# Charlotte Harbor Aquatic Preserves Overview

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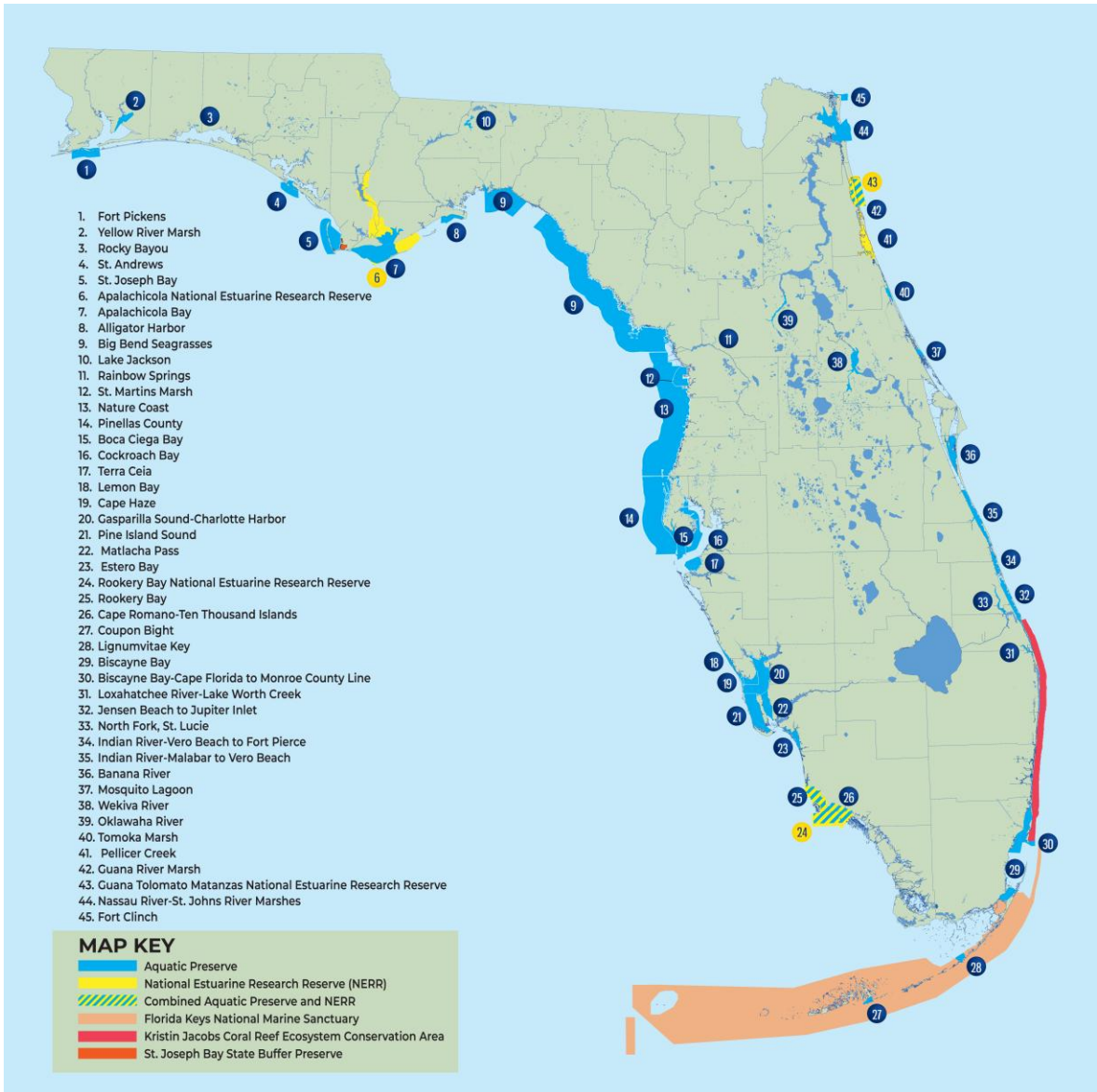
# FLORIDA'S AQUATIC PRESERVES

## A System of Marine Protected Areas

**43 Aquatic Preserves**: Throughout the state Florida.

**Four million acres:** Water protected statewide under the Florida Department of Environmental Protection's Office of Resilience and Coastal Protection.

**In 1975:** Florida enacted the Aquatic Preserve Act to ensure the continuation of aquatic preserves' natural conditions — that "their aesthetic, biological and scientific values may endure for the enjoyment of future generations"(Chapter 18-20 F.A.C.).

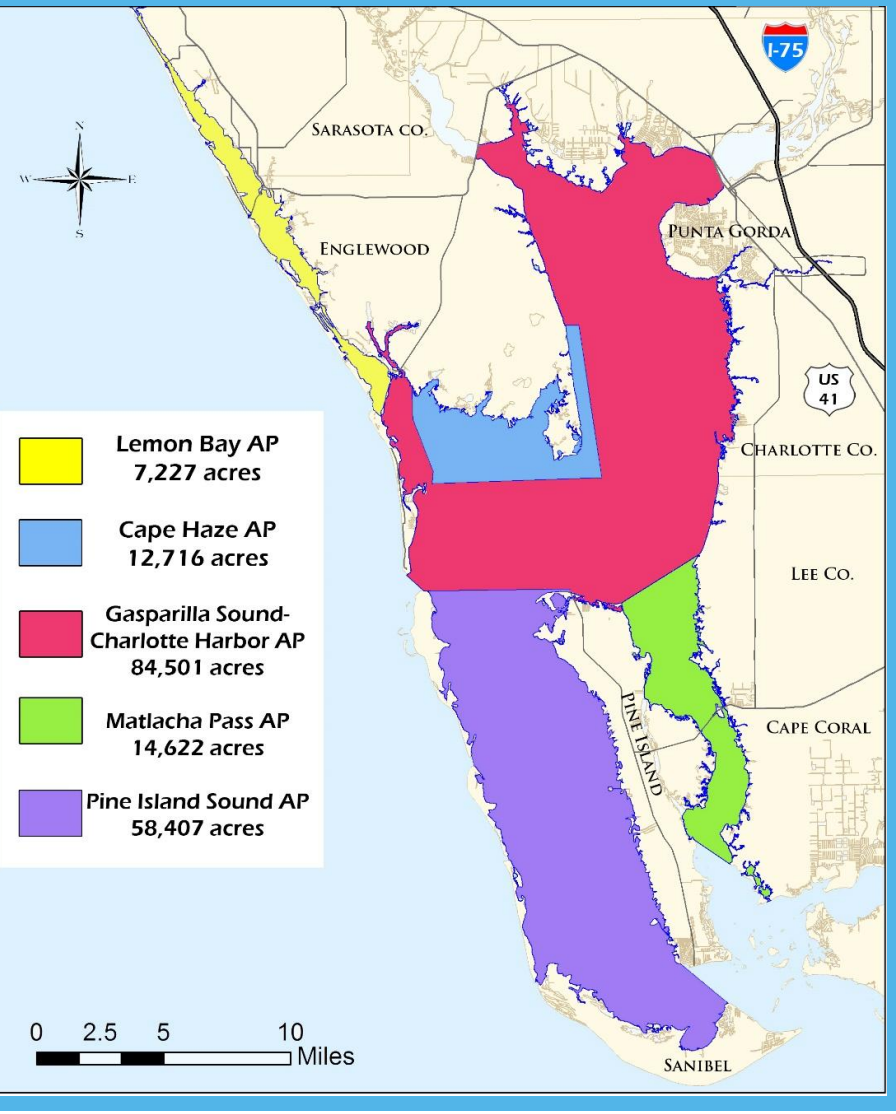


# CHARLOTTE HARBOR AQUATIC PRESERVES

**Five preserves are managed locally by the Charlotte Harbor AP office in Punta Gorda.**

- Lemon Bay.
- Cape Haze AP.
- Gasparilla Sound – Charlotte Harbor AP.
- Matlacha Pass AP.
- Pine Island Sound AP.

**Charlote Harbor Aquatic Preserves office protects more than 180,000 acres of submerged lands.**



# AQUATIC PRESERVE STATUTES AND RULES

- Estero Bay was the first aquatic preserve designated by the Florida legislature in 1966.
- In 1975, Florida enacted the Aquatic Preserve Act to ensure the continuation of aquatic preserves' natural conditions — that "their aesthetic, biological and scientific values may endure for the enjoyment of future generations."(Chapter 18-20 F.A.C.)
- Florida Statute 258 (258.35-258.46) covers aquatic preserves legislative intent, types of APs and boundaries.

# HOW WE MANAGE AQUATIC PRESERVES

# WORKING WITH PARTNERS

## Land Management

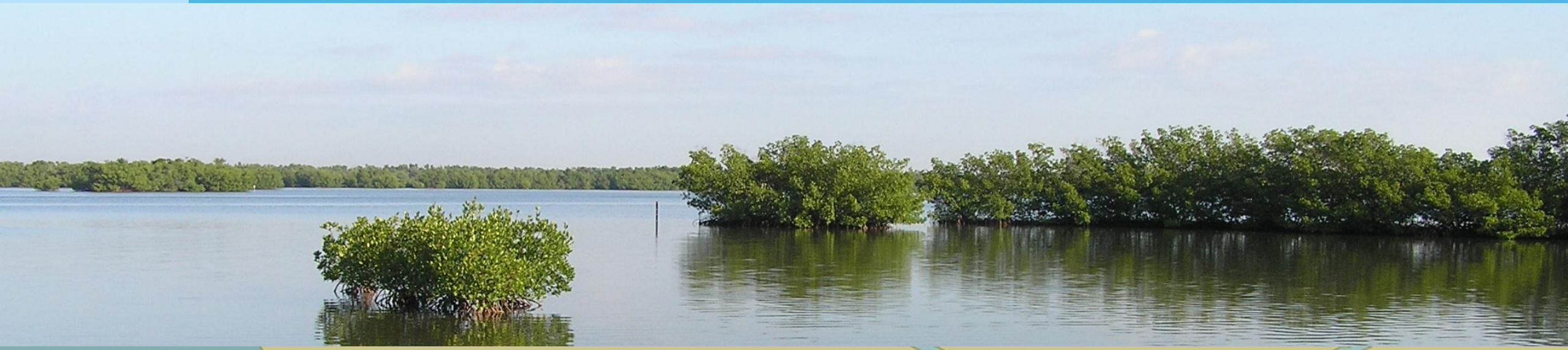
- **Federal:** J.N. Ding Darling National Wildlife Refuge.
- **State:** Charlotte Harbor Preserve State Park, Cayo Costa State Park, Boca Grande State Park, Don Pedro State Park and Stump Pass State Park.
- **Counties:** Lee, Charlotte and Sarasota.

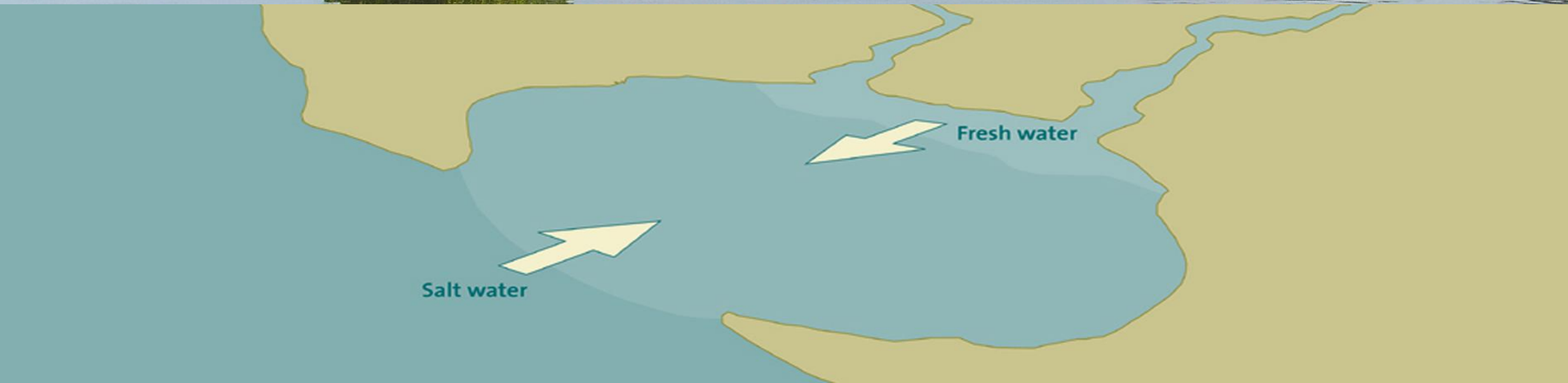
# WORKING WITH PARTNERS

## Science and Protection

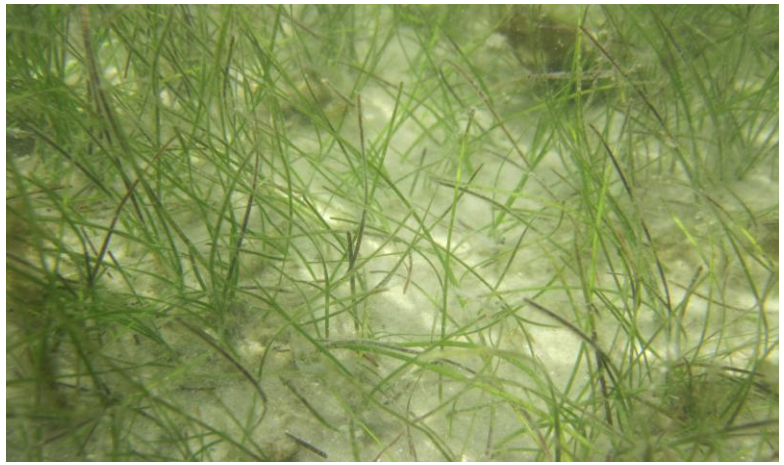
- Coastal and Heartlands National Estuary Partnership.
- The Nature Conservancy.
- Florida Fish and Wildlife Conservation Commission.
- Sanibel-Captiva Conservation Foundation.
- South Florida Water Management District.
- Universities and High Schools.

# WHAT IS AN ESTUARY?

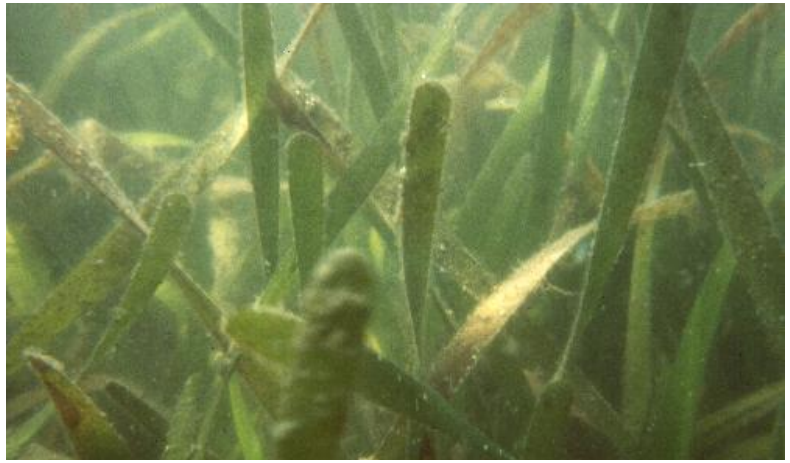




# LOCAL SEAGRASS SPECIES



*Halodule wrightii* (Shoal grass)

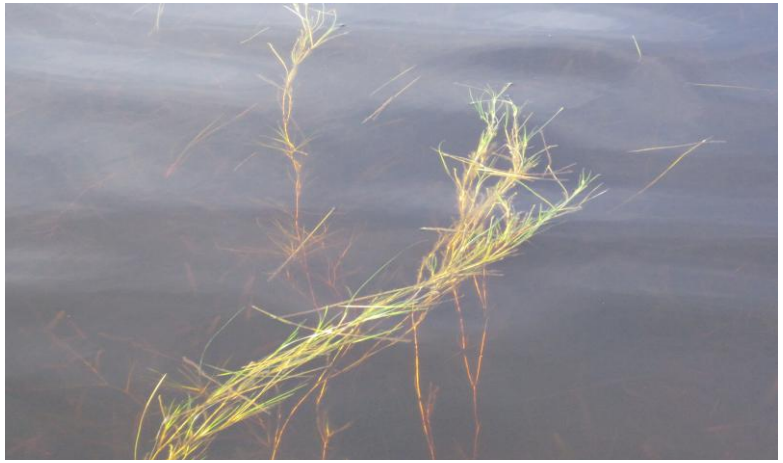


*Thalassia testudinum* (Turtle grass)

*Syringodium filiforme* (Manatee grass)

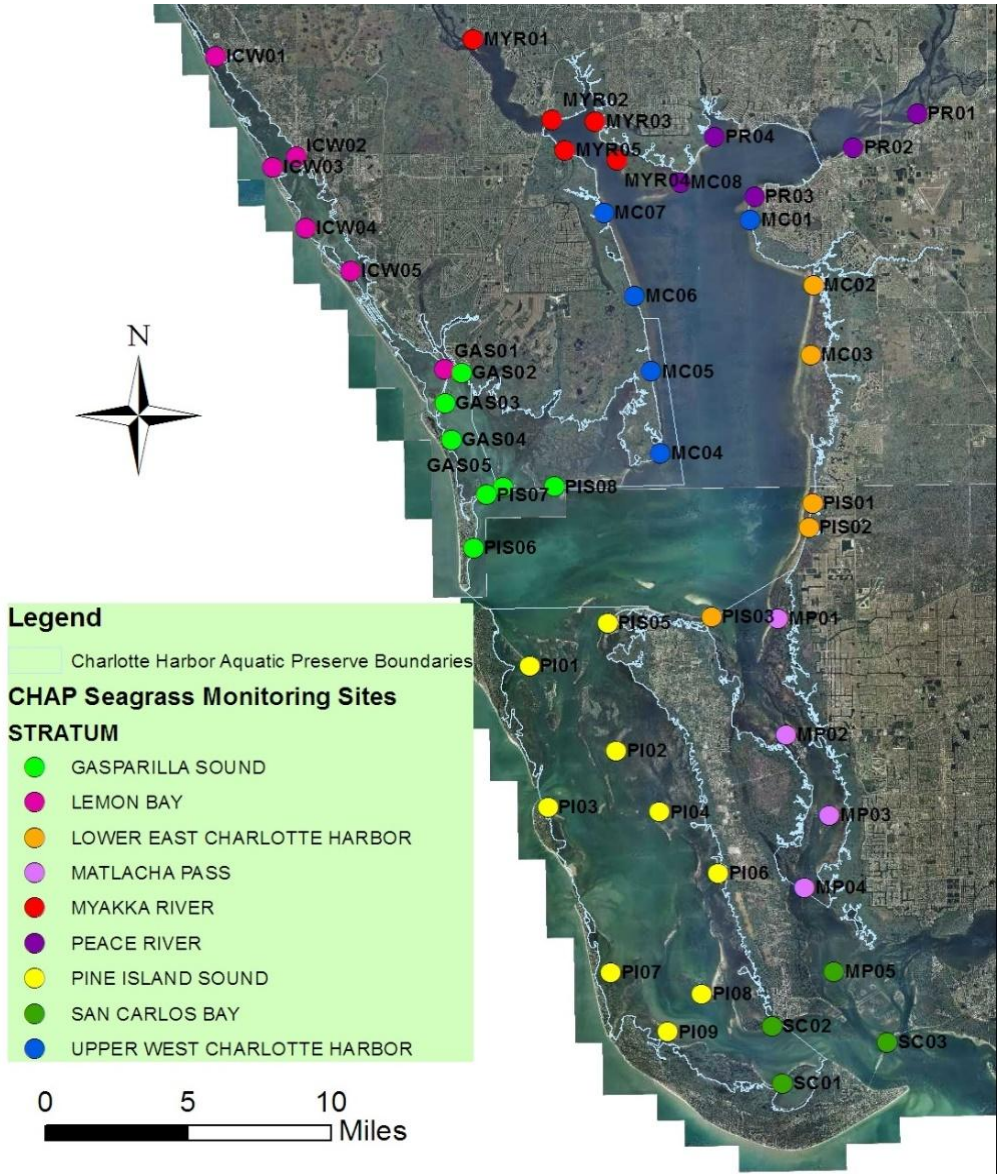
*Halophila engelmannii (Star grass)*

*Halophila decipiens (Paddle grass)*



*Ruppia maritima (Widgeon grass)*

# SEAGRASS MONITORING




- There are 50 sites monitored annually since 1999.
- Shore to deep edge of seagrass.
- Specific monitoring – overall health and any changes over time.
- Transects up to 600 meters long, fixed stations repeated each year every 10-50 meters.
- Results published in 2013 *Florida Scientist* and in the *Seagrass Integrated Mapping and Monitoring* (SIMM) reports.

# SEAGRASS ECOLOGICAL VALUE

- Provides shelter, nursery and food source- supporting hundreds of species.
- Improves water quality and stabilizes sediment.
- Nutrient and carbon cycling rates are comparable to rainforests.
- “Lungs of the seas”- generating 10 L of oxygen every day through photosynthesis.

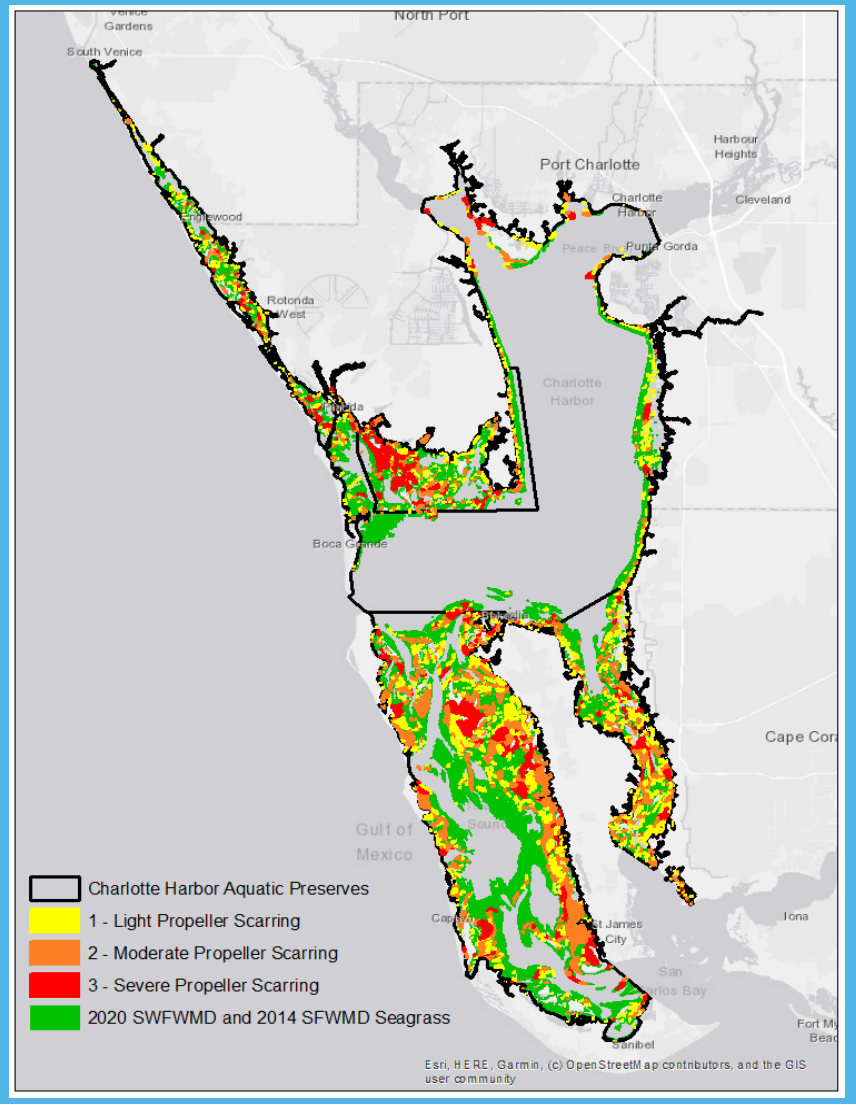
# SEAGRASS ECONOMIC VALUE

- **Shelter, nursery and food:** for almost 90% of commercially and recreationally important fisheries.

- **2.2 million acres of seagrass in Florida:** provide ecological services worth more than $40 billion each year (Carlson and Yarbro, 2009), or  $20,000 per acre of seagrass.
  - Recent study for Pine Island Sound/SWFL (Beever 2012) found the total economic value of continuous seagrass was $93,829 per acre.
  - With 1 ft water clarity increase, 15% increase in property value, study from Florida Realtors in Lee County (2015).
  - A 2020 Punta Gorda Vistor & Convention Bureau study found visitors save households >$700 in taxes each year.

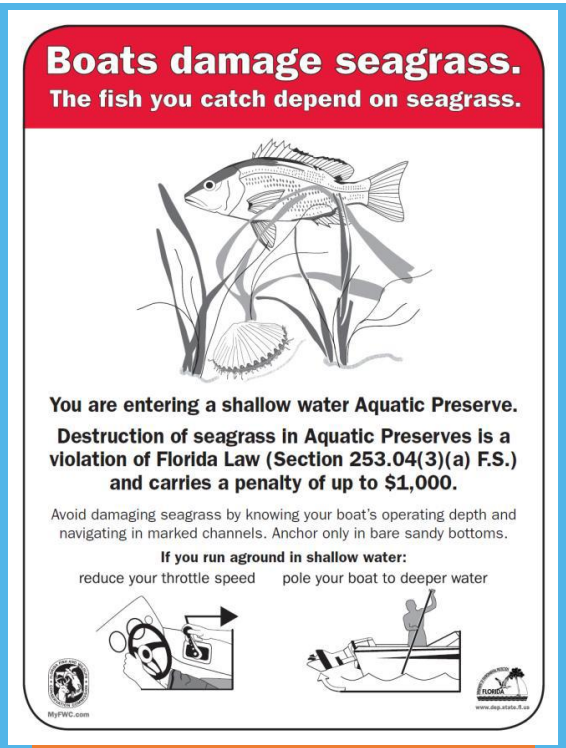
# PROP SCARRING

- Prop scars are from boat propellers.
- A single prop scar takes five to 10 years to recover.
- Seagrass exists in less than six feet of water in CHAP.
- Prohibited in an aquatic preserves.



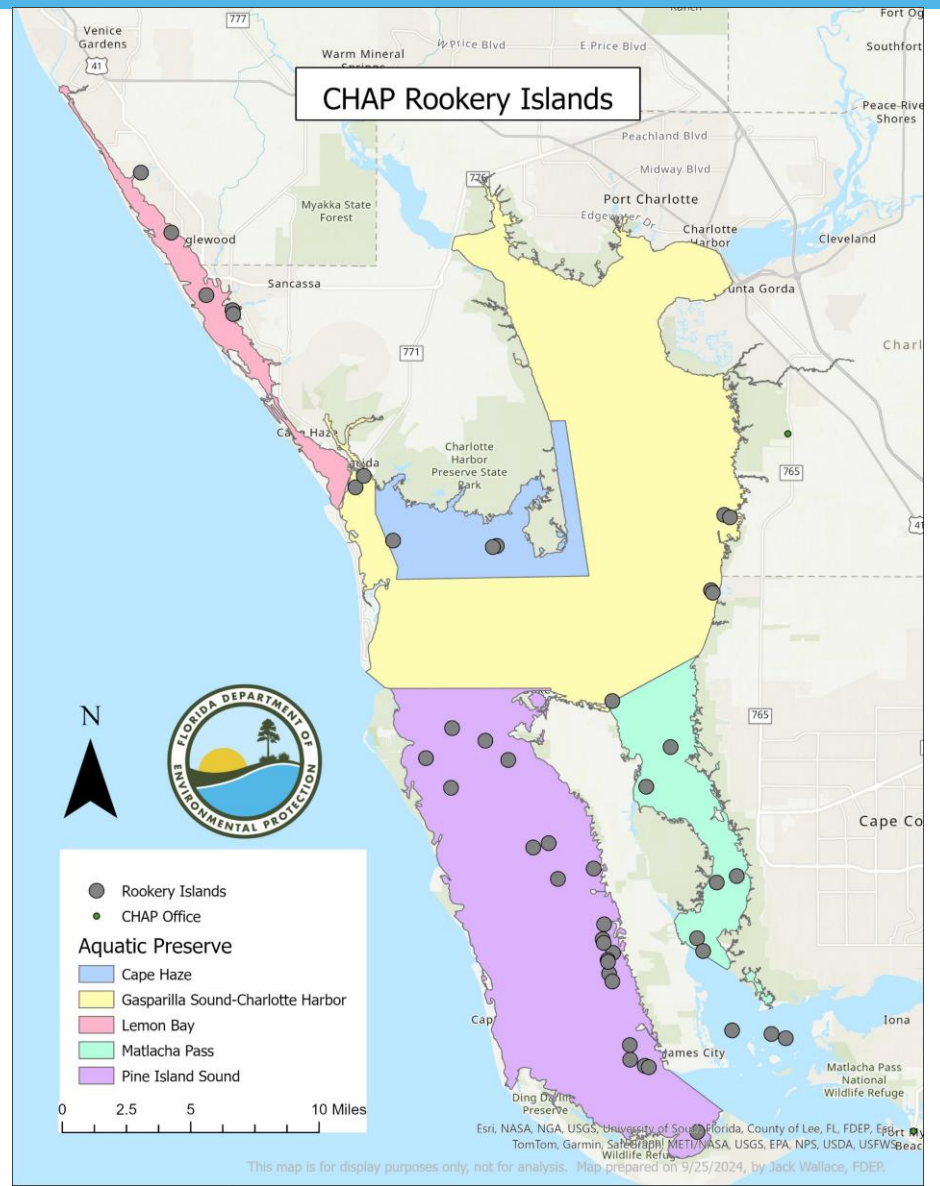
# SEAGRASS EDUCATION

- Signs at public boat ramps.
- Educational rack cards.
- Mobile apps for boaters.
- Presentations to boating clubs, and at boat and fishing shows.
- Post signage on water – aquatic preserve boundaries and seagrass scarring prohibited.




# WADING AND DIVING BIRD NEST MONITORING PROGRAM

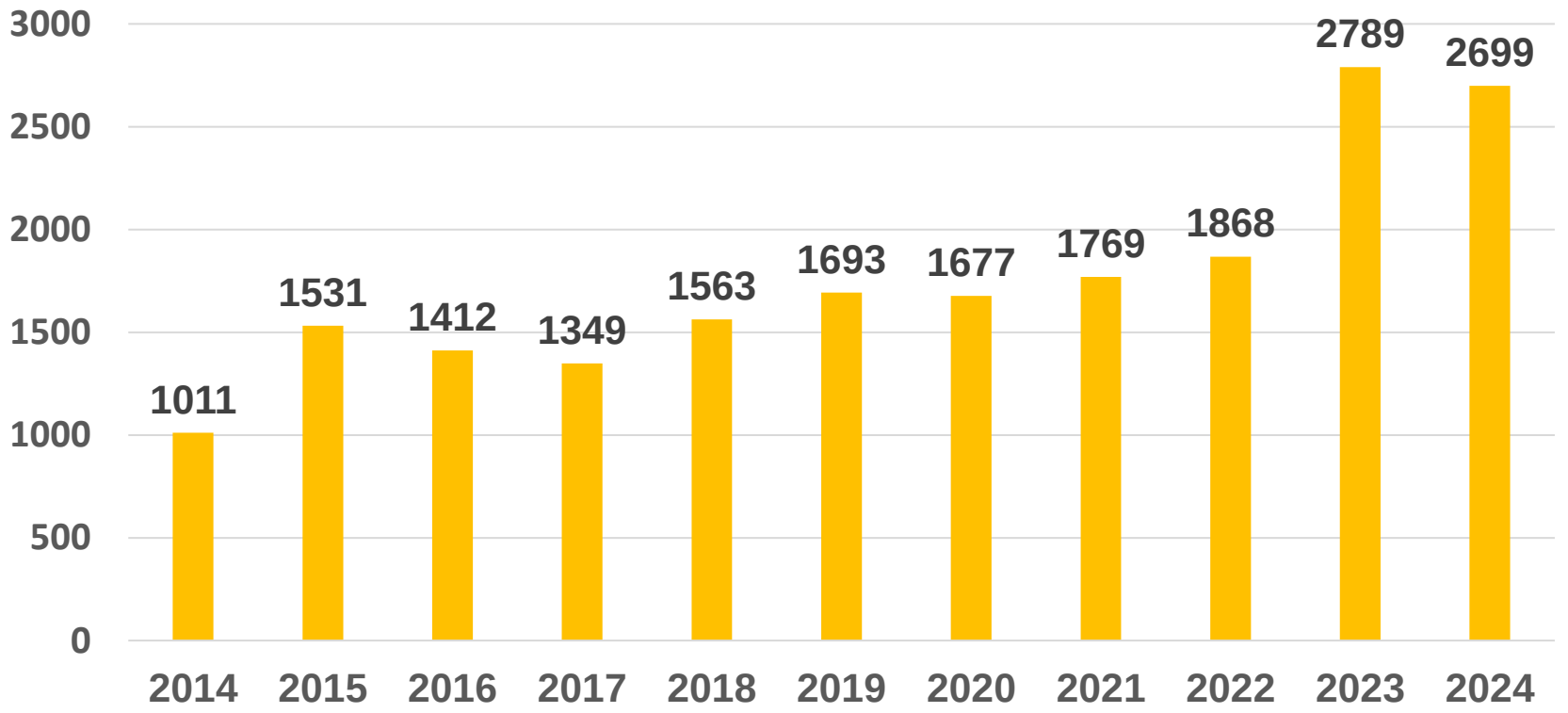
- Monitoring began in 2008.
- In 2024, 41 islands monitored (34 active) with a peak nest count of 2,699.
- 11 islands in Charlotte County.
- Establishment of Critical Wildlife Areas.
- Data is published annually in the South Florida Wading Bird Report.



# WADING AND DIVING BIRD NEST MONITORING PROGRAM

- Monthly surveys conducted by boat.
- Double observer method counting active nests by species.
- 16 wading and diving bird species documented nesting.
- After nesting activity subsides marine debris (fishing line, nets and plastics) is removed from the island.
- Deceased birds are reported to the FWC Bird Mortality Database.

# WADING AND DIVING BIRD PEAK NEST DATA




Annual peak nest counts in study area from 2014-2024.

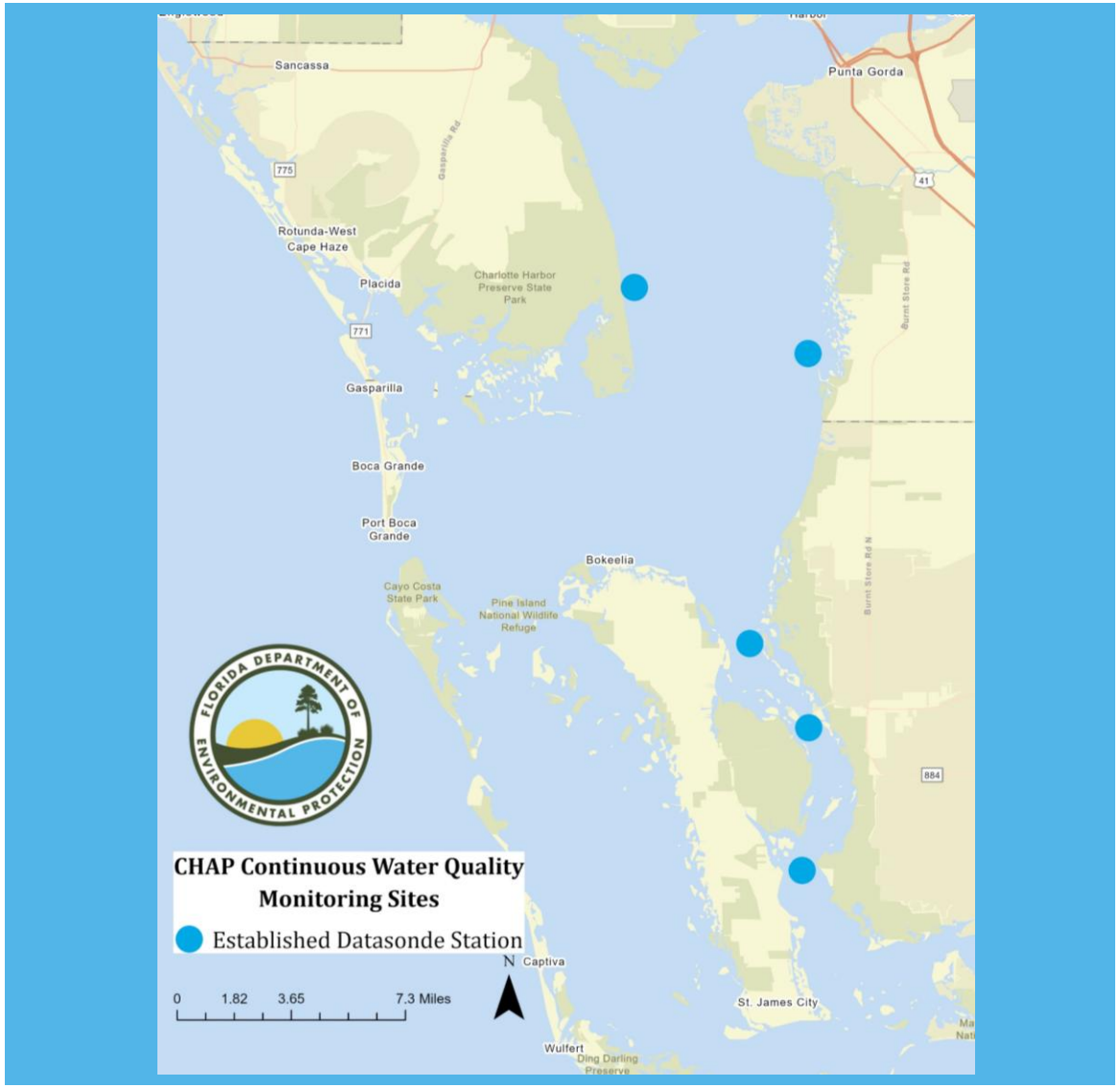
# GUIDELINES FOR ROOKERY ISLANDS

- Keep 300 feet away from active bird rookery nesting islands.
- If the birds change behavior (flying away or hovering above nest), you are too close.
- Avoid casting toward rookery islands to prevent bird entanglement in fishing line.
- Remove fishing line and debris.
- Report entangled birds.

# CONTINUOUS WATER QUALITY MONITORING

- Three stations in Matlacha Pass AP (established in 2005 & 2007) and two stations in Charlotte Harbor (2021 & 2024).

- CHAP partnership with Charlotte County to establish a station on the East Wall of Charlotte Harbor.



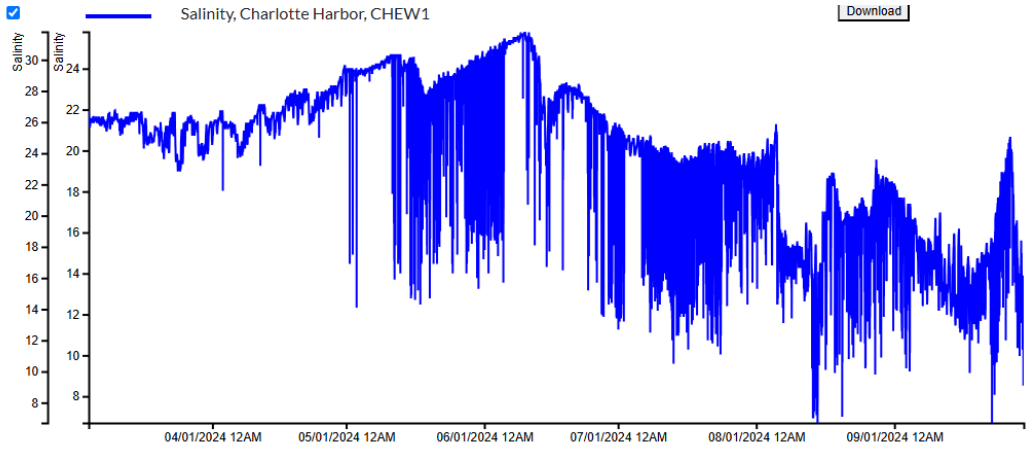
# CONTINUOUS WATER QUALITY MONITORING

- Water quality every 15 minutes: Dissolved oxygen, pH, turbidity, salinity, temperature and depth.

- Samples monthly for chlorophyll, nutrients (nitrogen and phosphorous) and red tide/ Harmful Algal Blooms.

- Data managed in-house, used locally and statewide https://chnep.wateratlas.usf.edu/datamapper/.

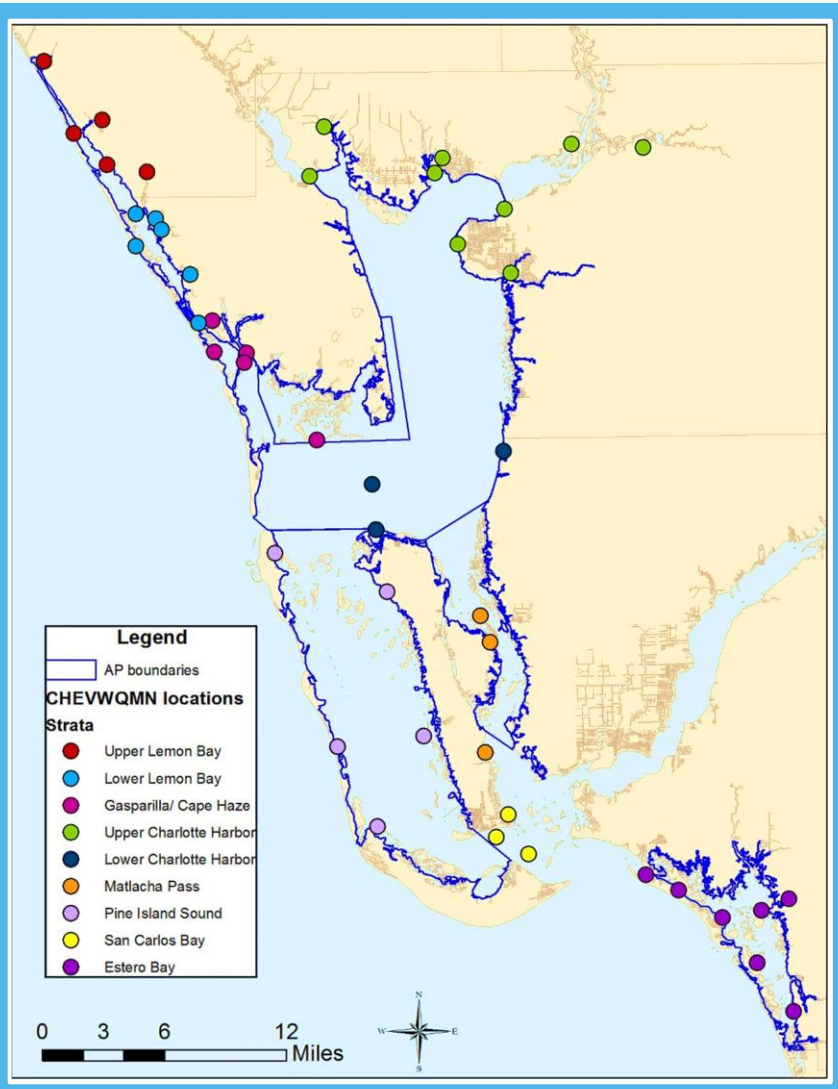
  https://floridaapdata.org/

# CHARLOTTE HARBOR ESTUARIES VOLUNTEER WATER QUALITY MONITORING NETWORK

**46 sites across three counties and six aquatic preserves.**

- Monthly sampling at sunrise since 1998.
- More than 80 volunteers' sample 19 field and lab parameters.
- Strict quality assurance plan – procedures and training twice a year.
- Data managed in-house and available to the public.



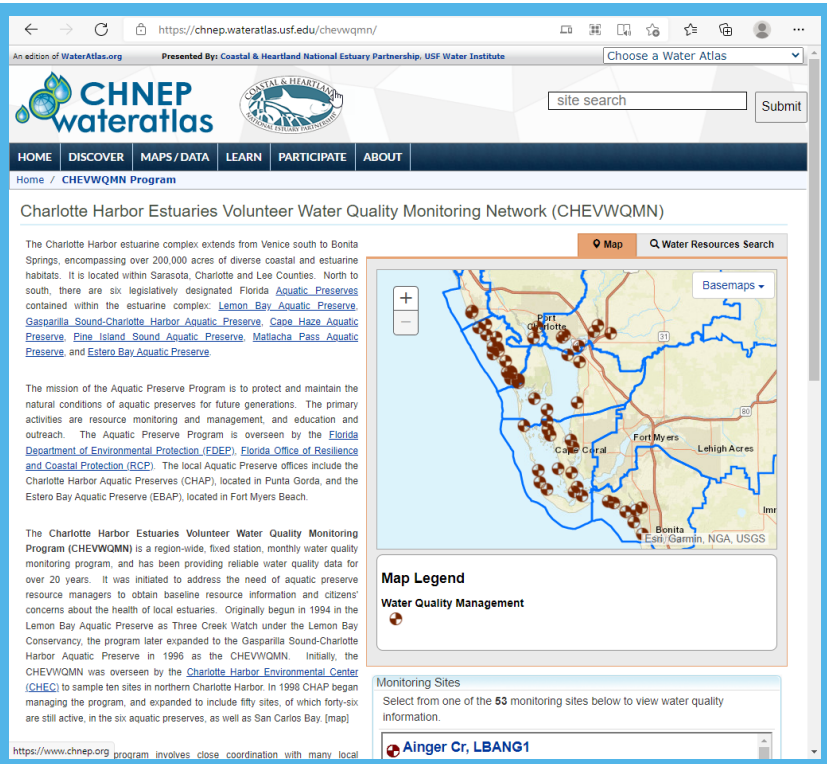
# DATA AVAILABILTY

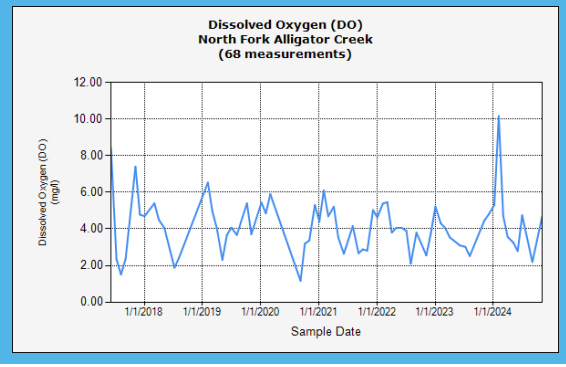
## Water Quality Data

Watershed Information Network- WIN for regulatory use of setting impaired waterbodies.

## Publicly available:

- By request.
- https://chnep.wateratlas.usf.edu/chevwqmn.
- Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR): https://dev.seacar.waterinstitute.usf.edu/programs/details/476.

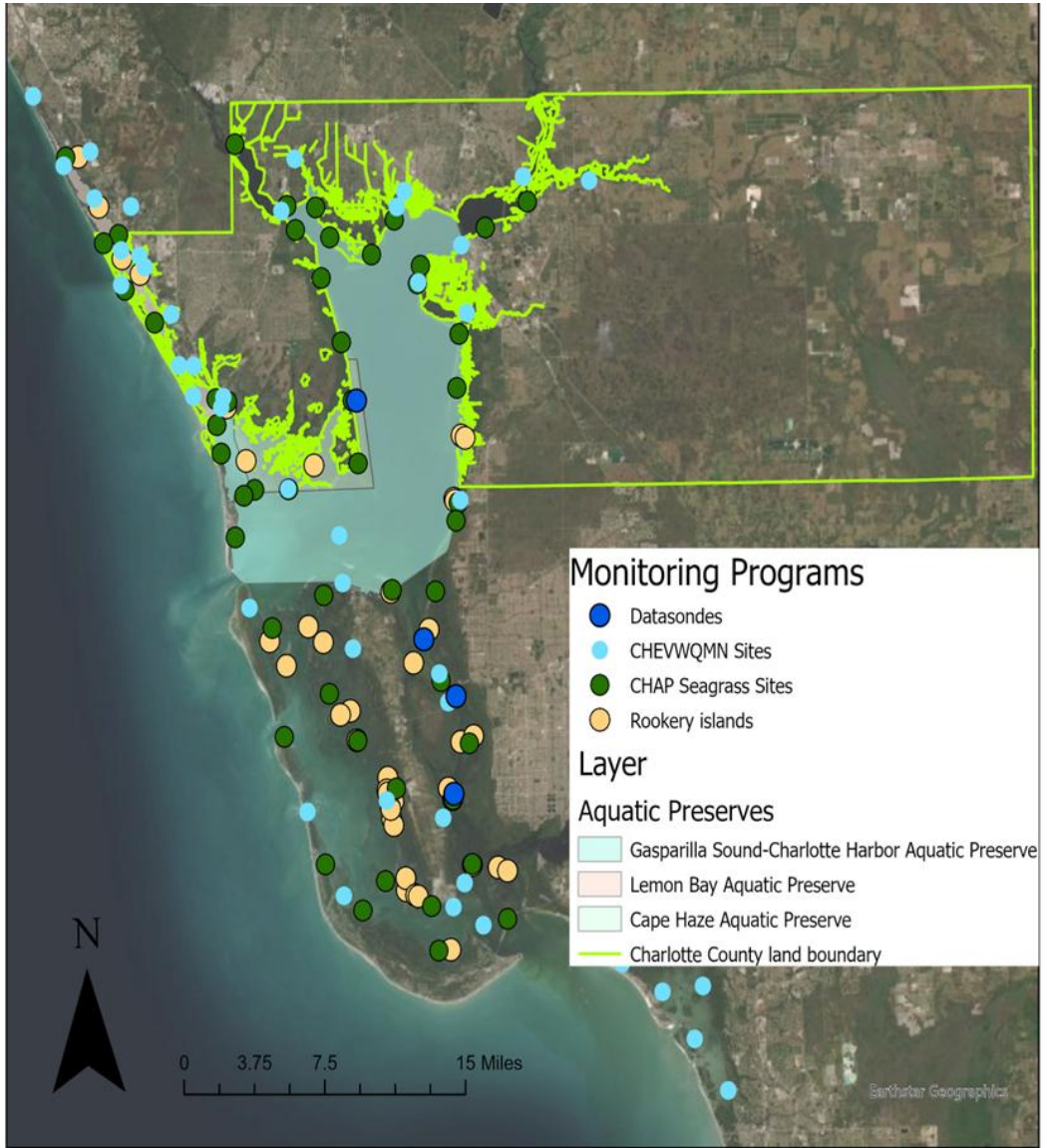


# CHARLOTTE COUNTY SPECIFIC MONTITORING SITES

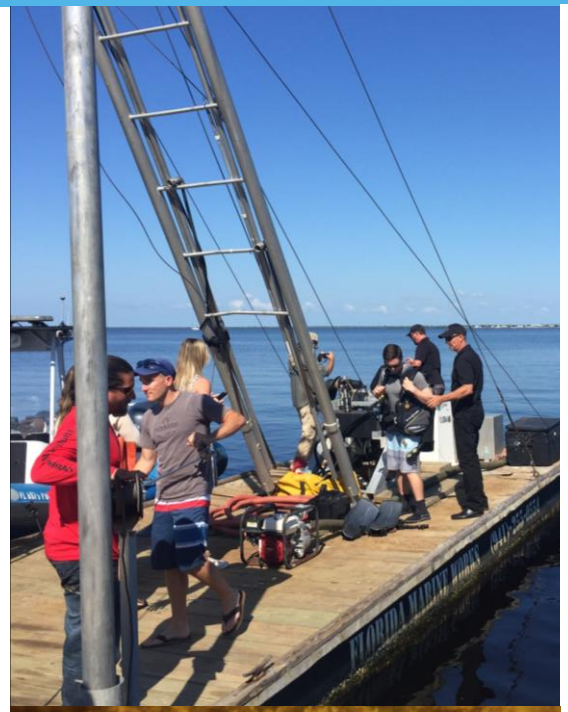
**Three Aquatic Preserves - Lemon Bay, Cape Haze, Gasparilla Sound-Charlotte Harbor**

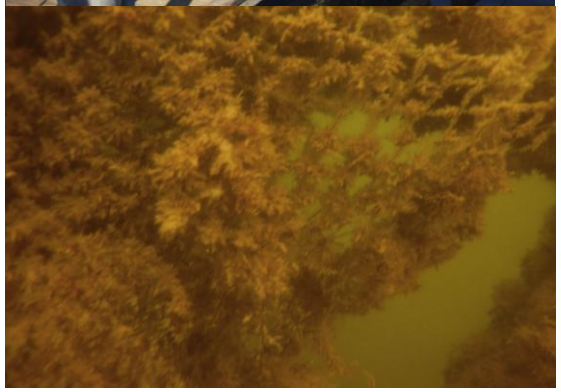
- Water Quality - 22 sites monitored monthly
- Rookery - 11 islands monitored monthly
- Seagrass - 25 sites monitored annually



# ARTIFICIAL REEF CLEAN UP

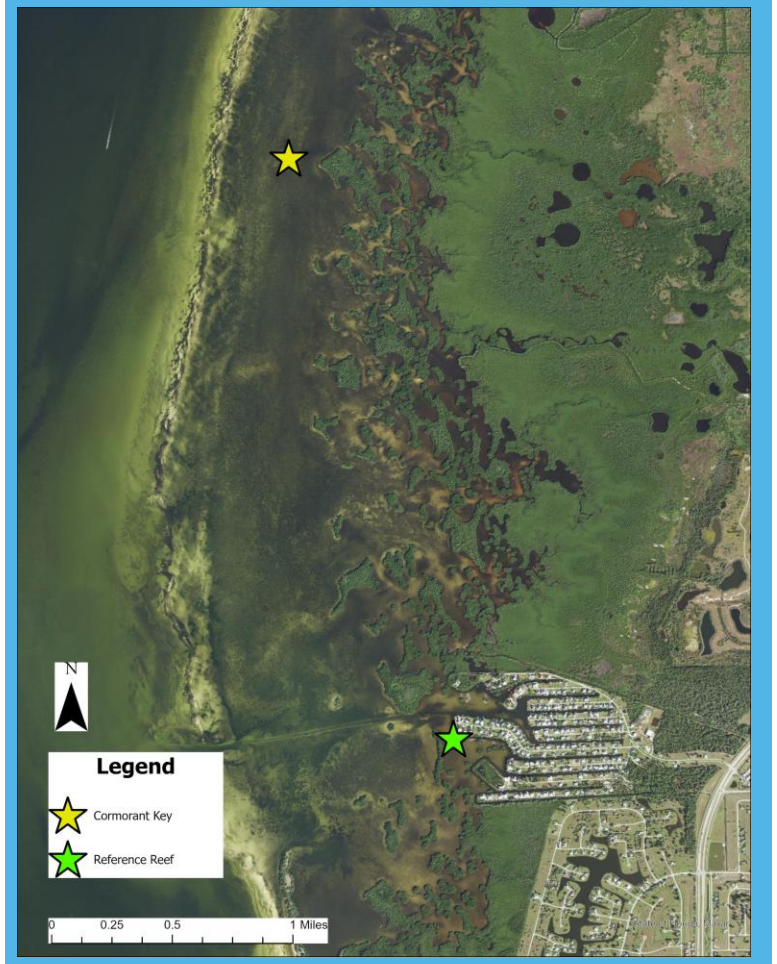
- In 2019, a $59,300 grant was awarded to remove derelict fishing gear on artificial reefs in Charlotte Harbor Aquatic Preserves.
- Partnering with private companies, county natural resources and volunteers to monitor pre/post reef cleanup, remove and weigh debris, and educate public of the project and danger of marine debris.
- 4,262 lbs of debris were removed- including 257 anchors, 32 fishing poles, 236 ft of fishing line, 2060 ft of rope.





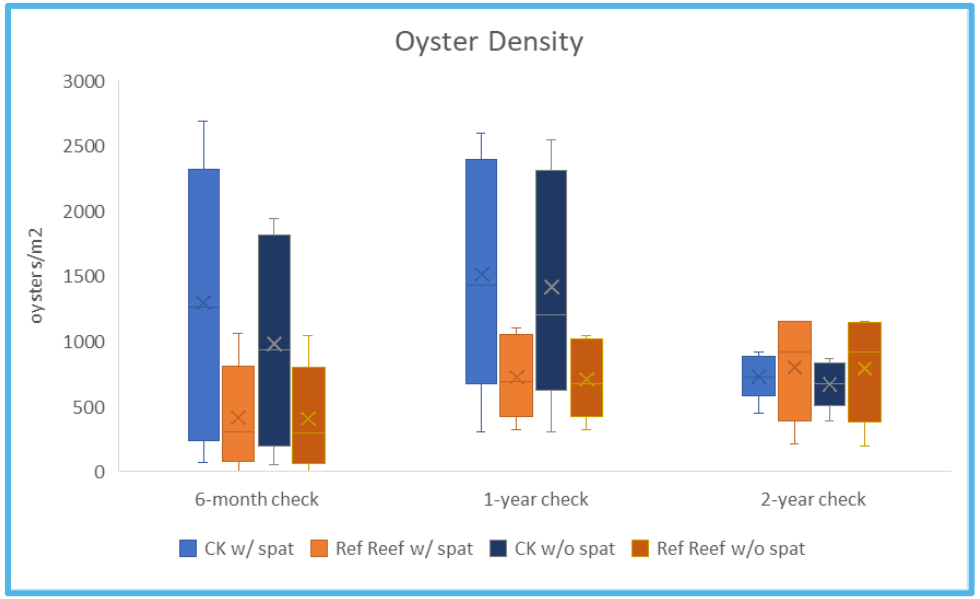
View Story Map.

# CORMORANT KEY EROSION OVER TIME

# CORMORANT KEY OYSTER RESTORATION PROJECT

- In May 2022, CHAP partnered with multiple agencies and volunteers to shovel and place the loose shell to create a “shell reef.”
- Utilized 55 local volunteers and accumulated 168 volunteer hours.
- 800 buckets filled and distributed (~12 tons) of loose shell.
- Annual monitoring continues


# HELP PROTECT THE AQUATIC PRESERVES

- Do not overfertilize, especially during rainy season.
- Do not throw grass/plant clippings or animal waste into waterbodies.
- Minimize paved surfaces.
- Landscape with native plants.
- Encourage living shorelines.
- Dispose of trash and fishing line properly.
- Keep a safe distance from rookery islands.
- Practice safe boating to protect seagrass.

# THANK YOU

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