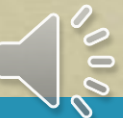


An Overview of FWC and ECISMA Efforts For Nonnative Aquatic Species



ECISMA Summit
July 21, 2021

Kelly Gestring and Brian Hutchinson
Nonnative Fish and Wildlife Program
Florida Fish and Wildlife Conservation Commission



Nonnative Fish In Florida

Today's topics:

- Early Detection, Rapid Response
- Bullseye Snakehead Renovation
- Completed Risk Screens
- Bullseye Snakehead in Lake Ida
- Clown Knifefish
- Arapaima update
- Green Mussels
- Zebra mussels



Early Detection and Rapid Response

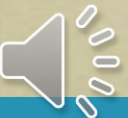
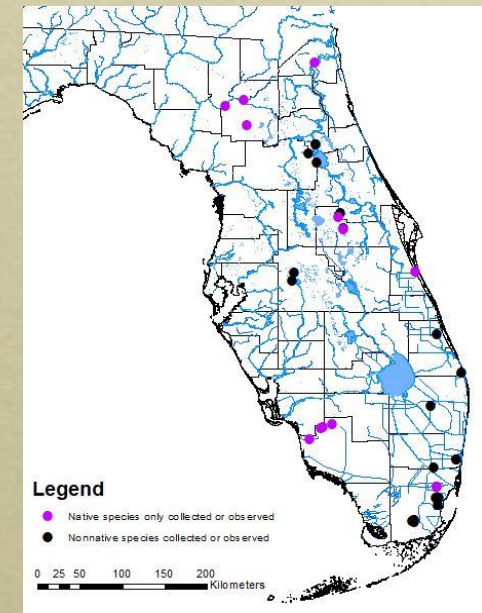
Fish Slams = Range expansion, discovery of new species



March 2021 Covid Be Darned! Fish Slam

- 40 biologists, 10 agencies, 33 sites
- 18 nonnative fish species
- No new exotics
- Unusual species = Chanchita, Jack Dempsey, and Midas Cichlid from a new location

A big shout out to Pam Schofield and Mary Brown, USGS!!

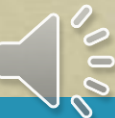


Virtual Fish Slam Spring 2021



STANDARDIZED ELECTROFISHING

- 6 core canals in October (began in 1997)
- Document distribution and abundance of native and nonnative species
- Proactively increase detection probability of new species
- Documented singleton Clown Knifefish in the Snake Creek (C-9) Canal in Broward County



Bullseye Snakehead Renovation



Bradenton Pond Renovation

- May 9-12, 2021
- NFWP, DFFM, FWRI, USGS, UF staff responded



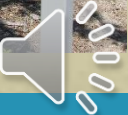
- Angler report, confirmed by USGS and FLMNH
- >150 miles NW of known range
- NFWP and DFFM staff responded
- Confirmed in 1 pond
- No BUSN found in stream, adjacent ponds



Thanks to Miccosukee Tribe for generous donation of rotenone and to USFWS for logistical support!



Bullseye Snakehead Renovation



Renovation Results

- Removed 48 BUSN
- 8 spp. nonnative fish, 1⁰ BUSN, SWEE, AFJE
- >600 lbs fish, approx. 40% nonnative

Next Step

- Follow-up electrofishing



FY 20/21 Risk Screenings of Nonnative Species

AS-ISK Risk Assessment Results

High Risk

- 4 species of sailfin catfish
- African and Tropical Clawed frogs
- Cane Toads



Medium Risk

- Clown Knifefish
- Spectacled Caiman

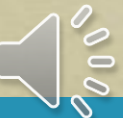


Low Risk

- Blue-ringed Octopus



FWC will use this information to help guide future management actions



Bullseye Snakehead in Lake Ida

- Bullseye Snakehead, Largemouth Bass, and Butterfly Peacock
- Diet overlap, movement, and habitat preference
- Gastric lavage and radio telemetry
- Compare findings to canal data



Movements and Habitat Preference

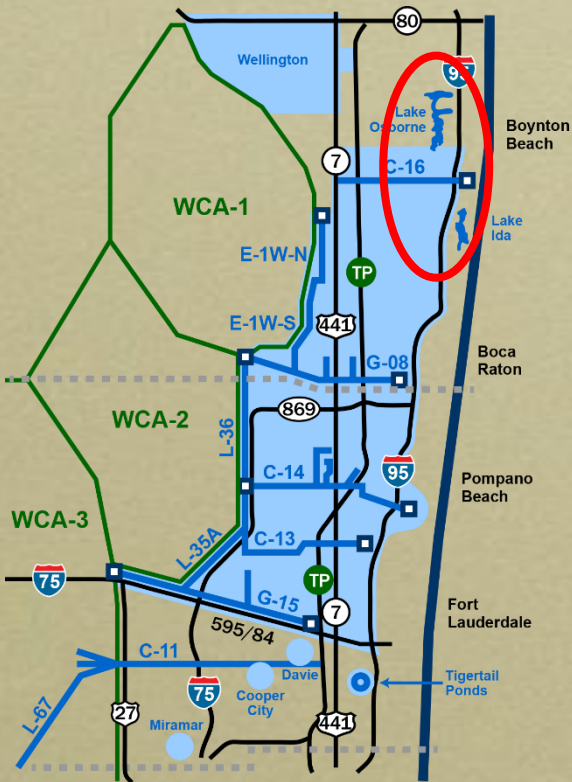
Radio Telemetry for passive and active tracking

- 30 fish of each species
- Three underwater stations

Track movement in and out of Lake Ida
Habitat Preference of the study species



Bullseye Snakehead in Lake Ida



Fish Community Baseline Data

- Conducted 61 All Fish transects (changes in fish community)
- Conducted 73 presence/absence transects (distribution)
- Presence/absence transects will be repeated this fall

Known distribution of bullseye snakehead in blue
Lake Ida study area = red oval.



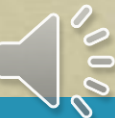
Lake Ida Diet Overlap Study



Gastric lavage system used to extract stomach contents. Fish released alive.

Preliminary Results

- High degree of overlap, similar to canal data
- For LMB and BP, fish and grass shrimp highest numbers
- For BUSN, cane toad tadpoles and fish highest numbers
- BUSN had brown water snakes, several species of turtles







Clown Knifefish

- Bowfishing for clown knifefish on Lake Ida/E-4 canal system
- Outrage from anglers
- Not protected by FWC. Legal method of harvest
- Primary range in SE Palm Beach Co., 1 canal in Miami-Dade Co.
- Confirmed reports in Lake O and in Venice area



Arapaima Update



- Multiple reports of Arapaima caught in Venice and Englewood area.
- One dead arapaima in Caloosahatchee River
- FWC LE tracked reports to permitted aquaculture facility
- Anglers trespassed to catch arapaima from breeding pond
- Follow-up sampling in February, May and June 2021 = 0 arapaima
- Submitted USFWS/FWC monitoring proposal
- Additional sampling planned



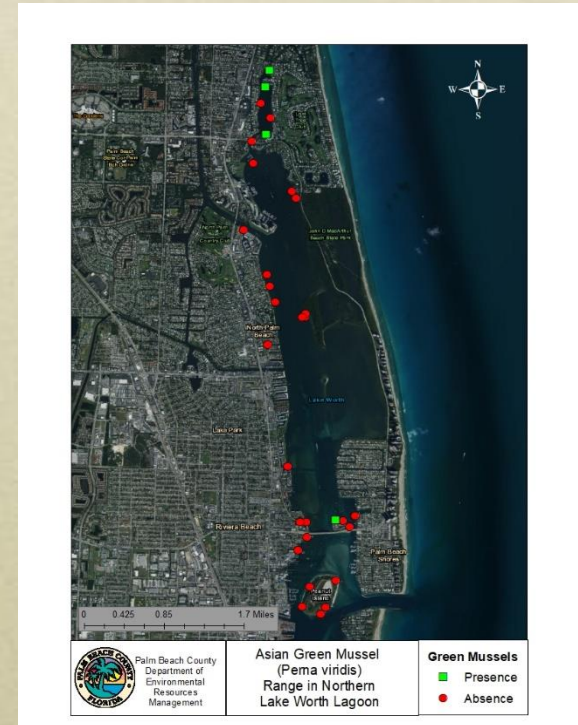
Thanks to FWC Community Relations staff and
FWC Law Enforcement!



Green Mussels (*Perna viridis*)



- FWC notified in October 2020 in Little Lake Worth Lagoon
- Major restoration projects in Lake Worth Lagoon
- Bio-fouling concerns;
 1. displacement of native oysters
 2. substantial economic fouling issues
- PBC ERM survey = 4/25 sites with green mussels
- FWC confirmed in FT Pierce and Sebastian inlets
- Thought eradicated due to cold but very cryptic



Zebra Mussel (*Dreissena polymorpha*)

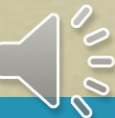


Zebra mussels

- March 2021, Zebra mussels reported in “moss balls”
- A rapid, FWC multi-divisional response
- Contacted distributors and their customers to remove and dispose of moss balls
- Updated species profile page with decontamination protocols
- Released news release to inform home aquarists



Containers of moss balls



Thank You Partners!





Questions?

