State of The Bay & Getting It 'Back on Track'

Tampa Bay Sailing Squadron, Apollo Beach, FL

August 21, 2023

Ed Sherwood
Executive Director
esherwood@tbep.org

TBEP
TAMPA BAY
ESTUARY PROGRAM
PARTNERSHIP FOR A HEALTHY BAY

tbep.org

The TBEP Team

Ed Sherwood

Executive Director

Maya Burke

Assistant Director

Marcus Beck

Program Scientist

Jessica Lewis

Program Support Specialist

Sheila Scolaro

Community Programs Scientist

Carly Jones

Science Communication Coordinator

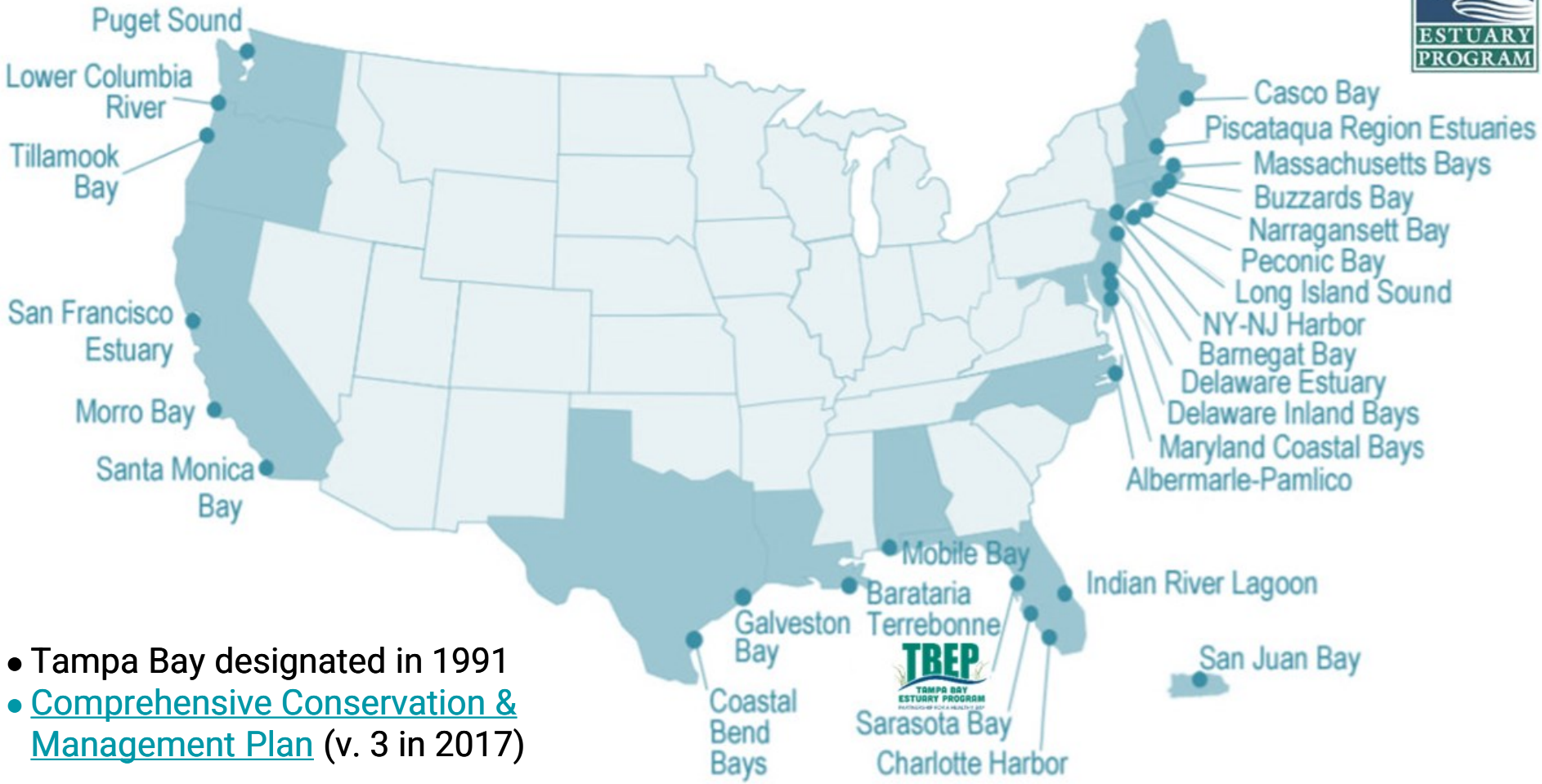
Kerry Flaherty-Walia

Restoration Ecologist

Blake Simmons

Social Scientist

28 Estuaries of National Significance



- Tampa Bay designated in 1991
- Comprehensive Conservation & Management Plan (v. 3 in 2017)

Clean Waters
& Sediments

Thriving Habitats
& Abundant Wildlife

Informed, Engaged,
& Responsible Community

Program Priorities

ccmp.tbep.org

Tampa Bay Watershed

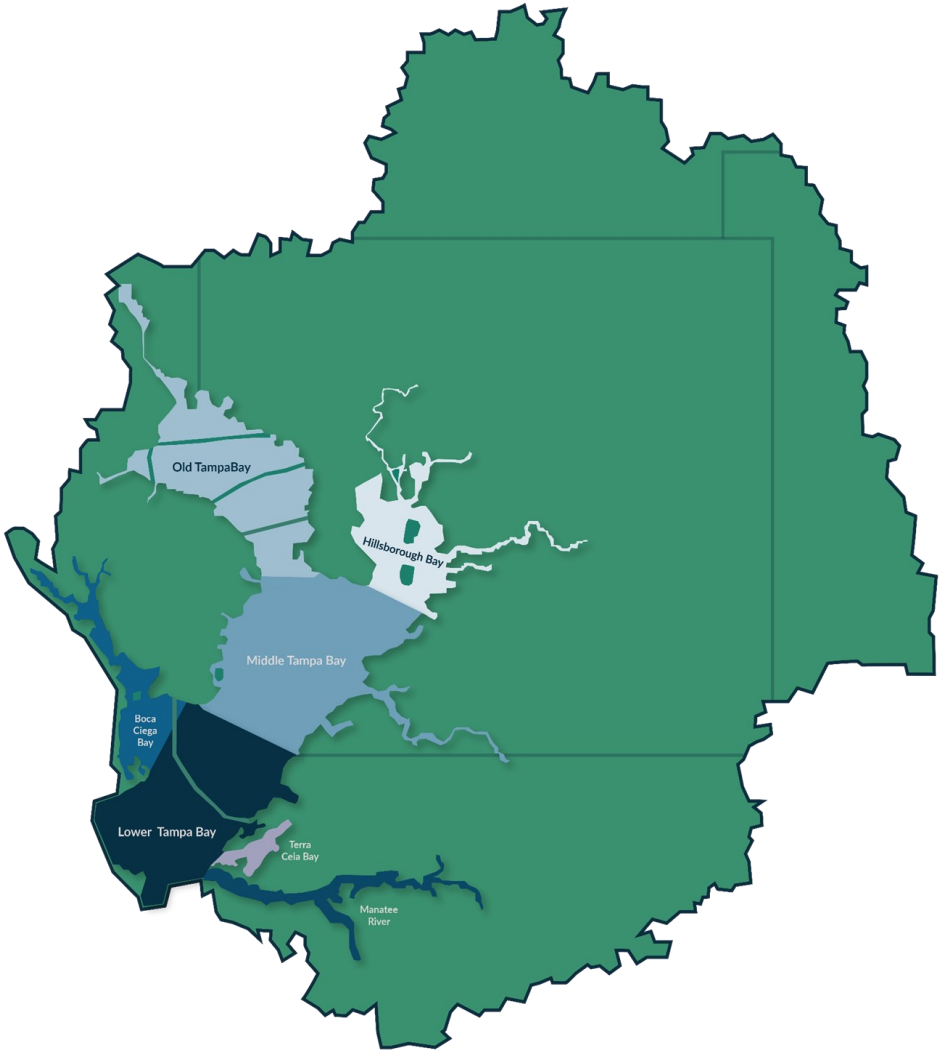
Size
Tampa Bay Proper: 400 square miles
Tampa Bay Watershed: 2,200 square miles

Depth
Average Depth: 11 Feet
Maximum Depth: 43 Feet

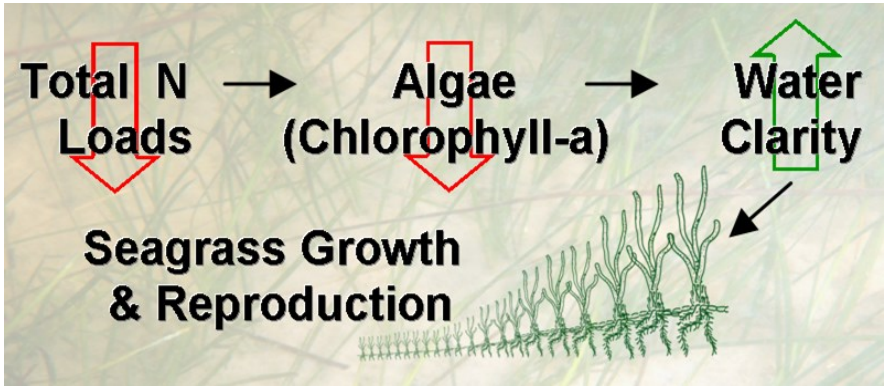
Major Tributaries
Hillsborough, Palm, Alafia, Little Manatee, Manatee & Braden Rivers

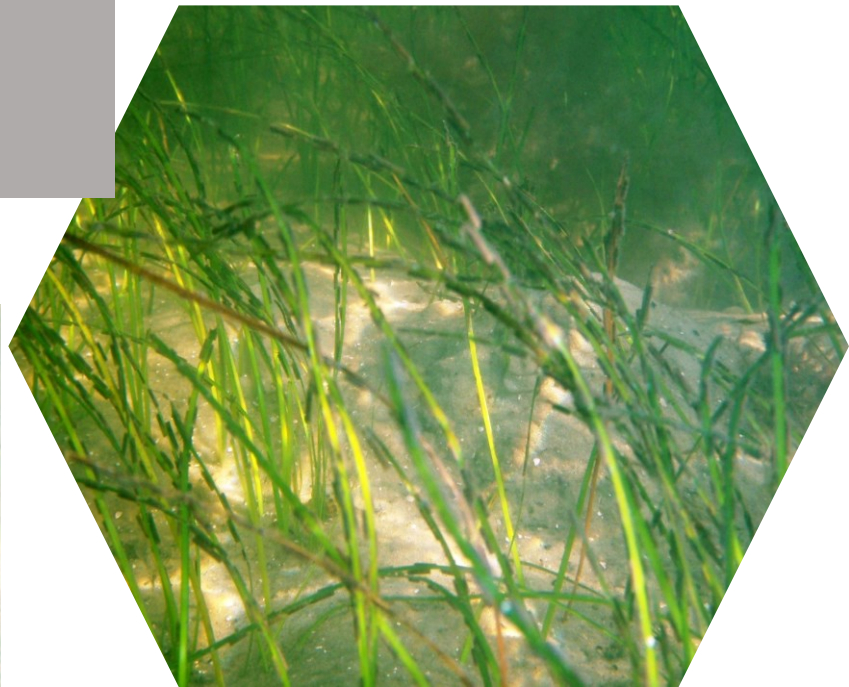
Population
> 3.1 million in watershed

Land Use
32% Undeveloped
17% Agriculture
42% Urban/Suburban
9% Mining



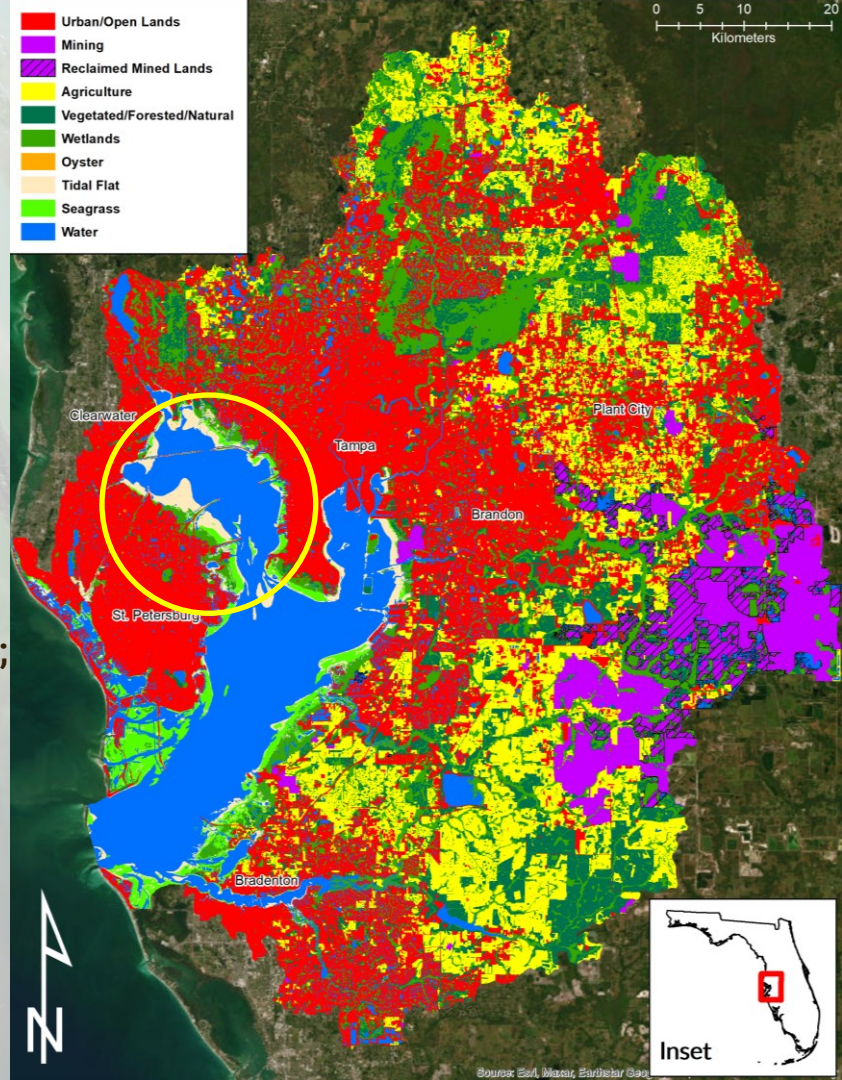
Target Root Causes





Tampa Bay 2023:
An Urban Estuary *Still* in Recovery

- **1950 – 1980:** Nearly ½ of seagrasses lost
- **1980 – 1990:** Initial point source and nonpoint source regulations enacted
- **1991:** Tampa Bay Estuary Program
- **1994 – 1996:** Tampa Bay Nitrogen Management Consortium formed to more fully address loads to Bay
- **1992 – 2017:** >470 TN Reduction projects implemented; 530 Tons of TN precluded >$2.5 Billion invested
- **2014 – 2018:** Sustaining seagrass coverage above 1950s & Restoration Goal levels
- **2018 – 2022:** Seagrass losses in upper Tampa Bay drop baywide coverage below Restoration Goal



Underwater Seagrasses: Tampa Bay's Canary in the Coal Mine

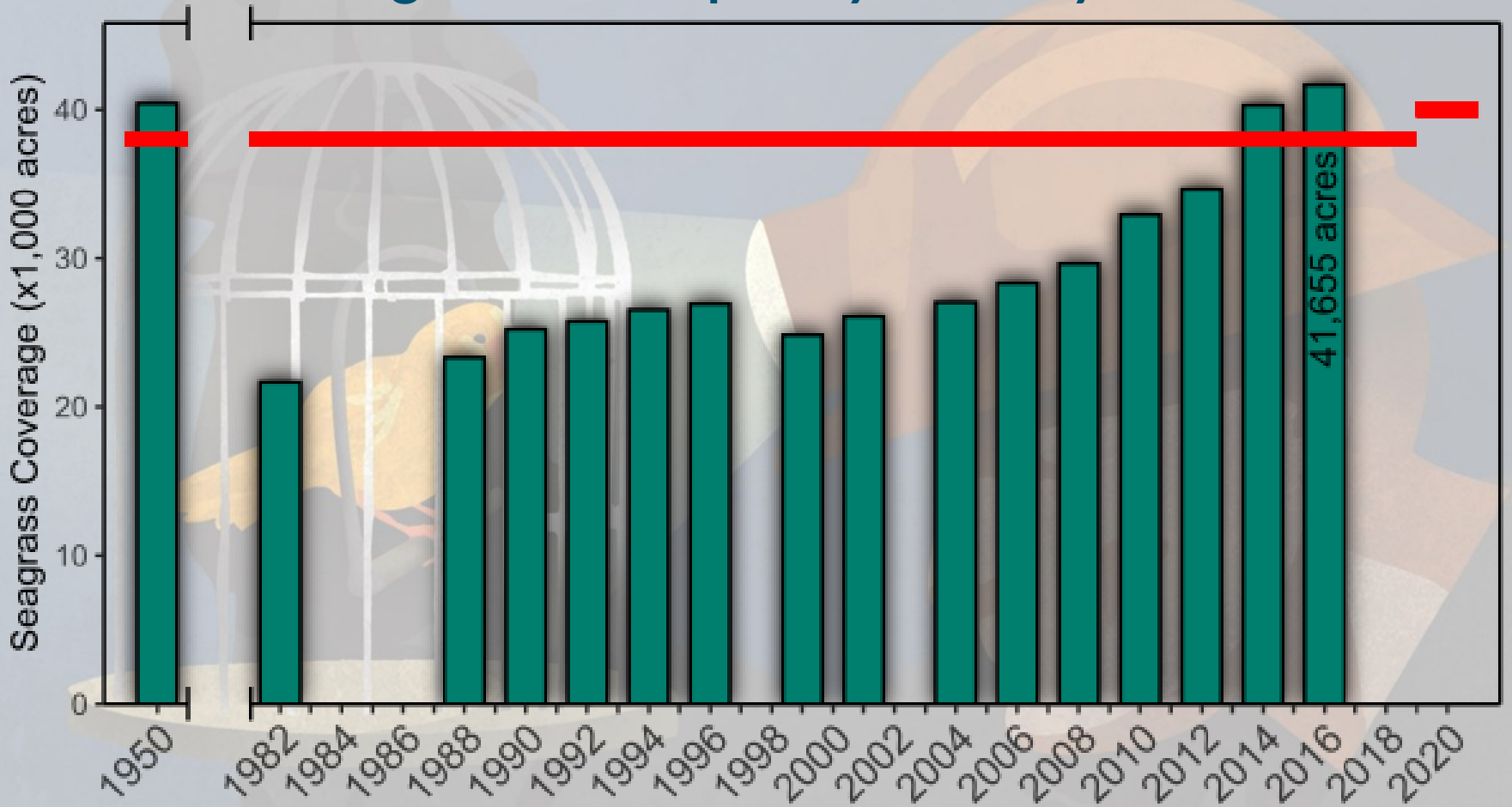
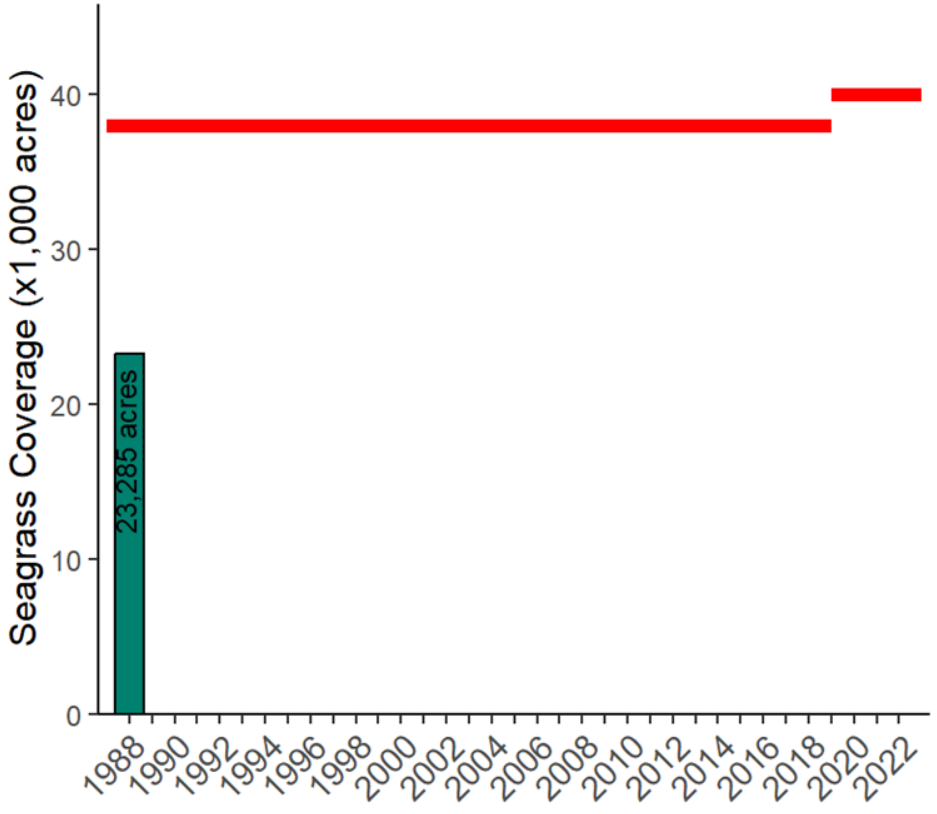


Illustration by Doug Thompson

Data Source: TBEP & SWFWMD

Tampa Bay's Underwater Seagrass

- Lost >11,500 acres from 2016 to 2022
- Three consecutive assessments with declines



Underwater Seagrasses: Tampa Bay's Canary in the Coal Mine

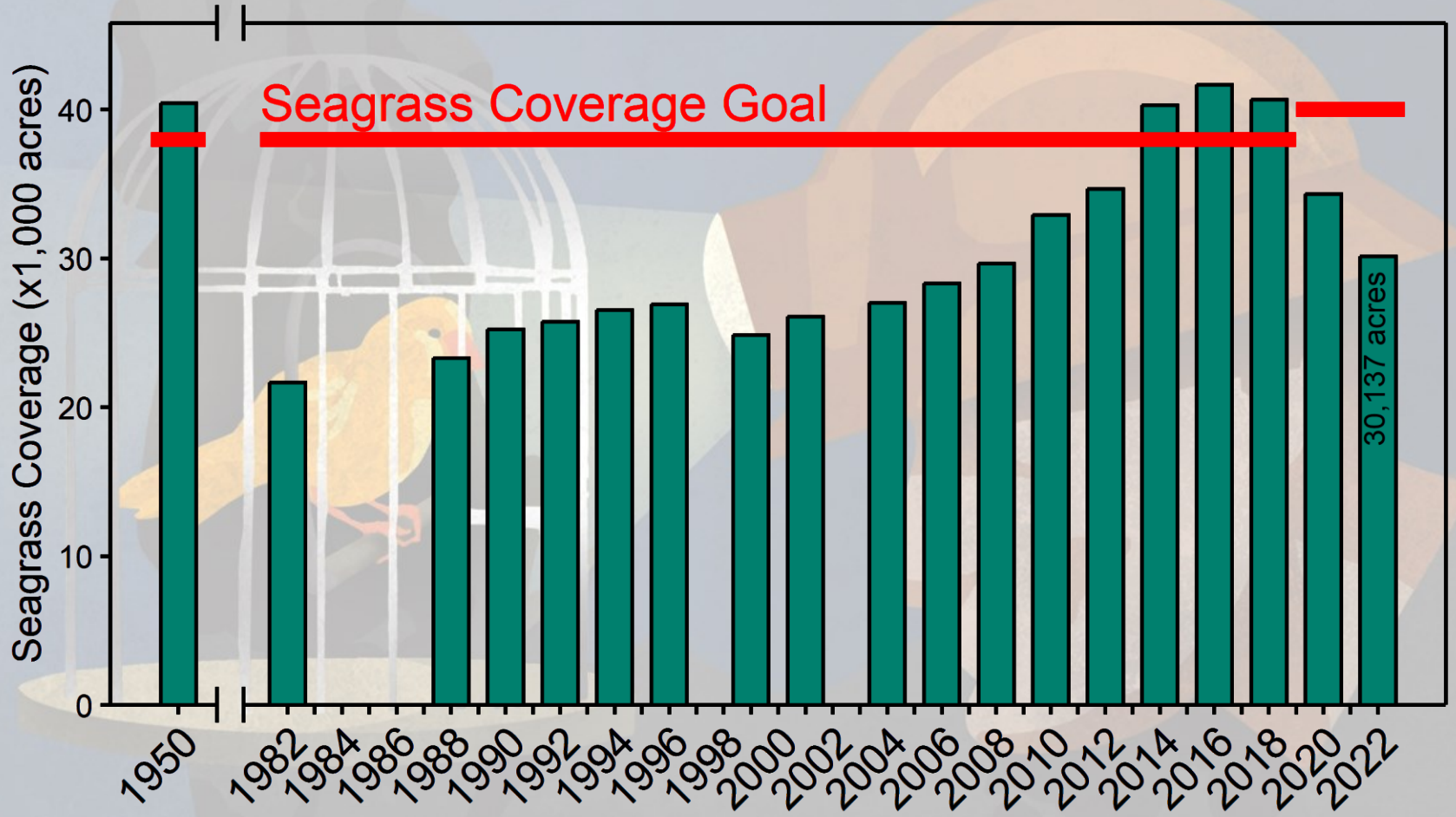
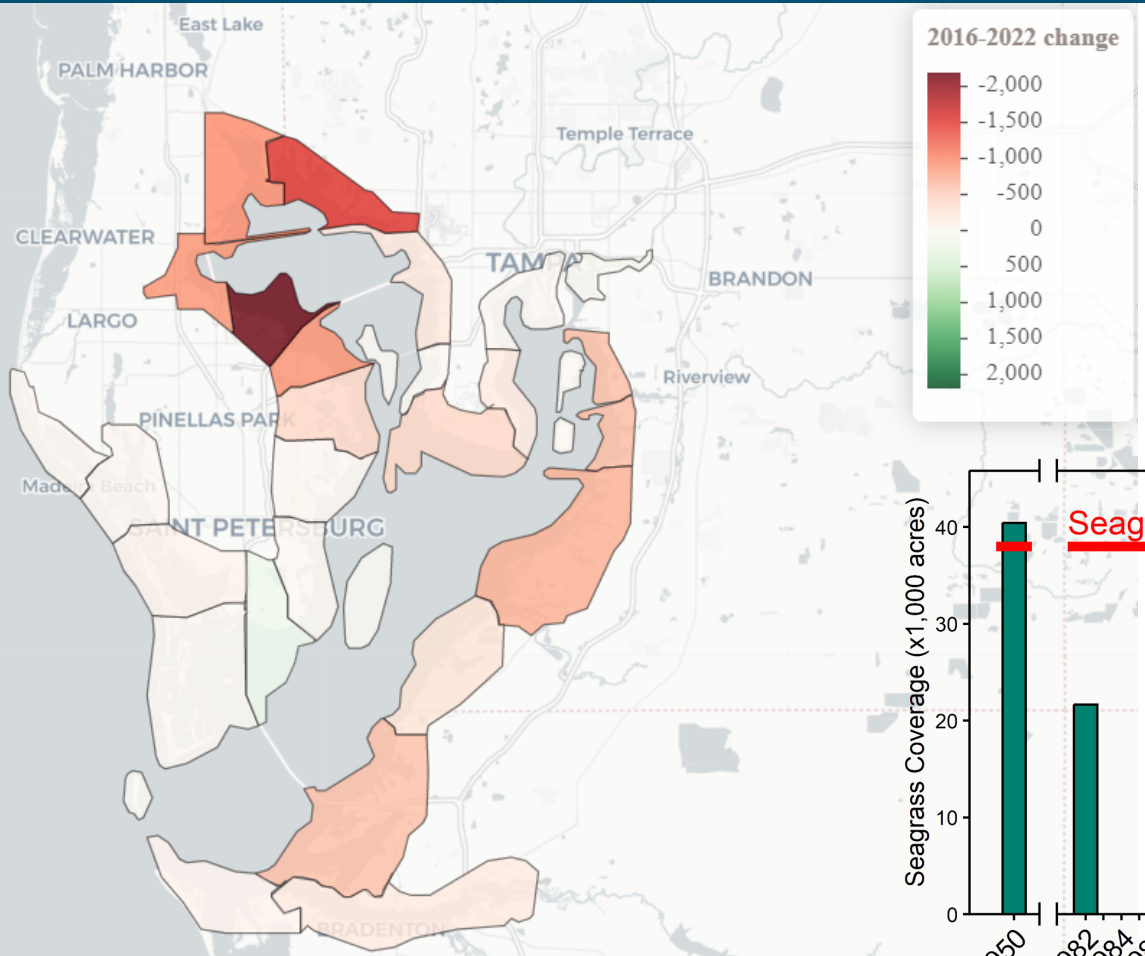
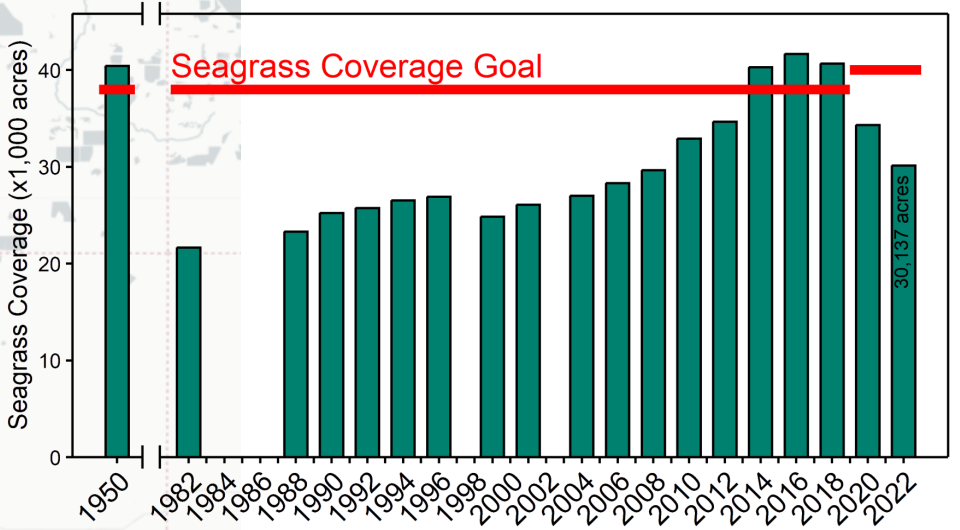


Illustration by Doug Thompson

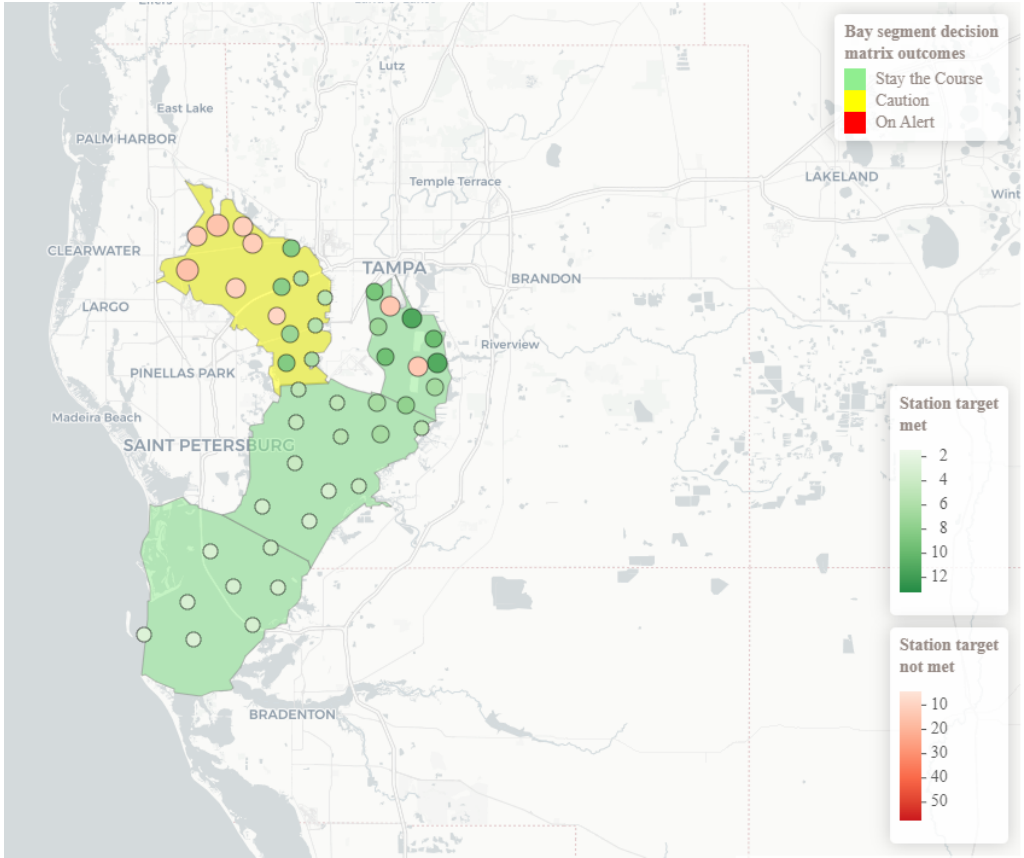
Data Source: TBEP & SWFWMD

Seagrass Trends

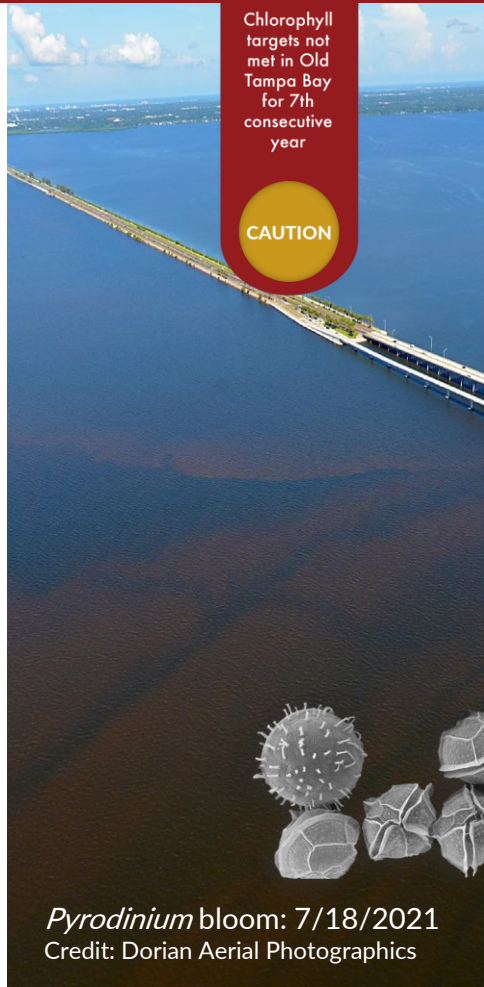




Recent Water Quality Results

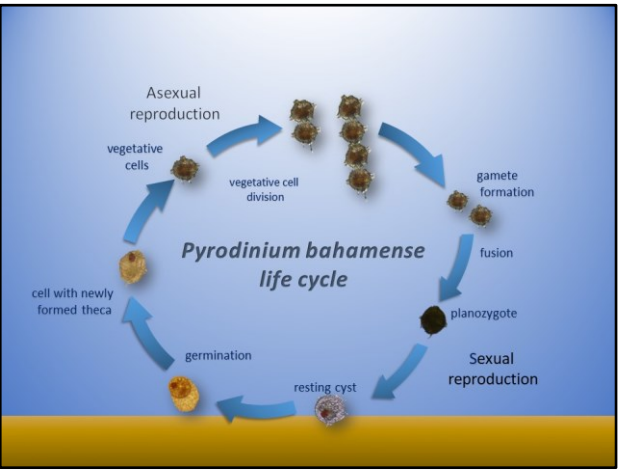


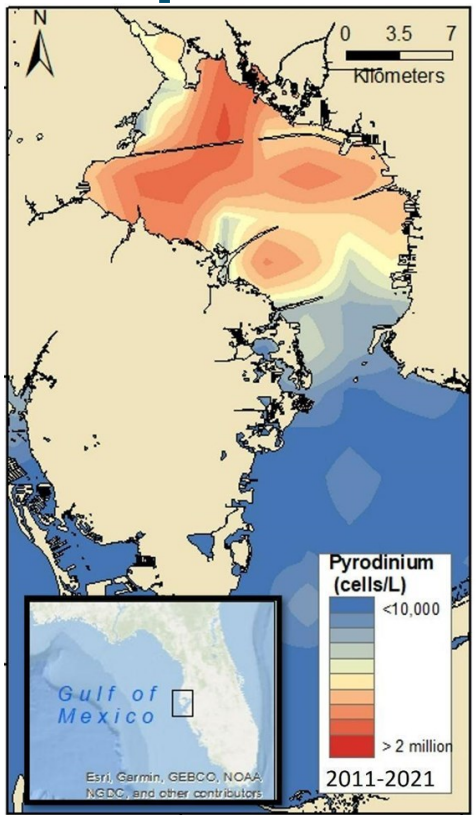
	OTB	HB	MTB	LTB
1975	R	R	R	G
1976	R	R	R	Y
1977	R	R	R	R
1978	R	R	R	Y
1979	R	R	R	R
1980	R	R	R	R
1981	R	R	R	R
1982	R	R	R	R
1983	R	Y	R	R
1984	R	G	R	Y
1985	R	R	R	Y
1986	R	Y	R	G
1987	R	Y	R	G
1988	Y	G	Y	G
1989	R	Y	R	Y
1990	R	G	R	Y
1991	G	Y	Y	Y
1992	Y	G	Y	Y
1993	Y	G	Y	Y
1994	Y	Y	R	R
1995	R	Y	R	Y
1996	Y	G	Y	G
1997	Y	G	R	Y
1998	R	R	R	R
1999	Y	G	Y	Y
2000	G	G	Y	Y
2001	Y	G	Y	Y
2002	Y	G	G	G
2003	R	Y	G	Y
2004	R	G	G	Y
2005	G	G	Y	Y
2006	G	G	G	G
2007	G	G	G	G
2008	Y	G	G	Y
2009	Y	Y	G	G
2010	G	G	G	G
2011	R	G	Y	G
2012	G	G	G	G
2013	G	G	G	G
2014	G	G	G	G
2015	Y	G	Y	G
2016	Y	G	G	G
2017	Y	G	G	G
2018	Y	G	G	G
2019	Y	G	G	G
2020	Y	G	G	G
2021	Y	G	G	G
2022	G	G	G	G

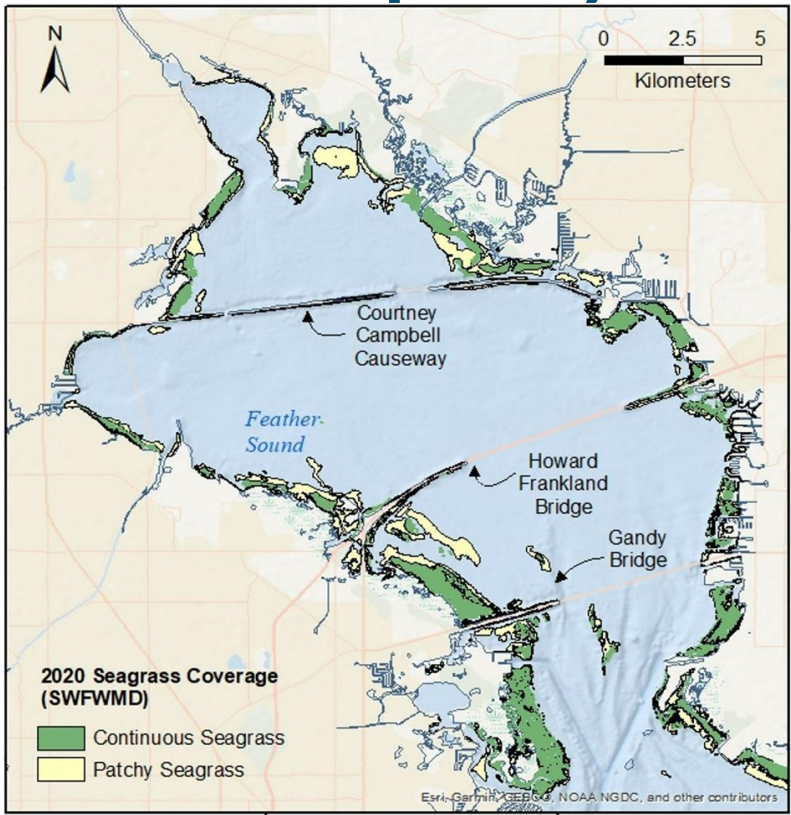


Pyrodinium bloom: 7/18/2021
Credit: Dorian Aerial Photographics

Pyrodinium bahamense capitalizing on nutrients + other physical factors prevalent in Old Tampa Bay







Source: Cary Lopez, FWRI

What is the State of Tampa Bay?

3 Key Takeaways

01 Old Tampa Bay Needs Our Help

Upper portions of Tampa Bay show clear indicators of stress. We need to refocus efforts to reduce nutrients and invest in projects that enhance water quality, like reducing nutrient inputs, improving tidal circulation, and conserving coastal habitats.

02 The Urgency of Restoration

As development continues to increase throughout the watershed, the amount of habitat available for restoration decreases. We need to act fast, capitalizing on the restoration opportunities that remain before they are lost in the coming years.

03 Community Support Increasing

A new leaders advocating for the Bay's restoration have emerged, thanks in part to media coverage of issues like Piney Point, red tide, and manatee mortalities. Consequently, additional resources are becoming available to support community-focused collaborations and bay improvement efforts.

tbep.org/state-of-the-bay/

Some Simple Actions that Can Make a Real Difference

Robinson Preserve

When you build it, they will come …

Investing in habitat preservation & restoration also bolsters important fish nurseries in the Bay

RESTORATION ECOLOGY

RESEARCH ARTICLE

Coastal wetland restoration improves habitat for juvenile sportfish in Tampa Bay, Florida, U.S.A.

PLOS ONE

RESEARCH ARTICLE

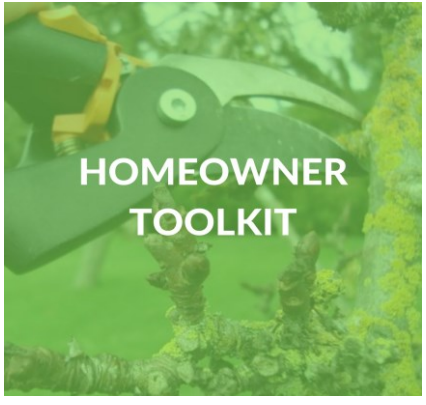
Coastal restoration evaluated using dominant habitat characteristics and associated fish communities

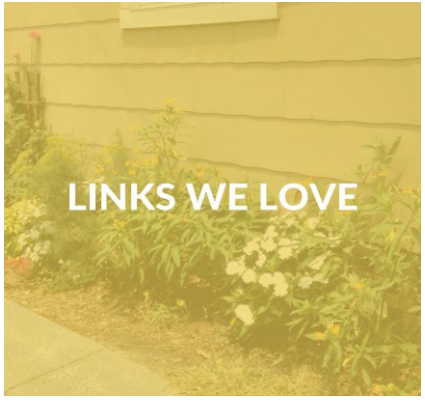
Abstract

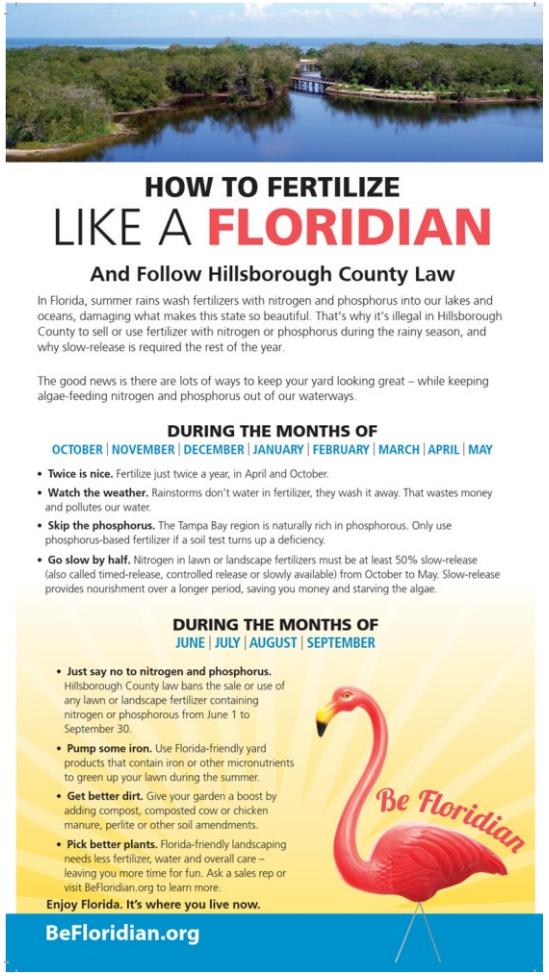
Behavior Change: Be Floridian

- Reduce stormwater nutrient pollution in Tampa Bay by encouraging homeowners to skip fertilizing during the Summer rainy season and adopt Florida-Friendly landscaping practices

- Reinforce awareness of municipal ordinances that preclude N fertilizer applications during a June-September blackout period







Behavior Change: Pipe Up

- Reduce nutrient and bacteriological pollution in Tampa Bay by encouraging homeowners and homebuyers to inspect, repair, or replace aging private lateral sewer lines to prevent sanitary sewer overflows into Tampa Bay

+10,581
Campaign Webpage Visits

57%
Ad Video View Rate

+8
Home Inspectors added to our directory

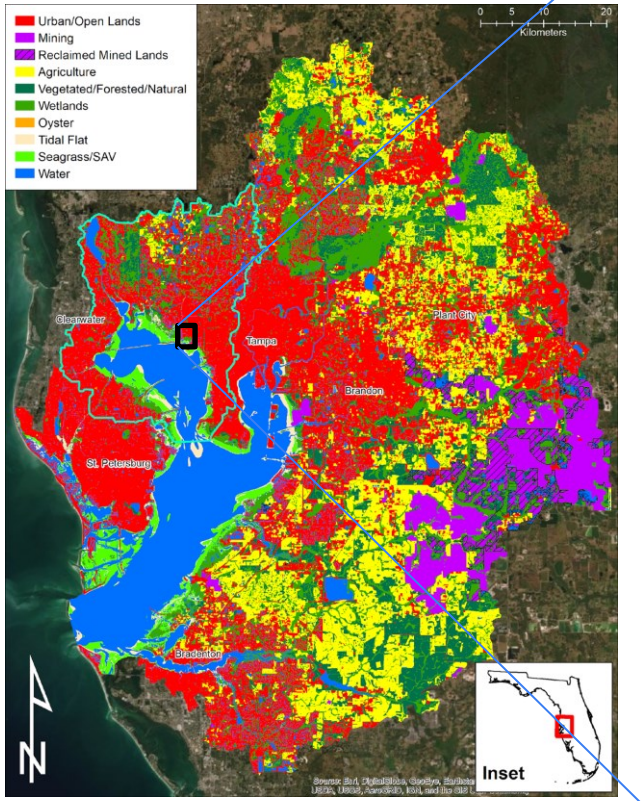
~575
Repair Permits issued in 2021 (Pinellas, St. Pete & Largo)

Community-Focused Living Shoreline & Habitat Restoration Initiatives

- Waterfront homeowner initiatives (VOGs=Vertical oyster gardens)
- Community waterfront, habitat restoration, stormwater and flood abatement (e.g. green infrastructure implementation)
- TBEP Bay Mini Grant &
  Tampa Bay Environmental Restoration Fund

Capitalizing on Remaining Restoration Opportunities + Address Stormwater Nutrients

- Increase coastal resiliency in an urban estuary
- Attenuate stormwater nutrient loads
- Support other baywide coastal habitat restoration goals (enhance salt marsh habitats)



Tarpon Tag

Funds from the Tampa Bay Speciality License Plate (Tarpon Tag) support community-based restoration projects

Bay Mini-Grant proposals due 9/15/2023
https://tbep.org/bay-mini-grants

2019-2021 Metrics

6,931 plates registered

230K awarded to **57** Bay Mini-Grants

6,931 total Tampa Bay Speciality License Plates registered in Florida in 2021

COVER STORY

CLEAN WATER MEANS MORE THAN YOU THINK

Despite massive growth, water quality in Tampa Bay has improved dramatically in 20 years

TAMPA BAY SUPPORTS

$32.1 BILLION IN TOTAL ANNUAL OUTPUT

207,068 EMPLOYEES

1 IN 10 JOBS

$52,769 VALUE ADDED TO EACH NEARBY HOME

$3.2 BILLION ADDED REGIONAL PROPERTY VALUE

$52.3 MILLION IN ANNUAL CARBON SEQUESTRATION

$714.5 MILLION IN ANNUAL DENITRIFICATION SERVICES

$924.4 MILLION IN FLOOD PROTECTION SERVICES

[2022$ TBRPC Economic Footprint of Tampa Bay Update]

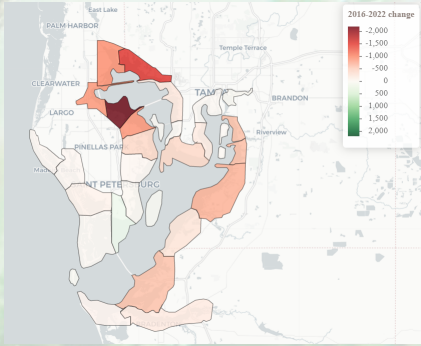
Summary

- Community can rally around Tampa Bay as the environmental and economic centerpiece for the region

- Bay's ecology is responding to continuing urban development pressures & new climate related stressors (warming waters, greater rain-driven stormwater runoff)

- Persistent *Pyrodinium bahamense* blooms are a vexing challenge to water quality and seagrass coverage maintenance – new investments needed

- Nitrogen Management 2.0:
  Multifaceted nutrient loading, tidal circulation and habitat/ecosystem restoration approach is necessary



Questions?

esherwood@tbep.org

TBEP TAMPA BAY ESTUARY PROGRAM

#LOVE Tampa Bay

Extra Slides


STAY THE COURSE
Continue planned projects to maintain water quality in 3 of 4 bay segments
N
Long-term total nitrogen loading generally declined in all bay segments
CAUTION
Chlorophyll targets not met in Old Tampa Bay for 7th consecutive year
Clean Waters & Sediments
2019-2021
Baywide benthic condition assessment remains “fair”
FAIR
50 of the 225 tidal tributaries pass the 2021 assessment period
MONITOR
Hillsborough Bay receives “poor” Benthic Index score in 2019
POOR


Mangroves, salt marshes, & freshwater wetlands see continued gains
HABITAT MASTER PLAN
Habitat Master Plan updated in 2020
Developed land increased by 15,295 acres. Total restoration opportunities declined by 17,448 acres
Thriving Habitats & Abundant Wildlife
2019-2021
Nekton communities are robust in 3 of 4 bay segments
STAY THE COURSE
171 projects & 1,288 acres of habitats restored
Fisheries monitoring in Hillsborough Bay needed to ensure future improvements
CAUTION


25 Give-A-Day events completed
$2.8M in total funding & $1.7 in matching funds awarded to 25 projects through TBERF
3,395 new followers across TBEP's social channels
Informed, Engaged, Responsible Community
2019-2021
6,931 total Tampa Bay Speciality License Plates registered in Florida in 2021
$230k awarded to 57 community-based projects through Bay Mini-Grants
63 media interviews completed by TBEP staff