



Sarasota Bay Estuary Program

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- Benefits of a healthy bay
- History – Where do some of the current environmental issues stem from?
- About the Estuary Program
- How is Sarasota Bay Doing?
- Ways to Get Involved



A healthy bay benefits our economy



In Sarasota and Manatee counties:

- Bay-related activities support 21,000 jobs
- Property value uplift associated with proximity to the bay is \$3.6 billion
- Taxes paid by visitors saved each Sarasota County household \$810 in 2021.



A healthy bay benefits our health and safety

Coastal protection



Mangroves reduce storm surge 26-76%, reduce wind energy. Seagrasses stabilize seafloor, reduce erosion

Mangroves saved \$1.2 billion in damages during Irma (2017) in Lee & Collier counties

Water filtration & absorption



Wetlands = “Earth’s kidneys”, trap, filter, & absorb water, reducing flooding & pollution

Carbon storage



Bay habitats = carbon sinks, reducing CO2

Physical & Mental Health



Exercise, seagrasses neutralize bacteria & pathogens



A healthy bay benefits our quality of life

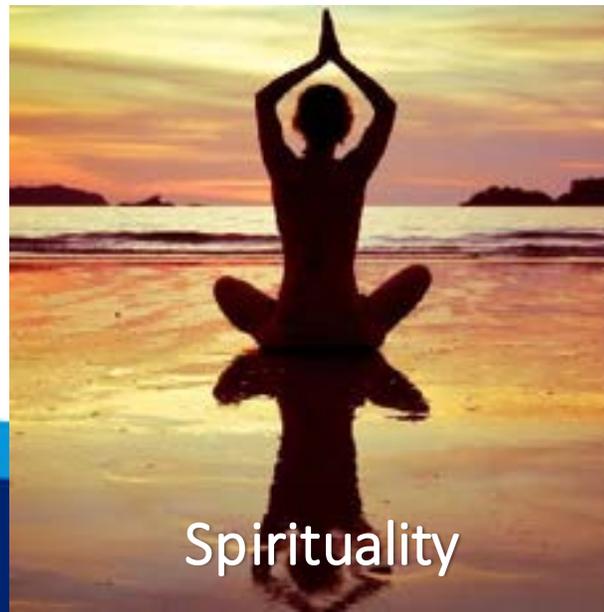
Recreation

- > 40,000 registered boats
- > 34,000 saltwater fishing licenses in Sarasota & Manatee counties



Seafood: grouper, snapper, mullet, stone crab, blue crab, pompano, Spanish mackerel

Cultural Heritage



Spirituality



St. Petersburg, Fla. circa 1900

ST. PETERSBURG, Fla. Indian Shell Mound

History – Where do some of the current environmental issues come from?

- We inherited some
- We are perpetuating some
- We can solve some

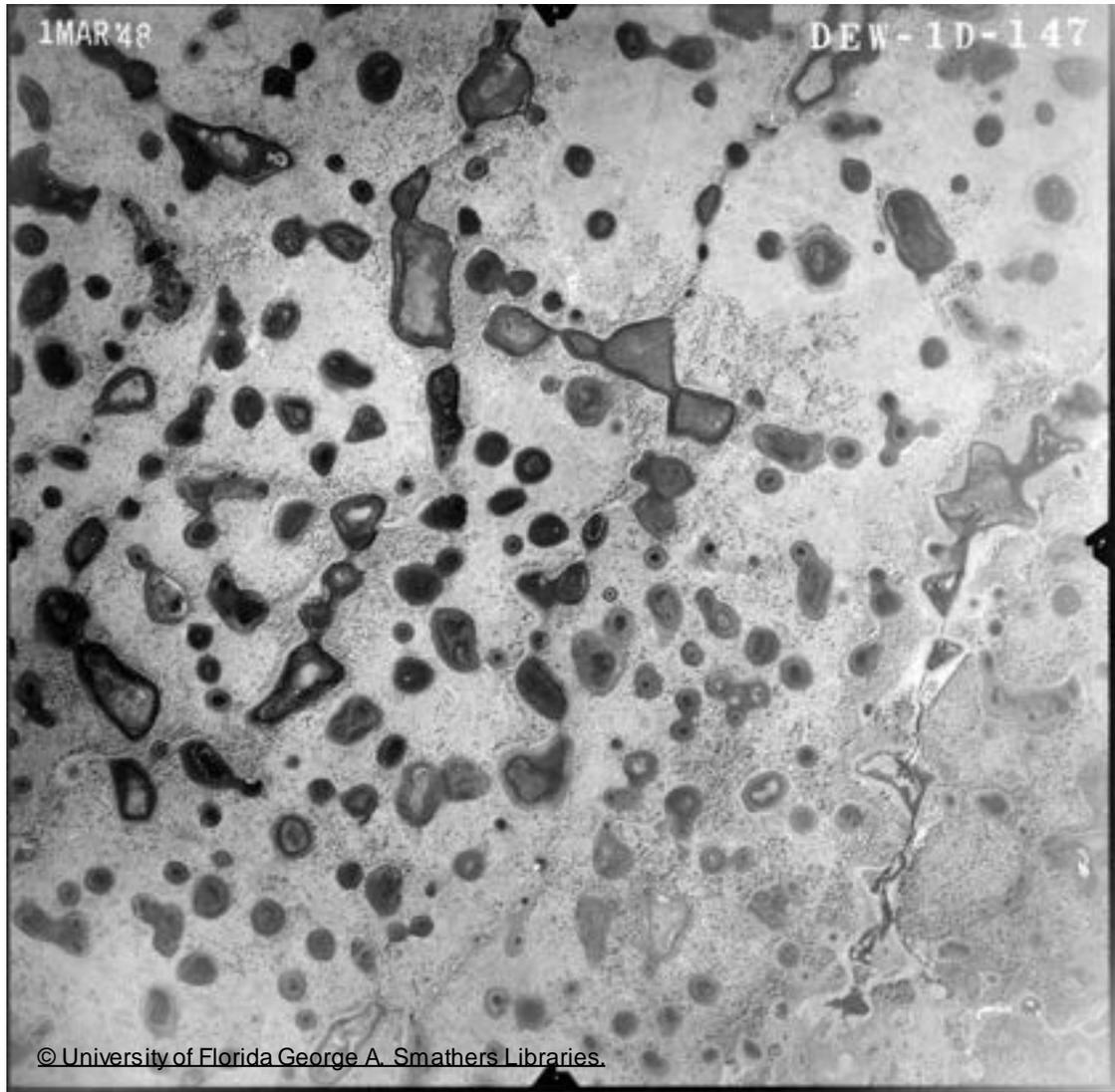


We Live in the Water State



Present

The land is different here - greatly influenced by water



Shape of coastline varied greatly

Soils are limestone/calcium carbonate from shells of marine creatures (SANDY)

Porous geography – sink holes, cavern systems, shaped by water (HOLEY)

Natural landscape and seasons all defined by water (WET)



The climate is different here



Zone	Min. Temperature
1	<-45.6°c
2a	-42.8°c to -45.5°c
2b	-40.0°c to -42.7°c
3a	-37.3°c to -39.9°c
3b	-34.5°c to -37.2°c
4a	-31.7°c to -34.4°c
4b	-28.9°c to -31.6°c
5a	-26.2°c to -28.8°c
5b	-23.4°c to -26.1°c
6a	-20.6°c to -23.3°c
6b	-17.8°c to -20.5°c
7a	-15.0°c to -17.7°c
7b	-12.3°c to -14.9°c
8a	-9.5°c to -12.2°c
8b	-6.7°c to -9.4°c
9a	-3.9°c to -6.6°c
9b	-1.2°c to -3.8°c
10a	+1.6°c to -1.1°c
10b	+4.4°c to +1.7°c
11	4.5 and above



FL ranks 7th in U.S. for number of different plant & animal species

11% of FL plant species are found no where else in the world.

Florida is unique!

More than 1,500 FL animal species are found no where else in the world.



Coral barrier reef system is the 3rd most extensive in the world



Florida is
unique!

When we try to make it look or function like other places, we throw things off balance.



Dredging 1920s



Tamiami Trail 1927

Phillippi Creek 1929

Tampa to Charlotte Harbor:
100,000 acres of
freshwater wetlands lost



Dredging

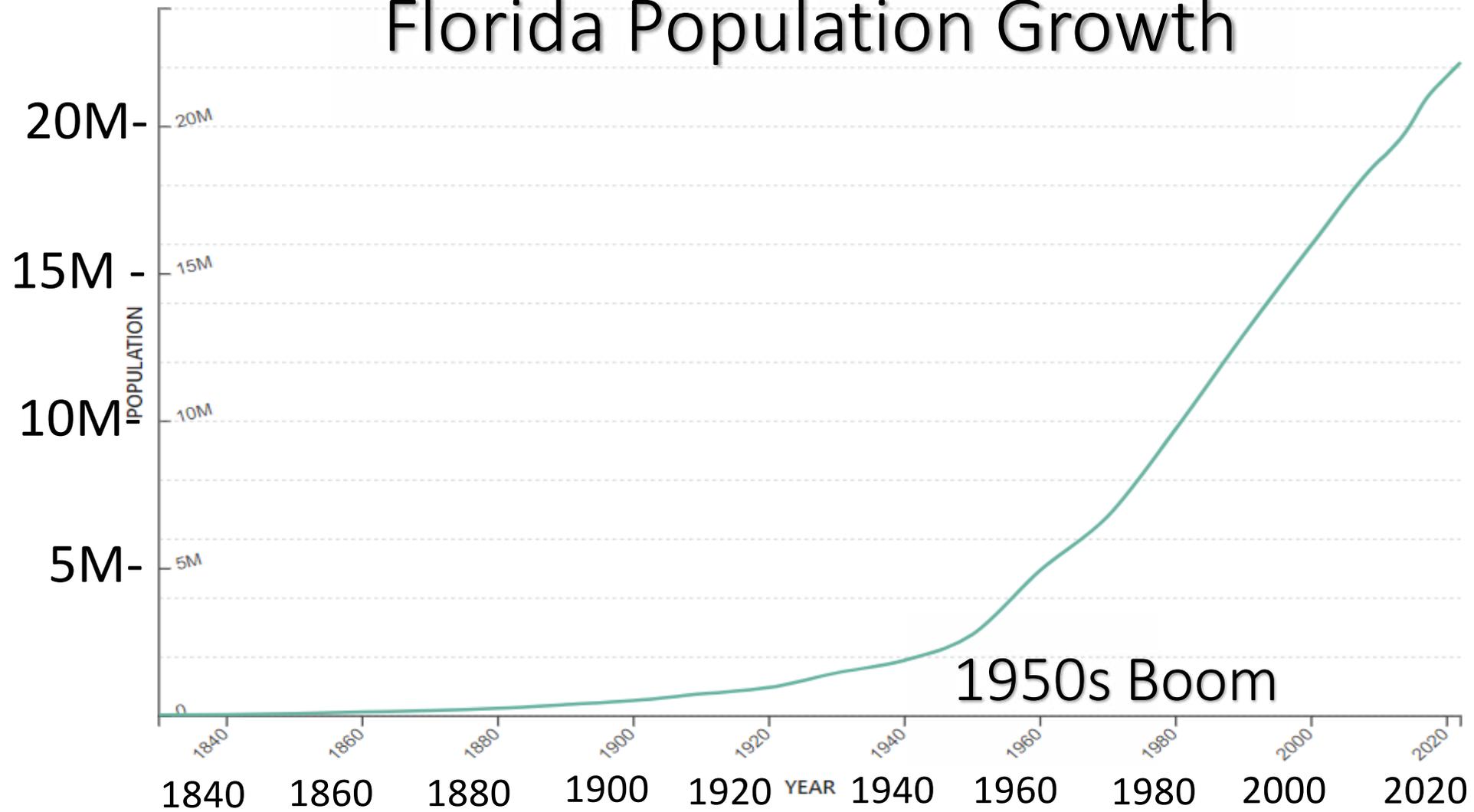


Bird Key 1937



Bird Key Today

Florida Population Growth



Landscape Change



Beach Dune/Barrier Island



Pine Uplands



Freshwater Wetlands



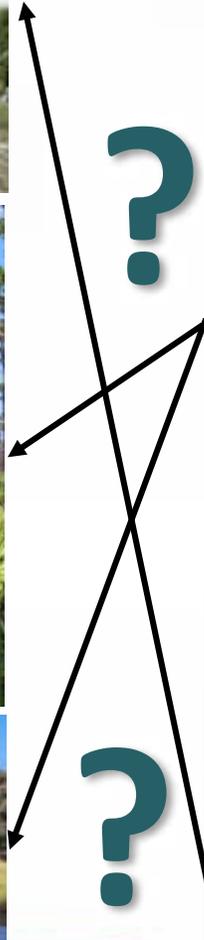
Lakewood Ranch



Lido Key



River Forest, Manatee



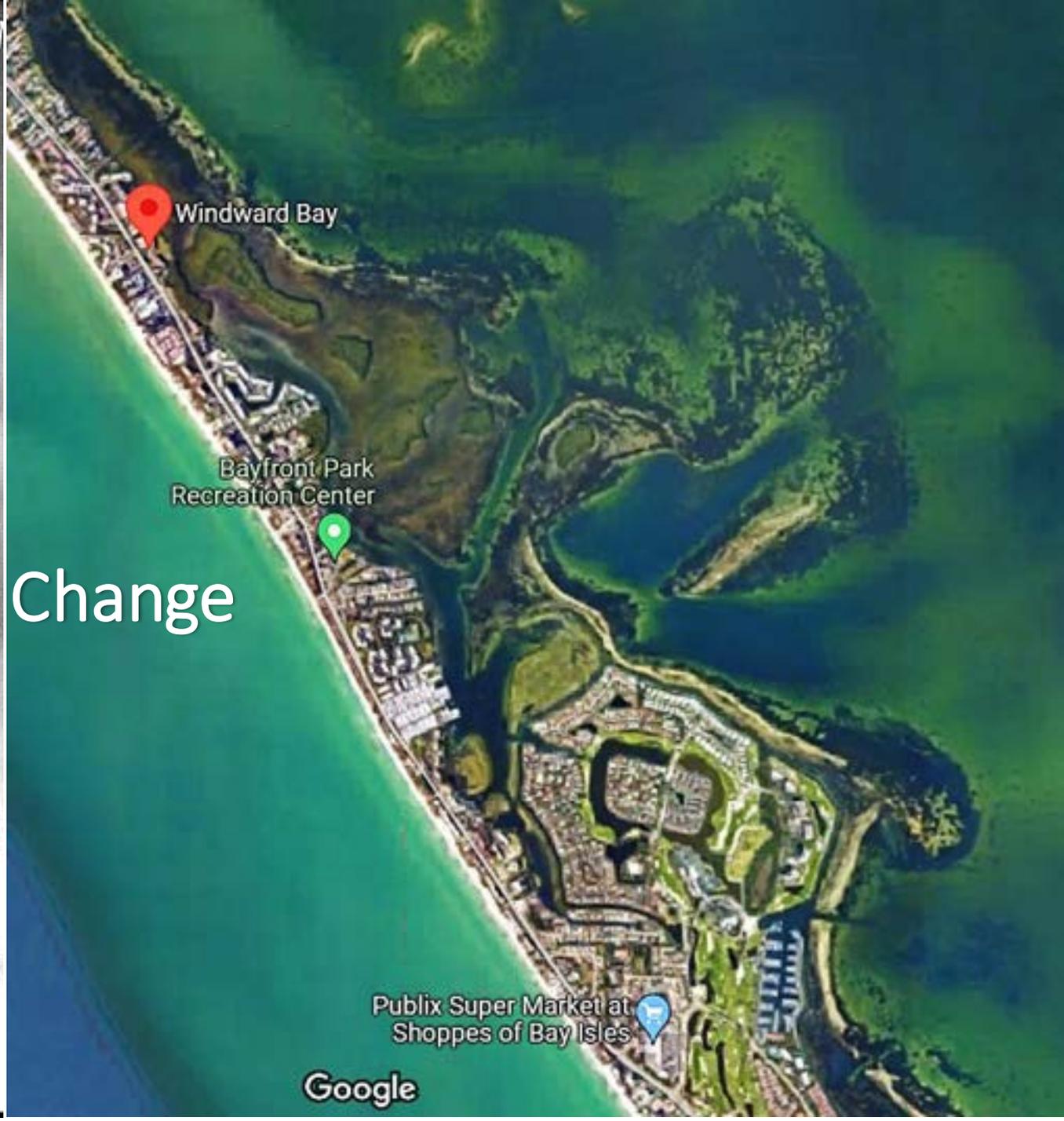
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Winward Bay



Landscape Change

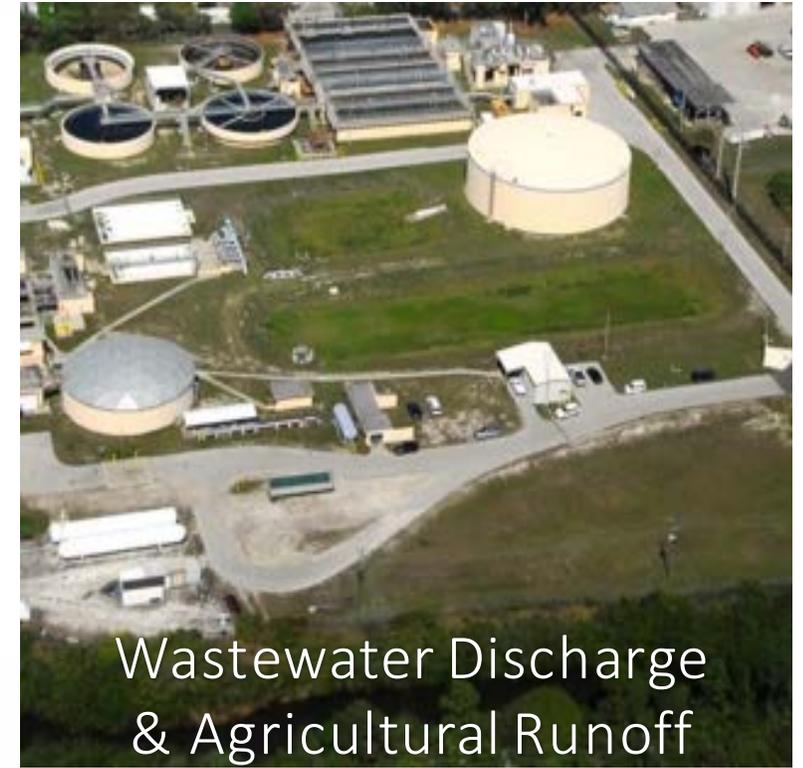
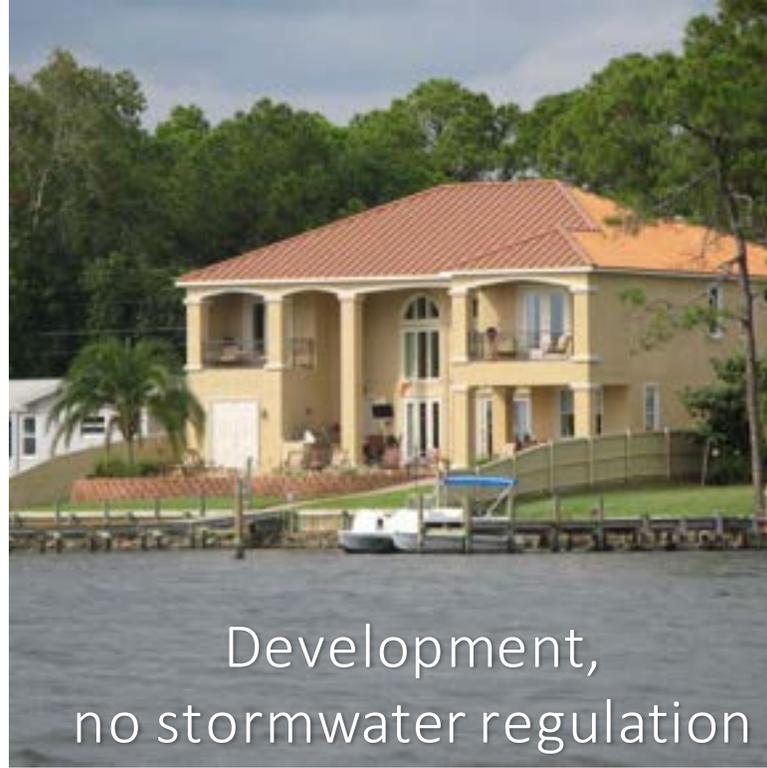
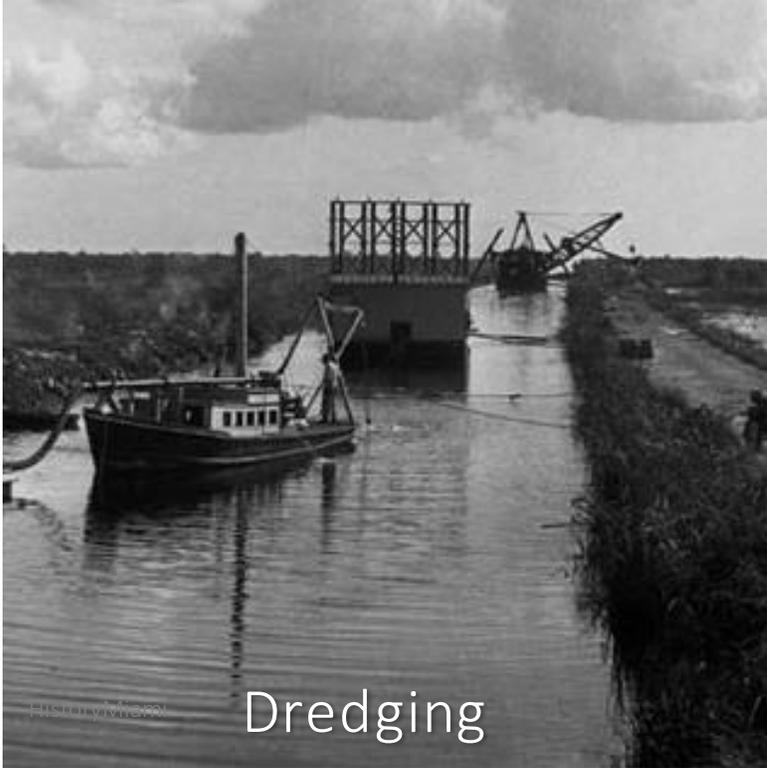


Landscape Change

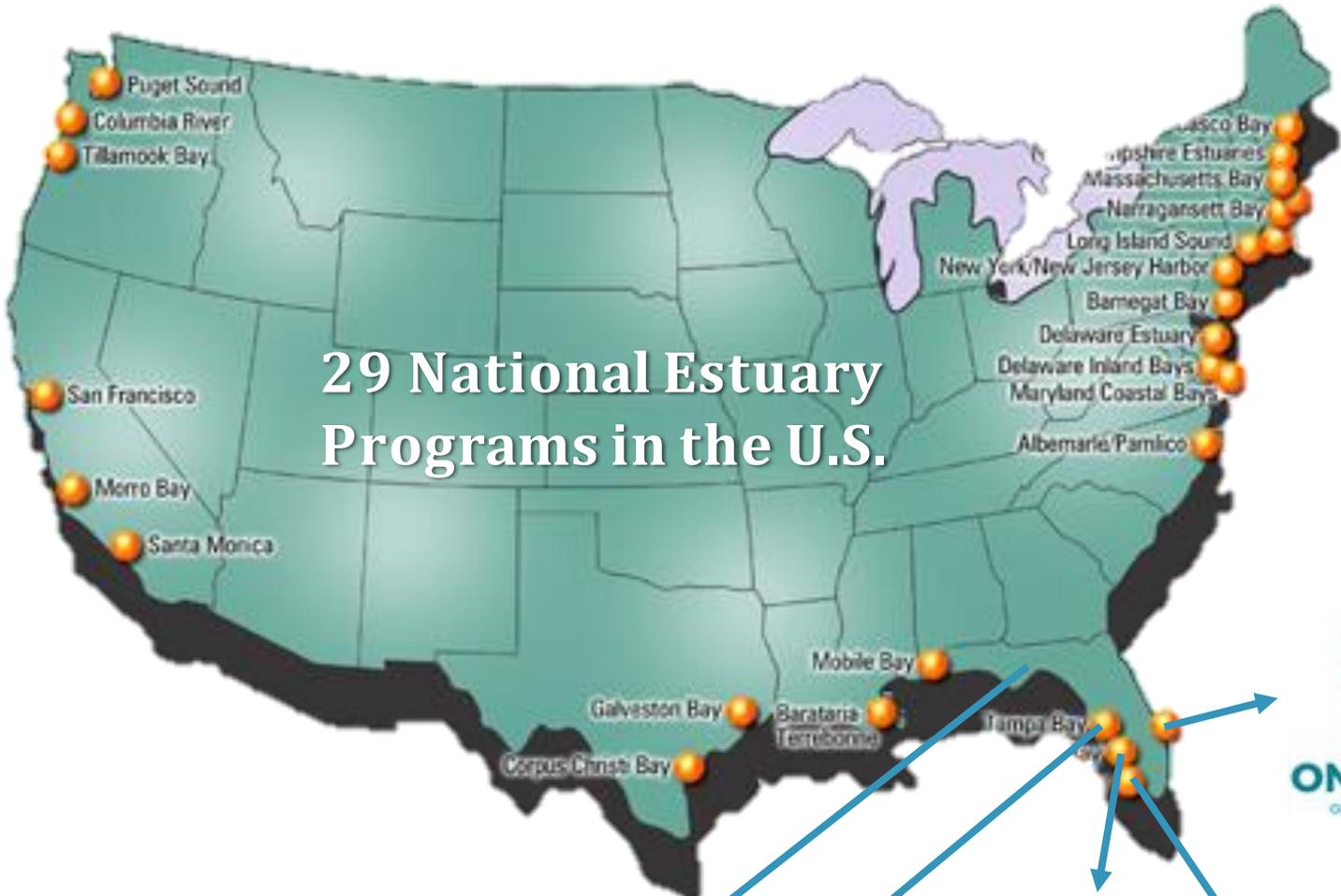


Sarasota Bay 1989

Habitat Loss & Poor Water Quality



National Estuary Programs



Pensacola & Perdido Bays Estuary Program



TBEP
TAMPA BAY ESTUARY PROGRAM



SARASOTA BAY ESTUARY PROGRAM



COASTAL & HEARTLAND NATIONAL ESTUARY PARTNERSHIP



ONE LAGOON
ONE COMMUNITY • ONE VOICE

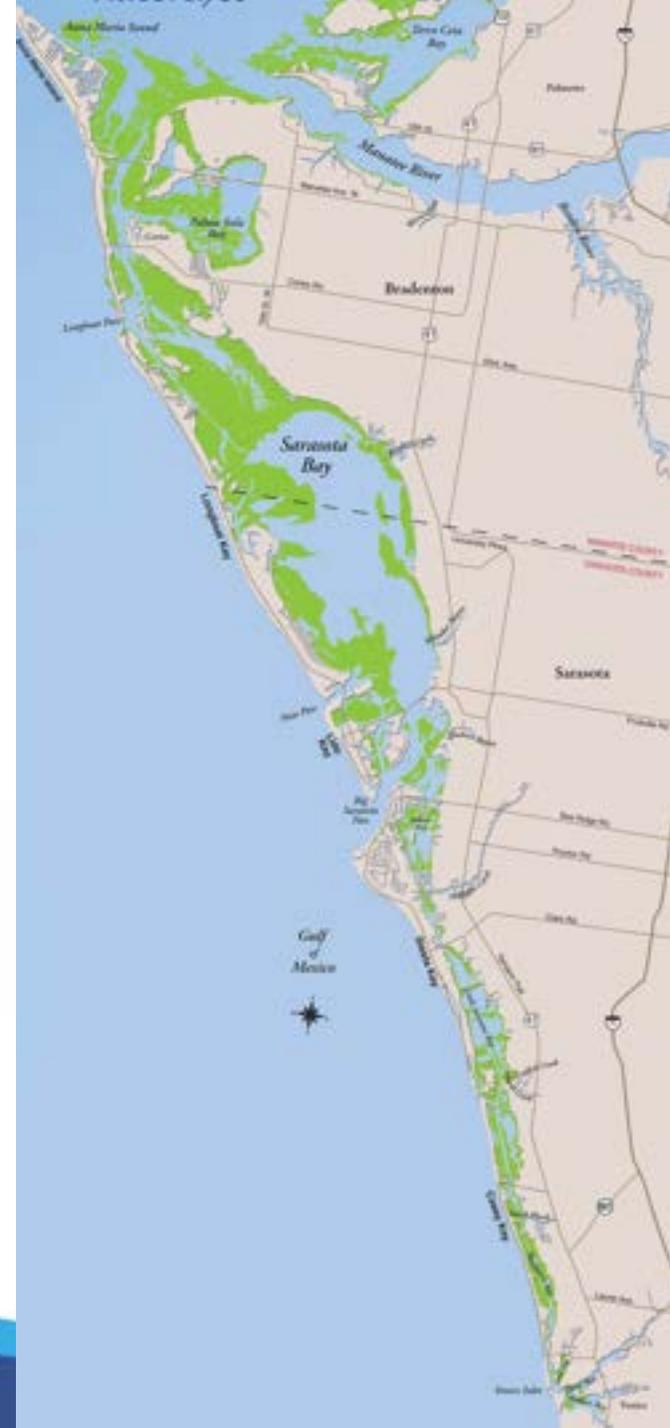


SARASOTA BAY ESTUARY PROGRAM

Sarasota Bay Estuary

1,400 species of native plants
and animals

Nursery for more than 70% of
our commercial and recreational
fish species



Focus Areas

1) Water quality

2) Habitat restoration and fish & wildlife protection

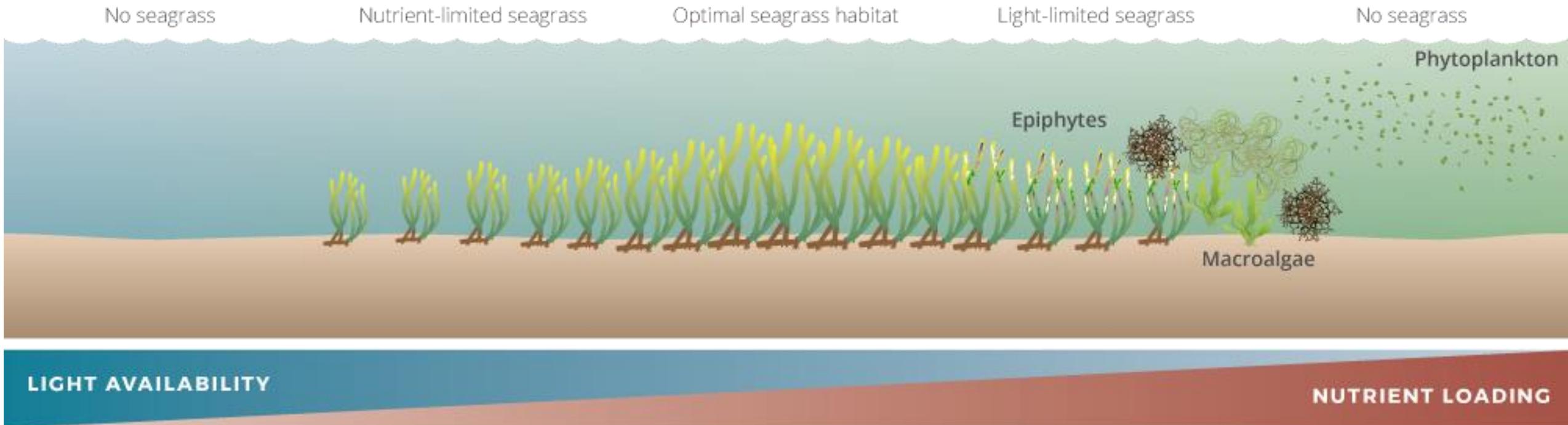
3) Environmental stewardship and public access



Water Quality

Sarasota Bay is nitrogen limited
Small changes in N = large impacts

EFFECT OF INCREASING NUTRIENTS ON SEAGRASSES AND OTHER PLANTS

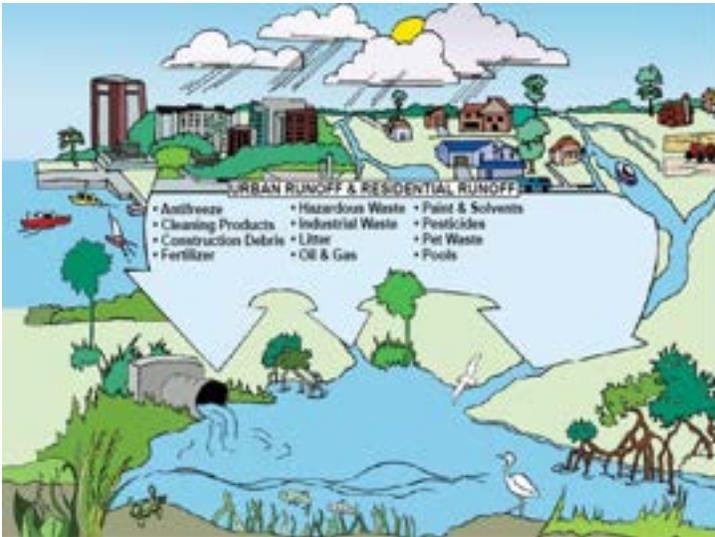


Conceptual diagram illustrating the effect of nutrients of aquatic primary producers

Diagram courtesy of the Integration and Application Network (ian.umces.edu), University of Maryland Center for Environmental Science. Source:

Water Quality: Nitrogen Pollution Sources

Stormwater



Wastewater



The largest source of pollution is stormwater

But it's not the only source of pollution.

Atmospheric Deposition



Sarasota Bay Estuary Program Ecosystem Health Report Card

Water Quality

How is Sarasota Bay Doing?

Scores measure:

- 1) Total Nitrogen
- 2) Chlorophyll-a
- 3) Macroalgae
- 4) Seagrass



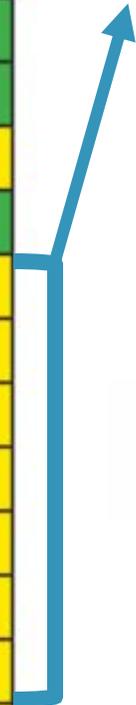
Year	Palma Sola Bay	Big Sarasota Bay	Roberts Bay	Little Sarasota Bay	Blackburn Bay
2006	Blue	Green	Green	Blue	Blue
2007	Green	Green	Blue	Blue	Blue
2008	Blue	Green	Green	Green	Green
2009	Blue	Green	Green	Green	Green
2010	Blue	Blue	Green	Green	Green
2011	Blue	Green	Green	Green	Yellow
2012	Green	Green	Green	Green	Green
2013	Blue	Green	Yellow	Yellow	Yellow
2014	Blue	Green	Yellow	Yellow	Yellow
2015	Blue	Green	Yellow	Yellow	Yellow
2016	Blue	Green	Yellow	Yellow	Yellow
2017	Blue	Yellow	Yellow	Yellow	Yellow
2018	Blue	Yellow	Yellow	Red	Yellow
2019	Blue	Green	Green	Yellow	Yellow
2020	Blue	Green	Green	Yellow	Yellow
2021	Blue	Blue	Blue	Green	Green

Sarasota Bay Estuary Program Ecosystem Health Report Card

Water Quality

2013 - 2019 – Discharged 800 million gallons of processed wastewater
 2017 – Hurricane Irma
 2017-2018 – Red tide

2021 April – Piney Point Spill
 2021 May/June - *Lyngbya* bloom in Anna Maria Sound
 2022 – Hurricane Ian
 2023 – Red tide



Year	Palma Sola Bay	Big Sarasota Bay	Roberts Bay	Little Sarasota Bay	Blackburn Bay
2006	Blue	Green	Green	Blue	Blue
2007	Green	Green	Blue	Blue	Blue
2008	Blue	Green	Green	Green	Green
2009	Blue	Green	Green	Green	Green
2010	Blue	Blue	Green	Green	Green
2011	Blue	Green	Green	Green	Yellow
2012	Green	Green	Green	Green	Green
2013	Blue	Green	Yellow	Yellow	Yellow
2014	Blue	Green	Yellow	Yellow	Yellow
2015	Blue	Green	Yellow	Yellow	Yellow
2016	Blue	Green	Yellow	Yellow	Yellow
2017	Blue	Yellow	Yellow	Yellow	Yellow
2018	Blue	Yellow	Yellow	Red	Yellow
2019	Blue	Green	Green	Yellow	Yellow
2020	Blue	Green	Green	Yellow	Yellow
2021	Blue	Blue	Blue	Green	Green



Water Quality: What can we do about it?

Continue to reduce sources of nitrogen pollution

Already Done

- **City of Sarasota:** Advanced Wastewater Treatment (3mg/L nitrogen)
- **Manatee County:** Advanced secondary wastewater treatment (8.5mg/L); increased storage to eliminate surface discharges

In Progress

- **SBEP & partners:** Water Quality Consortium to address impairments with population growth and changing climate
- **City of Bradenton:** upgrading WWTP to address overflows into Manatee River
- **Sarasota County:** upgrading all WWTPs to Advanced Wastewater Treatment
- **Town of Longboat Key:** building new wastewater pipeline + relining existing



1. Stewardship starts with relationship

Group trips to explore Florida!

[Volunteering and Citizen Science](#)

Storm drain marking, educational signage

Classes: water, species, & landscapes



Oscar Scherer State Park



Eyes on Seagrass



Storm Drain Marking



Community Classes

2. Reduce human inputs that natural systems cannot uptake or recycle

nitrogen, phosphorous, chemicals, & other contaminants

Neighborhood workshops: native plants, composting, fertilizer, irrigation, soil testing, lawn equipment emissions

[Hire GI-BMP certified landscapers](#)



Community pet waste stations and cleanups

Challenges: walk/bike/carpool
car emissions are source of nitrogen



3. Restore original ecosystem function

Create habitat, allow water to percolate, filter, evaporate

Vertical Oyster Gardens

Reroute downspouts

Community plantings: native trees, rain gardens

Community composting

Pervious surfaces - gravel, shell



4. Advocate for the water quality & land/species protection you'd like to see

- Florida Conservation Voters
- Suncoast Waterkeeper
- Sierra Club
- Citizens Climate Lobby
- Florida Veterans for Common Sense



Letter to the **EDITOR**

Dear Editor,

The Loyolan published an article last week about an incident that took place a few weeks ago, which resulted in a non-LMU student being taken to the hospital at an event allegedly "hosted by Crimson Circle." I would like to voice a few of my concerns regarding the inaccuracies of this article and its depiction of Crimson Circle.

To begin, as the president of Crimson Circle, I can assure you that this event was not hosted, sponsored, or affiliated with our organization. This event was not publicized by Crimson, nor was it ever intended to be. While members of the organization reside at this home, other unaffiliated individuals do as well. With this being said, I appreciate the efforts made by the Loyolan to correct its initial wording, but this residence is simply an off-campus residence and the labeling of it as a "Crimson Circle residence" significantly misinforms your readers.

Additionally, I feel that comments in this article do not accurately illustrate the values and mission of our organization. Crimson Circle is dedicated to serving both our LMU and greater Los Angeles community. An example of our positive contributions can be seen in another article that you published last week about our efforts to promote the LMU Bi-annual Blood Drive, together with our presence at local elementary schools and nonprofit organizations throughout Los Angeles.

The individuals living at this residence, both Crimson members and not, were responsible in ensuring the safety and well-being of this non-LMU student. I feel that the Loyolan should be working toward informing the students of the positive and responsible contributions that our students and student organizations are making within our community. There is so much good that radiates from this campus, and that is what I would like to see promoted and praised.

Thank you,

Harrison Husting
President '16
Crimson Circle service organization



Bay Friendly Living Website

<https://sarasotabay.org/get-involved/bay-friendly-living/>



In Your Home

Small decisions about what comes in and what goes out of your home can go a long way in protecting our bays.

In Your Yard

Simple, inexpensive tips for creating wildlife habitat in your yard and reducing polluted runoff to Sarasota Bay.

In Your Community

There is power in numbers! We have resources to help you get together with your neighbors and friends to make a difference.



In Your School

Tips for students, teachers, parents, and staff to integrate Sarasota Bay into their classrooms and schoolyards.

In Your Workplace

From sourcing sustainable materials to conserving resources, businesses can help protect Sarasota Bay.

On the Water

Playing responsibly ensures that the Bay will stay healthy, beautiful, and accessible for generations to come.



Reduces Climate Change



Protects Habitats & Species



Conserves Water



Improves Water Quality



In Your Neighborhood



Learn About Local Issues



Civic Participation



Community Composting



Educational Signs & Displays



Cleanups & Restoration



Pet Waste & Litter



Events & Get-Togethers



Stormwater Pond Enhancement





Community Solutions: Vertical Oyster Gardens

sarasotabay.org/get-involved/vertical-oyster-gardens

Recycled oyster shell from Manatee county restaurants

Free to all Manatee and Sarasota County residents (station at Robinson Preserve NEST)

Create habitat and attract live oysters, crabs, tunicates/sea squirts, snails, sponges, fish, birds



Community Solutions



sarasotabay.org/get-involved/vertical-oyster-gardens

**Buttonwood Harbor
Vertical Oyster Gardens**



Community Solutions

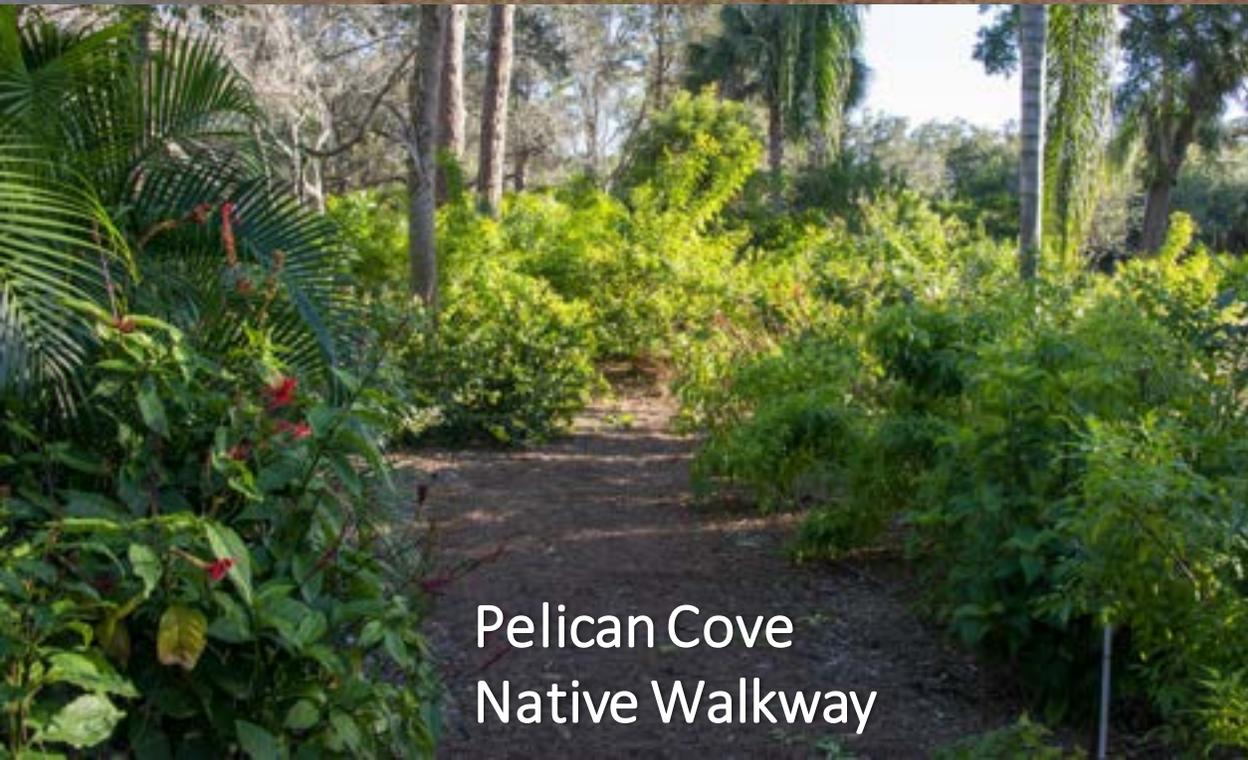


Windward Bay – Native Plantings



Funded Garden Viewed From North to South

Sunbow Bay Linear Park



Pelican Cove
Native Walkway

Funding for Community Solutions

Grants

- [Sarasota Bay Estuary Program Bay Partners Grants \(\\$10,000\)](#)
- Sarasota & Manatee County Neighborhood Grants (\$10,000)
- Gulf Coast Community Foundation Grants (\$10,000)



Thank You for Joining Today!

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