

Coastal Palmetto Bay and Cutler Bay Habitat Restoration







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The Institute for Regional Conservation and the National Park Service have partnered with the Tropical Audubon Society of Florida, Palmetto Bay Village Center, South Florida Water Management District, Fairchild Tropical Botanic Garden and the U.S. Fish and Wildlife Service Atlantic Coast Joint Venture to begin restoring more than 370 acres of migratory bird habitat along Florida Bay in Miami-Dade County. <u>The Partnership was awarded the U.S. Small</u> <u>Grant</u> from the U.S. Fish and Wildlife Division of Bird Habitat in 2013 to achieve goals outlined in the <u>North American Wetlands Conservation Act of</u> <u>1989</u>.

The wetlands and uplands in the project area occur between SW 176th Street and SW 195th Street east of Old Cutler Road and extend outward to Florida Bay.

Restoration Activities Include:

-Eradication of habitat-altering, non-native "invasive" species

-A controlled burn to reintroduce the natural fire regime and reduce fuel loads in project area

-Planting of native grasses and herbs in areas where non-native vegetation was treated to accelerate the restoration process and discourage recruitment of invasive species.

-Installation of nesting bird boxes throughout the project area

North American Wetlands Conservation Act (NAWCA)

The North American Wetlands Conservation Act (P.L. 101-233) (December 13, 1989) authorizes a wetlands habitat program, administered by the United States Fish and Wildlife Service, which provides grants to protect and manage wetland habitats for migratory birds and other wetland wildlife in the United States, Mexico, and Canada. A nine-member council meets periodically to decide which projects to fund. The program encourages private-public costsharing projects.

This piece of legislation has provided North America with different and effective ways to preserve the wetlands to ensure that wildlife and migratory birds' habitats are a safe and resourceful environment. More than 2,000 projects have been started over 3,000 collaborations with other organizations. These collaborations include private and public landowners and over 25 million acres in the United States.





Atlantic Coast Joint Venture

The Atlantic Coast Joint Venture Vision:

"Partners working together for the conservation of native bird species in the Atlantic Flyway region of the United States."

The Atlantic Coast Joint Venture is one of fourteen habitat Joint Venture partnerships in the United States. The joint venture brings together public and private agencies, conservation groups, and other partners focused on the conservation of habitat for native birds in the Atlantic Flyway of the United States from Maine south to Puerto Rico.

The Atlantic Coast Joint Venture encompasses the 17 Atlantic Flyway states and Puerto Rico. The habitats range from boreal forest and rocky coastlines to mangrove wetlands and coral reefs. Over 600 native bird species breed, migrate and winter in the Atlantic Coast Joint Venture.

The mission of the Atlantic Coast Joint Venture is to provide a forum for federal, state, regional and local partners to coordinate and improve the effectiveness of bird conservation planning and implementation in the Atlantic Flyway region of the United States.



Atlantic Coast Joint Venture Boundary In Green

Old Cutler Bay Habitat Restoration Project Partnership

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Old Cutler Bay Habitat Restoration Project Area





NAWCA Project Site History

Historically, the land in the project area is naturally short-hydroperiod freshwater wetland. Previous to human alteration, the freshwater head was tremendous in the area. The mangrove band was originally very narrow immediately along Florida Bay. Freshwater springs occurred throughout the site and even within Biscayne Bay itself.





Habitat Types In Project Area

Habitat Types Found In Project Area:

E1AB3L Estuarine Subtidal Aquatic Bed E1UBL Estuarine Subtidal Unconsolidated Bottom E2SS3Ud **Estuarine Intertidal Scrub-Shrub** E2FO3U **Estuarine Intertidal Forest** PSS3A Palustrine Scrub-Shrub PEM1AD Palustrine Emergent wetland **PFO3Ad** Uplands (Pine Rockland)

wetland classification chart



Geology

The Miami Rock Ridge: A Pleistocene Deposit of Oolitic Limestone

The southern quarter of the Miami Rock Ridge is protected in Everglades National Park.

Everglades – National Park Pine Rockland Habitat



The northern three quarters extends 45 miles northward into the vicinity of the City of Miami

City of Miami
 Pine
 Rockland
 Habitat

Old Cutler Wetland Geology

Marl or marlstone is a calcium carbonate or lime-rich mud or mudstone which contains variable amounts of clays and silt.



Pine Rockland Geology

The Miami Rock Ridge: A Pleistocene Deposit of Oolitic Limestone



Migratory Birds and Other Wildlife









Painted Bunting Passerina ciris



Eastern Bluebird Sialia sialis



Pine Warbler *Dendroica discolor*



Eastern Meadowlark Sturnella magna



Loggerhead Shrike Lanius ludovicianus



Little Blue Heron Egretta caerulea



Wood Stork Mycteria americana



Eastern Screech-Owl Megascops asio







Zebra Longwing Butterfly Heliconius charithonia



Gopher Tortoise *Gopherus polyphemus*



American Crocodile Crocodylus acutus



Florida Leafwing Butterfly Anaea troglodyta floridalis



Atala Butterfly Eumaeus atala



Bartram's Hairstreak Butterfly Strymon acis bartrami

Vegetation



Federally Listed Species



Crenulated Leadplant *Amorpha herbacea* var. *crenulata* Sand Flax Linum arenicola **Goulds Wedge Sandmat** *Chamaesyce deltoidea* subsp. *adhaerens*

Small's Milkwort Polygala smallii

State Endangered Man-In-The-Ground *Ipomoea microdactylla*

Family: Convolvulaceae

Group: Dicot

Substrate: Terrestrial

Habit: Vine

Perennation: Perennial

Native Range: Scattered in South Florida (Miami-Dade County) and the West Indies (Cuba, Bahamas, Puerto Rico [Mona Island only]).

NatureServe Global Status: Imperiled

State of Florida Status: Endangered

FNAI State Status: S1S2

SOUTH FLORIDA Occurrence: Present

SOUTH FLORIDA Native Status: Native

IRC SOUTH FLORIDA Status: Imperiled

SOUTH FLORIDA Cultivated Status: Cultivated



State Threatened

Quailberry, Christmasberry Crossopetalum ilicifolium

Family: Celastraceae

Group: Dicot

Substrate: Terrestrial

Habit: Shrub

Perennation: Perennial

Native Range: South Florida and the West Indies (Cuba, Bahamas, Hispaniola).

NatureServe Global Status: Imperiled

State of Florida Status: Threatened

FNAI State Status: Imperiled

SOUTH FLORIDA Occurrence: Present

SOUTH FLORIDA Native Status: Native

IRC SOUTH FLORIDA Status: Rare

SOUTH FLORIDA Cultivated Status: Cultivated



State Threatened Pineland Clustervine

Jacquemontia curtissii

Family: Convolvulaceae

Group: Dicot

Substrate: Terrestrial

Habit: Herb

Perennation: Perennial

Native Range: Endemic to South Florida.

NatureServe Global Status: Imperiled

State of Florida Status: Threatened

FNAI State Status: Imperiled

SOUTH FLORIDA Occurrence: Present

SOUTH FLORIDA Native Status: Native

IRC SOUTH FLORIDA Status: Rare

SOUTH FLORIDA Cultivated Status: Cultivated



Old Cutler Wetlands Today: Habitat Loss



Tall, woody, non-native, invasive grasses and trees have taken over native marsh habitat that is critically important stopover for migratory birds



Napier Grass



Brazilian pepper understory

Causes: Habitat Destruction

Primary Causes:

-Development, removal and fragmentation
-Invasive species
-Fire suppression
-Illegal dumping
-Sea level rise





The 45 miles of Miami Rock Ridge outside of Everglades National Park has been almost completely developed, with over 2.5 million people living in Miami-Dade County.



Fragmentation



Left unmanaged, forest fragments may lose entire populations of listed and rare species of plants and animals.

Invasive Species



Invasive Species

Florida Exotic Pest Plant Council's 2011 List of Invasive Plant Species

The mission of the Florida Exotic Pest Plant Council is to support the management of invasive exotic plants in Florida's natural areas by providing a forum for the exchange of scientific, educational and technical information.

Purpose of the List:

To focus attention on -

- the adverse effects exotic pest plants have on Florida's biodiversity and native plant communities,
- the habitat losses in natural areas from exotic pest plant infestations,
- the impacts on endangered species via habitat loss and alteration,
- > the need for pest-plant management,
- the socio-economic impacts of these plants (e.g., increased wildfires or flooding in certain areas),
- changes in the severity of different pest plant infestations over time,
- providing information to help managers set priorities for research and control programs.



Florida Exotic Pest Plant Council

CATEGORY I

Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

CATEGORY II

Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species.

These species may become ranked Category I, if ecological damage is demonstrated.

NAWCA Project Goals: Habitat Restoration

Begin Restoration of Freshwater and Saltwater Coastal Marsh and Upland Pine Rockland Along Florida Bay

-Eradicate habitat-altering, non-native "invasive" species

-Conduct a controlled burn to reintroduce the natural fire regime and reduce fuel loads in project area

-Plant native grasses and herbs in areas where non-native vegetation was treated to accelerate the restoration process and discourage recruitment of invasive species.

-Install nesting bird boxes throughout the project area



Natural Fire Cycle



The NAWCA Partnership will coordinate and work with the Florida Forest Service to implement a prescribed fire in the project area to reintroduce the natural fire cycle, reduce hazardous fuel loads and decrease the biomass of invasive vegetation. Reintroduction of the fire cycle through prescribed fire will greatly reduce the risk of hazardous wildfire and assist in the restoration of native marsh habitat for the utilization of migratory birds.

Hydrology



Some of the project area is within the Comprehensive Everglades Restoration Plan. Some of the project area was ditched in the early 1920's, which altered some of the natural hydrology. These ditches may be capped as a way to restore some of the marsh hydrology, enhancing habitat for native marsh species and migratory birds.

Native Planting



In much of the project area, there is a great seed bank of native species that are unable to regenerate due to the invasion of non-native vegetation, interruption of the natural fire cycle and alterations to natural hydrological flow. This seed bank will have a chance to return once the partnership has implemented a prescribed fire, capped ditches and treated nonnative species running rampant through the project area. However, in some of the very disturbed places the native seed bank may need a little help. Thus, in designated areas the partnership will do some planting of native species as a way to accelerate the marsh restoration and discourage undesirable nonnative vegetation from returning to the project area.

Outreach and Education



Volunteer work days, neighborhood workshops and educational events will take place in an effort to reach engage the community in local habitat conservation.

Benefits of Habitat Restoration

-Reduces hazardous fire risk

-Improves accessibility and visibility

-Improves aesthetics by encouraging a rich diversity of native wildflowers and grasses that put on a year-round show for the community to enjoy

-Improves recreation potential for birders, hikers, and naturalists

-Improves habitat potential for many different species of native birds, butterflies and other desirable wildlife

-Over time, a well-managed habitat presents much lower maintenance costs to their owners



Stewardship and Conservation For The Future





Native wildlife



For us and our children -This is our heritage and makes us unique Global Environmental Health

Local Action



Questions?



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