



**AGENDA**  
**ENVIRONMENTAL ADVISORY BOARD**  
**CITY OF PORT ORANGE**

**Meeting Date:** Tuesday, April 25, 2017

**Time:** 5:15 PM

**Type of Meeting:** Regular

**Location:** Council Chamber  
City Hall, 1000 City Center Circle

**A. CALL TO ORDER**

1. Roll Call

**B. DISCUSSION/ACTION**

2. Consideration of Minutes
3. Rose Bay Shoreline Restoration Project.
4. Draft Tree Trimming Ordinance
5. Arbor Day tree give away update

**C. PUBLIC COMMENTS**

**D. ITEMS FOR NEXT AGENDA**

**E. BOARD COMMENTS**

**F. NEXT MEETING DATE**

6. Next Meeting Date: 7/25/17

**G. ADJOURNMENT**

ANY PERSON WHO DECIDES TO APPEAL ANY DECISION MADE BY THE **ENVIRONMENTAL ADVISORY BOARD** WILL NEED A RECORD OF THE PROCEEDINGS, AND FOR SUCH PURPOSE HE OR SHE MAY NEED TO ENSURE AT HIS OR HER OWN EXPENSE FOR THE TAKING AND PREPARATION OF A VERBATIM RECORD OF ALL TESTIMONY AND EVIDENCE OF THE PROCEEDINGS UPON WHICH THE APPEAL IS TO BE BASED. NOTE: IF YOU ARE A PERSON WITH A DISABILITY WHO NEEDS ANY ACCOMMODATION IN ORDER TO PARTICIPATE IN THIS PROCEEDING, YOU ARE ENTITLED, AT NO COST TO YOU, TO THE PROVISION OF CERTAIN ASSISTANCE. PLEASE CONTACT THE CITY CLERK FOR THE CITY OF PORT ORANGE, 1000 CITY CENTER CIRCLE, PORT ORANGE, FLORIDA 32129, TELEPHONE NUMBER 386-506-5563, WITHIN 2 WORKING DAYS OF YOUR RECEIPT OF THIS NOTICE OR 5 DAYS PRIOR TO THE MEETING DATE; IF YOU ARE HEARING OR VOICE IMPAIRED, CONTACT THE RELAY OPERATOR AT 1-800-955-8771.

ENVIRONMENTAL ADVISORY BOARD MEETING MINUTES  
CITY OF PORT ORANGE  
1000 CITY CENTER CIRCLE – CITY HALL  
CITY MANAGER'S CONFERENCE ROOM  
JANUARY 24, 2017 @ 5:15 P.M.

THE ENVIRONMENTAL ADVISORY BOARD of the City of Port Orange was called to order by Chairman LaMontagne at 5:19 p.m.

Present:                   Derek La Montagne  
                                Philip Klema  
                                Dennis Young  
                                Kristine Cunningham

Absent:                   Newton White (Excused)  
                                James Meadows  
                                Danielle Elwood

Also, Present:           Margaret Tomlinson, Construction/ Engineering Manager  
                                Barbara Abbate, City Clerk's Office

B.     ELECTION OF OFFICERS

*Motion was made by Member Klema to nominate Member LaMontagne as the Chairman for the Board. Motion was seconded by Member Young. Motion carried unanimously by voice vote.*

*Motion was made by Member Young to nominate Member White as the Vice Chairman for the Board. Motion was seconded by Member Klema. Motion carried unanimously by voice vote.*

C.     DISCUSSION/ACTION

1. Consideration of Minutes

*Motion made by Member Klema to accept the minutes from the July 26, 2016 meeting. Motion was seconded by Member Cunningham. Motion carried unanimously by voice vote.*

2. Brief overview of the Brownfield Program and update on Site Rehabilitation for the 5811 Williamson Boulevard Brownfield Area.

Michael Sznajstajler, Attorney with Cobb Cole, gave the Board an overview of the Florida Brownfield Program and the Brownfield Advisory Board. Mr. Sznajstajler passed out a power point presentation and reviewed it with the Board. He also went over the cleanup process, and options to cleanup a site. Mr. Sznajstajler said any restrictions that were set with the cleanup will still apply if the property is sold.

Mr. Sznajstajler passed out the actual voluntary cleanup agreement between the new owner of 5811 Williamson Blvd and the Department of Environmental Protection that was signed at the end of 2016, and discussed same. Mr. Sznajstajler said Preferred Realty, Inc. and Preferred Storage Port Orange, LLC has signed the contract and plans to put a clement controlled storage facility on the site. Mr. Sznajstajler will update the Board when there is progress to the cleanup and redevelopment.

3. Inaugural Tree-Seedling Program Update.

Chairman LaMontagne asked if there have been any trees given away. Ms. Tomlinson said no, but April 28, 2017 is the Parks & Recreation Arbor Day / Earth Day Event and that's when the trees will be given away. She will bring the information to the April meeting.

4. Foxboro Retention Pond Tree Planting Update.

Chairman LaMontagne asked if there was any money in the tree bank for planting trees in this area. Ms. Tomlinson updated the Board on the tree bank fund. She said \$100,800 will be used for Riverwalk Park.

D. PUBLIC COMMENTS

There was none.

E. BOARD COMMENTS

Member Klema asked about the East Coast Bike Trail that will come through Port Orange. Ms. Tomlinson said there have been some projects submitted to the TPO and one of them is the East Coast Bike Trail. This trail will run through Riverwalk Park and down Halifax Drive. Ms. Tomlinson will have an update for the Board at the April 28, 2017 meeting.

F. NEXT MEETING DATE

5. Next Meeting Date: 4/25/17

G. ADJOURNMENT

*Motion was made by Member Klema to adjourn;  
seconded by Member Young. Motion carried  
unanimously by voice vote and the meeting  
ended at 7:04 p.m.*

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Chairman LaMontagne

# Rose Bay Watershed Restoration Proposal



Port Orange Environmental  
Advisory Board

April 25, 2017

Katie Tripp, Ph.D.

Paul Haydt

Erica Hernandez

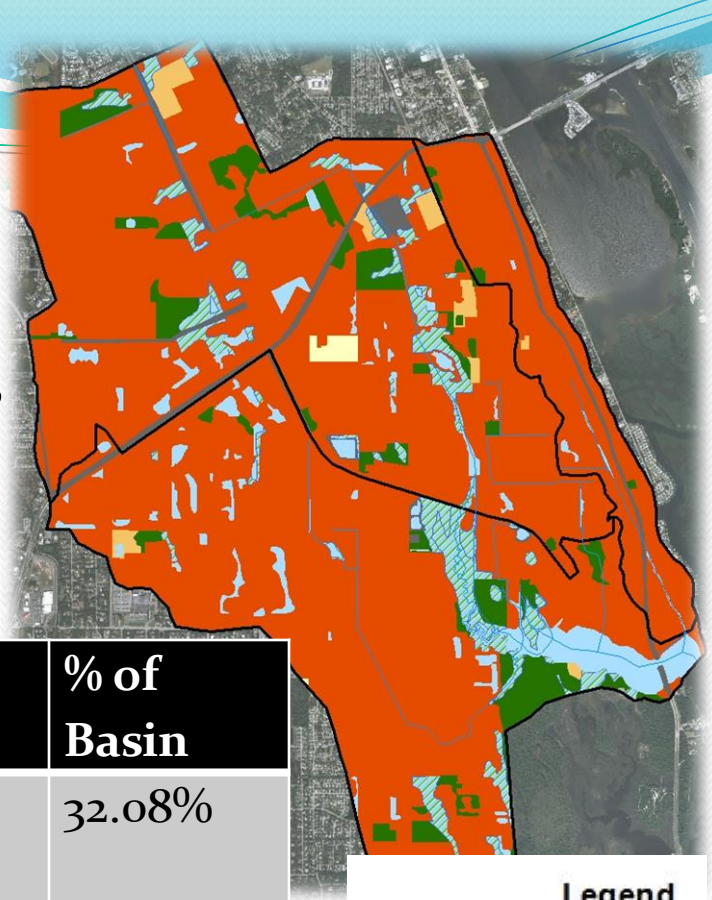
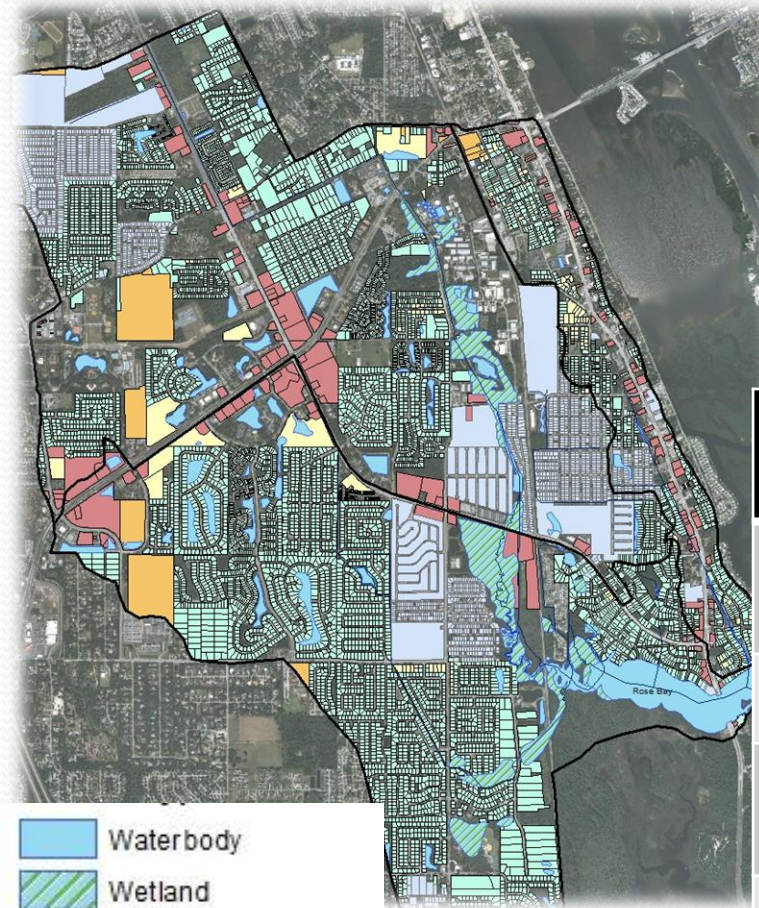
Shannon Jackson

Jessy Wayles

# Rose Bay Watershed

- 3 urban watersheds

- 5,846 acres

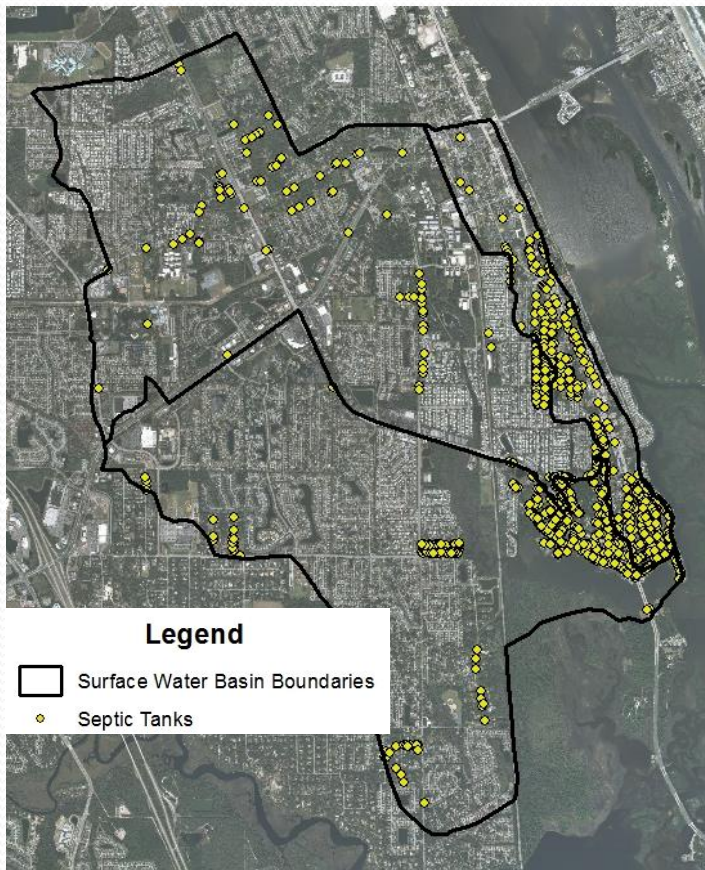


| Parcel Use    | Acres   | % of Basin |
|---------------|---------|------------|
| Single-Family | 1875.75 | 32.08%     |
| Condos        | 121.56  | 2.08%      |
| Mobile Homes  | 632.61  | 10.82%     |
| Commercial    | 285.78  | 4.89%      |
| Schools       | 137.62  | 2.35%      |
| Total         | 3053.32 | 52.23%     |



# Historic Problems

- Stormwater
- Septic Tanks
- Restricted Flow /  
Reduced Water Exchange
- Accumulated Sediment



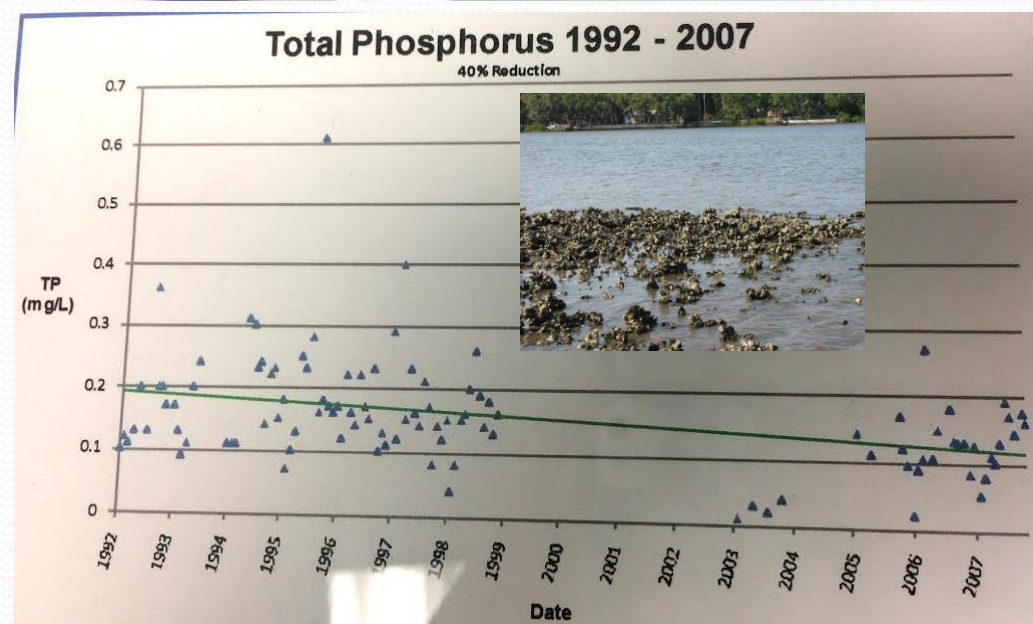
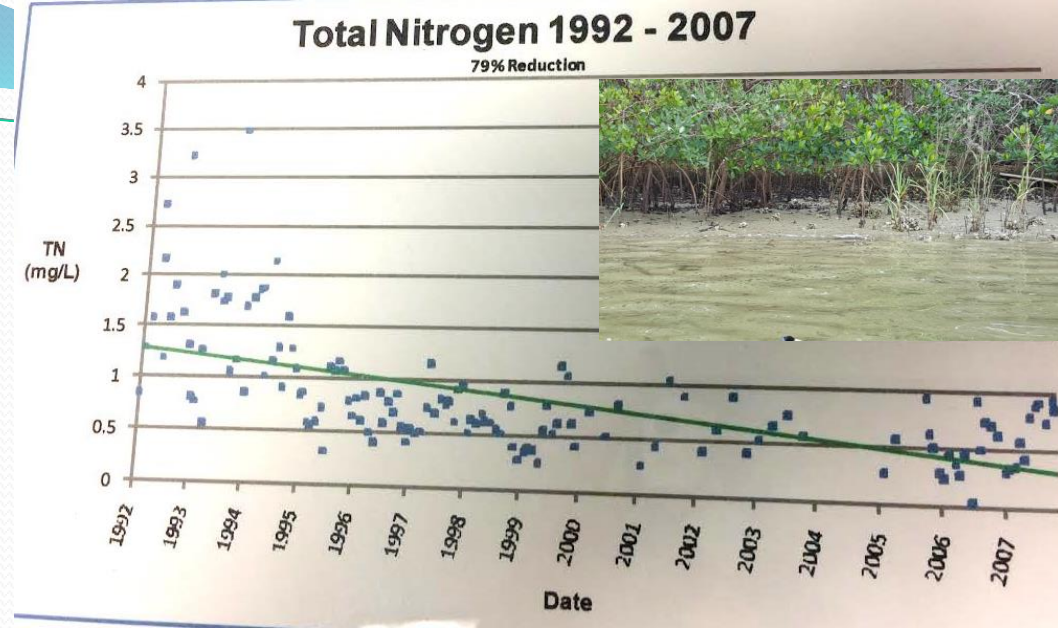
# Prior Restoration Work

- Stormwater Retrofit
- Septic Replacement w/  
Central Sewage
- Remove old causeway
- Replace US 1 Causeway w/  
complete bridge
- Remove 280,000 cubic yards  
of accumulated sediment



# Improvements Following Past Efforts

- Less runoff of nutrients, fertilizer, & sediments
- Restored water flow & circulation
- Improved water quality (lower N & P)
- Re-established firm bottom for healthier subtidal communities
- Expansion of vegetated shoreline
- New oyster clusters and expanded reefs



# Remaining Challenges



Sea Walls &  
Bare Shorelines



Stormwater  
Discharges



Landscape, fertilizer,  
& irrigation mgmt.

Exotic Vegetation



Brazilian Pepper



Storm Debris



Australian Pine



# Solution:

## Rose Bay Shoreline Restoration



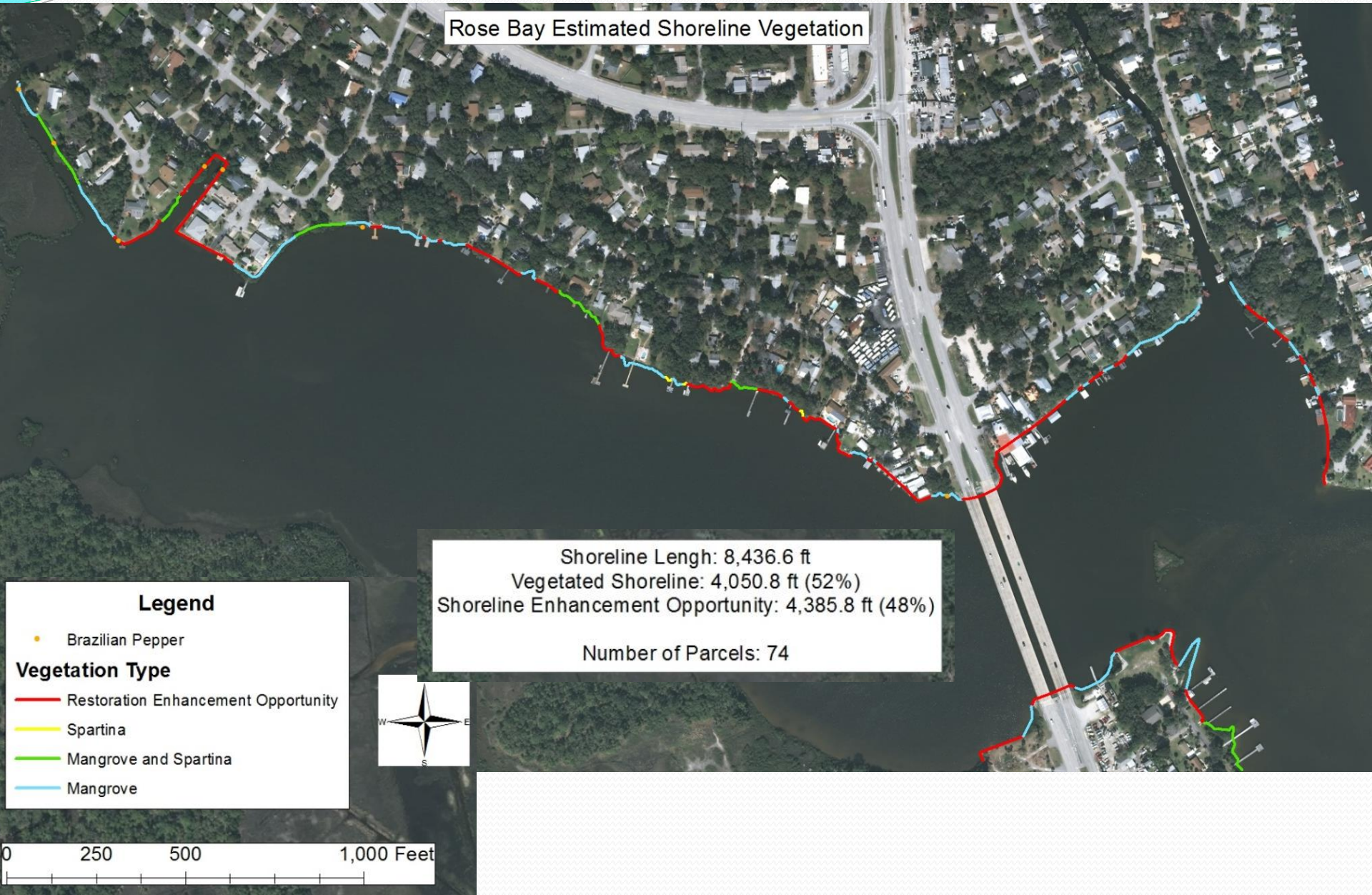
# Goals

- Adopt Rose Bay as a model healthy estuary community with 100% living shoreline
- Develop plans for long-term maintenance & monitoring
- Gain approval & endorsements, secure funding, & finalize partnerships
- Implement the program in phases using community volunteers
- Monitor progress- including citizen scientists
- Conduct maintenance as needed
- Share our results & findings to help other coastal communities pursue similar projects



# Phase 1

Rose Bay Estimated Shoreline Vegetation



# Project Partners

- Harbor Oaks Neighborhood Association
- Save the Manatee Club
- Volusia Soil & Water Conservation District
- City of Port Orange
- Marine Discovery Center
- St Johns River Water Management District
- Florida Fish and Wildlife Conservation Commission
- Stetson University, possibly other local universities
- Project IBIS



# Plan Components

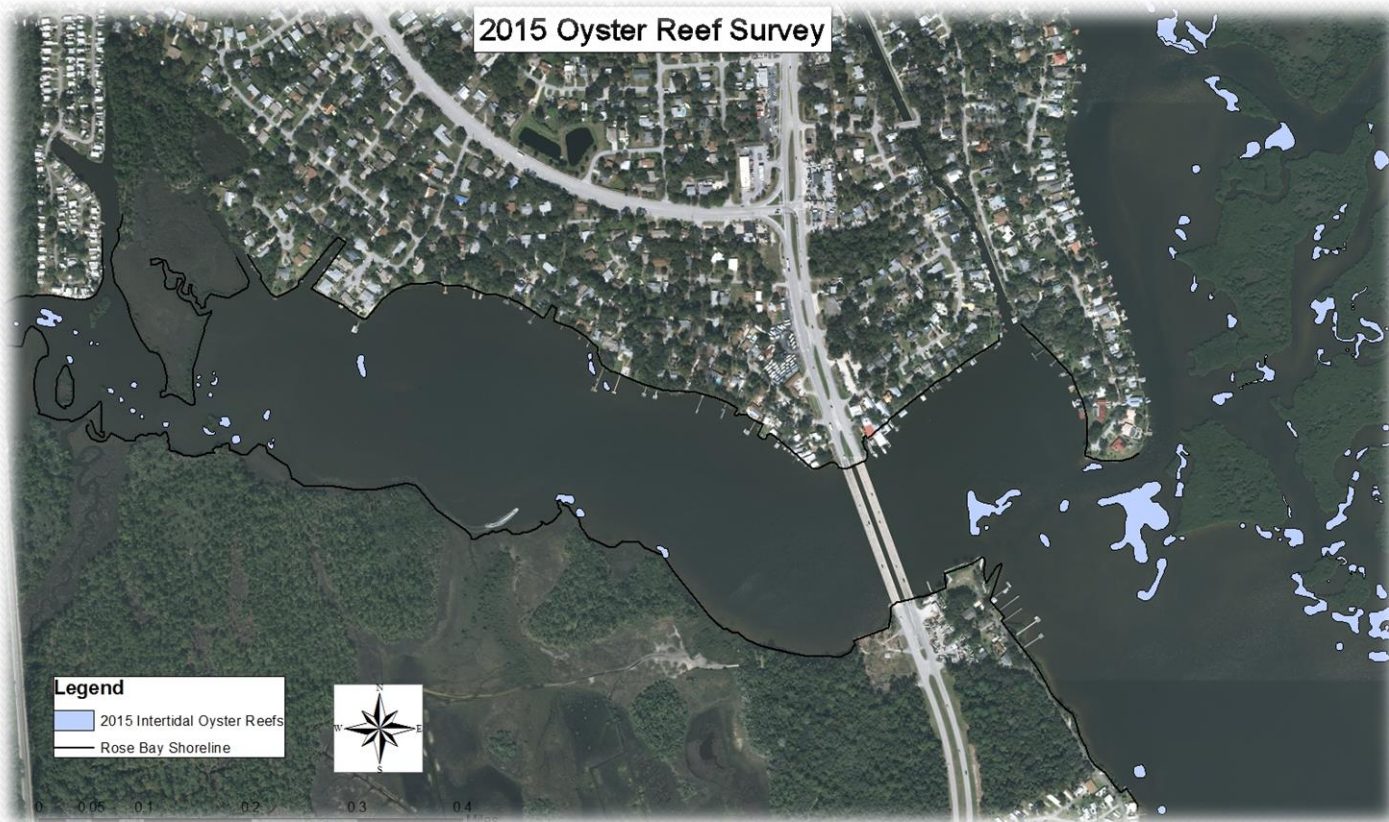
- Finalize project plan & partner engagement roles
- Obtain permission from each shoreline homeowner
  - We need volunteers to help
- Secure permits
- Set action plan & timeline
- Search for grants to assist with monitoring/analysis
- Divide Phase 1 into segments
  - Secure volunteers to assist with project in each segment
  - Upland support team- grillers, bakers, DJs, water providers
- Train interested residents in Monitoring & Exotic Control
- Use combined citizen & student research scientists to conduct monitoring



# On the Ground



- Remove exotic vegetation
- Enhance bare or semi-bare shorelines w/ sloping vegetated & oyster habitat
- Help residents amend upland landscape management in support of a healthy estuary
  - Preserve back 10 feet as a natural buffer



# On the Ground- Continued

- Identify and improve remaining storm-water outfalls
  - Help residents retain more water on-property (i.e. rain barrels)
- Conduct irrigation & fertilizer education programs
  - Promote Volusia's Be Floridian Program
- Provide information on proper living shoreline maintenance



# Project Benefits

- Protection of shoreline from wake & wind energies that cause erosion
- Provide natural subtidal → upland habitats that are largely **self-sustaining & resilient to storms & sea level rise**
- Improved water quality → enhanced fish nurseries & wildlife habitats
- Healthy shorelines are aesthetically attractive & can enhance property values



# Next Steps

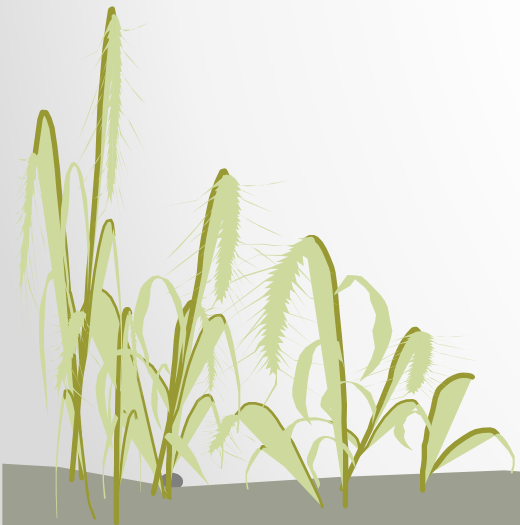


- Harbor Oaks Neighborhood Association Endorsement
- Presentation to Port Orange EAB
- Coordination with City Management and Staff
- Refine & Endorse Shoreline Plan Implementation and Maintenance Strategies
- Grant Proposals to support Community Coordination & Education Programs & Monitoring/Data Analysis
- Organize Partners
- Get to Work!!



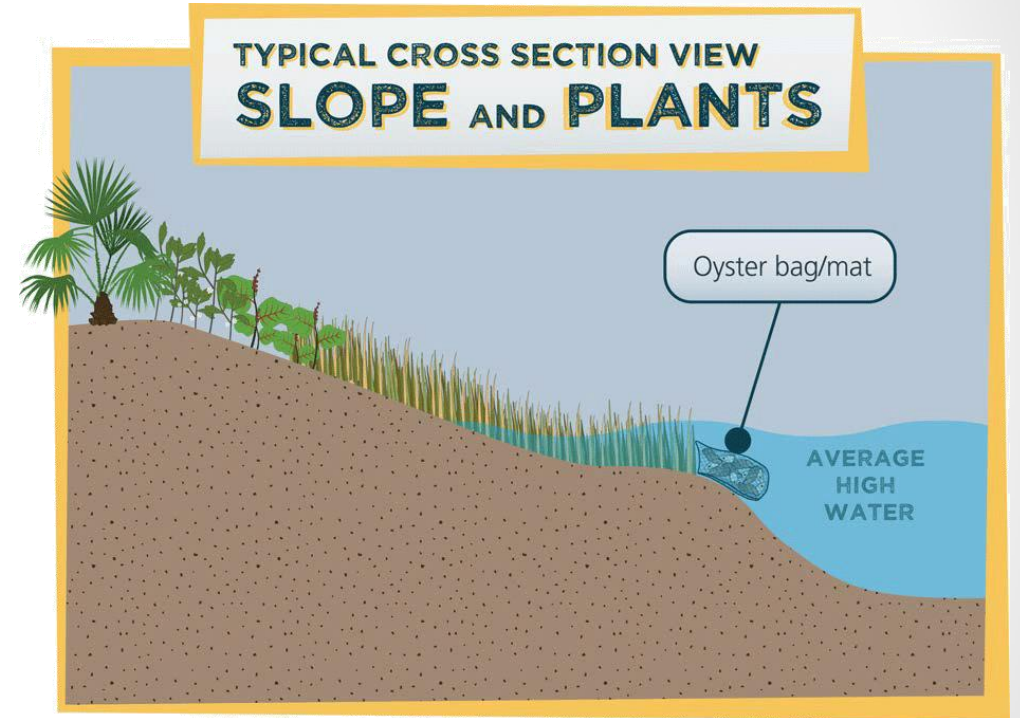
# Living Shorelines

A Natural Approach to Property Protection



# “...what is a living shoreline?”

- Shoreline protection construction projects that mimic natural shorelines
  - Plants, sand, limited rock, other natural materials to maintain valuable habitat while protecting shorelines



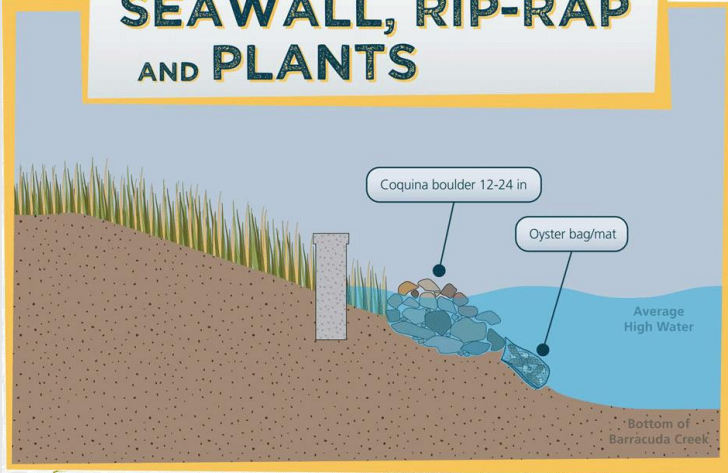
# Benefits



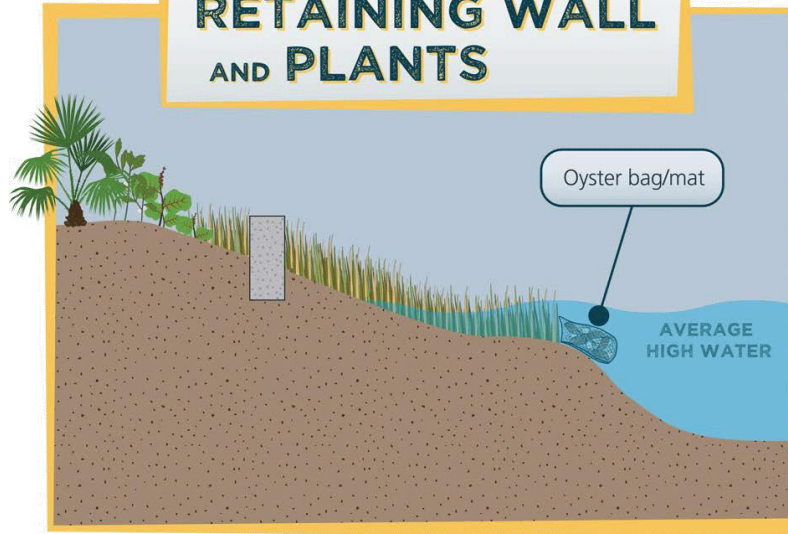
Comparison of a bulkhead (top) and a living shoreline (bottom) within 500ft of each other along the coast of NC, before and after Hurricane Irene. Photo from Rachel Gittman, 2015

# “Hybrid” Living Shorelines

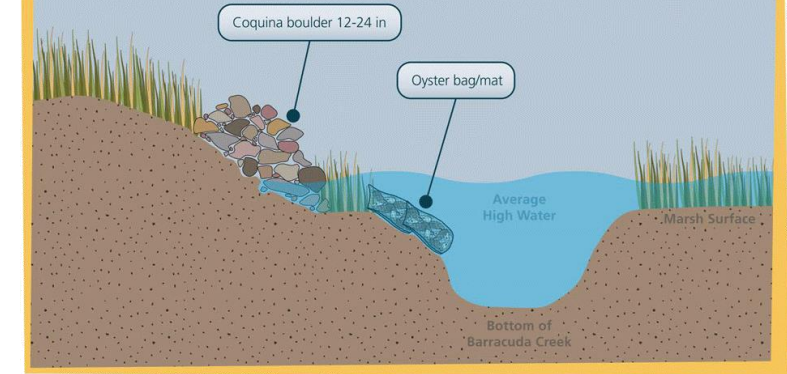
TYPICAL CROSS SECTION VIEW  
**SEAWALL, RIP-RAP  
AND PLANTS**



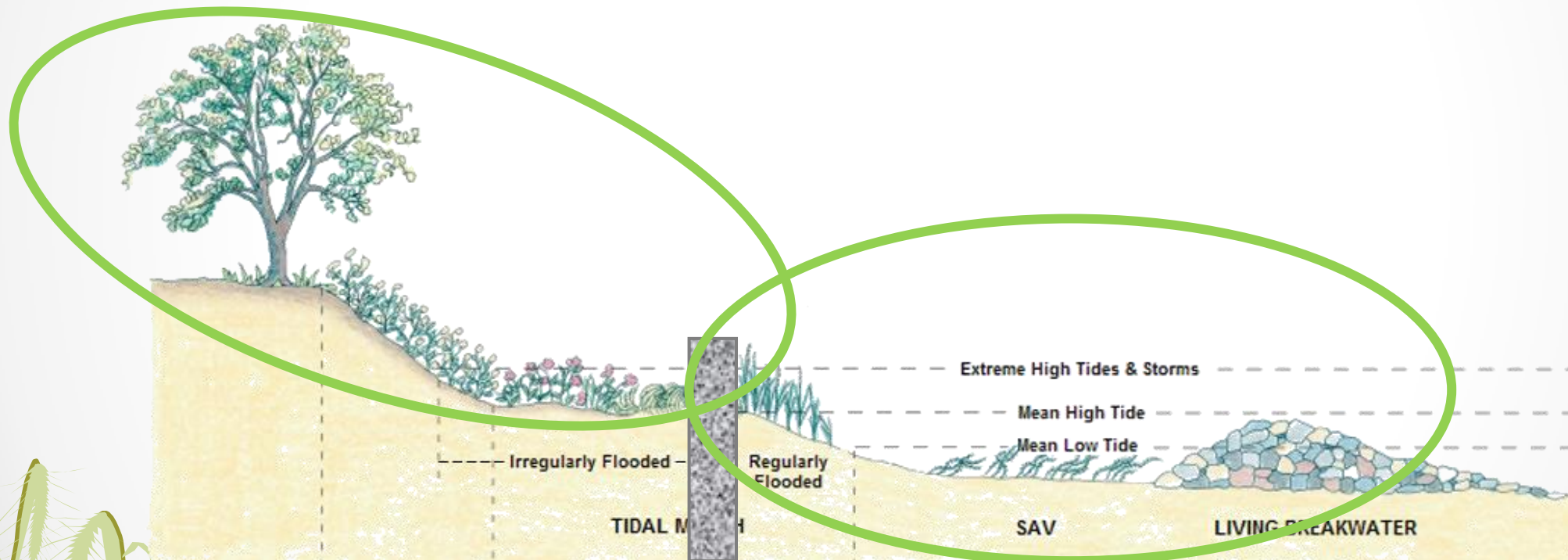
TYPICAL CROSS SECTION VIEW  
**RETAINING WALL  
AND PLANTS**



TYPICAL CROSS SECTION VIEW  
**RIP-RAP AND PLANTS**



# Slope



# Intertidal Plants



- Smooth cordgrass (Spartina alterniflora)
- Saltwort (Batis maritima)
- Glasswort (Sarcocornia ambigua)
- Saltmeadow cordgrass (Spartina patens)
- Red mangrove (Rhizophora mangle)
- Black mangrove (Avicennia germinans)
- Saltgrass (Distichlis spicata)
- Seashore dropseed (Sporobolus virginicus)
- Sea purslane (Sesuvium maritimum)
- Seashore paspalum (Paspalum vaginatum)
- White mangrove (Laguncularia racemosa)



# Main Slope Plants



- False indigo (*Amorpha fruticosa*)
- Red cedar (*Juniperus virginiana*)
- Firebush (*Hamelia patens*)
- Milkweed (*Asclepias* spp.)
- Myrsine (*Myrsine cubana*)
- Gumbo limbo (*Bursera simaruba*)
- Florida privet (*Forestiera segregata*)
- Seaside goldenrod (*Solidago sempervirens*)
- Porterweed (*Stachytarpheta jamaicensis*)
- White indigoberry (*Randia aculeata*)
- Herb of grace (*Bacopa monnieri*)
- Sweetbay (*Magnolia virginiana*)
- Necklacepod (*Sophora tomentosa*)
- Snowberry (*Chiococca alba*)
- Beautyberry (*Callicarpa americana*)
- Saltbush or groundsel (*Baccharis angustifolia*)
- Railroad vine (*Ipomoea* spp.)
- Sweet acacia (*Vachellia farnesiana*)
- Green buttonwood (*Conocarpus erectus*)
- Marsh elder (*Iva frutescens*)
- Silver buttonwood (*Conocarpus erectus*)
- East coast dune sunflower (*Helianthus debilis*)
- Blanketflower (*Gaillardia pulchella*)
- Wild lantana (*Lantana involucrata*)
- Cabbage palm (*Sabal palmetto*)
- Sea ox-eye daisy (*Borreria frutescens*)
- Muhle grass (*Muhlenbergia capillaris*)
- Seagrape (*Coccoloba uvifera*)
- Wax myrtle (*Myrica cerifera*)
- Gulf spikerush (*Eleocharis cellulosa*)
- Black needlerush (*Juncus roemarianus*)
- Pondapple (*Annona glabra*)
- Red bay (*Persea borbonia*)



# Oysters in the Bay



# Economic Impact

| NONSTRUCTURAL<br>(PLANTING<br>GRADING/FILL) | HYBRID (MARSH<br>+ SILL) | BREAKWATERS<br>(OFFSHORE) | STRUCTURAL<br>(REVETMENT)   | LOCATION                   | DATE       |
|---------------------------------------------|--------------------------|---------------------------|-----------------------------|----------------------------|------------|
| \$100-200                                   | \$250-\$400              | \$450-\$600               | \$500-\$1,200               | Maryland                   | circa 2014 |
| \$100-225                                   | \$250-\$700              | \$450-\$1,000             | \$500-\$1,500               | Delaware Estuary           | circa 2012 |
| \$45+                                       | \$120-\$395              | \$125-\$200               | \$115-\$285<br>(low energy) | Northern<br>Gulf of Mexico | circa 2008 |
| \$50-\$100                                  | \$150-\$300              | \$350-\$500               | \$500-\$1,000               | Maryland                   | 2007       |
| <b>\$45+</b>                                | <b>\$100+</b>            | <b>\$150-\$250</b>        | <b>\$115-\$1,200</b>        | Florida                    | 2008       |

Table 3. Cost Estimates for Shoreline Management Approaches (average cost per linear foot).<sup>28</sup>

- Aesthetics affect property value
- Assisting in healthy fisheries & improves recreational values
  - Increase in ecotourism
- **Sea walls and bulkheads fail.**
  - The cost to repair/loss of habitat has not been quantified.



# Questions?

Jessy@MarineDiscoveryCenter.org

 [www.Florida Living Shorelines.com](http://www.FloridaLivingShorelines.com)



# ***DRAFT***

## **ORDINANCE NO. 17-xx**

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA, AMENDING THE CODE OF ORDINANCES CHAPTER 42 BY ADDING DIVISION VI – TREE ABUSE; PROVIDING FOR CONFLICTING ORDINANCES; PROVIDING FOR SEVERABILITY AND PROVIDING AN EFFECTIVE DATE.

**WHEREAS**, for purposes of this Ordinance words with underlined (underlined) type shall constitute additions to the original text and words with strikethrough (~~strikethrough~~) type shall constitute deletions from the original text.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PORT ORANGE, VOLUSIA COUNTY, FLORIDA:

Section 1. The City Council hereby amends Chapter 42 of the Code of Ordinances to read as follows:

### **DIVISION VI. – TREE ABUSE**

#### **Sec. 42-116. - Purpose.**

This article establishes regulations and standards necessary to ensure that the city continues to safely realize the benefits provided by naturally existing and cultivated trees. It is not intended to resolve or regulate disputes over trees on private property that do not affect general public safety.

#### **Sec. 42-117. - Definitions.**

The following words, terms and phrases, when used in this article shall have the meanings ascribed them in this section, except where the context clearly indicates a different meaning:

*Hattracking.* To flat-cut the top of a tree, severing the leader or leaders; or pruning a tree by stubbing off mature wood; or reducing the total circumference or canopy spread not in conformance with the American National Standards Institute, A-300 standards or other accepted standards as published.

#### **Sec. 42-118. – Tree abuse.**

- (a) *Generally.* Tree abuse is prohibited. Abused trees may not be counted toward fulfilling landscape requirements. The city may require the abused trees to be replaced in accordance with Ch. 9, Art. II, LDC.

- (b) Prohibited acts. A tree shall be considered abused if a person takes an action so that one of the following occurs:
- 1) Cutting upon a tree which alters the natural shape.
  - 2) Hatracking.
  - 3) Trimming of more than one-third (1/3) of the tree canopy within a one year period.
- (c) Exceptions. Exceptions to this section are as follows:
- 1) Understory trees and any trees listed on the most recent edition of the Florida Exotic Pest Plant Council Invasive Plant List are not protected by this section.
  - 2) Utility line clearing in conformance with ANSI A-300 and ANSI Z133.1 safety standards and National Electrical Safety Code clearances does not constitute tree abuse.
  - 3) Trees severely damaged by hurricane, windstorm, flood, lightning or other natural phenomena does not constitute tree abuse.
- (d) Penalties and enforcement . The provisions of this section shall be enforced and penalties imposed pursuant to [chapter 2](#), article V, Code Enforcement, of the City of Port Orange Code of Ordinances, and any other remedies allowed by law or equity.

Section 2. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict.

Section 3. If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of this ordinance are declared severable.

Section 4. This ordinance shall become effective immediately upon adoption by the City Council.

\_\_\_\_\_  
MAYOR DONALD O. BURNETTE

ATTEST:

\_\_\_\_\_  
Robin Fenwick, City Clerk

Passed on first reading on the \_\_\_\_\_ day of \_\_\_\_\_, 2017.

Passed and adopted on second and final reading on the \_\_\_\_ day of \_\_\_\_\_, 2017.

Reviewed and Approved: \_\_\_\_\_  
City Attorney