

# Everglades National Park

Hillary Cooley

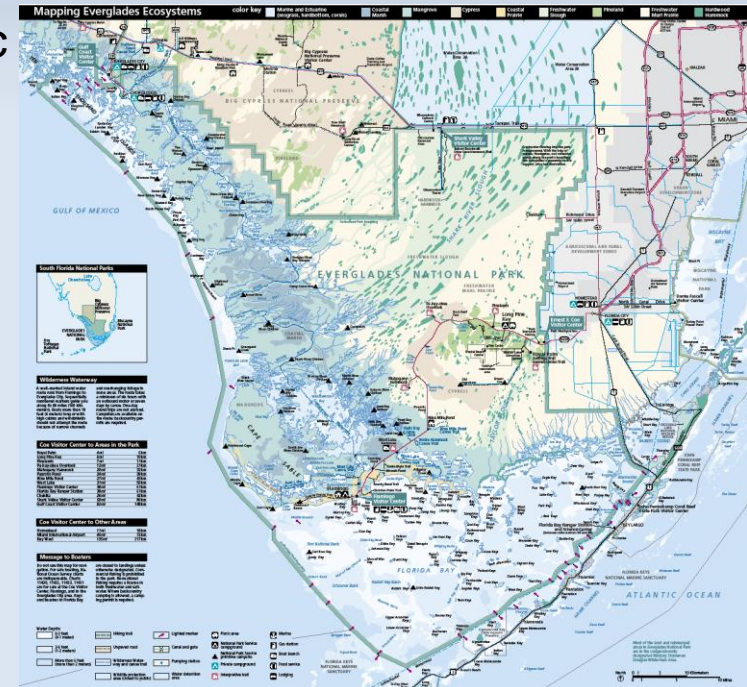
Everglades National Park



# Invasive Species Programs

## Everglades National Park exotic vegetation management program

- Description
  - Manage and control invasive exotic plants within Everglades N.P.
- Objective
  - Reduce the presence and spread of exotic vegetation and protect park resources.
- Partners
  - FFWC, SFWMD, ACOE, SAMP/DERM,
  - EPMT, NPS-SFNRC/Fire, ECISMA/BASF
  - and others
- Start/End Dates
  - Park established 1947/on-going
  - Exotic vegetation started ~1970's
- Status
  - On-going





# Priority Plant Species

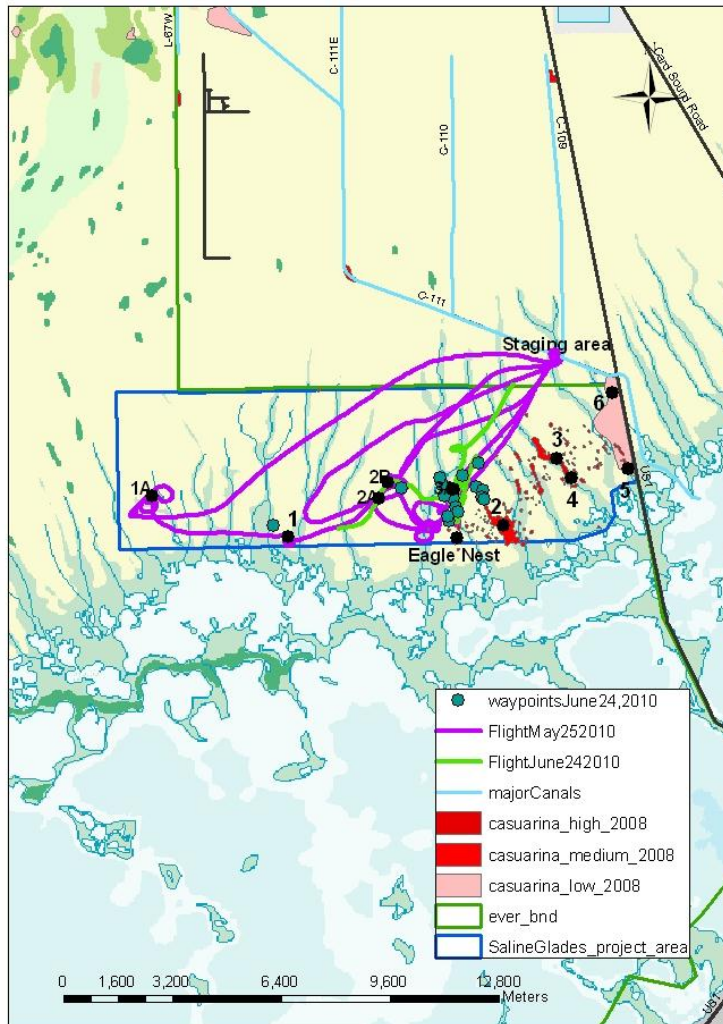
- **Priority Plants**
  - All FLEPPC 2007 category I and II  
(Top *Melaleuca quinquenervia*, *Casuarina equisetifolis*, *Lygodium microphyllum*, *Schinus terebinthifolius*, *Thespesia populnea*, *Colubrina asiatica*, *Syngonium podophyllum*, *Epipremnum pinnatum*)
- **Newly Detected Plant Species in or close to park**  
In- None known?

## Close to the Park

- *Mikania micrantha* (bittervine, Chinese creeper)- Redlands
- *Luziola subiterga* (tropical American water grass)- 8.5 SQM
- *Rotala rotundifolia* (aquarium plant)- L-29
- *Polygonum pennsylvanicum* (Pennsylvania smartweed)-Frog pond

# Fiscal Year Treatments: 2009-2010

## Eastern Saline Glades



Hillary Cooley/July 1, 2010/NAD 83

### Completed

1. EVER (2,170 acres)
2. Spot Spray (~10,000 gross ~200 canopy)

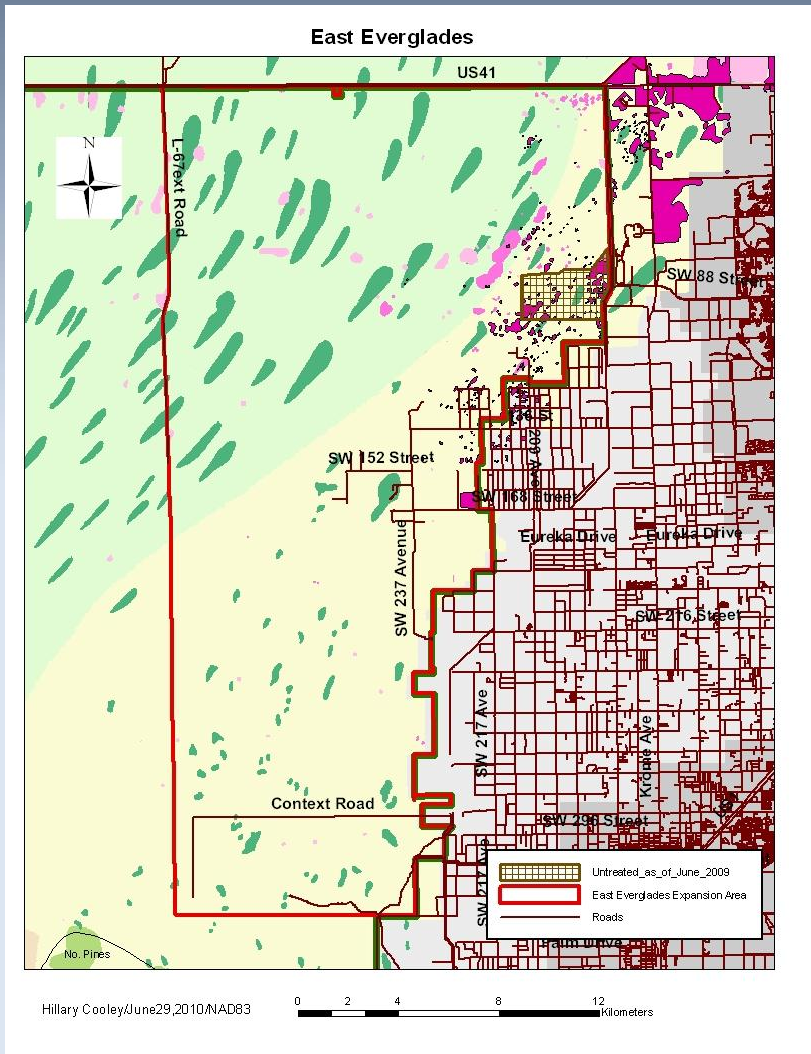
### On going

3. Tamiami Trail-exotic vegetation treatment (~52 acres)
4. West of L-67-In-house (~30,000 acres)
5. Hazard fuel-In-house-Retreatment (118 acres)
6. SE Saline glades-Australian pine (~7,000 gross acres ~ 300 canopy acres)
7. General In-house projects

### Planned

8. Hazard fuel (333 acres)
9. EPMT-Retreatment (~7,000 acres)
10. BAR-Mitchells Hammock (320 acres)

# Planned Treatments: FY2011



1. EPMT- Re-treatment (~500 acres)
2. SAMP - Initial treatment (~1,000 acres)
3. DERM/Miami-Dade-Initial treatment-Dade (~1,000 acres)
4. In-house projects

# Monitoring

- EPMT plots and Fire Effects plots
- Helicopter mapping
- ECISMA-wide Digital Aerial Sketch-mapping (DASM)

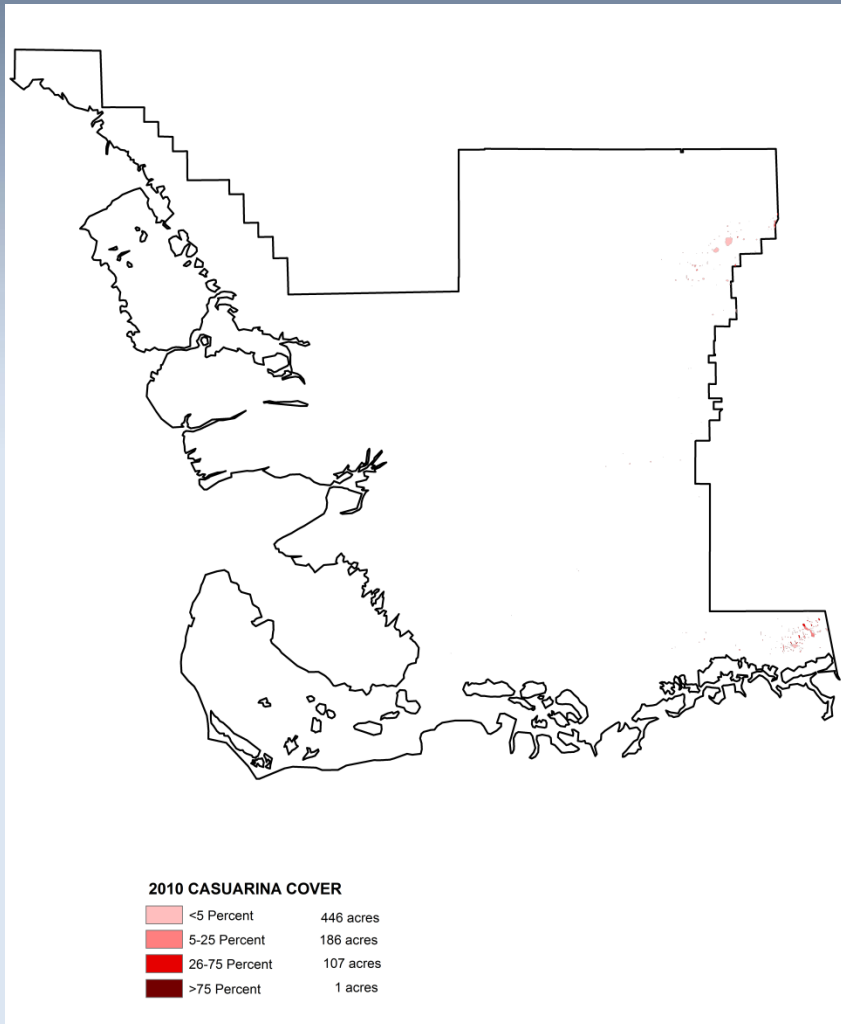
-Hope to improve

Lygodium/Fire monitoring



# Digital Aerial Sketch Mapping

Everglades National Park

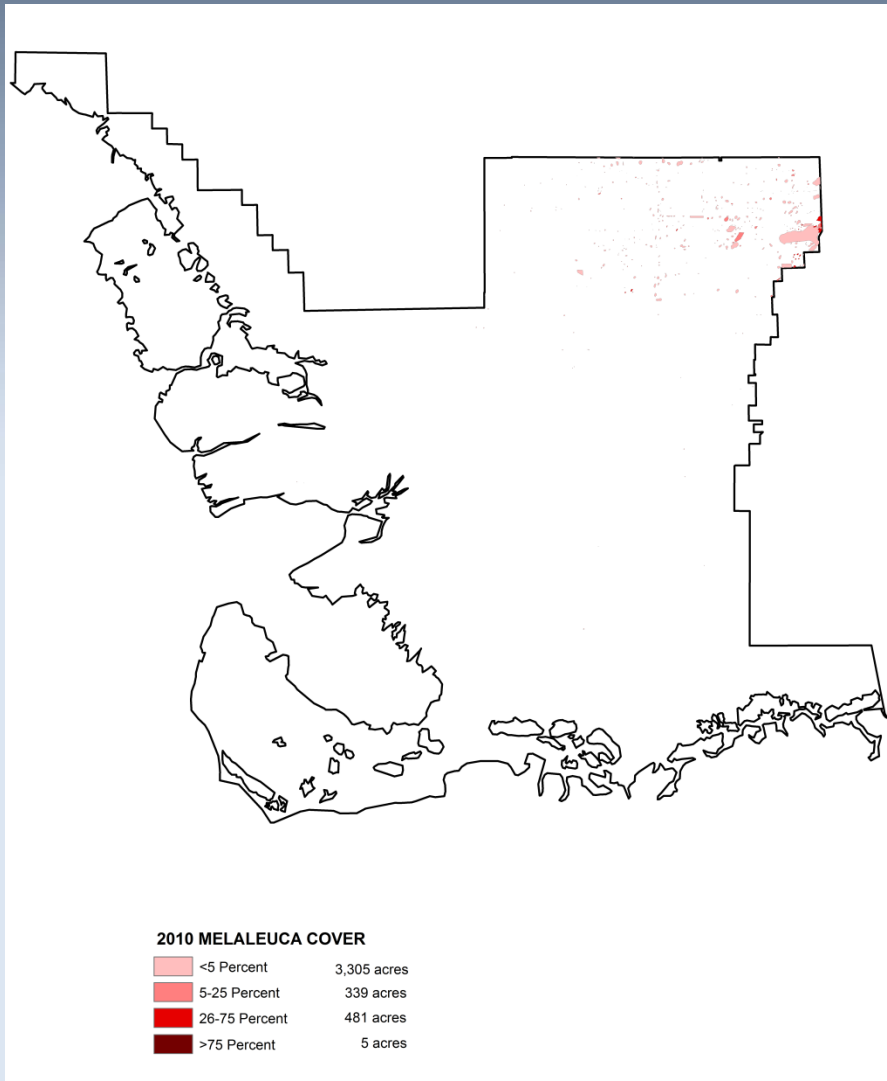


## Casuarina

<u>Coverage Class</u>	<u>Acres</u>
<5 %	446
5-25%	186
26-75%	107
>75%	1
<hr/> Total	<hr/> 739

# Digital Aerial Sketch Mapping

Everglades National Park

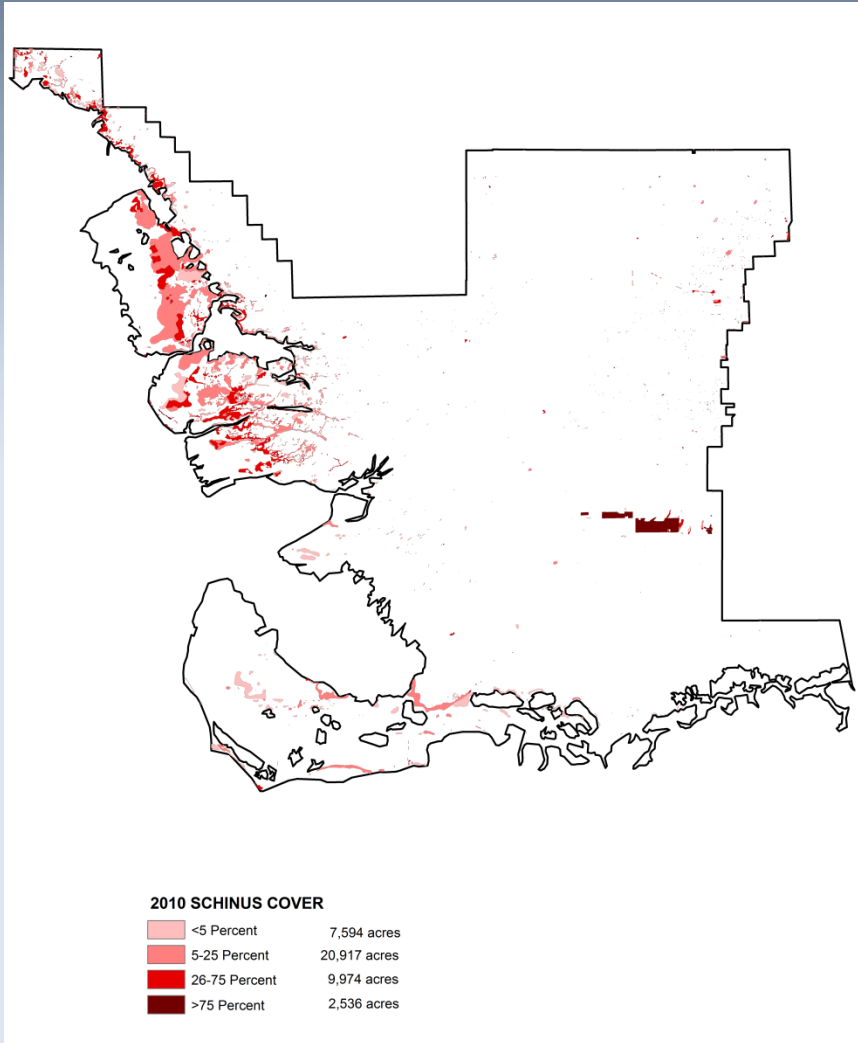


## Melaleuca

<u>Coverage Class</u>	<u>Acres</u>
<5 %	3,305
5-25%	339
26-75%	481
>75%	5
<hr/> Total	<hr/> 4,130

# Digital Aerial Sketch Mapping

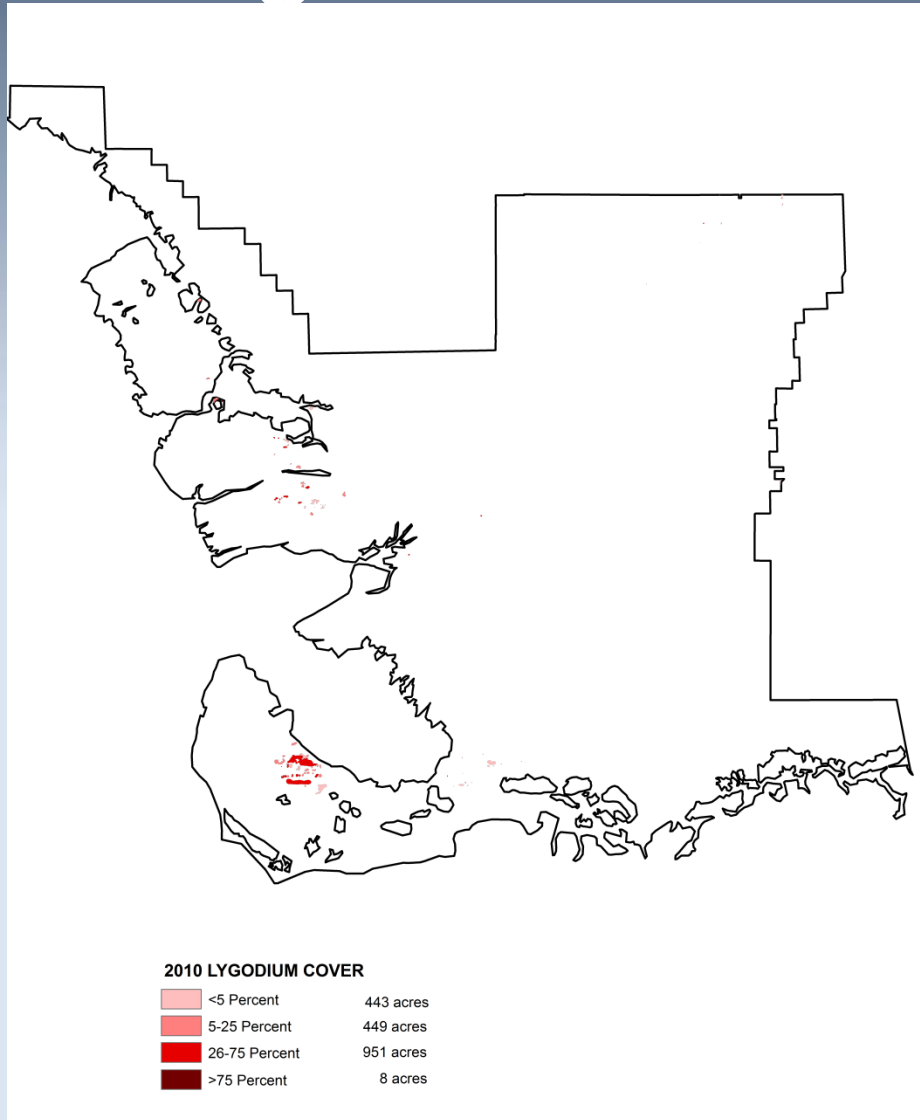
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## Brazilian Pepper

Coverage Class	Acres
<5 %	7,594
5-25%	20,917
26-75%	9,974
>75%	2,536
<b>Total</b>	<b>41,021</b>

# Digital Aerial Sketch Mapping



Everglades National Park

## Old World Climbing Fern

<u>Coverage Class</u>	<u>Acres</u>
<5 %	443
5-25%	449
26-75%	951
>75%	8
<b>Total</b>	<b>1,851</b>

# Innovations and Successes

## Melaleuca and South East Saline Glades Spot Spray Project



# Needs & Gaps

## Lygodium/Fire monitoring in coastal Marsh

1. **How does fire effect invasive exotic vegetation in the marsh and costal marsh habitats of the Greater Everglades ecosystem.**
  - a.) How fire affects the spread (colonization) of *Lygodium microphyllum* (Old World climbing fern) and *Schinus terebinthifolius* in the costal marsh and marsh habitats.
  - b.) How does fire affect the spore rain of *Lygodium microphyllum*?
  - c.) studies that look at herbicide vs. fire as treatment for invasive exotic vegetation in marsh and costal marsh.
  - d.) Studies that look at herbicide followed by fire as treatments for invasive exotic vegetation in the marsh and costal marsh habitats
  - e.) studies that look at fire followed by herbicide as treatments for invasive exotic vegetation in the marsh and costal marsh habitats.
  - f.) How does the timing of fire affect the colonization of *Lygodium microphyllum*.
  - g.) Pre-fire fuel load and effect on *Lygodium microphyllum*.
2. **Can remote sensing be used to determine the effect of fire on *Lygodium microphyllum* in the marsh and coastal marsh.** Can the Lygodium areas in the costal marsh be monitored by remote sensing every 6 to 12 months and coordinated with fire and herbicide treatment data?

# Questions?



EVERGLADES CISMA

# Invasive Species Programs

- Hole-in-the Donut Wetland Mitigation Project
- Description
  - Mechanical removal of Brazilian Pepper and Anthropogenic Soils from approximately 6300 acres of previously farmed land.
- Objective
  - To restore short hydroperiod prairie (Dominated by Muhlenbergia and Cladium).
- Partners
  - {ACOE, FDEP, DERM}
- Start/End Dates
  - {1995 – to date/on-going}
- Status
  - Assigned and on-going.
- Funding (FY): Mitigation funds from unavoidable and permitted wetland impacts in Miami Dade County
- Annual Summary
  - Approximately 200 acres/year are cleared.