



Habitats of Tampa Bay: Mangroves



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Tampa Bay Watershed



Size

Open Water: 400 square miles

Contributing Watershed: 2,200 square miles



Depth

Average Depth: 11 Feet

Maximum Depth: 43 Feet



Population

> 3 million in watershed



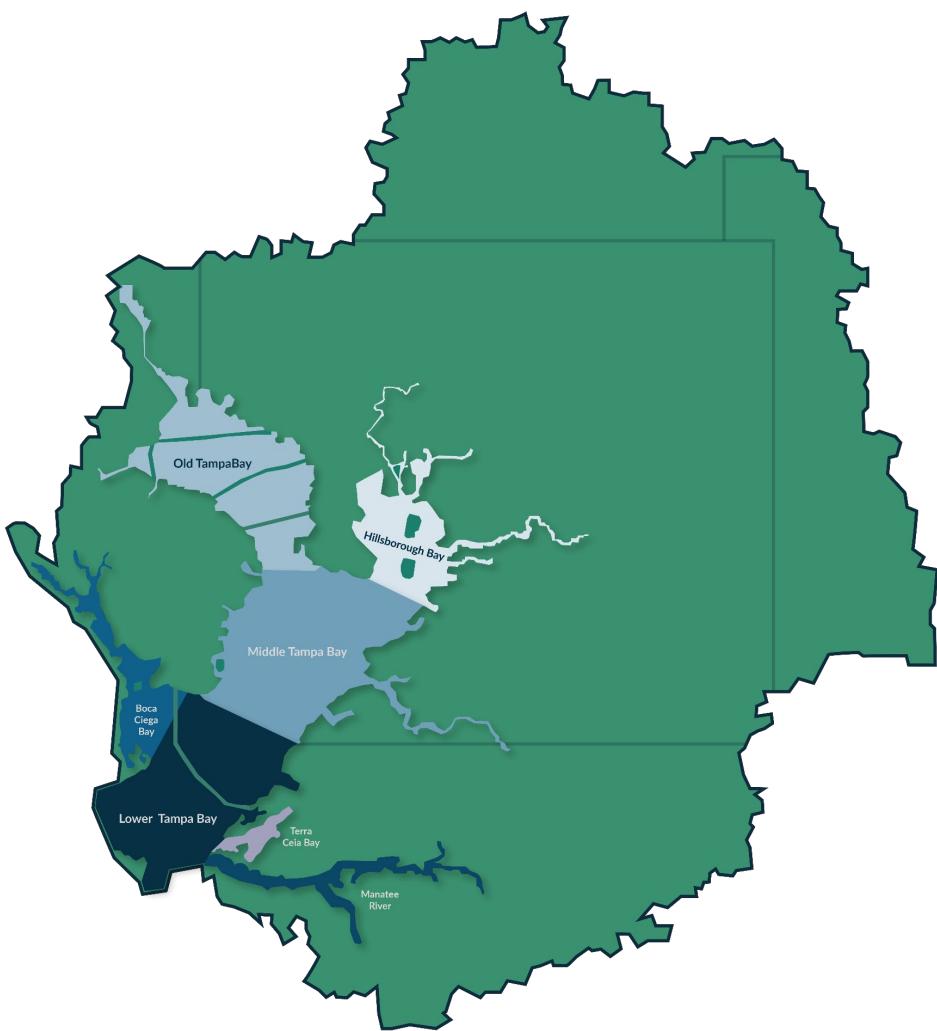
Major Tributaries

Hillsborough, Alafia, Little Manatee, and
Manatee Rivers



Land Use

~40% Developed





Clean Waters
& Sediments



Thriving Habitats
& Abundant Wildlife



Informed, Engaged,
& Responsible Community

Program Priorities

Benefits of Mangroves

PROTECTING ONE HECTARE
OF MANGROVE



01

Protect Property

Mangrove systems stabilize the coastline, reduce erosion, and absorb energy caused by storm surges, currents, waves, and tides.

02

Fight Climate Change + Improve Water Quality

Mangrove systems store carbon and remove nutrients and pollutants from stormwater runoff before they reach open water habitats (seagrasses, hard bottom).

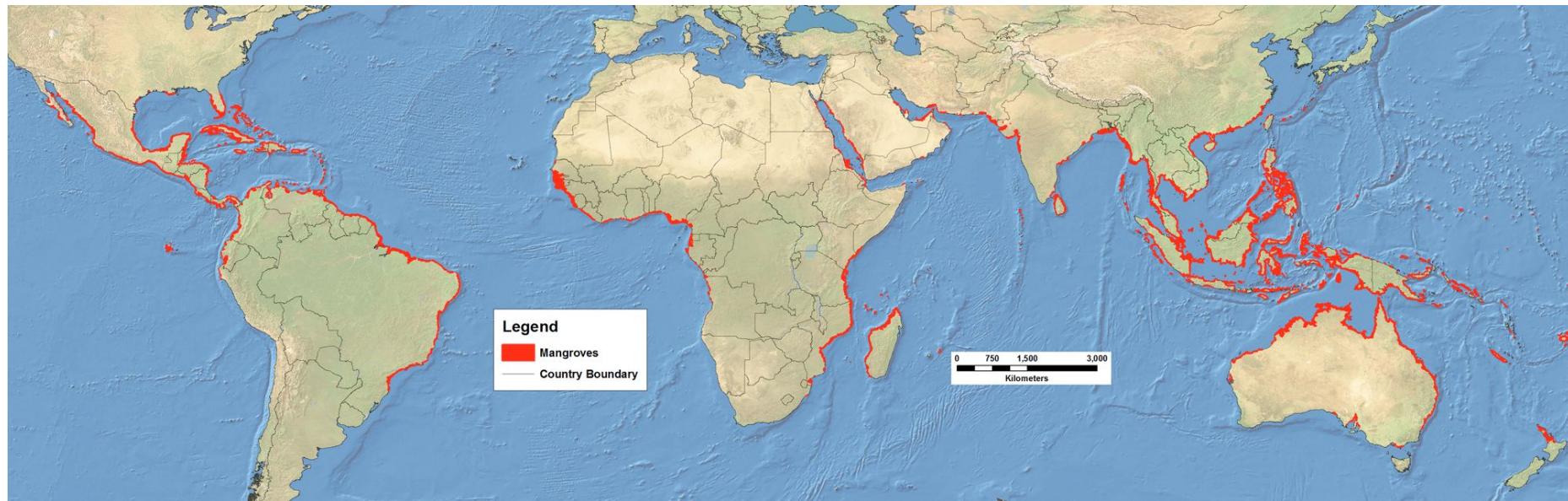
03

Support Wildlife + Economy

Mangrove systems provide shelter to a range of wildlife species including commercially and recreationally important fish and shellfish that are the basis of a multi-billion dollar industry in Florida.

Tropical Extent

50+ species worldwide; 3 species in Florida



Red Mangrove

Rhizophora mangle

- “Walking Trees” - Prop roots
- Propagules - Viviparous seeds, buoyant
- Perfect flowers - Male + Female
- Found on the waterward edge
- Adaptation - Salt exclusion



Black Mangrove

Avicennia germinans

- “Knees” - Pneumatophores
- Perfect flowers - Male + Female
- Most cold tolerant
- Adaptation - Salt excretion



White Mangrove

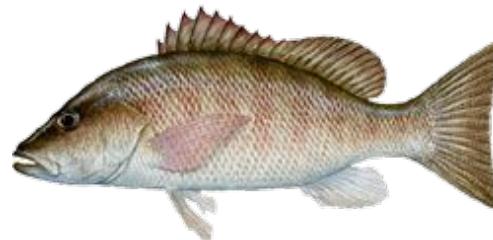
Laguncularia racemosa

- Pneumataphores
- Dioecious flowers - Male or Female
- Found on the landward edge
- Adaptation - Salt glands
- Least cold tolerant



Mangrove Associates

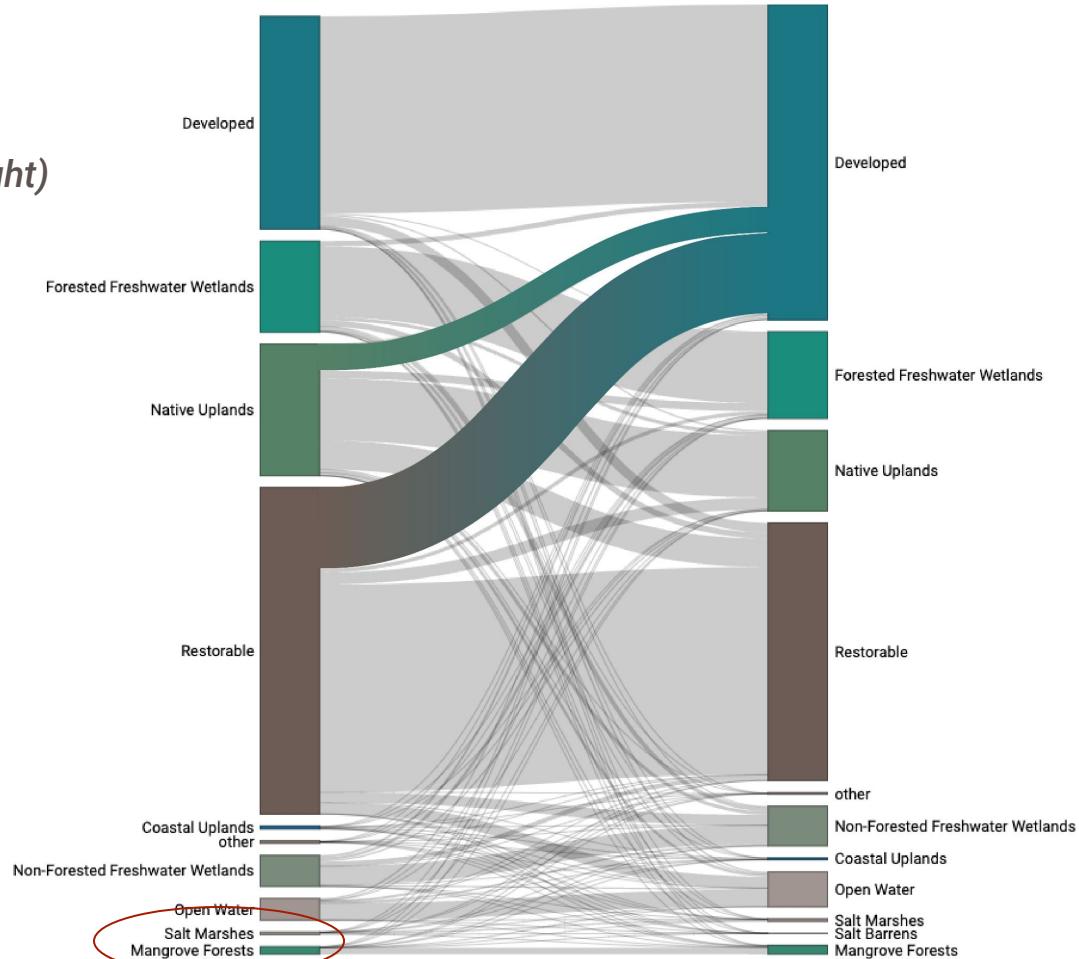
Reddish egret, grey snapper, snails, crabs



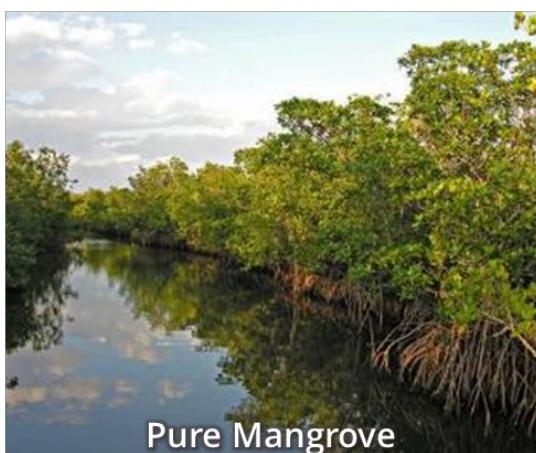
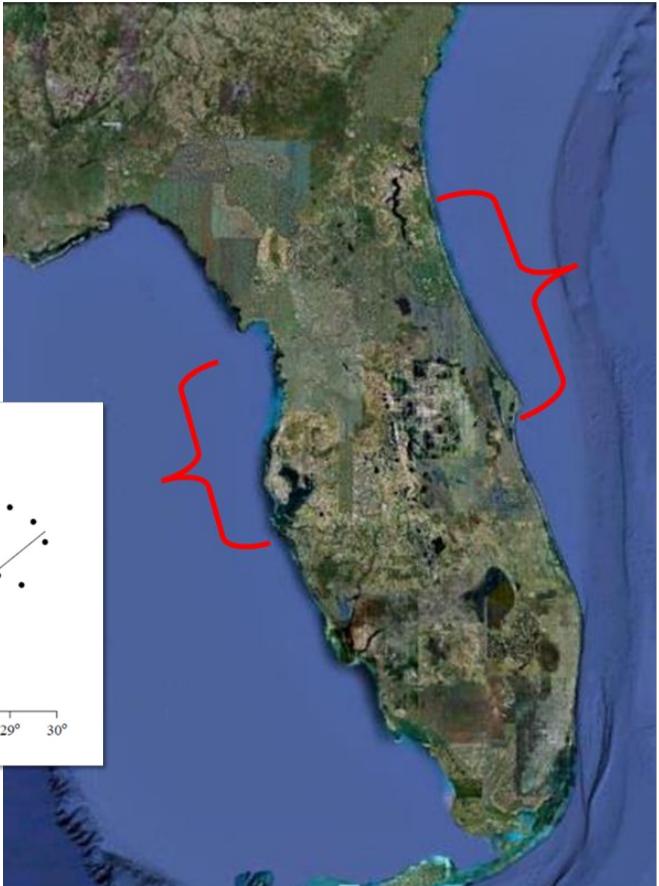
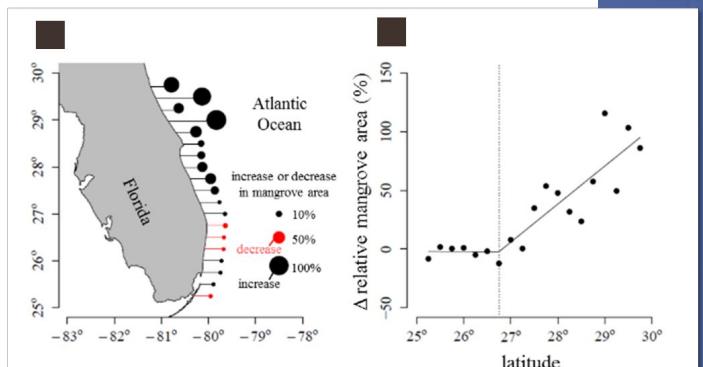
Status and Trends

Change analysis, 1990 (left) to 2020 (right)

- 15,485 acres (2020)
- + 1,963 acres
- 15% □

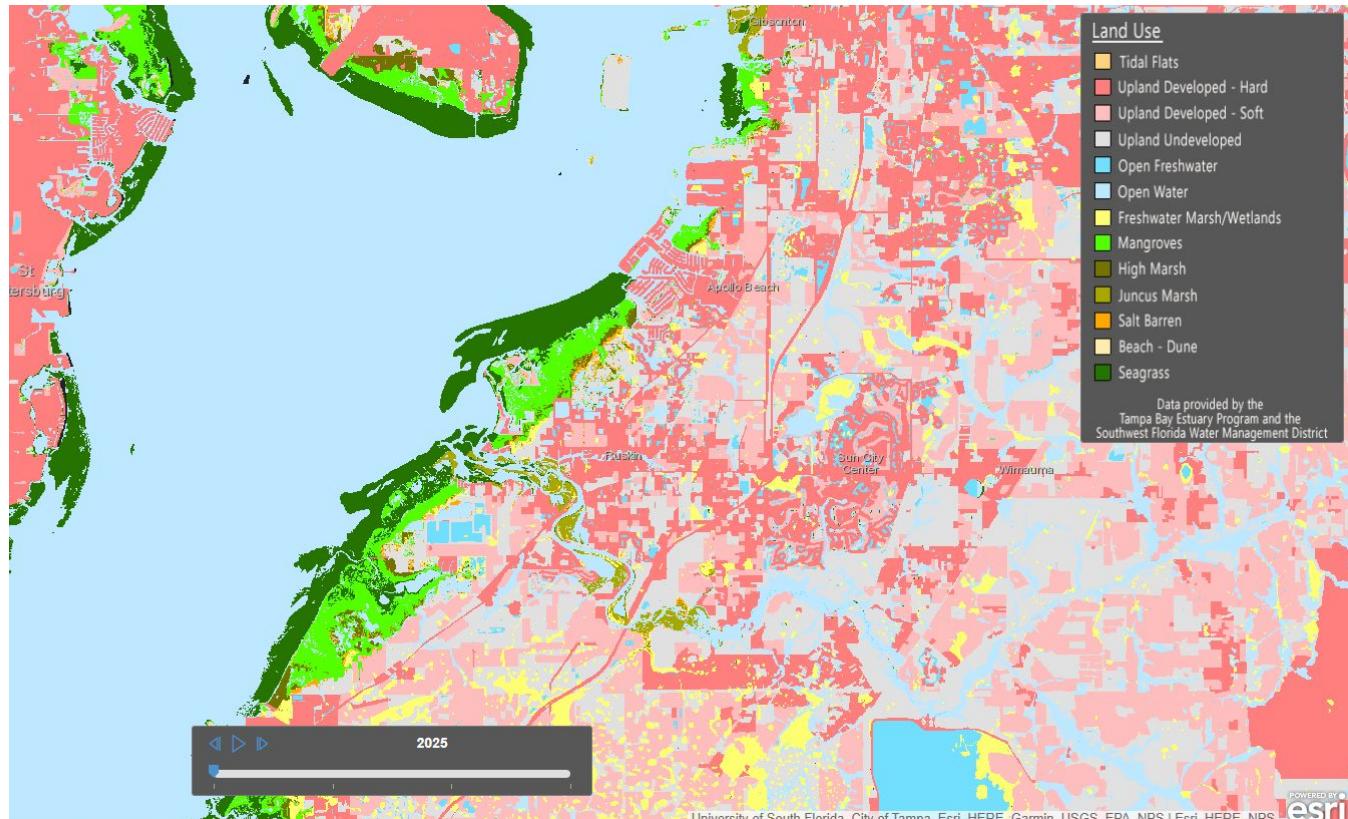


Mangrove - Marsh Migration



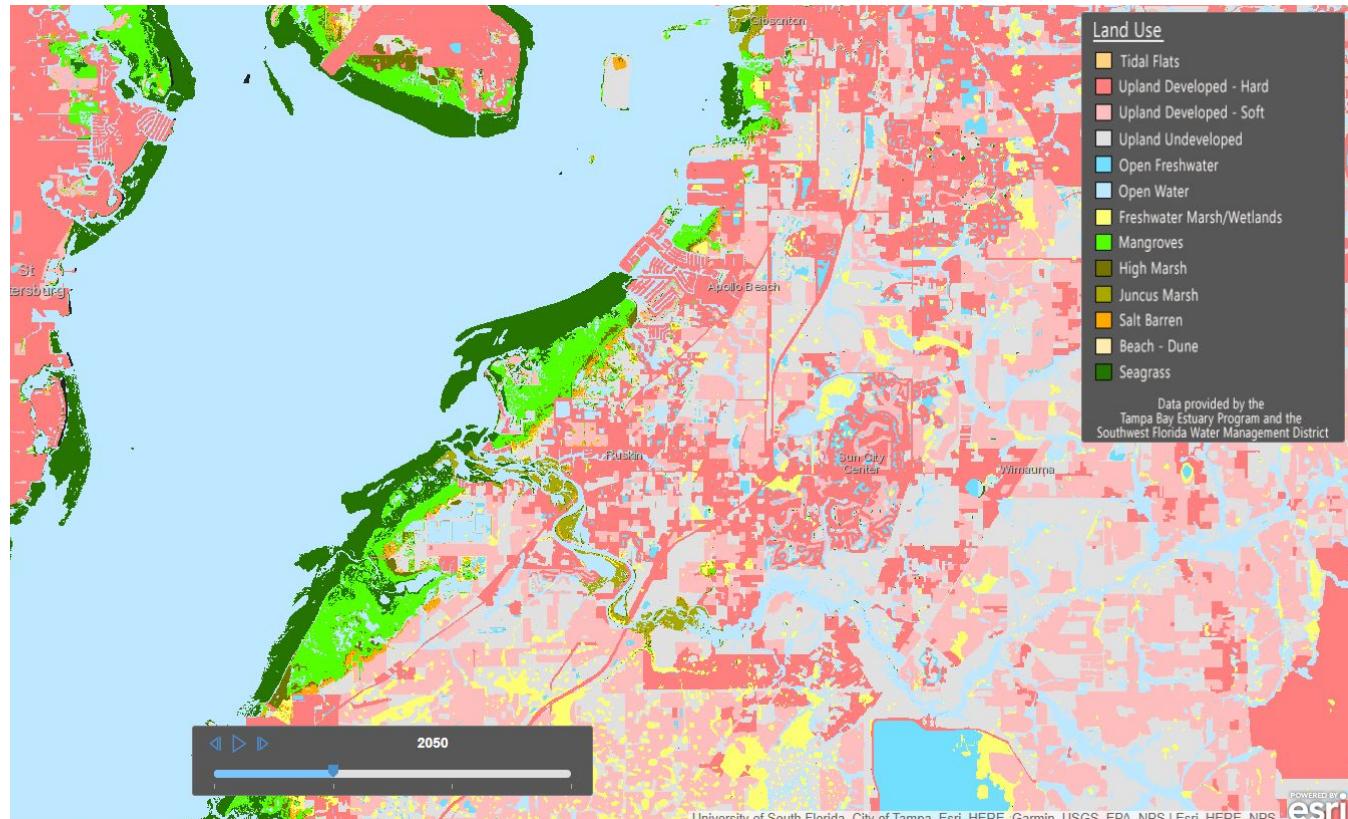
Habitat Evolution Model

2025



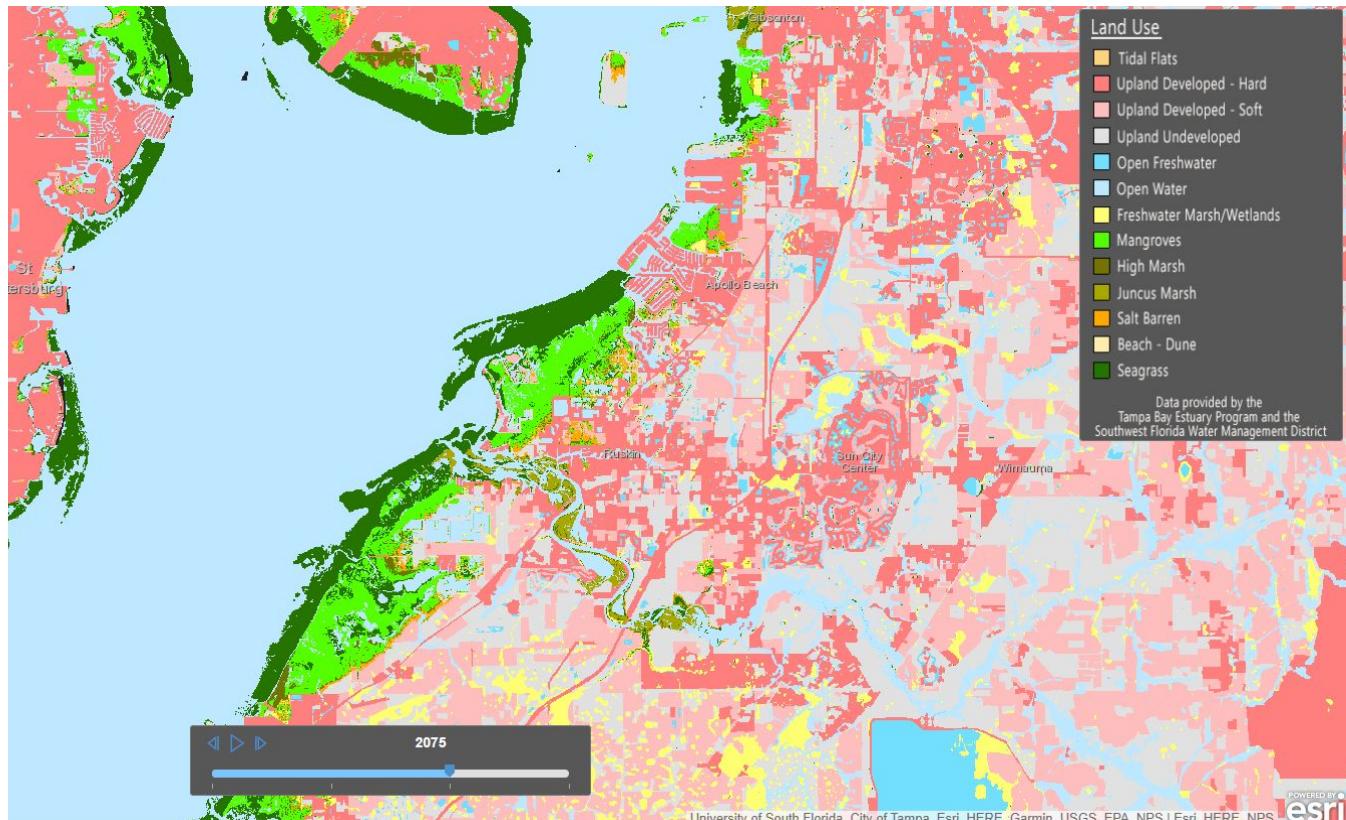
Habitat Evolution Model

2050



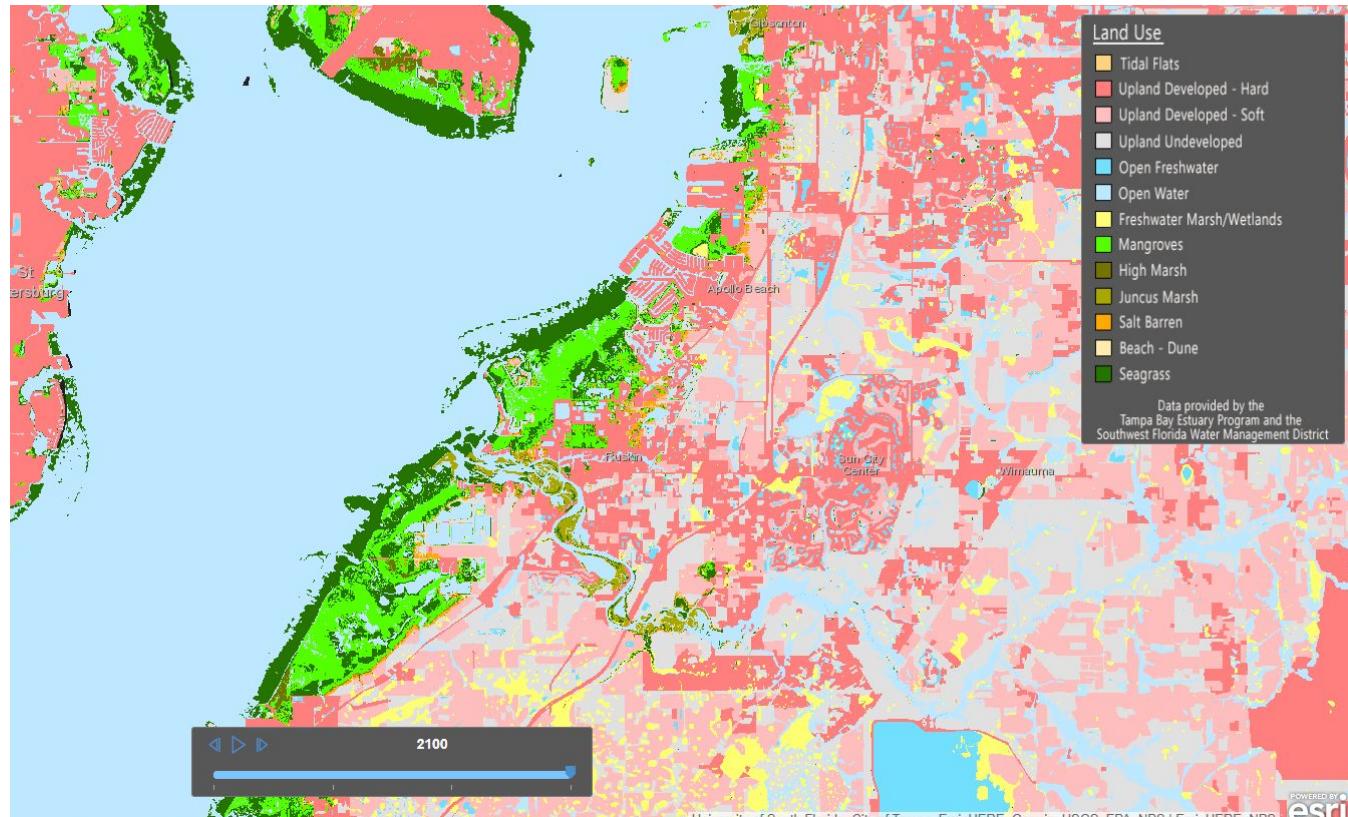
Habitat Evolution Model

2075

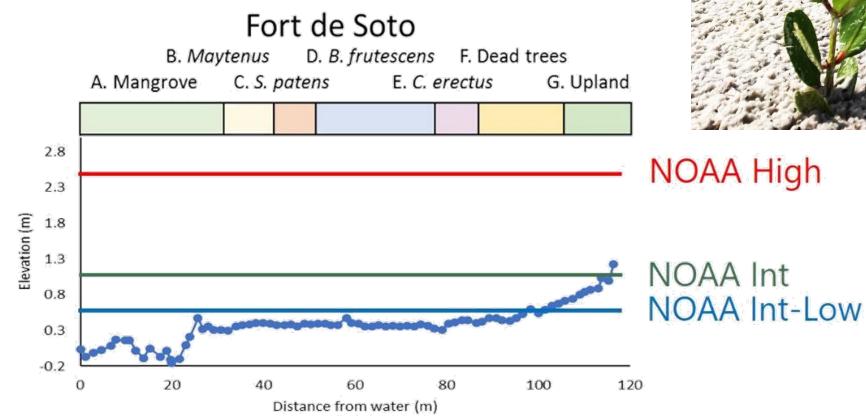
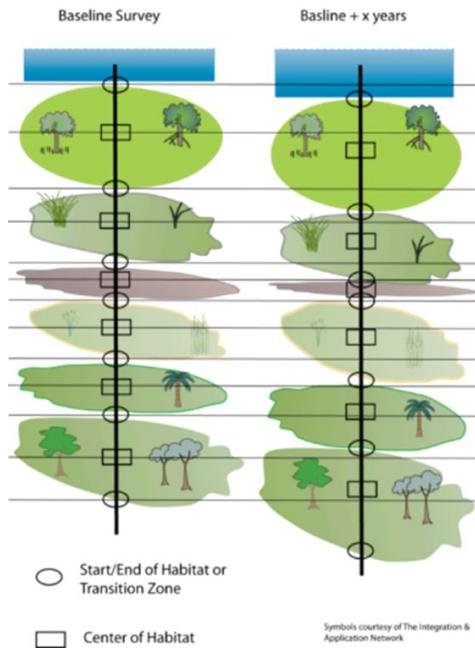


Habitat Evolution Model

2100



Critical Coastal Habitat Monitoring



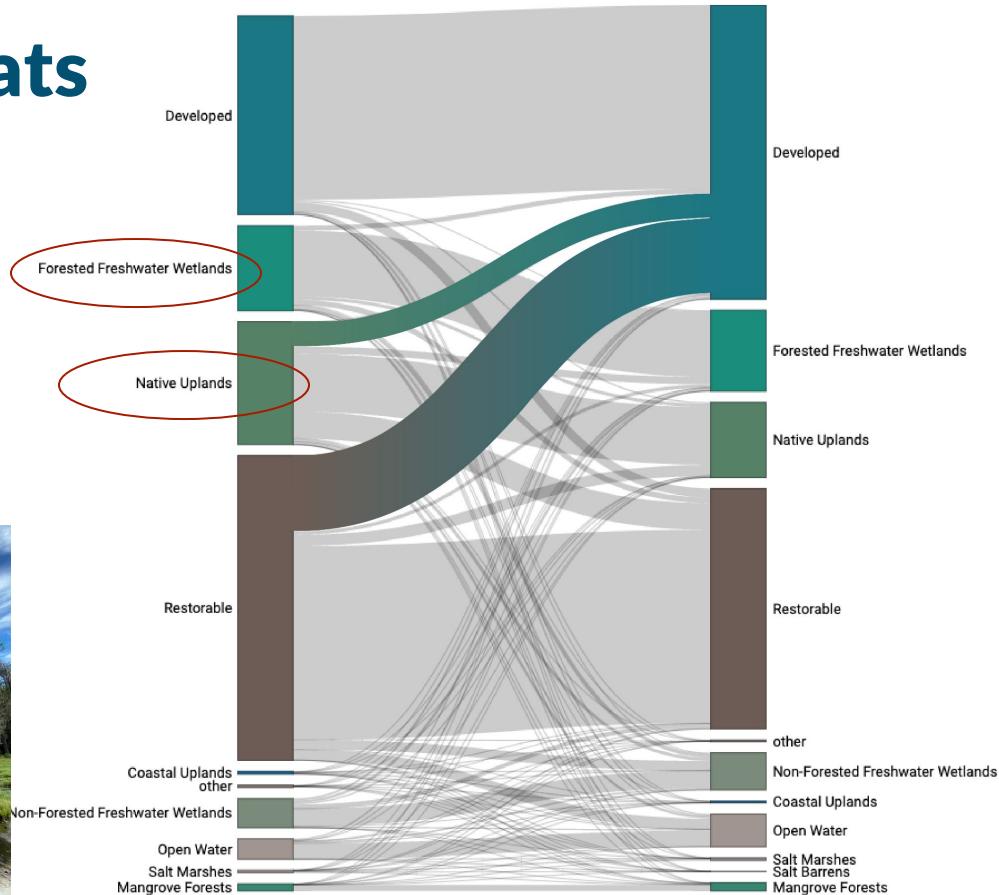
Marsh to Mangrove Conversion

Restoration Approaches



Other Important Habitats

Native Uplands + Freshwater Wetlands



What You Can Do



01

Invest in a Tarpon Tag Specialty License Plate

02

Volunteer at a Give-A-Day for the Bay Event

03

Apply for a Bay Mini-Grant

Questions?

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LOREM IPSUM



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

CAUTION

Fisheries monitoring in Hillsborough Bay needed to ensure future improvements



Clean Waters & Sediments

2019-2021

STAY THE COURSE

Continue planned projects to maintain water quality in 3 of 4 bay segments

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Long-term total nitrogen loading generally declined in all bay segments

CAUTION

Chlorophyll targets not met in Old Tampa Bay for 7th consecutive year

FAIR

Baywide benthic condition assessment remains "fair"

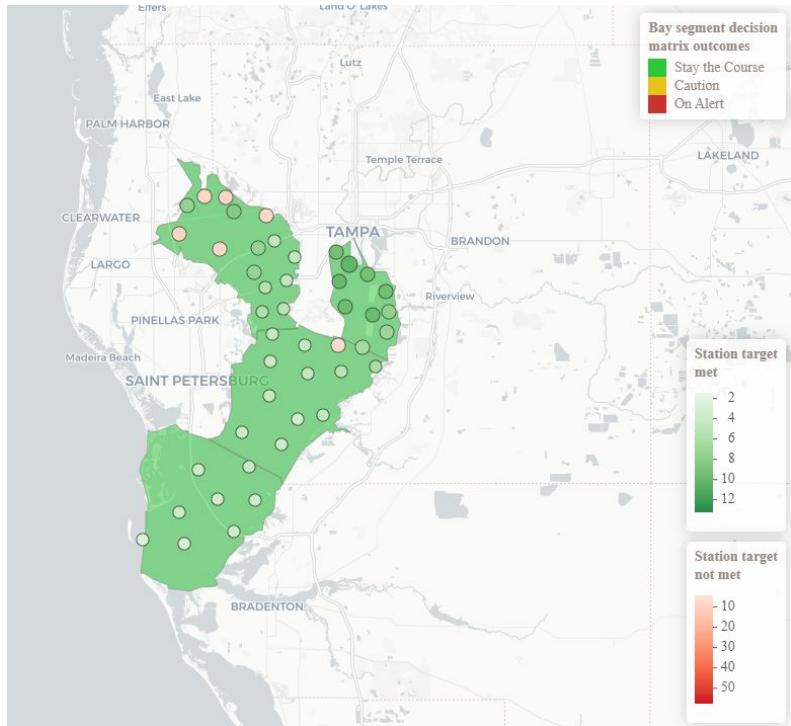
MONITOR

50 of the 225 tidal tributaries pass the 2021 assessment period

POOR

Hillsborough Bay receives "poor" Benthic Index score in 2019

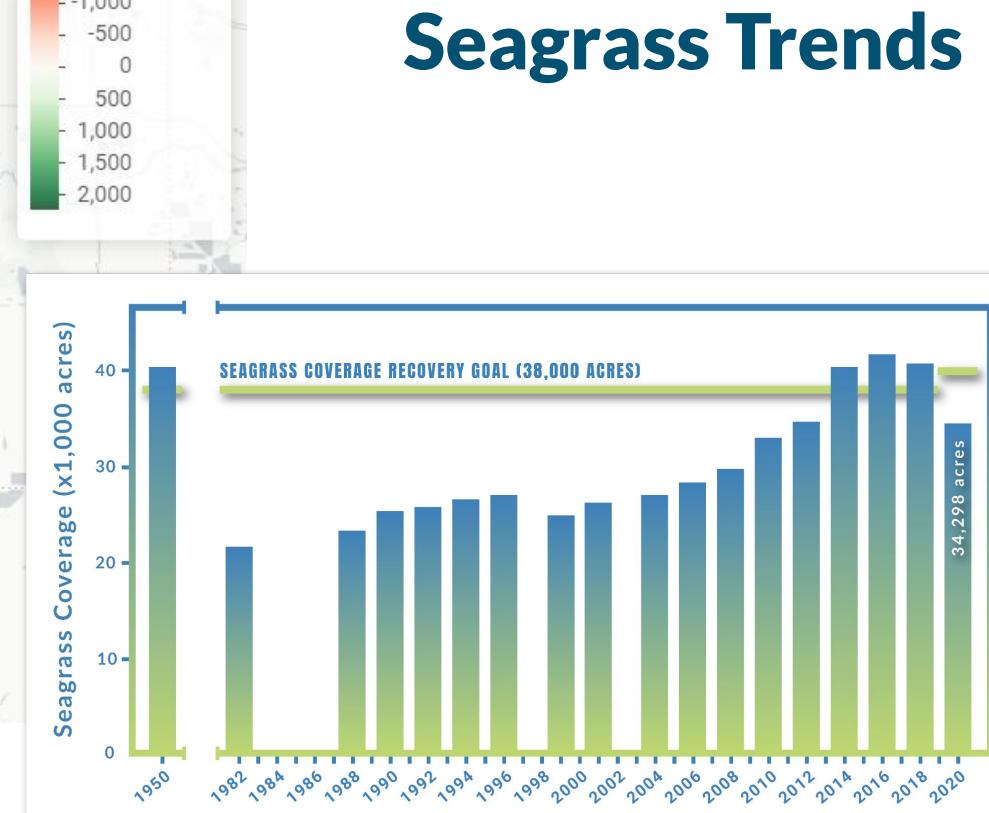
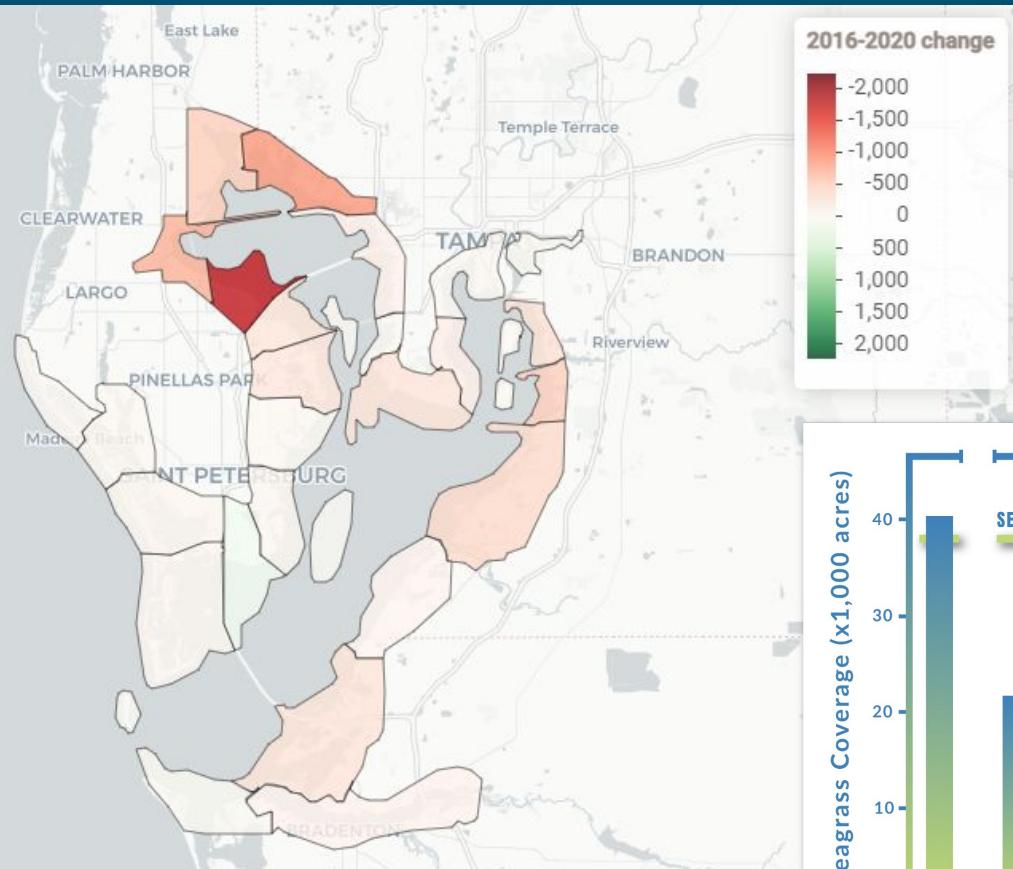
2022 Water Quality Results



| | 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





Informed, Engaged, Responsible Community

2019-2021



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

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

