Picayune Strand
Preparing the Vegetation Management Plan

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Greater Everglades Ecosystem Restoration 2010
Overview

- Restoration Goals
- Project Elements
- Invasive Species
- Plant Invasion in PSRP
- Vegetation Management Plan
- Policy / Funding/ Issues
Ecosystem Restoration Goals

- Restore natural hydro-patterns sheet flow
- Re-establish natural fire regime
- Restore native plant communities
Elements of PSRP Project

- Fill 4 drainage canals
- Remove/degrade roads & logging trams
- Construct 3 pump stations & a levee to provide flood protection for development north of project area
- Control invasive plants in construction footprint
What are Invasive Species?

- Invasive species are species that are:
  - non-native to the ecosystem under consideration and
  - whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

- Plants and Animals

  Burmese python.
Invasive Species Facts

- Economic losses - $138 Billion annually
- Second leading threat to imperiled species, behind habitat destruction
- Over 50,000 non-native species established in US
- 1/3 of plants in are non-native
- 500 non-native fish/ wildlife species
Problems with Invasive Species

- Out-compete native plants & animals
- Degrade natural areas & impact associated wildlife habitat
- Threatens flood control, water supply navigation, ecosystem restoration, agriculture & public health
- Alter ecological processes
- Invade disturbed areas
• Alter ecological processes like fire regime
Causes for Invasion

- Disturbance to the area
- Intentional and unintentional introductions
- Spread by wind, water and animals
Invasive Species

- Left uncontrolled:
  1) can & will limit land use now & in the future
  2) will seriously impact ecosystem restoration efforts

- The longer the problem is ignored, the harder & more expensive the battle for control will become.
Factors Influencing PSRP Invasion

- **1940’s - Logging of cypress forest**
- **1960’s - Residential development; 4 drainage canals (48 miles) and 279 miles of roads in a grid pattern**
- **20,000 parcels acquired from 17,000 land owners**
Effects of Disturbance

- Loss of bald cypress canopy
- Wetlands loss & lowered groundwater table
- Sheet flow blocked & forest habitat fragmented
- Altered fire regime & destructive forest fires
Project Infested with Invasive Plants

- Currently 33 Category I & II Species Present

- Examples of Category I - Brazilian pepper, old world climbing fern and torpedograss

- Examples of Category II - Indian rosewood, golden bamboo, chinaberry and castor bean
Plant Invasion

- Invasive grasses have invaded open areas due to network of roads
- Brazilian pepper established due to lowered groundwater table
- Sabal palms, normally present at low densities formed extensive monocultures
Development of the Vegetation Management Plan

- Plan developed to address invasive species concerns
- Team Collaboration
- Numerous Agencies
  - US Fish and Wildlife Service
  - Florida Division of Forestry
  - Florida Fish and Wildlife Conservation Commission
  - South Florida Water Management District
  - Institute for Regional Conservation
  - US Army Corps of Engineers
Vegetation Management Plan - Part A

- Management of vegetation in construction footprints
  - Treat road right-of-way for exotic grasses (cogongrass and torpedo grass)
  - Treat construction footprints once or twice a year for up to six years post-construction
  - Estimated cost: $7.6 million
- 9% Lygodium, 24% Brazilian Pepper, 25% Melaleuca within construction footprint
Vegetation Management Plan – Part B

- Vegetation management in entire project area in order of priority
  1. Melaleuca and Lygodium (Old World climbing fern)
  2. Exotic grasses (cogongrass, torpedograss, etc.)
  3. Brazilian pepper
  4. Nuisance sabal palm
Funding of Vegetation Management

- CW Policy Memo (June 2, 2009) directs projects to address invasive species concerns
- CW Policy Memo (May 27, 2010) PIR’s and other Implementation Documents
- Corps/ SFWMD funding - construction footprints
- Project lands are managed by Florida DOF
- DOF primary responsibility for vegetation management outside of construction footprints
- DOF has insufficient funding to the project area
Issues

- Effective and comprehensive plant control will be very expensive
- Inadequate plant control will reduce ecosystem restoration benefits
- Funding for vegetation management
Key Takeaway Points

- Need to address invasive species during planning, construction and operational phases of the project
- Collaboration between Federal, State and local agencies is essential to identify and address invasive species problems
- Exotic and nuisance vegetation management plans need to include priorities because funding is limited