

# Florida Fish & Wildlife Conservation Commission

Marsha Ward

District Biologist

Everglades and Francis S. Taylor WMAs

Jenny Ketterlin

Lead Area Biologist

Holey Land and Rotenberger WMAs

Dan Castillo

Biological Scientist III

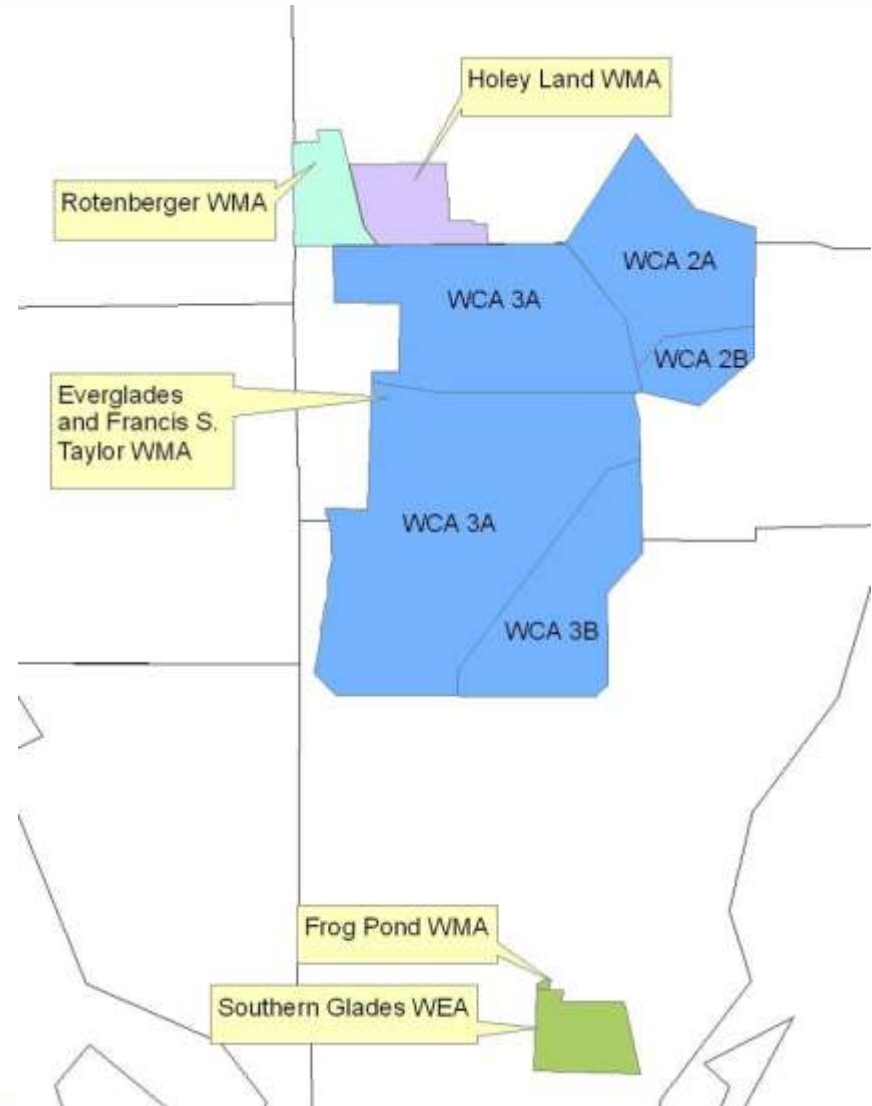
Southern Glades WEA and Frog Pond WMA



# 2008 Everglades Invasive Species Summit



- Everglades and Francis S. Taylor WMA  
671,831 acres
- Rotenberger WMA  
28,760 acres
- Holey Land WMA  
35,350 acres
- Southern Glades Wildlife and Environmental Area  
30,080 acres
- Frog Pond WMA  
470 acres



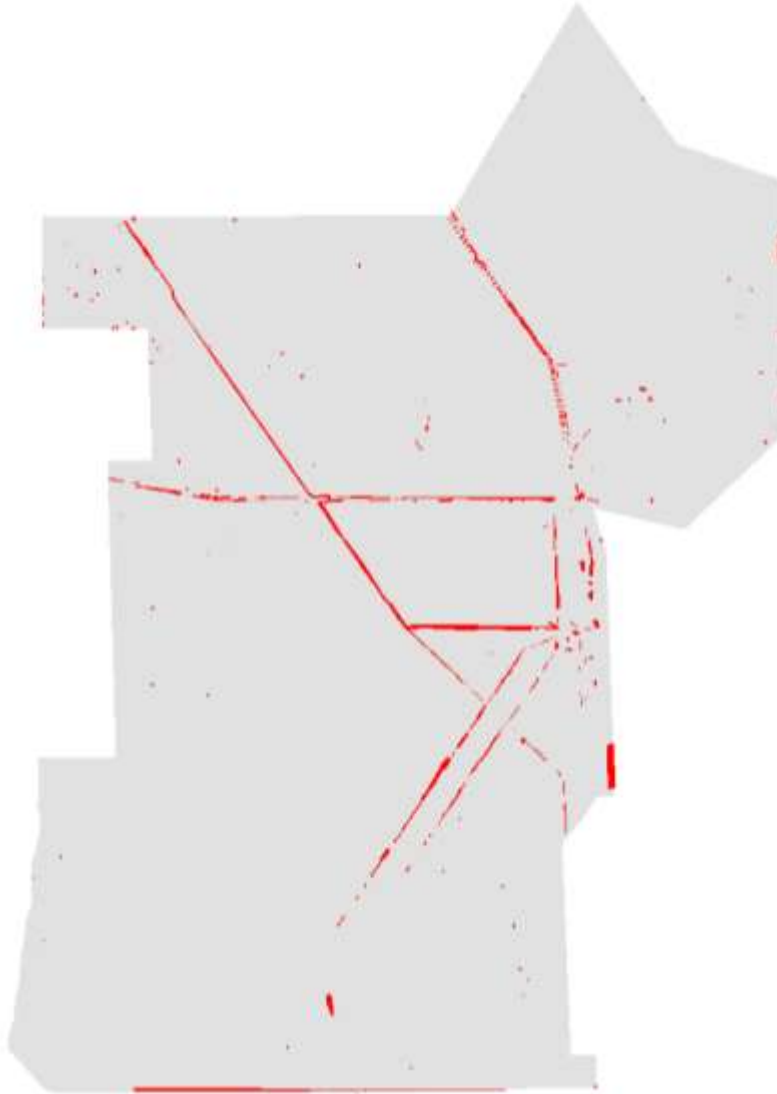
# Invasive Species Programs

## Exotic Plant Control

- Description
  - Chemical and mechanical treatment of invasive vegetation utilizing private contractors in Everglades, Holey Land, and Rotenberger WMAs
- Objective
  - To treat tree islands, spoil mounds, and levees for invasive plants and bring all affected areas into a maintenance phase of the program
- Partners
  - SFWMD
- Start/End Dates
  - Contracted work through FWC has been going on in these areas since 2003. Prior to this, treatment was carried out in-house.
- Status
  - Ongoing but nearing the maintenance phase for most natural areas



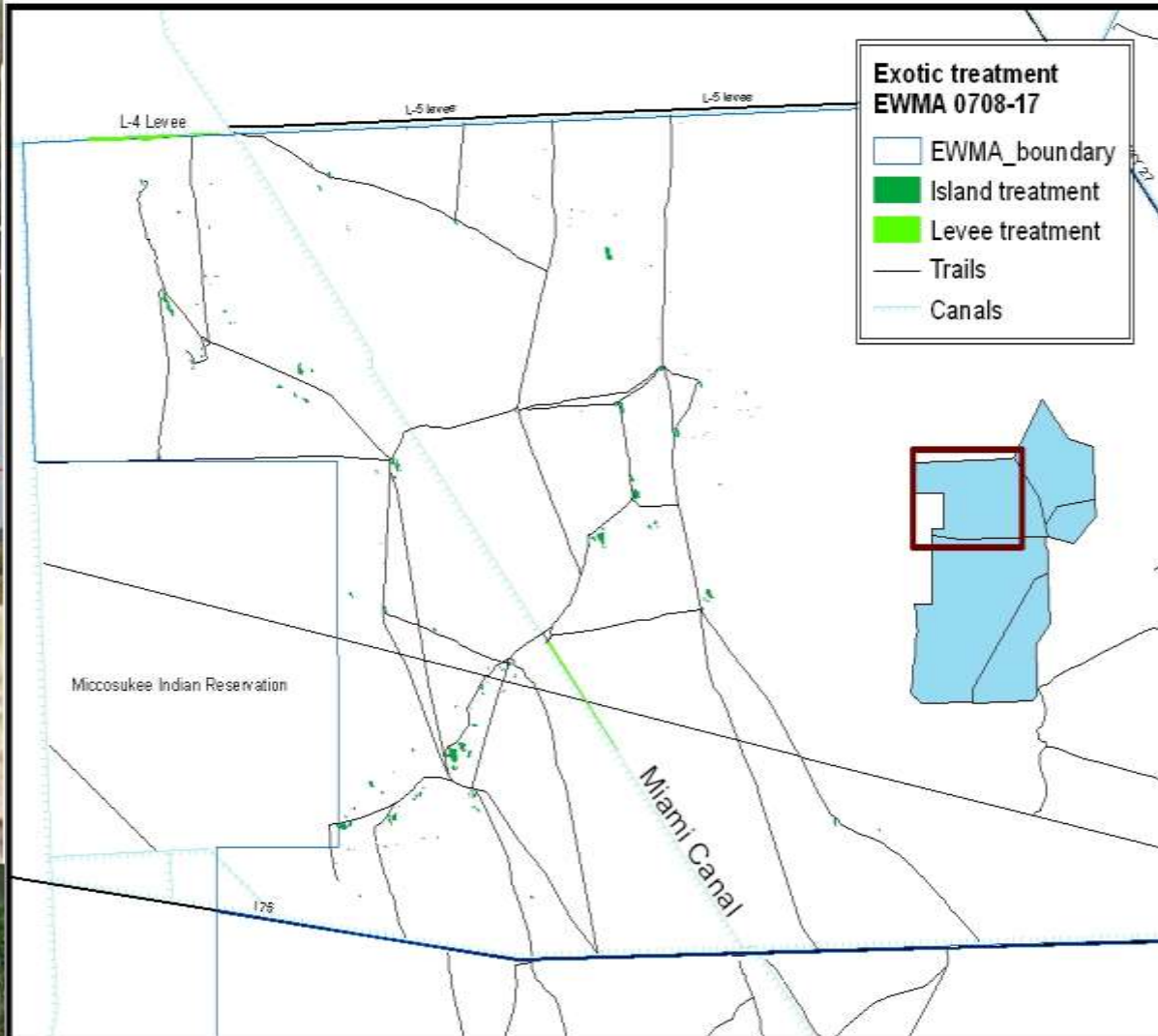
# Digital Aerial Sketch Mapping Everglades and Francis S. Taylor WMA



## Brazilian Pepper

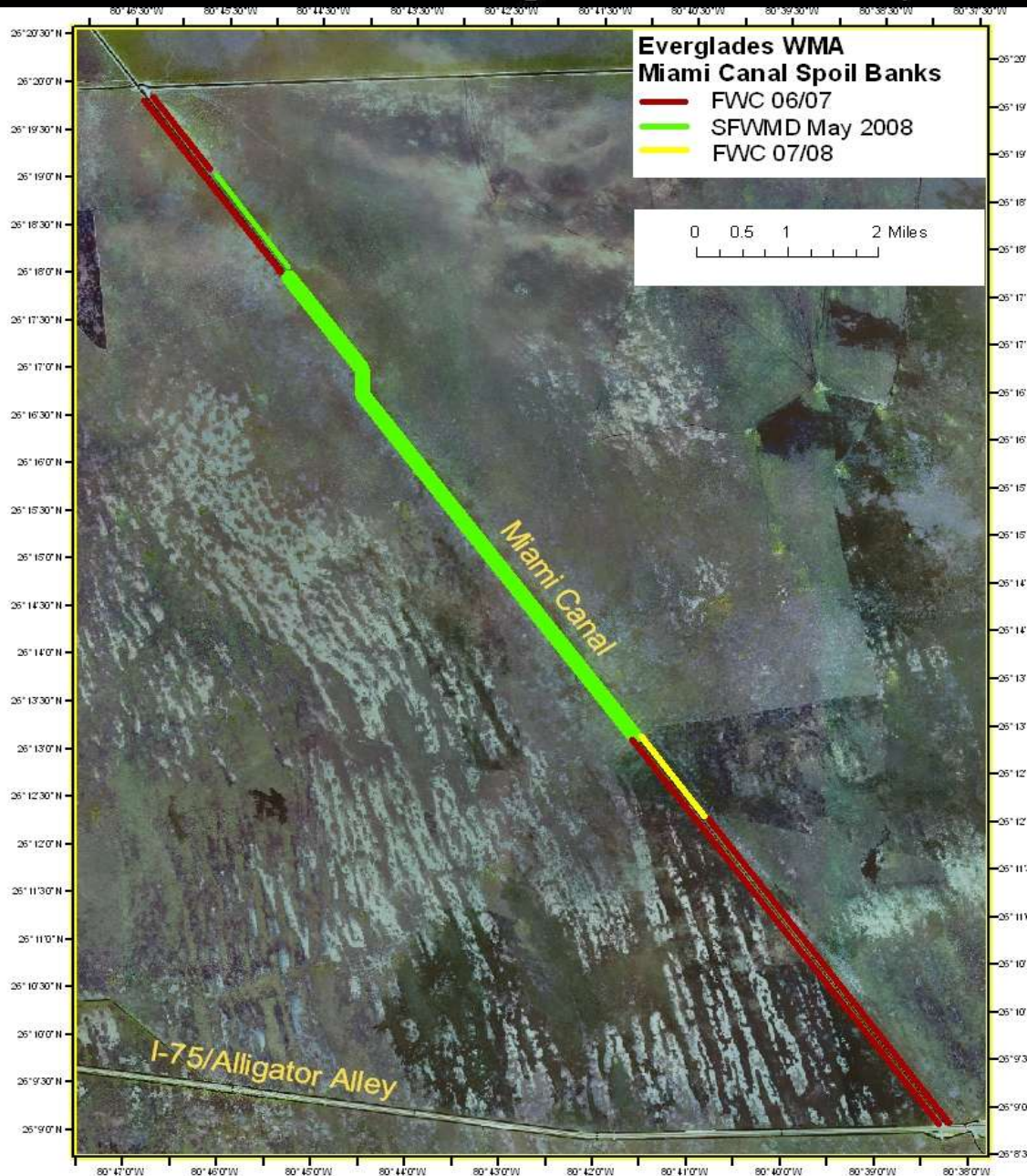
<u>Coverage Class</u>	<u>Acres</u>
High	1269
Medium	3555
Low	724
<b>Total</b>	<b>5548</b>

# FY 07/08 Treatment Everglades & Francis S. Taylor WMA



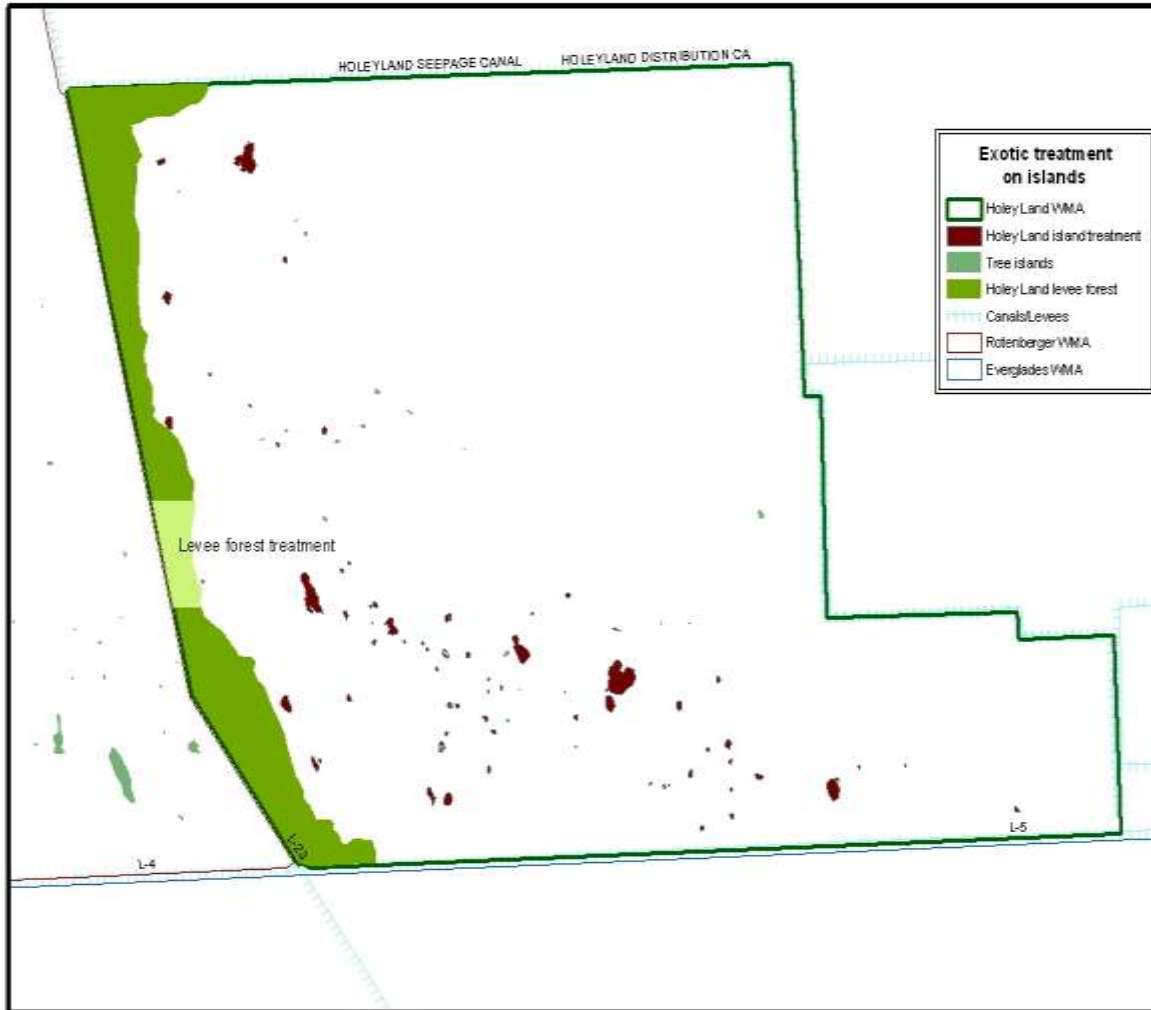
- Total spent = \$49,907.00 at \$143.00 per acre
- 252 acres on tree islands
- 70 acres off of the L-4 levee and 27 acres along Miami Canal spoil mounds

# 2008 Everglades Invasive Species Summit



Coordinated treatment of entirety of Miami Canal Spoil Banks in WCA 3A north of I-75 with SFWMD

# FY 07/08 Treatment Holey Land WMA

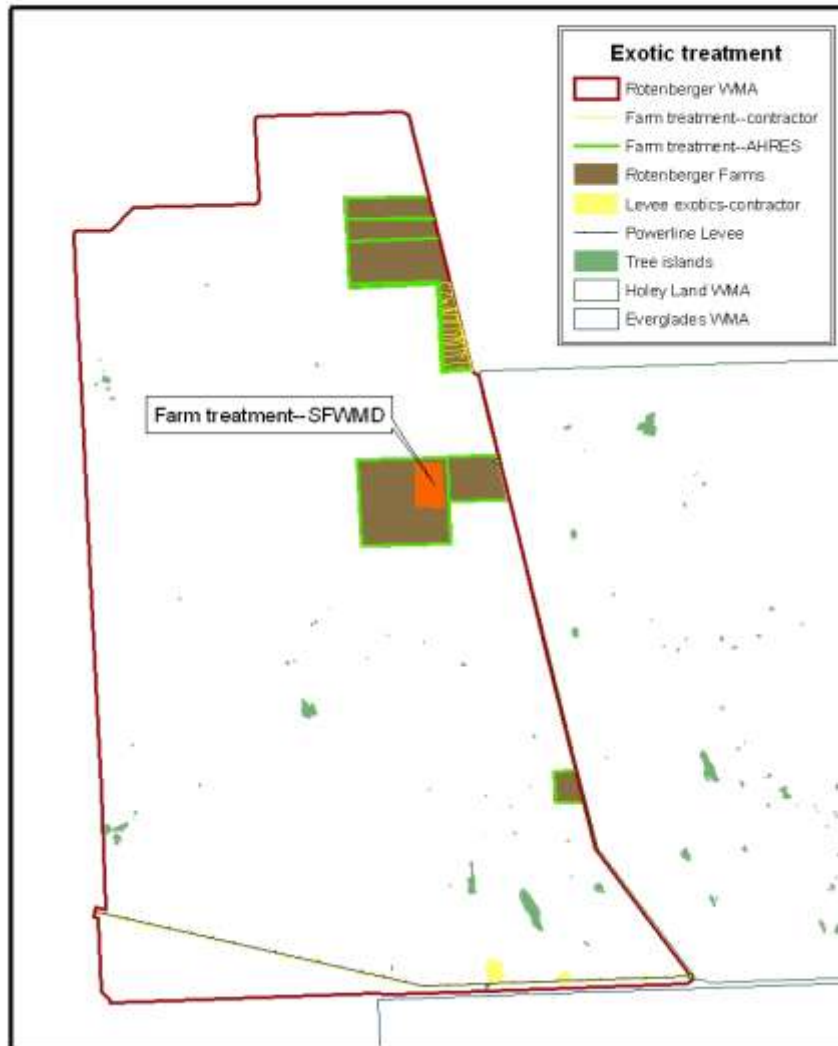


- Total spent = \$58,080 at \$165 per acre
- 200 acres on tree islands
- 152 acres off of western levee

# Holey Land levee treatment



# FY 07/08 Treatment Rotenberger WMA



- Total spent = \$30,000 at \$104 per acre
- 172 acres on Powerline levee
- 117 acres on berms of abandoned farms
- Additional \$8,000 spent on aerial treatment of all perimeter levees of farms for a total of 200 acres through FWC Aquatic Habitat Restoration and Enhancement Subsection (AHRES)
- Additional 300 acres aerially treated by SFWMD contractor

# 2008 aerial treatment—Rotenberger May 5, 2008 vs. June 13, 2008



## Planned treatment for 08/09

- Everglades—retreat islands and Miami Canal spoil mounds where necessary and initiate new treatment off of L-4 and L-5 levees = ~\$95,000
- Holey Land—retreat necessary islands and continue treatment off of levees = \$90,000
- Rotenberger
  - Treat all tree islands and initiate new treatment off of levees = \$60,000
  - Treat remaining exotics in abandoned farm areas and initiate restoration project through AHRES program to push in levees and fill in canals = \$500,000



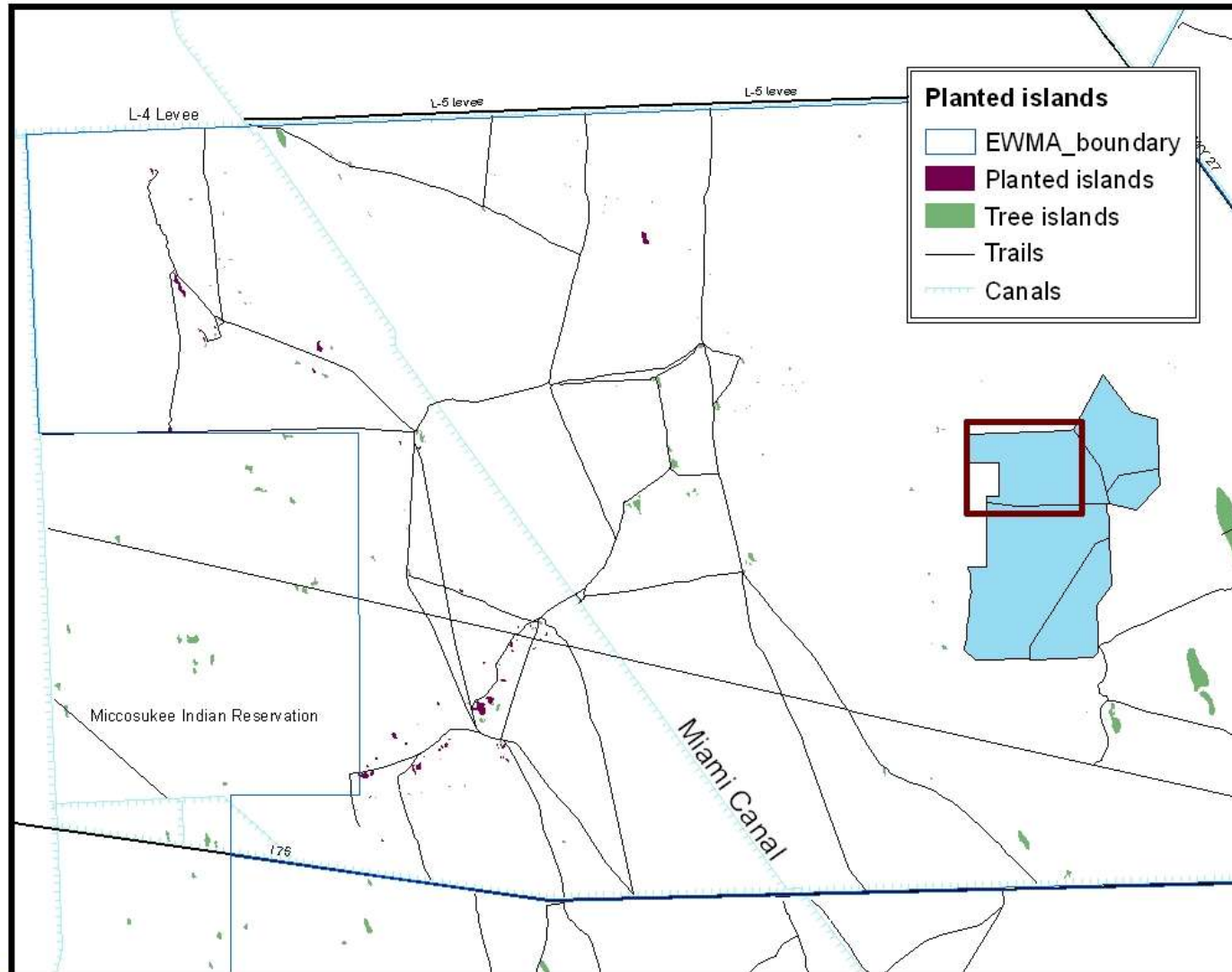
# Invasive Species Programs

## Native tree planting and maintenance

- Description
  - Two separate contracts for planting native trees on islands cleared of Brazilian pepper and maintaining trees planted in previous years
- Objective
  - Restoring islands degraded by fire, flooding, and invasion of Brazilian pepper with native trees and shrubs
- Start/End Dates
  - Started by Game and Fish Commission employees as early as the 1970s with a drastic increase in planting started in early 2000s
- Status
  - Ongoing, with the majority of cleared islands in WCA 3A, north of Alligator Alley and west of the Miami Canal having been planted
- Annual summary
  - 1,318 trees and shrubs planted on 12 islands for a total cost of \$40,000 (\$3,000 per 1,000 trees)
  - 16,984 trees and shrubs maintained on 43 islands for a total cost of \$79,974.40 (includes two islands in Rotenberger)
- FY 08/09 = Approximately \$80,000 in planting in Everglades and \$130,000 in maintenance for Everglades and Rotenberger



# Planted islands



# Planting 2008



# Invasive Species Programs

## ***Lygodium microphyllum* survey and modeling**

- Description
  - Surveying 20 tree islands in WCA 3A south of I-75 in order to test a predictive model based on a number of previous *Lygodium* and hydrological surveys
  - Performed by Florida Atlantic University
- Objective
  - Test predictive model to determine its usefulness in predicting likely *Lygodium* infestations on the numerous tree islands in WCA 3A South
  - When *Lygodium* is located, the locations are given to SFWMD for treatment
- Partners
  - SFWMD
- Start/End Dates
  - First survey performed in 2002, no end in sight
- Status
  - Current survey is complete but final report is still out—initial results show that more data is likely needed
- Annual Summary
  - *Lygodium* on one out of twenty islands
  - \$158,896 for FY 07/08, approximately \$150,000 budgeted for FT 08/09



# Other Invasive Species Programs

## Swamp hen eradication

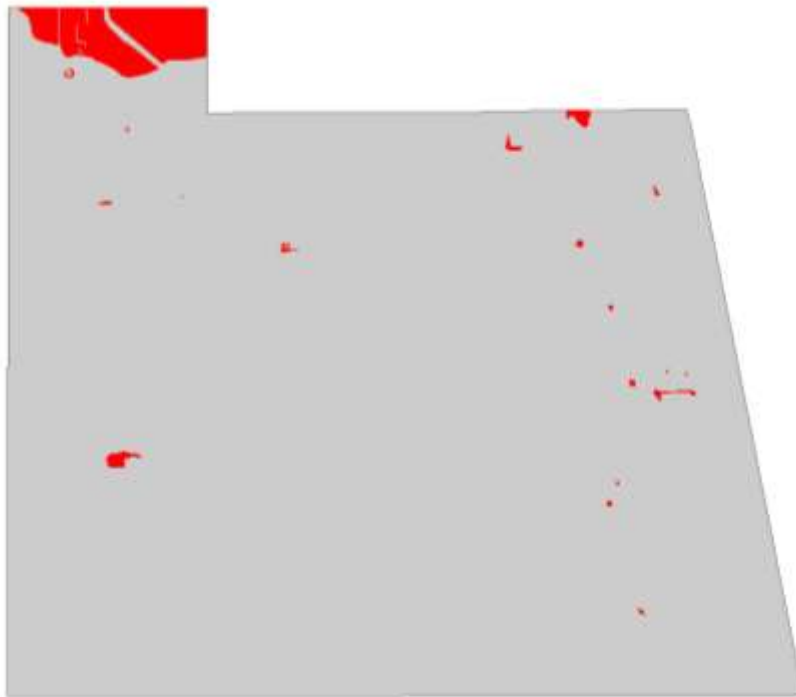
- 737 removed from WCA 2B to date, more after Thursday
- Analyses being performed on blood samples and stomach contents

## Prescribed burning

- Goal of 34,000 acres of prescribed burning per year in Everglades, Holey Land and Rotenberger
- Goals include reducing fuel loads in order to avoid catastrophic wildfires that can destroy tree islands and aid in spread of exotics
- Teaming up with SFWMD more often to achieve common goals and burn in areas that are usually too difficult to burn in

# Digital Aerial Sketch Mapping

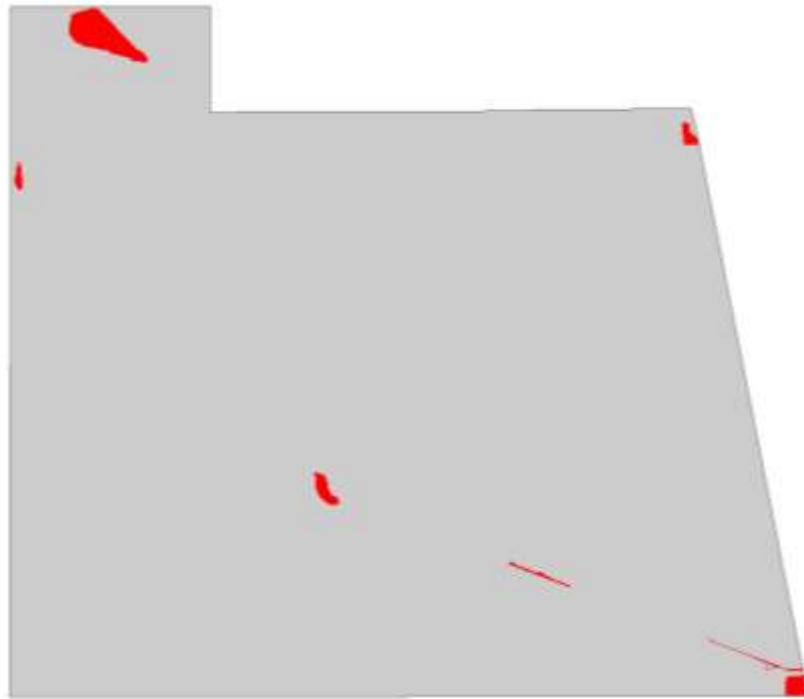
## Southern Glades WEA



### Brazilian Pepper

<u>Coverage Class</u>	<u>Acres</u>
High	376
Medium	287
Low	
<b>Total</b>	<b>664</b>

# Digital Aerial Sketch Mapping



## Australian Pine

<u>Coverage Class</u>	<u>Acres</u>
High	
Medium	71
Low	515
<b>Total</b>	<b>586</b>

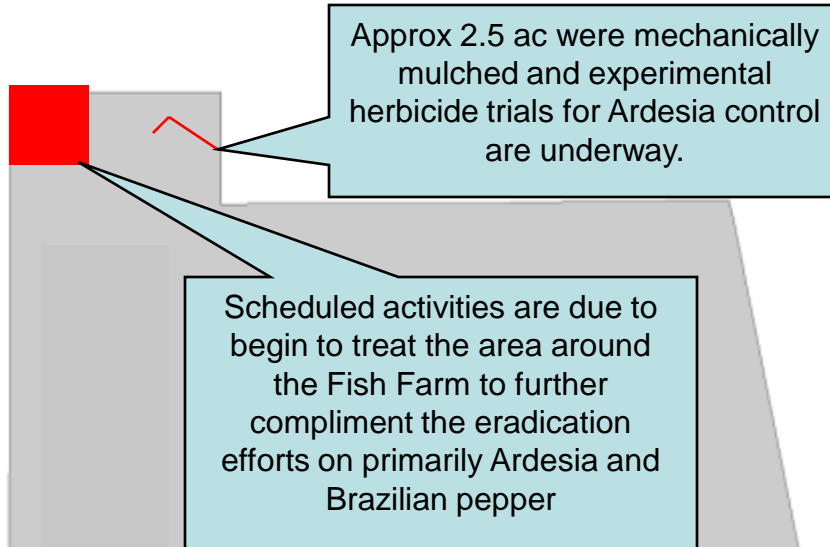
# Digital Aerial Sketch Mapping



## Burma Reed

<u>Coverage Class</u>	<u>Acres</u>
High	
Medium	84
Low	
<hr/> Total	<hr/> 84

# Digital Aerial Sketch Mapping



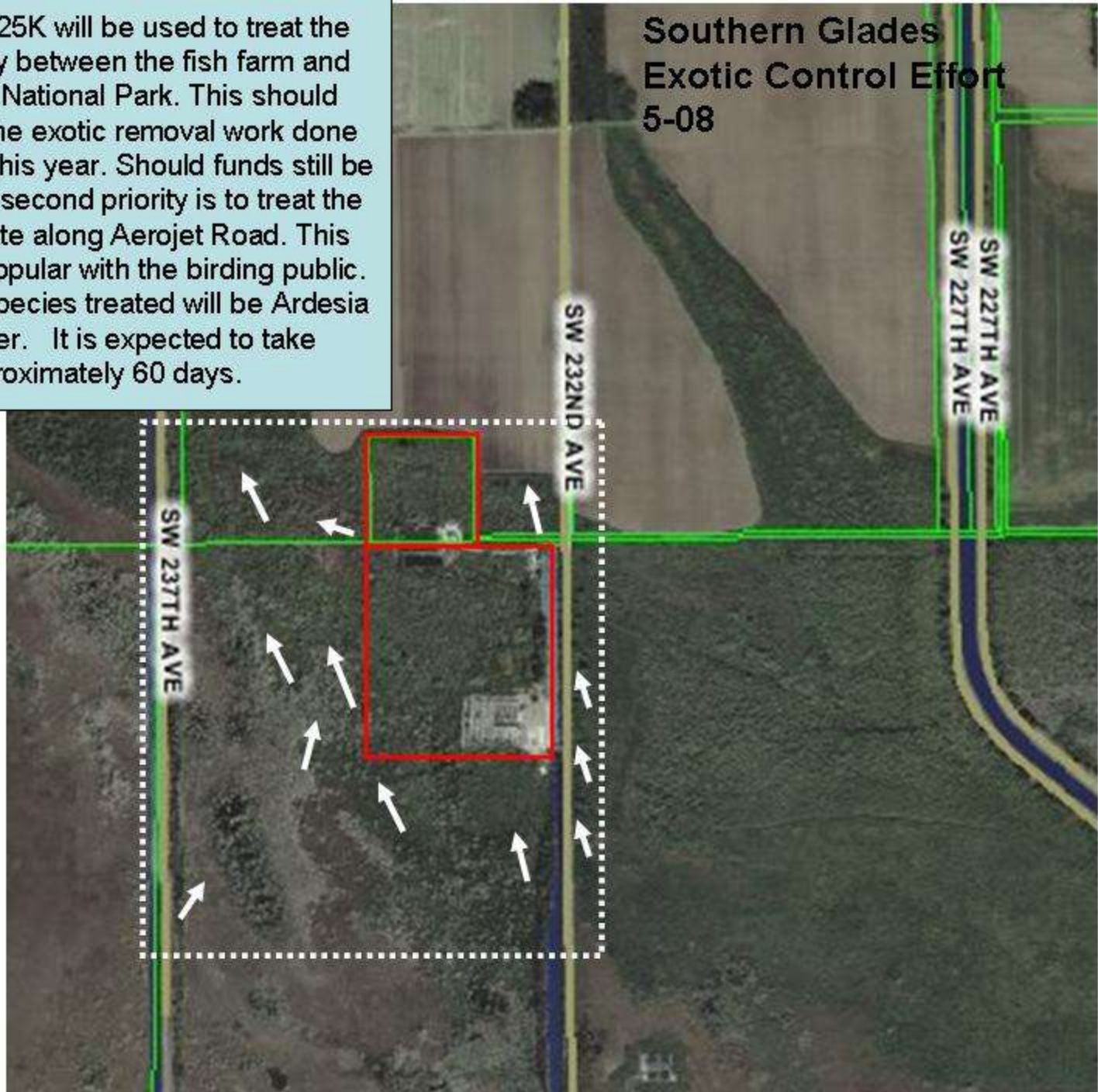
These have been the primary SFWMD treatment activities. Also note that the primary invasive plant issue in Southern Glades seems to be *Ardesia*—much more difficult to control than Brazilian pepper.

FWC staff continue to do in-house exotics surveying and treatment in Southern Glades. In addition to *Ardesia* and Brazilian pepper, guava is also frequently spotted by FWC staff.



## Southern Glades Exotic Control Effort 5-08

P-502 for \$125K will be used to treat the area primarily between the fish farm and Everglades National Park. This should compliment the exotic removal work done by the lessee this year. Should funds still be available, the second priority is to treat the restoration site along Aerojet Road. This area is very popular with the birding public. The primary species treated will be Ardesia and Pepper. It is expected to take approximately 60 days.



# Monitoring

- Tracking treatment and native tree planting success in Access and ArcMap databases
- Tracking prescribed burns and wildfires in a ArcMap database
- Cattail surveys in Holey Land and Rotenberger WMAs
- Camera trapping on tree islands in various stages of restoration
- Plan to begin mapping torpedo grass expansion into areas due to ATV damage



# Cattail monitoring in Holey Land

Year	Estimated % coverage
2004	27.0
2005	22.2
2006	22.8
2007	19.4
2008	15.6



# Questions?

