

ALABAMA POWER COMPANY

COOSA – WARRIOR RELICENSING PROJECT

E7 Exotic Species & Aquatic Plant Management Program Issue Report

December, 2002

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Prepared by:

**Alabama Power Company
Hydro Generation & Environmental Affairs**

**ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA**

**COOSA – WARRIOR RELICENSING PROJECT
E7 EXOTIC SPECIES & AQUATIC PLANT MANAGEMENT PROGRAM
ISSUE REPORT**

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**ALABAMA POWER COMPANY
BIRMINGHAM, ALABAMA**

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E7 EXOTIC SPECIES & AQUATIC PLANT MANAGEMENT PROGRAM
ISSUE REPORT**

1.0 EXECUTIVE SUMMARY

The Alabama Power Company (APC) as part of its Warrior and Coosa relicensing process and with the help of interested stakeholders has developed the following issue statement:

Issue Statement CE7 and WE7 – Effectiveness of the existing programs in controlling exotic species, nuisance aquatic vegetation and vectors in the study area.

In order to address this issue in the relicensing process, APC has prepared the following Issue Report outlining current efforts to identify and control exotic species, nuisance aquatic vegetation and vectors. This report serves as a baseline of information for stakeholders in the Coosa and Warrior relicensing process. Stakeholders should alert APC of any areas where the current management practices are not meeting expected or desired levels of control.

APC's Aquatic Plant Management and Mosquito Control programs are guided by the Public Health Laws of Alabama, the regulations of the Federal Energy Regulatory Commission (FERC) and APC's commitment to the public health and welfare of Alabama.

Any questions regarding APC's Aquatic Plant Management, Mosquito Control programs or other requests for assistance may be directed to Environmental Affairs, Vector and Aquatic Plant Management at 1-800-Lakes-11.

2.0 EXOTIC AND NUISANCE SPECIES

APC complies with all state laws (see applicable laws section 4.0) prohibiting the introduction and proliferation of exotic species as well as nuisance species. Exotic species are generally defined as species not naturally occurring within the State of Alabama. Nuisance species are similarly defined as species that are unwanted or deemed harmful to local interests. Currently, APC has a Zebra Mussel awareness program in place at project facilities and stays informed on all state and national issues related to exotic and nuisance species. Exotic and nuisance species found within project boundaries are evaluated for management actions on a case-by-case basis in consultation with the appropriate state resource agencies.

3.0 AQUATIC PLANT MANAGEMENT PROGRAM

Aquatic vegetation in project reservoirs is managed in compliance with local, state and federal laws and regulations to optimize all the uses of these reservoirs.

3.1 Aquatic Plant Control

Aquatic Plant Control will be considered if the vegetation:

- Creates a potential public health hazard by providing mosquito breeding habitat;
- Poses a threat to power generation facilities or water withdrawal structures;
- Restricts recreational use of the reservoir; and/or
- Poses a threat to the ecological balance of the reservoir (such as may be the case of an exotic aquatic plant which is known to create problems in the above categories).

Aquatic vegetation will be left in its natural state in areas which do not meet the above criteria (as deemed appropriate by APC biologists and staff) to enhance fishery habitat and reservoir aesthetics.

The extent of assistance to homeowners or corrective action initiated will be determined by actual need and whether the control falls within the above categories.

Tables 3.1-1 and 3.1-2 (below) list total acres of nuisance aquatic vegetation treated by APC from 1998-2002 as well as total acres of nuisance aquatic vegetation treated by reservoir including the percentage of acres treated relative to the entire Coosa River System. Types of nuisance aquatic vegetation treated include emergent, submersed, marginal and floating.

Table 3.1-1 Acres of Nuisance Aquatic Vegetation Treated from 1998-2002.

<u>Year</u>	<u>Acres Treated</u>	<u>% of Total Project</u> (Approx. 155,000 Acres)
2002	119 – emergent and marginal 116 – submersed	0.152
2001	156 – emergent and marginal 59 – submersed	0.139
2000	50 – emergent and marginal 40 – floating	0.058
1999	40 – emergent and marginal	0.026
1998	50 – emergent and marginal	0.032

Table 3.1-2 Acres of Nuisance Aquatic Vegetation Treated by Lake from 1998-2002.

<u>Reservoir</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Weiss	0	0	0	0	3
Neely Henry	0	0	0	0	0
Logan Martin	0	1	1	5	6
Lay	34	22	76	193	181
Mitchell	3	1	1	2	8
Jordan / Bouldin	13	16	12	15	37
Total Acres Treated	50	40	90	215	235
% of Total Project	0.032	0.026	0.058	0.139	0.152

3.2 Nonindigenous Aquatic Plants

APC’s aquatic plant control program is directed toward, but not limited to, exotic species listed in the “Alabama Nonindigenous Aquatic Plant Control Act” (see Section 5.2).

Table 3.2-1 Nonindigenous aquatic plants prohibited from the waters of the State of Alabama.

<u>Common Name</u>	<u>Scientific Name</u>	<u>Known Location</u>
African elodea	Lagarosiphon spp	
Alligator weed	Alternanthera philoxeroides	Throughout the Coosa and Black Warrior drainage
Brazilian elodea	Egeria densa	
Curlyleaf pondweed	Potamogeton crispus	
Eurasian watermilfoil	Myriophyllum spicatum	
Floating waterhyacinth	Eichhornia crassipes	All Coosa impoundments and throughout the Black Warrior drainage
Giant salvinia	Salvinia molesta	
Hydrilla	Hydrilla verticillata	
Hygrophila	Hygrophila polysperma	
Limnophila	Limnophila sessiliflora	
Parrot-feather	Myriophyllum aquaticum	Throughout the Coosa drainage and Thurlow
Purple loosestrife	Lythrum salicaria	
Rooted waterhyacinth	Eichhornia azurea	
Spinyleaf naiad	Najas minor	Logan Martin and Jordan reservoirs
Water-aloë	Stratiotes aloides	
Water-lettuce	Pistia stratiotes	Bankhead Reservoir
Water-chestnut	Trapa natans	
Water spinach	Ipomea aquatica	

APC’s aquatic plant control program is based on a maintenance control philosophy. Control measures are initiated before noxious weeds reach a problematic stage because once weeds reach this stage, it is difficult to return to the original maintenance level. This philosophy helps to minimize chemical applications and promote plant diversity.

All aquatic plant control measures are directed by staff biologists certified as commercial aquatic applicators by the State of Alabama, Department of Agriculture and Industries. Only EPA approved aquatic herbicides are used in the aquatic plant management program.

4.0 MOSQUITO CONTROL PROGRAM

APC's Mosquito Control Program is based on best practice methods developed by the United States Public Health Service and the Tennessee Valley Authority and adopted by the World Health Organization, Center for Disease Control, American Mosquito Control Association and other agencies charged with developing mosquito control programs and training mosquito control personnel. These methods having been developed through extensive field studies that address monitoring techniques, source reduction, larviciding and adulticiding of mosquitoes to prevent nuisance levels that could affect the health and well being of lake residents and visitors.

4.1 Monitoring

Mosquito monitoring is carried out on all reservoirs to determine which mosquito species are present, if control measures are necessary, and if applied control measures are/will be effective.

Control measures are based on the monitoring program consisting of the following:

- Larvae sampling – Collection and identification of mosquito larvae.
- Adult resting stations – Resting stations are strategically placed near potential breeding sites, monitored during the mosquito breeding season, and then used as an index of permanent pool mosquito production.
- Light traps – A commercial adult mosquito capturing apparatus consisting of light, fan and collection jar. Light traps are typically used to identify nuisance species when there are extensive complaints in a specific area.
- Biting Collections – Capturing (with an aspirator) and identifying mosquitoes that land on collector for blood meal.

4.2 Source Reduction

Since mosquitoes need water for development, source reduction is an integral part of APC's mosquito control program. Source reduction, where feasible, offers a permanent solution to mosquito problems by eliminating productive mosquito breeding habitat. Source reduction tips are provided in Section 4.4 of this document.

4.3 Larviciding

Where source reduction is not feasible, larviciding of productive mosquito breeding sites is initiated. Preemergent larvicides, applied to known mosquito habitat, prevent the emergence of adult mosquitoes. This method of control is site specific, eliminating indiscriminate treatment of non-target species. Larvicides are applied by hand, all-terrain vehicles and airboat. All larvicide activities are conducted by staff biologists certified as commercial applicators by the State of Alabama, Department of Agriculture and Industries.

Larvicides currently used in the mosquito control program include the following.

- Aquabac – granular formulation of *Bacillus thuringiensis* var. *israelensis*.
- Bactimos – granular and briquette formulation of *Bacillus thuringiensis* var. *israelensis*
- Altosid – granular and briquette formulation of methoprene.

Larvicides used in project reservoirs are non-persistent in the environment and will not affect fish, waterfowl, mammals or beneficial predatory insects.

4.4 Homeowner Tips

Homeowners can help reduce mosquito populations through source reduction by eliminating these breeding sites:

- Discarded containers and tires that hold water
- Boats and canoes filled with rainwater
- Tarps that hold pockets of rainwater
- Standing rainwater in drainage ditches
- Standing water in gutters and downspouts
- Potholes in roads and other depressions that hold water
- Water in flower pot dishes
- Changing water in birdbaths weekly

5.0 APPLICABLE LAWS

5.1 Exotic Species

**CODE OF ALABAMA
TITLE 9. CONSERVATION AND NATURAL RESOURCES.
CHAPTER 2. DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
ARTICLE 1. GENERAL PROVISIONS.**

Current through October 2002

§ 9-2-13. Commissioner of conservation and natural resources – Authority to prohibit importation of birds, animals, fish, etc.

(a) The commissioner of conservation and natural resources is hereby empowered to prohibit by duly promulgated regulation the importation of any bird, animal, reptile, amphibian or fish when the importation of such animal, bird, reptile, amphibian or fish would not be in the best interest of the state.

(b) The provisions of this section shall not apply to birds, animals, reptiles, amphibians and fish used for display purposes for carnivals, zoos, circuses and other like shows and exhibits where ample provision is made so that such birds, animals, reptiles, amphibians and fish will not escape or be released into the state.

(c) Any person, firm, corporation, partnership or association who or which imports, brings or causes to be brought or imported into the state of Alabama any bird, animal, reptile, amphibian or fish, the importation of which has been forbidden by duly promulgated regulation of the commissioner of conservation and natural resources, shall be in violation of the provisions of this section and upon conviction thereof shall be fined not less than \$50.00 nor more than \$250.00 for each offense.

ALABAMA ADMINISTRATIVE CODE
ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
GENERAL PROVISIONS
CHAPTER 220-2. GAME AND FISH DIVISION

Current through October 2002

220-2-.26. Restrictions On Possession, Sale, Importation And/Or Release Of Certain Animals And Fish.

(1) No person, firm, corporation, partnership, or association shall possess, sell, offer for sale, import, bring or cause to be brought or imported into the State of Alabama any of the following live fish or animals:

Any Walking Catfish or any other fish of the genus *Clarias*

Any Piranha or any fish of the genus *Serrasalmus*

Any Black Carp of the genus *Mylopharyngodon*

Any species of Mongoose

San Juan Rabbits, Jack Rabbits or any other species of wild rabbit or hare; or

Any of the following from any area outside the state of Alabama; any member of the family Cervidae (to include but not be limited to deer, elk, moose, caribou), species of coyote, species of fox, species of raccoon, species of skunk, wild rodent, or strain of wild turkey, black bear (*Ursus americanus*), mountain lion (*Felis concolor*), bobcat (*Felis rufus*), Pronghorn Antelope (*Antilocapridae*), any nondomestic member of the families *Suidae* (pigs), *Tayassuidae* (peccaries), or *Bovidae* (bison, mountain goat, mountain sheep).

No person, firm, corporation, partnership, or association, shall transport within the state, any member of the above-stated species (whether such member originated within or without the state), except for properly licensed game-breeders pursuant to Section 9-11-31, Code of Ala. 1975.

(2) It shall be unlawful to release any tame turkey, or any other turkey, whether wild or tame, into any of the wild areas of this State.

The provisions of this regulation shall not apply to any turkeys kept by any farmer or landowner of this State for normal agricultural purposes or for personal consumption.

(3) Nutria shall not be propagated or released in this State. No person, firm or corporation shall release any Nutria from captivity in this State or propagate any Nutria for the purpose of stocking in the wild of this State.

(4) All species of sturgeon are hereby declared to be protected fish within this State and any person who shall catch a sturgeon shall immediately return it to the waters from whence it came with the least possible harm.

(5) It shall be unlawful for any person, firm, or corporation to possess a species of sturgeon not native to Alabama waters, to introduce such a species of sturgeon to public waters of Alabama, or to offer for sale or import any such non-native sturgeon in Alabama, except by permit from the Commissioner of the Department of Conservation and Natural Resources.

(6) It shall be unlawful to possess, sell, offer for sale, import, or release any of the following fish: Chinese perch (*Siniperca* spp.), all snakeheads (*Channa* spp.), all mud carp (*Cirrhinus* spp.), or blue back herring (*Alosa aestivalis*).

(7) It shall be unlawful for any person to possess, sell, offer for sale, import, or release any non-indigenous venomous reptile in or into the State of Alabama, except by written permission of a designated employee of the Department of Conservation and Natural Resources authorized by the Director of the Division of Wildlife and Freshwater Fisheries to issue such permits.

(8) Except as authorized by permit issued by the Department prior to the date of this amendment, it shall be unlawful for any person to have in possession any live, protected wild bird or wild animal or live embryo, eggs, or sperm of these protected wild birds or animals. "Possession" in this section does not include deer restricted by natural or man made barriers as long as the deer remain wild and are not subject to management practices of domesticated animals.

(9) The provisions of this regulation shall not apply to the exceptions provided for in Section 9-2-13(b), Code of Ala. 1975. Accredited educational facilities, research facilities, and permitted rehabilitation facilities shall be exempt from this regulation through the written permission of the Director of the Division of Wildlife and Freshwater Fisheries or his designee.

ALABAMA ADMINISTRATIVE CODE
ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
GENERAL PROVISIONS
CHAPTER 220-2. GAME AND FISH DIVISION

Current through October 2002

220-2-.93. Prohibition Of Importation/Possession Of The Fishes Rudd And Roach

(a) The importation into the State of Alabama of the fish, "rudd", (*Scardinius erythrophthalmus*) or of the fish, "roach", (*Rutilus rutilus*), or any hybrids of either species, by any person, firm, corporation, or other entity, is hereby prohibited. Any person, firm, corporation, or other entity in violation of the provisions of this paragraph shall, upon conviction, be punished as provided by Code of Ala. 1975, as last amended.

(b) The possession in the State of Alabama of the fish, "rudd", (*Scardinius erythrophthalmus*) or of the fish, "roach", (*Rutilus rutilus*), or any hybrids of either species, by any person, firm, corporation, or other entity, is hereby prohibited. Any person, firm, corporation, or other entity in violation of the provisions of this paragraph shall, upon conviction, be punished as provided by § 9-1-4, Code of Ala. 1975, as last amended.

5.2 Aquatic Plants

CODE OF ALABAMA
TITLE 9. CONSERVATION AND NATURAL RESOURCES.
CHAPTER 20. NONINDIGENOUS AQUATIC PLANT CONTROL ACT.

Current through October 2002

§ 9-20-1. Short title.

This chapter may be cited as the “Alabama Nonindigenous Aquatic Plant Control Act”

§ 9-20-2. Definitions.

The following terms and phrases shall have the following meanings unless the context clearly indicates otherwise:

(1) **AQUATIC PLANT.** Any plant growing in, or closely associated with, the aquatic environment including, without limitation, floating, emersed, submersed, ditchbank and wetland plant species.

(2) **DEPARTMENT.** The Alabama Department of Conservation and Natural Resources.

(3) **NONINDIGENOUS AQUATIC PLANT.** Any aquatic plant which is not an indigenous or native aquatic plant species of the State of Alabama.

(4) **PERSON.** Any and all persons, natural or artificial, including, without limitation, any individual, partnership, association, society, joint stock company, firm, company, corporation, institution, trust, estate, or other legal or business organization or any governmental entity, and any successor, representative, agent or agency of the foregoing.

(5) **PUBLIC WATERS OF THE STATE.** Those waters which are defined as public waters in Section 9-11-80.

§ 9-20-3. Introduction of nonindigenous aquatic plants in public waters prohibited.

Any person who introduces, places, or causes to be introduced or placed, any nonindigenous aquatic plant into any public waters of the state shall be in violation of this chapter. For purposes of this section, the unintentional adherence to a boat or boat trailer of a nonindigenous aquatic plant, and its subsequent unintentional transportation or dispersal in the course of common and ordinary boating activities and practices, does not constitute a violation of this chapter.

§ 9-20-4. Exemption for possession of nonindigenous aquatic plants.

Any person who possesses, through natural dispersion, and aquatic plant which is prohibited from being introduced or placed in a public water of the state pursuant to Section 9-20-3, and the possession posed neither danger or intent to further disperse the aquatic plant by means of transportation or other action, shall not be guilty of a violation of this chapter.

§ 9-20-5. Rules, regulations, or standards.

The department shall establish, adopt, promulgate, modify, repeal, or suspend any rules, regulations, or standards as necessary for the proper administration, implementation and enforcement of this chapter. The rules, regulations, or standards shall include, without limitation, a list of all nonindigenous aquatic plants which are prohibited from being placed or introduced into public waters of the state pursuant to Section 9-20-3.

§ 9-20-6. Penalties.

Any person who violates this chapter, or any rule, regulation, or standard adopted pursuant to this chapter, shall be guilty of a Class C misdemeanor and shall be punished in accordance with Sections 13A-5-7 and 13A-5-12.

§ 9-20-7. Construction with other law.

No section of this chapter shall be construed as repealing any other laws of the state but shall be held and construed as ancillary and supplemental thereto.

(Acts 1995, No. 95-767, p. 1813, § 8.)

ALABAMA ADMINISTRATIVE CODE
ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
GENERAL PROVISIONS
CHAPTER 220-2. GAME AND FISH DIVISION

Current through October 2002

220-2-.124. Nonindigenous Aquatic Plant Regulation

For purposed of enforcement of Sections 9-20-1 through 9-20-7, Code of Ala. 1975, enacted by Act No. 95-767, as the "Alabama Nonindigenous Aquatic Plant Control Act", the following list of all nonindigenous aquatic plants which are prohibited by Section 9-20-3 from being introduced or placed or caused to be introduced or placed into public waters of the state is established:

COMMON NAME	SCIENTIFIC NAME
African elodea	Logarosiphon spp
Alligatorweed	Alternanthera philoxeroides
Brazilian elodea	Egeria densa
Curlyleaf pondweed	Potamogeton crispus
Eurasian watermilfoil	Myriophyllum spicatum
Floating waterhyacinth	Eichhornia crassipes
Giant salvinia	Salvinia molesta
Hydrilla	Hydrilla verticillata
Hygrophila	Hygrophila polysperma
Limnophila	Limnophila sessiliflora
Parrot- feather	Myriophyllum aquaticum
Purple loosestrife	Lythrum salicaria
Rooted waterhyacinth	Eichhornia azurea
Spinyleaf naiad	Najas minor
Water-aloe	Stratiotes aloides
Water- lettuce	Pistia stratiotes
Water chestnut	Trapa natans
Water spinach	Ipomea aquatica