

Miami-Dade County's Preserves

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Miami-Dade County Park & Recreation Department
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...”
- EEL has acquired more than 21,000 acres to date; Parks has almost 5,200 acres of preserves.

FUNDING:

- EEL Acquisition Trust Fund and Management Trust Fund
- Various partners/grants through the years: State of Florida post-hurricane grant, Safe Neighborhood Parks bond, private donors, Save Our Rivers, SFWMD, CARL, Preservation 2000, Florida Forever, FCT, FFWCC, USF&WS, SAMP, DERM’s Wetlands Trust Fund and Tree Trust Fund



Invasive Species Program

Habitats:

Pine rockland
Rockland hammock
Scrubby flatwoods
Freshwater wetlands
Coastal wetlands



- Preserve sizes: 4 acres – several thousand acres
- Numerous management challenges
- Six field crews spread over 90 preserves
- Greatest labor expense goes toward treating exotic vegetation



Priority Plant Species

- **Priority Plants**

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*)

Umbrella tree (*Schefflera actinophylla*)

Air potato (*Dioscorea bulbifera*)

Sewer vine (*Paederia cruddasiana*)

Rosary pea (*Abrus precatorius*)

Jasmine (*Jasminum* spp.)

Exotic black mangrove (*Lumnitzera racemosa*)

Priority Plant Species

- **Newly Detected Plant Species**

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

A terrestrial orchid - *Eulophia graminea* - pinelands

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

Cudjoewood (*Bonellia macrocarpa*) – Matheson coastal berm

Staff vine (*Celastrus paniculatus*) – Matheson

Exotic persimmon (*Diospyros maritima*) - Matheson

Mickey Mouse plant (*Ochna serrulata*) – Matheson

Exotic black mangrove (*Lumnitzera racemosa*) - Matheson

Priority Animal Species

- **Priority Animals**

Burmese python

African rock python

Boa

Tegu

Nile monitor

Various iguanas

Cats

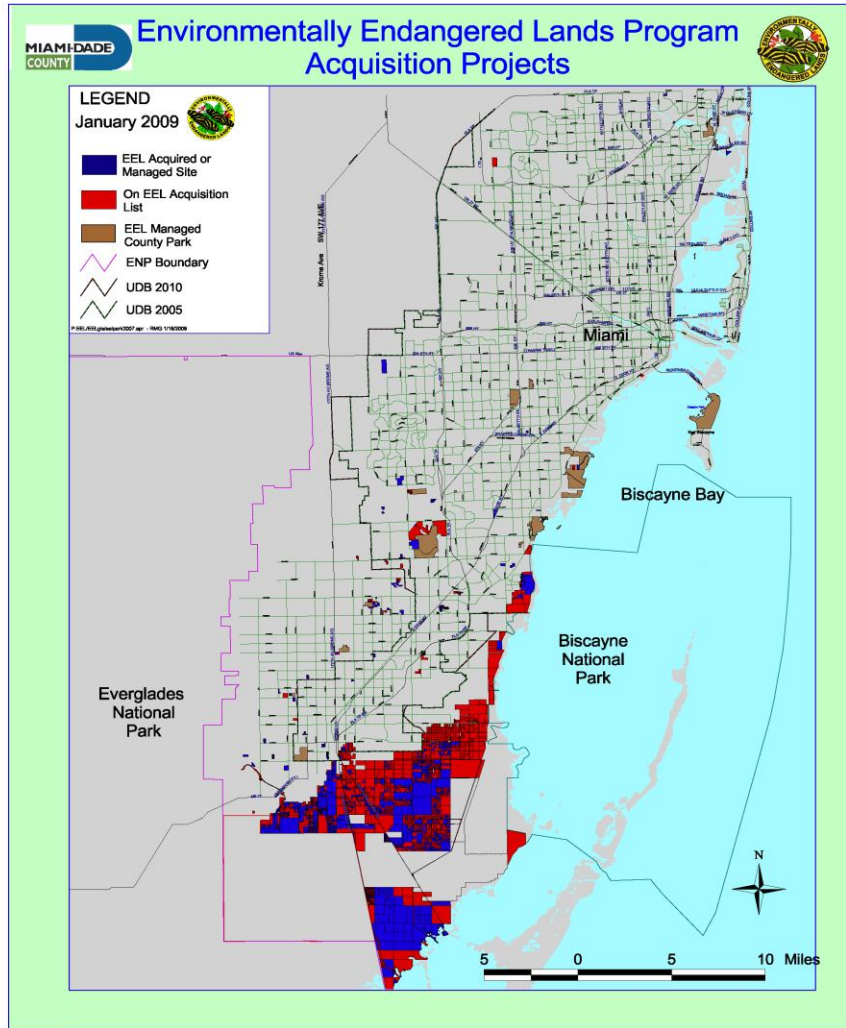


- **Newly Detected Animal Species**

Tegu

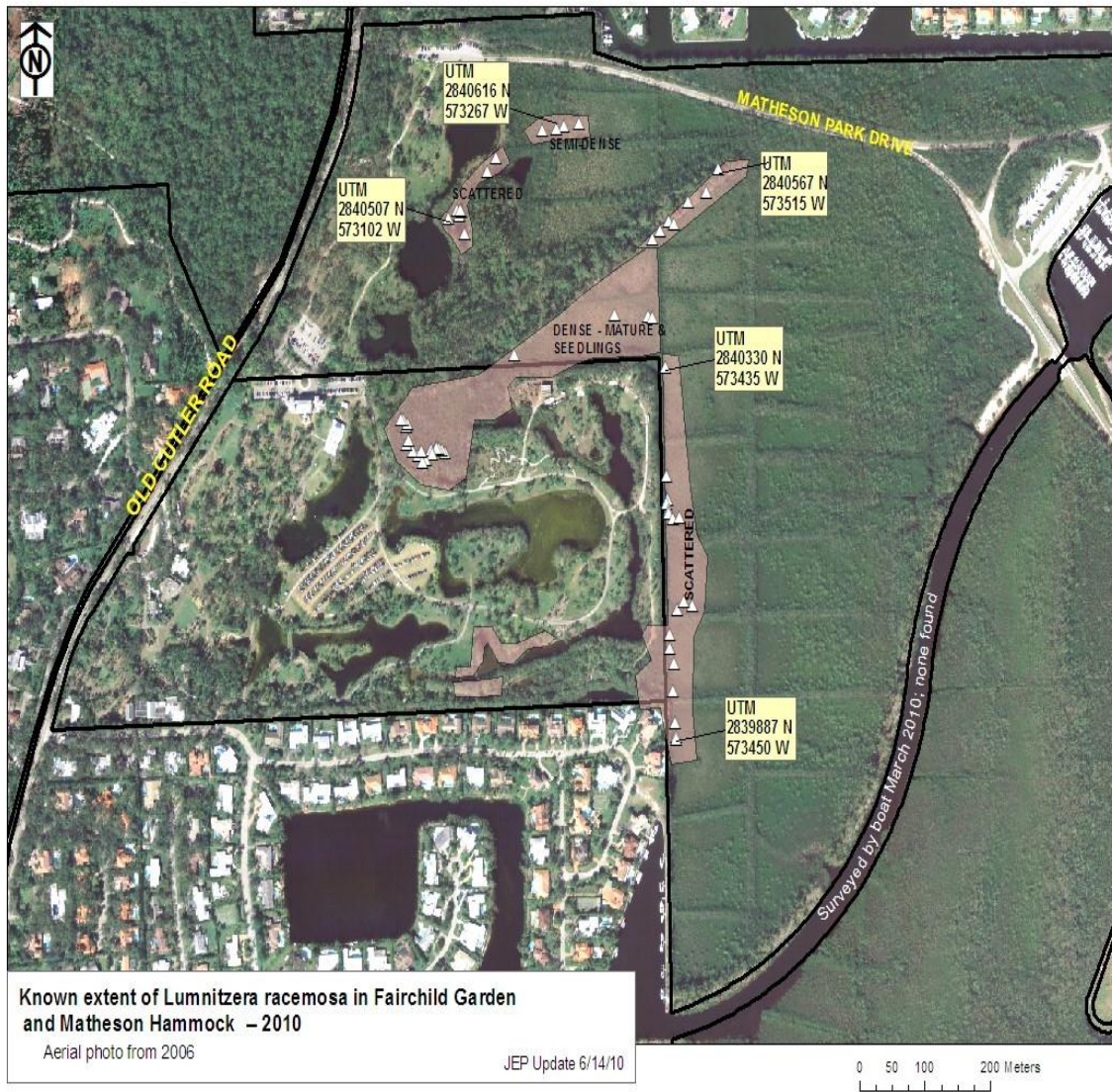
African rock python

Fiscal Year Treatments: Oct. 1st, 2009 – Sept. 30th, 2010



VEGETATION:

- Attempt to do work at all preserves each fiscal year - ongoing
- This fiscal year, have treated 1,980 acres at 63 different preserves (through June 2010)
- Final quarter, crews will concentrate on upland preserves (pinelands & hammocks) – likely another 500-600 acres



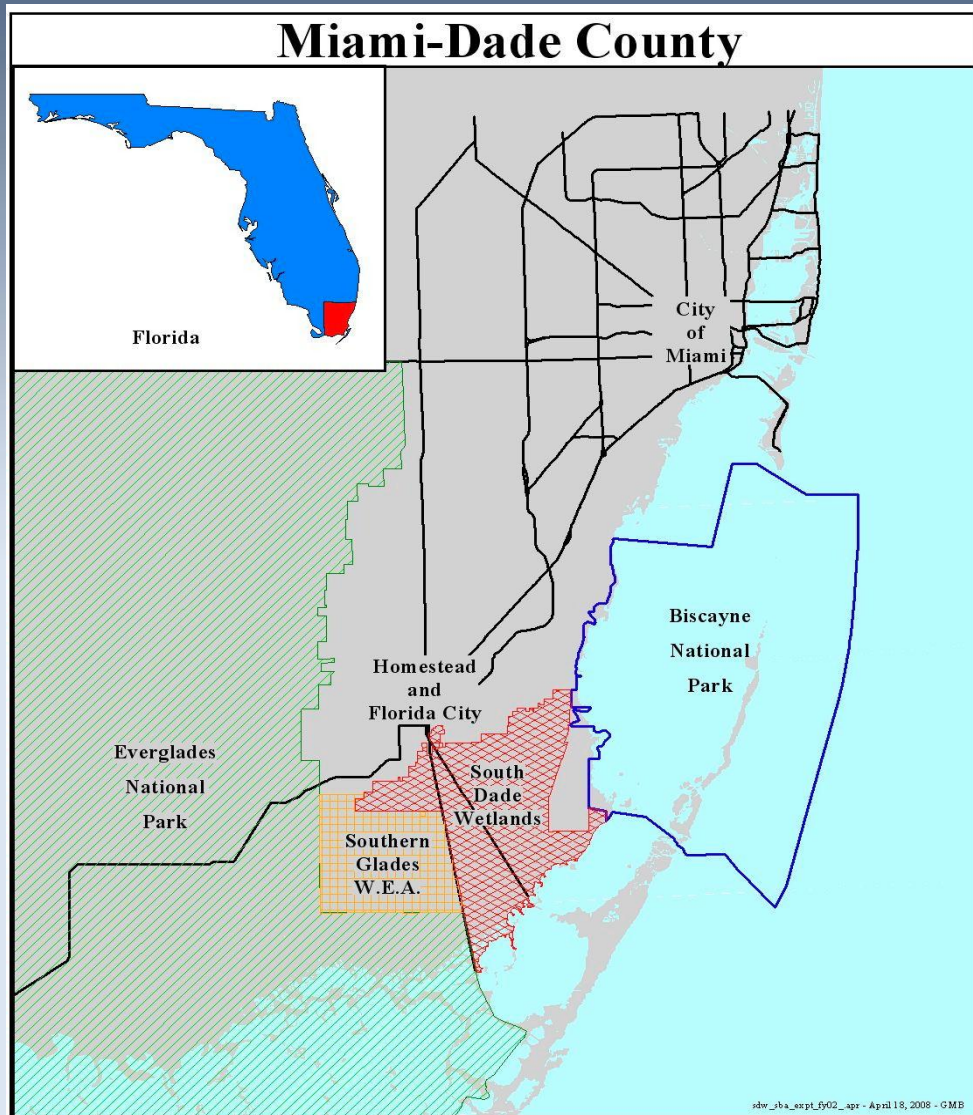
EDRR at Matheson Hammock Park

Targeted sp: *Lumnitzera racemosa*

Escaped cultivation at FTBG into adjacent mangrove habitat - discovered 2008

ECISMA partners searched, mapped, & are now treating

Funding: FFWCC grant & EEL

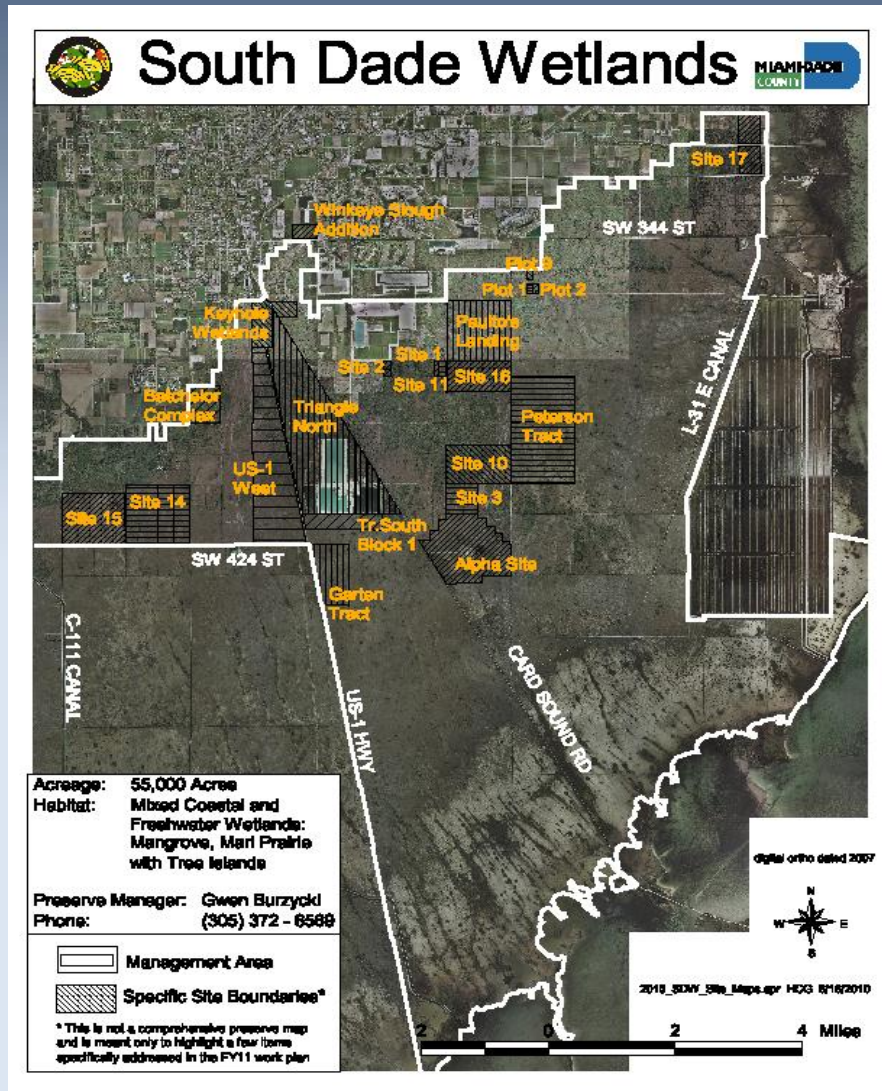


South Dade Wetlands

Total project area = approx.
55,000 acres, both freshwater
& coastal wetlands

To date, more than 18,000
acres acquired

Miami-Dade partners with
SFWMD on acquisition &
management



South Dade Wetlands

This fiscal year, treated:

Approx. 487 acres by Miami-Dade NAM crews

Approx. 417 acres by SFWMD crews, & still working

Priority was shoebutton ardisia and Lygodium



**Shoebuttan
ardisia
(*Ardisia elliptica*)**

Labor-intensive to
treat

Initial treatment can
cost \geq \$10,000/acre

Get it before it
gets you!

Fiscal Year Treatments: Oct. 1st, 2009 – Sept. 30, 2010



EDRR - African rock python

Known to be in vicinity of County's Tree Island Park, & Trail Glades Gun Range

Surveys conducted in January (ECISMA) & February (Miami-Dade & SFWMD)

Yikesssssssssssssssss!



African rock python

Captured Jan. 12, 2010

440 cm long (> 14 ft.)

59 cm girth (21 inches)

62.96 kg (138.8 lbs.)

Yikesssssssssssssssssss!



African rock python

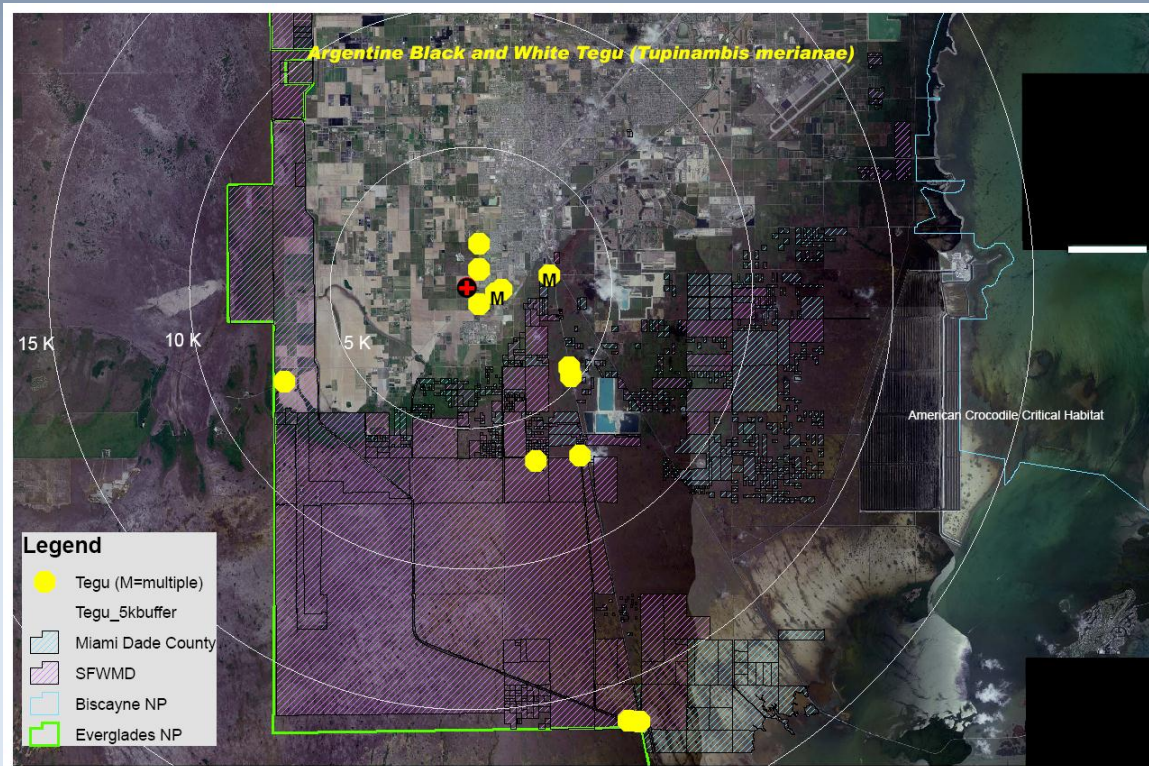
Captured Jan. 12, 2010

440 cm long (> 14 ft.)

59 cm girth (21 inches)

62.96 kg (138.8 lbs.)

Fiscal Year Treatments: Oct. 1st, 2009 – Sept. 30, 2010



EDRR - Tegus

Known to be in vicinity of County's South Dade Wetlands & Navy Wells Pineland Preserves

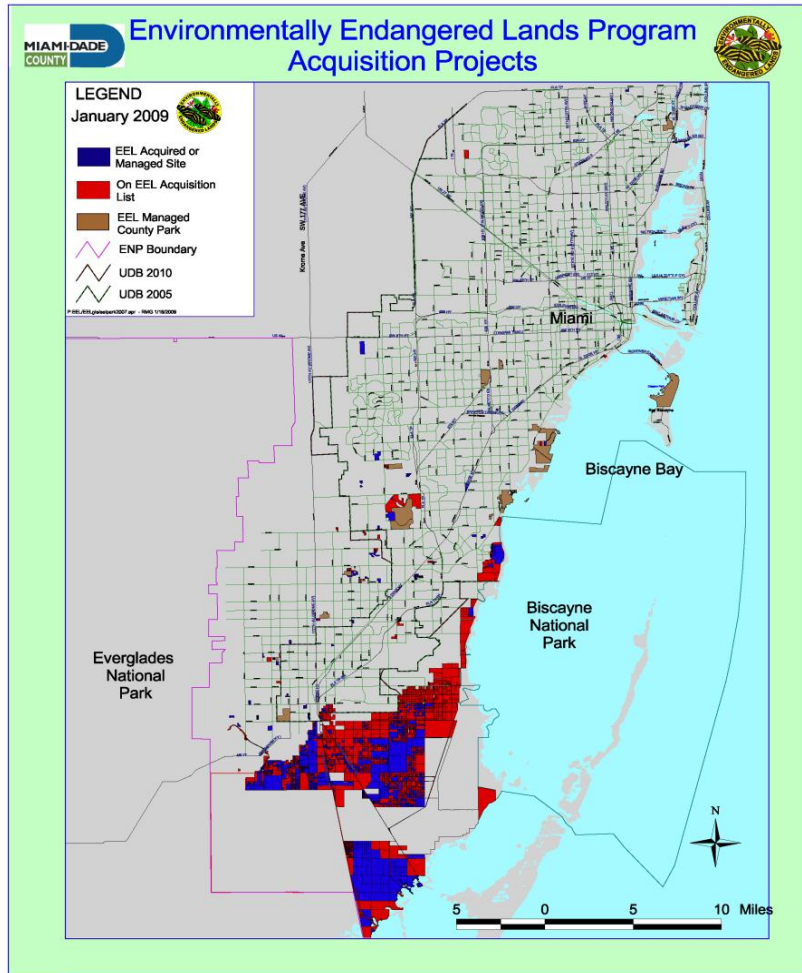
Ongoing trapping efforts with NPS, FFWCC, USGS, Miami-Dade, & researcher

2010 Everglades Invasive Species Summit Tegus, and more...



EVERGLADES CISMA

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



Ongoing...

Exotic vegetation control on all preserves with funding

Continuation of tegu trapping efforts, African rock python surveys, working on an Iguana Management Plan

Monitoring

- Routine inspections by Preserve Managers & observations by crews

On the lookout for new occurrences, both plant & animal

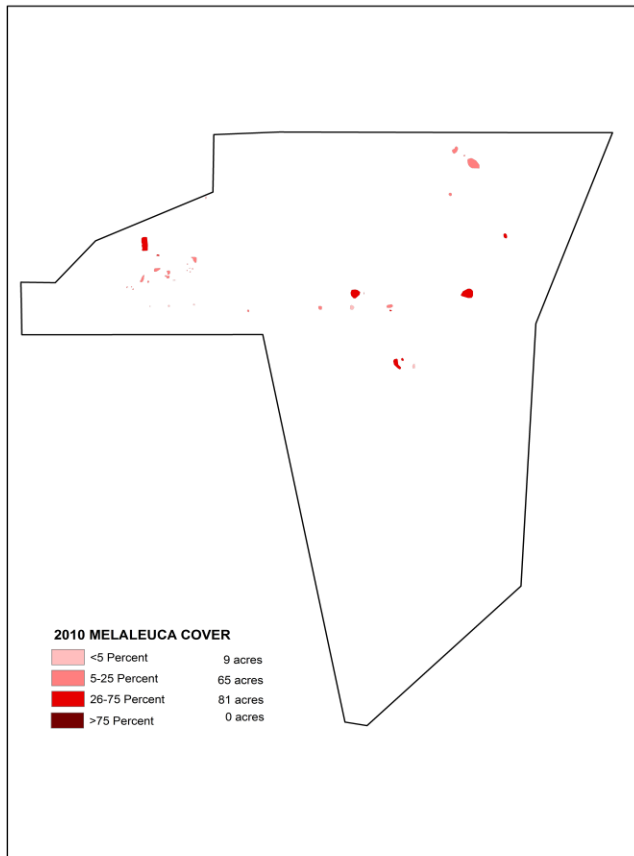
- Partnership with Fairchild Tropical Botanic Garden

Ongoing research projects:

Adaptive Management – Fire in Pine Rocklands

Burning, Scraping, & Native Seed Sowing as a Restoration Tool in a Disturbed Pine Rockland

Digital Aerial Sketch Mapping



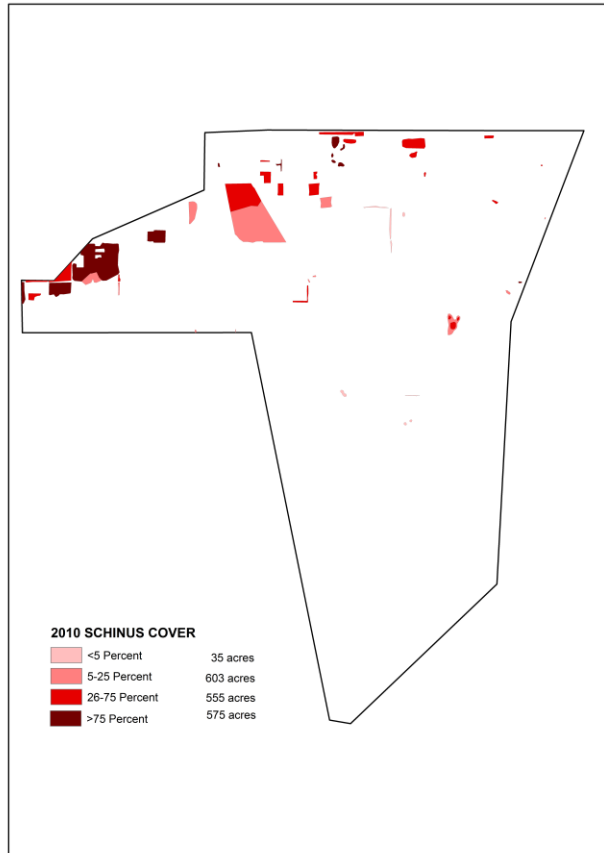
South Dade Wetlands

Melaleuca coverage:

Approx. 155 acres

Success story!

Digital Aerial Sketch Mapping



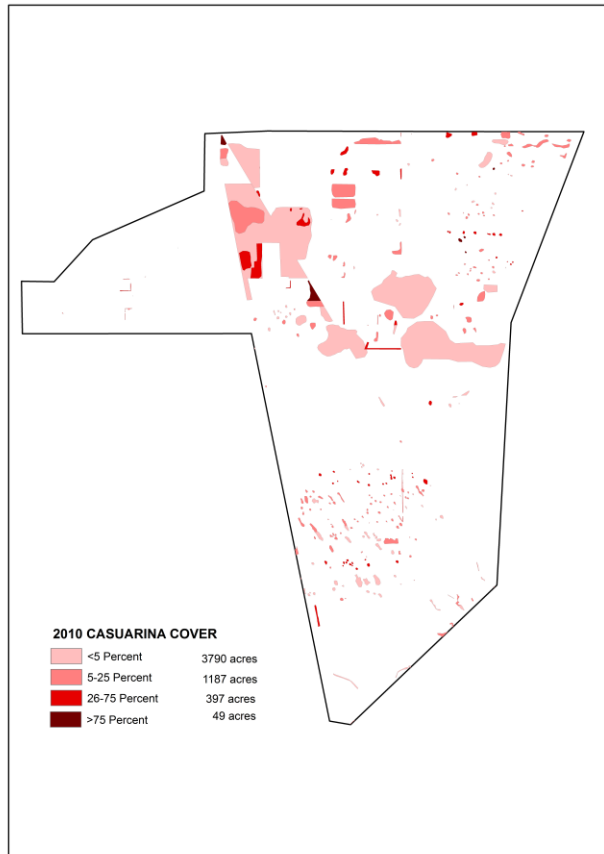
South Dade Wetlands

Brazilian pepper coverage:

Approx. 1,768 acres

Typical here in areas of past agricultural activities

Digital Aerial Sketch Mapping



South Dade Wetlands

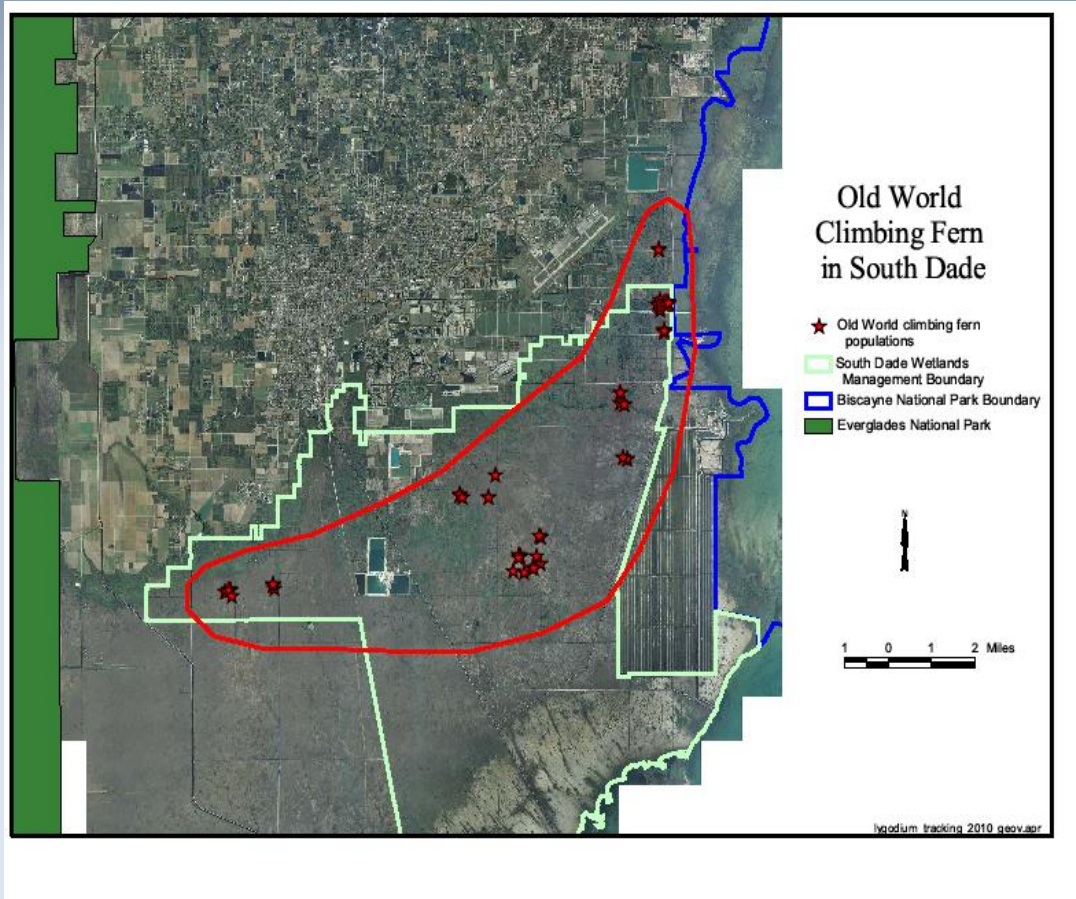
Australian pine coverage:

Approx. 5,423 acres

Majority (70 %) estimated to be at density of < 5 %

Digital Aerial Sketch Mapping

(well, not exactly)



South Dade Wetlands

Old world climbing fern

Total extent & acreage undetermined, but approx. 20 acres known

Widely scattered occurrences

Innovations and Successes

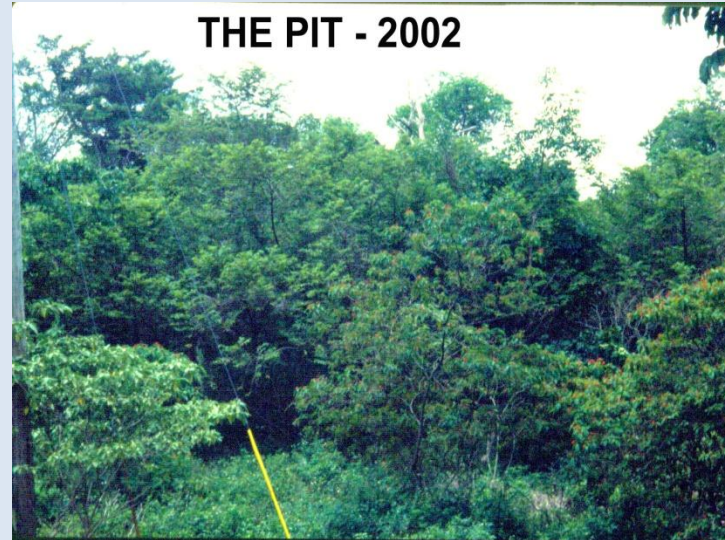
THE PIT 1992



Lots of experience

- Frontline expertise
- NAM is working on a treatment manual

THE PIT - 2002



Innovations and Successes



Volunteer Workday Program

Outreach

Engage mostly school-age kids

Various activities

Earn community service hours for school

So far this fiscal year:
1,396 volunteers!

Needs & Gaps

- Biologist solely devoted to wildlife issues
- More reconnaissance – both in the air & on the ground
- Lygodium bio-control in South Dade Wetlands
- Research related to characteristics that make a habitat more subject to invasion
- Research related to what we can do about modifying those characteristics

Questions?

Invasive Species Programs

- {Task Name-- e.g., Removal of Aquatic Growth Program}
- Description
 - {e.g., Removal of floating and submerged weeds using chemical, mechanical and biological controls}
- Objective
 - {e.g., Keep federal waterways free of aquatic vegetation for navigation, flood control and environmental stewardship}
- Partners
 - {e.g., SFWMD, FDEP}
- Start/End Dates
 - {e.g. Jan 1, 1901 – to date/on-going}
- Status
 - {choose one of following: assigned, unassigned, removed, postponed, completed or other}
- Funding (FY): {indicate current funding level for this task}
- Annual Summary
 - {total acres of plants treated or # of animals removed}

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