

FY 2011 USFWS R4 AIS Program: Collaboration, Coordination, and Cooperation on AIS Issue



Florida Fish and Wildlife Conservation Commission Archive, , Bugwood.org



Florida Fish and Wildlife Conservation Commission Archive, , Bugwood.org

Presented to GSARP
October 4-5, 2011

Jeffrey Herod
U.S. Fish and Wildlife Service
Southeast Regional Office
1875 Century Boulevard, Ste 250
Atlanta, Georgia 30345



Objectives

- ◉ Update on activities
- ◉ Provoke discussion on priorities
- ◉ Raise awareness on types of project

USFWS Region 4, Southeast Region



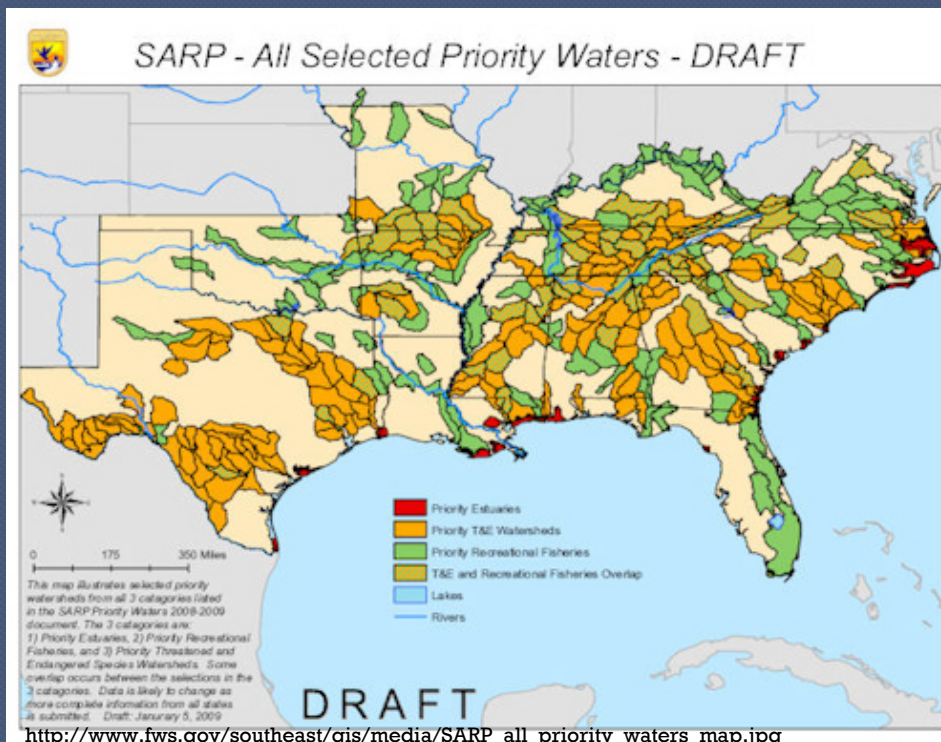
<http://www.fws.gov>

SOUTHEAST AQUATIC RESOURCES PARTNERSHIP

SARP



http://images.gofishn.com/media_files/66533/SARPLoColor_no_quote_300dpi.jpg



http://upload.wikimedia.org/wikipedia/commons/thumb/2/2c/Monopterus_albus_2.jpg/300px-Monopterus_albus_2.jpg



Photo Credit: Lee G. Nee, USGS, Gainesville, FL

http://upload.wikimedia.org/wikipedia/commons/1/18/Giant_salvinia.jpg



http://upload.wikimedia.org/wikipedia/commons/0/08/Snakehead_-_Channa_argus.jpg



Collaboration, Coordination, and Cooperation in FY 2011



<http://www.biolib.cz/IMG/GAL/76488.jpg>

http://www.redang.org/gallery3k_06.htm

<http://www.celsias.com/media/uploads/admin/mudsnail.jpeg>

http://www.scubaboard.com/gallery/data/512/medium/sweeping_hydrilla_sb2.jpg



http://www.100thmeridian.org/photobank/US_Fish_and_Wildlife_Service/Zebra/JustMussels



<http://cichlid.umd.edu/cichlidlabs/kocherlab/images/Adult-tilapia.jpg>



<http://conservationreport.wordpress.com/2009/12/asian->



State ANS Plans

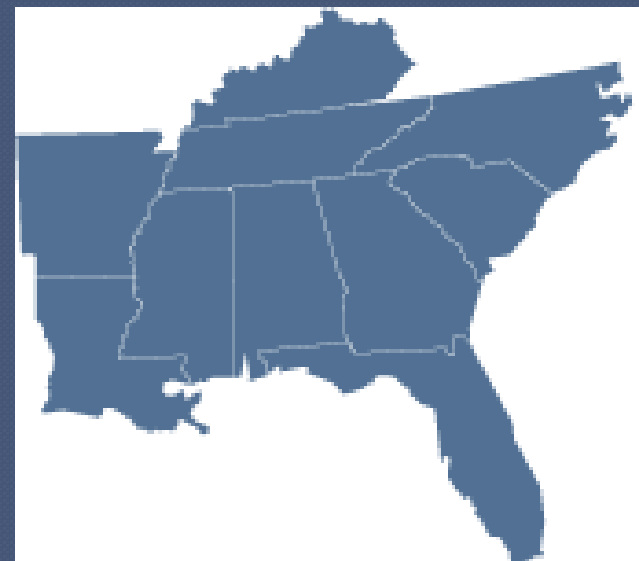
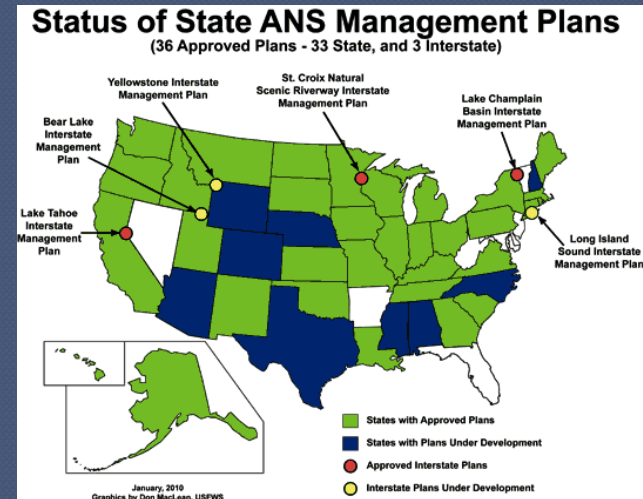
- ANSTF approved

- Kentucky
- Tennessee
- Louisiana
- South Carolina
- Georgia
- Oklahoma
- Missouri

- Florida

- Drafted and/ or under revision

- Alabama, Mississippi, Arkansas, Texas, North Carolina



Lionfish and Marine Fishes

- **NOAA/ USVI Division of Fish and Wildlife** --A ciguatera survey for invasive lionfish in the USVI
- **REEF**--Lionfish Impacts on FL Keys Commercial Lobster Fishery and Lionfish Public Outreach and Control Programs for Florida
- **USFWS/ NOAA/ NPS/ USGS/ REEF/ GSMFC**– Invasive Lionfish Control Ad-hoc Committee
- **USGS**--Non-native marine fishes: An emerging threat in the Southeastern US



Early Detection and Planning

- **USGS**--Updated Summary Report of Nonindigenous Aquatic Species Report for USFWS Region 4
- **USFWS/ USGS/ Auburn**--Invasion risk of zebra mussels (*Dreissena polymorpha*) into the Mobile River Basin: Assessment of veliger production and drift in the Tenn-Tom Waterway
- **Florida Tropical Fish Farms Association, University of Florida, Tropical Aquaculture Laboratory, Division of Aquaculture, Florida Dept of Agriculture and Consumer Services**--Ornamental Nonnative Species Regulation, Production and Distribution Workshop



Education and Outreach

- **Louisiana Department of Wildlife and Fisheries --Louisiana AIS Public Awareness Campaign**
- **Everglades Cooperative Invasive Species Management Area (ECISMA) Outreach Committee--Florida Invaders Exhibit at the Miami Metro Zoo**
- **Everglades Cooperative Invasive Species Management Area (ECISMA) Outreach Committee-- Florida Non-Native Animal Species Identification Cards**
- **Lake Wedington Floating Yellow Heart signage-- USDA Forest Service, Ozark/St. Francis National Forest**



Control and Research

- **USFWS/ Alabama Department of Conservation and Natural Resources (ADCNR) Wildlife and Freshwater Fisheries Division--** Control of the Invasive Exotic Island Apple Snail (*Pomacea insularum*) in Southwest Alabama (3rd yr)
- **Florida Dept of Agriculture and Consumer Services--** Sterilization of Channeled Apple Snails for Biocontrol (3rd yr)
- **USGS--**Everglades Invaders: Biology and ecology of non-native aquatic species in south Florida



Early Detection and Surveys

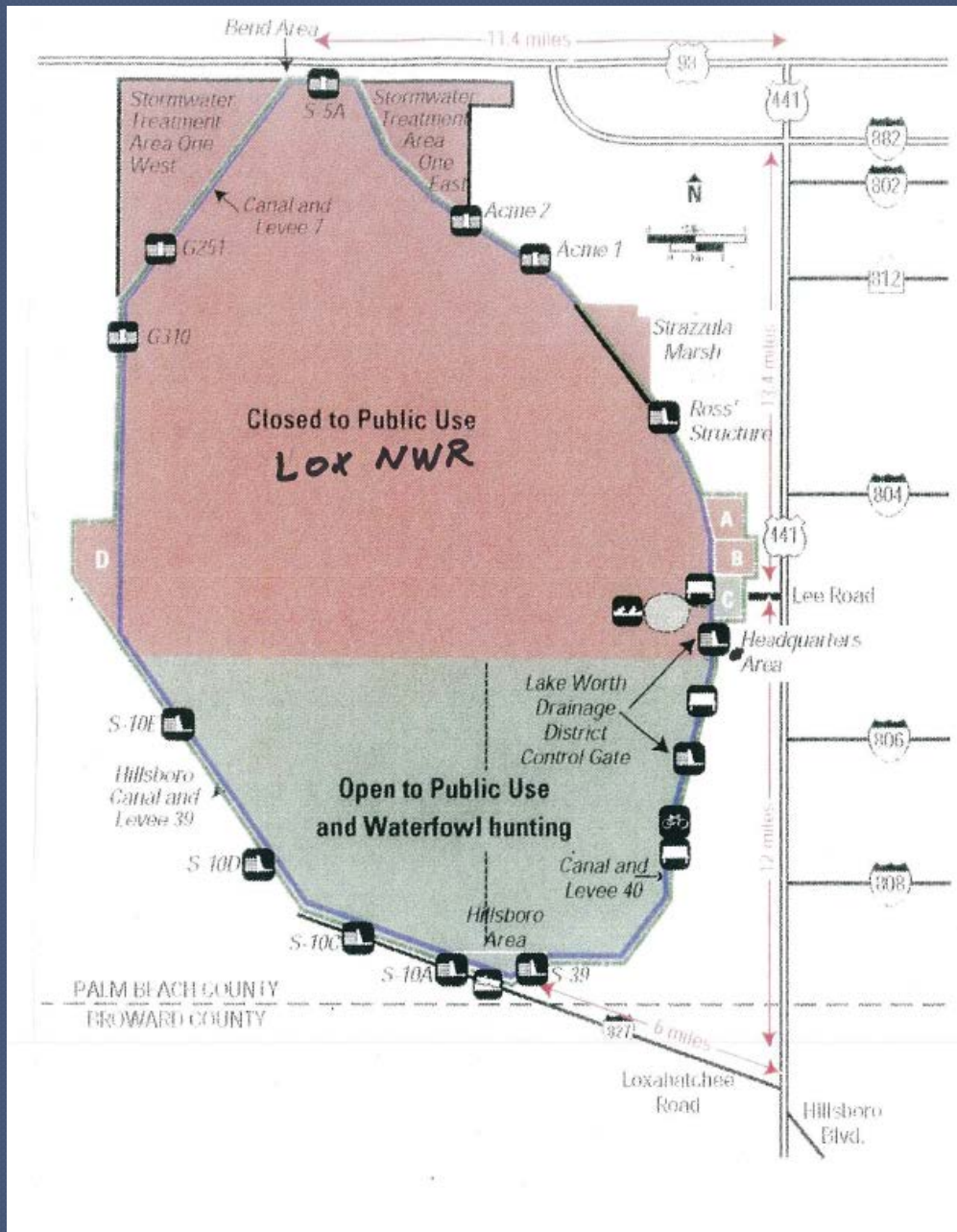
- Coordination on eDNA projects with all USFWS Regions and HQ initiated
- **USFWS Warm Springs FTC**--eDNA Chytrid fungus
- **USFWS NWR funds**--LOX NWR Project (NOT AIS \$)
 - Bullseye snakehead (*Channa marulius*)
 - African jewelfish (*Hemichromis letourneuxi*)
 - Mayan cichlid (*Cichlasoma urophthalmus*)



Development of biometric and environmental DNA standardized protocols for early detection and population assessment of aquatic invasive species for Loxahatchee National Wildlife Refuge

- Pilot project on NWR
- Calibrating classic fisheries detection tool (e-fishing) and survey methods along with eDNA
- Target AIS---Bullseye snakehead (*Channa marulius*), African jewelfish (*Hemichromis letourneuxi*), Mayan cichlid (*Cichlasoma urophthalmus*)





- NWR has 58.4 miles (94 Km) of perimeter canals

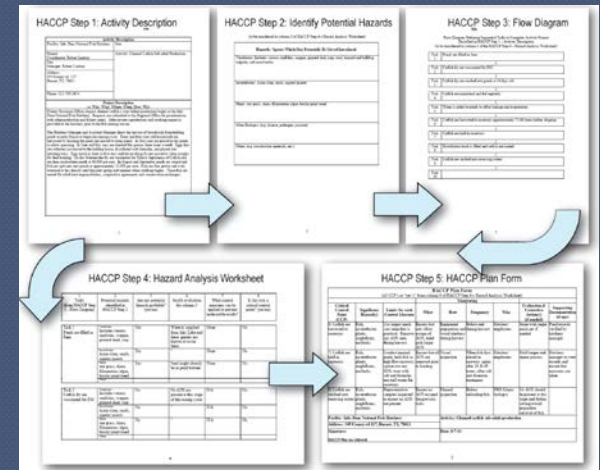
- The L-7, L-39, and L-40 canals

- Sampling will be quarterly starting in Oct 2011 and continue until October 2012

- Environmental DNA refers to DNA fragments that a species leaves behind in the environment. The eDNA can then be extracted from the filter and species-specific eDNA can be detected via the polymerase chain reaction (PCR) with the aid of molecular markers specific to each species used to target known segments of the genome.

Value of HACCP

- HACCP is a tool that can help reduce the risk of moving invasive species unintentionally
- HACCP is pathway focus
- HACCP process can be useful for many activities (e.g., field sampling, site visits, road and trail maintenance)
- Training: NPS, USFWS, TVA and future— CISMAs, others



National Hotline
877 STOPANS

Summary of Partnerships

- ◉ Progress continues on State ANS plans
- ◉ 9 states in SE US (including VI) received project support
- ◉ Universities, Federal and State Partners working on projects...
 - Specific species/ Risk Assessments/ Physiological Tolerances
 - Prevention and Detection
 - Control
 - Outreach/ Education

