

Miami-Dade County's Preserves

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Natural Areas Management Division



Invasive Species Programs

- **Environmentally Endangered Lands (EEL) Program** established in 1990 through a voter-approved two-year property tax increase, to “...acquire, preserve, enhance, restore, conserve, and maintain environmentally endangered lands”



- **Natural Areas Management (NAM) Division** established in 1991 to “...restore, protect, and manage Dade County’s naturally occurring plant and animal communities...”



To date, EEL has acquired more than 21,000 acres; Parks has almost 5,200 acres of preserves.

Invasive Species Program

Habitats:

- Pine rockland
- Rockland hammock
- Scrubby flatwoods
- Freshwater wetlands
- Coastal wetlands



Preserve sizes: 4 acres – several thousand acres

Six field crews spread over 90 preserves



Numerous management challenges



Priority Plant Species

All FLEPPC Category I and II species - Our current top species:

Melaleuca (*Melaleuca quinquenervia*),
Brazilian pepper (*Schinus terebinthifolius*)
Australian pine (*Casuarina* spp.)
Old world climbing fern (*Lygodium microphyllum*)
Shoebuttan ardisia (*Ardisia elliptica*)
Burma reed (*Neyraudia reynaudiana*)
Napier grass (*Pennisetum purpureum*)
Umbrella tree (*Schefflera actinophylla*)
Air potato (*Dioscorea bulbifera*)
Sewer vine (*Paederia cruddasiana*)
Rosary pea (*Abrus precatorius*)
Jasmine (*Jasminum* spp.)
Exotic black mangrove (*Lumnitzera racemosa*)
Mile-a-minute vine (*Mikania micrantha*)



Priority Plant Species

Newly (and sort of newly) Detected Plant Species:

Mile-a-minute vine (*Mikania micrantha*) – not picky!!!

A terrestrial orchid - *Eulophia graminea* - pinelands

Yellow cowhorn orchid - (*Cyrtopodium polyphyllum* or *flavum*) - pinelands

Jaragua (*Hyparrhenia rufa*) - FLEPCC Cat. II – pineland edges

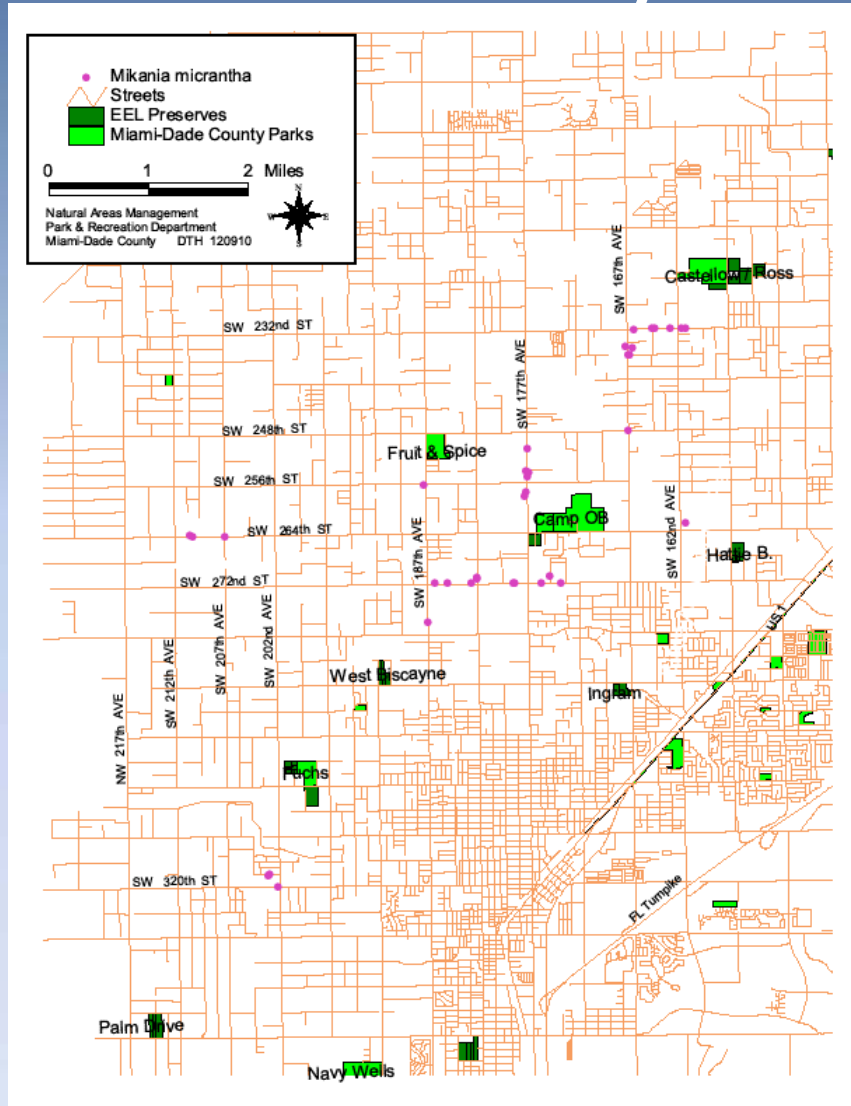
Staff vine (*Celastrus paniculatus*) – Matheson

Phalsa (*Grewia asiatica*) – West Biscayne Pineland

African elm (*Trema orientalis*) – Chapman Field



Priority Plant Species



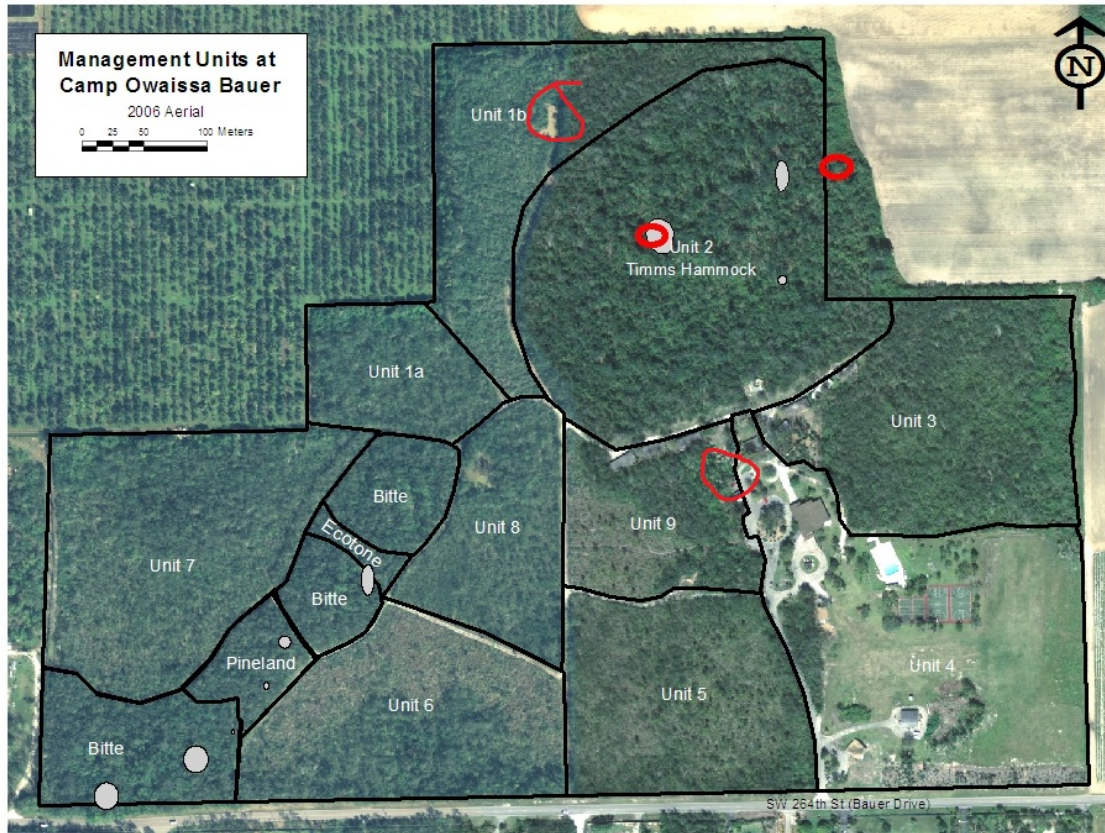
Newly detected plant species:

Mikania micrantha

ECISMA'S EDRR efforts were invaluable!!!

Map shows early positive finds for *Mikania micrantha* in relation to Miami-Dade County Parks and EEL preserves.

Priority Plant Species



Mikania micrantha at Camp Owaissa Bauer

Camp O.B.'s natural areas:
55 ac. pine rockland
24 ac. hardwood hammock

73 State listed plant species
2 Federally listed plant species
3 Federal candidate species

Wildlife habitat

Four populations *Mikania*:
2 treated
2 more soon to be treated

Priority Plant Species

Newly (sort of) detected plant species:

Eulophia graminea

Last year, found in the pineland at the Zoo; this year, 50 individuals found in Quail Roost Pineland, approximately 2 miles SW of Zoo



2011 Everglades Invasive Species Summit

All hail the Queen of Keen Observation, Jennifer Possley!



EVERGLADES CISMA

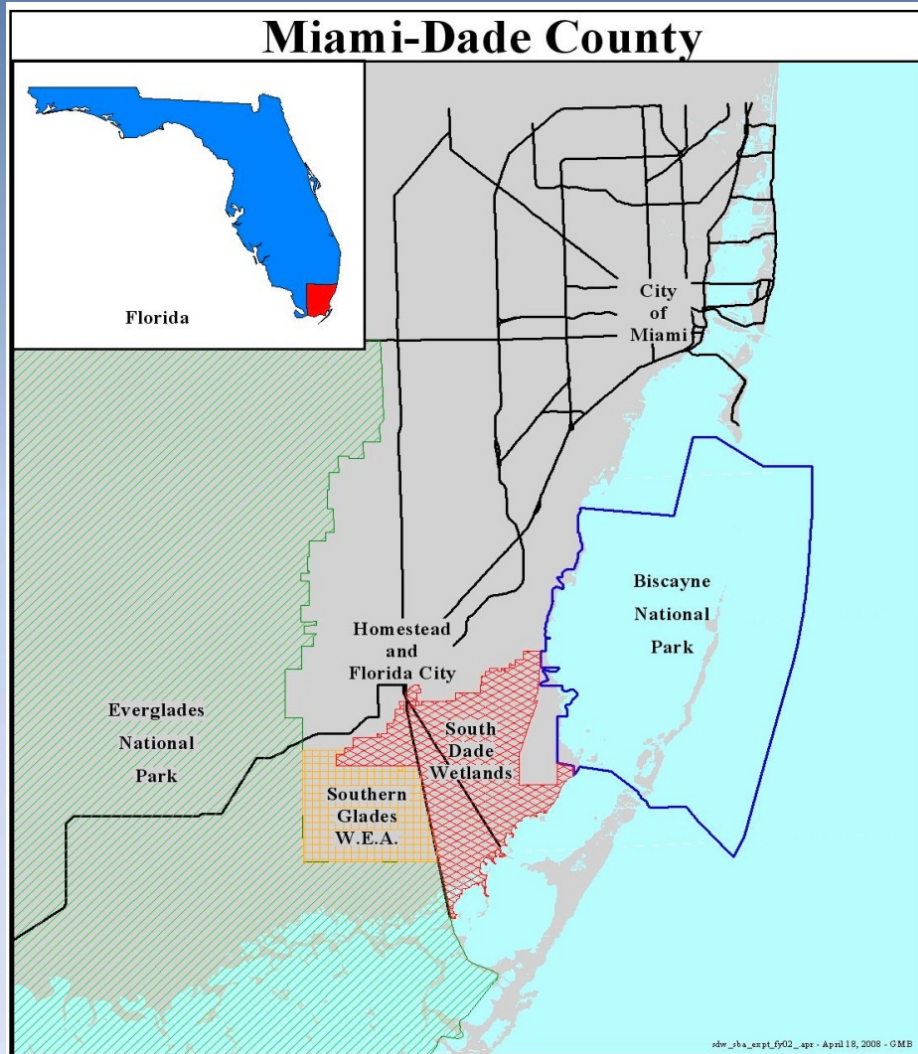
Fiscal Year Treatments: Oct. 1st, 2010 – Sept. 30th, 2011

EEL Preserves and EEL-funded Park Preserves



VEGETATION:

- Attempt to do work at all preserves each fiscal year - ongoing
- This fiscal year, have been to 67 different preserves, and treated 3,560 acres at (through June 2011)
- Final quarter, crews will concentrate on upland preserves - likely another 500-600 acres



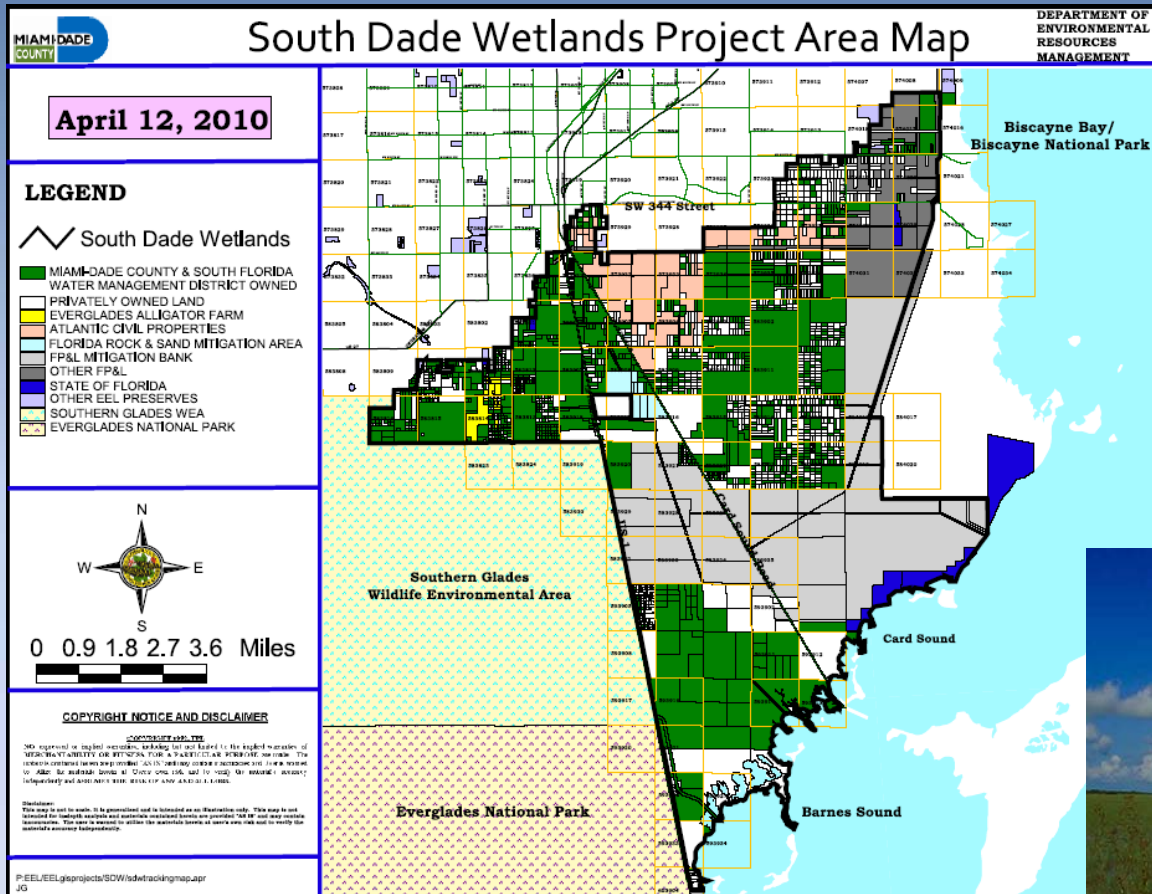
South Dade Wetlands

Strategically located in watersheds of Florida Bay, Biscayne Bay, Card Sound, and Barnes Sound

Total project area = approximately 55,000 acres

Includes both freshwater and coastal wetlands

2011 Everglades Invasive Species Summit



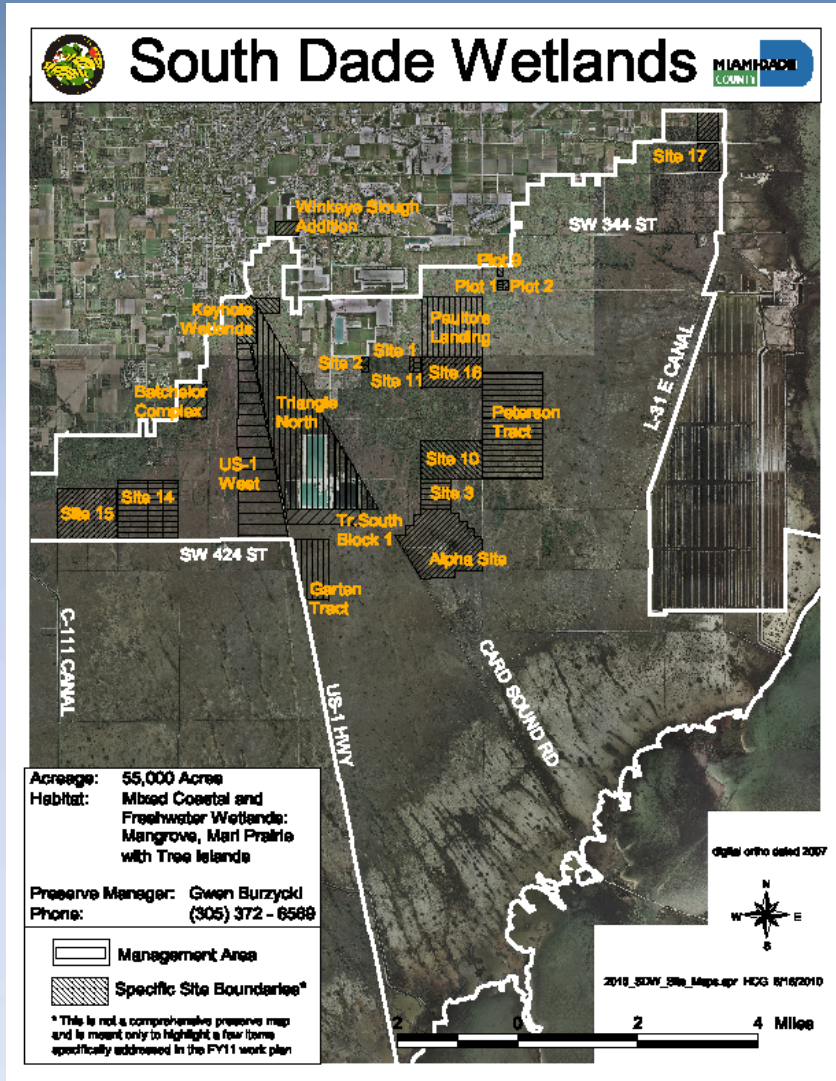
South Dade Wetlands

Miami-Dade partners with SFWMD on acquisition & management

To date, more than 18,000 acres acquired



Fiscal Year Treatments: Oct. 1st, 2010 – Sept. 30th, 2011



South Dade Wetlands

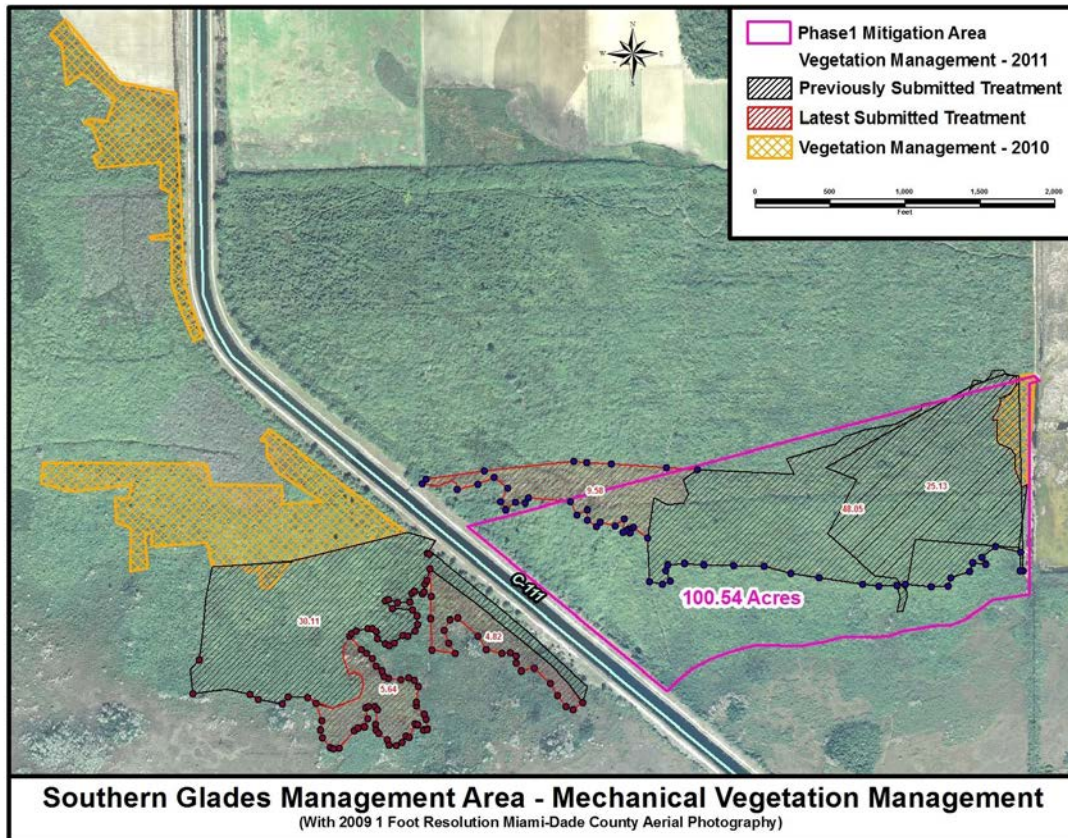
This fiscal year:

Miami-Dade NAM crews have treated 1,390 acres

SFWMD crews still working

Priority was shoebuttton ardisia and Lygodium

SFWMD's Shoebutton ardisia attack in SGWEA



Large-scale mulching operation

Experimental plots, looking at recruitment

Hope for prescribed fire in 3-5 yrs.

Looking for more cost-effective control

Priority Animal Species

- **Priority Animals**

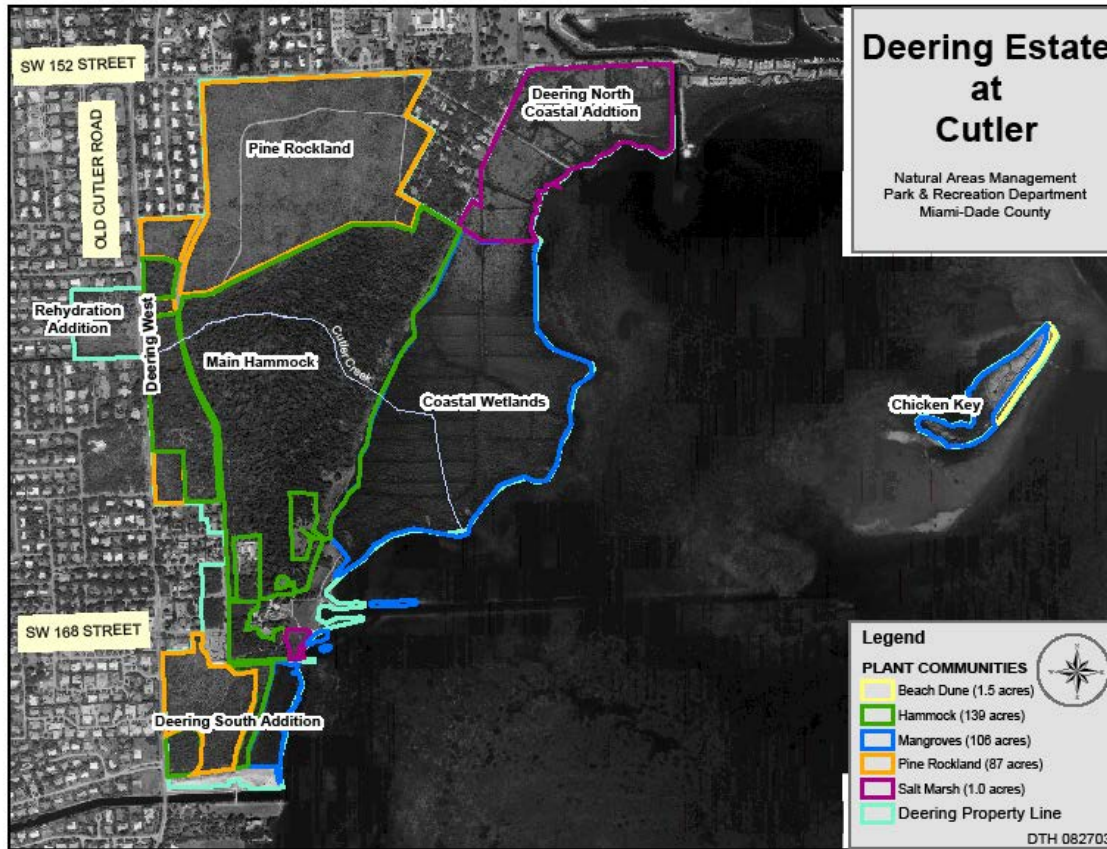
- Burmese python
- African rock python
- Boa
- Tegu
- Nile monitor
- Various iguanas
- Cats



- **Newly Detected Animal Species**

- Oustalet's chameleon
- Reticulated python (one hit wonder?)

Priority Animal Species



Boas at the Deering Estate

Known population for approximately 30 years

Opportunistic captures

Priority Animal Species



March 2011

Cat vs. boa incident

No clear winner...



Priority Animal Species

Boa captured July 11, 2011



To date:

Approximately 161
documented removals

Some surveys underway

Planning a bigger survey
this fall/winter

Expect a call for volunteers!

2011 Everglades Invasive Species Summit

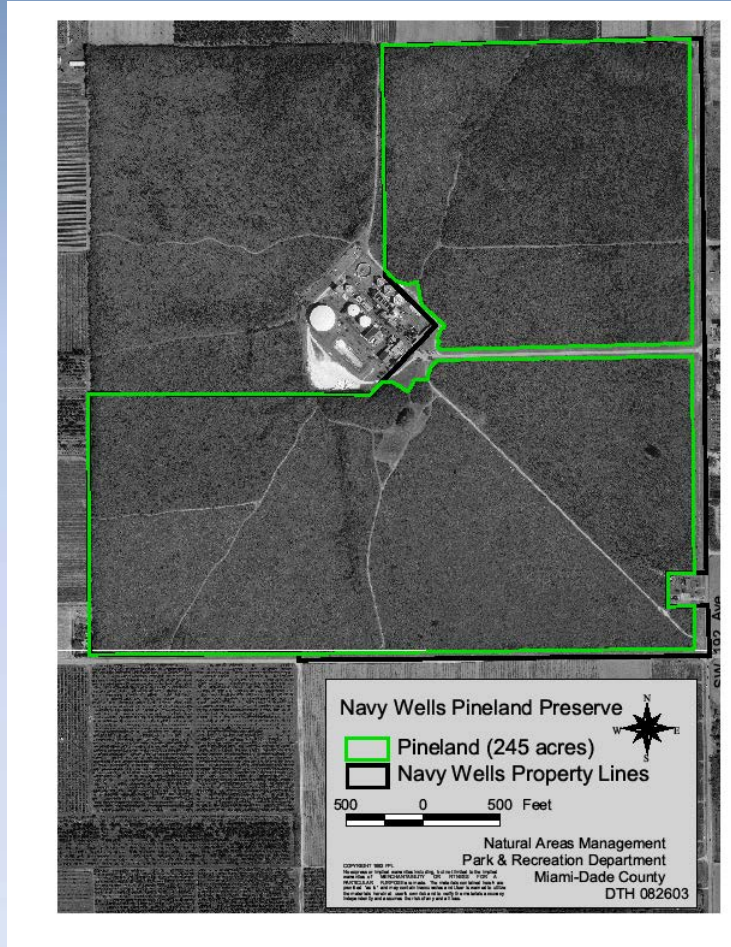
Priority Animal Species

Newly Detected Animal Species

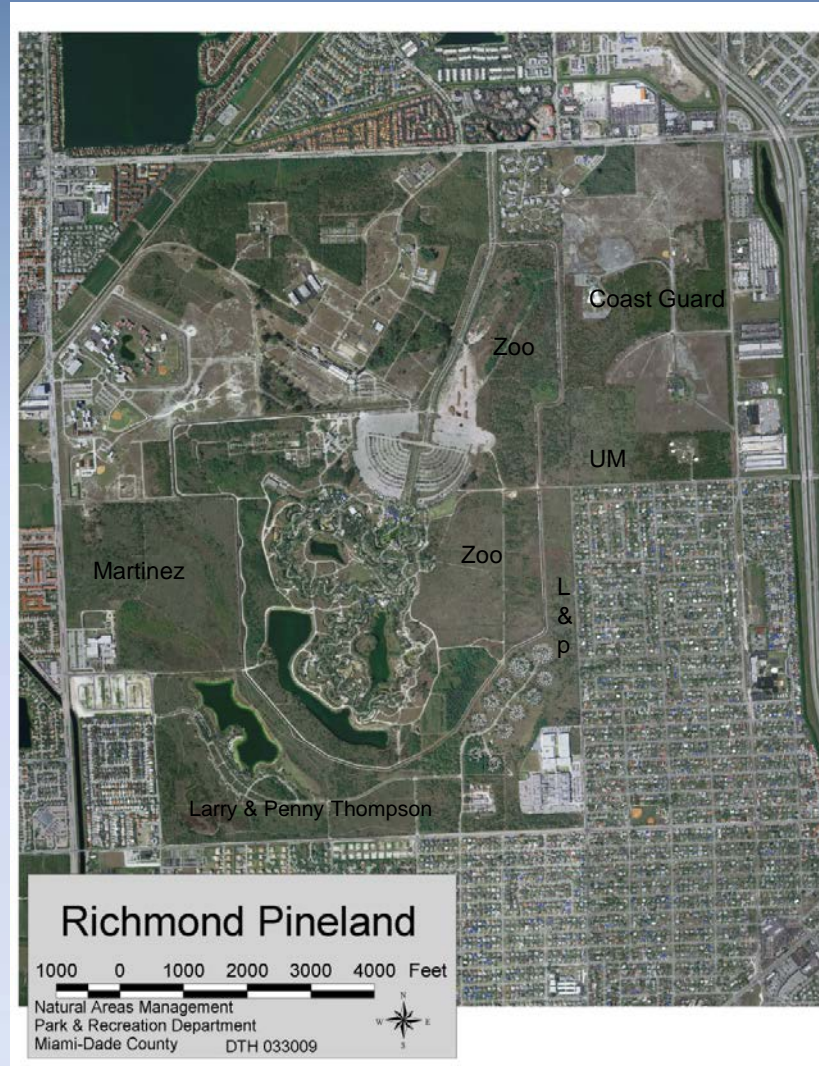
Oustalet's chameleon



Surveys underway!
46 captured so far



Priority Animal Species



Newly detected animal species

Reticulated python

Found August 2010 at
Martinez Pineland

Priority Animal Species

Newly Detected Animal Species

Reticulated python



Length = 18 feet

Weight = 130 pounds

2011 Everglades Invasive Species Summit

Fiscal Year Treatments: Oct. 1st, 2010 – Sept. 30th, 2011

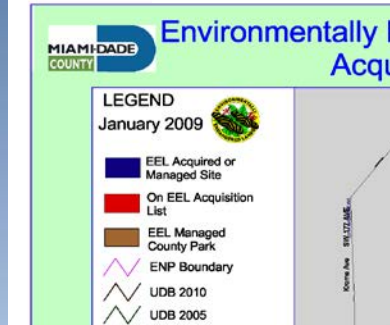


ANIMALS:

- African rock python surveys
- Tegu surveys
- Oustalet's chameleon surveys
- Have begun boa surveys at the Deering Estate
- On the lookout for monitors
- Provided crew supervisors with ECISMA's reptile field ID guide
- Iguana Management Plan still being developed
- Participated in Auburn University's dog vs. pythons VS. people vs. python trials

Planned Treatments: Oct. 1st, 2011 – Sept. 30th, 2012

EEL Preserves and EEL-funded Park Preserves



The work goes on, and on,
and on...

Exotic vegetation control on
all preserves with funding.

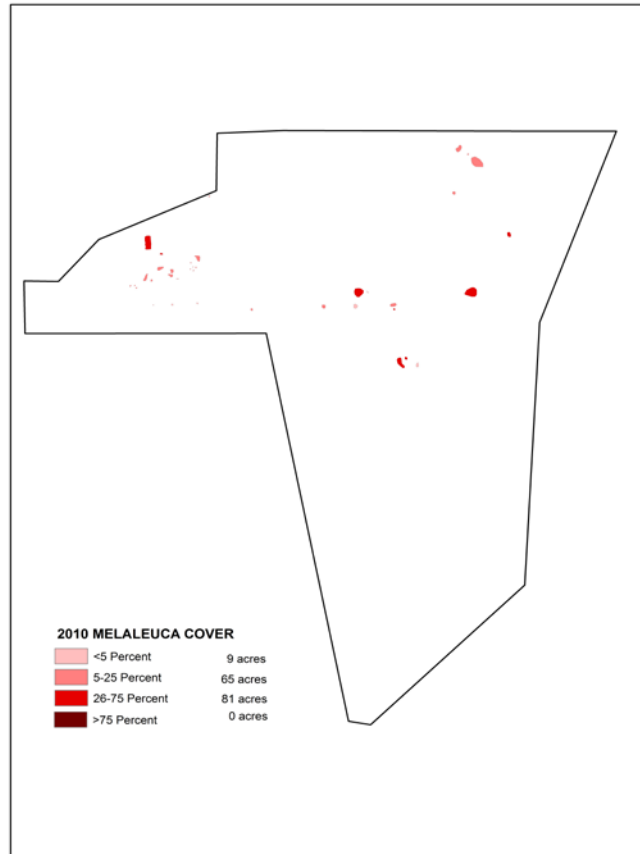
Continuation of invasive
animal surveys, especially
pythons, boas, tegus, and
Oustalet's chameleons.

Monitoring

- Front-line observations: NAM crews, Preserve Managers, & FTBG observations – plants and animals
- On County preserves, FTBG conducts rare plant monitoring, fire effects monitoring, plus a special project looking at burning/herbiciding, scraping, & native seed sowing as a restoration tool in a heavily disturbed pine rockland
- Laurel wilt surveys



Digital Aerial Sketch Mapping

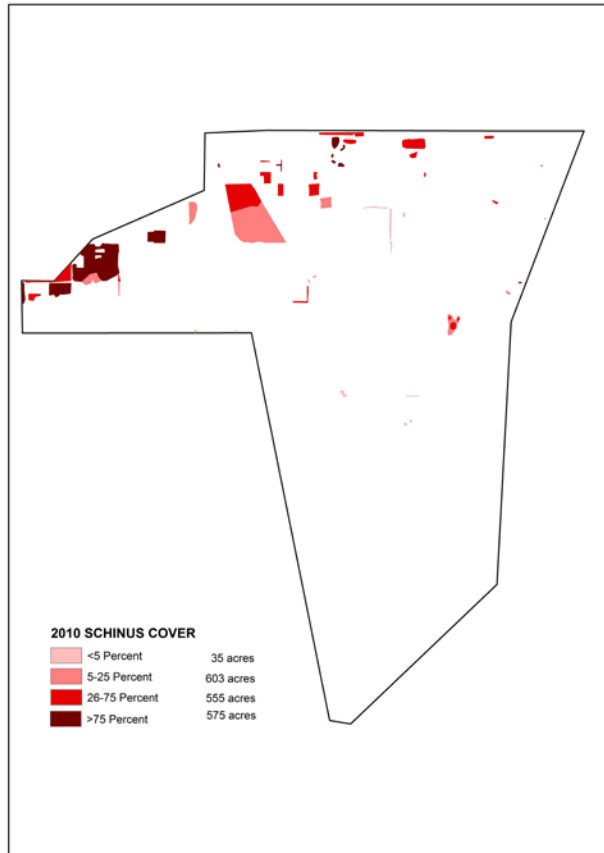


South Dade Wetlands

Melaleuca coverage:

Approx. 155 acres

Digital Aerial Sketch Mapping



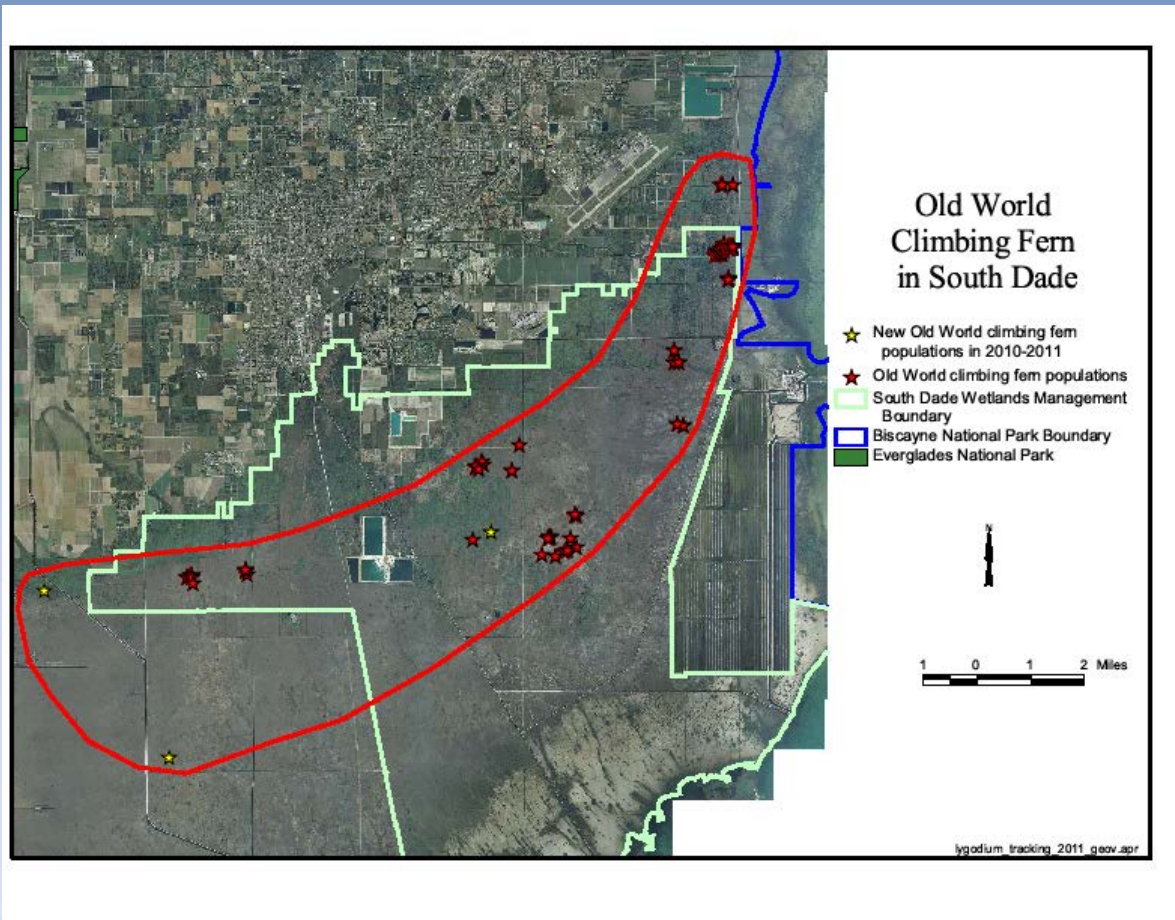
South Dade Wetlands

Brazilian pepper coverage:

Approx. 1,768 acres

Typical here in areas of past agricultural activities

Not Quite Digital Aerial Sketch Mapping



Lygodium

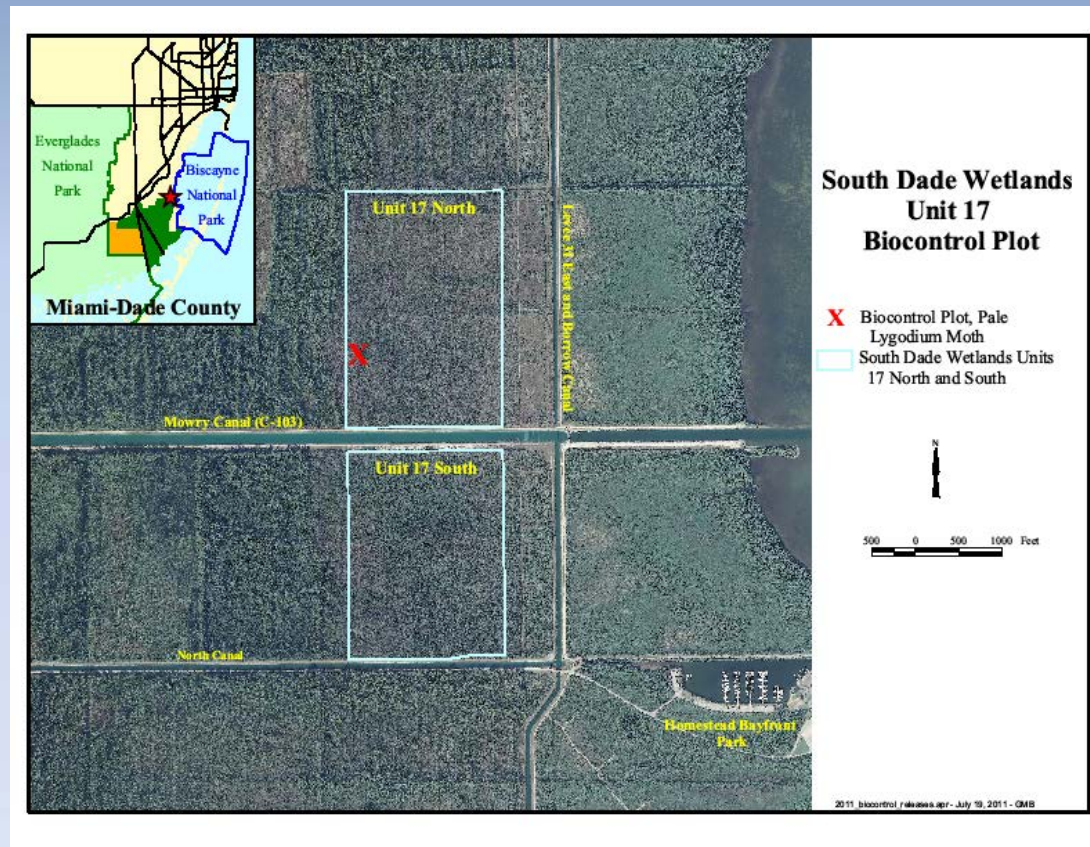
Known occurrences cover approximately 90 acres

Innovations and Successes

Lygodium bio-control on its way to South Dade Wetlands!

Big thanks to USDA-ARS Invasive Plant Research Lab!

Pale moth trials



Innovations and Successes



Volunteer Workday Program

Primary form of outreach

Engages mostly school-age kids

Kids earn community service hours for school

Various activities

So far this fiscal year:
1,039 volunteers!

Innovations & (hoped for) successes



Bring out the burn box!

Time to experiment:

Burning small areas with populations of specific fire-dependent species

Testing newly detected species' response to fire

Bio-mass, organics reduction

Innovations and Successes

“Score!!!”



Needs & Gaps

- Biologist solely devoted to wildlife issues
- Dedicated funding for invasive animal removals
- More reconnaissance – both in the air & on the ground
- Shoebutton ardisia bio-control in South Dade Wetlands
- Ability to better integrate prescribed fire with exotic control work

Questions?

E-mail me at: doziej@miamidade.gov

Thanks to all my colleagues whose pictures I used without asking.
You know who you are...