ECISMA
Early Detection and Rapid Response Plan:
A Coordinated Framework of Partners and Procedures

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Early Detection /Rapid Response Sub-committee

Outline

- Background
- Purpose of Plan
- Assumptions Guiding Plan Implementation
- Objectives
- Examples of Early Detection/Rapid Response Activities
- Conclusions

The Everglades' Non-Native Taxa

- 71 Plants (Cat. I Invasive)
- 34 Invertebrates
- 12 Mammals
- 4 Amphibians
- 38 Reptiles
- 11 Birds
- 20 Fishes

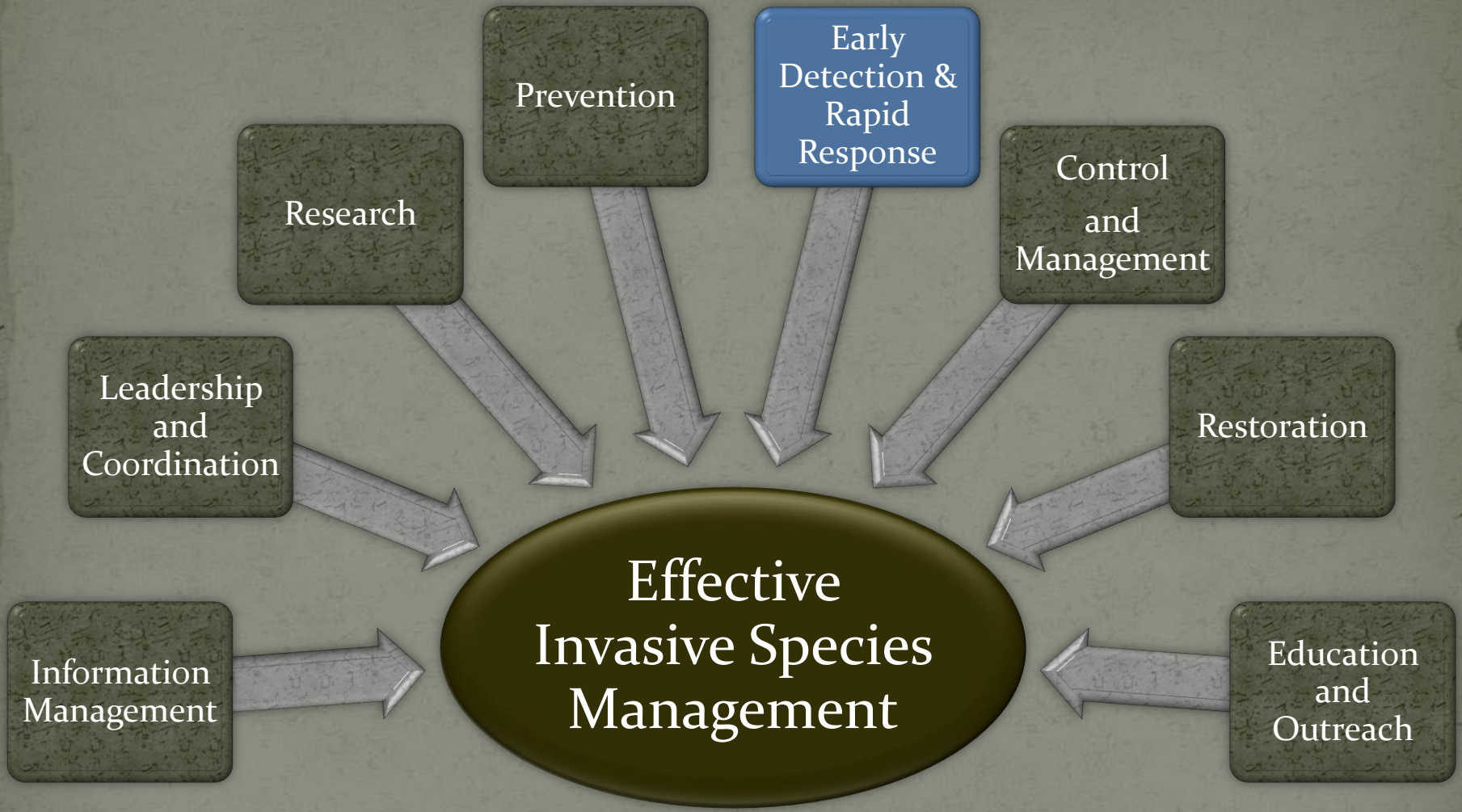
Relevance to Everglades Restoration

Species	Potentially Impacted Performance Measures
Old World Climbing Fern ***Brazilian Pepper*** ***Melaleuca***	•Freshwater Vegetation Mosaics •Ridge And Slough Community Sustainability
Waterhyacinth, waterlettuce	•Lake Okeechobee Vegetation Mosaic
Nile monitor ***Tegu lizard***	•Juvenile Crocodile Survivorship •Juvenile Alligator Survivorship •Imperiled Species Survival (egg-laying species)
Invasive fishes	•Regional Populations Of Fishes, Crayfish, Grass Shrimp and Amphibians •Lake Okeechobee Fish Population Density, Age Structure and Conditions
Large Constrictor Snakes	•Wading Bird Nesting Patterns • Imperiled Species Survival

ECISMA Boundaries

"…a formal partnership of federal, state, local government agencies, tribes, individuals and various interested groups that manage invasive species within the greater Everglades area…"

Florida Department of Transportation
Florida Power and Light
Miami-Dade County
Miccosukee Tribe of Indians of Florida
Seminole Tribe of Florida
The Nature Conservancy
USDA Wildlife Services
USDA Agricultural Research Services
The Everglades Foundation
University of Florida
University of Georgia
US Geological Survey


Prevention
Early Detection & Rapid Response
Research
Control and Management
Leadership and Coordination
Restoration
Effective Invasive Species Management
Information Management
Education and Outreach

"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

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 | United States Fish and Wildlife Service | United States National Park Service | United States Dept. of Agriculture | The Nature Conservancy

Early Detection and Rapid Response Plan

Purpose

- To provide general guidance for the coordinated detection of and rapid response to incipient populations

- Minimize the establishment and spread of new invasive exotic species within the ECISMA

Early Detection and Rapid Response Plan

- Pre-determined management responses, and establishes a decision-making infrastructure
- Contains 5 objectives with related tasks
- Rapid response action planning protocol

Successful ECISMA EDRR efforts will include:

- Detection/Reporting System
- Monitoring System
- Emergency Funding

Assumptions Guiding Plan Implementation

- Eradication, not control in perpetuity, is the ultimate objective.
- Focus on species that present the greatest economic or environmental risks and are determined to have a reasonable expectation of eradication.
- Existing authorities, responsibilities, and cooperative agreements will be incorporated into response activities whenever possible.

Assumptions Guiding Plan Implementation …continued

- ECISMA response capabilities created may contribute to regional containment
- Encourage cooperation and partnership across government and private sector programs

Objective 5: Incorporate Adaptive Management in Plan Implementation

- Periodically Review Plan Implementation and Associated Procedures
- Amend Plan and Procedures to Reflect New Technologies and Lessons Learned

Objective 1: Ensure Early Reporting of New Invasions

- 1.1 Design and Implement an Integrated Monitoring Plan
- 1.2 Establish a Centralized Reporting System
- 1.3 Modify Existing Websites
- 1.4 Develop an Outreach and Communication Strategy

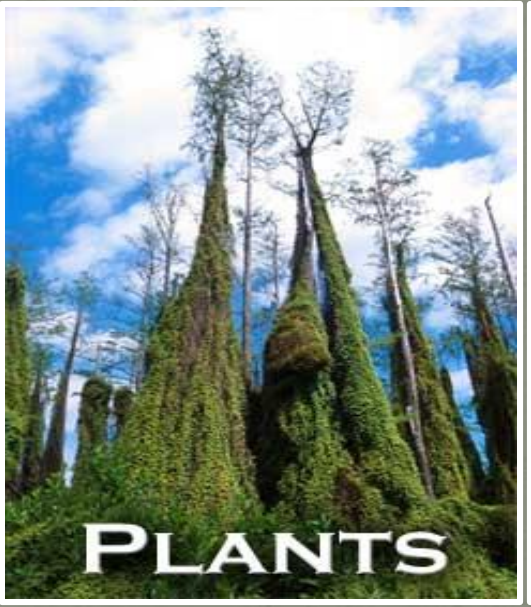
EDD MapS

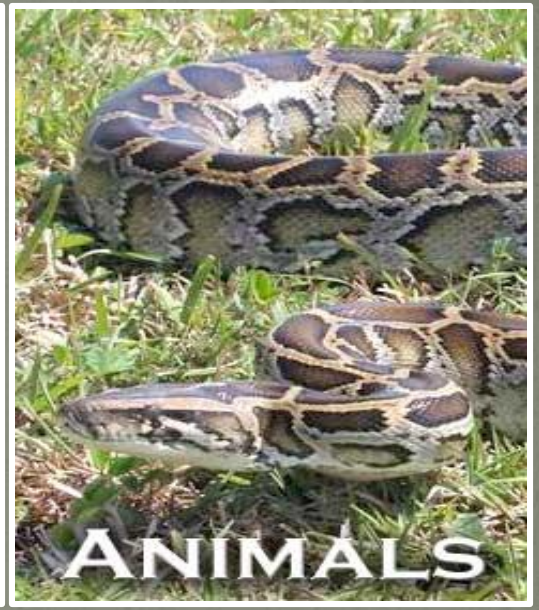
Early Detection & Distribution Mapping System

Florida Invasive Species Partnership

- **Distribution Maps**
- **Report Sightings**
- **Species Information**
- **Tools & Training**
- **My EDDMapS**
- **About**

The University of Georgia
Center for Invasive Species and Ecosystem Health

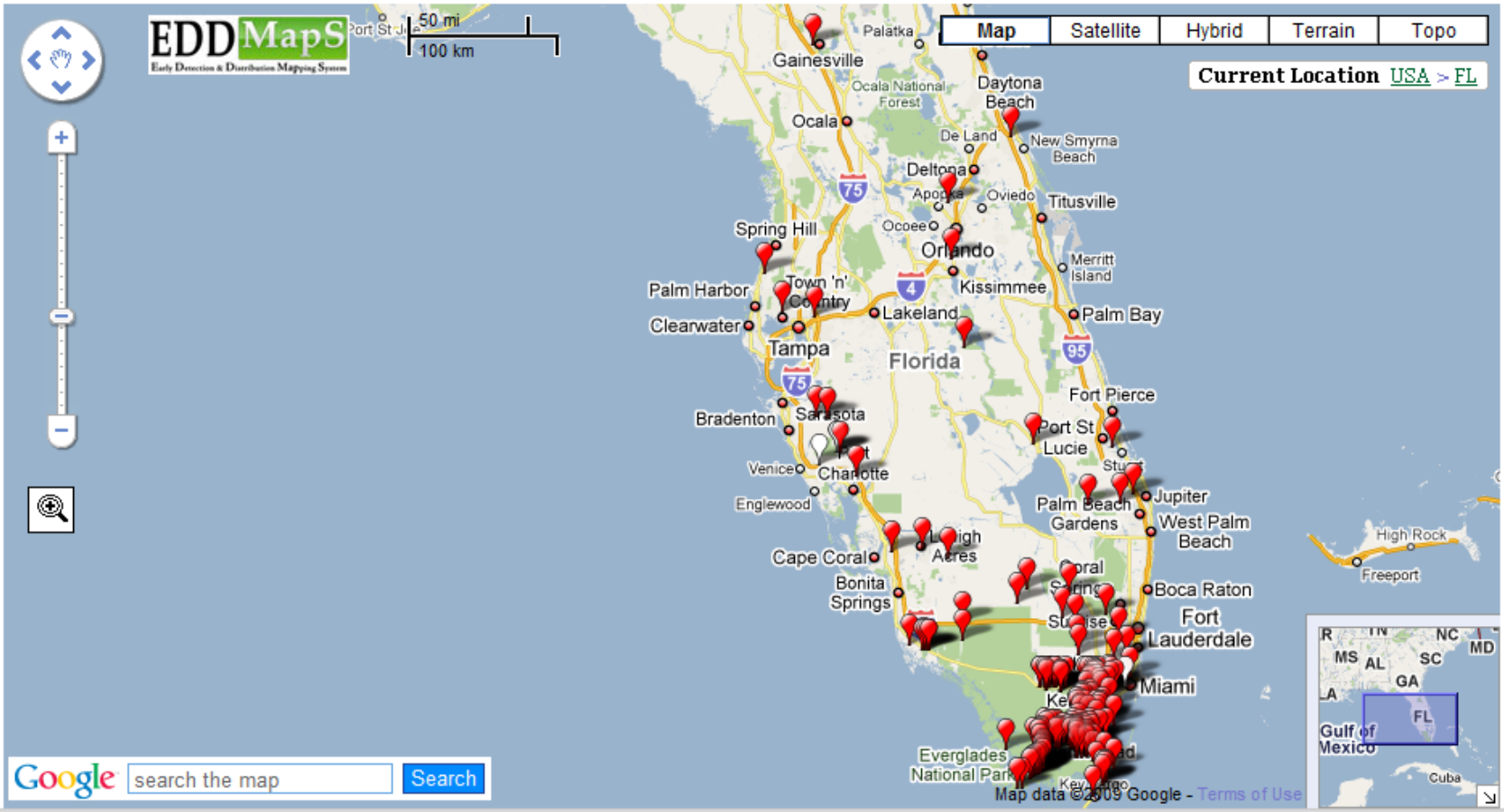




Detection/Reporting System

Large Constrictor Snake Sightings/Removals

- [x] Burmese python
- [ ] African rock python
- [ ] green anaconda
- [ ] common boa
- [ ] Reticulated Python
- [ ] Colombian Rainbow Boa
- [ ] ball python
- [ ] yellow anaconda
- [ ] Kenyan sand boa



Some Current Projects

- Everglades Invasive Reptile and Amphibian Monitoring Program (EIRAMP)
- Northern African python surveys
- Develop and validate eDNA methods for detection of invasive reptiles - Burmese python and Nile monitor detection and removal
- Development of comprehensive fish monitoring programs in Everglades National Park
- Tegu Lizard Control work
- Python Patrol Training

Pest Alert

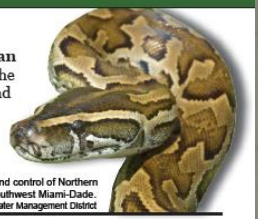
November 2009

On the Loose: Northern African Pythons

CISMA

Everglades Cooperative Invasive Species Management Area

Federal and state land management agencies are currently coordinating a rapid response against the **Northern African python** (*Python sebae*), a species with potential to invade the south Florida ecosystem. Since 2003, several large adults and juveniles have been recovered from the Bird Drive Basin in southwestern Miami-Dade County. The surrounding community is being alerted and asked to help identify additional individuals.



You can help in the detection and control of Northern African pythons in southwest Miami-Dade.
Image Courtesy the South Florida Water Management District

How to Identify

The proliferation of Burmese pythons in the Everglades illustrates the need to control the spread of large, nonnative constrictors like the Northern African python. Both species are closely related and share several characteristics that help distinguish them from beneficial south Florida snakes.

Unlike our native species, both pythons routinely grow beyond seven feet in length. Both bear a network of irregular (not diamond-shaped or round) dark blotches along their sides and back, somewhat like the pattern on a giraffe. A single, dark-brown, triangular marking adorns the top of the head of both species (1). Their scales appear smooth, unlike the "textured" scales of our native water snakes.

Both pythons are heavy-bodied serpents that are typically found near wetlands or open bodies of water. They are commonly encountered while basking on roads, levees or embankments.

1 Northern African Python
Image Courtesy of Mark Lucas

Burmese Python
Image Courtesy of Wikimedia Commons

How You Can Help

Recent sightings of Northern African pythons have all been concentrated in an area bordered to the north by the Tamiami Trail, to the south by Bird Road, to the east by SW 147 Avenue, and to the west by Krome Avenue. Local residents are being asked to help control efforts by reporting all sightings of large constrictors to the Miami-Dade Fire Rescue Venom 1 unit.

Reports should be filed as quickly as possible after an encounter. Please be prepared to furnish several details regarding your observation, including approximate size, location, time of day, habitat, and the behavior of the animal.

Every python, dead or alive, is important! Please do not discard dead pythons, but rather, use the number on the right to arrange recovery.

Miami-Dade Fire Rescue Venom 1

786-331-4454

The ECISMA is a formal partnership between federal, state, and local government agencies, tribes, individuals, and various interested groups that manage invasive species and is defined by a geographic boundary.

For more information about invasive species in south Florida, upcoming FWC Nonnative Pet Amnesty Days, and tips on how you can help, visit:

EvergladesCISMA.org

Field Identification of Select Native and Nonnative Reptiles in Florida

CISMA

U.S. Army Corps of Engineers

Everglades Cooperative Invasive Species Management Area

Outreach and Education

Outreach & Education

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Florida Fish and Wildlife Conservation Commission officials hold up a skin from a 21-foot Burmese python at the Python Challenge Awareness and Awards event. From left: FWC Press Secretary Susan Smith, Public Information Coordinator Carli Segelson, Officer Bobby Dube, Regional Director Chuck Collins, Nina Segelson, and Officer David Bingham. *Photo credit: Alicia Wellman, FWC*

Results of the 2013 Python Challenge™ Will Help Develop Management Options

by Frank Mazzotti, UF, Kristen Sommers and Jenny Ketterlin Eckles, FWC

For the first time, the Florida Fish and Wildlife Conservation Commission (FWC) held a month-long competition to remove Burmese pythons (*Python molurus bivittatus*) from state lands in south Florida. From January 12 through February 10, 2013, the general public and individuals previously permitted by the state to remove pythons competed separately for cash prizes for the longest and most pythons harvested. Twenty-Burmese pythons and the general public removed 26 pythons.

The primary goal of the 2013 Python Challenge was to raise public awareness about Burmese pythons in Florida and how people can help limit the impact of this and other invasive species. In addition to this educational component, the competition provided scientific data which FWC will apply to gauge the

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The total eradication of brightly colored panther chameleons from a Broward County site was one of this year's success stories. (Photo courtesy Pat Howell, Broward County Parks)

Rapid Response success for nonnative wildlife

by Jennifer Ketterlin Eckles

FISST puts the hammer down!

The Florida Invasive Species Strike Team (FISST) is the field team under the Everglades Cooperative Invasive Species Management Area's (ECISMA) Rapid Response Subcommittee that is deployed to respond to new sightings of primarily nonnative wildlife within ECISMA's footprint. The team is comprised of a number of ECISMA partners with response capabilities and is directed by the affected land management agency for any given response.

The team has had a number of rapid response successes over the past year. Two significant rapid responses were the removal of a Nile crocodile from Everglades National Park (ENP) and the discovery and possible eradication of panther chameleons on a Broward County property.

Nile crocodile

over two and a half feet since it was last seen and due to the rapid response efforts of the FISST interagency team, the five and a half foot-long Nile crocodile was successfully identified and removed.

Panther chameleon

Last July, a Broward County employee reported removing an adult panther chameleon from a county owned property on the Early Detection and Distribution Mapping System (EDDMapS) website (www.eddmaps.org). After receiving this report, staff from UF and FWC searched the property the following night and found a juvenile panther chameleon. Subsequent surveys over the next few weeks resulted in the removal of a third juvenile chameleon. During this time, the group also received reports of three more animals from different residents of the neighborhood, including one adult that was removed and two of unknown age found dead on the road. It is not known

Burmese Pythons
in Florida

Help Stop the Spread of this Invasive Species

Pat Lynch, SFWMD

What is a Burmese python?

The Burmese python is a large, nonvenomous constrictor snake that has been introduced to Florida. These snakes threaten the Everglades ecosystem, including native wildlife. They can reproduce in great numbers and eat a wide variety of food items ranging from eggs to small deer.

How to identify a Burmese python

Burmese pythons are tan in color with dark "giraffe" blotches on the back and sides that are irregularly shaped and fit together tightly like puzzle pieces. Burmese pythons have a dark arrowhead shape on top of their head and a dark wedge behind the eye.

Burmese pythons can hide in overgrown vegetation. Kevin Enge, FWC.

Some common native snakes that are confused with Burmese pythons:

Corn snake

Brown water snake. © Edward Mercer

Burmese python fast facts

- Can grow up to 20 feet in length.
- Average size removed in Florida: 8-10 feet.
- Native to South Asia.
- Females lay about 30-40 eggs per year.
- Can live past 20 years in captivity.
- Skin pattern provides effective camouflage in landscape, making snakes difficult to see.
- "Sit and wait" predators that prey on birds, mammals and reptiles.
- In Florida they can no longer be acquired as personal pets.
- Federal law prohibits transport across state lines or import into the country without a federal permit.

The FWC has documented breeding populations of Burmese pythons in Miami-Dade, Monroe and Collier counties, mainly within and around the Florida Everglades.

This map shows credible sightings of Burmese pythons in Florida as of 04/2015. Visit www.IveGot1.org for recent sighting information.

If you see a python:

1. Take a picture
2. Note the location
3. Report the sighting

How to report a sighting:

1. Call the Exotic Species Hotline: 888-Ive-Got1 (888-483-4681)
2. Report online: www.IveGot1.org
3. Download the free IveGot1 app

Please put this poster up!

Help inform others about Burmese pythons.

Find out more:

Burmese pythons in Florida, management efforts and how you help at MyFWC.com/Python.

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

Objective 2: Ensure New Species are Identified and Their Risks Assessed

- 2.1 Compile Prioritized EDRR Invaders Lists
- 2.2 Compile an On-Call Expert List
- 2.3 Develop a Risk Assessment Methodology

Priority List of Invasive Animal Species

Priority Animals (as of 2009)

1. Large Constrictor Snakes (Pythons, Boas, Anacondas)
2. Sacred Ibis
3. Giant Gambian Pouched Rat
4. Monitors
5. Tegus
6. Purple Swamphen
7. Non-native Applesnails

Watch List

Yellowbelly Guapote
Bullseye Snakehead
Red Bay Ambrosia Beetle

Ranking Criteria

1. Geographic Distribution
2. Population Size
3. Potential for Eradication
4. Potential/Perceived Flora/Fauna Impact
5. Potential Financial Impact
6. Economic Cost of Control

(Determined at 2009 ECISMA Invasive Species Summit workshop)

Regional Priorities

Burmese Python (Research/Control/ Containment)

Asian swamp eel/African jewel cyclid (Research/Monitoring)

Nile Monitor/Tegu (EDRR)

Lygodium (Control)

Melaleuca (Control)

N. African Python (EDRR)

Kripa (Eradication)

ECISMA Boundaries

Objective 3: Define Decision-making Responsibility and Response Protocol

- 3.1 Develop Process to Assign Responsibilities
  - > Lead Agency Determination
- 3.2 Develop a Rapid Response Action Protocol
  - > Existing Program (Yes or No)
    - ☞New Species Plan Needed

Objective 4: Establish and Maintain Capacity to Act

- 4.1 Establish a Rapid Response Fund
- 4.2 Develop a Rapid Response Checklist
- 4.3 Compile Eradication and Control Libraries
- 4.4 Identify Barriers and Constraints to Rapid Response
- 4.5 Remove Barriers and Constraints
- 4.6 Develop Model Response Plans
- 4.7 Develop and Conduct Training for Rapid Responders

EDRR Activities

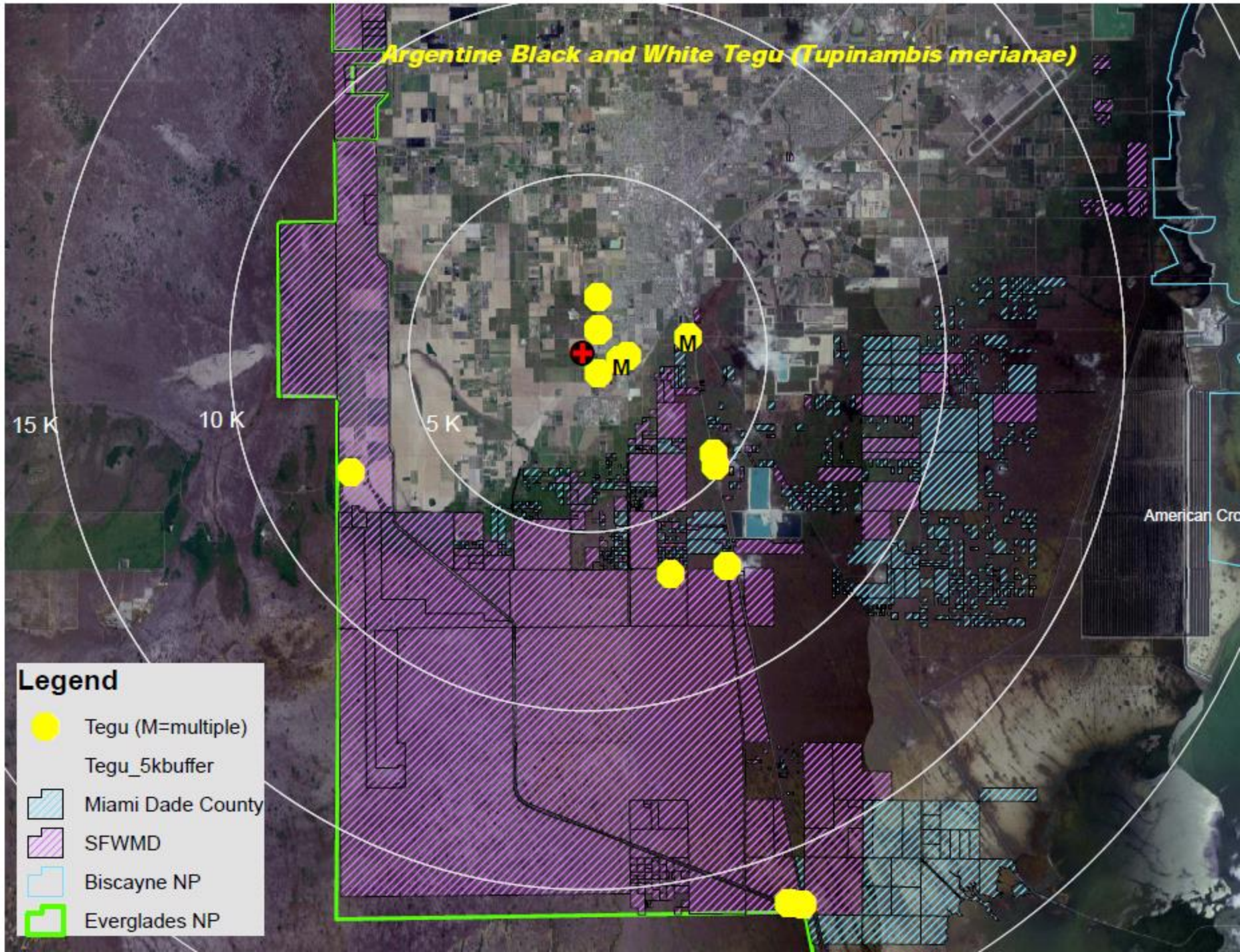
Sacred Ibis Rapid Response & Eradication

Sacred Ibis Rapid Response & Eradication

EDRR Activities – Large Lizards

Nile Monitor Lizard

Tegu Lizard


Argentine Black and White Tegu (Tupinambis merianae)
15 K
10 K
5 K
M
M
American Cro
Legend
Tegu (M=multiple)
Tegu_5kbuffer
Miami Dade County
SFWMD
Biscayne NP
Everglades NP

Final Thoughts

- Unwanted biological invasions in the Florida Everglades pose a significant threat to protected native ecosystems and associated species, the South Florida economy, and human health.
- The cliché, “an ounce of prevention…” is a dramatic truism with invasive species.
- By Pooling Efforts – Land Managers/Owners can achieve economies of scale and can share resources that would be unavailable as individuals.
- As united ECISMA members we can be more effective in lobbying for resources (and making management recommendations).

Acknowledgements

Co-Authors

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Leroy Rodgers, SFWMD
Kristina Serbesoff-King, TNC

CISMA
Everglades Cooperative Invasive Species Management Area

http://www.evergladescisma.org/

- **ECISMA - Early Detection/Rapid Response Subcommittee**

- **Co-chairs**

- **Art Roybal, USFWS**
- **Jenny Ketterlin, FLFWCC**
- **Skip Snow, USNPS (ENP)**

- **Members**

- **Tony Pernas, USNPS, Plants**
- **Kris Serbesoff-King, TNC, Plants**
- **Ellen Donlan, SFWMD, Herps**
- **Jenny Ketterlin, FLFWCC, Mammals**
- **Jim Cuda, UF, Insects/Invertebrates**
- **Bill Loftus, USGS, Fish**
- **Jeff Kline, USNPS, Fish**
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- **John Galvez, USFWS**