

A New Era in Ecosystem Restoration Public-Private-Partnerships (P3s)

An Innovative Approach to Achieving Habitat Restoration Goals
Tampa Bay Case Study

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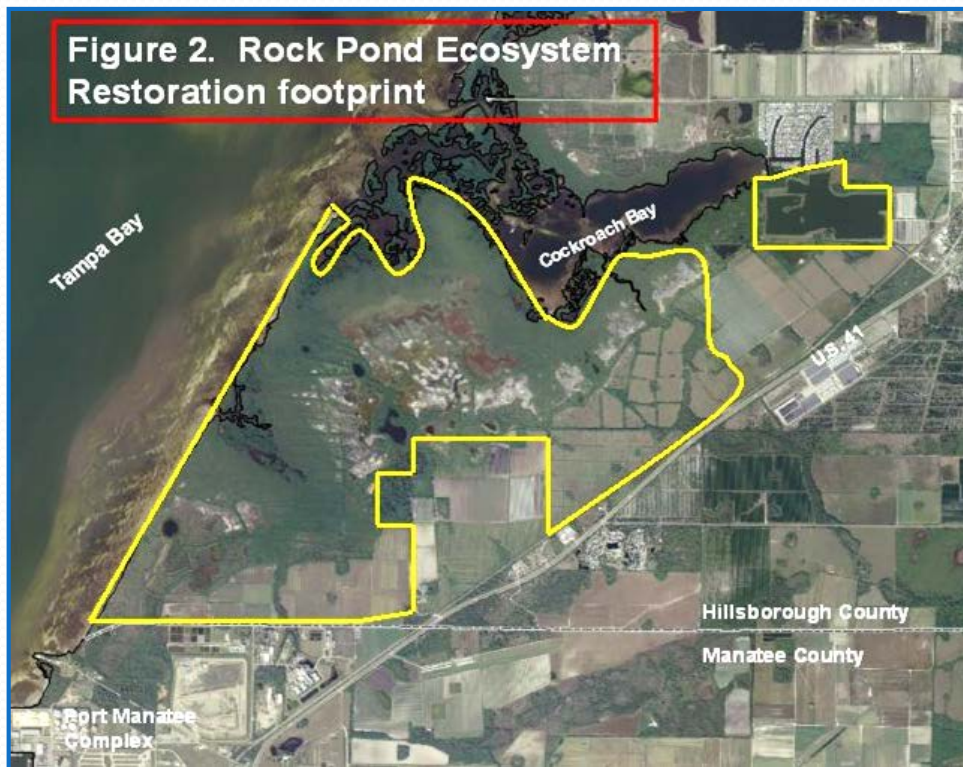
Gulf of Mexico Foundation



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Habitat Restoration has been primarily performed on public lands



- **Sites of Opportunity**
- **Sites which may have potential matching funding sources**
- **Politically driven sites**

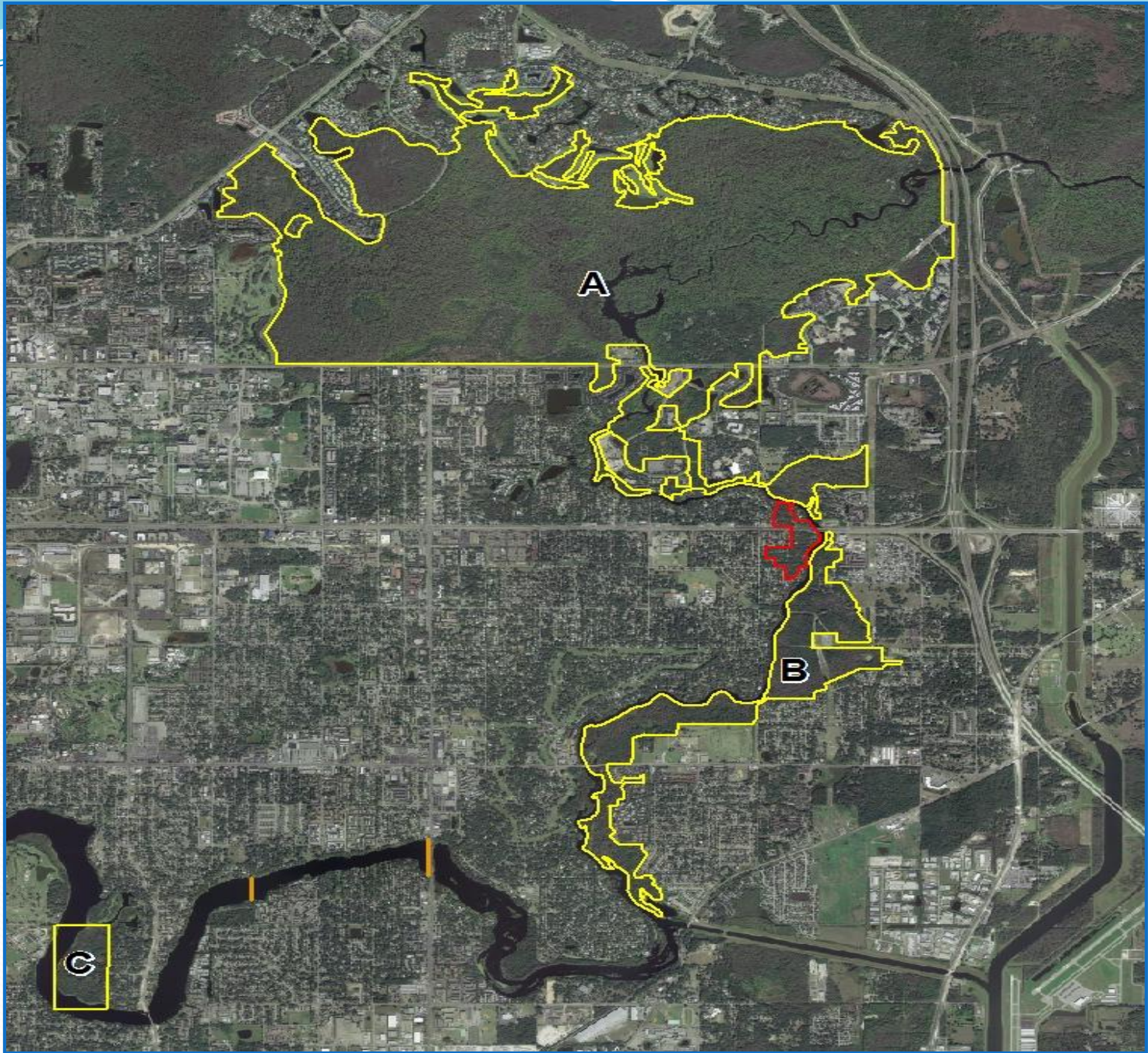
These restoration sites are still critically important

- **Meeting restoration goals**
- **Public awareness of restoration practices and their importance to the environment**
- **Utilizing potential matching funds**
- **Politically driven projects also can provide significant public exposure**
- **Educational opportunities**
- **Scientific research opportunities**



Unfortunately these Sites may not be the Best Ecologically

- **Target of oligohaline areas**
- **Nexus of critical habitats**
- **Critical linkage of wildlife corridors**
- **Coastal freshwater and upland habitats**
- **Unique habitats that have been disproportionately impacted**
- **Fisheries or avifaunal target areas**



Options Other than Public Land?

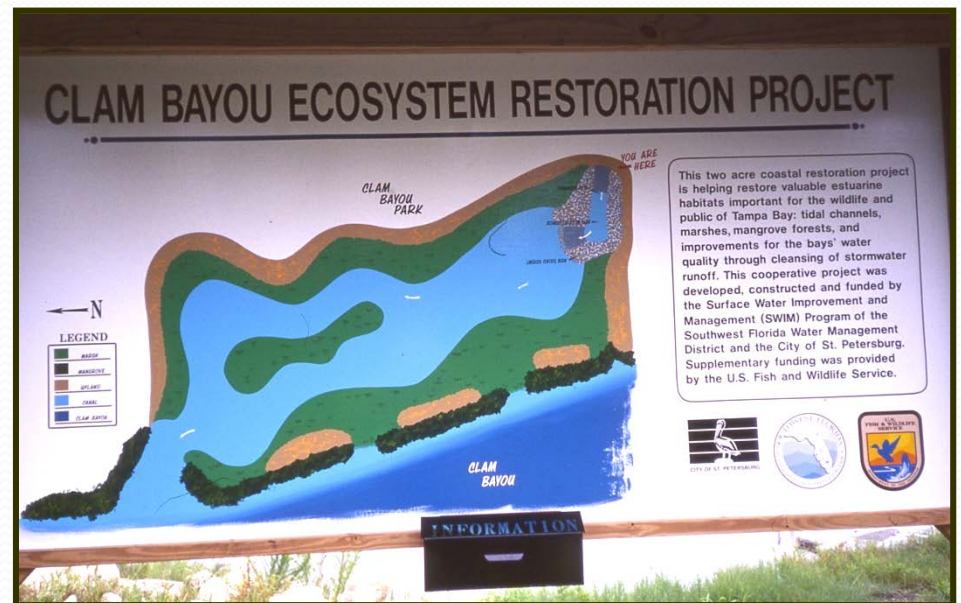
- **Private Land Holdings**
- **Institutional Landowners:**
 - Schools, Audubon, Universities, NPOs**
- **Corporate Land**

Inherent Problems:

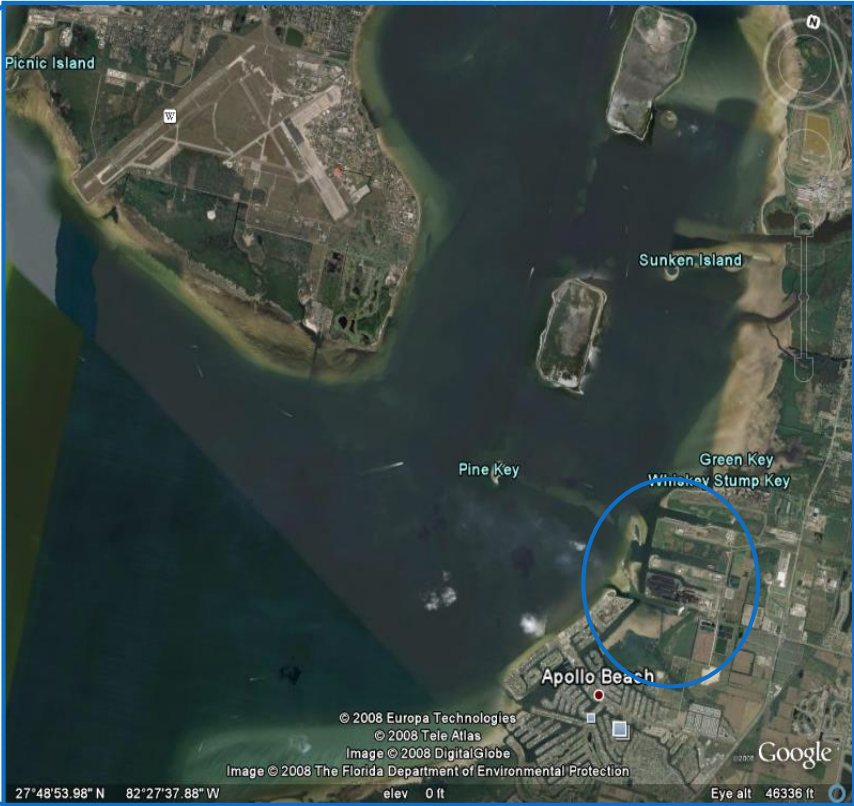
- **Public perception?**
- **Taxpayer funds used to restore private land holdings?**
- **Protection of Restored Areas?**
- **Public Access?**

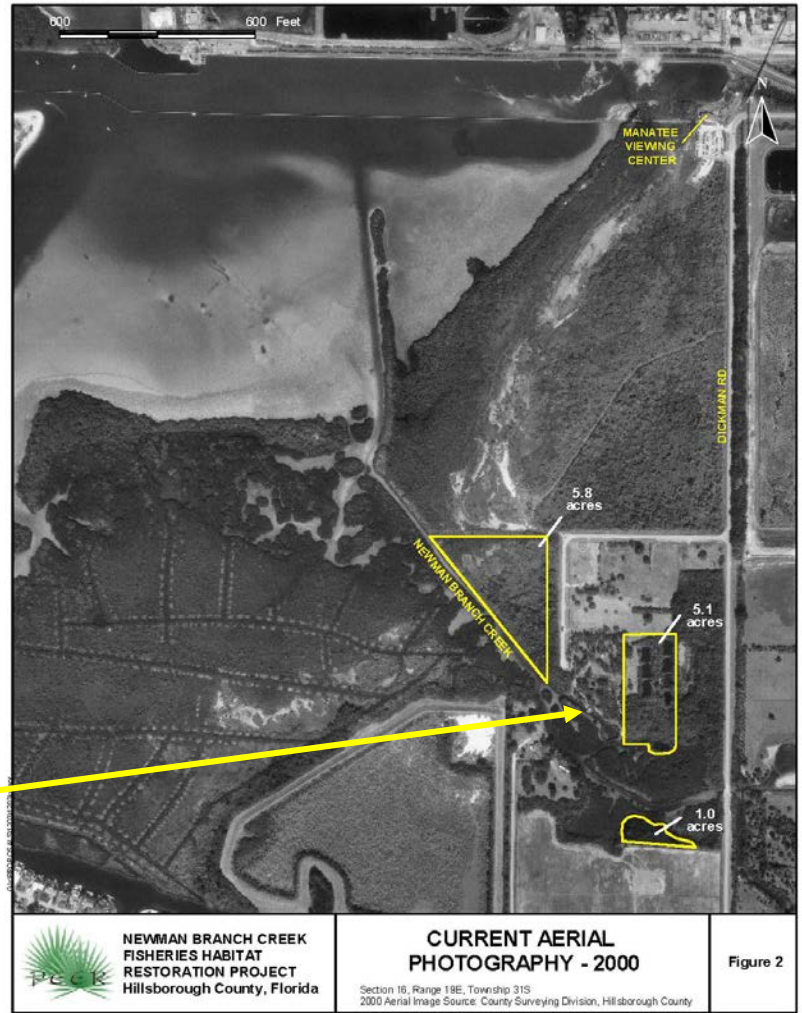
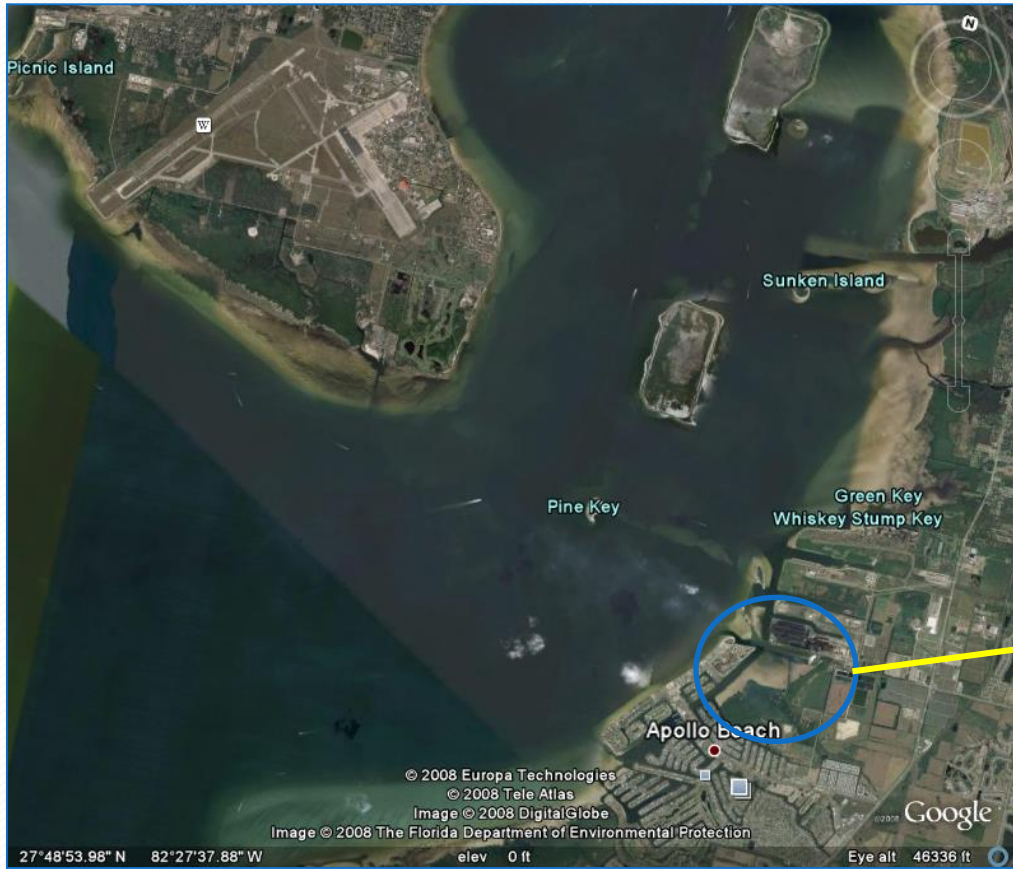
Solutions:

- **Perpetual Conservation Easements**
- **Allowing Controlled Public Access**
- **Public Awareness of Ecological Benefits**



Tampa Bay Locator Map

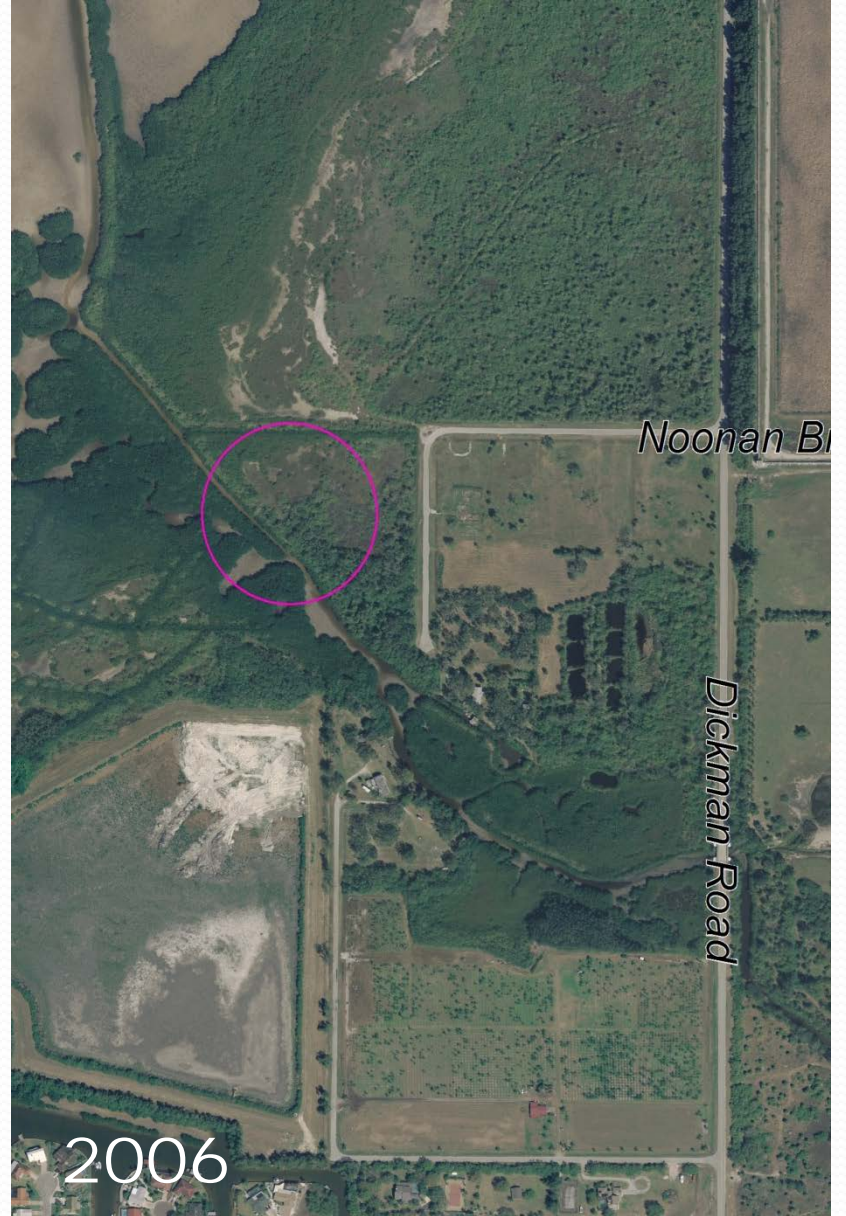




**NEWMAN BRANCH CREEK
 FISHERIES HABITAT
 RESTORATION PROJECT**
 Hillsborough County, Florida

**CURRENT AERIAL
 PHOTOGRAPHY - 2000**

Figure 2



Phase I - Project Partners



TAMPA ELECTRIC

SWIM Program of:

Southwest Florida
Water Management District

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Newman Branch Fisheries Habitat Restoration Project



Noonan Branch Road






Dickman Road

Site A

Site B

Site C

LEGEND

Habitat
 Estuarine Transitional Marsh
 Estuarine High Marsh
 Estuarine Low Marsh
 Freshwater Marsh
 Open Water

Plants
<i>Spartina bakeri</i>
<i>Spartina alterniflora</i>
<i>Spartina patens, Paspalum vaginatum</i>
<i>Sagittaria lancifolia, Scirpus validus</i>
<i>Open water</i>

1:1,000

N





Before and After





Before



During



After



Project Overview

- **Restoring Private land using Public Funds**
- **Tampa Electric Company placed a Conservation Easement on the parcel**
- **Restoration or Re-creation of 12-acres; included 24 abandoned fish ponds**
 - 4 acres - Upland**
 - 2 acres - Freshwater Wetlands**
 - 6 acres - Estuarine Habitat**



Project Overview

- **Created an Open Water Connection to Tampa Bay**
- **Planted with Community Volunteers!**



Project Overview

Stats:

- **10,000+ plants:**
Spartina patens, *S. bakeri*,
S. alterniflora,
Paspalum vaginatum
- **1,300+ freshwater plants**
835 upland plants
- **Over 250 volunteers and students involved**



Challenges and Triumphs



- **Multi-party Agreement & Conservation Easement**
- **1st P3 for SWFWMD**
- **TECO Uses the Parcel as an Outdoor Classroom**

Challenges and Triumphs

- **Important Low Salinity Fisheries Habitat**
- **Birds Nesting, Resting and Feeding in all Habitat Types**
- **Restored Tidal Flushing to Historic Creek System**



History

Newman Branch originally was a meandering tidal creek flanked by mangroves and salt marshes until it was ditched, diked and channelled in the late 1950s, severely compromising habitat values. Nearby uplands were converted to agricultural and aquaculture fish farms. Abandonment of these operations allowed non-native plants to dominate the upland areas adjacent to the Creek. These 12 acres are owned by TECO's Tampa Electric Company, who placed a permanent conservation easement over the parcel to protect the restored habitats.

Newman Branch



Restoration Project

Non-native Invasive Plants

A non-native invasive is a plant from somewhere other than Florida that spreads aggressively into natural areas. Not all non-native plants are invasive. They become invasive when they outgrow and replace native plants in natural plant communities.

Non-native invasive plants threaten our natural plant communities and pose ecological and financial impacts. Hundreds of millions of dollars are spent each year to fight these pest plants. Ecologically, these plants change the composition of natural plant and animal communities. Many animal species that co-exist and evolve with native plant communities cannot readily adapt to rapid changes made to their habitats by non-native invasive species. Invasive plants deplete the soil of nutrients and moisture, block sunlight to native plants, prevent access to water for animal species, deprive animals of nesting areas and food sources, and provide ideal conditions for yet other non-native species to invade. Areas with non-native invasive species tend to become monocultures (areas where one plant species dominates) and greatly reduce habitat diversity.



Australian pine
Brazilian pepper

Australian pine (*Casuarina spp.*) and Brazilian pepper (*Schinus molle*) are two of the most ecologically devastating invasive plants in the Tampa Bay area. An important part of the Newman Branch restoration was the removal of these and other invasive plants.



These outer islands have been reconstructed back to productive wetlands.



Volunteers

are integral to the success of the restoration, from the initial planting to the ongoing maintenance.



Restoration

Twelve acres of critically important habitats were restored or recreated including 4 acres of uplands, 2 acres of freshwater wetlands and 6 acres of estuarine wetlands.

The centerpiece of the restoration project was the transformation of 24 abandoned fish ponds into a combination of freshwater and estuarine wetlands, with an open water connection to Newman Branch.

Included in the 12 acres are newly created estuarine habitats, tidally influenced waterways that are important nursery grounds for fish populations. Restoration

specialists reconstructed the shoreline that had been diked several years ago, which allowed non-native Brazilian pepper to inhibit mangrove growth.

In the photo at left is one of the former aquaculture fish ponds. The post-restoration photo below shows how



Results

Freshwater wetlands are receiving stormwater from the surrounding area. These wetlands provide some "polishing" of the stormwater prior to this water being discharged into the estuarine wetlands and ultimately into Tampa Bay.

In the fall of 2007, six acres of uplands were cleared of Brazilian pepper, Australian pine and other non-native invasive plants within the 12 acres.

Public-Private Partnership

The Newman Branch Coastal Habitat Restoration Project is the product of an innovative, unique public-private partnership between Tampa Electric Company, the Southwest Florida Water Management District's Surface Water Improvement & Management Program, the NOAA Restoration Center, the Pinellas County Environmental Fund and Preserving the Environment through Ecological Research. PEER, Inc. is a non-profit collaborative of biologists specializing in habitat restoration and management who originated the restoration



idea, facilitated the partnership and implemented the project.

Opportunities to restore public lands are dwindling as growth and development pressures increase. It will become increasingly important to develop public-private partnerships if we want to continue to improve and restore Tampa Bay. Accordingly, it is hoped that this partnership will serve as a shining example of what can be accomplished for the benefit of the environment and for local communities.

LEGEND

- Estuarine Transitional Marsh
- Estuarine High Marsh
- Estuarine Low Marsh
- Freshwater Marsh
- Open Water

In this aerial photo, the original fish ponds are visible before the restoration. The restored areas are highlighted in blue.

Since the project has been restored, state scientists have reported finding greenies snook, spotted seatrout, and striped mullet in Newman Branch waters.

Additional fish species that will benefit from the new flow areas are the reproductively important redfish.

Native plants will flourish both on the shore and in the uplands, creating habitat for birds and other wildlife.



2008 2 28

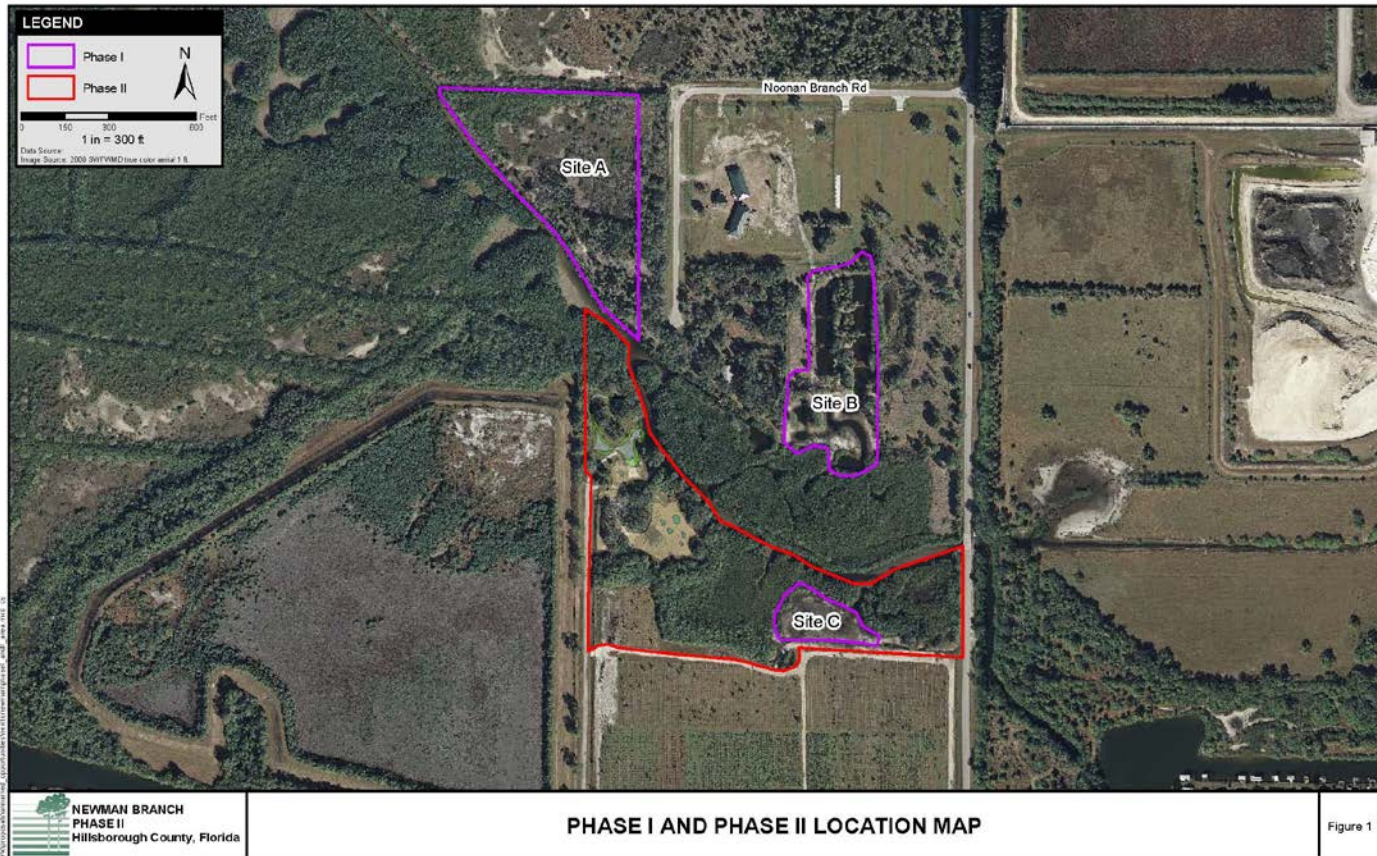
Newman Branch Restoration Project



- **Project Partners – *An Innovative Approach***
- **Award - 2008 Environmental Project of the Year**

Success Breeds Opportunities

Newman Branch Phase II



Newman Branch Phase II



- **Project Partners – GoMF, USFWS, SWFWMD**
- **Expands Habitat Restoration Opportunities**

Phase II - Project Partners



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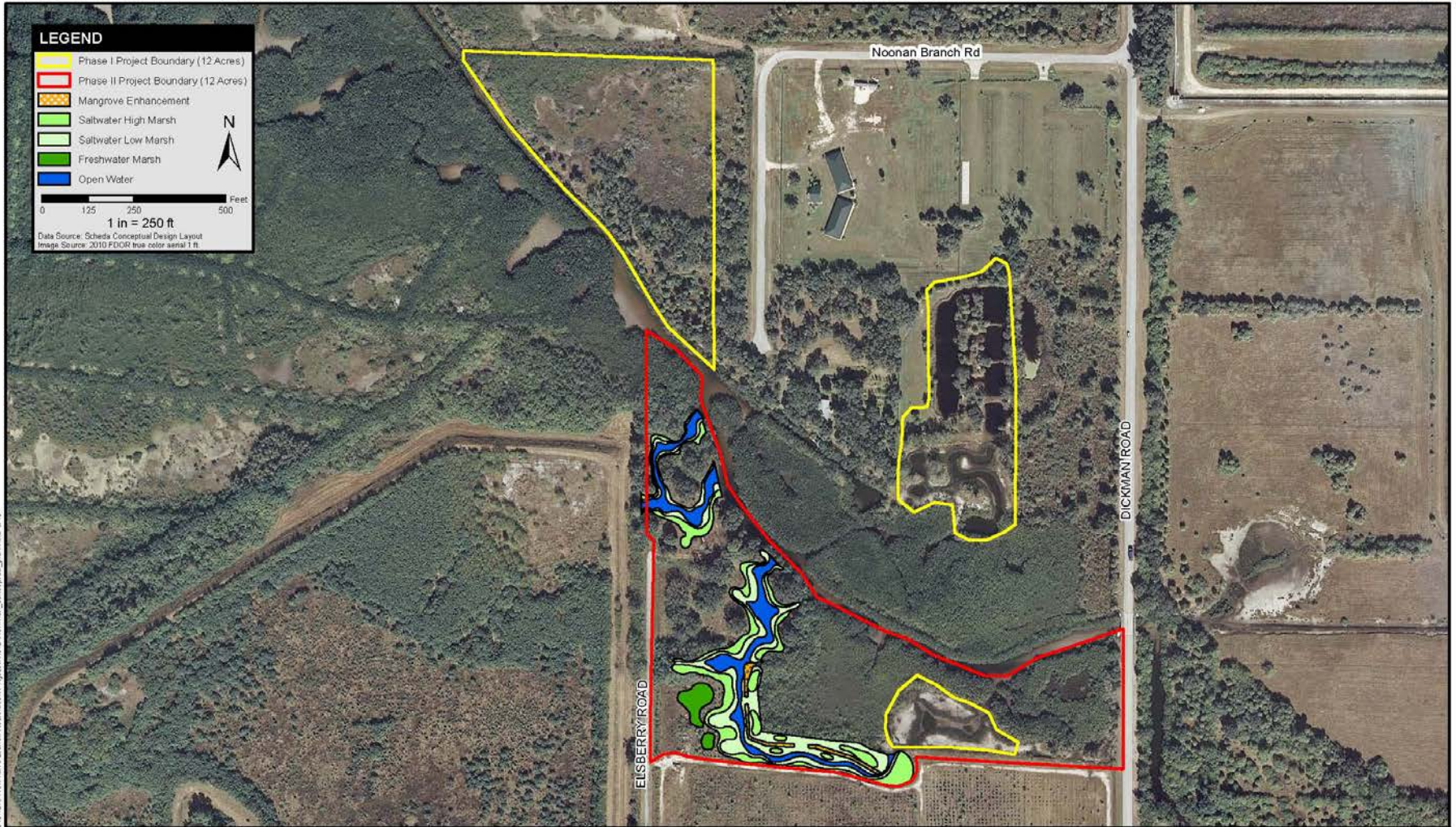
Southwest Florida
Water Management District

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Newman Branch Phase II

- **TECO purchased additional land in 2010**
- **\$235,000 TECO**
- **\$182,500 Grants**
- **12 Additional Acres Restored**
- **Creek Oxbows Restored**



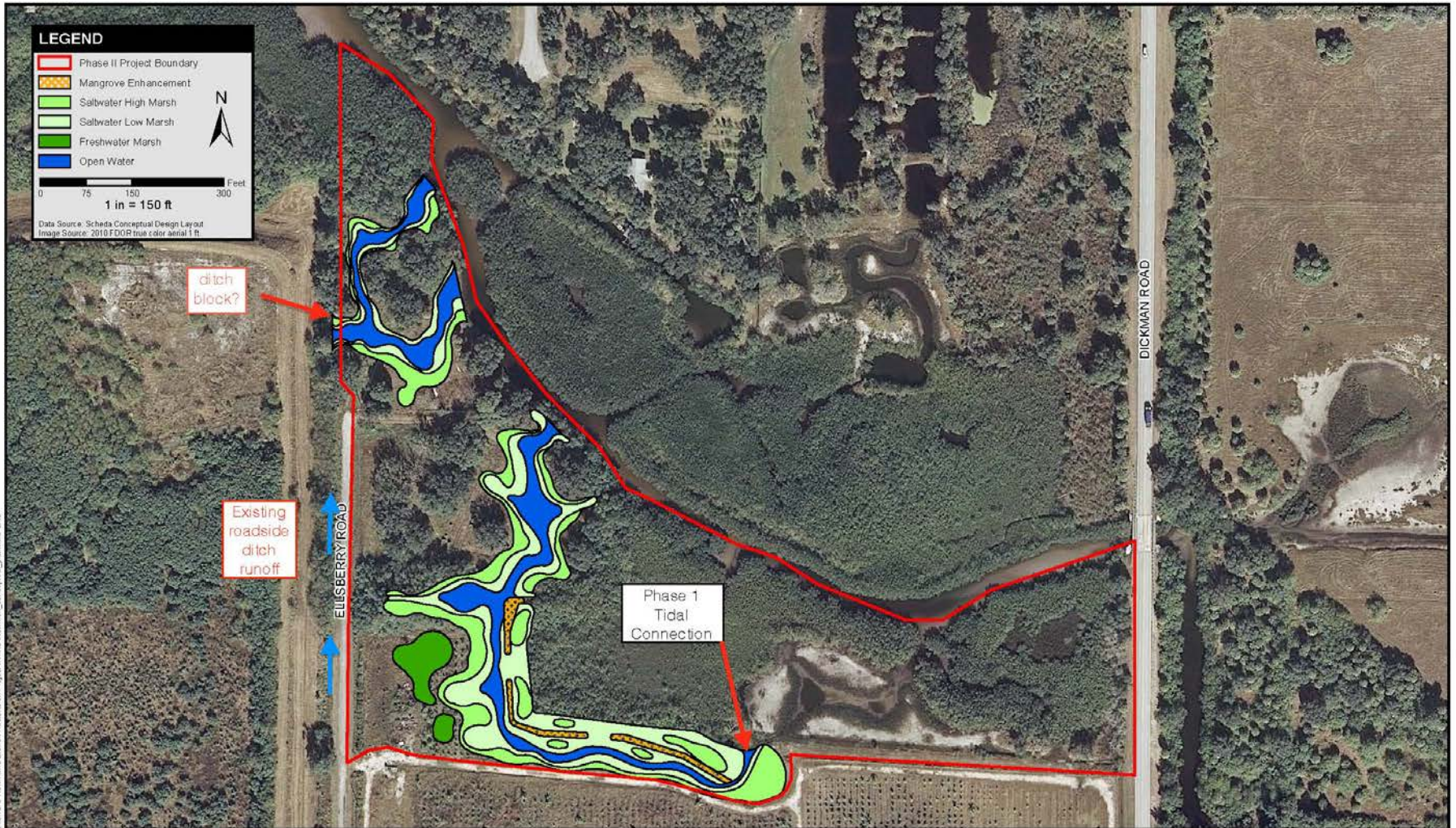
LEGEND

- Phase I Project Boundary (12 Acres)
- Phase II Project Boundary (12 Acres)
- Mangrove Enhancement
- Saltwater High Marsh
- Saltwater Low Marsh
- Freshwater Marsh
- Open Water



0 125 250 500 Feet
 1 in = 250 ft

Data Source: Scheds Conceptual Design Layout
 Image Source: 2010 FDOT true color aerial 1 ft



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Initial Conditions

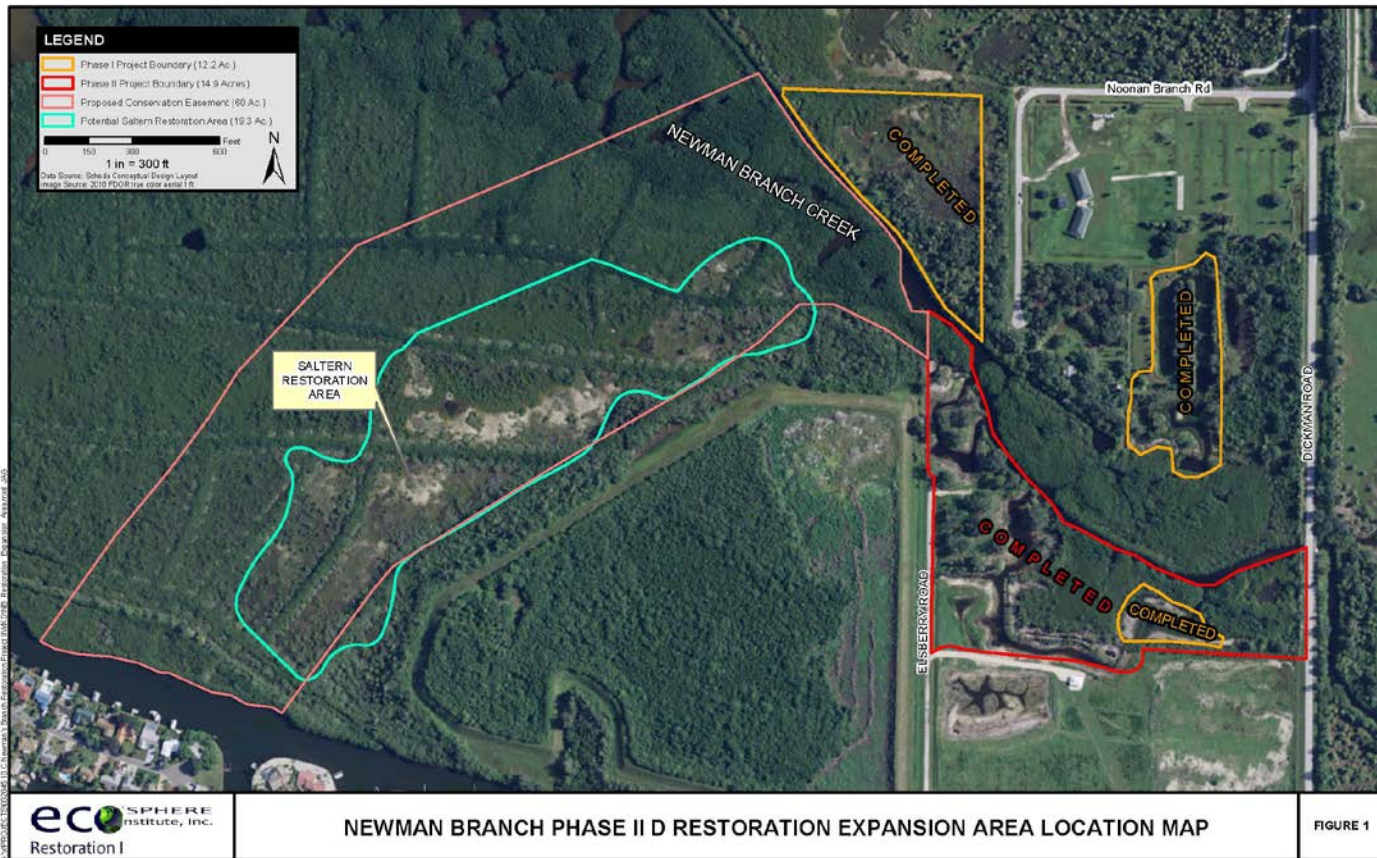






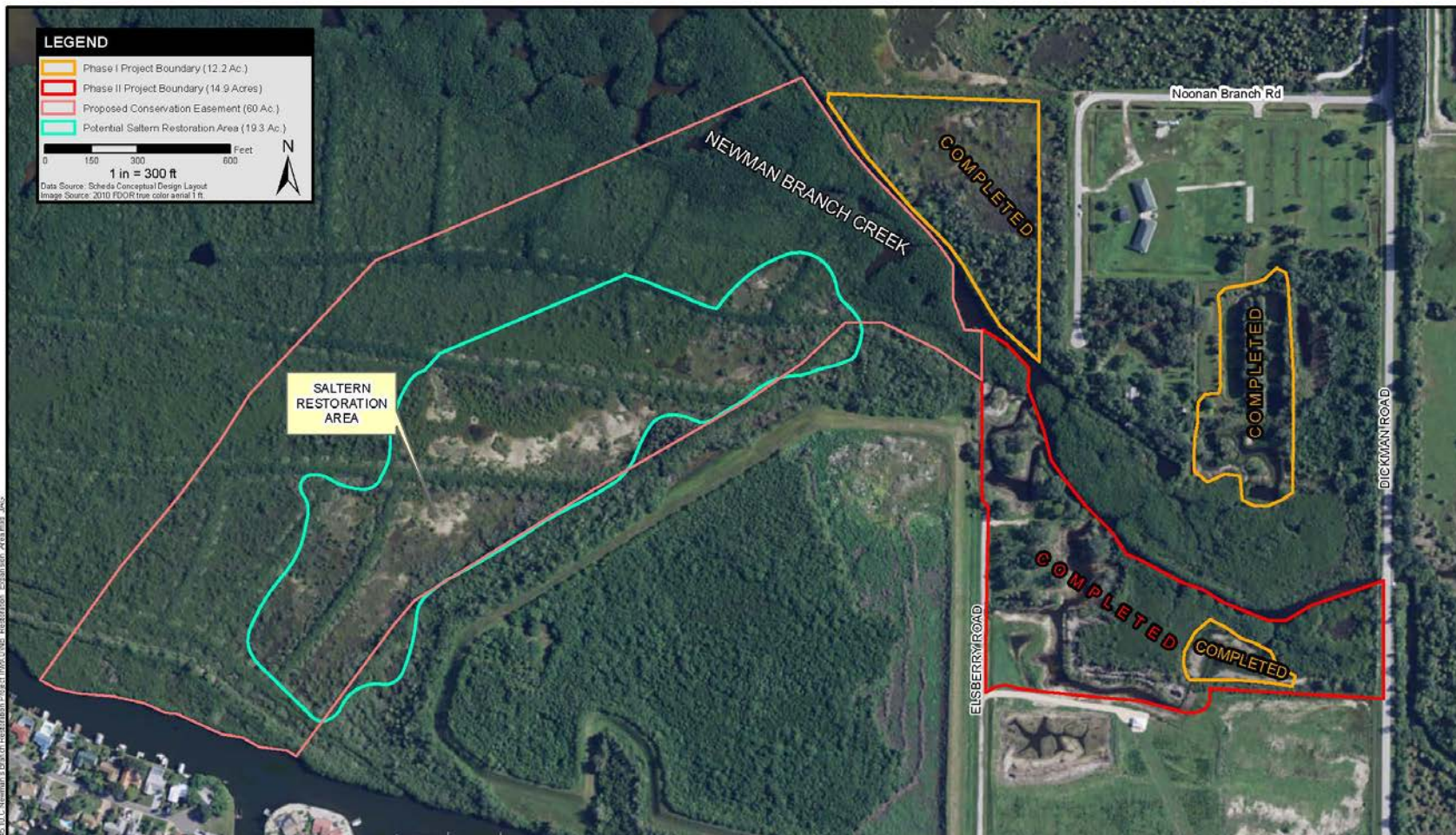
Success Breeds Opportunities

Phase II Expansion (B, C, D, & E)



Phase II Expansion Project Partners

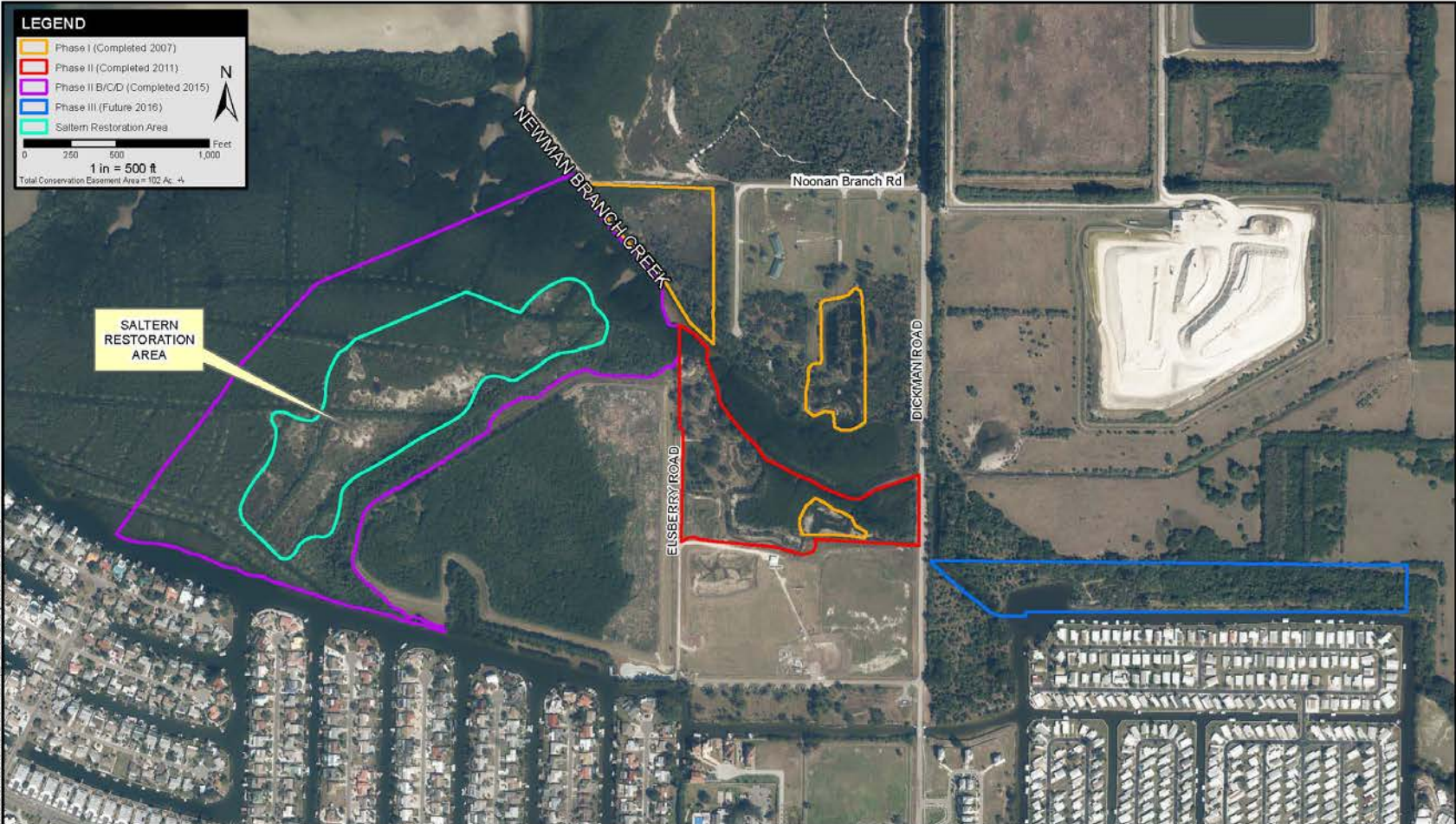




© 2011 PROJECT TECHNOLOGIES, LLC. Newman's Branch Restoration Project (NWB) - Restoration Expansion Area - Map



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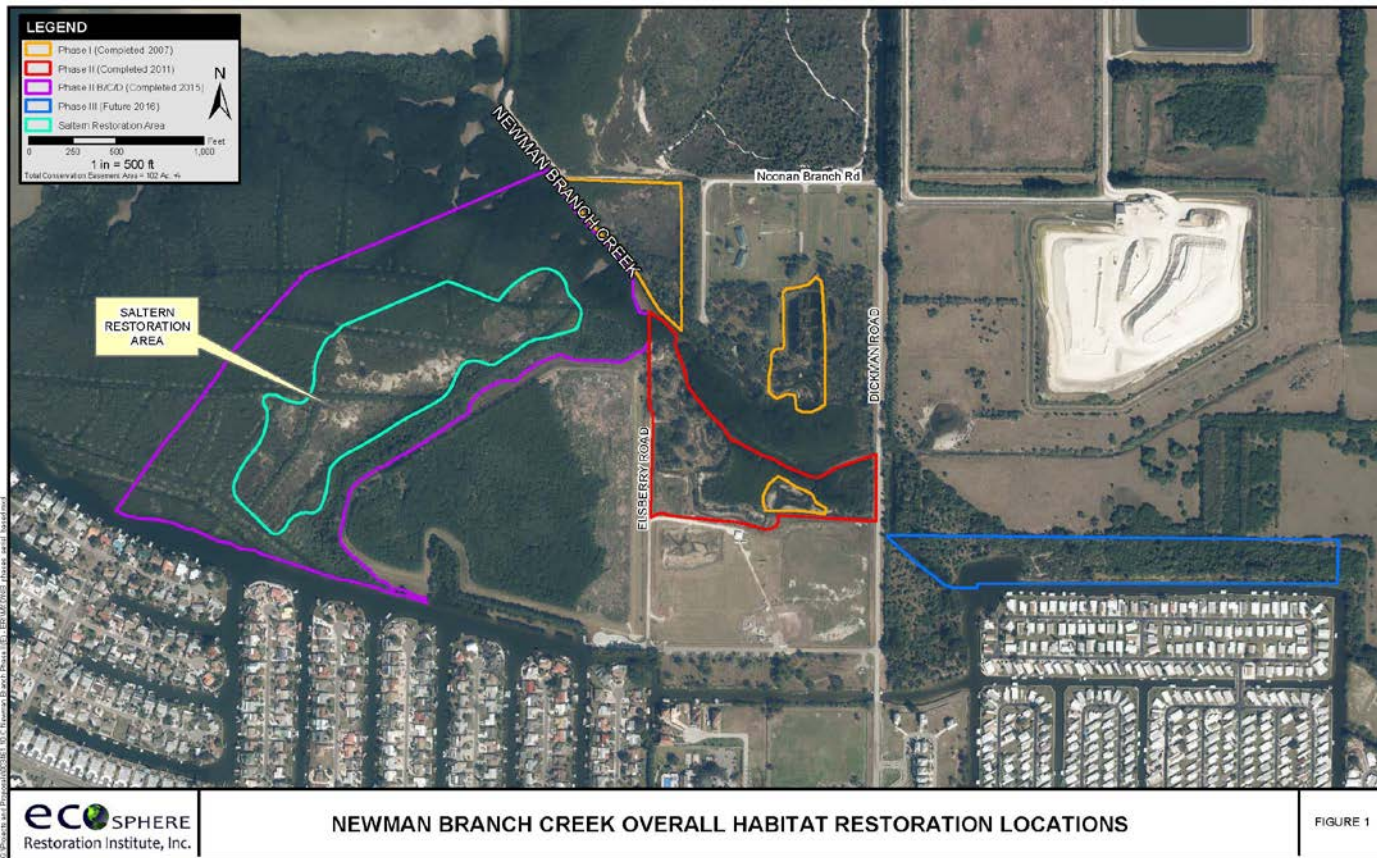
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NEWMAN BRANCH CREEK OVERALL HABITAT RESTORATION LOCATIONS

FIGURE 1

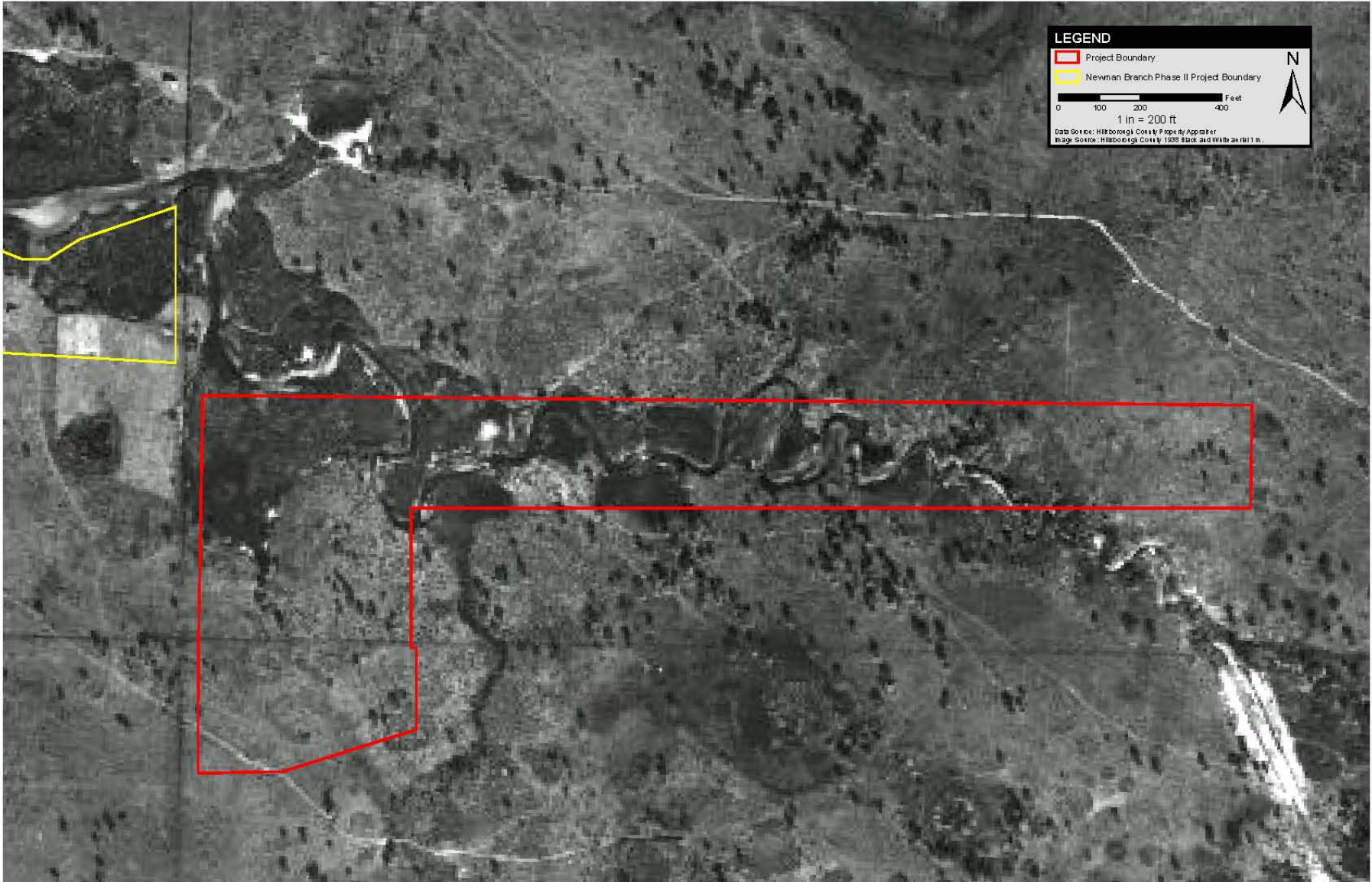
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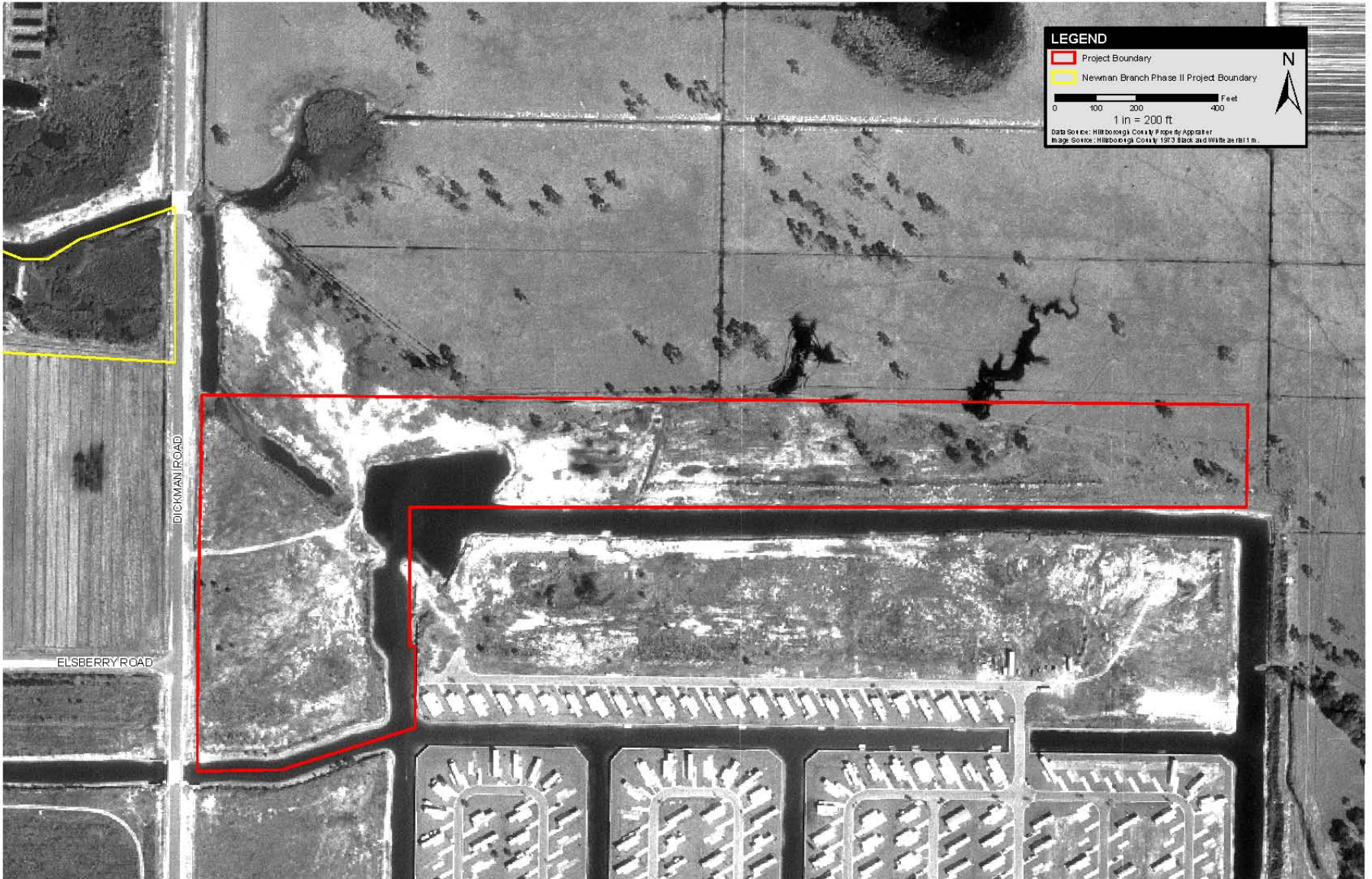
Newman Branch Phase III Expansion



Newman Branch Phase III

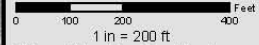
- **TECO purchased additional land in 2014**
- **\$573,000 TECO**
- **\$310,000 Grants**
- **Fourteen Additional Acres Restored**
- **Reconnection of the Creek**





LEGEND

- Project Boundary
- Newman Branch Phase II Project Boundary



1 in = 200 ft

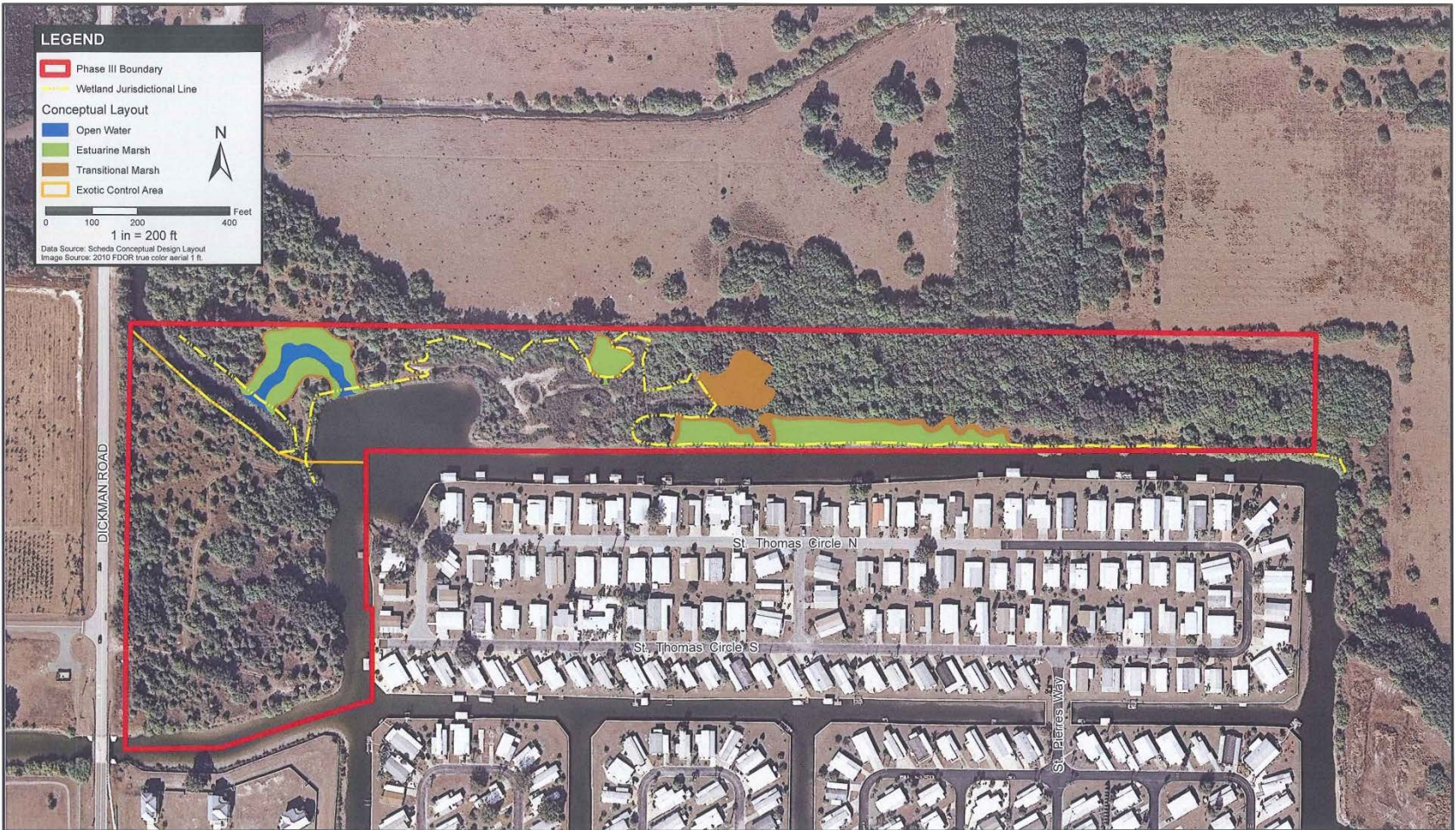


Data Source: Hillsborough County Property Appraiser
Image Source: Hillsborough County 1973 Black and White Aerial

DICKMAN ROAD

ELSBERRY ROAD





Phase III - Project Partners



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Southwest Florida
Water Management District

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Funding provided by:



Summary

- **75 acres of critical habitat restored**
- **100 acres under Conservation Easement**
- **Award Winning Project 2008 + ???**
- **Environment and Public Benefit**

**Ecosphere Restoration Institute/TECO
Public Private Partnership (P3)**

Newman Branch Creek

	Grant \$	Grant Entity	TECO Match	Restoration	CE Acreage	Completed
Phase I	\$165,150	NOAA, WMD	\$147,314	12.0 ac	12 ac	2007
Phase II	\$182,500	USFWS, GMF, WMD	\$465,000	12.0 ac	12 ac	2011
Phase II B/C	\$ 60,000	GMF (EPA)	\$0	20.0 ac		2014
Phase II D	\$ 96,000	GMF (EPA)	*** \$5,000	17.0 ac	60 ac	2015
Phase II E*	\$ 24,000	GMF (EPA)	***\$65,000	0.3 ac		2016
Phase III*	\$310,000	GMF, TBEP, WMD	***\$20,000	15.0 ac	15 ac	2016
Total	\$837,650		**\$702,314	75.3 ac	100 ac	

* NB II E & NB III Completed 2016

** Primarily land value match

*** TECO Cash

GMF	Gulf of Mexico Foundation (NOAA/EPA)
NOAA	National Oceanic Atmospheric Administration
USFWS	US Fish & Wildlife Service
EPA	Environmental Protection Agency
WMD	Water Management District (Southwest Florida)
TBEP	Tampa Bay Estuary Program (NFWF)
NFWF	National Fish & Wildlife Federation

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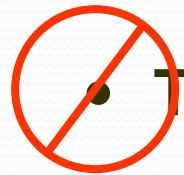
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GMF Gulf of Mexico Foundation (NOAA/EPA)
NOAA National Oceanic Atmospheric Administration
USFWS US Fish & Wildlife Service
EPA Environmental Protection Agency
WMD Water Management District (Southwest Florida)
TBEP Tampa Bay Estuary Program (NFWF)
NFWF National Fish & Wildlife Federation

Negotiating with Private Land Owners



- **This project is the environmental thing to do**
 - **This project benefits you by saving/making \$\$\$\$**
 - **This collaboration should provide excellent PR**

Newman Branch Restoration



- **P3s – *An Innovative Approach***
- **Award Winning Projects**
- **Expands Habitat Restoration Opportunities**

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Questions?

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