



# Nonindigenous Aquatic Species Database Update

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# Overview

- New species in the Southeast
- Swamp Eels
- Golden Mussels
- Panel Paper



## NAS - Nonindigenous Aquatic Species

[Home](#)   [Alert System](#)   [Database & Queries](#)   [Taxa Information](#)   [Report a Sighting](#)

Welcome to the Nonindigenous Aquatic Species (NAS) information resource for the United States Geological Survey. Located at Gainesville, Florida, this site has been established as a central repository for spatially referenced biogeographic accounts of introduced aquatic species. The program provides scientific reports, online/realtime queries, spatial data sets, distribution maps, and general information. The data are made available for use by biologists, interagency groups, and the general public. The geographical coverage is the United States.



### Search

Search for NAS records via our custom spatial query map.



### NAS FaST (Flood and Storm Tracker)

Explore how flooding events can potentially impact the spread of nonindigenous aquatic species.



### Environmental DNA

eDNA comprises genetic material that has been released into the environment and can be detected in water, soil, and air.

[General search for nonindigenous aquatic species information](#)

# USGS Nonindigenous Aquatic Species Database



## OUR MISSION

Our mission at the U.S. Geological Survey's Nonindigenous Aquatic Species Database is to be the centralized source for aquatic invasive species needs for resource managers, researchers, decision makers, and the public.

## OUR SERVICES

- Track every nonindigenous aquatic species in U.S. waters
- Contribute scientific reports
- Provide online/realtime queries of trusted data
- Create spatial data sets (biological and landscape)
- Develop actionable tools
- Serve distribution maps
- Lead horizon scans to identify risky species
- Offer general invasive species information

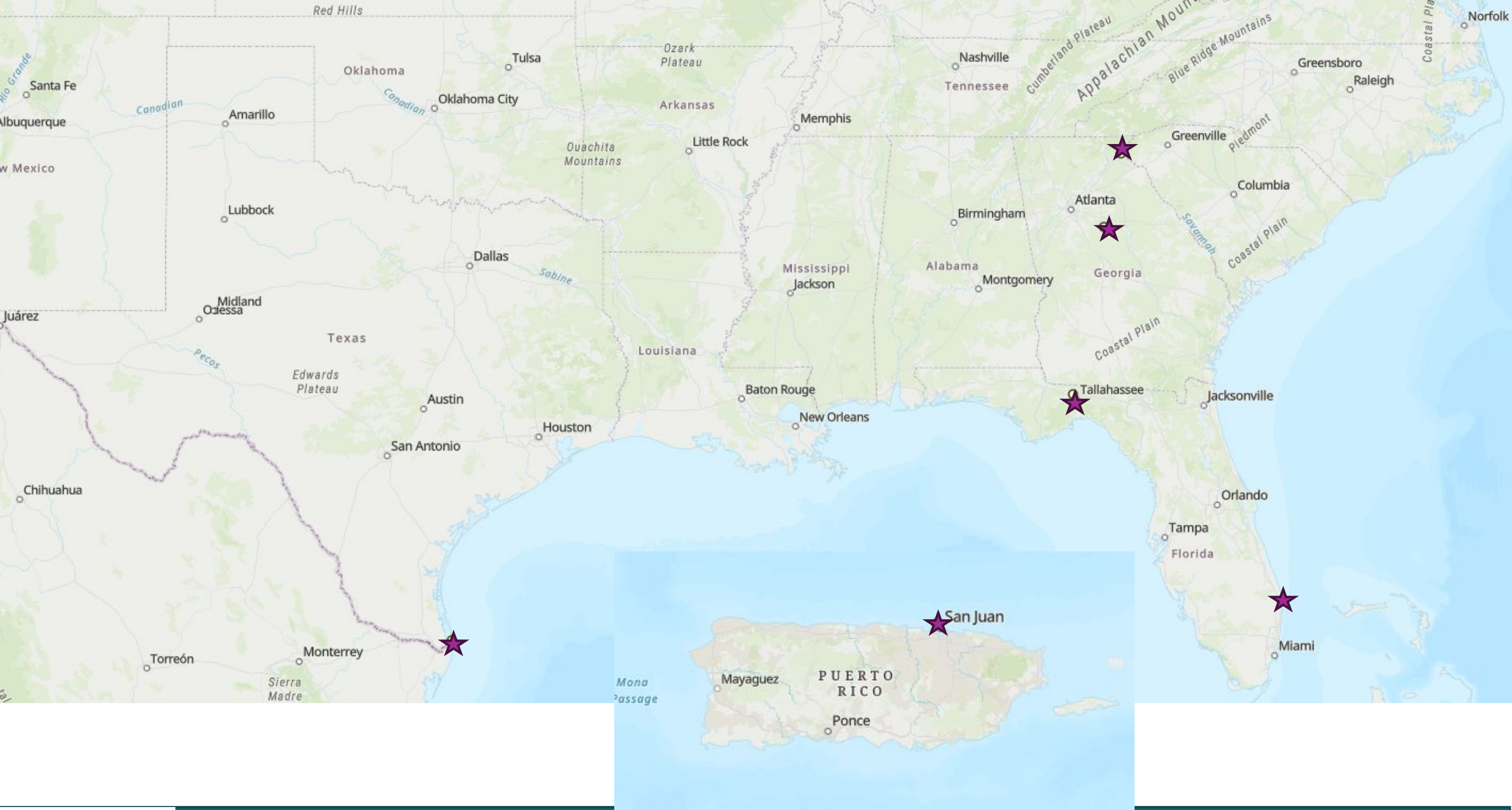
# Database Characterization

**1,485 Tracked  
Species**

**904,919 Records**

**1,036 Alert System  
User**





# *Paracanthurus hepatus* (palette surgeonfish)

- Sighter: iNaturalist
- State: PR  
County: San Juan (PR)  
Drainage: Eastern Puerto Rico



# *Pomacanthus imperator* (emperor angelfish)

- Sighter: REEF

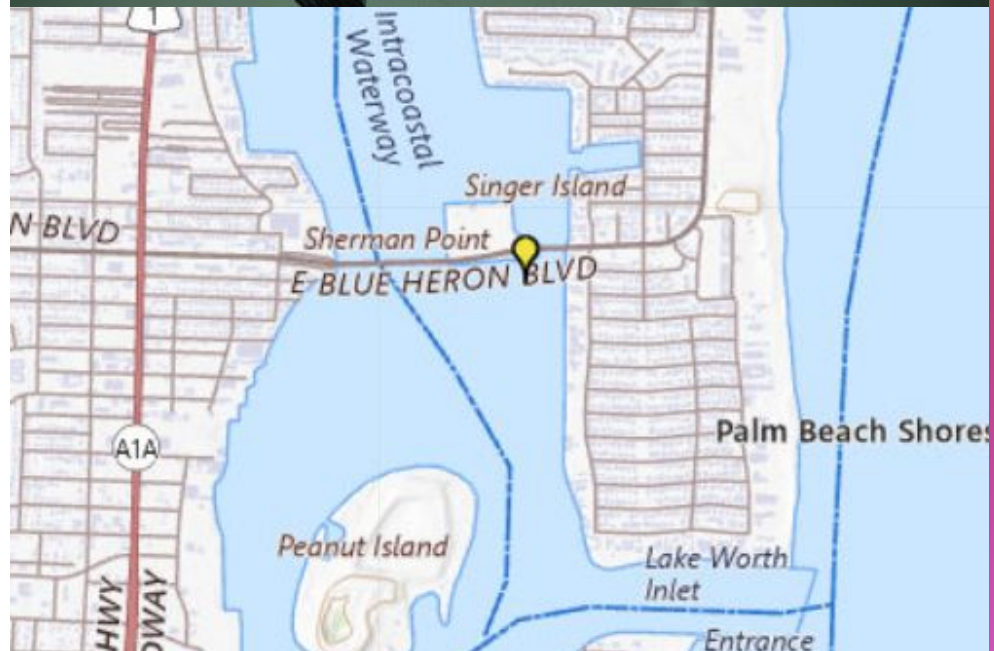
Exotic Species Sighting  
Program and Volunteer Survey  
Project Database

- County: Palm Beach (FL)  
Drainage: Florida Southeast  
Coast



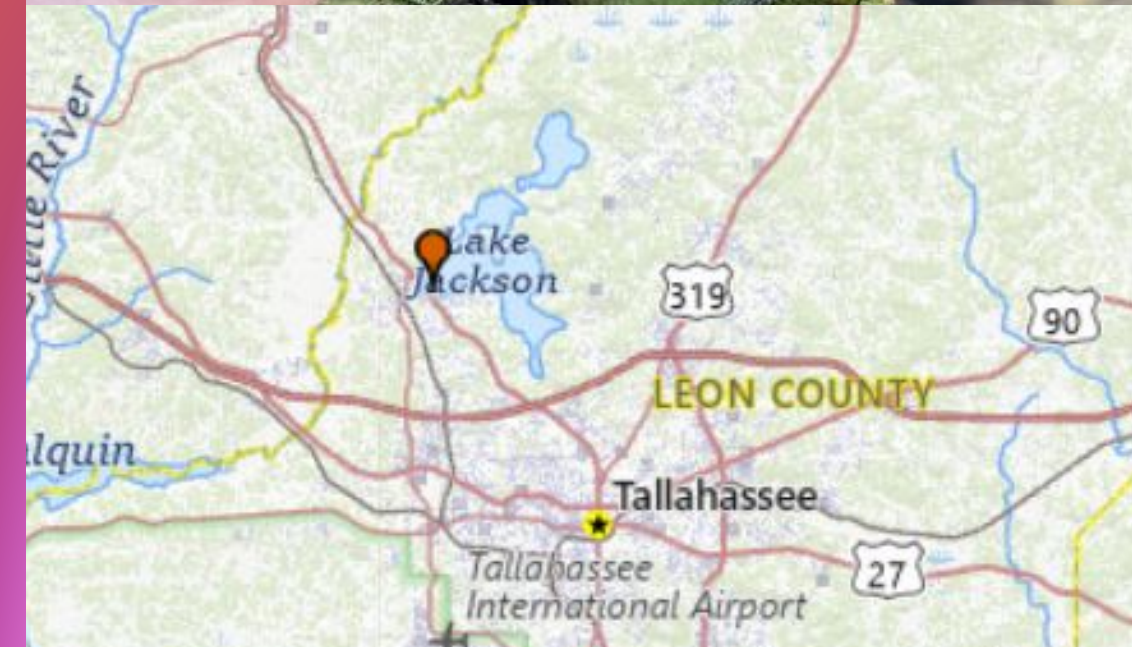
# *Dascyllus melanurus* (blacktailed humbug)

- Sighter: NAS sighting report
- Country: US  
State: FL  
County: Palm Beach (FL)  
Drainage: Florida Southeast Coast

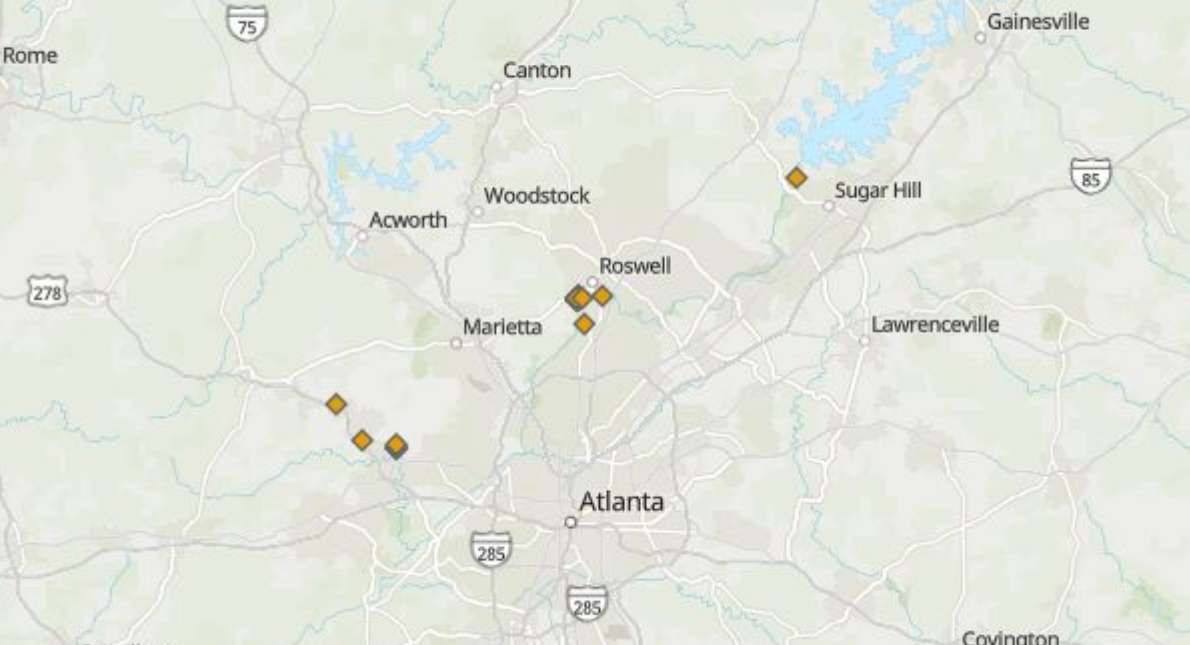
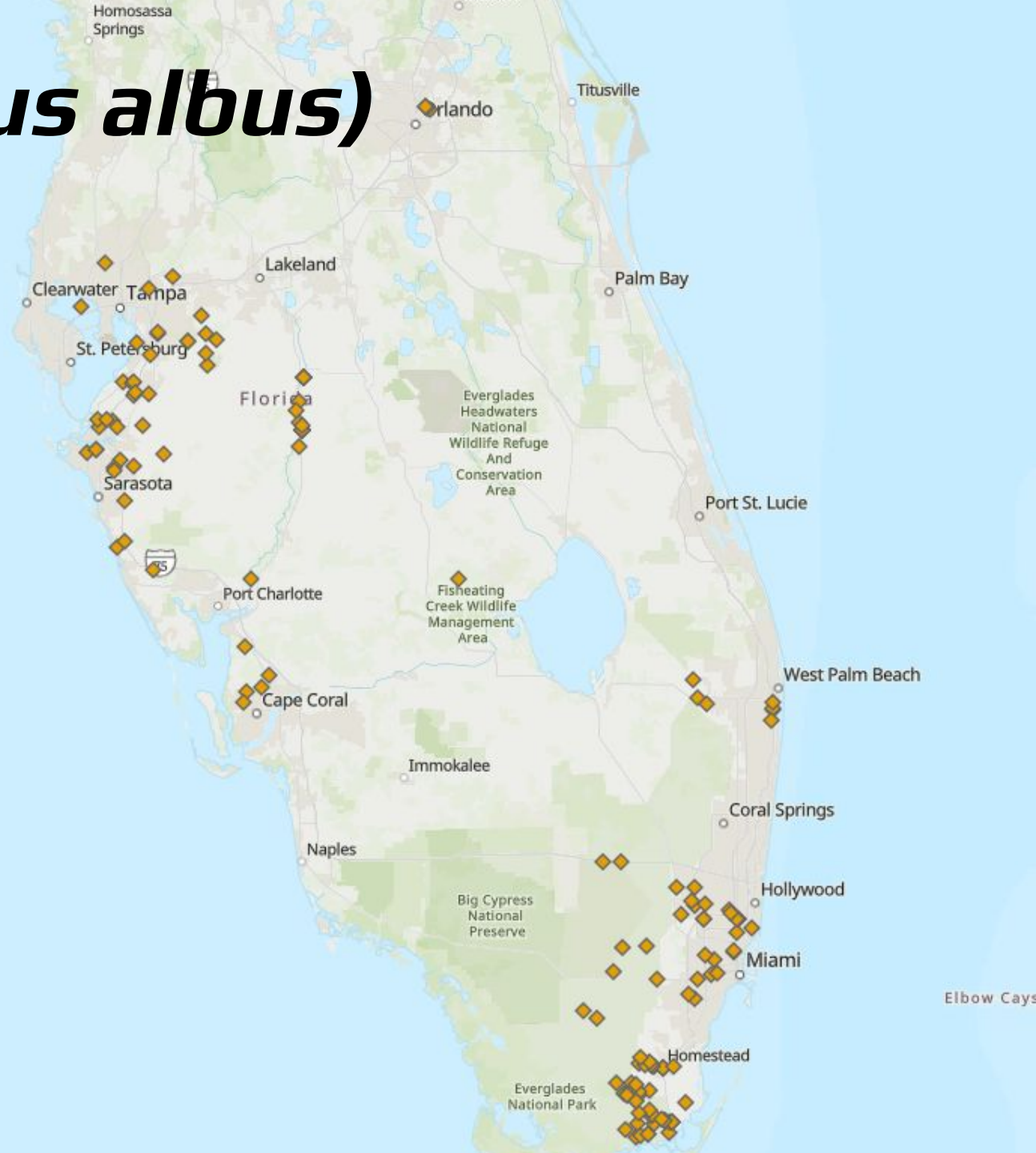


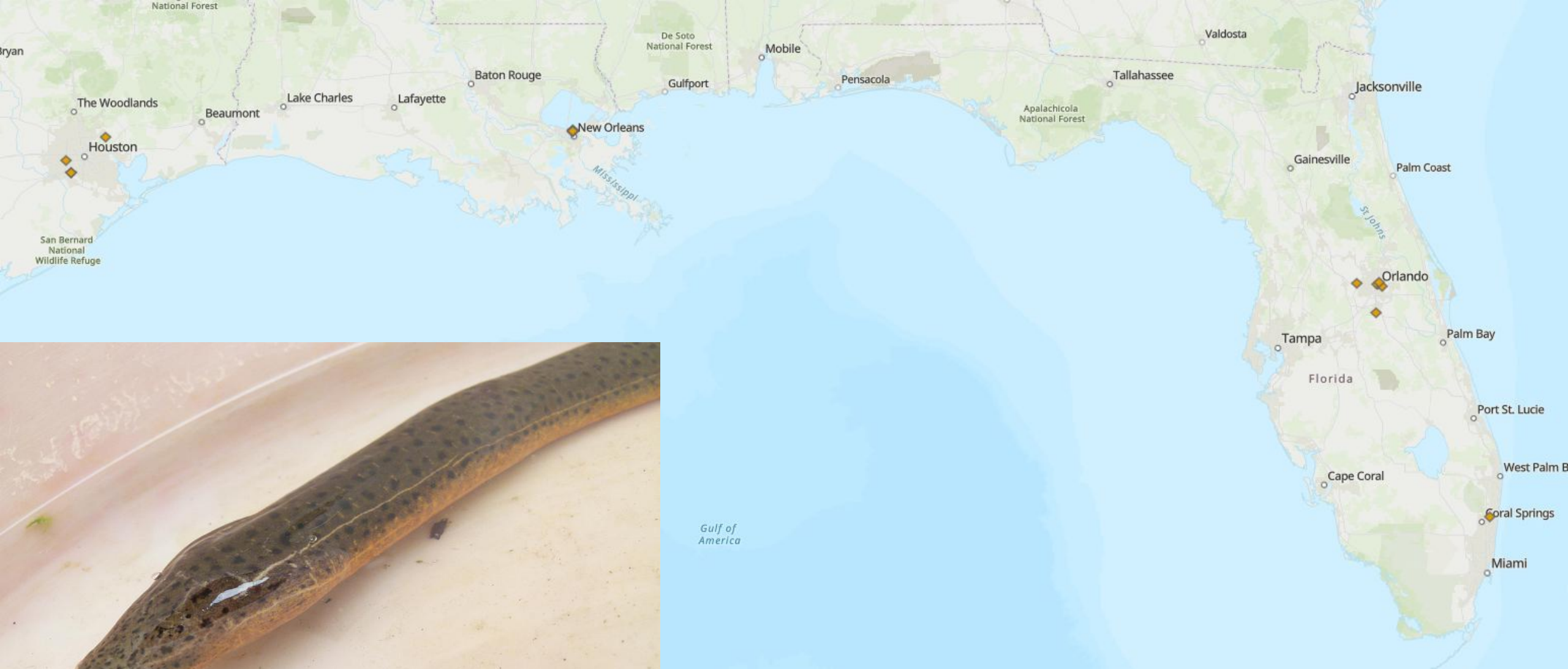
## ***Salvinia molesta* (giant salvinia)**

- Sighter: FWC
- County: Leon (FL)  
Drainage: Lower Ochlockonee
- Treatments have begun and the ramp has been closed.



# Swamp eel (*Monopterus albus*)





# Cuchia (*Ophichthys cuchia*)

# Swamp eels

## Why is it a good invader?

- Breathe air out of water
- Highly adaptable and capable of surviving in a variety of environments
- They are opportunistic feeders
- They reproduce prolifically, making it hard to control their population once they're established.

## How will it get to my waters?

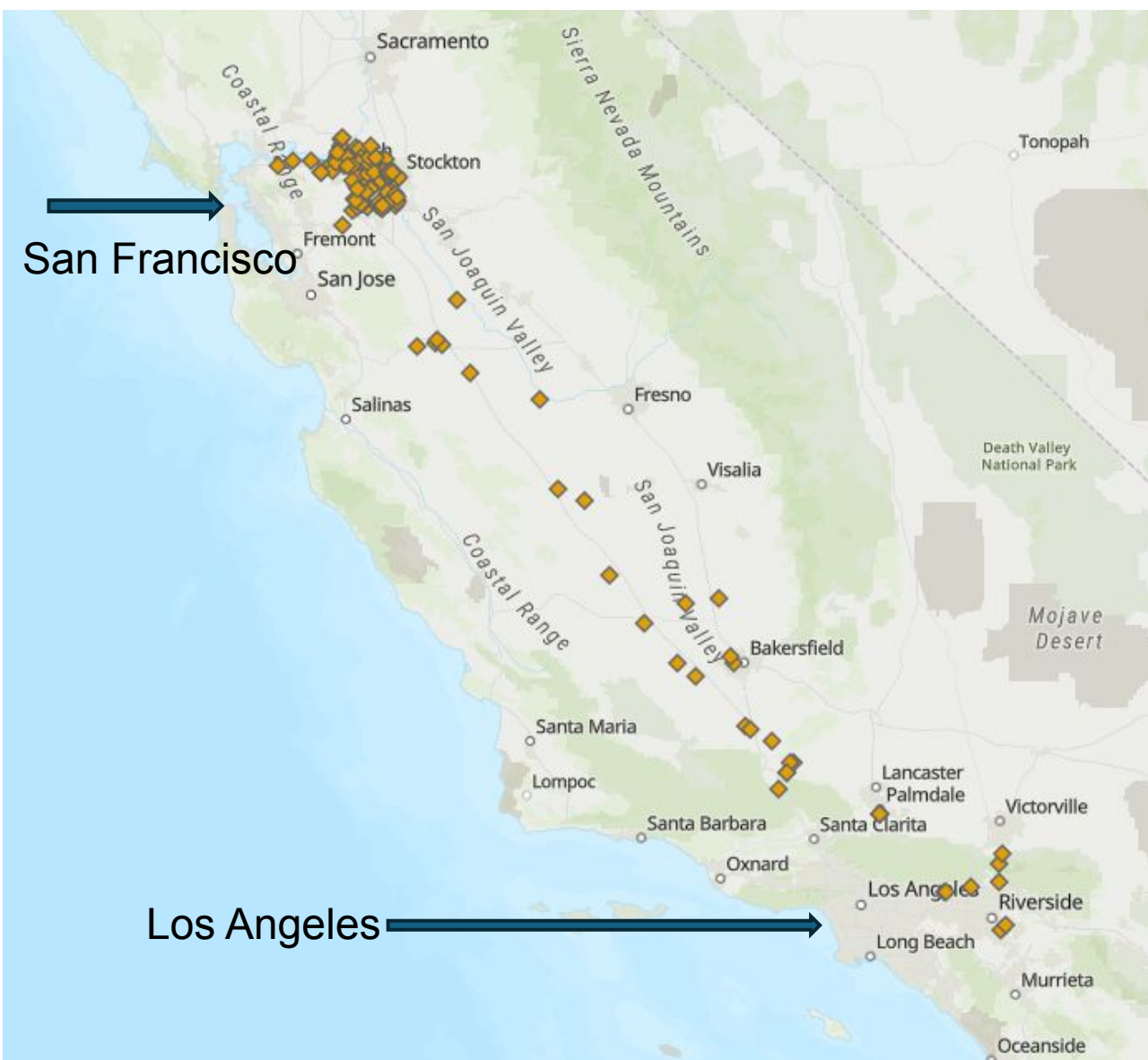
- Live food
- Bait
- Pet
- Released as a part of cultural practices.



## What are the known impacts?

- Potential to disrupt food webs
- Harm native biodiversity
- Their burrows damage canals and other infrastructure.
- Known carriers of Gnathostomiasis

# Golden Mussel (*Limnoperna fortunei*)



# Golden Mussel (*Limnoperna fortunei*)

- Native to humid subtropical climates; inhabits lakes, rivers, and streams
- Broad environmental tolerance
- Lower calcium requirements and longer reproduction period than zebra mussels
- More tolerant than zebra mussels to anoxia, pollution, pH variation, and high temperatures
- Cold-tolerance suggests potential range expansion to higher latitudes



# Golden Mussel (*Limnoperna fortunei*)

- A national species plan is being planned
- Awareness is key
- [California's Invaders: Golden Mussel](#)

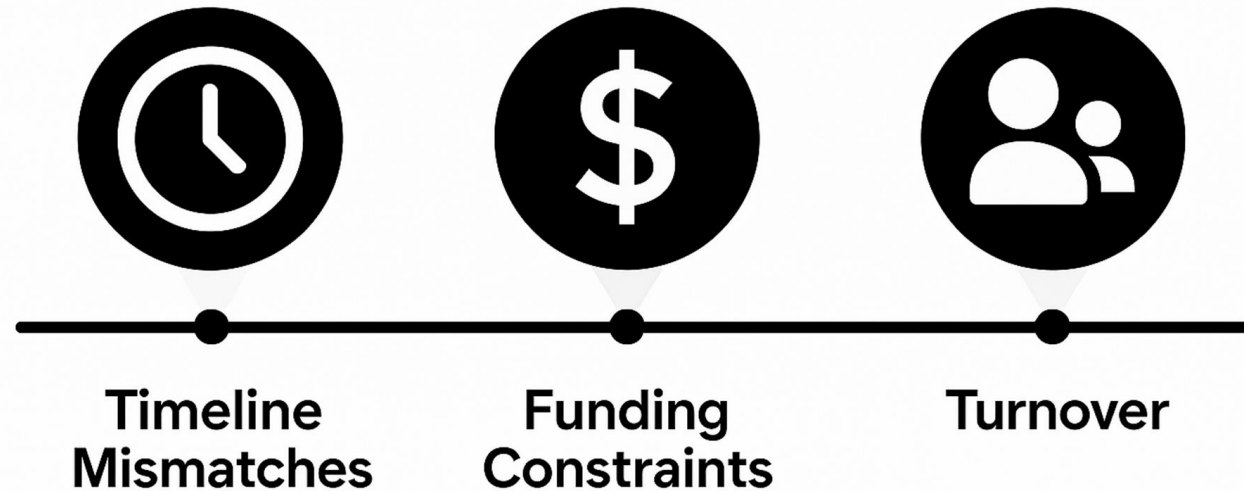


# Panel Paper

## Working Smarter Together: Practical Guidance on Best Practices for Working Effectively with State, Federal, Tribal and Territorial Partners

### Barriers to Collaboration

- Early & Proactive Communication
- Align Research With Management Needs
- Maintain Situational Awareness
- Rapid Notification of New Detections
- eDNA Transparency
- Data Sharing
- Build Long-Term Relationships



# Panel Paper

- Wesley Daniel, U.S. Geological Survey
- James Ballard- U.S. Fish and Wildlife Service
- Robert Bourgeois, Louisiana Department of Wildlife and Fisheries
- Sarah Funck, Florida Fish and Wildlife Conservation Commission
- Julie Holling, South Carolina Bureau of Water
- Peter Kingsley-Smith, Adjunct Faculty, Graduate Program in Marine Biology,
- Jessica Martin, U.S. Army Corp of Engineers
- Monica McGarrity, Texas Parks and Wildlife Department
- Cayla Morningstar, CNSS
- Jim Page, Georgia Department of Natural Resources
- Mike Pursley, Mississippi Department of Marine Resources
- Charlie Robertson, Gulf States Marine Fisheries Commission

## Room for everyone- let me know

# Panel Paper

- Review the paper
- Table of priority aquatic invasive species
- A general communication plan

**Next draft due Friday May 1st**

# Nonindigenous Aquatic Species Database Team



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