



- •No egg masses or live snails seen
- •Application of Captain herbicide (111 acres at \$3,671) in combination with cold weather successful?
- •Repeat inspections in early May and treat if necessary
- •Possible prophylactic control effort





2010 non-native aquatic invasive species management plan approved by S.C. Natural Resources Board

2010

SOUTH CAROLINA AQUATIC PLANT MANAGEMENT PLAN



Prepared by the
Aquatic Nuisance Species Program
South Carolina Department of Natural Resources
and Approved by the
South Carolina Aquatic Plant Management Council
2010

1 SOUTH CAROLINA AQUATIC PLANT MANAGEMENT PLAN

- •identifies 30 public water bodies, 9 state park lakes, 10 SCDNR state lakes with aquatic weed problems
- prescribes management strategies for each problem area
- •includes the stocking of sterile grass carp in five public water bodies; 4 to control hydrilla, 1 for Brazilian elodea
 - * Lake Marion 6,000 fish
 - * Lake Moultrie 6,000 fish
 - * Lake Greenwood 3,756 fish
 - * Lake Cunningham 216 fish
 - * Goose Creek Reservoir 870 fish (includes 150 additional carp for dwarf hygrophila
- •illegal to "take" triploid grass carp from public waters; bow hunting is classified as "take" under this law.
- •in public comment period (675 written comments)

•New state contract in place for control activities: successful bid for 5 yr contract for professional services and herbicides is about 75% of last year's costs

Summary of Expenditures by Source for Control Operations in South Carolina - 2009

	Total Cost	Local	State	<u>Federal</u>
SCDNR Total	\$273,396	\$129,297	\$132,100	\$12,000
State Park Lake Total	\$7,792	\$3,896	\$3,896	\$0
Santee Cooper Total	\$296,348	\$238,848	\$57,500	\$0
Grand Total	\$572,587	\$373,461	\$194,915	\$12,000



ANS Home

Program Overview Managed Areas Publications Aquatic Plant Management Plan Homeowner Info Illegal Species Zebra Mussels Island Applesnails Alien Invaders 101 Habitat Aquatic Plant Mgmt.

Aquatic Invasive

Council

Species Task Force Aquatic Invasive Species Plan Related Links

Aquatic Nuisance Species Program

Did You Know? Behind habitat loss the Number 1 reason for threatened and endangered species is Invasive Species.....

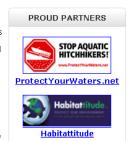


Non-native invasive species cost the economy of the United States an estimated \$137 billion annually in lost production and control costs (Pimentel et al., 2000). In the absence of native predators and diseases, nonindigenous organisms may develop very large populations that

create severe ecological and economic problems. When such invasions occur in our lakes and rivers they can disrupt whole aquatic ecosystems and impair important municipal, industrial, agricultural, and recreational uses of our waterways. Exotic plant and animal species that threaten the

diversity and use of our waters are typically termed Aquatic Nuisance Species (ANS). Estuarine and marine







Gulf and South Atlantic Regional Panel



Resources Partnership

environments are also impacted by aquatic nuisance species; however, the focus of this section is on freshwater species. In South Carolina, the principal focus of managing ANS has been directed at nuisance aquatic plants, exotic mussels, and exotic fishes. Historically, non-native species have been introduced to South Carolina through direct stocking, aquascaping, shipping, aquarium releases and bait releases. Some species also "hitchhike" on boats, motors and trailers. South Carolina spends several hundred thousand dollars per year managing invasive aquatic vegetation threats alone, while the state of Florida spends more than \$20 million. In 1991, an invasion of the aquatic weed hydrilla shut down the St. Stephen hydroelectric plant on Lake Moultrie for weeks, costing \$4 million in lost productivity and \$526,000 worth of gamefish deaths.

BE A PART OF THE SOLUTION - PREVENTION IS KEY!







South Carolina Department of Natural Resources - Phone Numbers | Accessibility Rembert C. Dennis Building, 1000 Assembly Street, Columbia, SC 29201 © 2010 All rights reserved. webmaster@dnr.sc.gov

- S.C. Department of Natural Resources **Aquatic Nuisance Species Program web site** has been redesigned to provide easier access to information for the public at: www.dnr.sc.gov/invasiveweeds/index.html
- More user-friendly
- More information on impacts and control activity
- •updated information on identification of ANS and their control in private waterbodies





NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

National Estuarine Research Reserves' Southeastern Regional Partnership on Invasive Species



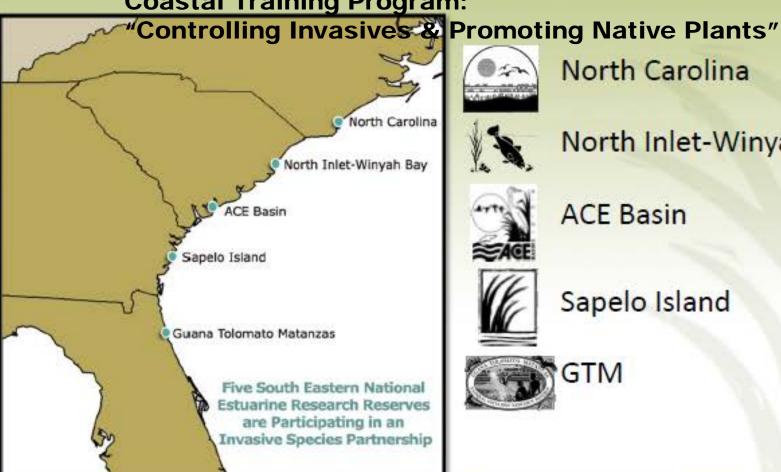


NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM



Southeastern Reserves Collaboration

Coastal Training Program:





North Carolina



North Inlet-Winyah Bay



ACE Basin

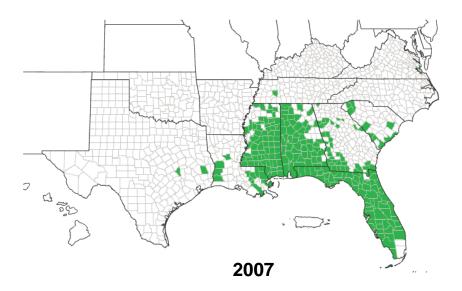


Sapelo Island



GTM

Cogongrass Distribution - Southern United States





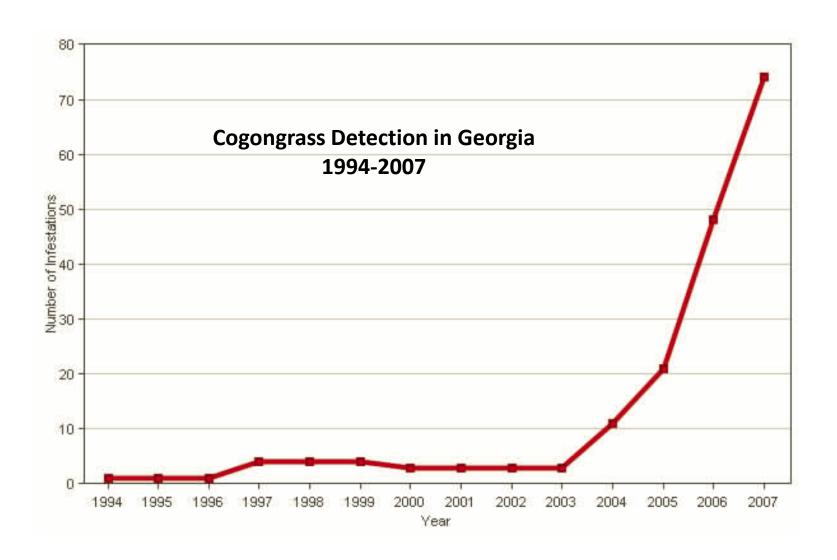
http://plants.usda.gov/java/profile?symbol=IMCY

Cogongrass - Imperata cylindrica

- •major problem for landowners, land managers, and foresters
- •accidentally introduced into AL ~1911 as seed in packing materials from Japan
- •intentional introductions, primarily for forage production, followed in AL, MS, FL
- •horticultural varieties continue to be sold; but sale is illegal in many states
- •fire-adapted species that burns hot and readily, creating safety and property loss concerns



•rhizomes form dense mat in the upper 6-8 inches of soil; up to 80% of total plant biomass •elimination of aboveground portions of the plant can be easily accomplished, but if the rhizomes aren't killed or removed, rapid re-sprouting and growth occurs •grows up to 10 feet per year





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Using Volunteers to Find Cogongrass in South Carolina

Place as many eyes on the ground in the areas of greatest risk when we have the best time to find the plant and work to eradicate the plant from all known locations in the survey area



PROBLEM OR HIGH RISK AREAS

- Major highways and truck service facilities
- •<10 miles of reported infestations
- Utility and RR ROWs
- Stores (Feed & Seed, Pet, Garden Centers)
- •Farms, especially no-till areas, cattle and horse farms
- Recent logging operations
- Equipment storage areas and wood yards
- Recreation areas –parks, campgrounds, boat landings
- Deer processing facilities
- •Hunt clubs, woods roads, food plots, wildlife mgt. areas

Cogongrass Survey – 2009 Incident Command Structure

STATE COORDINATORS (4)

- •Planning and Coordination
- Recruit Participants
- Educational Materials
- Survey Materials
- Logistics and Support
- Publicity
- •Communication with area coordinators

AREA COORDINATORS (4)

- Arrange for facilities.
- Coordinate resources
- •Work with county coordinators in selecting survey areas
- Handle communications
- Assign surveyors to work areas and provide directions to the work area
- •Handle communications from surveyors
- Coordinate identifiers
- •Provide general area report

COUNTY COORDINATORS (52)

- Organize a county team
- •Arrange for a county work area
- Arrange for education programs
- Identify survey areas
- •Provide a map of each survey area
- •Form surveyors into two person teams
- •Assign each team a survey area
- Provide surveyors with map of their area and survey materials
- Compile survey reports

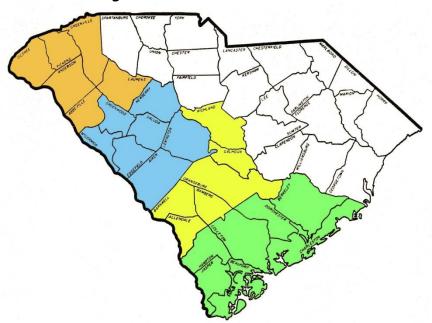
SURVEYORS (200)

- Work in teams of two
- County Coordinators form teams
- •Take an assigned area and follow survey procedures
- •Report suspected materials to the area coordinator by cell phone; Report includes species, GPS coordinates when possible, general description of area
- Mark location with colored flagging, making certain location can be seen from the road
- •Plant materials are not sampled

AREA IDENTIFIERS (30)

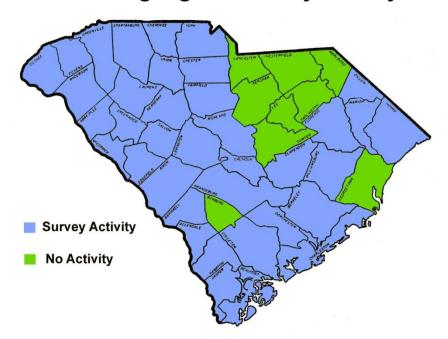
- Able to identify Cogongrass, Giant Sylvania, and Tropical Soda Apple
- •Receive assignments from Area Coordinator
- Confirm identification
- Establish exact location. Make certain it is well marked
- •Remove markers if not plant of interest
- •Collect sample of plant
- •Report results to Area Coordinator
- Receive additional locations to check

2008 Cogongrass Survey Activity



- •26 counties closest to Georgia
- Nearly 200 volunteers
- •>13K miles driven; >1000K hours
- •1382 sites inspected
- •100 DPI inspections
- •10 new colonies in 2 new counties
- Included tropical soda apple and giant salvinia

2009 Cogongrass Survey Activity



- •37 counties
- Hundreds of volunteers
- •>5K miles driven
- •~2000 sites inspected
- •Infestations in 2 new counties