ENVIRONMENTAL LAW • INSTITUTE®

2016 Invasive Species Webinar Series

Tackling Invasive Species at the Landscape Level: Lessons Learned from South Florida and the Everglades

Thursday, March 31, 2016
2:00pm – 4:00pm Eastern Time
(speaking will begin at 2:03)

Co-hosted by the Environmental Law Institute &
The National Invasive Species Council

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NOW SPEAKING:

Stas Burgiel

Assistant Director for Prevention and Budgetary Coordination,
National Invasive Species Council (NISC) Secretariat

Stas Burgiel serves as the NISC policy lead on issues related to preventing the introduction and spread of invasive species with a focus on the pathways for their movement. He coordinates a prevention committee convened jointly with the Aquatic Nuisance Species Task Force and also oversees the collation of information on NISC member agency budgets related to invasive species issues. Key areas of interest and activity include the role of trade agreements, links to climate change and multi-level stakeholder coordination.

Stas received his Ph.D. in international service from the American University and a B.A. in political science from Swarthmore College. He has worked and consulted for a range of nongovernmental, governmental and intergovernmental organizations, including the Global Invasive Species Programme, the Nature Conservancy, the UNEP/World Conservation Monitoring Centre and the New Zealand government, on invasive species and other environmental policy issues.

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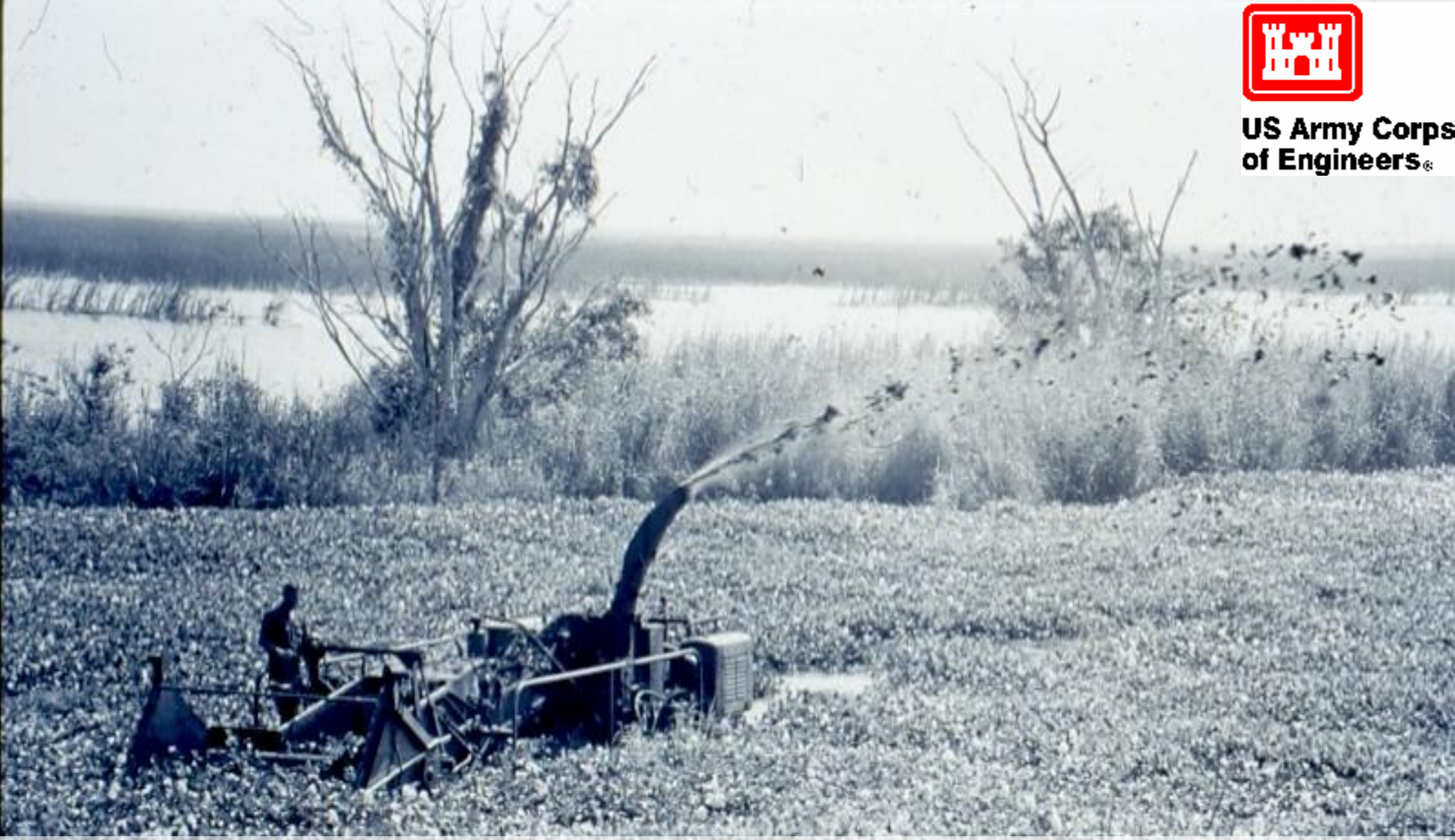
INTRODUCING:

Jon Lane

U.S. Army Corps of Engineers

Jon received a BS in Biology from Marymount University and a Masters Agriculture in International Development Economics from Colorado State University. He served 4 years as a Peace Corps volunteer, 3 years in the former Zaire as an aquaculture extension agent and one year in Cameroon as an agroforestry extension agent. He has also worked 3 years as a Fisheries Biologist for the US Fish and Wildlife Service in Jackson, WY and Kalispell, MT. Jon has been a biologist with the Army Corps of Engineers since 1998 and is currently the Chief of the Invasive Species Management Branch for the Jacksonville District.



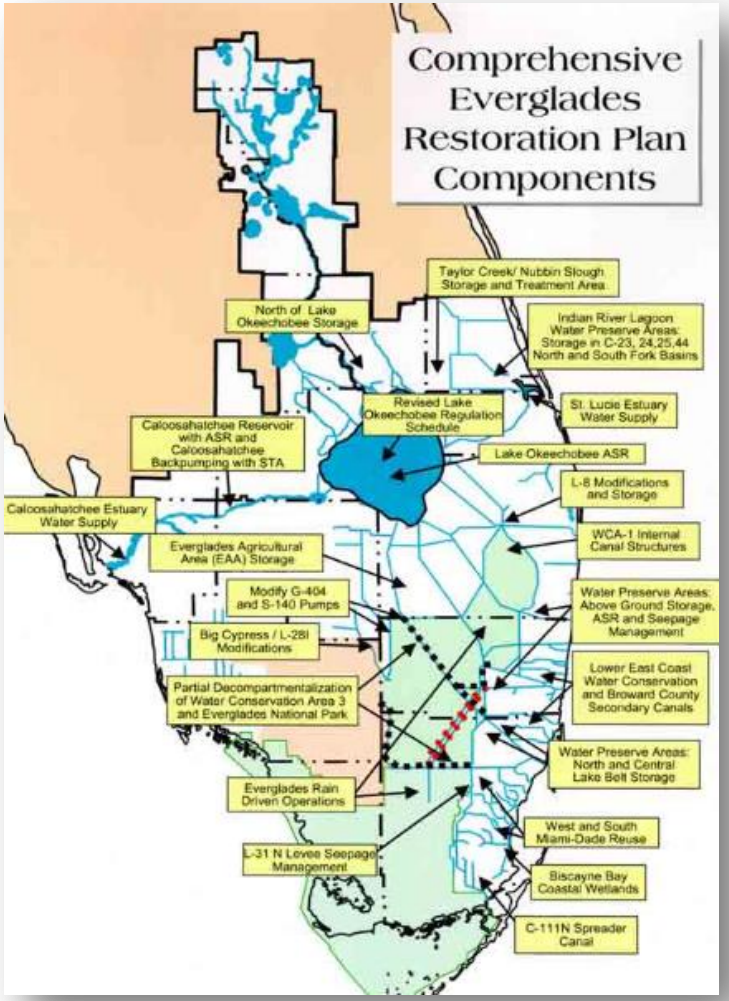
US Army Corps of Engineers®

Jon Lane
Chief, Invasive Species Management Branch

US ARMY CORPS OF ENGINEERS

Missions

- Navigation
- Flood Risk Management
- Ecosystem Restoration



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INTRODUCING:

Kristen Penney Sommers

Florida Fish and Wildlife Conservation Commission

Kristen Penney Sommers serves as the Section Leader over the Wildlife Impact Management Section in the Division of Habitat and Species Conservation of the Florida Fish and Wildlife Conservation. This section is charged with minimizing the adverse impacts of fish and wildlife on Florida's environment, economy, and human health and safety. Kristen oversees statewide staff addressing these complex ecological and social issues that face Floridians. One of the programs under Kristen's charge is the FWC Nonnative Fish and Wildlife Program.

Kristen received her B.S. in Biological Sciences at Florida State University, and her M.S. in Zoology at the University of South Florida. Since then, Kristen has worked in both the public and private sectors. Currently, Kristen represents the State of Florida on many national and regional committees and panels on invasive fish and wildlife. She serves as a representative to the Association for Fish and Wildlife Agencies Invasive Species Committee, a chair for the Gulf and South Atlantic Regional Panel to the Aquatic Nuisance Species Task Force, and chairs the Southeastern Association of Fish and Wildlife Agencies Committee on Invasive Species.

Kristen Penney Sommers

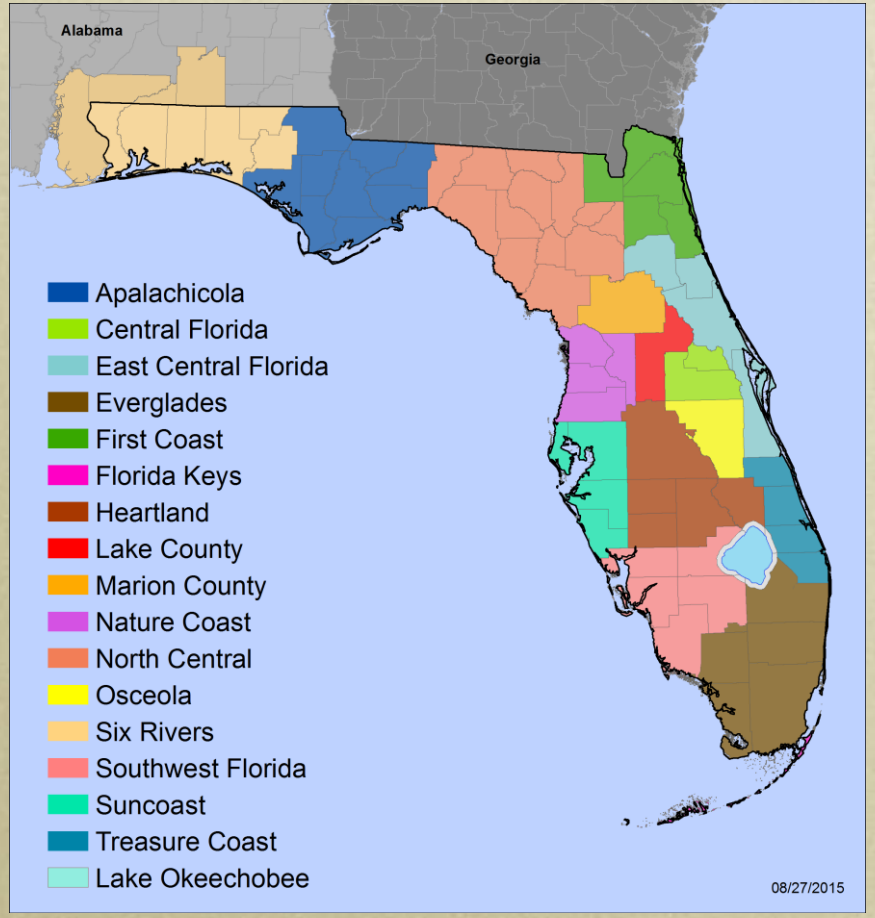
Florida Fish and Wildlife Conservation Commission

Wildlife Impact Management, Section Leader

Division of Habitat and Species Conservation

Invasive Species Responsibilities of FWC

- Invasive Plant Management Program
  - Established under Chapter 369 Part I, Florida Statutes
- Nonnative Fish and Wildlife Program
  - Florida Constitutional Authority (Article IV, Section 9)
  - Rule 68-5



Cooperative Invasive Species Management Areas

Invasive Plant Management

- Aquatic Plant Management
- Uplands Plant Management
- Field Operations
- Research/Education
- Yearly Budget
  - FY 15/16 $38.5M

Water Lettuce

Coral Ardisia

Florida Statute 369.252

Invasive plant control on public lands

- The Fish and Wildlife Conservation Commission shall establish a program to: (1) Achieve eradication or maintenance control of invasive exotic plants on public lands when the scientific data indicate that they are detrimental to the state's natural environment or when the Commissioner of Agriculture finds that such plants or specific .....
- *Other Provisions include: local government assistance, contracting for research on control methods, and fund appropriation*

Nonnative Fish and Wildlife Program

- Over 600 Nonnative wildlife species have been observed, 150 reproducing
- Primary Activities:
  - Prevention
  - Early Detection
  - Rapid Response
  - Control/Management
  - Education/Outreach
- Yearly Budget
  - FY 15/16 ~$750,000

Mission: Minimize adverse environmental, economic, and human health and safety impacts of introduced animal wildlife

68-5.001 Introduction of Nonnative Species into the State

"No person shall transport into the state, introduce, or possess, for any purpose that might reasonably be expected to result in liberation into the state, any freshwater fish, aquatic invertebrate, marine plant, marine animal, or wild animal life not native to the state, without having secured a permit from the Commission…."

FWC Contact Information

Nonnative Fish and Wildlife

Kristen Penney Sommers

Kristen.Sommers@MyFWC.com

Invasive Plant Management

Bill Caton

Bill.Caton@MyFWC.com

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INTRODUCING:

LeRoy Rodgers

South Florida Water Management District

LeRoy Rodgers is Lead Invasive Species Biologist for the South Florida Water Management District. He earned his bachelor's degree in Botany at the University of Florida and his MS in Biology at Old Dominion University. In his current role, he implements the SFWMD's regional invasive plant monitoring program, oversees integrated invasive plant management projects including the CERP Biological Control Implementation Project, and serves on numerous interagency teams and committees focused on invasive species management initiatives in South Florida. Prior to his 15 years at the SFWMD, he worked as a botanist for The Nature Conservancy in Florida.

LeRoy formerly served as SFWMD representative of the Florida Invasive Species Working Group, Board Member of the Florida Exotic Pest Plant Council, and founding steering committee member of the Everglades Cooperative Invasive Species Management Area. He has authored or co-authored 35 technical reports and conference papers and 14 refereed journal papers.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

LeRoy Rodgers

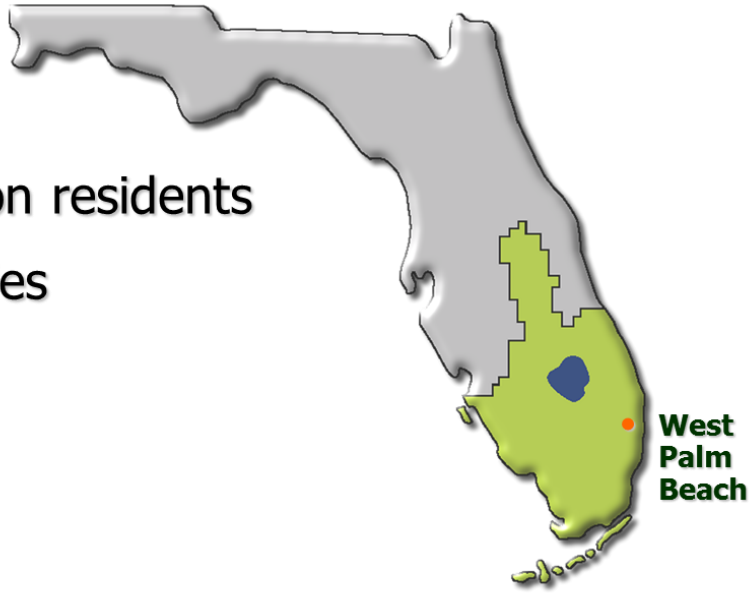
Lead Invasive Species Biologist
South Florida Water Management District

sfwmd.gov

One of Five Water Management Districts in Florida

Covers an 18,000 square-mile region:

- 16 counties; 7.9 million residents
- Regional responsibilities
  - Water Quality
  - Flood Control
  - Natural Systems
  - Water Supply



sfwmd.gov

OUR MISSION: To manage and protect water resources of the region by balancing and improving flood control, water supply, water quality and natural systems.

Invasive and Nuisance Species Management: *A Core Mission of the SFWMD*

- Flood Control and Water Delivery System
  - Nearly 2,100 miles of canals; more than 2,000 miles of levees/berms
  - 600+ water control structures; 625 culverts
  - Ongoing management of exotic invasive and nuisance aquatic plants critical to system operation
- Stormwater Treatment Areas, Reservoirs, Impoundments
  - >80,000 acres of constructed wetlands for water quality improvement
  - Continuous invasive and nuisance vegetation management required

Aquatic Harvester

Bulrush Planting

Invasive and Nuisance Species Management: *A Core Mission of the SFWMD*

- Natural Areas Land Management
  - Manage >388,000 ac. conservation and project lands
  - Prescribed burning, exotic invasive plant and animal control, ecosystem restoration, and infrastructure maintenance
    - > 47,000 acres treated for invasive plants annually

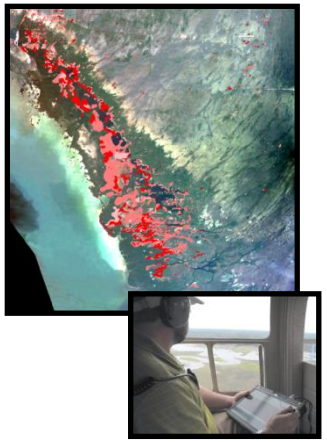
Herbicide Control of Invasive Plants

Manual Herbicide Application

Specialized Equipment

Everglades Restoration

- Invasive species management a component of Everglades restoration initiatives
  - Everglades Forever Act
    - Invasive Species Monitoring Program
    - Invasive Species Control Programs (e.g., melaleuca)
  - Comprehensive Everglades Restoration Plan
    - CERP Biological Control Implementation Program



Invasive Plant Mapping

Old World Climbing Fern
(*Lygodium microphyllum*)

Invasive Reptile Monitoring and Removal

Biological Control

Melaleuca Weevil

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

LeRoy Rodgers

Lead Invasive Species Biologist
Land Resources Bureau

lrodgers@sfwmd.gov 561-628-9373

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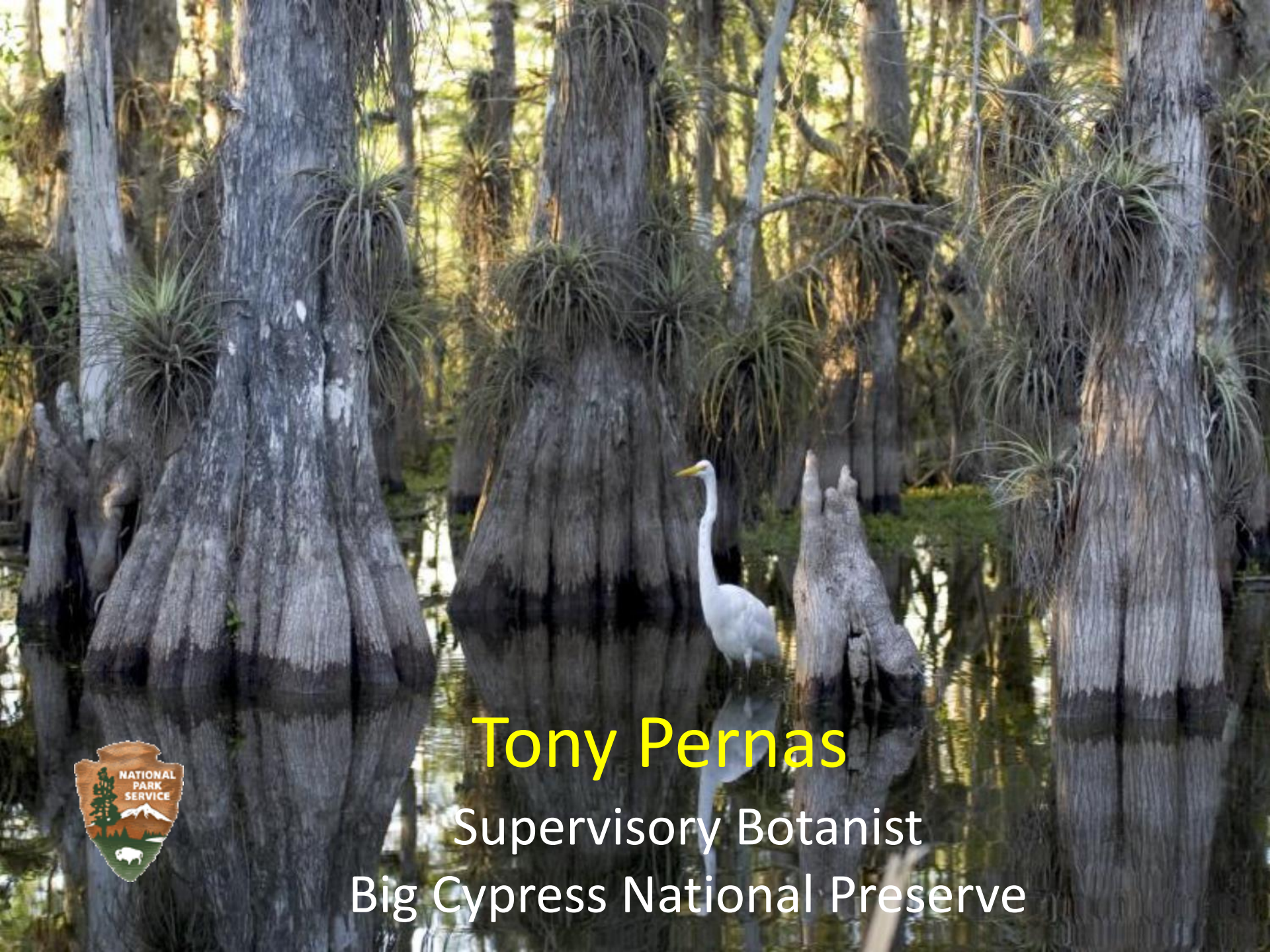
INTRODUCING:

Tony Pernas

National Park Service / Everglades Cooperative Invasive Species Management Area

Tony's career has focused on invasive plant and animal management. He started in 1988 as a Resource Management Specialist with the US National Park Service at Big Cypress National Preserve in south Florida. From 1999 to 2000, Tony worked as the Supervisory Botanist for Everglades National Park. In 2000, he was instrumental in establishing the Florida/Caribbean Exotic Plant Management Team and served as the team's coordinator since its inception until August, 2015. At that time, he began his current position as Supervisory Botanist at Big Cypress National Preserve.

Tony was President of Florida Exotic Pest Plant Council and of the National Association of Exotic Pest Plant Council from 1998 to 2000. Since 2006, he has been the Co-Chair of the Everglades Cooperative Invasive Species Management Area (ECISMA).



Tony Pernas

Supervisory Botanist

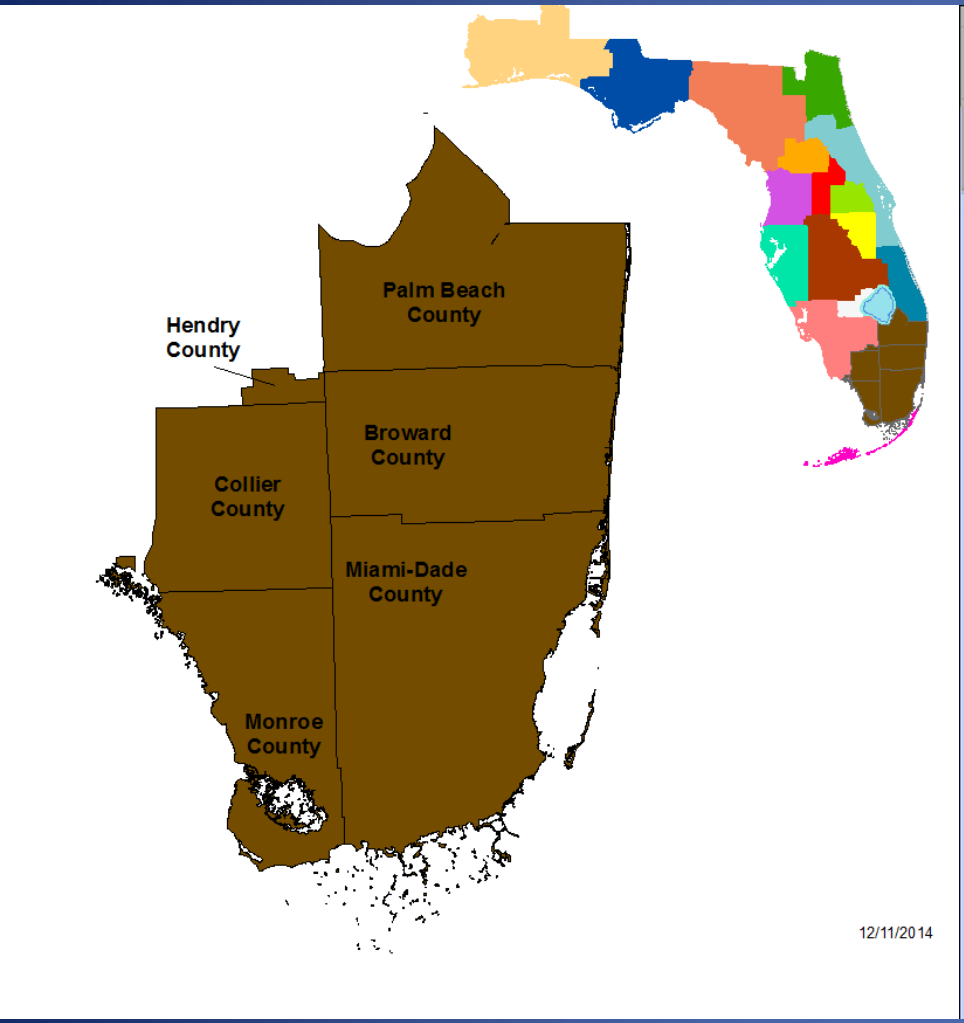
Big Cypress National Preserve

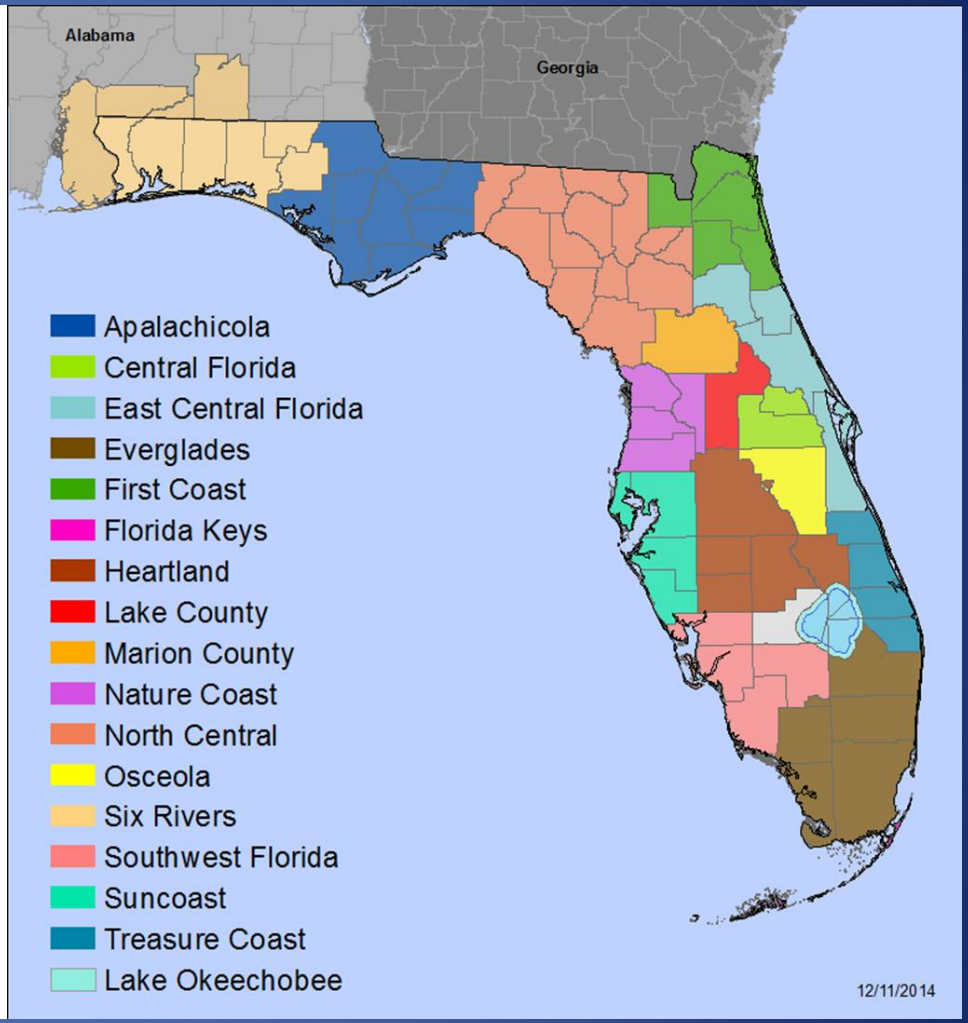
Everglades CISMA

A formal partnership of federal, state, and local government agencies, tribes, individuals and various interested groups that manage invasive species in the Everglades area, based on the CWMA model

Mission:

To improve the effectiveness of invasive species control by sharing information, innovation and technology across borders





4 million acres

Partners

Federal: U.S. Department of Agriculture, U.S. Geological Survey, U.S. Department of the Interior, U.S. Fish and Wildlife Service, U.S. National Park Service, , U.S. Army Corps of Engineers

State: Florida Fish and Wildlife Conservation Commission, Florida Department of Agriculture and Consumer Services, Florida Department of Transportation, Florida Department of Environmental Protection, South Florida Water Management District

Local Governments: Broward county, Miami-Dade County, Palm Beach County

Tribes: Miccosukee Tribe of Indians of Florida, Seminole Tribe of Florida,

NGO's: The Nature Conservancy, Everglades Foundation

Universities: University of Florida, Florida International University, Auburn University, Florida Atlantic University, University of Miami

Private: Florida Power and Light, Fairchild Tropical Botanic Garden

2008 MOU:

Federal: U.S. Fish and Wildlife Service, U.S. National Park Service, , U.S. Army Corps of Engineers

State: Florida Fish and Wildlife Conservation Commission, South Florida Water Management District

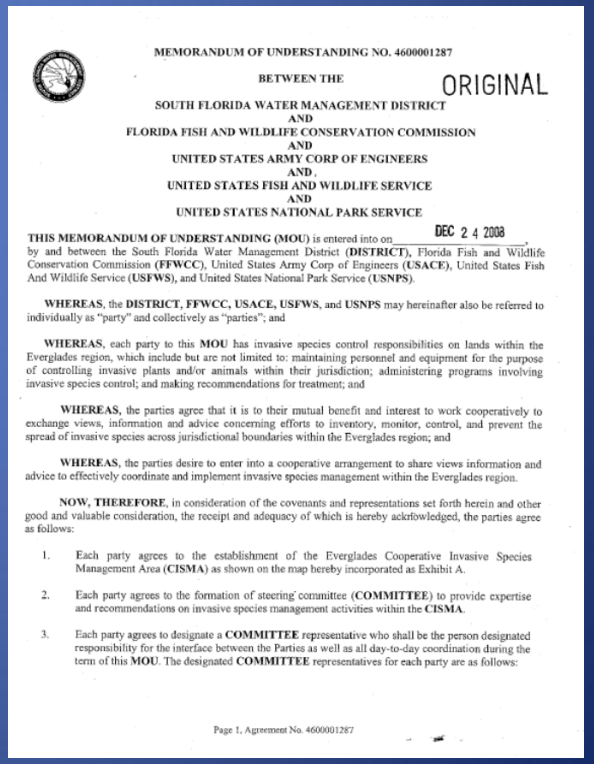
Local Governments: Miami-Dade County

2013/2014 MOU Additions:

Federal: U.S. Department of Agriculture

Local Governments: Broward County

2016:



MEMORANDUM OF UNDERSTANDING NO. 4600001287

BETWEEN THE

ORIGINAL

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
AND
UNITED STATES ARMY CORP OF ENGINEERS
AND
UNITED STATES FISH AND WILDLIFE SERVICE
AND
UNITED STATES NATIONAL PARK SERVICE

THIS MEMORANDUM OF UNDERSTANDING (MOU) is entered into on DEC 2 4 2008, by and between the South Florida Water Management District (**DISTRICT**), Florida Fish and Wildlife Conservation Commission (**FFWCC**), United States Army Corp of Engineers (**USACE**), United States Fish And Wildlife Service (**USFWS**), and United States National Park Service (**USNPS**).

WHEREAS, the **DISTRICT, FFWCC, USACE, USFWS**, and **USNPS** may hereinafter also be referred to individually as "party" and collectively as "parties"; and

WHEREAS, each party to this **MOU** has invasive species control responsibilities on lands within the Everglades region, which include but are not limited to: maintaining personnel and equipment for the purpose of controlling invasive plants and/or animals within their jurisdiction; administering programs involving invasive species control; and making recommendations for treatment; and

WHEREAS, the parties agree that it is to their mutual benefit and interest to work cooperatively to exchange views, information and advice concerning efforts to inventory, monitor, control, and prevent the spread of invasive species across jurisdictional boundaries within the Everglades region; and

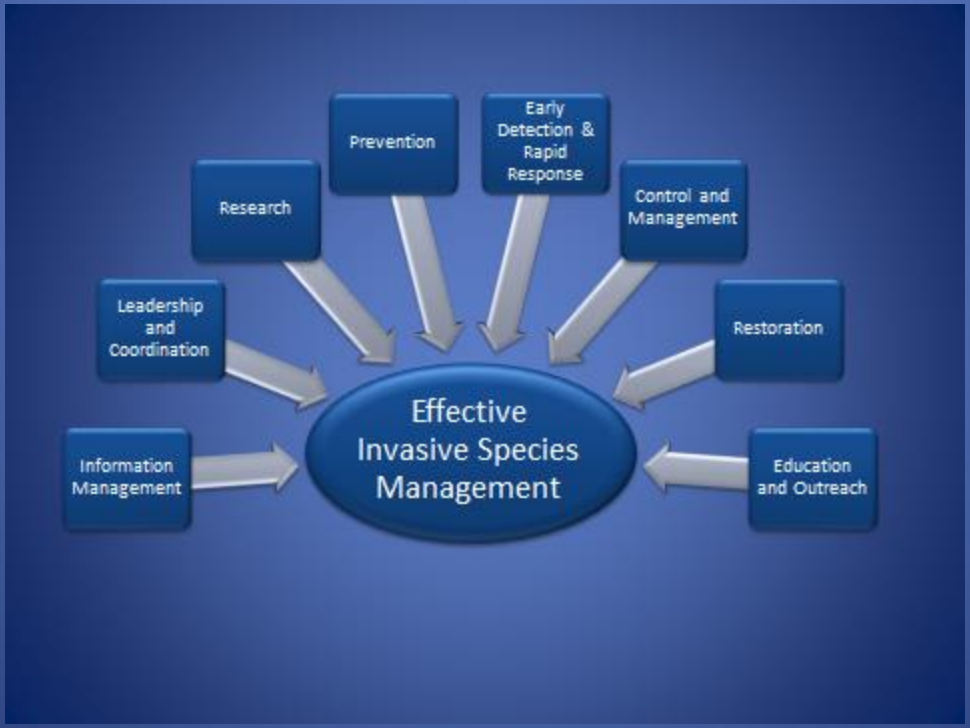
WHEREAS, the parties desire to enter into a cooperative arrangement to share views information and advice to effectively coordinate and implement invasive species management within the Everglades region.

NOW, THEREFORE, in consideration of the covenants and representations set forth herein and other good and valuable consideration, the receipt and adequacy of which is hereby ackfowledged, the parties agree as follows:

1. Each party agrees to the establishment of the Everglades Cooperative Invasive Species Management Area (**CISMA**) as shown on the map hereby incorporated as Exhibit A.
2. Each party agrees to the formation of steering committee (**COMMITTEE**) to provide expertise and recommendations on invasive species management activities within the **CISMA**.
3. Each party agrees to designate a **COMMITTEE** representative who shall be the person designated responsibility for the interface between the Parties as well as all day-to-day coordination during the term of this **MOU**. The designated **COMMITTEE** representatives for each party are as follows:

Goals:

- **Integrate coordination, control and management strategies**
- **Integrate outreach efforts**
- **Provide for Information and technology transfer**
- **Early detection and rapid response of new invasive species**



Integrate coordination, control and management strategies

Annual Invasive Species Summits

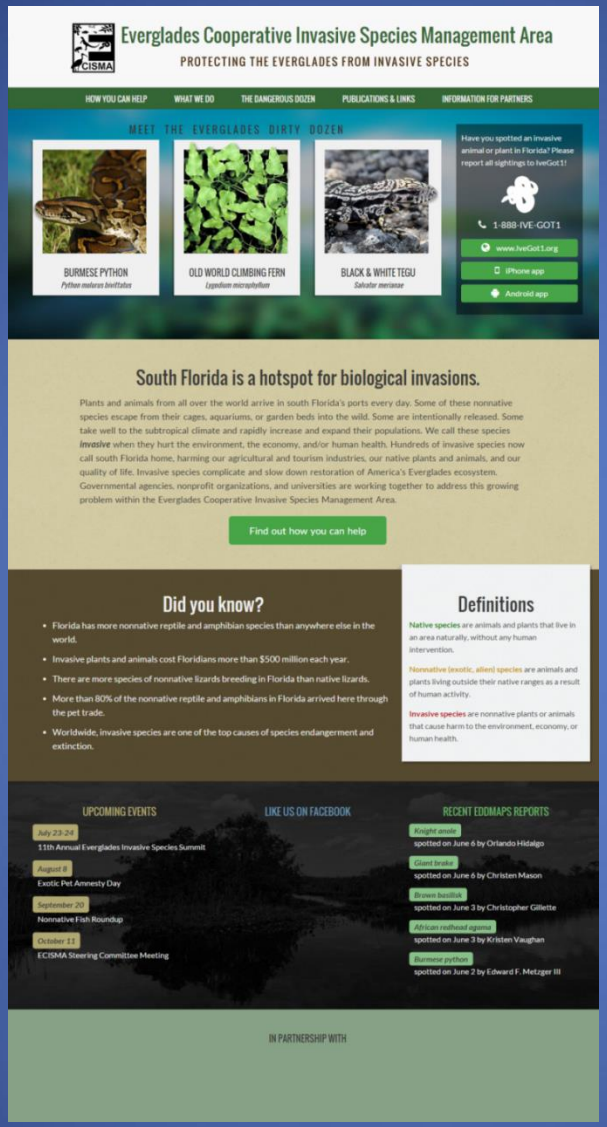
- Website (www.evergladescisma.org)
- *Public Events*
  - -Pet Amnesty Days
  - - Other Outreach Events
- "Don't Let It Loose" Bill Board Campaign
- Social Media (Facebook, Twitter)
- Kiosk
- Non-Native Fish Round-Up

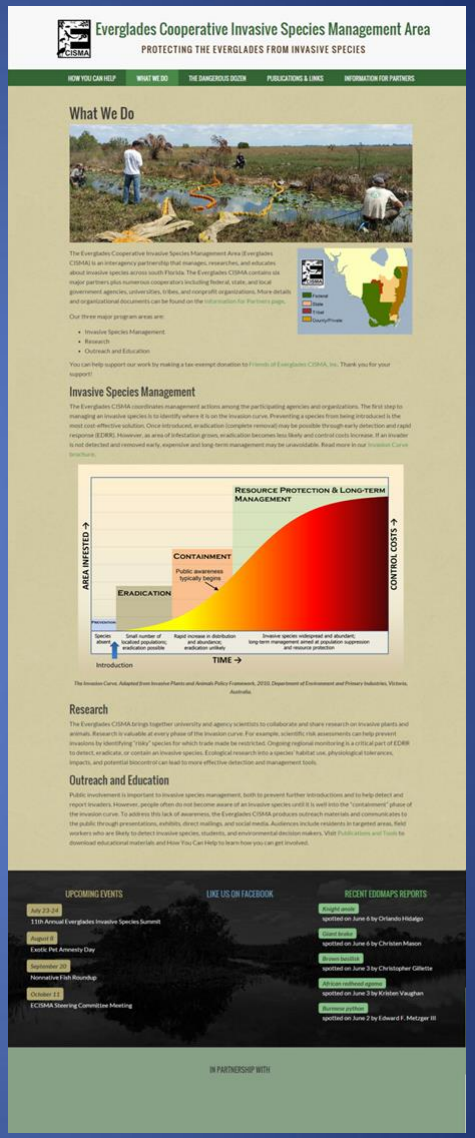
Find us on Facebook

twitter

Website

Evergladescisma.org





2015 Newsletter

CISMA

Everglades Cooperative Invasive Species Management Area

Newsletter

VOLUME 6 JULY 2015

ECISMA partners survey for Northern African pythons. (Photo by Liz Barraco, FWC)

Chasing the wild invasives

by Jenny Ketterlin Eckles, Florida Fish and Wildlife Conservation Commission biologist

Over the past year, the Florida Fish and Wildlife Conservation Commission (FWC) and partners increased resources directed at three nonnative species that have been under on-going management efforts for several years: Northern African pythons, Argentine black and white tegus and Nile monitors. Increased staff and contractor funding allowed the number of surveys to increase markedly for Northern African pythons in Miami-Dade County and Nile monitors in Palm Beach County. Increased contractor funding also resulted in an increase in the number of live traps set, camera traps deployed and tegus telemetered in Miami-Dade County. Generally, these increased efforts resulted in increased removals.

Starting in fall 2014, FWC led an effort to ramp up surveys for Northern African pythons in Miami-Dade County. Surveys were increased from monthly to more than twice per week by hiring a technician (an experienced python permittee), contracting with the University of Florida (UF) and partnering with Miami-Dade County Parks, Recreation, and Open Spaces (MDCPROS), Everglades National Park (ENP), U.S. Geological Survey (USGS), South Florida Water Management District (SFWMD) and Miccosukee Tribe of Indians.

Some new approaches were tested, such as setting out artificial refuges and testing for environmental DNA. More than 50 individuals participated in the 48 survey days that totaled over 370 man-hours. Despite all these efforts, including increased outreach to the local community, no Northern African pythons were found during this past dry season. Two Burmese pythons were removed. While somewhat disappointing to the searchers, the absence of Northern African pythons may be a sign that past efforts affected this population and eradication is indeed possible. It will take many more surveys to make this declaration decisive, but there may be a silver lining to an observation of zero.

In 2014 and 2015, FWC and ENP were able to contract with UF and USGS to trap and monitor natural areas for Argentine black and white tegus. UF also conducted a telemetry study on females while USGS tracked tegus during their period of dormancy, or brumation. FWC and Miami-Dade County Fire Rescue Venom One unit also continued to respond to tegu sightings in the Florida City and Homestead residential areas. The increased number of traps and coverage area resulted in 404 tegus removed in 2014, double the number removed in 2013 (183). Valuable information is being collected on tegus that should help researchers understand how to control and manage this species. This year, both groups are again conducting telemetry studies along with trials on different trap models in order to increase the efficacy and reduce cost of trapping. However, tegu numbers overall do not seem to be decreasing, and more outliers are being detected, which is a cause for concern. This demonstrates the need for even more efforts directed at tegus.

Species	Removed in 2014	Removed Jan, 1 2015 to June 15, 2015
Northern African pythons (Miami-Dade County)	1 (Dead on Road)	0
Argentine black and white tegu (Miami-Dade County)	404	338
Nile monitors (Palm Beach County)	19	8
Spectacled caiman (Miami-Dade County)	36	6
Oustalet's chameleons (Miami-Dade County)	8	5

FWC surveys for Nile monitors on the C-51 canal in Palm Beach County. Pictured (left to right) are Kelly Gestring and Murray Stanford with FWC. (Photo by Liz Barraco, FWC)

Halfway through 2014, FWC also increased surveys for Nile monitors on the C-51 canal in Palm Beach County from two per month to four to six per month. Since this population has remained relatively isolated and removal by shotgun is a viable option, it is hoped increased efforts will lead to eradication in this county. Removal of Nile monitors more than doubled after increasing the number of surveys, and FWC plans to continue this regime throughout 2015. Biologists also are analyzing trip data with the goal of determining an occupancy, habitat associations and optimal survey times.

Efforts also continued to eradicate Gambian pouched rats on Grassy Key, Oustalet's chameleons in Miami-Dade County, and to assess and remove spectacled caimans in Miami-Dade. In January 2015, FWC hired a technician to conduct monthly trapping events in Grassy Key and monitor the area with remote cameras. No rats were detected in the traps or on the cameras during six monthly trips. There have not been any confirmed sightings from the area since December 2013. Oustalet's chameleon surveys also are showing promising results, with few animals found each month during UF surveys. Unfortunately, the same cannot be said for spectacled caiman. They continue to persist in an area of southeastern Miami-Dade County. This species is a concern because planned Everglades restoration activities would restore a hydrologic connection between that area and more natural areas to the east. The population warrants continued monitoring and removal. ♦

Nile monitors removed during FWC surveys. (Photo by Murray Stanford, FWC)

Non-Native Fish Round-up

The Miami Herald

Posted on Sat, Jun. 25, 2011

Exotic fish are catch of the day at tournament

By Susan Cocking

Plantation landscaper Steve Papp cleaned up monetarily and ecologically in Saturday's one-day nonnative fish roundup tournament in the Everglades.

Papp won $325 for bringing more than 77 pounds of snakeheads, blue and spotted tilapia, Mayan and yellow bellied cichlids, suckermouth catfish and jaguar guapote to the scales on Tamiami Trail east of Krome Ave. Runner-up Jack Gleason of Boca Raton weighed 18 snakeheads totaling 29 pounds, 14 ounces — including the tournament's largest fish at 6 pounds, 6 ounces.

William Bayes of Miami Springs finished in third place overall with 21 pounds, 13 ounces of exotic fish.

"I think it was a really good success," said tournament organizer Tony Pernas of the Everglades Cooperative Invasive Species Management Area. " It really helped raise awareness of nonnative fish and the threat they pose to the Everglades ecosystem."

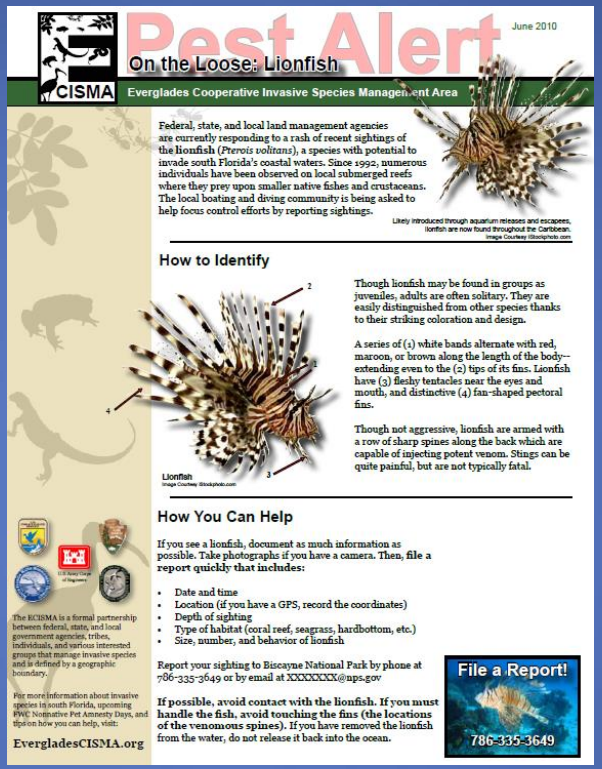
All 28 anglers weighed at least one fish in the second annual contest, which was put on by a consortium of federal, state and local government agencies, and tribal and conservation groups. Sponsors Eagle Claw hooks and JD's Custom Baits provided identification kits and fishing tackle for the anglers.

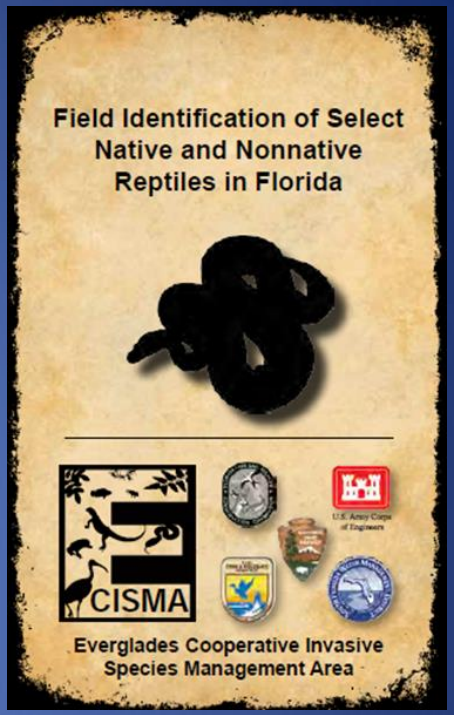
The top contestant fished from shore instead of a boat. Papp said he covered about 75 miles in his truck, plumbing Broward canals from SR 84 north to Sample Road and from U.S. 441 west to University Drive. He said casting plastic frogs was an effective technique for catching snakeheads. He card-netted or snagged some of his other fish.

Papp, who said he is allergic to fish, planned to clean his catch and give it to his in-laws. As for his prizes, "I get to keep the plaques. The money goes to the wife," he chuckled.

Information and technology transfer

- Pest Alerts/ID Decks etc.





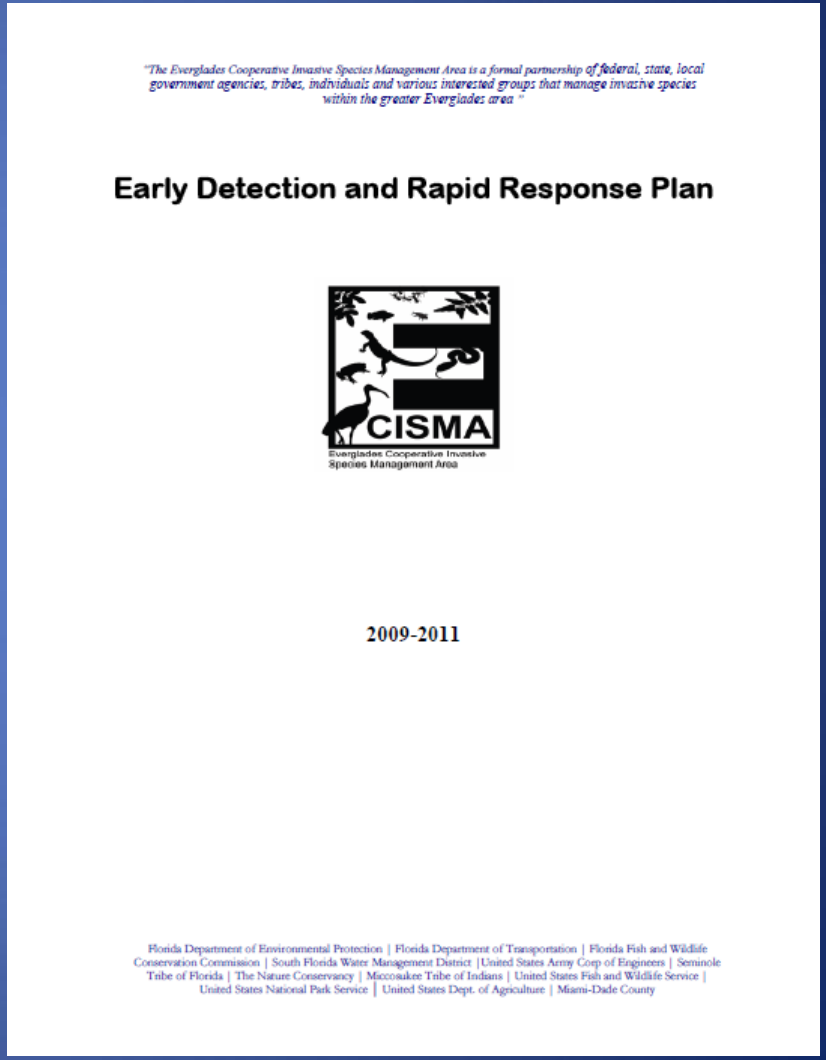
In English, Spanish, Creole

Early Detection/Rapid Response

- EDRR Management Plan

  Objectives:

  1) Ensure early reporting of new invasions.
  2) Ensure new species are identified and their risks assessed.
  3) Define decision making responsibility and response protocol
  4) Establish and maintain capacity to act.
  5) Incorporate adaptive management principles in plan implementation.



"The Everglades Cooperative Invasive Species Management Area is a formal partnership of federal, state, local government agencies, tribes, individuals and various interested groups that manage invasive species within the greater Everglades area."

Early Detection and Rapid Response Plan

CISMA

Everglades Cooperative Invasive Species Management Area

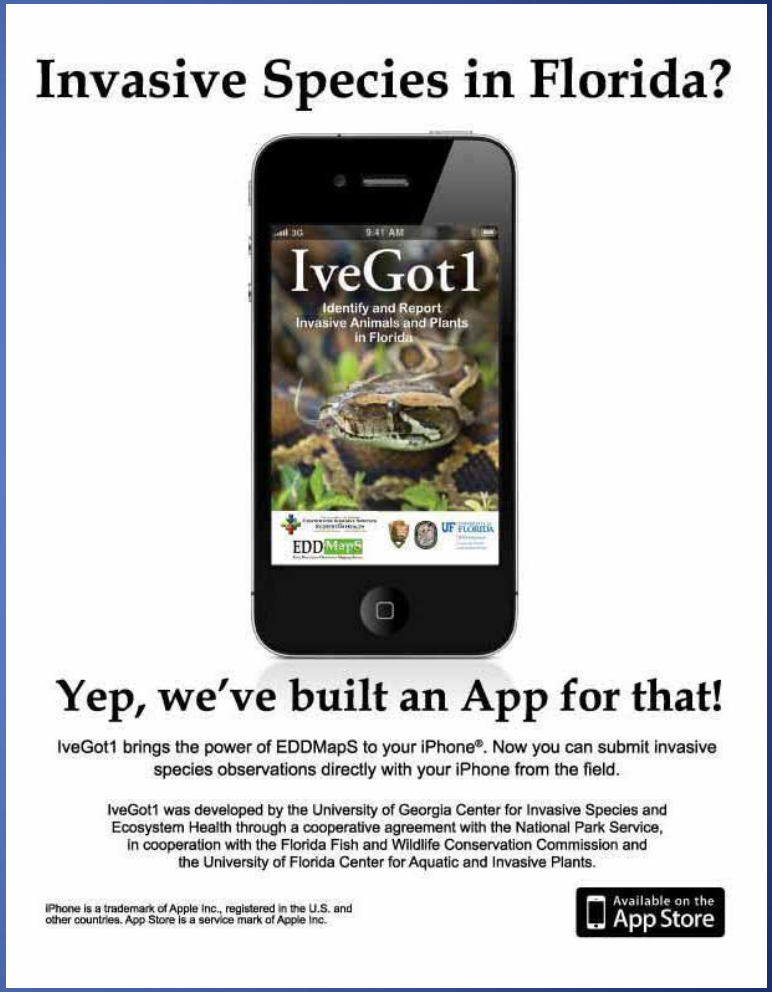
2009-2011

Florida Department of Environmental Protection | Florida Department of Transportation | Florida Fish and Wildlife Conservation Commission | South Florida Water Management District | United States Army Corp of Engineers | Seminole Tribe of Florida | The Nature Conservancy | Miccosukee Tribe of Indians | United States Fish and Wildlife Service | United States National Park Service | United States Dept. of Agriculture | Miami-Dade County

Reporting

Hotline: 1-888-Ive got1

Website: www.ivegot1.org



Smartphone Applications

EDRR

Plants

Large-Leafed Orange Mangrove *(Bruguiera gymnorrhiza)*
Pacific Black Mangrove *(Lumnitzera racemosa)*
Golden False Beard Grass *(Chrysopogon aciculatus)*

Animals

Sacred Ibis *(Threskiornis aethiopicus)*
African Rock Python *(Python sebae*)

ENVIRONMENTAL LAW • INSTITUTE®

2016 Invasive Species Webinar Series

Tackling Invasive Species at the Landscape Level:
Lessons Learned from South Florida and the Everglades

Thursday, March 31, 2016 • 2:00pm – 4:00pm ET

INTRODUCING:

Carrie Beeler

South Florida Ecosystem Restoration Task Force

Carrie is the Program Manager for Science Coordination (SCG) of the South Florida Ecosystem Restoration Task Force (Task Force). She earned her BS in Biology and Environmental Science and her MS in Environmental Science at Florida International University. Ms. Beeler has worked on restoration issues since 1997. She was lead staff on developing the Task Force report on Aquifer Storage and Recovery. She has participated in the development of system-wide indicators, coordinating science across Department of the Interior agencies in support of South Florida restoration, reported to Congress on the status of science coordination, developed a plan for coordinating science for the SCG and was part of a committee that developed new science workshops for the purpose of adaptive management. In her current role as lead staff appointed to the Science Coordination Group, she develops tools that enhance coordination at leadership level for managing, coordinating and elevating the invasive exotic species effort related to the restoration of South Florida.

Carrie Beeler

Program Manager for Science Coordination

U.S. Department of the Interior

Office of Everglades Restoration Initiatives

South Florida Ecosystem Restoration Task Force

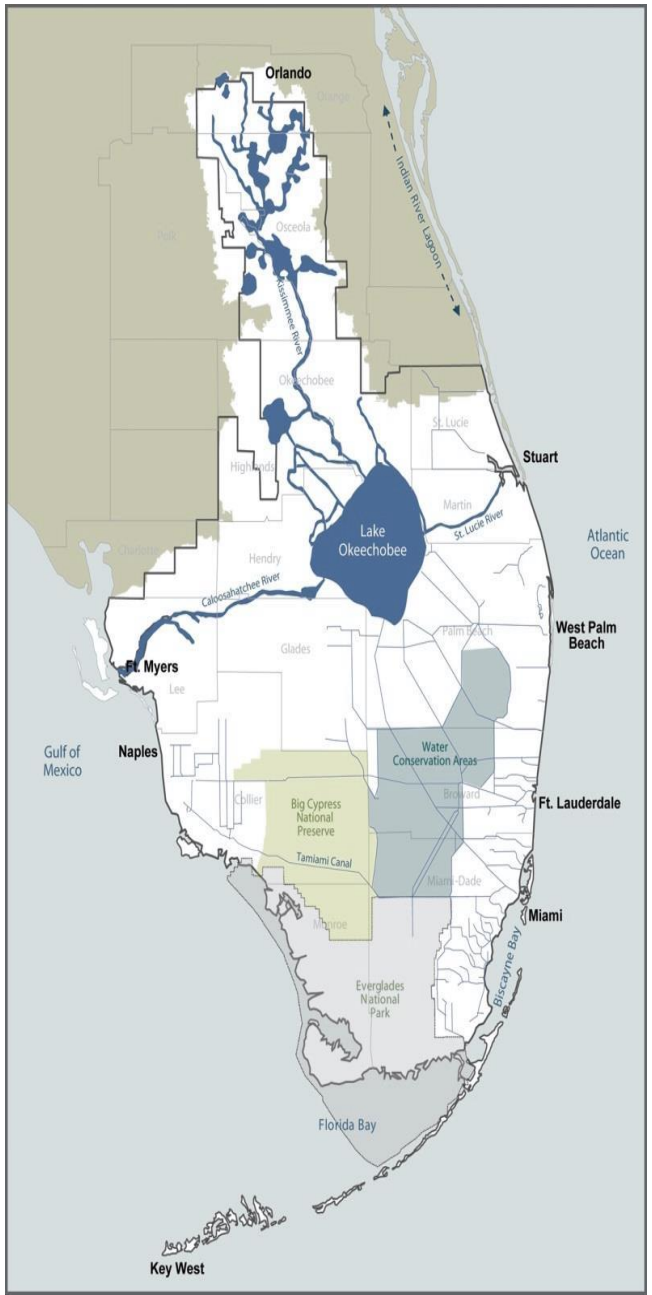
EVERGLADESRESTORATION.GOV

Restoring America's Everglades

The Official Website

South Florida Ecosystem Restoration Task Force

- The South Florida Ecosystem Restoration Task Force (Task Force) was established by section 528(f) of the Water Resources Development Act of 1996. The Task Force consists of:
- 14 members from four sovereign entities.
- There are seven federal,
- Two tribal, and
- Five state and local government representatives.
- Chaired by Michael Bean (Chair) Principal Deputy Assistant Secretary for Fish and Wildlife and Parks



South Florida Ecosystem Restoration Task Force

The duties of the Task Force are to:

- Coordinate the development of consistent policies, strategies, plans, programs, projects, activities, and priorities addressing the restoration, preservation, and protection of the South Florida ecosystem;
- Exchange information regarding programs, projects and activities of the agencies and entities represented on the Task Force to promote ecosystem restoration and maintenance;
- Facilitate the resolution of interagency and intergovernmental conflicts
- Coordinate scientific and other research associated with the restoration of the South Florida ecosystem;

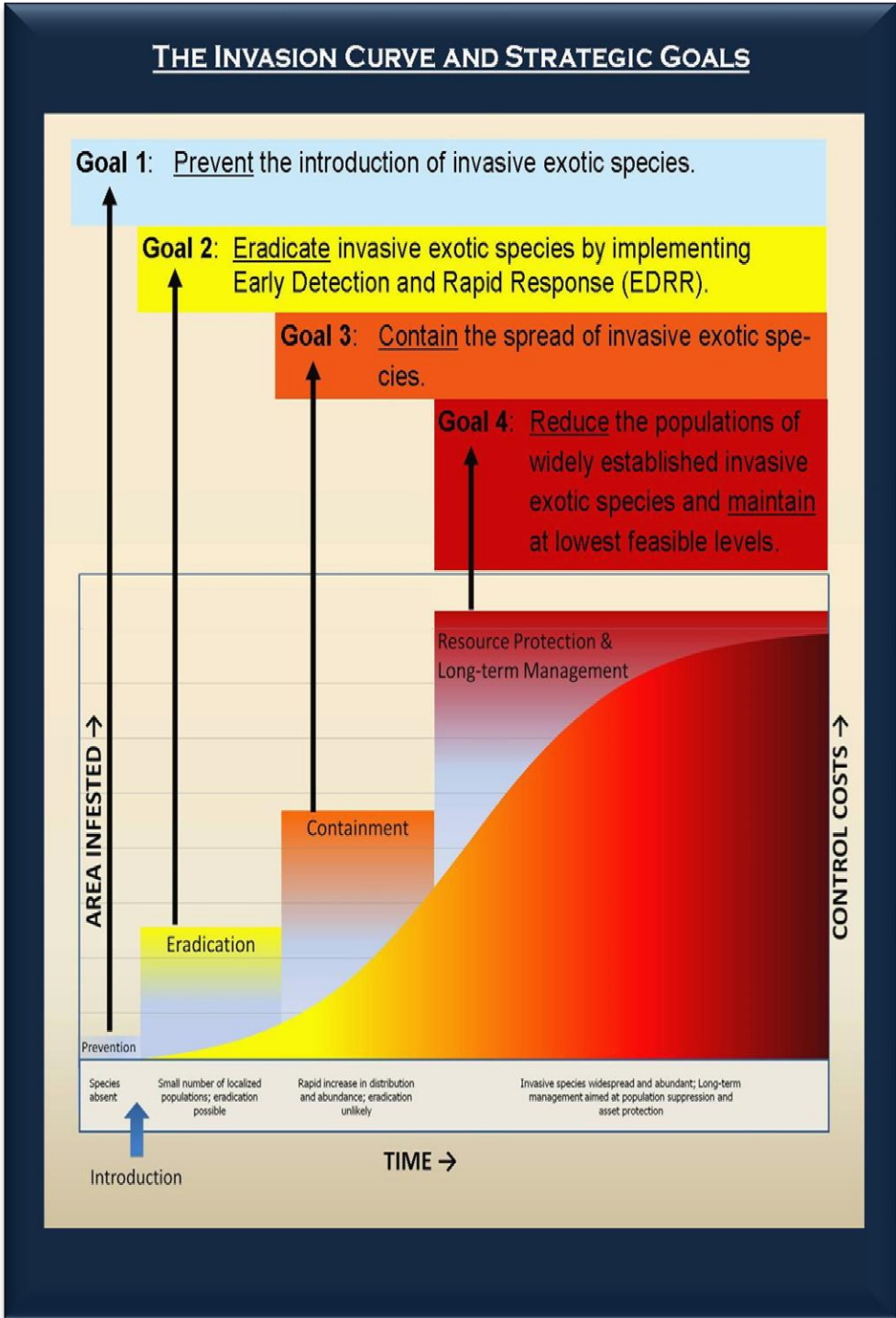
“An Everglades Teaming with Invasive Exotic Species is not Restored”

South Florida Invasive Exotic Species
Strategic Action Framework

4 Goals were identified

Other Coordination Tools from the TF

- ✓ Preliminary Action Assessment
- ✓ Invasive Exotic Species Cross Cut Budget
- ✓ Integrated into the Overall South Florida Task Force Strategy and Biennial Report



EDRR is the Priority

- Preliminary Action Assessment -the majority of the priority actions are EDRR related.

- Need a dedicated resources and for a structured EDRR Monitoring
- Science and Technology tools for detection (traps, surveys etc)
- Rapid assessment and response programs/processes/ cooperatives/tools that allow for nimble attempts at eradication
- Go/No go response tool (under development) to rapidly assess a new species.
- Fully funded response plan and pre-established strike teams including a Incident Command-like Structure.

Pictured above: *Argentine black and white tegu*

Carrie Beeler

Program Manager for Science Coordination
U.S. Department of the Interior
Office of Everglades Restoration Initiatives
South Florida Ecosystem Restoration Task Force
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2016 Invasive Species Webinar Series

Tackling Invasive Species at the Landscape Level: Lessons Learned from South Florida and the Everglades

Thursday, March 31, 2016 • 2:00pm – 4:00pm ET

Panel Discussion and Q & A Session

Questions for the panelists? Submit via the "Questions" box or raise your hand by clicking on the hand icon.

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Topic 1

Origins and Scope of Partnerships and Cooperative Efforts

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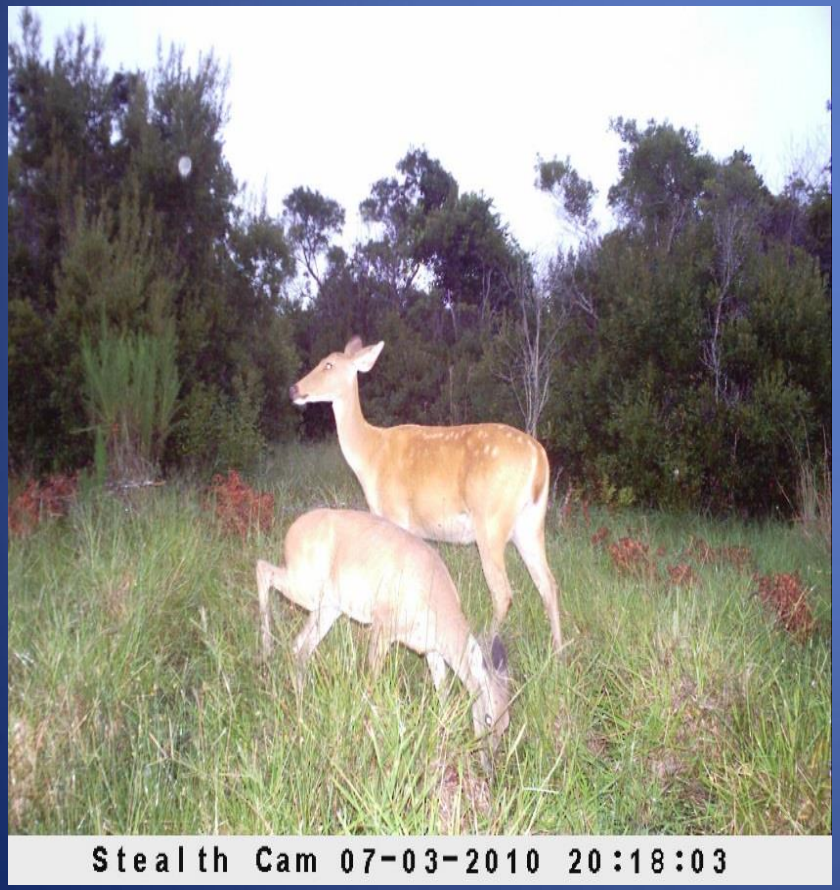
Nonnative deer:

Axis

Barasingha

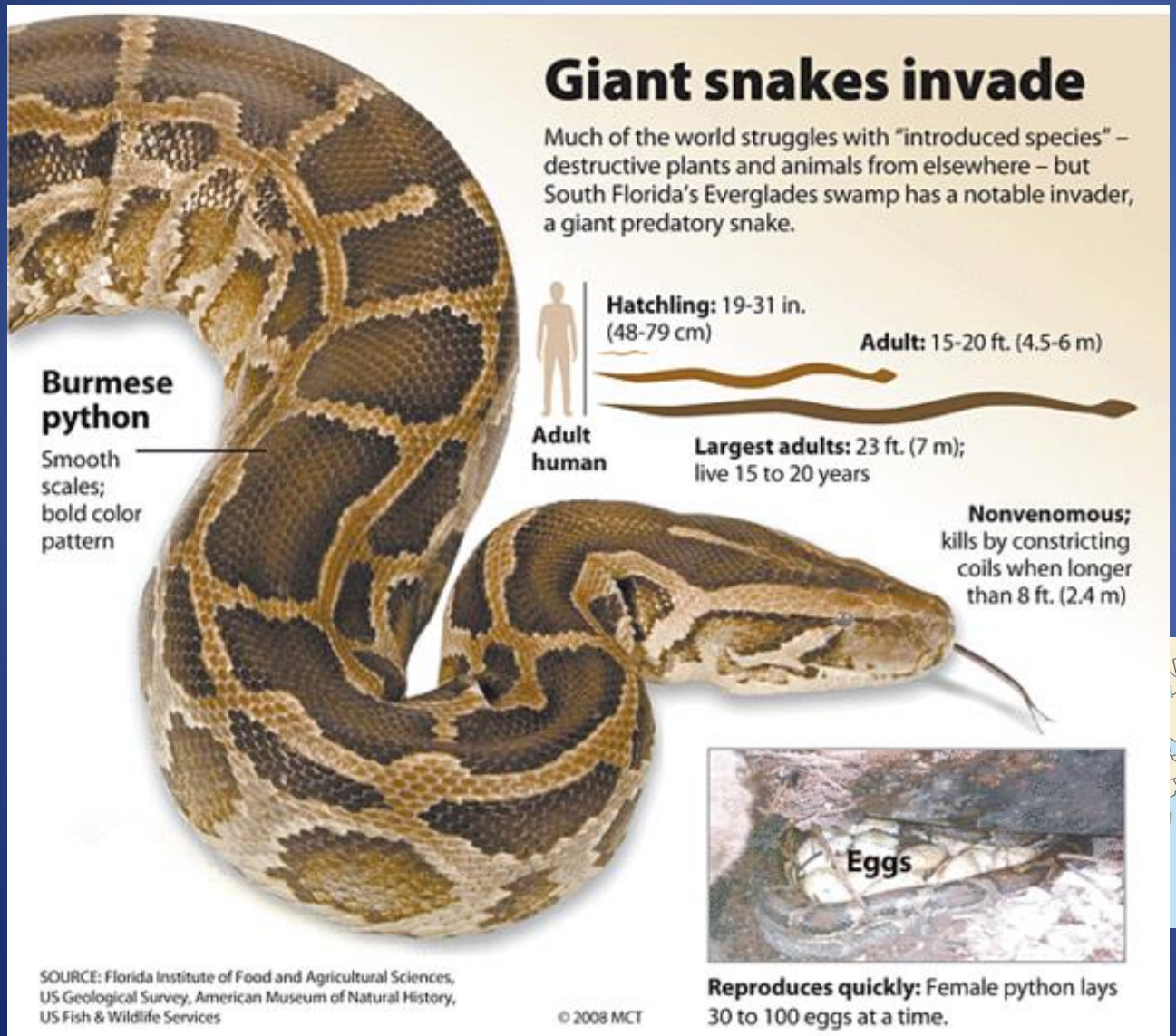


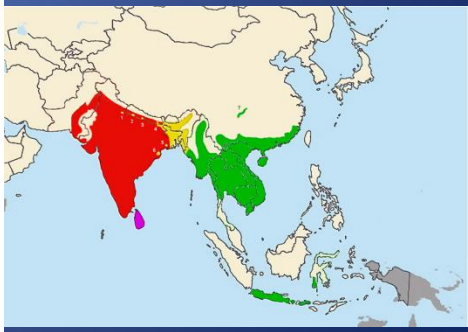
Red stag

Burmese Python

(*Python molurus bivittatus)*

Native Range: Southeast Asia



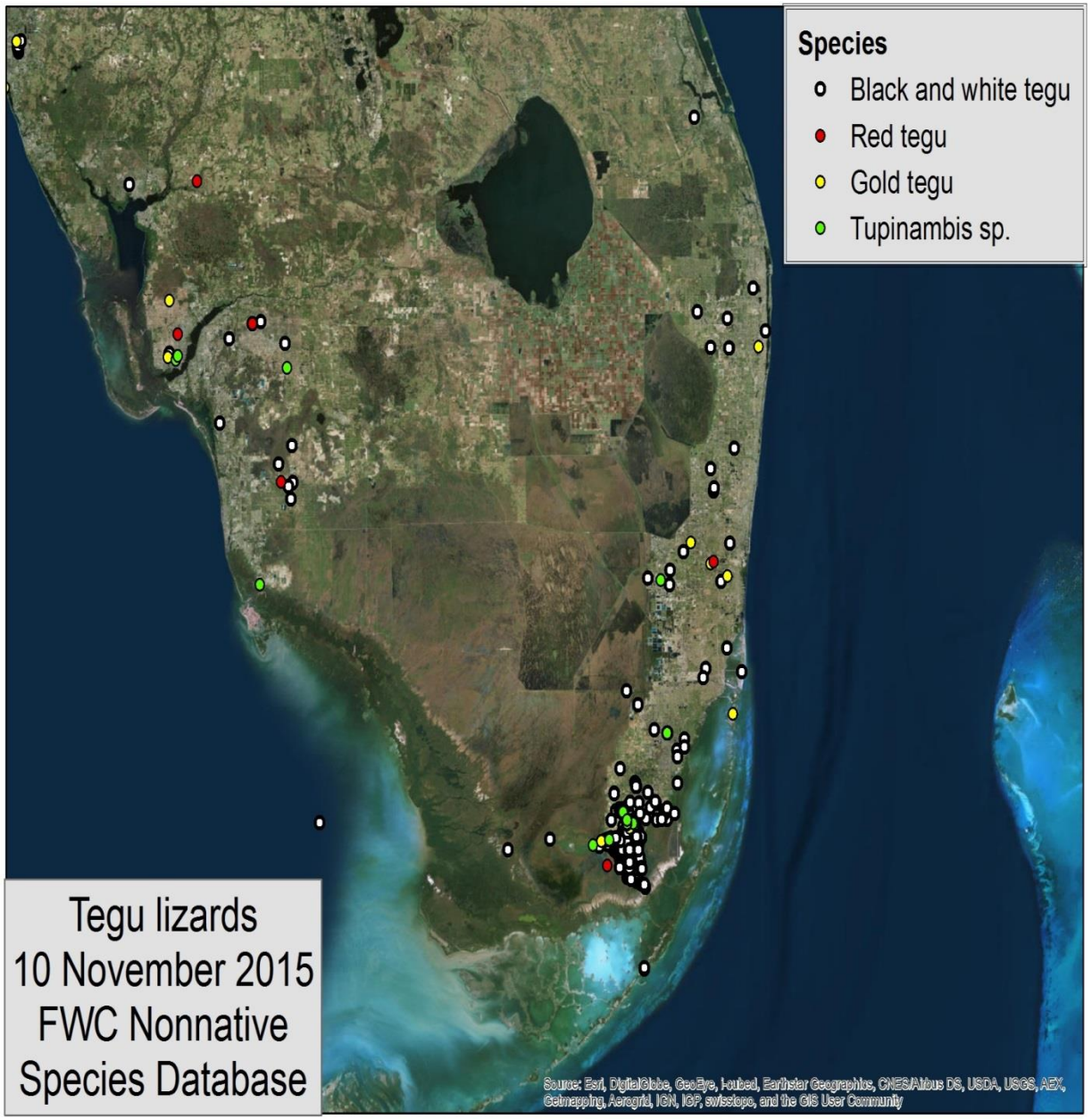


Argetine Black and White Tegu

Black and white tegu raiding an alligator nest in Miami-Dade County, Courtesy University of Florida

Major pathways of invasion

Tegus in south Florida

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Topic 2

Structure of Collaborative Efforts

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Sacred Ibis

(Threskironis aethiopicus)

Native Range: Africa

Eradicated


5369631


UN-WANTED
in the EVERGLADES
NILE MONITOR
www.DONTLETITLOOSE.org
1-877-CERP-USA

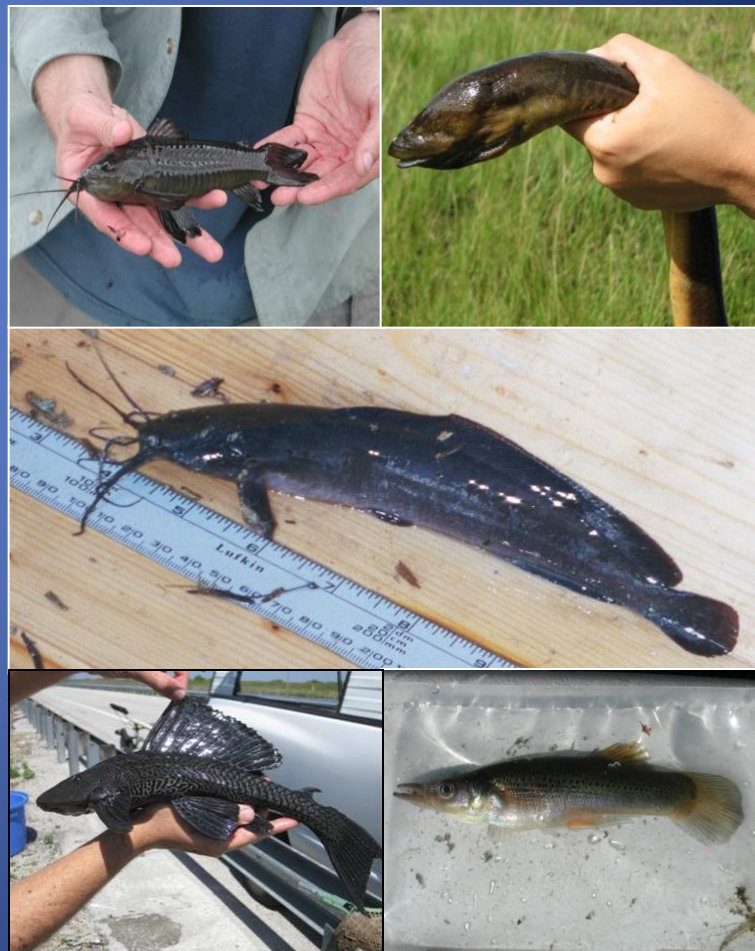

UGA5276096

17 exotic fish species

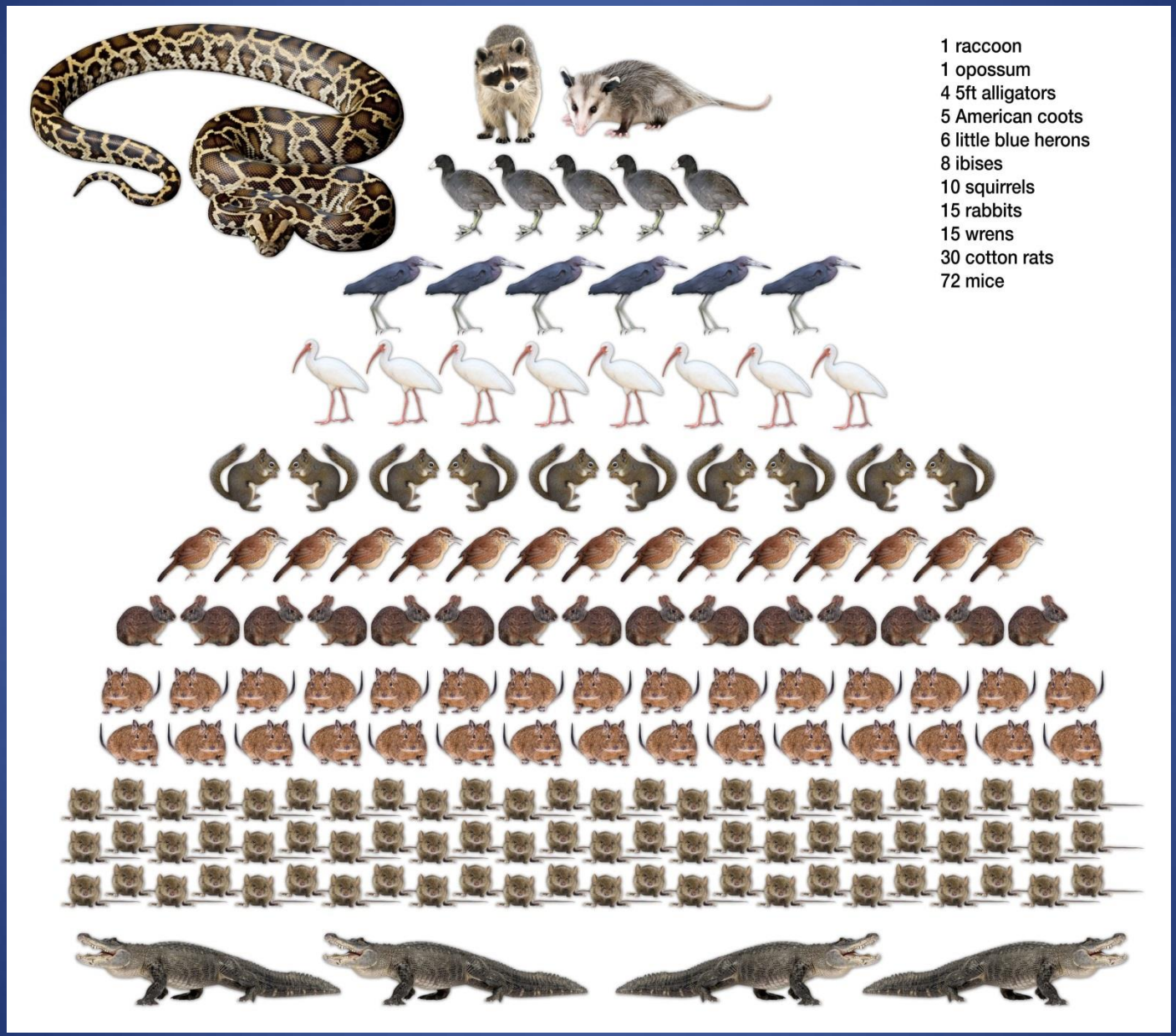
Africa, Central and South America, Southeast Asia

10 species of Cichlidae

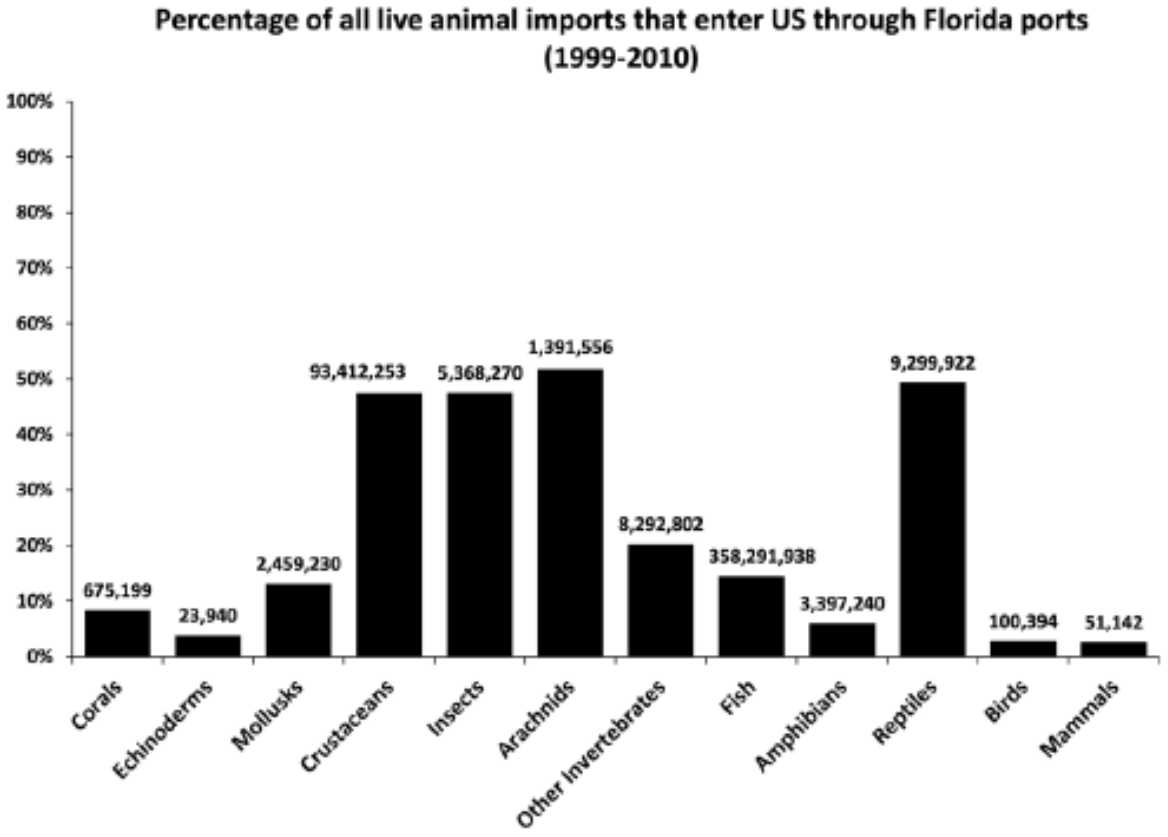
6 other families



The Building Blocks of a Python



Animals



Percentage of all live animal imports that entered US specifically through Florida ports of entry (1999-2010). The numbers above each bar represent the quantity of individuals imported for that taxonomic group.

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Topic 3

Resources and Funding

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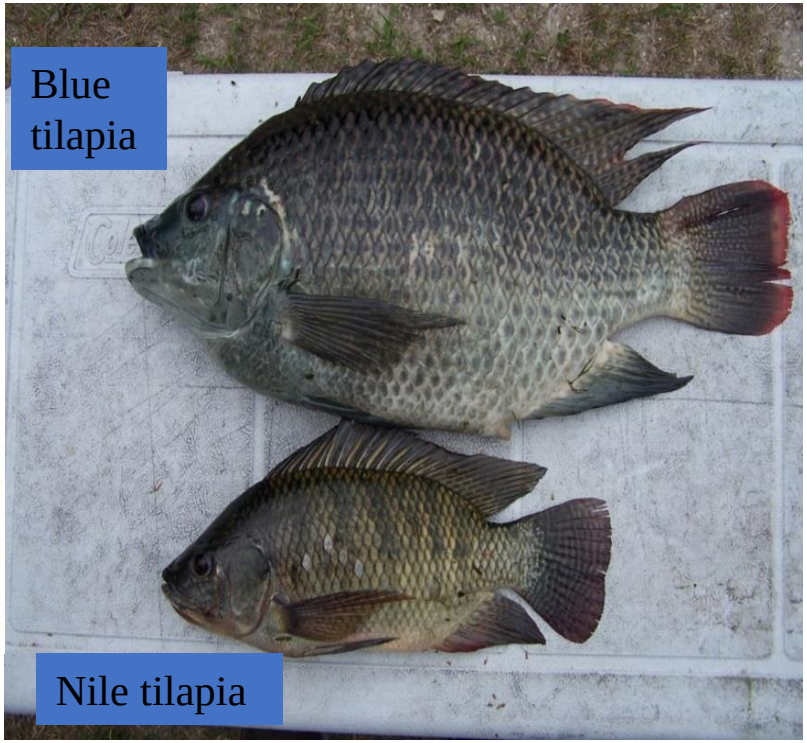
Everglades National Park

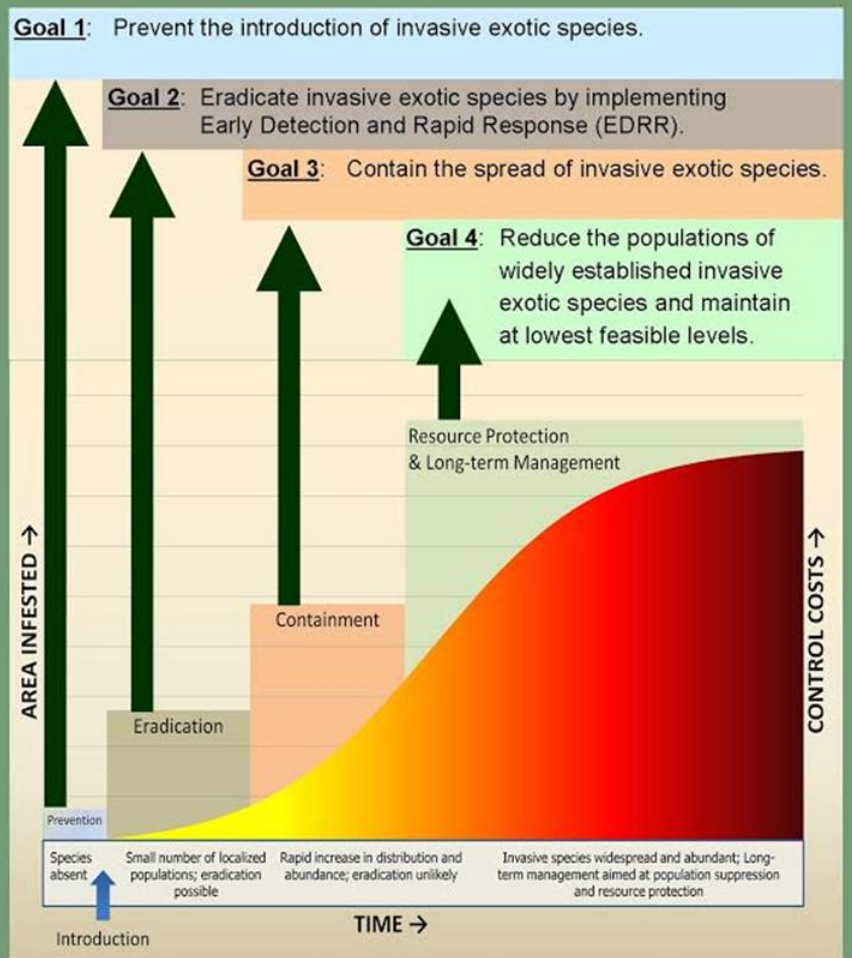
Snakehead

- Bullseye snakehead
- Tilapia spp
- Other unwanted fish




D4

The Invasion Curve and Draft Strategic Goals



U.S. DOI Office of Everglades Restoration Initiatives

South Florida Ecosystem Restoration Task Force

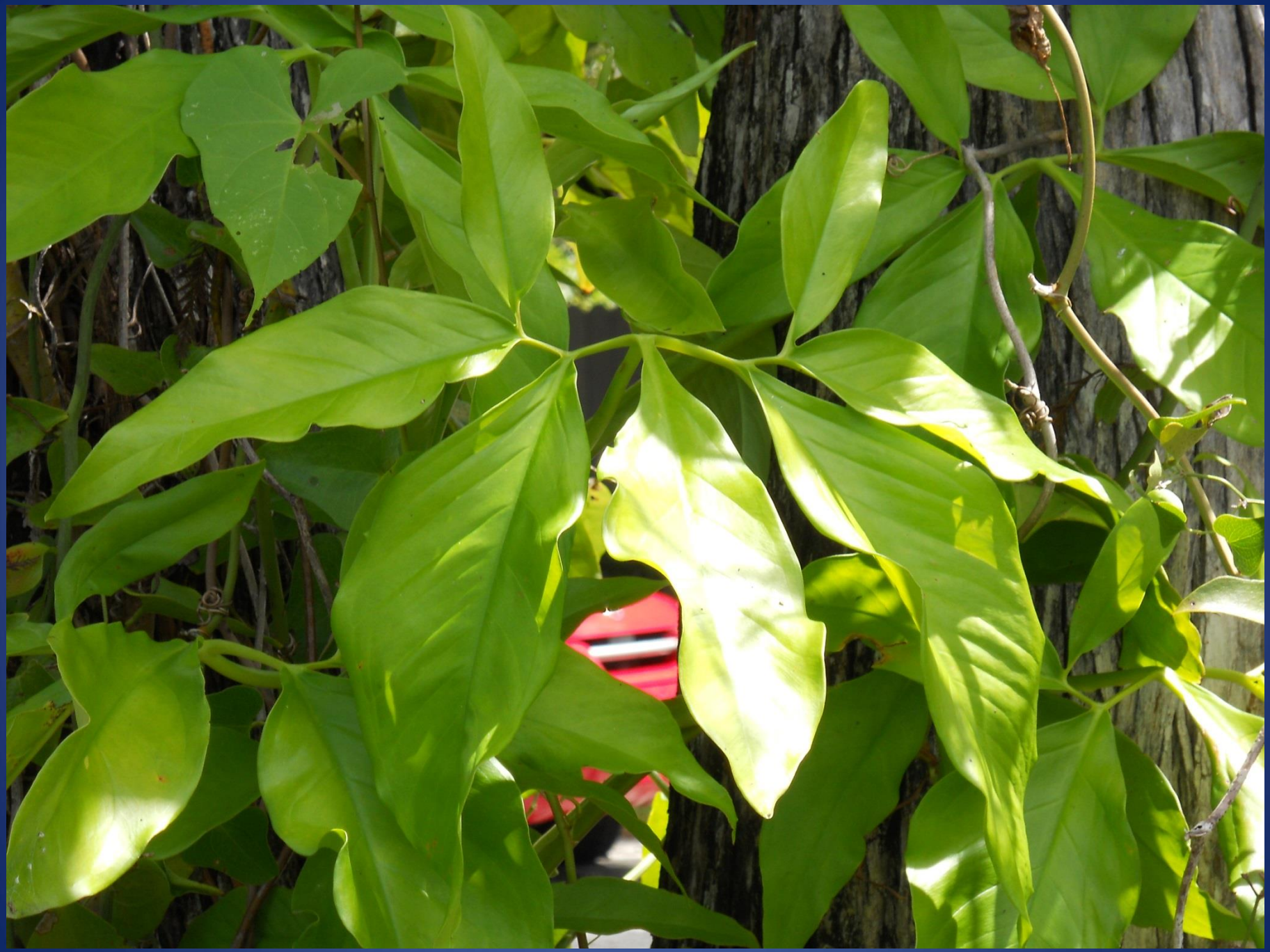
www.sfrestore.org/ies.html

Tegus
in Florida

Dennis Giardina, FWC

How You Can Help Stop The Spread Of An Invasive Lizard

Florida Fish and Wildlife
Conservation Commission
MyFWC.com



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Topic 4

Control and Management

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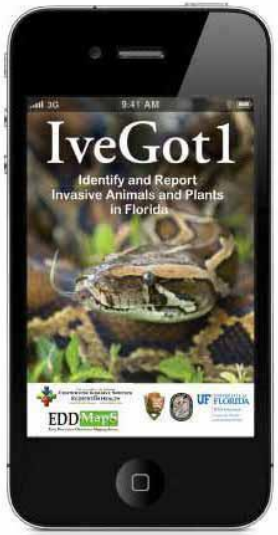
Snakehead and an assortment


UGA5281016

Invasive Species in Florida?



Yep, we've built an App for that!

IveGot1 brings the power of EDDMapS to your iPhone®. Now you can submit invasive species observations directly with your iPhone from the field.

IveGot1 was developed by the University of Georgia Center for Invasive Species and Ecosystem Health through a cooperative agreement with the National Park Service, in cooperation with the Florida Fish and Wildlife Conservation Commission and the University of Florida Center for Aquatic and Invasive Plants.

Available on the App Store

Lionfish

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Topic 5

Early Detection and Rapid Response

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UGA1624033

Evergaldes

Non-Native Fish Round-up

North African Rock Python

(Python sebae)

Native Range: North Africa


2010-10-09 1:25:59 PM M 1/10
HC600 COVERT

Tegu

Non-Native Fish Roundup

Nile Monitor

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Topic 6

Prevention

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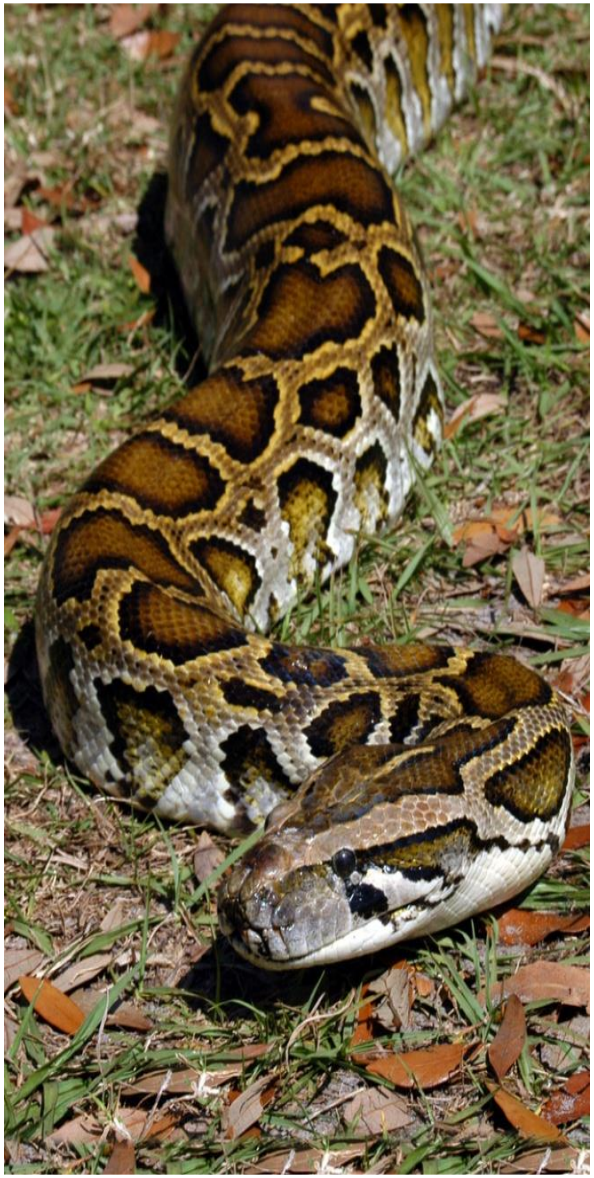
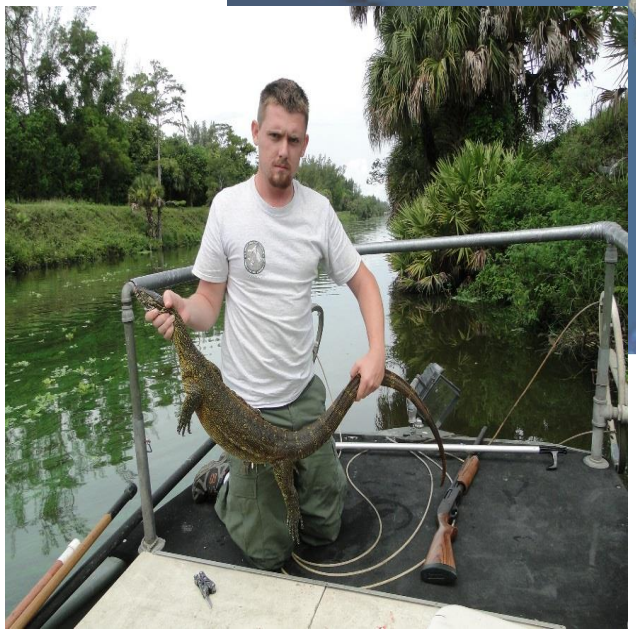
Red Ambrosia Beetle *(Xyleborus glabratus)*

(Native to India, Japan, Mynamar and Taiwan)

Raffaelea lauricola - Ophiostomatales



- Nile Monitor Occurrences in the state
- Staff member that has removed one from the wild



Laurel Wilt in Big Cypress National Preserve

- Burmese Pythons

Black spiny-tailed iguanas (*Ctenosaura similis*)

Melaleuca

Some folks with Burmese pythons. On right, UF folks with a big one. Gives perspective

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