dam