

Everglades Cooperative Invasive Species Management Area



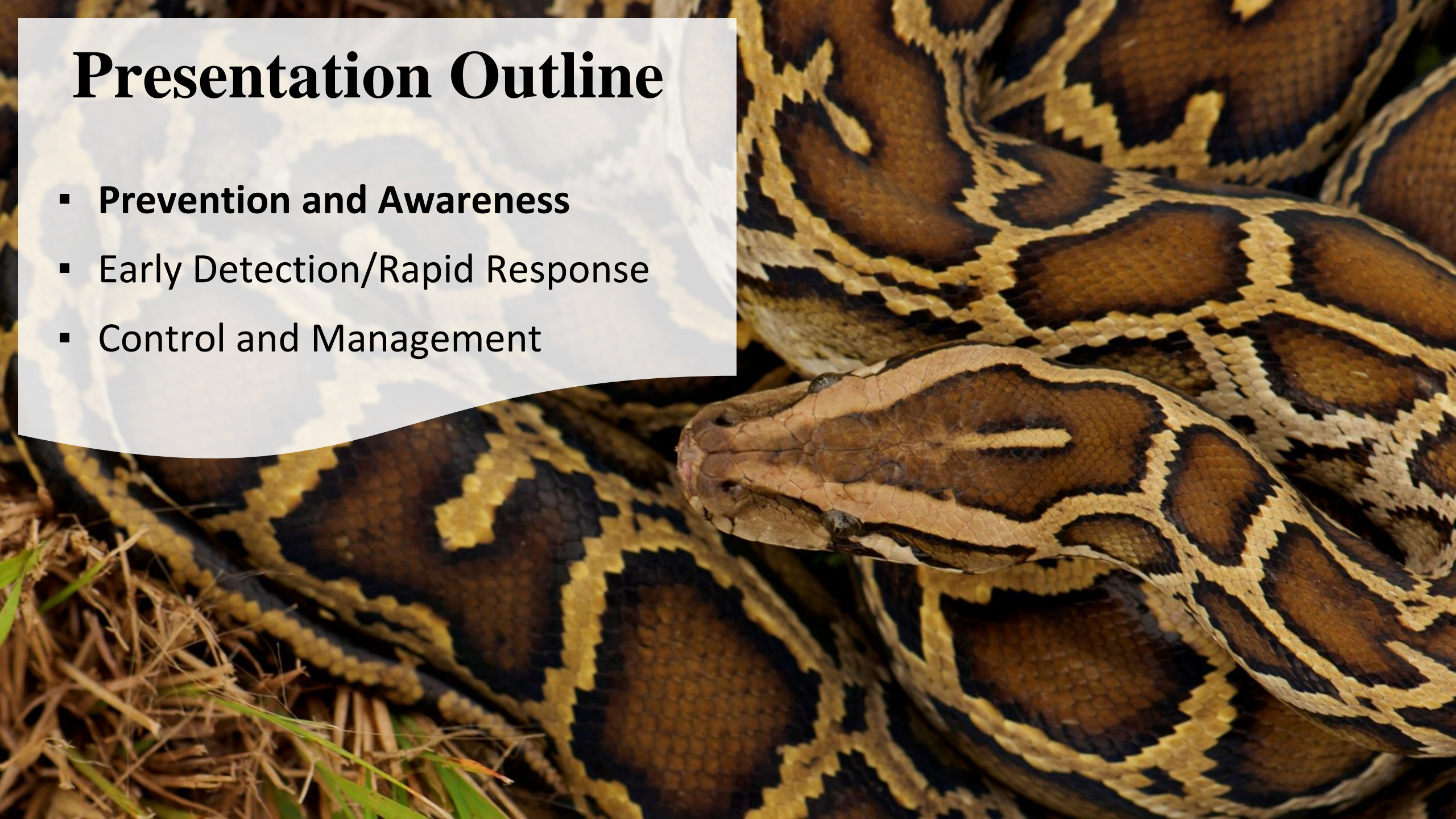
22<sup>nd</sup> Annual Meeting

# Regional Assessment of Priority Animal Management

Presented by Jenna Cole and Eric Suarez

# Presentation Outline

- **Prevention and Awareness**
- Early Detection/Rapid Response
- Control and Management





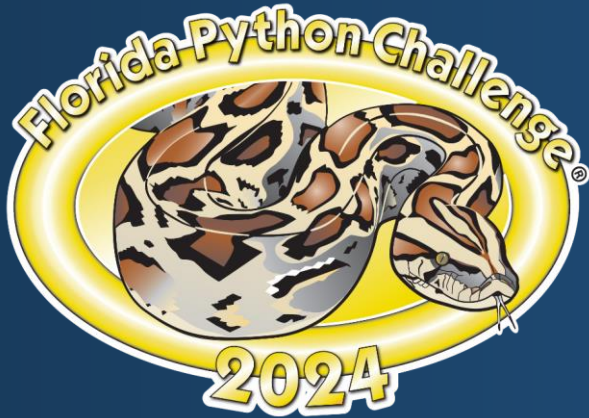
# FWC's Nonnative Fish and Wildlife Technical Assistance Group (TAG)

- TAG charged with examining regulatory structure for nonnative fish and wildlife in Florida
  - Provide feedback to FWC
  - No decision-making authority
- Members represent 12 interest groups
- 13 meetings completed (one meeting in 2024 and two, so far, in 2025)



TAG Meeting Gainesville July 2025

The Florida Python Challenge™ is an effort to promote protection of native wildlife through removal of Burmese pythons. The intent of the program is to raise public awareness about invasive species in Florida that are a threat to the Everglades ecosystem – specifically Burmese Pythons.



**857**

Participants  
(129 out of  
state, 2 from  
Canada)

**195**

Pythons  
removed

**\$10K**

Ronald  
Kiger 20  
pythons



2025: July 11th – July 20th

- \$25,000 total cash prizes available
- 933 participants registered
- Prizes offered in Novice, Professional and Military categories



To reduce the number of nonnative species released into the wild, FWC's Exotic Pet Amnesty Program offers a free and legal opportunity for Florida residents to rehome nonnative pets they are no longer able to keep.

Over  
7,600

Total requests  
to rehome  
nonnative pets

Over  
1,600

Nonnative  
pets regulated  
as Conditional  
or Prohibited

Over  
1,800

Pre-  
approved,  
active  
adopters

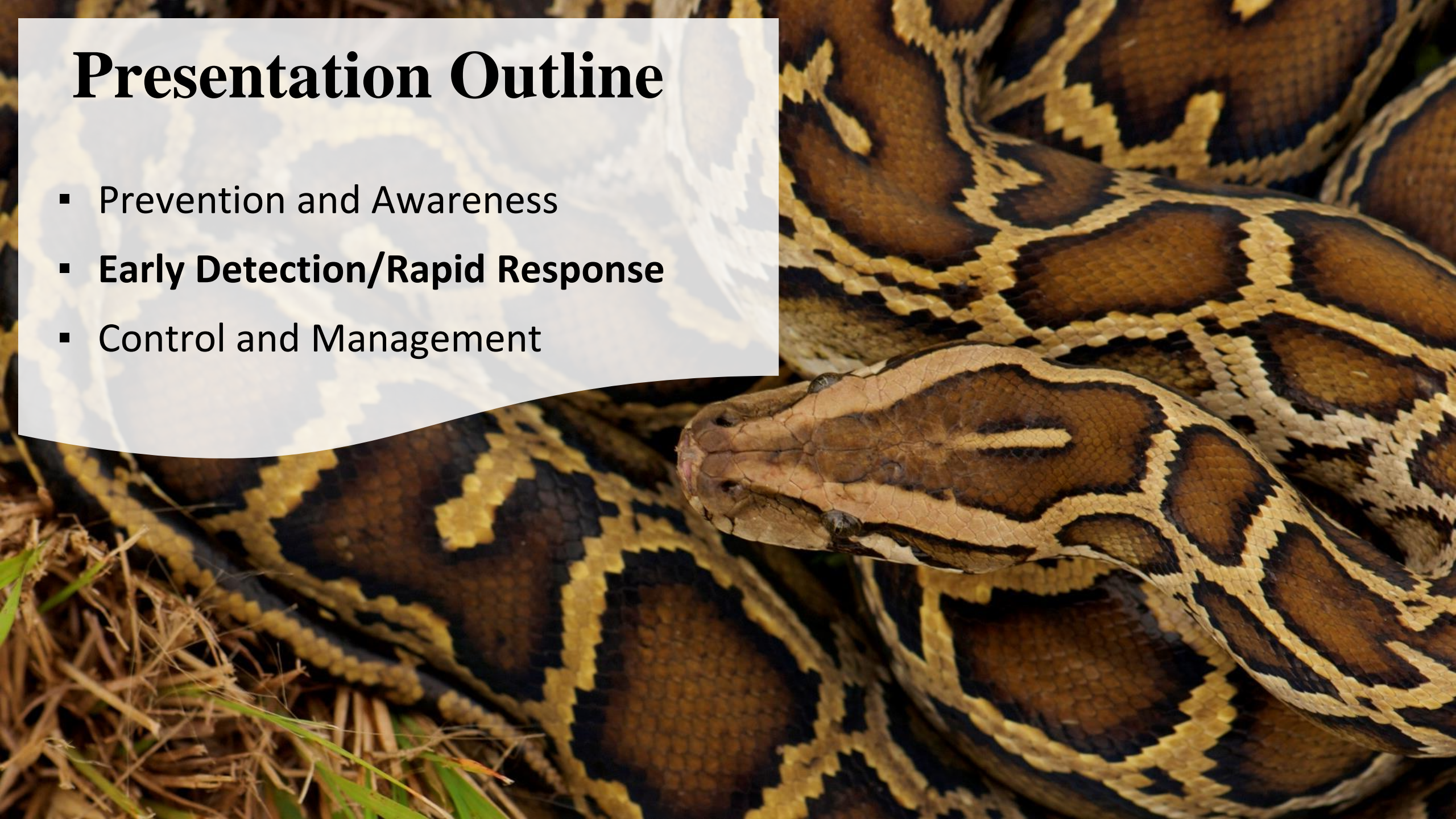
July 2024 -  
June 2025  
Highlights



- Database overhaul to reduce admin. time
- Focus on out-of-state adopter recruitment
- 91 pond turtles were rehomed during two Slider Turtle Rehoming Days

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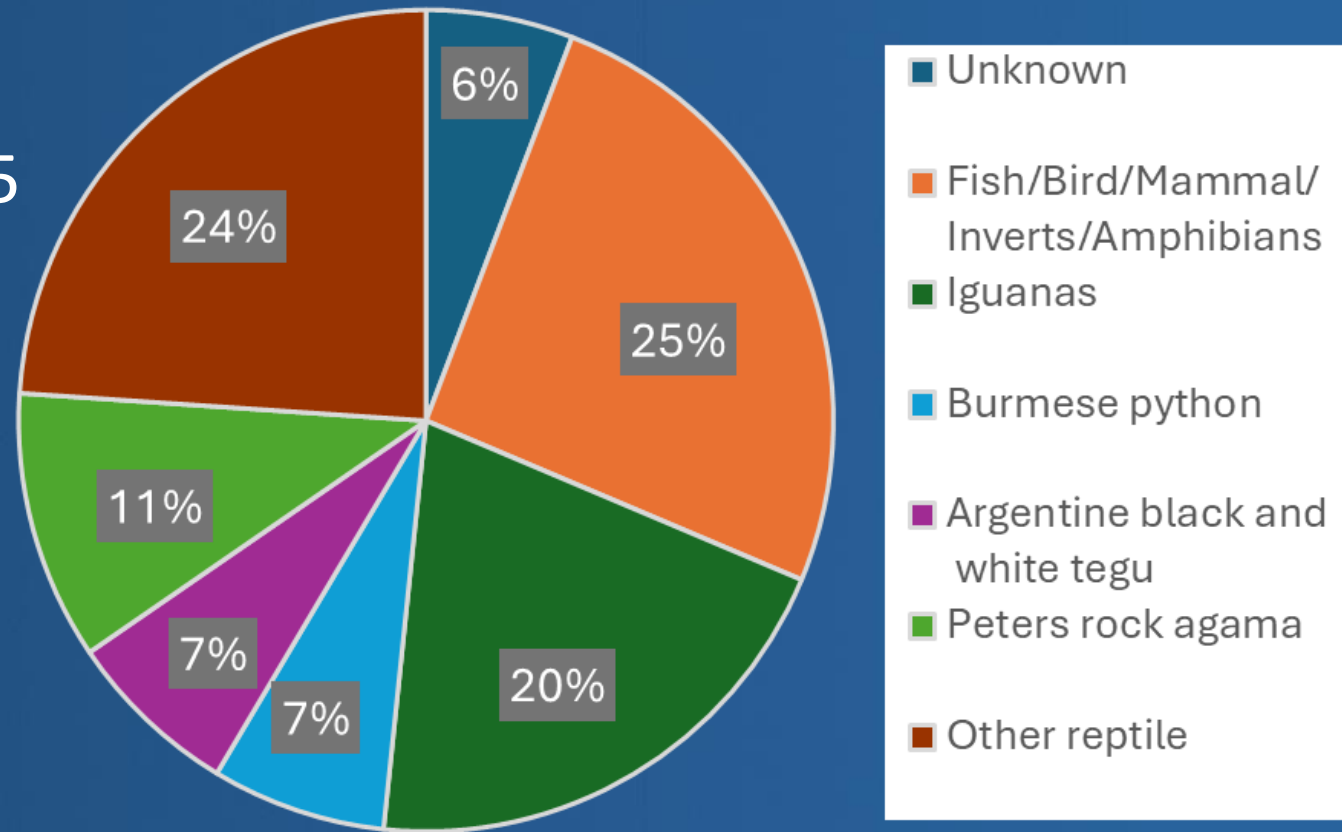


# IVEGOT1 and Public Reporting



## IveGot1 Hotline Calls

- 3,151 hotline calls within FY 24/25
  - 54% observations
  - Reptiles made up over 69% of calls
  - 7% Burmese python related calls
  - 317 animals removed

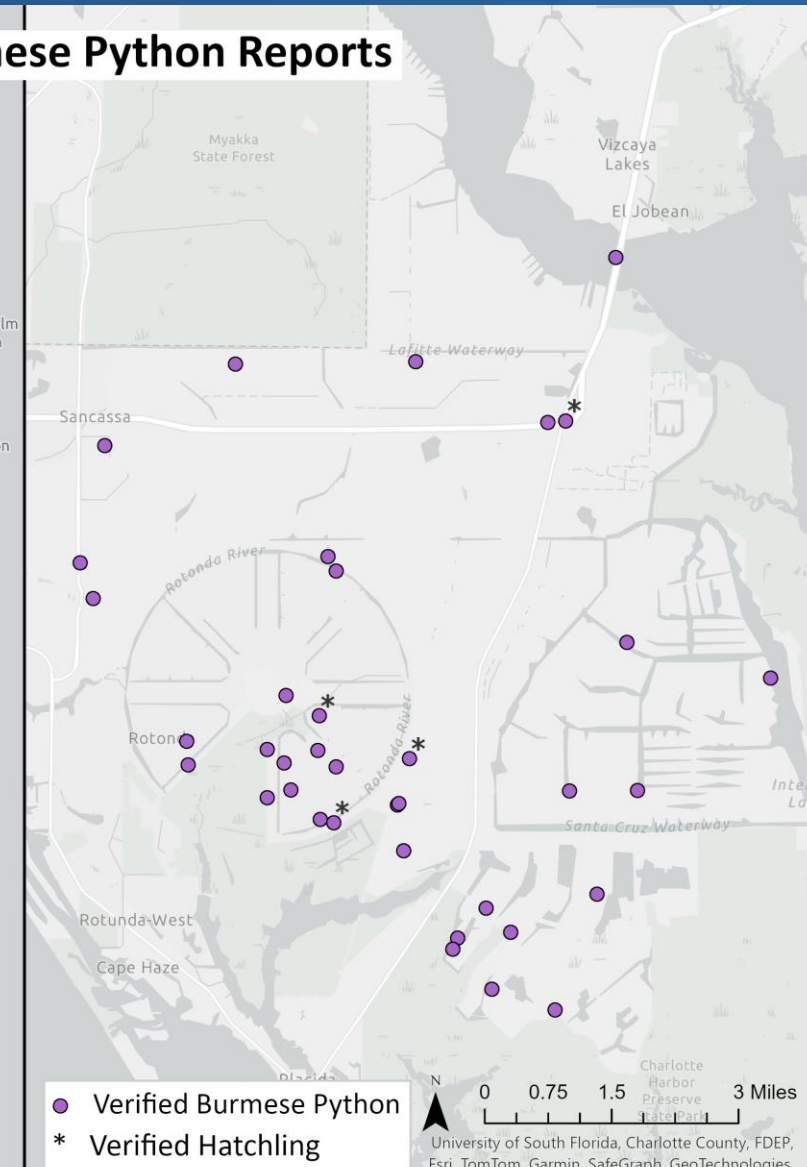
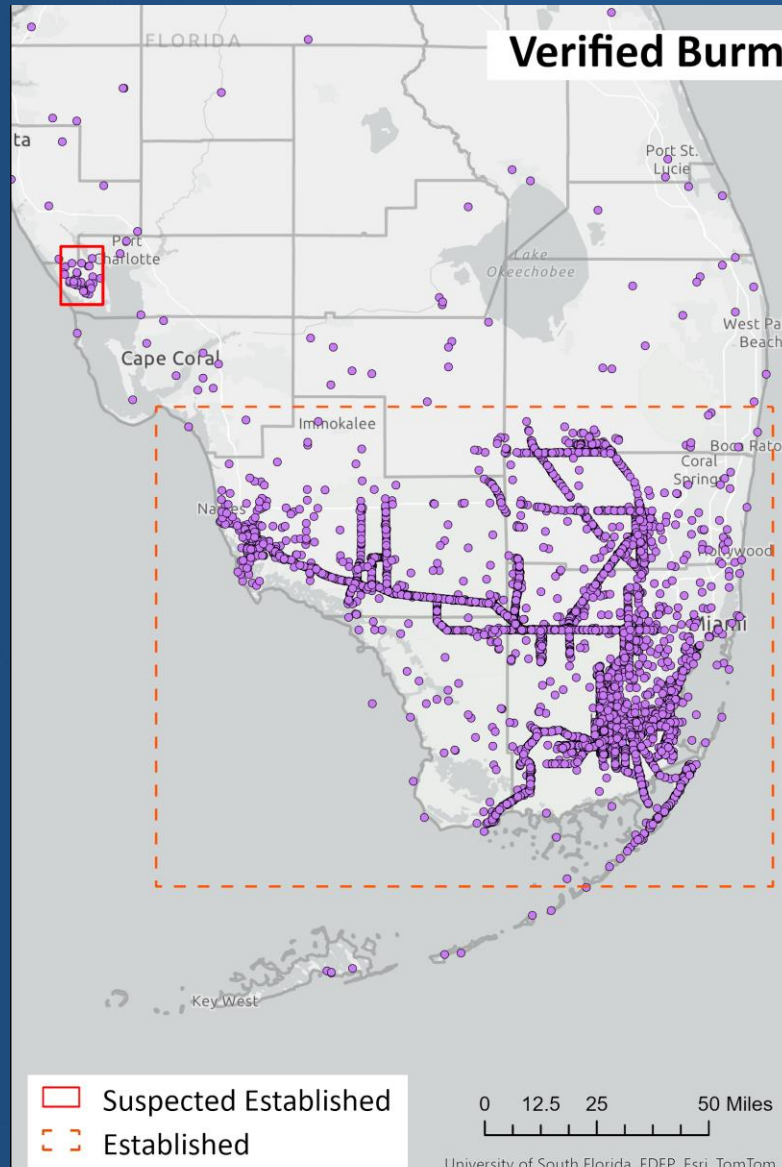




# Charlotte County Burmese Pythons

*Python molurus bivittatus*

- Majority of sightings occurring in western Charlotte County.
- Through June 2025, there have been 41 verified reports from Charlotte County.
  - 4 of those reports were hatchlings/juveniles.
- FWC has 2 dedicated part time employees surveying Rotonda area



■ Suspected Established  
▭ Established

● Verified Burmese Python  
\* Verified Hatchling

University of South Florida, FDEP, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, NPS, USFWS

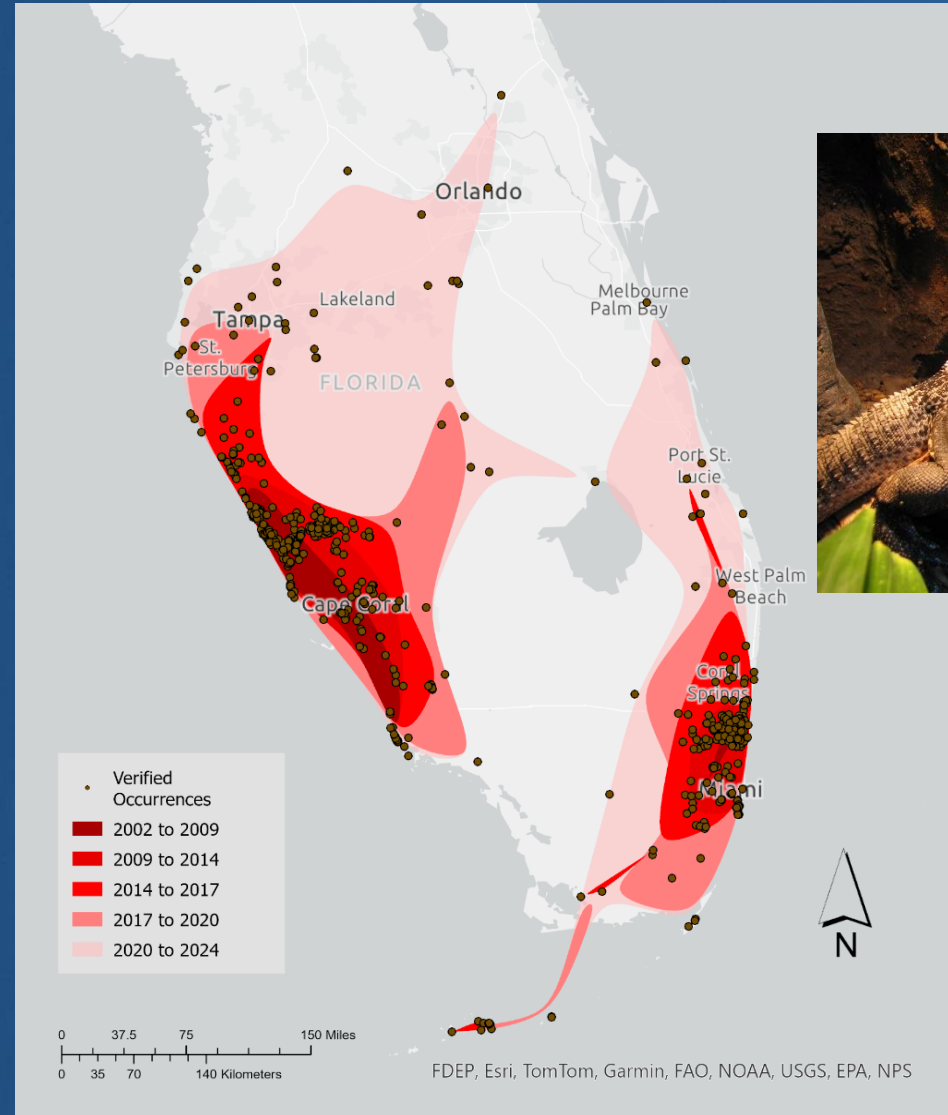
University of South Florida, Charlotte County, FDEP, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS  
Data as of 7/15/2025



# Black Spiny-tailed Iguana Update

*Ctenosaura similis*

- Two populations
  - SW Counties: Pinellas through Collier
  - S Counties: Palm Beach through Miami-Dade
- Steady increase in reports
- Not an established range map





# Black Spiny-tailed Iguana & Burrowing Owl EDRR

*Ctenosaura similis* & *Athene cunicularia*

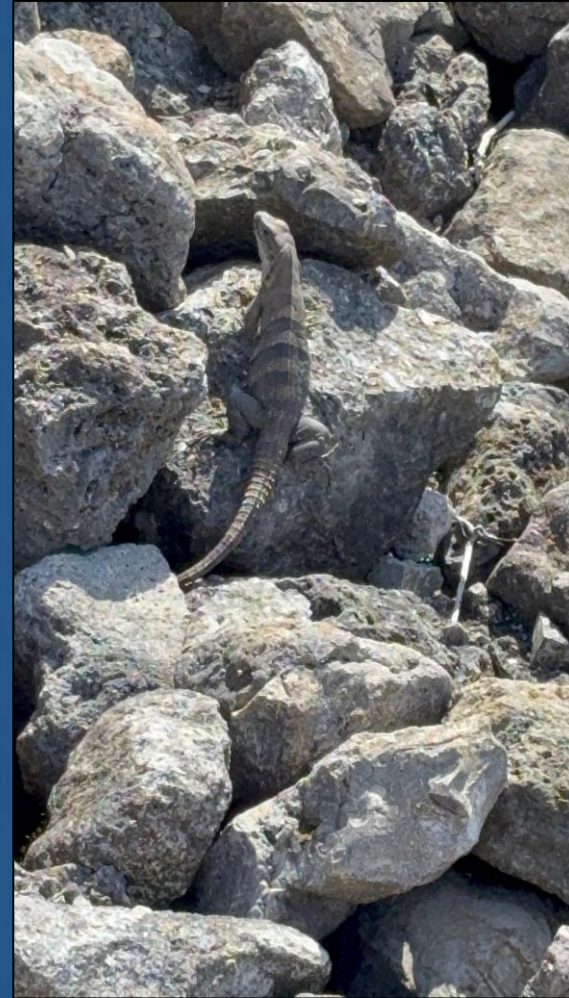
- Goal: Prevent Green and Spiny-tail iguanas from impacting Florida burrowing owls
- Partner: Broward County Courthouse
- Traps: Iggy Trap, Havaharts, Tomahawks
- Iggy Trap: 8 Spiny-tails, 0 Greens in 12 trap days (January 21-February 14, 2025)
- Havaharts/Tomahawks: 4 Spiny-tails, 0 Greens in 16 trap days (February 17-21, 2025)
- Lures: Most effective: Plastic hibiscus flowers and strawberries in Iggy Trap; Blackberries in Havaharts and Tomahawks





# Black Spiny-tailed Iguana (BSTI) EDRR near Loxahatchee NWR

- Partners: SFWMD, UF CrocDocs, and USFWS
- LOX ACE bio intern Daniel Lerma photographed BSTI on rip-rap near S-6 pump station during bi-weekly EIRAMP survey on 4.11.2025
- USFWS notifies SFWMD Invasive Animal program personnel day of sighting
- SFWMD has contract for invasive wildlife removal with UF CrocDocs
- UF CrocDoc wildlife biologist Alex Grimsley harvests animal with air rifle on 4.16.2025
- Ideal example of site-specific EDRR and inter-agency coordination!





# Spectacled Caiman EDRR

- Partners: USACE, UF CrocDocs, NPS
- Caiman reported in Chekika within ENP
- Very elusive in this area to snare successfully
- UF CrocDocs Daniel Bonilla and Eric Suarez decided to try turtle hoop traps
- One alligator captured, but shows proof of concept





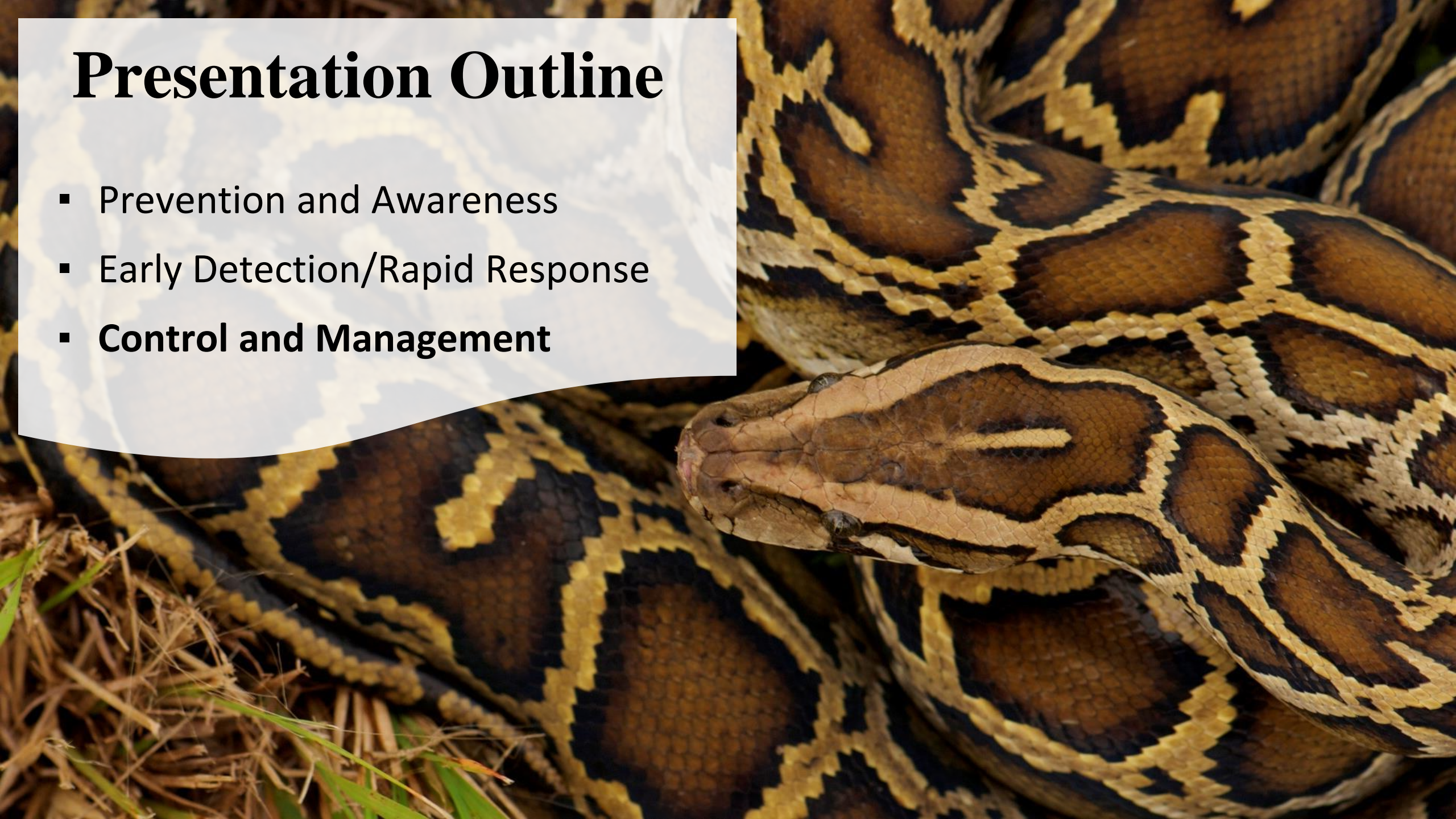
# Fish Slam Update

- Goal: Since 2013, sample nonnative freshwater fish in Florida
- Partners: State, Federal, Tribal, museums, and universities
- 17th Fish Slam held in December 2024 in Palm Beach/Broward area
- 56 biologists from 12 organizations
- Sampled 33 sites, collected 18 species
- First collection of Cuchia Mud Eel (*Ophichthys cuchia*) from Hillsboro Canal
- Held Fish Chat to discuss ongoing and future projects on nonnative freshwater fish projects



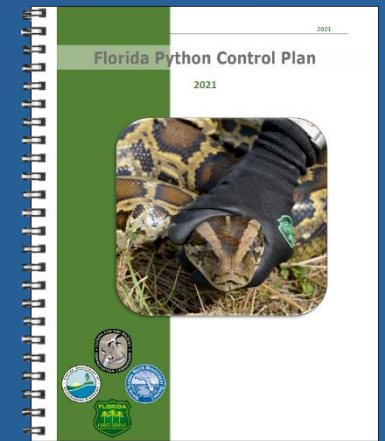
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# Florida Python Control Plan



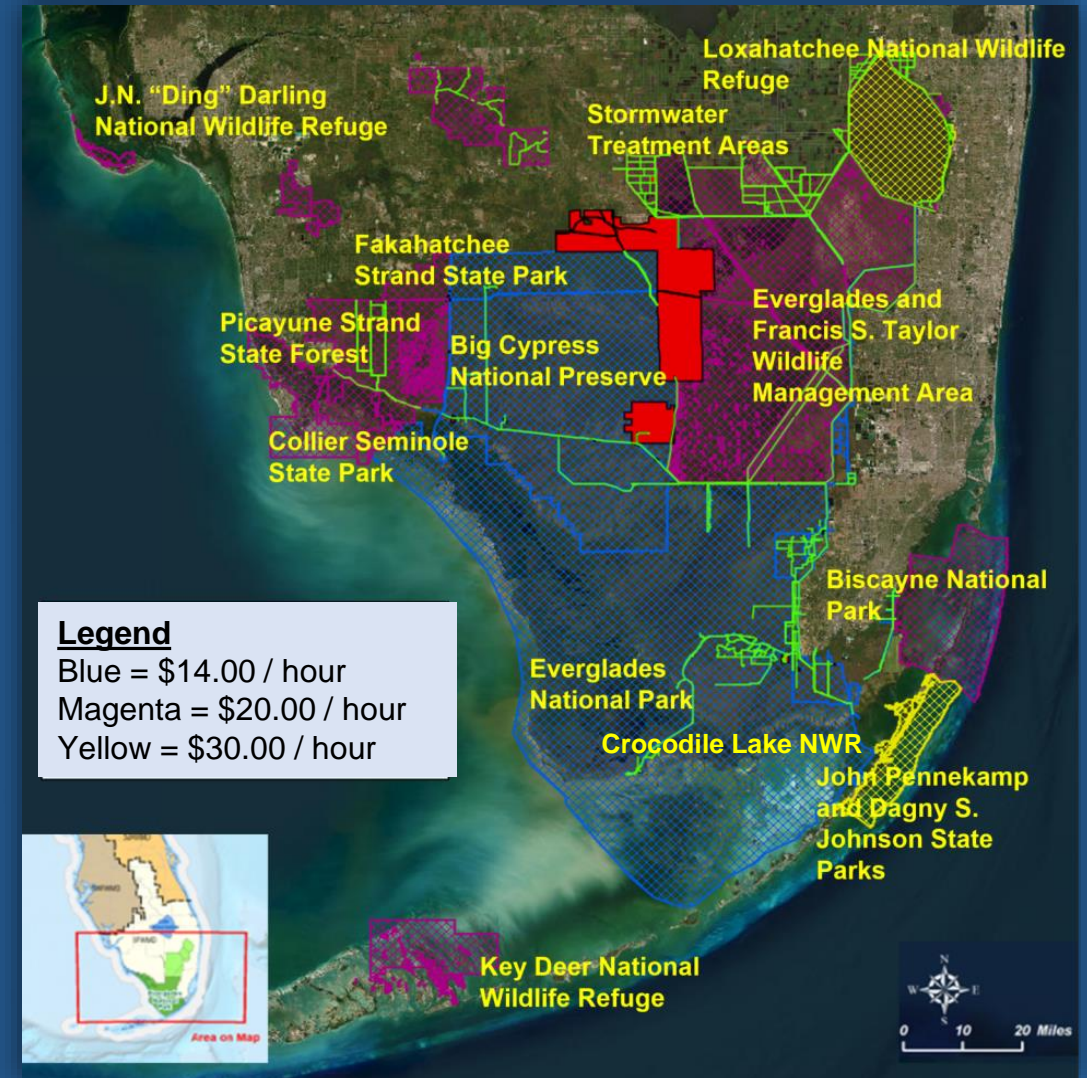
- Resource guide to cooperatively manage pythons in Florida
- Multi-organizational effort
- Finalized in August 2021
- FPCP Workgroup currently implementing the plan
- FPCP Website active as of 2023:  
[flpythoninvasion.org](http://flpythoninvasion.org)

The screenshot shows the Florida Python Control Plan website. The header features the title "Florida Python Control" and a navigation menu with links for "Python Problem", "Get Involved", "Control & Research", "Outreach & Education", "Milestones", and "Resources". The main content area includes a welcome message, a description of the organization, and a section titled "How Can We Help You?" with three buttons: "READ THE FPCP", "LEARN ABOUT INVASIVE PYTHONS", and "GET INVOLVED". A footer box contains the text: "Working to address the need for a unified, interorganizational plan to control invasive Burmese pythons."

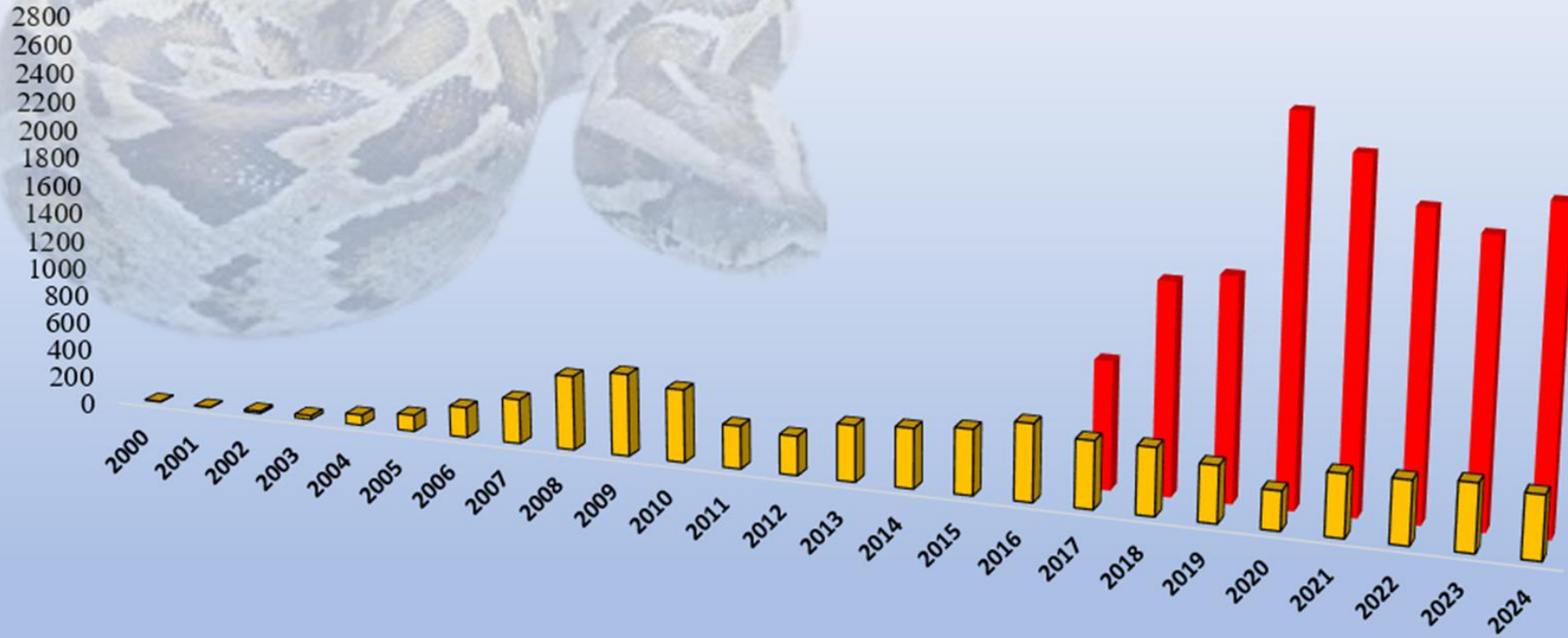


# Python Removal Contractors

- FWC and SFWMD programs
- Compensate local experts to survey for and remove pythons
- ~100 paid contractors
- Over 16,000 pythons removed
- Project area spans 11 counties



# Burmese Pythons Removed



■ All other efforts for last 25 years: 8,000

■ Contractor programs for last 8 years: 16,000





# Loxahatchee Python Update

- 8.64-foot, male, captured 2.18.25 by PEP contractor Richard Catrambone
- Hatchling, captured 7.18.25, by PEP contractor Kyle Perry
- Third and fourth pythons photographed, captured, or killed since 9.16.16



## Conservancy of Southwest Florida

- Established 2013
- 40 scout pythons (39M:1F)
- 77 associate pythons (4,800 lbs)

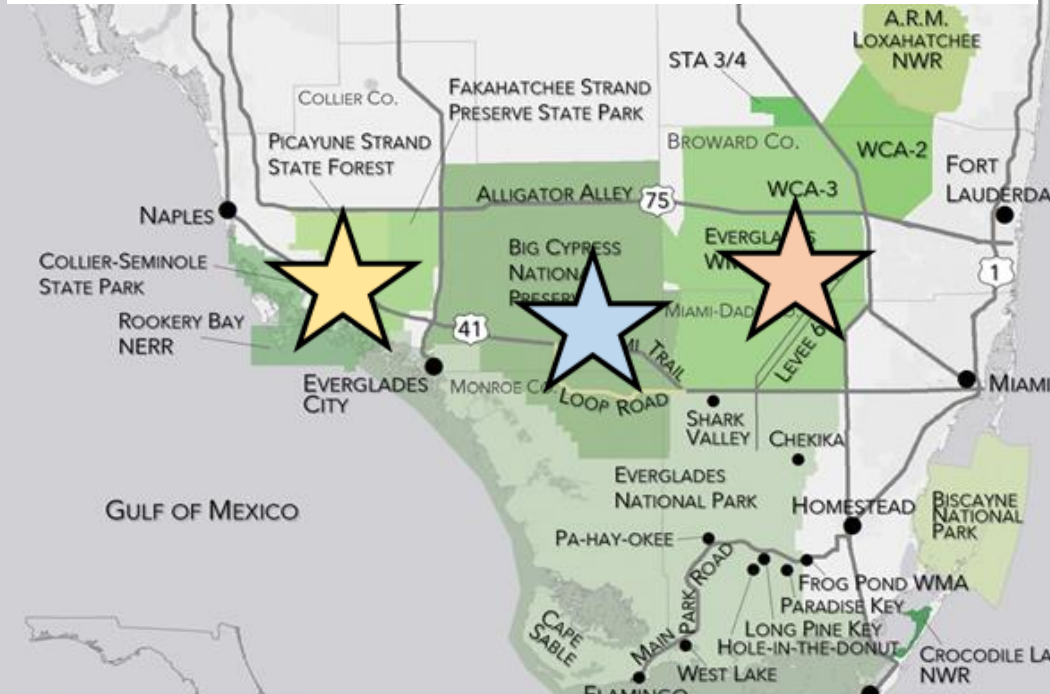


## BICY (USGS, NPS)

- Established 2017
- 30 scout snakes (13M:17F)
- 5 juveniles
- 43 associate pythons



# Python Telemetry Scout Program Updates



## Everglades FST WMA (UF, USGS, FWC, SFWMD)

- Established 2022
- 19 scout pythons (11M:8F)
- 12 associate pythons





# Innovative Upcoming Tools for Control

## Telemetered Prey (meso-mammal) Project

- 17 collared opossums predated by pythons
- 11 python captures (7M, 4 F)
- Colored zip ties have been added to collars to potentially increase retention time in pythons and assist in identification of collared opossums with remote cameras
- Python predation events occurred Jul.-Oct.

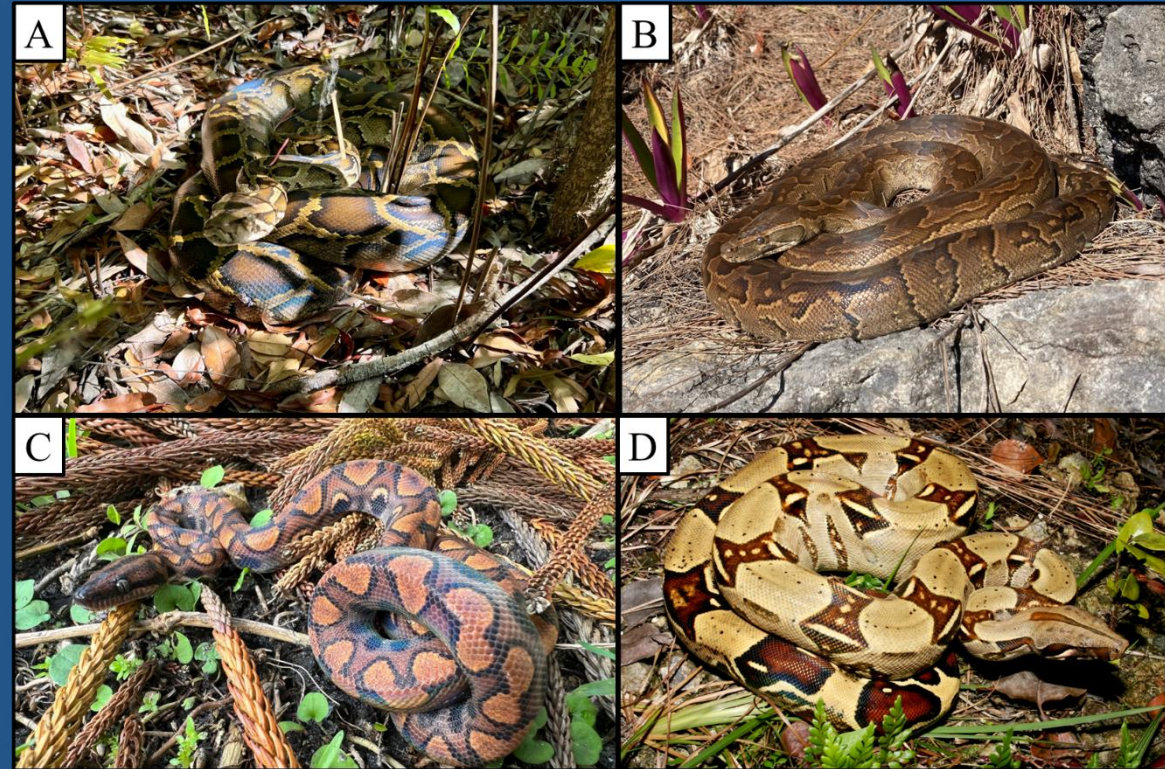




# Innovative Upcoming Tools for Control

## Multi-plex Digital PCR Assays

- Developed by UF
- Detects DNA of 4 target species from one sample
- Assays developed for eDNA detection of invasive wildlife and fish in multi-invaded systems
- First assay designed to detect Burmese python, NAP, Boa constrictor, and rainbow boa
- Interesting controlled experimental results. Field trials to begin in 2026





# Innovative Upcoming Tools for Control

## Multi-plex Digital PCR Assays (cont.)

- Developed by UF
- Detects DNA of 2 target fish species (adding more)
- Assays developed for eDNA detection of invasive wildlife and fish in multi-invaded systems (see Melody Bloch and Brian Bahder poster)
- First fish assay is for Asian swamp eel and bullseye snakehead
- Preliminary field trials (in collaboration with FWC) tested positive in sites with no previous records of Asian swamp eels (see Kevin Olejniczak poster)

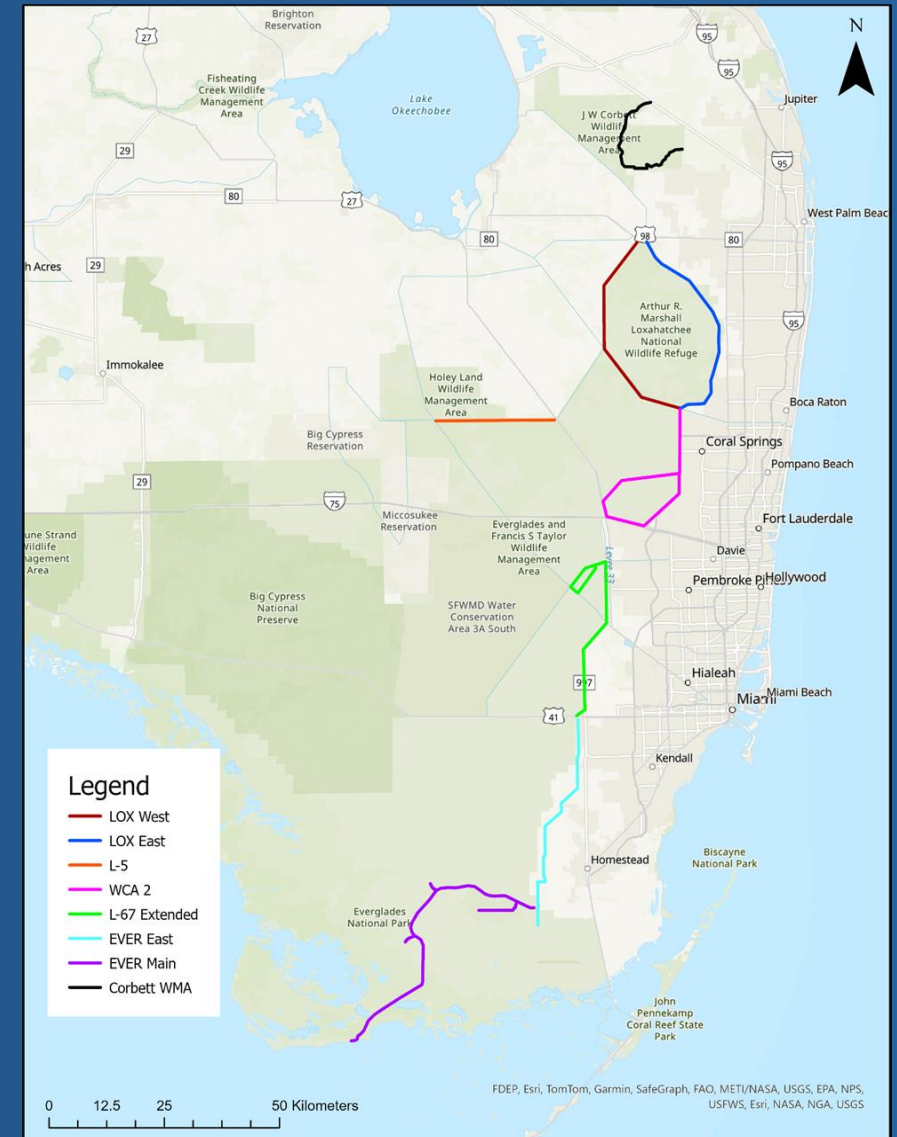




# Everglades Invasive Reptile and Amphibian Monitoring Program

## EIRAMP

- Developed by UF (began in 2010)
- New 2025 routes
- Biosurveillance and EDRR tool
- 146,903 species observed
- 19.5% Native
- 72.5% Nonnative
- 8% Unknown



FDEP, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS, Esri, NASA, NGA, USGS



# Northern African Python

*Python sebae*

- Localized population established in Miami-Dade County since 2001
- 49 NAPs removed since discovery
  - 8 removed since December 2021
  - Ongoing surveys and canvassing
- Necropsies found raccoons, rats, birds, and unidentified canid in gut
- No NAPs in 2025, but 1 Burmese Python Removal





# Herbert Hoover Dike (HHD) Invasive Control

USACE utilizes Economy Act agreement with USDA Wildlife Services to remove burrowing lizards and more

- Peter's Rock Agama - 1,050
- G. Iguana - 595
- B. Basilisk - 297
- N. Curlytail - 148
- B. Spiny tail – 6
- Feral Boar - 35
- Feral Rock Pigeon – 16
- Egyptian Goose - 1





# Iguana Removal in Keys

*Iguana sp. and Ctenosaura spp.*

- Goal: To minimize the impact of Iguanas on critical public conservation lands
- Contractors charged remove iguanas from 5 Wildlife Environmental Areas (WEAs) and 8 State Parks in the Florida Keys
- September 2024-June 2025, 899 iguanas removed; 2,212 total
- Success varied by site and was greatly dependent on allotted removal method





# Loxahatchee Green Iguana (GRIG) Containment Efforts

- Goal: Target green iguanas in vegetation on marsh side of perimeter canal C-40 to reduce dispersal into the interior marsh
- Partner (s): Lox and FWC Nonnative Fish Program staff
- Method: Airboat or Electroshocking jonboat and shotgun
- Since February 2025, 7 half-day events have resulted in the elimination of 88 iguanas; most recently, using FWC electroshocking jonboat, 25 of 26 iguanas seen were eliminated
- Cool sunny days with light winds are best; ideal basking conditions and animals highly visible to shooter



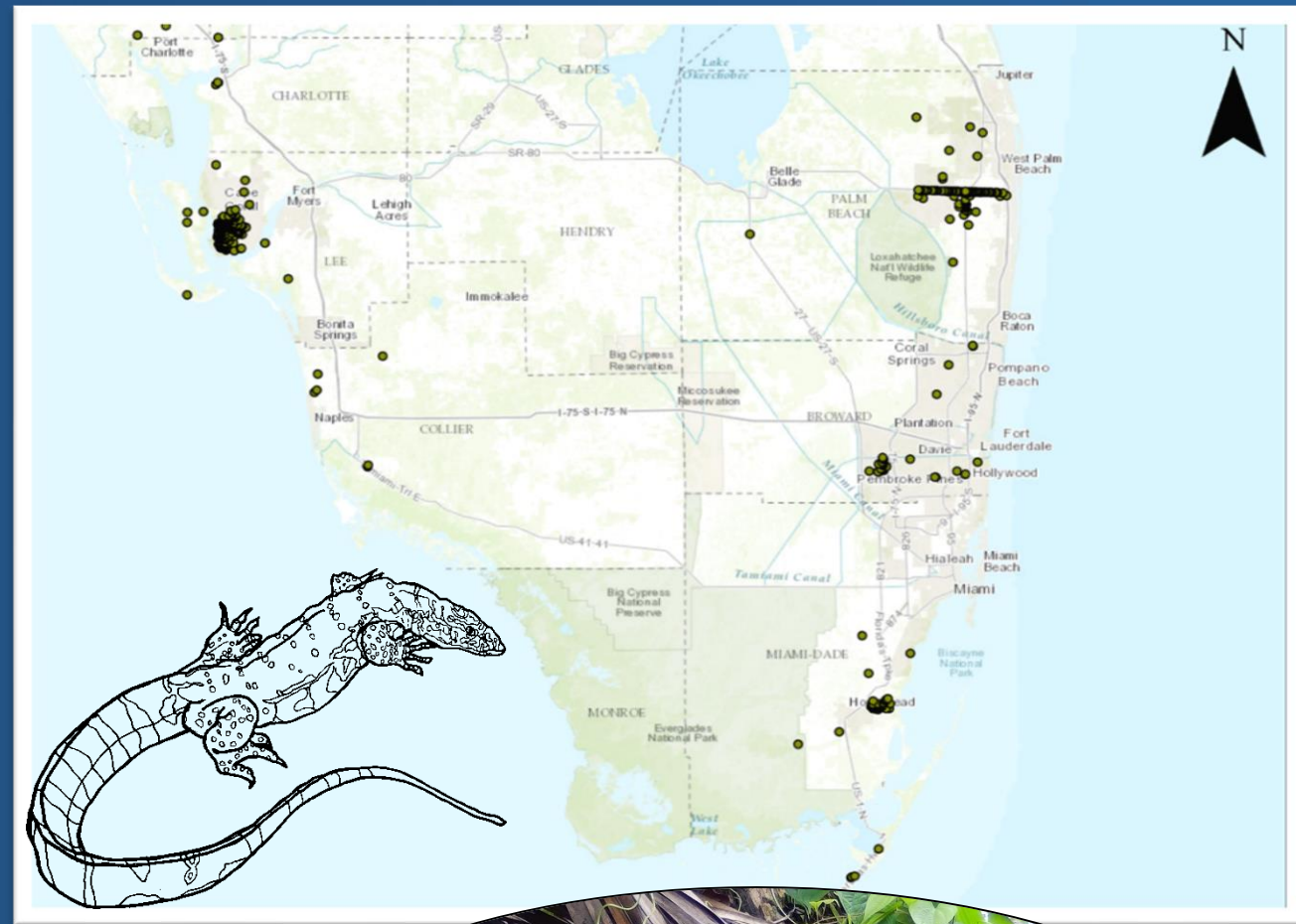
Photo credit: Don Schwartz, Loxahatchee resident visitor and photographer



# Nile Monitor

*Varanus niloticus*

- Large lizard native to sub-Saharan Africa
- Two breeding populations in Florida
  - Cape Coral
  - West Palm Beach
- Apex predator
- 0 removed, 0 observed last year on C-51 Canal
- 0 removed, 0 observed on E-2 Canal





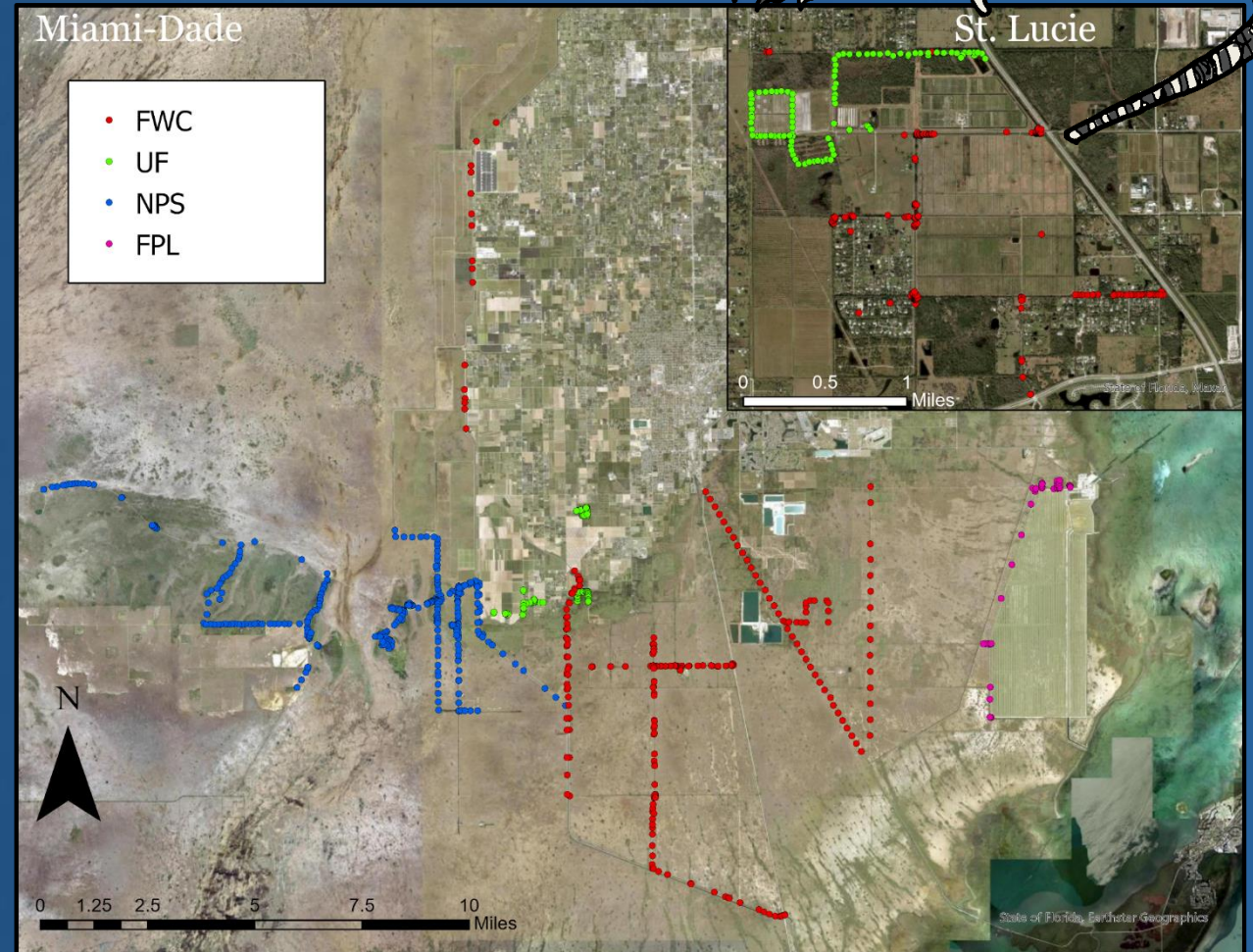
# Black and White Tegu Trapping

*Salvator merianae*



## Agency Capture Summaries - 2025

- Miami-Dade County
  - FWC: 385; CPUE=0.014
  - NPS (Canals): 67; CPUE=0.018
  - NPS (ENP): 12; CPUE=0.001
  - FPL: 252; CPUE= --
- St. Lucie County
  - FWC: 139; CPUE=0.019
  - UF: 34; CPUE=0.004
- Charlotte County
  - FWC: 38; CPUE=0.025



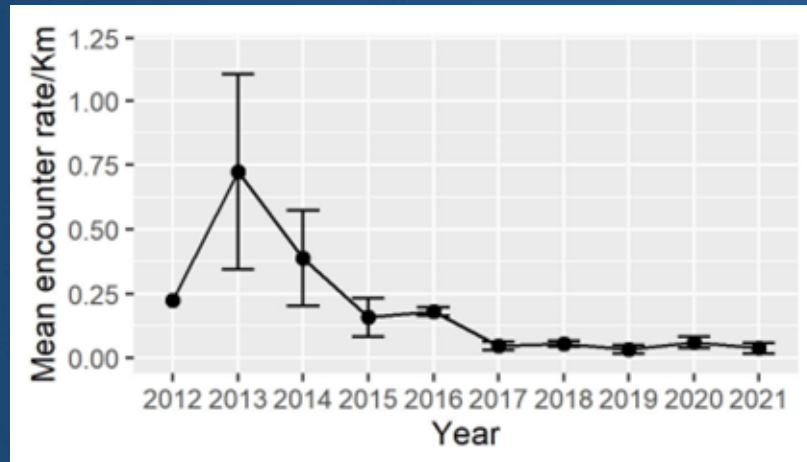
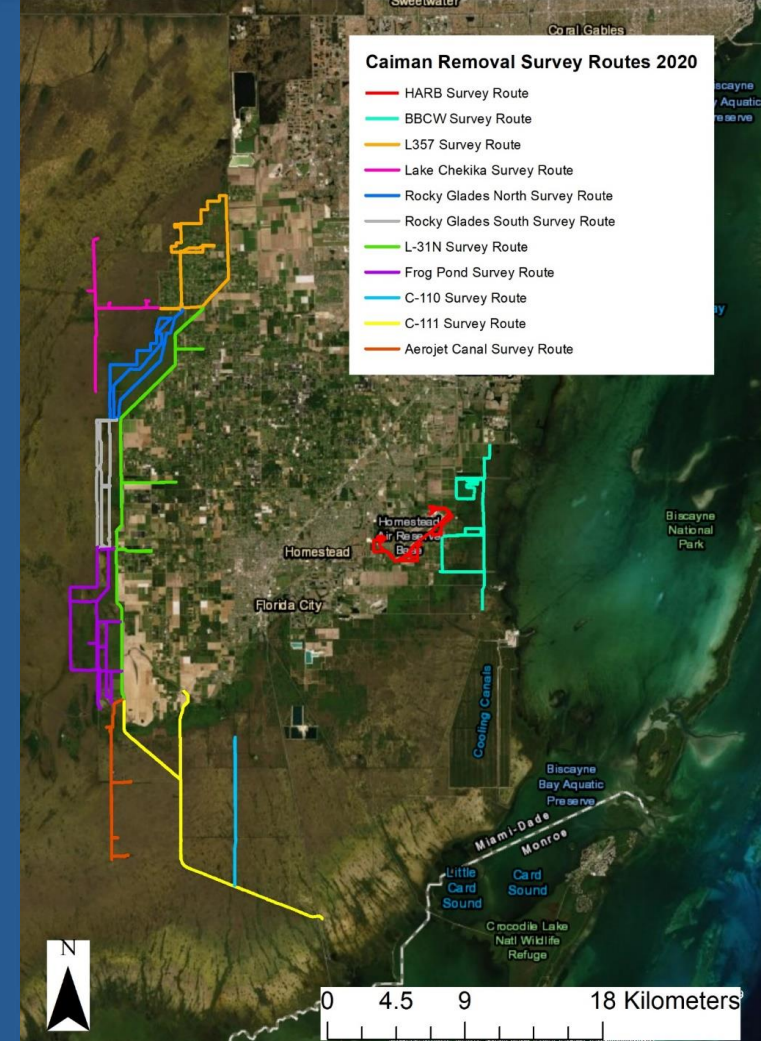
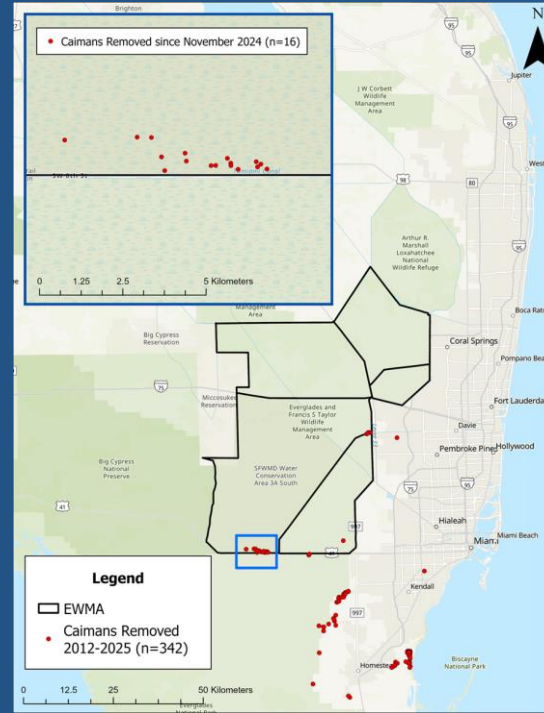
Map from 2024



# Spectacled Caiman

*Caiman crocodilus*

- Collaboration among UF and USACE
- Total caiman removed: 342
- Total surveys conducted: > 530
- Continue to see decrease in number of caiman removed despite an increase in survey effort
- May indicate maximum containment of population



Godfrey et al. 2023





# Feral Hogs/Wild Boar

*Sus scrofa*

- 35 feral hogs removed through USACE via Economy Act agreement with USDA Wildlife Services
- FWC purchased 12 "Pig Brigs" and 24 cellular game cameras for Landowner Assistance Program
- Loaned to private landowners removing hogs leaving FWC managed lands
- NFWP removed 9 feral hogs using the Pig Brig





# FWC Lionfish Removal

*Pterois volitans*

- Multiple Lionfish (LF) tournaments in 2025
- 2025 Lionfish Challenge: May 24-Sep 14, 2025
- 2025 LRAD results:
  - 149 dedicated divers
  - 20,502 LF removed





# Summary



- Interorganizational collaboration and public engagement are key to success
- Continue to see increase in unique species and populations
- Don't Let It Loose!
- If you see it, report it!



## Questions

