

Florida's Nonnative Fish and Wildlife Program



Kipp Frohlich, Division Director

Division of Habitat and Species Conservation

Florida Fish and Wildlife Conservation Commission



Florida in the news



In Florida, iguanas are freezing and falling out of trees

USA TODAY - Jan 5, 2018

MIAMI BEACH, Fla. (AP) — It's so cold in Florida that iguanas are falling from their perches in suburban trees. Temperatures dipped below 40 ...

Florida chill knocking iguanas out of trees

Highly Cited - WPEC - Jan 4, 2018



Florida Woman Wakes to Find Exotic Kinkajou Caressing Her Face ...

KTLA - Jan 27, 2016

Late Monday night, the woman was startled when she woke up staring at a kinkajou, which looks like a cross between a raccoon and monkey.



Florida family terrorized by backyard squatter: A giant lizard that looks ...

Washington Post - Aug 31, 2018

The Lizard King cometh. No, not Jim Morrison. The REAL Lizard King — an Asian water monitor named "Bamboo" that's been chilling in a ...

Huge lizard terrorizing Florida family is species sold online for live ...

Sun Sentinel - Sep 1, 2018



Nile Crocodiles Are in Florida, but No Need to Panic

Newsweek - May 26, 2016

The researchers note that between 2010 and 2014, Nile crocodiles in Africa were responsible for at least 354 deaths and 493 attacks on humans. Having them in

Florida can also hurt native croc populations, which are being hit by the same impact, through competing with or preying on them, the researchers say.



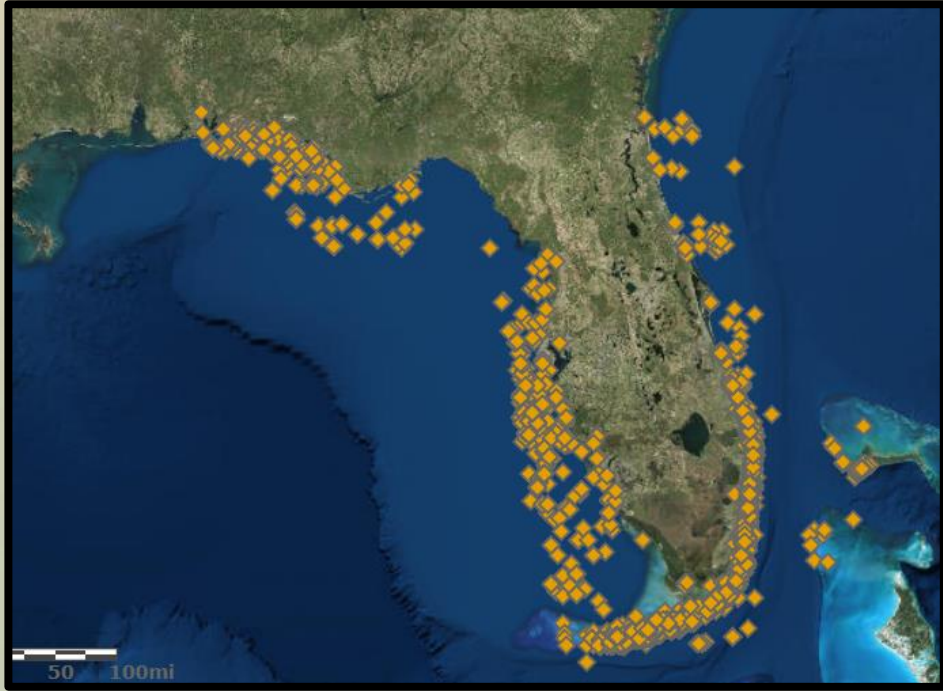
'Super Snake' Slithering Around Florida? DNA Study Says Yes

CBS Boston 6 days ago

A study of Florida's python population has discovered some unnerving information about a possibly terrifying new breed of slithering creatures. Researchers believe a "super snake ...



Nonnative Species in Florida



*Lionfish reports in the USGS
Nonindigenous Aquatic Species Database
1985-Present*

- Over 500 nonnative fish and wildlife species observed
- At least 150 species reproducing
- Over 60,000 observations (not lionfish)
- Over 500,000 lionfish removed from Florida waters

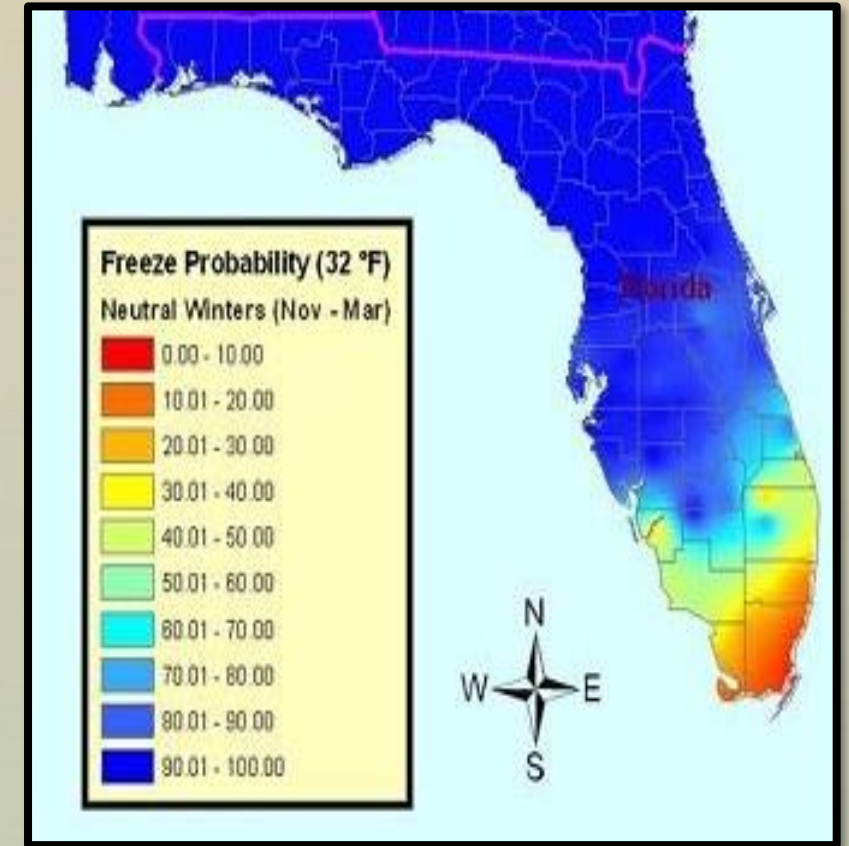


Nonnative Species in Florida

- Sub-tropical climate
- Hotspot for live animal trade
 - Aquaculture
 - Exotic pet trade
- 15 ports of entry



*Florida Department of Transportation
image of seaport locations*



*National Weather Service Freeze
Probability for Florida*



Invasive Fish and Wildlife Pathways



- Hurricanes and Natural Disasters
- Ballast Water
- Hitchhikers
- Live Animal Trade
 - Aquaculture/Aquaria Releases
 - Escaped/released captive wildlife/live animal



Species Introductions in Florida

	Number of Introduced Species	Introduced via Live Animal Trade	Established and Reproducing
Mammals	18	9 (50%)	13 (72%)
Reptiles	180	166 (92%)	59 (33%)
Freshwater Fish	130	115 (88%)	29 (22%)
Amphibians	27	16 (59%)	4 (15%)
Marine Fish	40	36 (93%)	4 (10%)
Birds	198	135 (68%)	17 (9%)
Total	593	477 (80%)	126 (21%)



Live Animal Business



- Over 224 million live animals imported annually
- Volume of wildlife shipments has doubled since 2000
- Commercial Use
 - Buy within state as pets
 - Breeding
 - Exhibition



Impacts of Invasive Fish and Wildlife

- Ecological Impacts
 - Direct predation
 - Competition with native species
 - Habitat alteration
 - Disease
- Human health and safety
- Economic impacts



FWC Nonnative Fish and Wildlife Program

Focal Areas:

- Assessment/evaluation
- Early Detection/Rapid Response
- Control
- Prevention



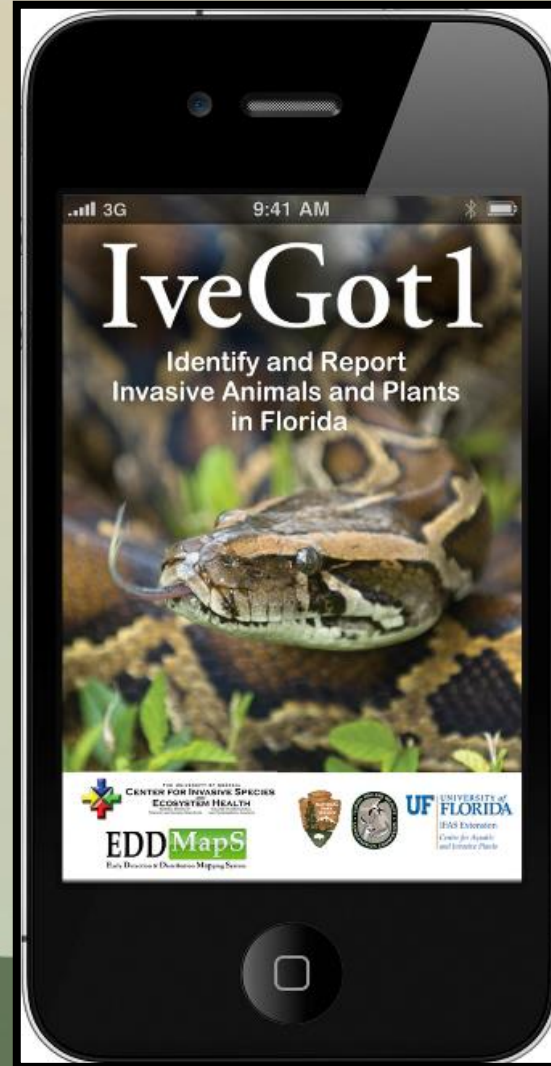
Prevention Strategies

- Exotic Pet Amnesty
- Awareness Campaigns
- Outreach events/Festivals
- Python Patrol Program
- Regulation



Early Detection/Rapid Response (EDRR)

- Reporting
- Verification
- Evaluation
- Response



EDRR – Success Story

- Water monitor in Miami-Dade County
- No known breeding populations
- Risk screening: **Very high**
- Monitor removed within 3 days

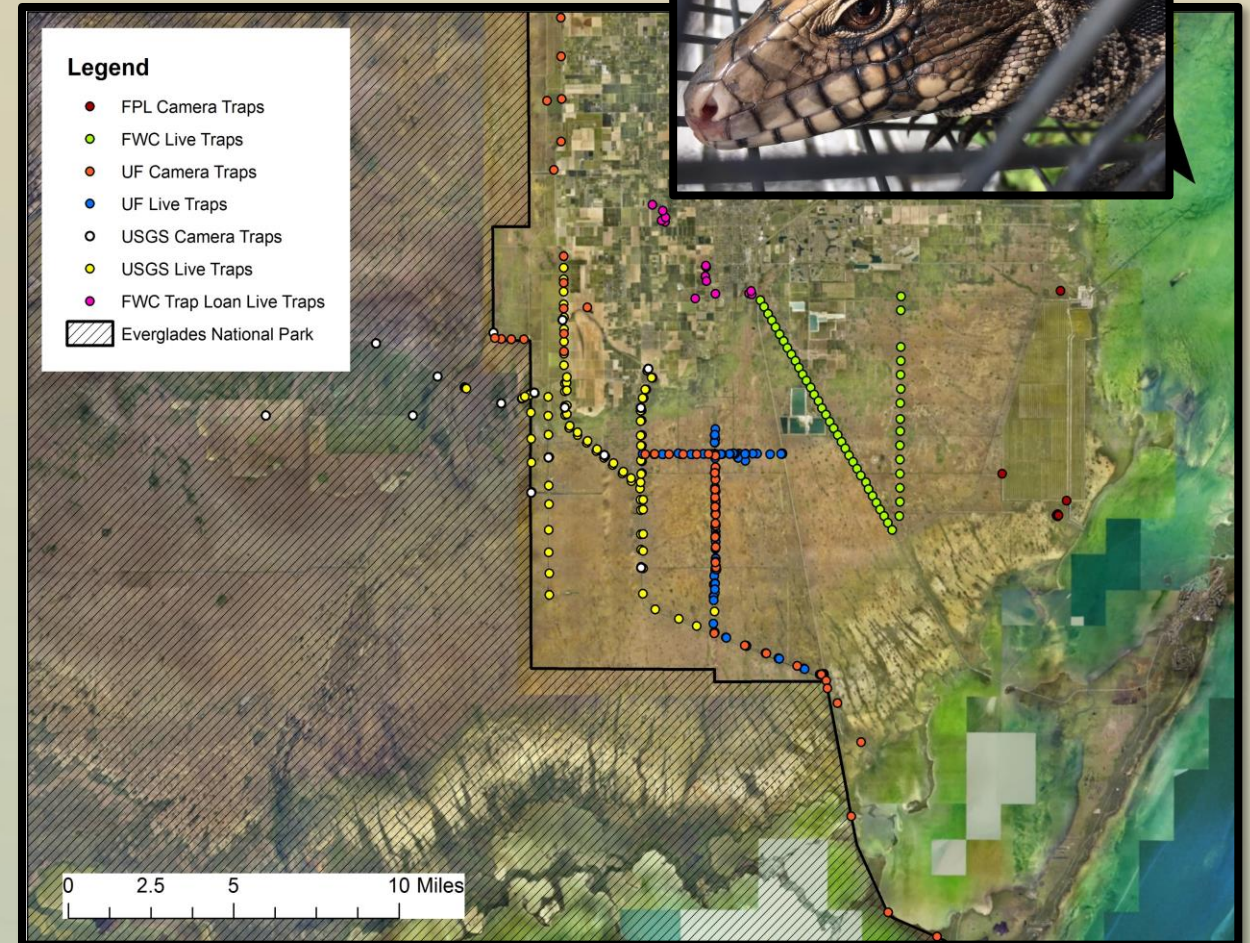


Management – Tegu Trapping

- Interagency trapping effort in Miami-Dade County
- Almost 6,000 removed
- FWC trap loan program in Florida City and Homestead



Captured tegu in public loan trap



Interagency tegu traps and camera traps in Miami-Dade county

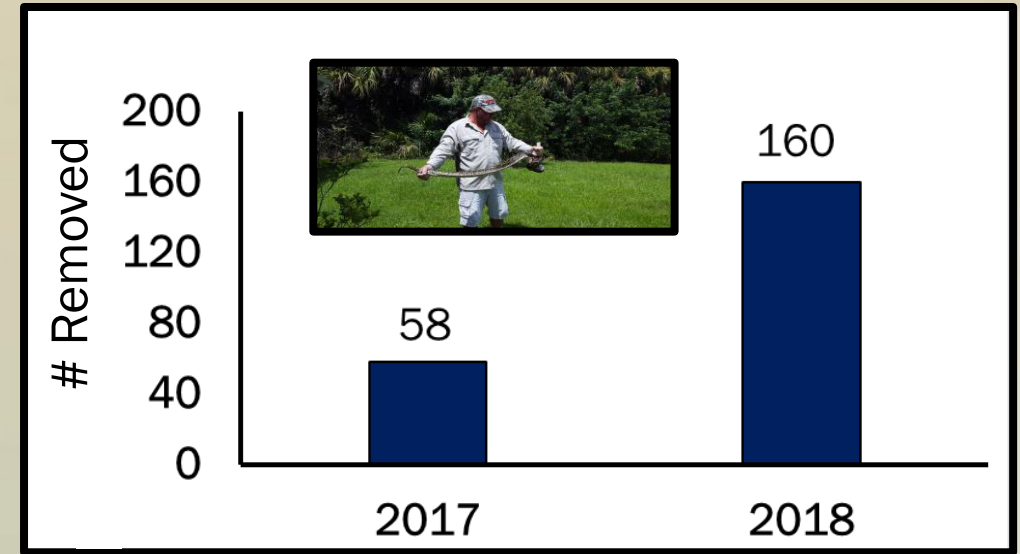
Management – Shooting Surveys

- Nile monitors
 - Canal surveys by boat
 - Removed 117 since 2011
- Black Spiny-tailed iguanas
 - 258 removed since 2017



Management – Contractors

- Python Removal Contractors
 - Compensated for survey time and number of pythons
 - More than 1400 removed
- Keys Green Iguana State Park
 - > 1200 removed
- Tegus Hillsborough Co.



Economics of Invasive Animal Species

- Economic Impacts
- Management Costs
 - Over \$8 million annually in Florida
 - Over \$3 million annually by FWC
 - Over \$500 thousand annually managing tegus by FWC, nearly \$1M annually by all managing partners



Regulatory Terms of Nonnative Wildlife

Florida wildlife regulatory categories:

- Class I – very high risk of human death or injury
- Class II – moderate / high risk of human injury
- Class III – minimal risk of human injury
- Venomous Reptiles- Moderate / high risk of injury
- Conditional Species
- Prohibited Species

USFWS regulatory category:

- Injurious Wildlife

These lists do not match up



Implications of Lacey Act Court Ruling

- April 2017 court ruling on the Lacey Act removed the interstate transport provision
- Species that may pose a risk to Florida, but are not currently regulated by FWC, may now enter Florida from other states



Recent Steps Taken

- April 2018 – Comprehensive Approach – Not supported
- Work with Industry
- Sep. 2018
 - Approved Rule restructure
 - Move forward with additional Rules for select species
 - Executive Order preventing importation of select species



Address High Risk Injurious Species

Explore adding the following to the Prohibited List

- Mammals: meerkats/mongoose, raccoon dog, dhole, brushtail possum, flying foxes
- Birds: red-whiskered bul bul, dioch, Java sparrow, pink starling
- Reptiles: Brown tree snake, yellow anaconda, Beni anaconda, Deschauensee's anaconda



Current Activities

- Temporary Executive Order 18-46
- Public Feedback
 - Rule Development Workshops – October 2018
 - Email
 - Online Survey Tool
- Draft Rules proposed December 2018



Clarify Rules

- Definitions of Key Terms
 - Commercial Use
 - Public Exhibition
 - Closed Tank System
 - Personal Possession
- Importation Permit Criteria



2017-2018 EDITION

Florida

FISH AND WILDLIFE CONSERVATION COMMISSION'S STATUTES, RULES AND LAWS



 LexisNexis

Conclusions

- Florida is uniquely susceptible to invasive wildlife
 - Ecological, economic, and social impacts
 - Most invasive wildlife traced to live animal trade
 - Management cost are borne by taxpayer
- FWC employs an array of strategies to manage these species and engage the public
- Prevention is most effective and least costly
- Pet industry partnership essential



Thank You!

