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Celery Fields Update

Board of County Commissioners
August 26, 2014

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Today's Discussion

- Overview
- Completion of Phase 3
- BMP Effectiveness Study
  - ✓ Water Quality
  - ✓ Volume Reduction
  - ✓ Biology
- Additional Benefits

Leaders and Partners

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SARASOTA AUDUBON SOCIETY

DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

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Southwest Florida
Water Management District
WATERMATTERS.ORG · 1-800-423-1476

Project Awards and Recognitions

- ✓ Environmental Excellence Award from the National Association of Environmental Professionals in the category of Conservation, by Stanley Consultants, Inc. – Feb. 2013
- ✓ Florida Institute of Consulting Engineers - Engineering Excellence Honors Award in the category of Water Resources, by Kimley-Horn & Assoc. – January 2014
- ✓ Outstanding Achievement Award – Florida Stormwater Association by Sarasota County Public Works / Public Utilities, June 2014

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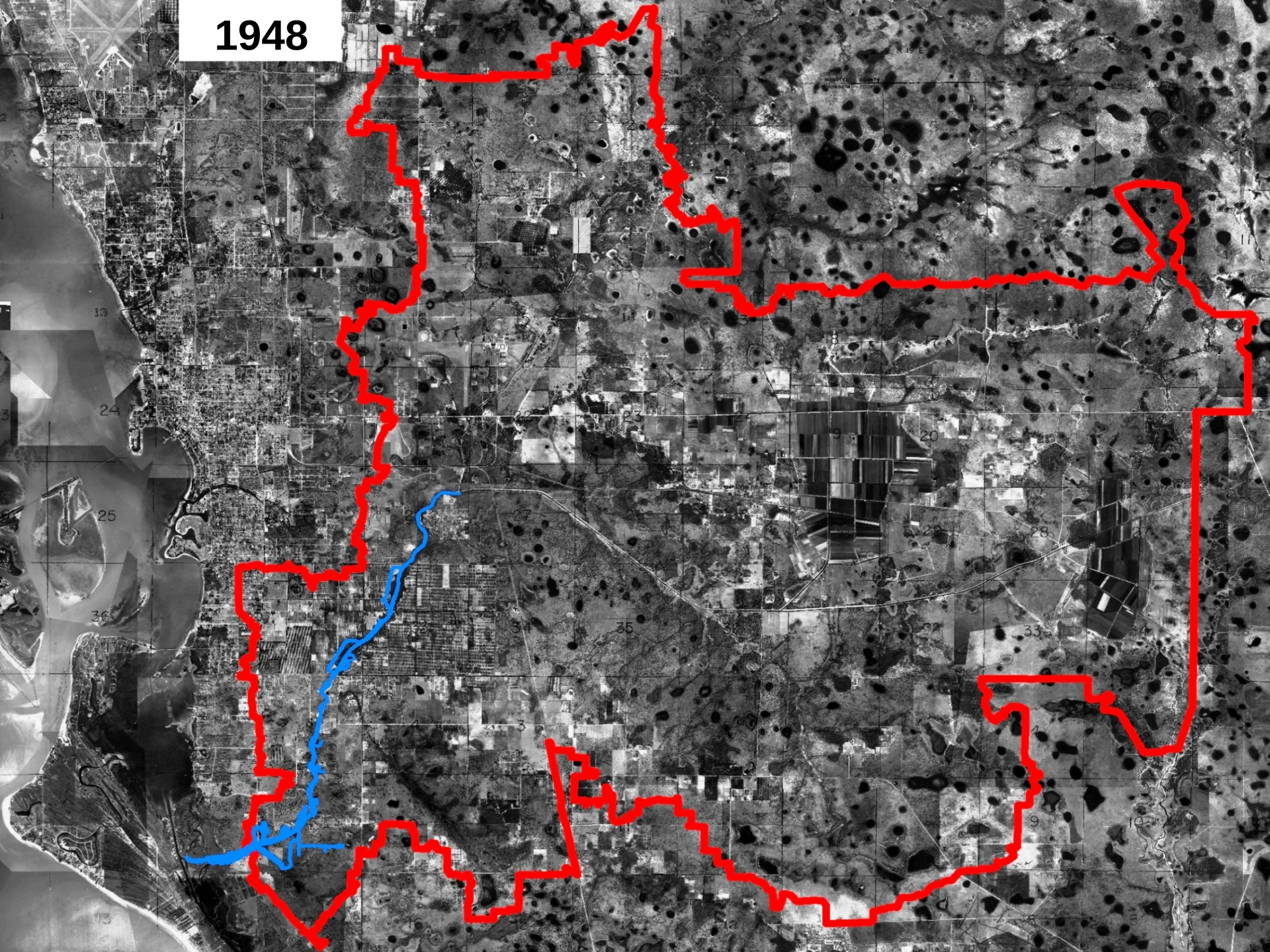
Big Camp Sawgrass


1948

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Flood Control

- 1992 flood
- 1995 300-acre purchase
- 1997 Phase 1 & Phase 2 completed
- Phase 3 - Walker Tract & South Cell

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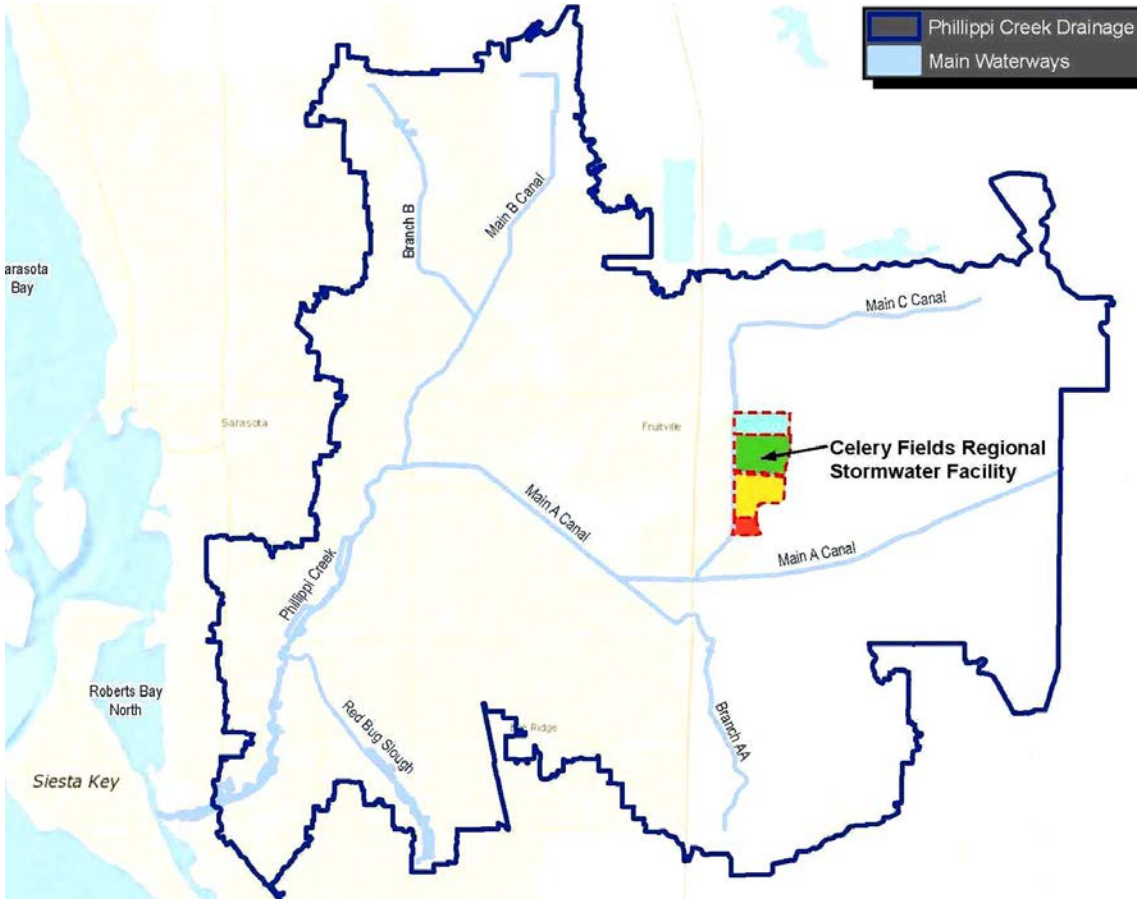
Watershed Benefits

- Roberts Bay
- Phillippi Creek
- Main A
- Main C
- 400+ acre site
- 3,500+ acres upstream



Contributing Area

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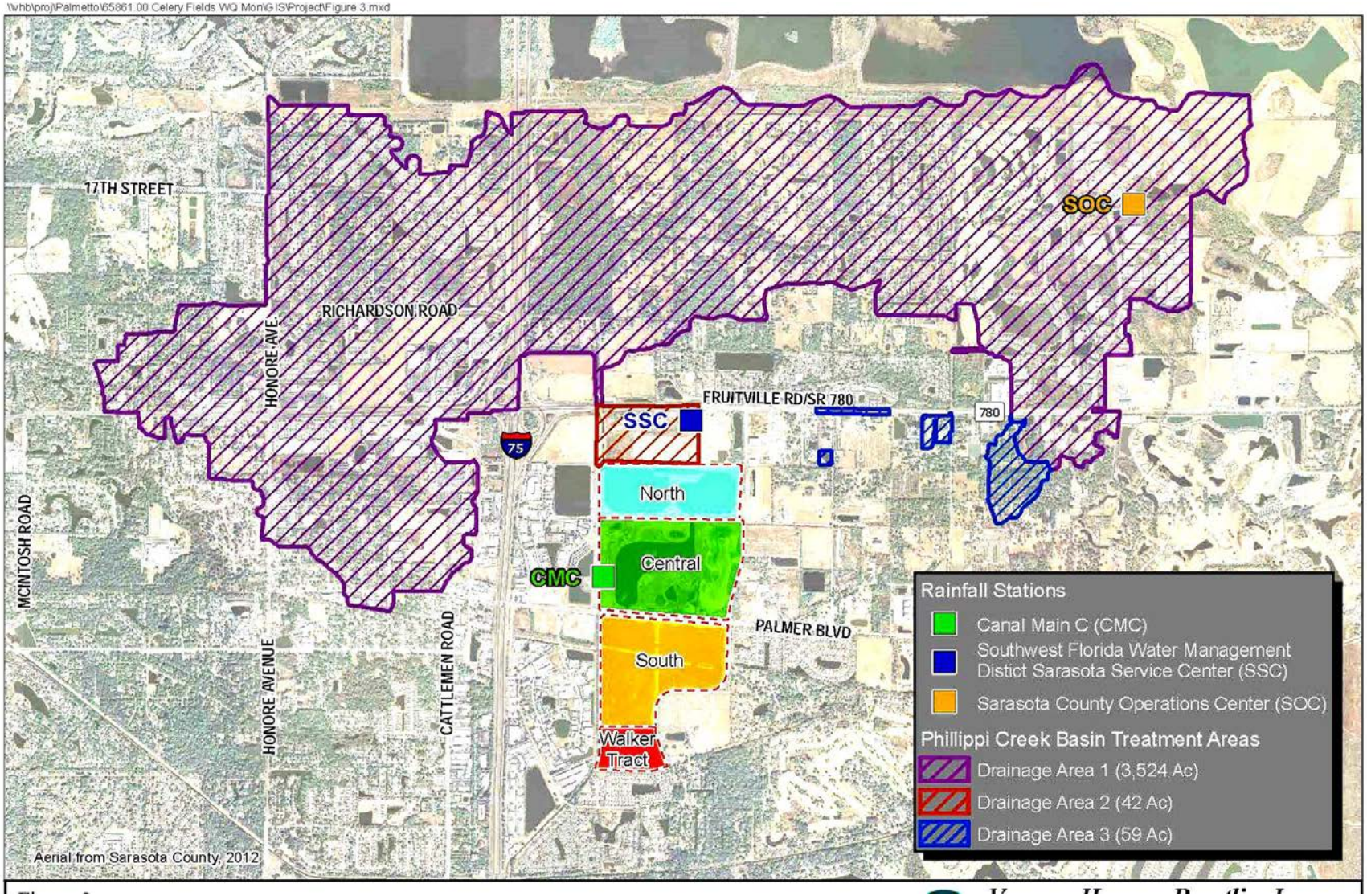

Celery Fields Structure

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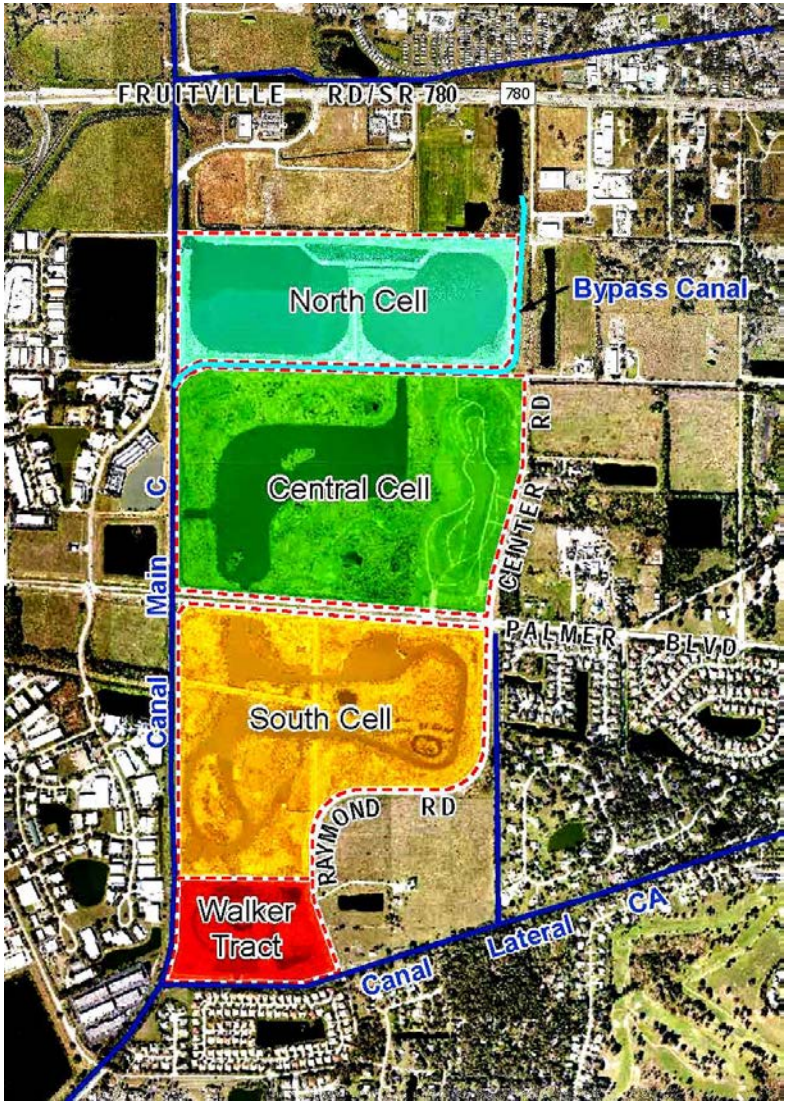

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Phase 3

Goals: Reduce Flooding - Improve Water Quality - Passive Recreational Use

South Cell

- 120 acre excavation
- Wetland Mitigation Planting 18 acres
- Bird boxes, snags, Osprey platform
- Observation Boardwalks

Walker Tract

- 30 acre lake expansion
- Lateral CA Canal grading 1,500 LF
- Culvert Improvement 60” RCP
- Wetland plantings 13 acres

Recreational Use Facility

- Observation Mound with fitness and bike trails
- Walking Trails around south perimeter
- Parking
- Interpretive signage
- Boardwalk with covered gazebo

BMP Evaluation Study

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- Measure pollutant and nutrient removal from the watershed
- How to manage site better
- Performance of similar stormwater facilities
- Mitigation planting success
- Dye study
- Bird survey

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What was Learned

- Substantial volume of water is lost through infiltration and evapotranspiration
- Removal efficiencies:
  - ✓ TN 53%
  - ✓ TP 50%
  - ✓ TSS 82%
- Reduced inorganic nitrogen that feeds undesirable algal blooms in downstream waters
- The residence time for the entire facility ranged from 50 to 84 days

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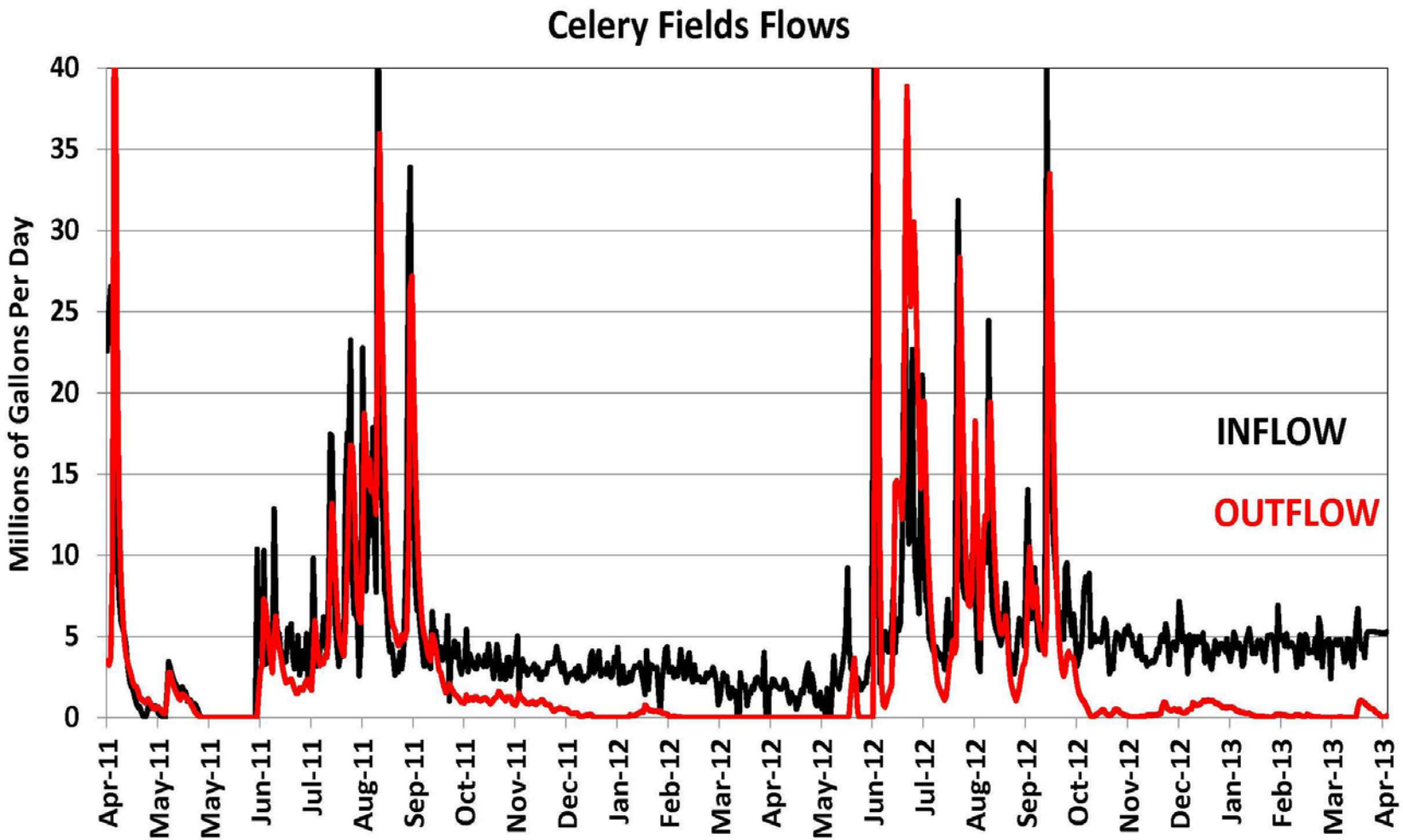
Dry Season Flow Reduction



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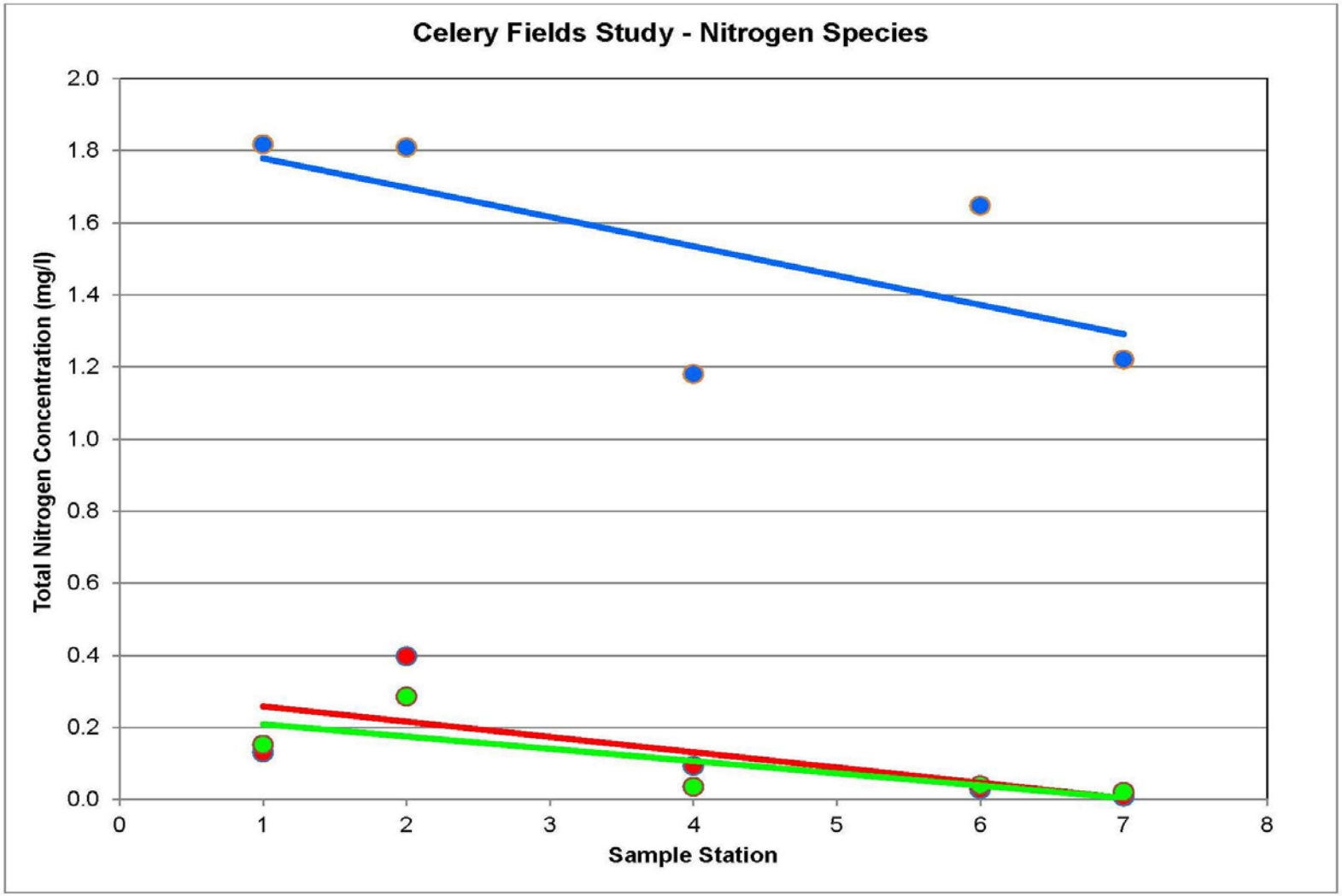
Concentration Reduction



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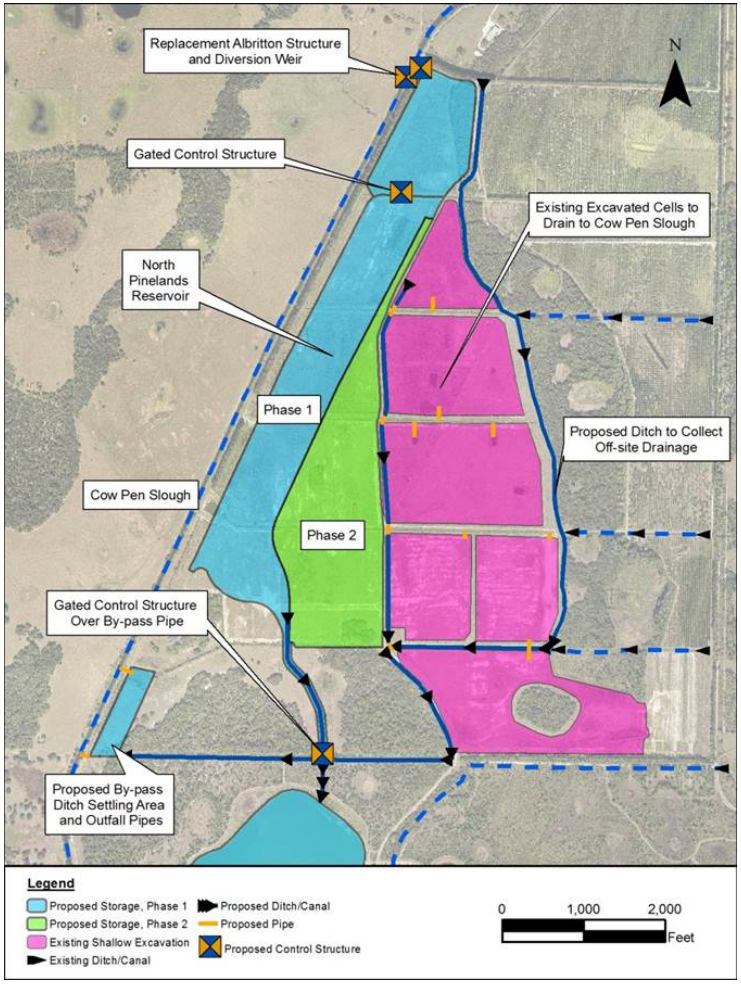
Application to Dona Bay Project

- Nitrogen Reduction
- Volume Reduction

= Pollutant Load Reduction



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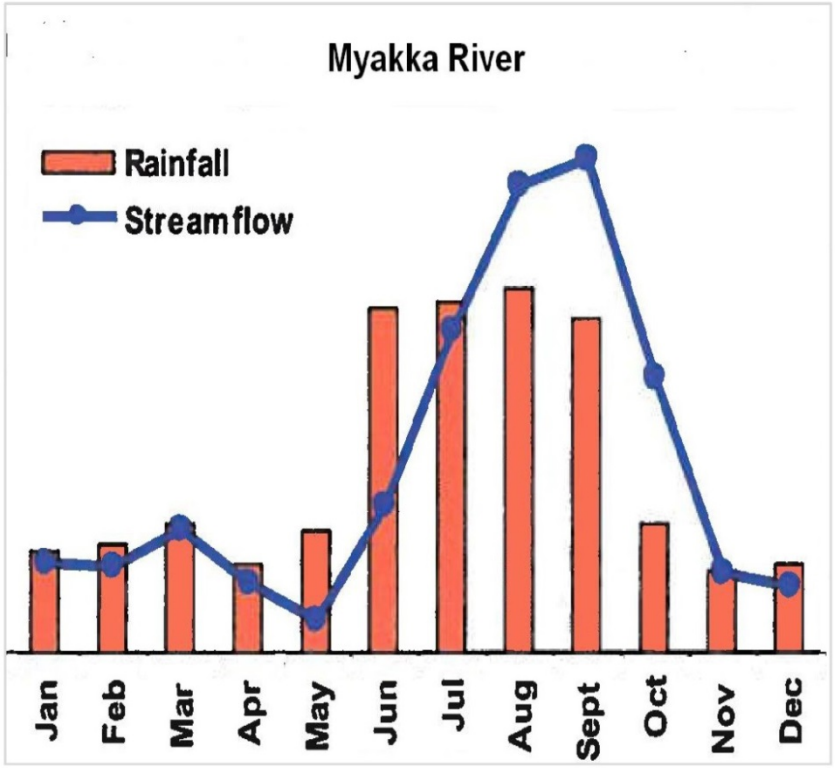
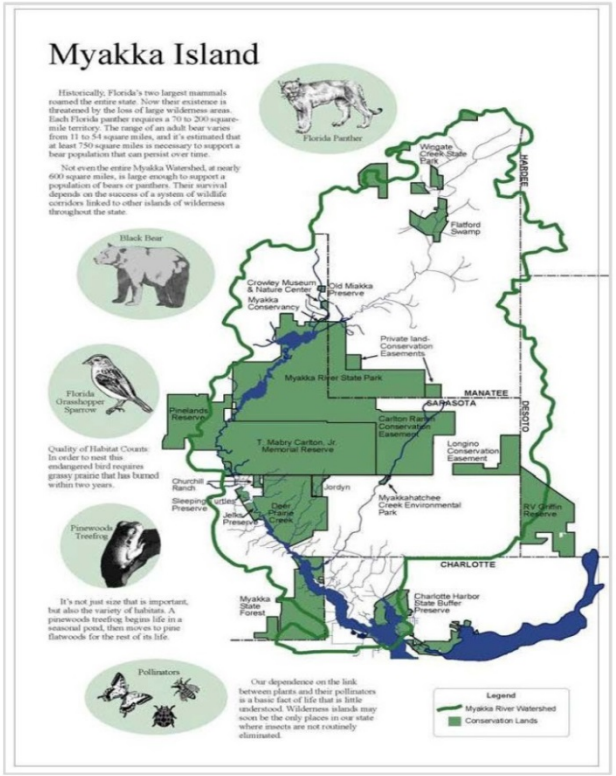
Natural watersheds – Low runoff in dry season

Myakka is a Productive Watershed





Wetlands Grew In

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Figure 17. ***Celery Fields South Cell Mitigation Site Vegetation Development.***

Birding Hotspot

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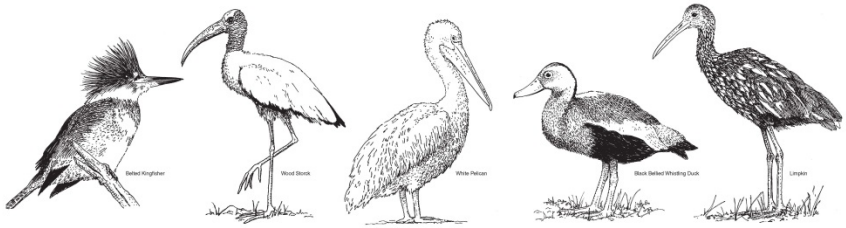
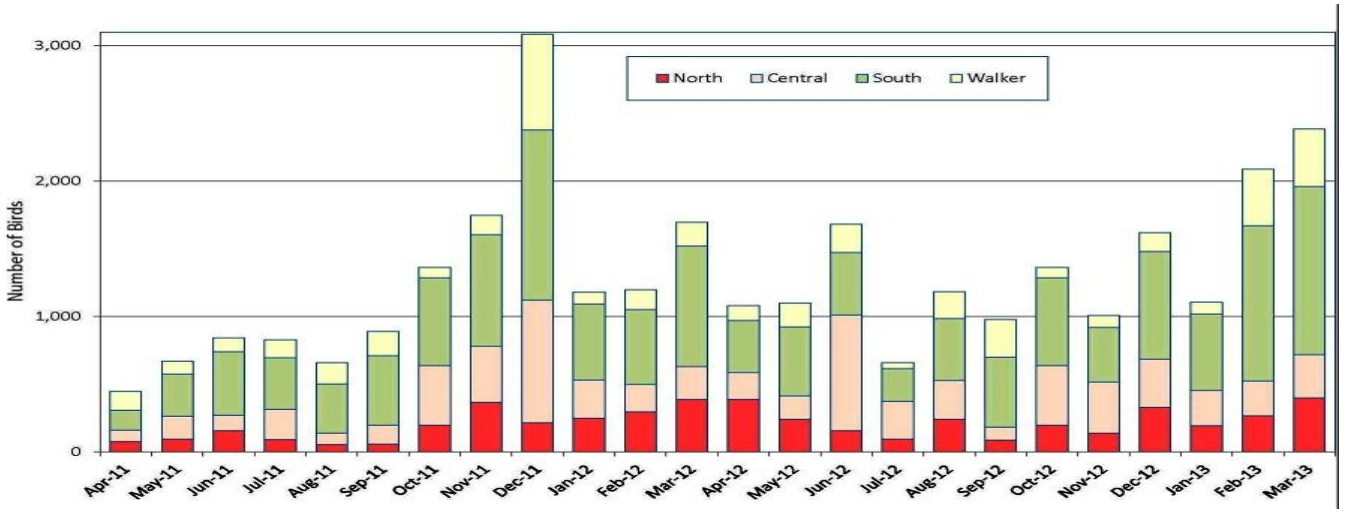
A Haven for Hundreds of Species!

The habitats within the Celery Fields Regional Stormwater Facility provide an excellent opportunity for observing numerous wildlife and plant species. Commonly observed bird species include great egret, limpkin, red-shouldered hawk, bald eagle, little blue heron, snowy egret, black-necked stilt, white ibis, wood stork, and a variety of duck species, including the blue-winged teal, mottled duck, and black-bellied whistling duck. Potential mammal sightings include otter, red fox, raccoon, cotton rat, and bobcat. Amphibians and reptiles expected to be observed (or heard) include green tree frog, leopard frog, alligator, Florida cooter turtle, Florida snapping turtle, banded water snake, and black racer. The primary wetland plant species you may see include spikerush, sawgrass, alligator flag, bulrush, arrowhead, and pickerelweed. Note the cordgrass and occasional tree and shrub species along the bank or transitional zone. The transitional zone or "ecotone" includes native slash pine, Walter's viburnum, sugarberry, wax myrtle, sweet bay, American elm, and live oak. In the Celery Fields setting, the transitional zone also provides a buffer between developed features such as roadways, sidewalks, urban grasses, and the other native habitats before you.





Flood Protection with Benefits

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Attention Teachers!

SARASOTA AUDUBON SOCIETY

is providing

Celery Fields Field Trips

Free of charge
2013 Funds matched by GULF COAST COMMUNITY FOUNDATION

Grade Level Appropriate
Binoculars, Birds, Botany
Investigate Adaptations
LID Study
Stormwater Study

Schedule a trip for 2014 and plan for your 2nd semester curriculum

Around the Bend Nature Tours

Contact Around the Bend Nature Tours today!
(941) 794-8773 Karen@aroundbend.com

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Questions?