A Community Partnership to Restore Subtropical Coastal Habitats in Miami-Dade County, Florida

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DERM Coastal Habitat Restoration and Enhancement Program

- 500 acres of wetlands
- 150 acres of subtropical hardwood hammock, coastal strand, and dune community
- 23 island enhancement projects
- 2.6 acres of seagrass
- 8.5 miles of shoreline stabilization (native vegetation and limestone boulder placements)
- Incorporate community outreach and education
Frost Science Museum Volunteers for the Environment (MUVE)

- Founded 1949 moved to new state of the art museum and aquarium in 2017
- 9,000 volunteers engaged
- Over 25 acres of coastal habitat restored
- Aquarium exhibits engage new volunteers and inform 900,000 visitors a year about coastal ecology
- Engage Miami residents in coastal habitat improvement and citizen science
Unique Subtropical Habitats

- Urban zone only 30 miles wide, population of 5.5 million for tri county area
- Extensive coastal development and habitat loss/fragmentation
- Invasive plant species
- Changing Climate / Sea Level Rise
- Southeast Florida Regional Climate Change Compact
A Shifting Landscape
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Walking the Walk

- Virginia Key Master Plan-Approved unanimously by City of Miami Commission on July 22, 2010
- May 2013 Public Charette at Frost Science with Virginia Key Bicycle Club
- Weekly updates with user groups during construction
Phased Restoration: Phase 1

Coastal Dune (September 15, 2013 – October 31, 2014)

- Creation of new 0.25 mile perimeter multi-use trail
- Cleared and grubbed non-native and invasive vegetation over ~4.4 acres
- Excavation and removal of 23,400 CY of dredged spoil to create new dune system
- Transported spoil to nearby upland area to create new bike trails
- Partnered with local scrap metal recycler to remove approximately 500’ of 36” diameter corroded metal pipe
- Volunteer planting of 32,773 native dune plants
Phased Restoration: Phase 2

Coastal Hammock (February 15, 2015 – October 31, 2015)

- Cleared and grubbed all nonnative and invasive vegetation within an ~8 acre area
- Selectively cleared nonnative vegetation to preserve existing native vegetation
- Enhanced an existing isolated freshwater wetland through the removal of invasive vegetation and solid waste
- Contract planted 182 large native trees and shrubs
- Volunteers planted 3,210 native subtropical trees and shrubs
Phased Restoration

Before

Casuarina Removal

Fill Removal
Planting of 32,773 Dune Plants
Shoreline Before and After
Maritime Hammock Before and After
Isolated Freshwater Wetland Before and After
Rare, Threatened and Endangered Species Recovery
Two Days Post Hurricane Irma
Thank You!

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