



Aquatic Preserves Overview

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Charlotte Harbor Aquatic Preserves

April 6, 2022



Overview

- What are aquatic preserves?
- Where are aquatic preserves?
- How are they managed?
- Rules and regulations in aquatic preserves.
- How you can help.





Overview

The Florida Department of Environmental Protection is the state's lead agency for environmental management and stewardship, protecting our air, water and land.

Divided into three primary areas:

1. Land and Recreation.
2. Regulatory.
3. Ecosystems Restoration.





Aquatic Preserves

Aquatic preserves are managed under DEP's Office of Resilience and Coastal Protection.

Florida has 42 aquatic preserves throughout the state, totaling 2.6 million acres.

Visit [MapDirect](#) for interactive look at aquatic preserves.

Office of Resilience and Coastal Protection





Southwest Florida Aquatic Preserves

Tampa Bay Aquatic Preserves

- 387,410 acres.

Charlotte Harbor Aquatic Preserves:

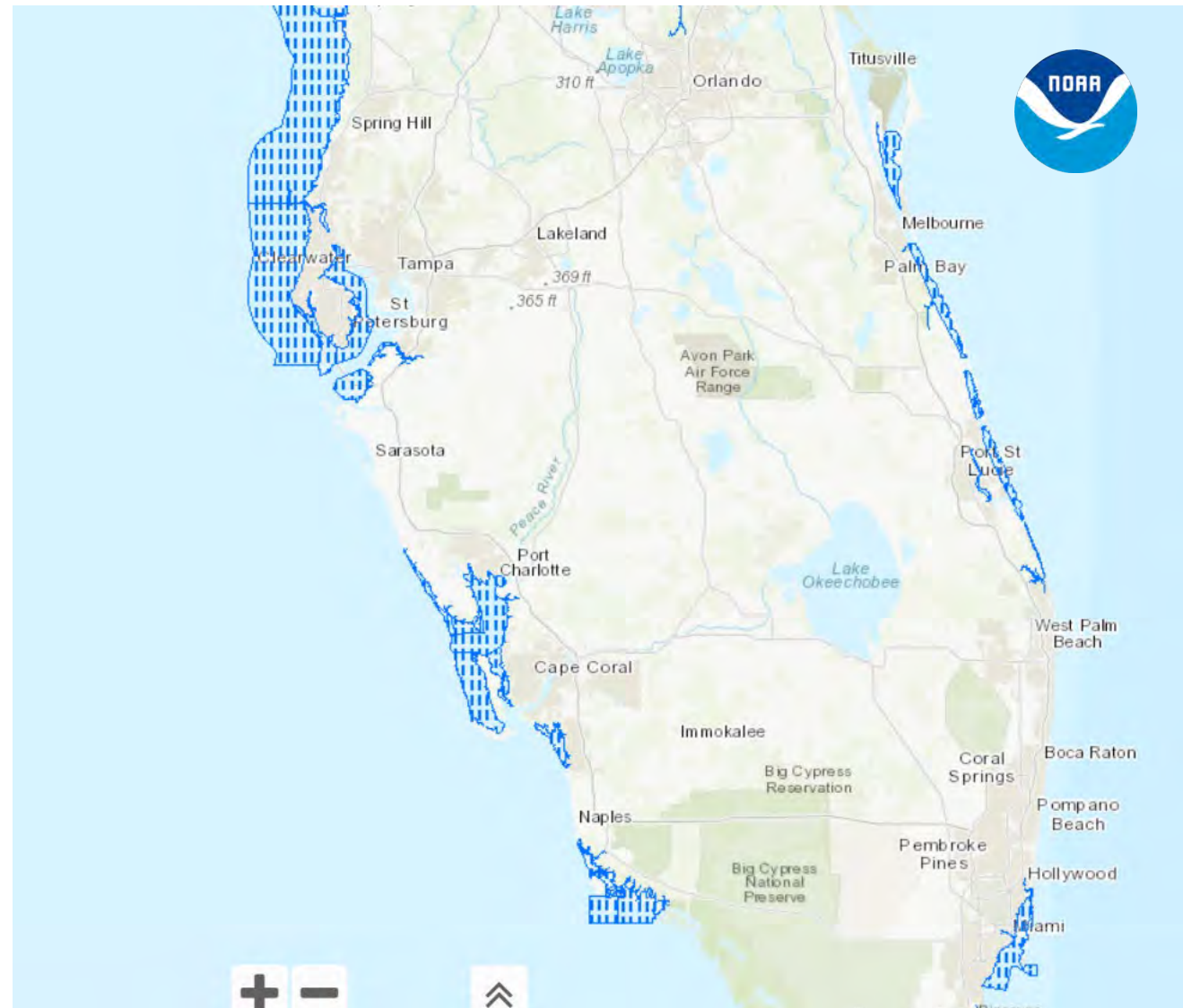
- 177,440 acres.

Estero Bay Aquatic Preserve

- 13,830 acres.

Cape Romano-Ten Thousand Islands, Rookery Bay Aquatic Preserves

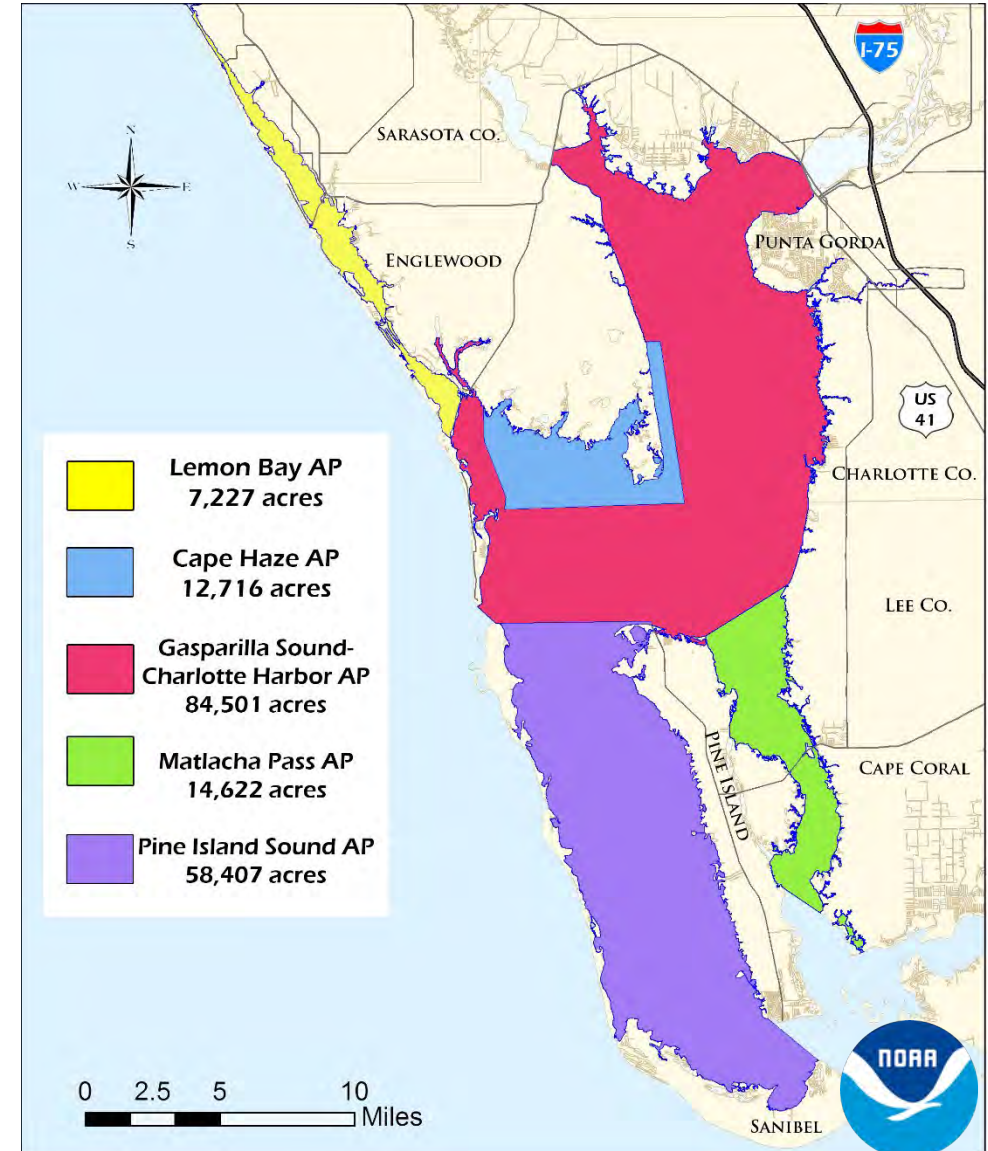
- 81,445 acres.





Charlotte Harbor Aquatic Preserves (CHAP)

- Five preserves are managed locally through CHAP's office in Punta Gorda.
- CHAP protects more than 177,000 acres of submerged lands.
- In 1975, Florida passed 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.)





Management of Aquatic Preserves

Management Plans

- Mandated by 18-20.013, F.A.C.
- Provide overview of AP(s) and programs.
- Prioritized issues, objectives and strategies for cohesive management for long term conservation.

List of statewide AP management plans:
FloridaDEP.gov/rcp/rcp/content/site-management-plans.



Charlotte Harbor Aquatic Preserves

Management Plan

Including Cape Haze, Gasparilla Sound-Charlotte Harbor, Lemon Bay, Matlacha Pass, and Pine Island Sound Aquatic Preserves



Florida Department of Environmental Protection
Florida Coastal Office
3900 Commonwealth Blvd., MS #235, Tallahassee, FL 32399
www.aquaticpreserves.org





CHAP 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.



Science and Protection

- Coastal and Heartland National Estuary Partnership.
- The Nature Conservancy.
- Florida Fish and Wildlife Conservation Commission.
- SeaGrant.
- Sanibel-Captiva Conservation Foundation.
- South Florida Water Management District.
- Southwest Florida Water Management District.
- Universities and high schools.





CHAP Monitoring and Management

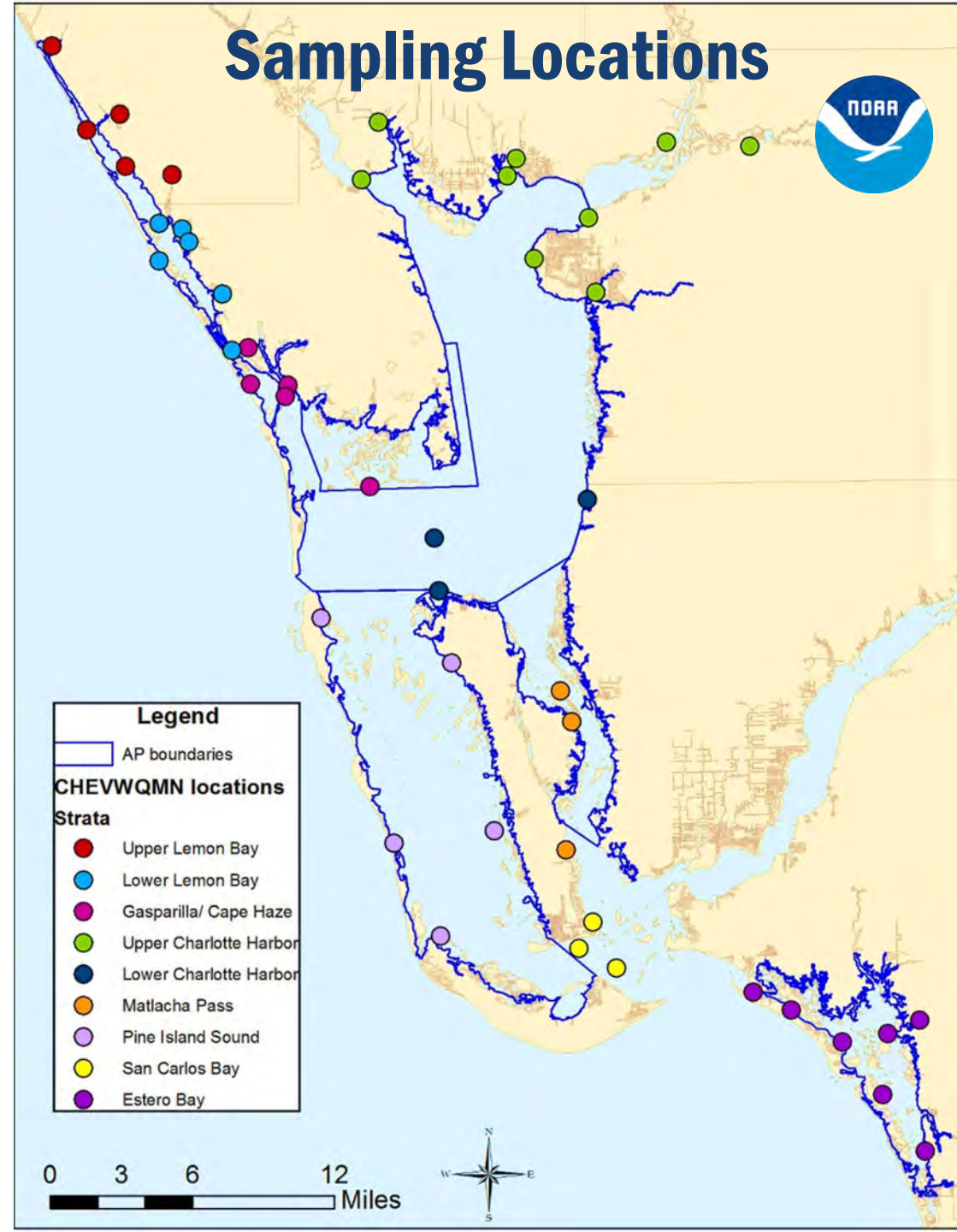




CHEWQMN

Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network - CHEWQMN

- There are 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.





Objectives

Collect and report on current water quality status and trends by each strata.

- Make data available to stakeholders, agencies, general public and elected officials.
- Involve the public by training citizens to collect consistent and technically-sound water quality data.
- Generate an awareness of water quality throughout the CHAP area and educate others about how they can help preserve and protect water quality.





Methods

Field Parameters Collected Onsite

- Water clarity and total depth.
- Weather and water conditions.
- Temperature.
- Dissolved oxygen.
- pH.
- Salinity and conductivity.



Samples Collected for Lab Analysis

- Chlorophyll a (corrected).
- Turbidity.
- Color.
- Phosphorous.
- Total nitrogen.
- Fecal coliform bacteria (*Enterococcus* or *E. Coli*).





Data Availability

- Data uploaded into state database (Watershed Information Network- WIN) for regulatory use of setting impaired waterbodies.
- Publicly available:
 - By request.
 - chnep.wateratlas.usf.edu/chevwqmn.
 - Statewide Ecosystem Assessment of Coastal and Aquatic Resources (SEACAR) dev.seacar.waterinstitute.usf.edu/programs/details/476.

The screenshot shows the CHNEP wateratlas website. The page title is "Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network (CHEVWQMN)". The text describes the Charlotte Harbor estuarine complex, which extends from Venice south to Bonita Springs, encompassing over 200,000 acres of diverse coastal and estuarine habitats. It is located within Sarasota, Charlotte and Lee Counties. North to south, there are six legislatively designated Florida Aquatic Preserves contained within the estuarine complex: Lemon Bay Aquatic Preserve, Gasparilla Sound-Charlotte Harbor Aquatic Preserve, Cape Haze Aquatic Preserve, Pine Island Sound Aquatic Preserve, Matlacha Pass Aquatic Preserve, and Estero Bay Aquatic Preserve.

The mission of the Aquatic Preserve Program is to protect and maintain the natural conditions of aquatic preserves for future generations. The primary activities are resource monitoring and management, and education and outreach. The Aquatic Preserve Program is overseen by the Florida Department of Environmental Protection (FDEP), Florida Office of Resilience and Coastal Protection (RCP). The local Aquatic Preserve offices include the Charlotte Harbor Aquatic Preserves (CHAP), located in Punta Gorda, and the Estero Bay Aquatic Preserve (EBAP), located in Fort Myers Beach.

The Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Program (CHEVWQMN) is a region-wide, fixed station, monthly water quality monitoring program, and has been providing reliable water quality data for over 20 years. It was initiated to address the need of aquatic preserve resource managers to obtain baseline resource information and citizens' concerns about the health of local estuaries. Originally begun in 1994 in the Lemon Bay Aquatic Preserve as Three Creek Watch under the Lemon Bay Conservancy, the program later expanded to the Gasparilla Sound-Charlotte Harbor Aquatic Preserve in 1996 as the CHEVWQMN. Initially, the CHEVWQMN was a region-wide, fixed station, monthly water quality monitoring program, and has been providing reliable water quality data for over 20 years.

The map shows the Charlotte Harbor estuarine complex with several monitoring stations marked with red dots. The map legend indicates "Water Quality Management" with a red dot icon.

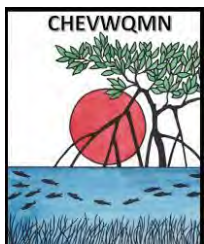
The line graph shows Dissolved Oxygen (DO) in mg/l from 2000 to 2015. The y-axis ranges from 0.00 to 12.00 mg/l. The x-axis shows Sample Date from 1/1/2000 to 1/1/2015. The graph shows a highly variable time series of DO concentrations, generally fluctuating between 2.00 and 8.00 mg/l, with a notable spike to approximately 10.00 mg/l around 2010.





Program successes

- Coordinating and training volunteers to collect water quality samples has produced high-quality, valued data while engaging citizen scientists in stewardship of the aquatic preserves.
- The data is used for a variety of purposes, including providing background health and status of the estuaries for education and management, scientific research and for considering regulatory criteria implementation.
- This program would not be possible without the continued support of the following partners:

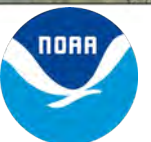




Continuous Water Quality Monitoring

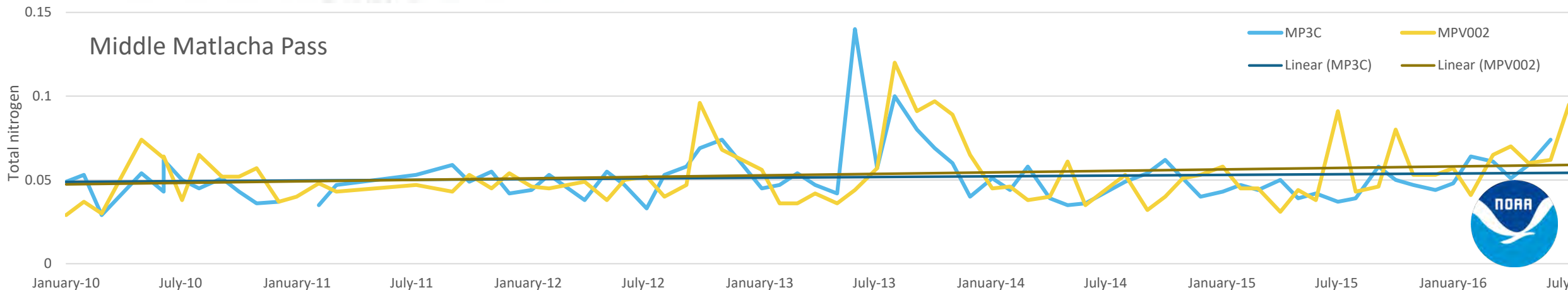
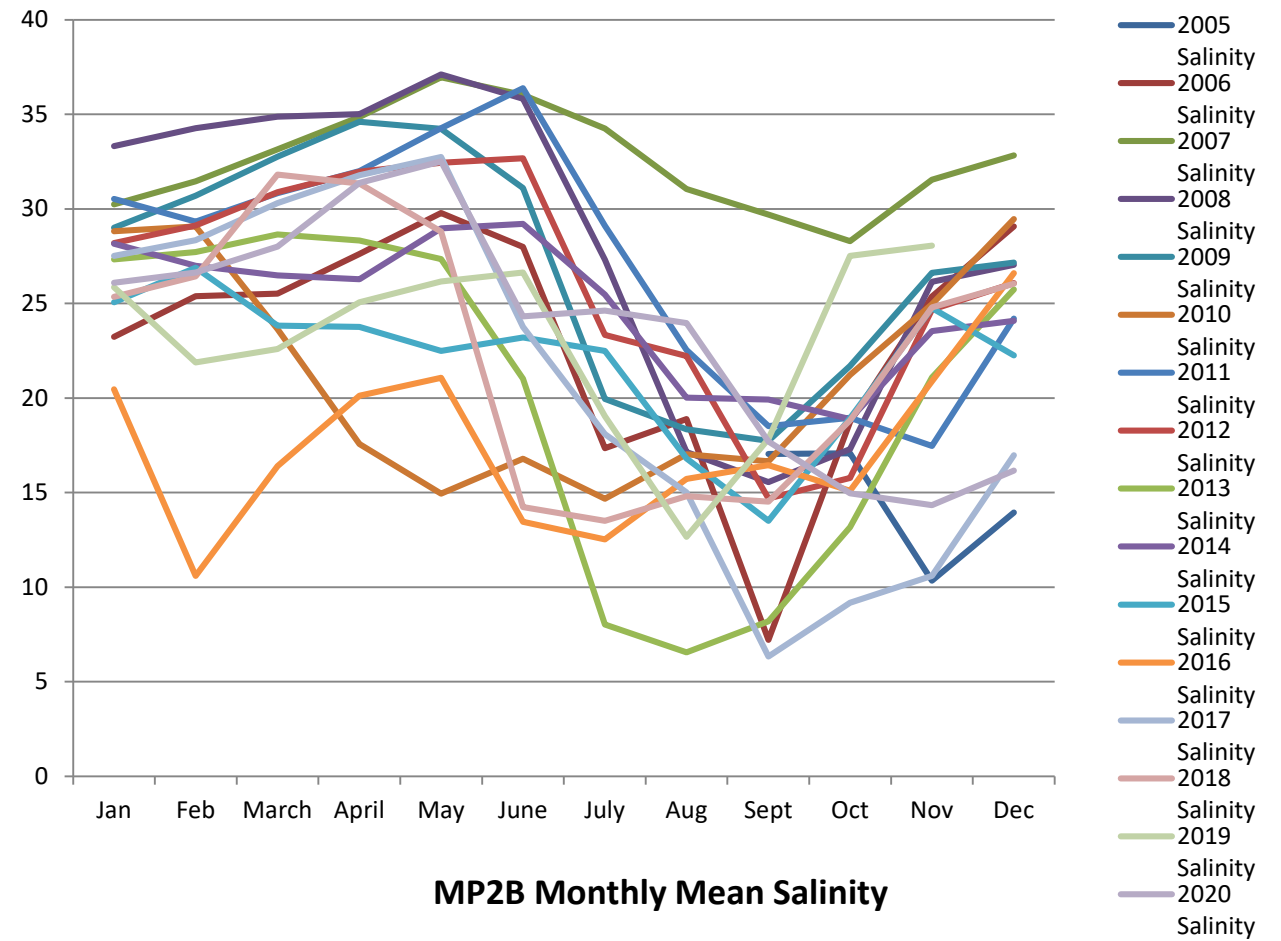
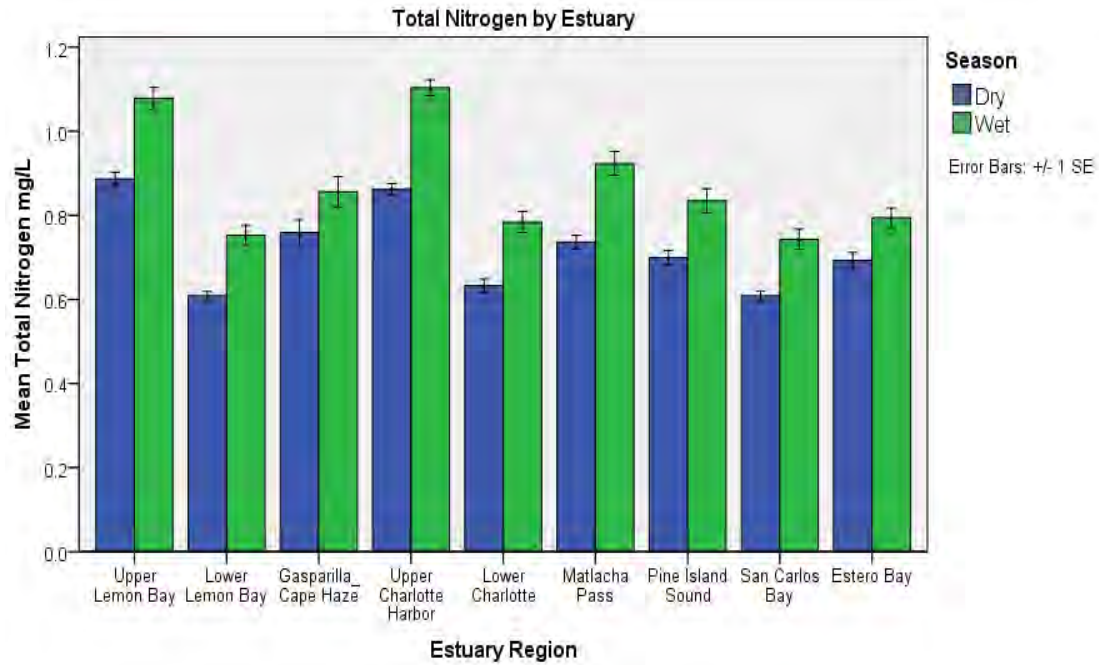
Continuous Datasonde Program

- Three stations in Matlacha Pass and one station in Charlotte Harbor.
- 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 bloom (HAB).
- Data managed in-house, used statewide: chnep.wateratlas.usf.edu/datamapper/.



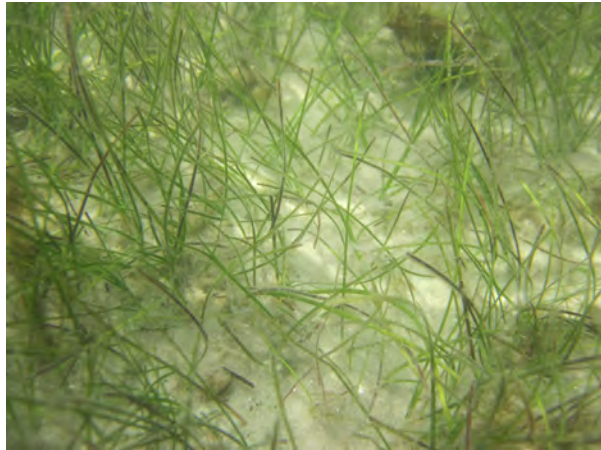


Data





Seagrasses



Halodule wrightii
(Shoal grass)



Thalassia testudinum
(Turtle grass)



Syringodium filiforme
(Manatee grass)



Halophila engelmannii
(Star grass)



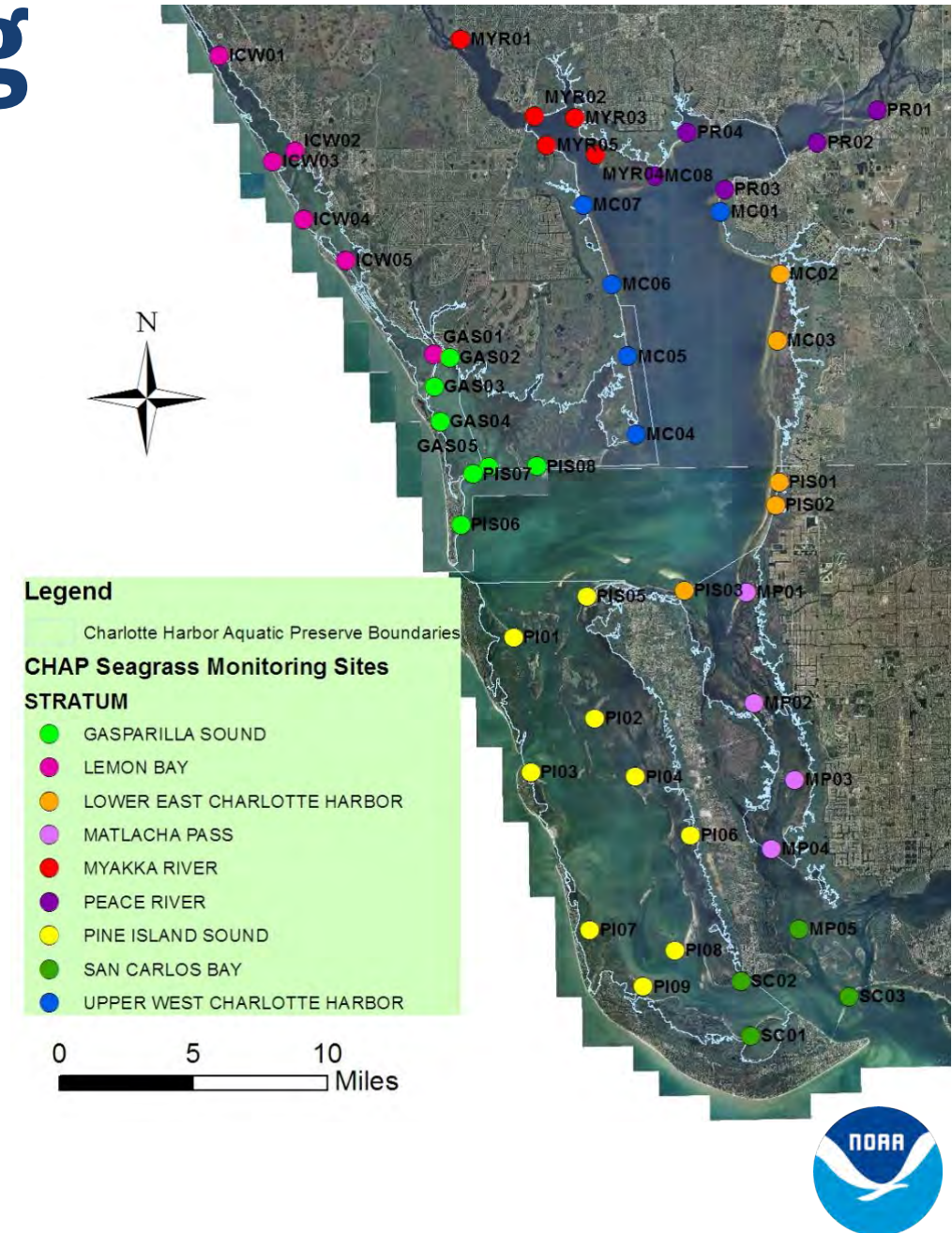
Halophila decipiens
(Paddle grass)





Seagrass Monitoring

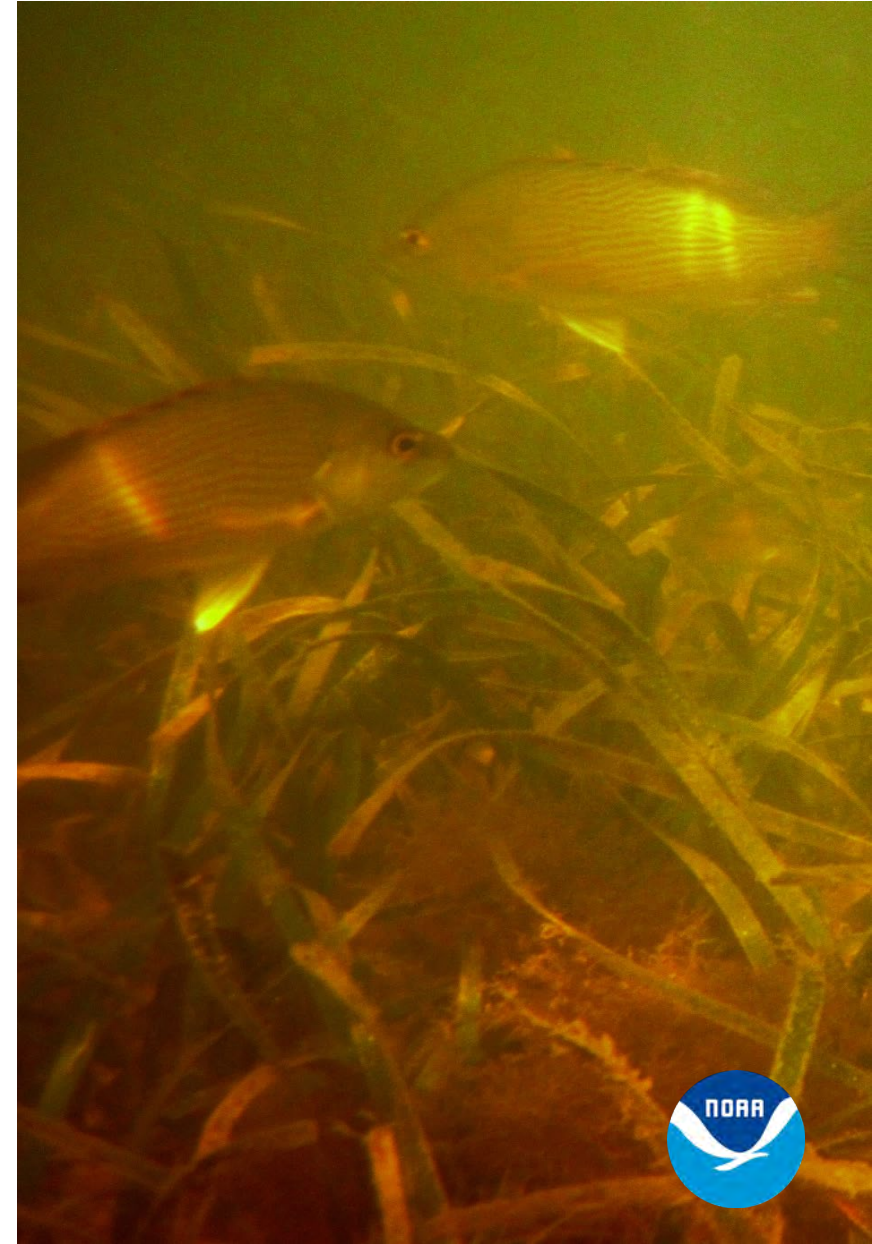
- There have been 50 sites monitored annually since 1999.
- Shore to deep edge of seagrass.
- Specific monitoring – overall health and any changes over time.
- Transects up to 600 meters long, fixed stations repeated each year every 10-50 meters.
- Results published in 2013 *Florida Scientist* and in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





Seagrass Economic Value

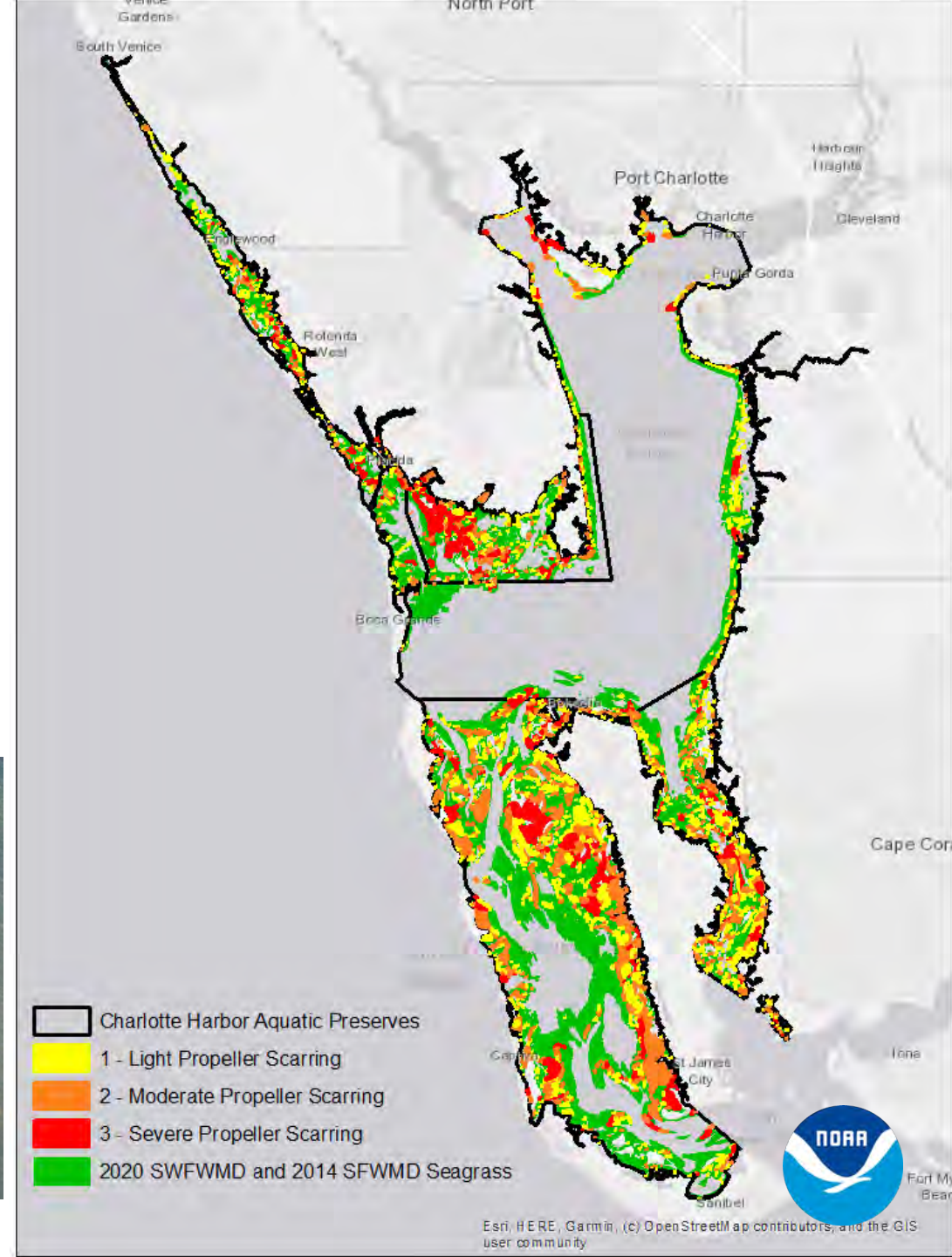
- Provides shelter, nursery and food source for almost 90% of commercially and recreationally important fisheries.
- Improves water quality and stabilizes sediment.
- Nutrient and carbon cycling rates are comparable to rainforests.
- There are 2.2 million acres of seagrass in Florida waters provide ecological services worth more than \$40 billion each year (Carlson and Yarbro, 2009) or \$20,000 per acre of seagrass.
- Local study for Pine Island Sound/SWFL (Beever 2012) found the total economic value of continuous seagrass was \$93,829 per acre.





Propscarring

- A single propscar takes 5-10 years to recover.
- Seagrass exists in less than six feet of water.





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.

Boats damage seagrass.
The fish you catch depend on seagrass.

You are entering a shallow water Aquatic Preserve.
Destruction of seagrass in Aquatic Preserves is a violation of Florida Law (Section 253.04(3)(a) F.S.) and carries a penalty of up to \$1,000.

Avoid damaging seagrass by knowing your boat's operating depth and navigating in marked channels. Anchor only in bare sandy bottoms.

If you run aground in shallow water:
reduce your throttle speed pole your boat to deeper water

MyFWC.com FLORIDA AQUATIC PRESERVES www.fwp.aquatic-fl.com

MATLACHA PASS AQUATIC PRESERVE

**SEAGRASS
PROP SCARRING
PROHIBITED**

Permit No.: 253.04(3)(A) F.S.





Colonial Wading and Diving Bird Nest Monitoring Program



- CHAP monitoring began in 2008.
- Monthly surveys conducted by boat.
- Double observer method; counting active nests by species.
- In 2021, 40 islands monitored (29 active) with peak nest counts of 1,769.
- Documentation of disturbance informs management of wildlife and habitat issues.
- Establish Critical Wildlife Areas.
- Data is published annually in the South Florida Wading Bird Report.





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.





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.





Aquatic Preserve Rules

Statutes and Rules from which multiple RCP programs derive authority and operate under

Florida Statute (F.S.) or Florida Administrative Code (F.A.C.) Rule	Title	Description
Chapter 253, F.S.	State Lands	All lands owned by the State, including sovereign submerged lands.
Chapter 258, F.S.	State Parks and Preserves	State parks, aquatic preserves and wild and scenic rivers.
Chapter 373, F.S.	Water Resources	State's surface water and ground water resources.
Chapter 380, F.S.	Land and Water Management	Land and water management policies to protect natural resources and the environment
Chapter 403, F.S.	Environmental Control	Wide-ranging authorities to address various environmental issues and concerns
Chapter 18-21, F.A.C.	Sovereignty Submerged Lands Management	Implementation of administrative and management responsibilities regarding sovereignty submerged lands
Chapter 62-302, F.A.C.	Surface Water Quality Standards	Implementation and specifications of surface water quality standards. Rule also contains specifications for Outstanding Florida Waters and Outstanding Natural Resource Waters.





Aquatic Preserve, Rule 18-20

- Chapter 18-20 of the Florida Administrative Code implements Statute 258.
- Permitting through DEP:
 - Regulatory (18-21).
 - Proprietary – for Aquatic Preserves (18-20).
 - Federal (SPGP).





Application Process

Request pre-application meeting with DEP's ERP and AP staff as necessary:

- [Surveygizmo.com/s3/3461063/SD-DEP-Pre-Application-Meeting-Request](https://surveygizmo.com/s3/3461063/SD-DEP-Pre-Application-Meeting-Request).
- Call DEP's South District Office at 239-344-5600.

Chapter 62-330, F.A.C. outlines application process and forms needed:

- FloridaDEP.gov/water/submerged-lands-environmental-resources-coordination/content/forms-environmental-resource.





Application Process



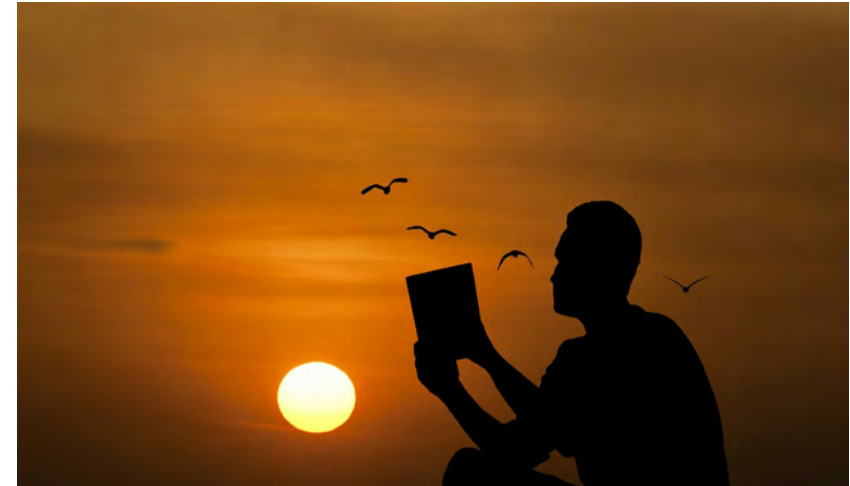
What Sections of the Application Must I Fill Out?

Type of Activity	Section A	Section B	Section C	Section D	Section E	Section F	Section G	Section H	Section I
Fill in wetlands or waters for a single family residence?	Y	Y	N	N	N	N	N	N	Y, if in assumed waters
→ Docks, shoreline stabilization, seawalls associated with a single family residence?	Y	Y	N	N	N	Y, as needed	N	N	Y, if in assumed waters
Wetland impacts (other than association with an individual residence)?	Y	N	Y	N	N	N	N	N	Y, if in assumed waters
→ Boating facilities, a marina, jetty, reef, or dredging?	Y	N	Y	Y	N	Y, as needed	N	N	Y, if in assumed waters
→ Any work on state owned submerged land?	Y	N	Y	N	N	Y	N	N	Y, if in assumed waters
Construction of a stormwater management system?	Y	N	Y, as needed	N	Y	N	N	N	N
Constructing a mitigation bank?	Y	N	Y	N	Y, as needed	N	Y	N	Y, if in assumed waters
Creating a mine?	Y	N	Y, as needed	N	N	N	N	Y	Y, if in assumed waters



18-20, F.A.C.

- **18-20.001** Intent.
- **18-20.002** Boundaries and Scope of the Preserves.
- **18-20.003** Definitions.
- **18-20.004** Management Policies, Standards and Criteria.
- **18-20.006** Cumulative Impacts.
- **18-20.008** Inclusion of Lands, Title to Which Is Not Vested in the Board, in a Preserve (Repealed).
- **18-20.009** Establishment or Expansion of Aquatic Preserves (Repealed).
- **18-20.010** Exchange of Lands.
- **18-20.012** Protection of Indigenous Life Forms.
- **18-20.013** Development of Resource Inventories and Management Plans for Preserves.
- **18-20.017** Lake Jackson Aquatic Preserve.
- **18-20.019** Boca Ciega Bay and Pinellas County Aquatic Preserves.





18-20.001 Intent

- (1) All sovereignty lands within a preserve shall be managed primarily for the maintenance of essentially natural conditions, the propagation of fish and wildlife, and public recreation, including hunting and fishing where deemed appropriate by the Board, and the managing agency.
- (2) Aquatic preserves which are described in Part II of Chapter 258, F.S., were established for the purpose of being preserved in an essentially natural or existing condition so that their aesthetic, biological and scientific values may endure for the enjoyment of future generations.
- (3) The preserves shall be administered and managed in accordance with the following goals:
 - (a) To preserve, protect, and enhance these exceptional areas of sovereignty submerged lands by reasonable regulation of human activity within the preserves through the development and implementation of a comprehensive management program;
 - (b) To protect and enhance the waters of the preserves so that the public may continue to enjoy the traditional recreational uses of those waters such as swimming, boating, and fishing;





18-20.001 Intent

- (c) To coordinate with federal, state, and local agencies to aid in carrying out the intent of the Legislature in creating the preserves;
- (d) To use applicable federal, state, and local management programs, which are compatible with the intent and provisions of the act and these rules, and to assist in managing the preserves;
- (e) To encourage the protection, enhancement or restoration of the biological, aesthetic, or scientific values of the preserves, including but not limited to the modification of existing manmade conditions toward their natural condition, and discourage activities which would degrade the aesthetic, biological, or scientific values, or the quality, or utility of a preserve, when reviewing applications, or when developing and implementing management plans for the preserves;
- (f) To preserve, promote, and utilize indigenous life forms and habitats, including but not limited to: sponges, soft coral, hard corals, submerged grasses, mangroves, salt water marshes, fresh water marshes, mud flats, estuarine, aquatic, and marine reptiles, game and non-game fish species, estuarine, aquatic and marine invertebrates, estuarine, aquatic and marine mammals, birds, shellfish and mollusks;





18-20.004

Management Policies, Standards and Criteria:

- Public Interest Assessment Criteria 18-20.004(2).
- Standards and Criteria for Docking Facilities 18-20.004(5).
- Private SFD 18-20.004(5)(b).
- Private MFD 18-20.004(5)(c).
- Commercial, industrial and other revenue generating/income related docking facilities 18-20.004(5)(d).





18-20.004(5)

(5) STANDARDS AND CRITERIA FOR DOCKING FACILITIES.

(a) **All docking facilities**, whether for private residential single-family docks, private residential multi-slip docks, or commercial, industrial, or other revenue generating/income related docks or public docks or piers, shall be subject to all of the following standards and criteria.

1. No dock shall extend waterward of the mean or ordinary high water line **more than 500 feet or 20 percent** of the width of the waterbody at that particular location, whichever is less.
2. Certain docks fall within areas of significant biological, scientific, historic or aesthetic value and require special management considerations. The Board shall require design modifications based on site specific conditions to **minimize adverse impacts to these resources**, such as relocating docks to avoid vegetation or altering configurations to minimize shading.
3. Docking facilities shall be designed to ensure that vessel use will not cause harm to site specific resources. The design shall consider the number, lengths, drafts and types of vessels allowed to use the facility.





18-20.004(5)

(5) STANDARDS AND CRITERIA FOR DOCKING FACILITIES.

4. In a Resource Protection Area 1 or 2, any wood planking used to construct the walkway surface of a facility shall be **no more than eight inches wide and spaced no less than one-half inch apart** after shrinkage. Walkway surfaces constructed of material other than wood shall be designed to provide light penetration which meets or exceeds the light penetration provided by wood construction.

5. In a Resource Protection Area 1 or 2, the main access dock shall be **elevated a minimum of five (5) feet above mean or ordinary high water.**





18-20.004(5)(b)

Private Single-Family Docks

- One private dock at a single-family residence/dwelling unit.
- Designed to moor no more than two boats.
- Access walkway no more than 4' wide.
- Terminal dock no more than 160 sq. ft.
- Dock (including mooring) shall extend out no more than to a depth of -4 feet MLW.

[FloridaDEP.gov/sites/default/files/WUD_NavigatingDockPermittingProcess.pdf](https://www.floridaDEP.gov/sites/default/files/WUD_NavigatingDockPermittingProcess.pdf)





18-20.004(5)(b)

Private Single-Family Docks

- Docking facilities in a Resource Protection Area 1 or 2 shall only be authorized in locations having adequate existing water depths in the boat mooring, turning basin, access channels, and other such areas which will accommodate the proposed boat use in order to ensure that a minimum of **one foot clearance** is provided **between the deepest draft of a vessel and the top of any submerged resources at mean or ordinary low water**; and,
- Dredging to obtain navigable water depths in conjunction with private residential, single-family dock applications is strongly discouraged.





18-20.004(5)(c) and (d)

Multi-family and Commercial Docks

- Follow general dock criteria.
- Conservation easement along shoreline for MFD.
- Dock cannot terminate in resources.
- Criteria for MFD dock (6' wide access, 8' wide terminal, 3' wide by 25' long finger piers).
- Commercial docks and access routes sited to avoid resources, adequate circulation and depths for turning, mooring, access, one foot clearance off the bottom.





Other Activities 18-20.004(1)

- Seawalls- constructed above MHW:
 - Living shoreline is an option.
- Dredging:
 - New vs. maintenance.
- Aquaculture.
- “Other uses of the preserve, or human activity within the preserve, although not originally contemplated, may be approved by the Board, but only subsequent to a formal finding of compatibility with the purposes of Chapter 258, F.S., and this rule chapter.”





18-20.004(2) Public Interest

(2) PUBLIC INTEREST ASSESSMENT CRITERIA.

In evaluating requests for the sale, lease or transfer of interest, a balancing test will be utilized to determine whether the social, economic and/or environmental benefits clearly exceed the costs.

(a) GENERAL BENEFIT/COST CRITERIA:

1. Any benefits that are balanced against the costs of a particular project shall be related to the affected aquatic preserve;
2. In evaluating the benefits and costs of each request, specific consideration and weight shall be given to the quality and nature of the specific aquatic preserve. Projects in the less developed, more pristine aquatic preserves such as Apalachicola Bay shall be subject to a higher standard than the more developed preserves; and,
3. For projects in aquatic preserves with adopted management plans, consistency with the management plan will be weighed heavily when determining whether the project is in the public interest.





18-20.004(2) Public Interest

(b) BENEFIT CATEGORIES:

1. Public access (public boat ramps, boatslips, etc.);
2. Provide boating and marina services (repair, pumpout, etc.);
3. Improve and enhance public health, safety, welfare and law enforcement;
4. Improved public land management;
5. Improve and enhance public navigation;
6. Improve and enhance water quality;
7. Enhancement/restoration of natural habitat and functions; and,
8. Improve/protect endangered/threatened/unique species.

(c) COSTS:

1. Reduced/degraded water quality;
2. Reduced/degraded natural habitat and function;
3. Destruction, harm or harassment of endangered or threatened species and habitat;
4. Preemption of public use;
5. Increasing navigational hazards and congestion;
6. Reduced/degraded aesthetics; and,
7. Adverse cumulative impacts.





Mitigation

- Occurs when there is direct impact to resources (seagrass/wetlands).
- Using the UMAM- Uniform Mitigation and Assessment Method- to determine the amount of mitigation needed to offset adverse impacts.
- Currently at a 2:1 ratio.
- Mitigation occurs in the impacted waterbody/AP.
- Evaluation for success over time; monitoring with specific criteria.





Mangrove Trimming and Preservation Act

- Protected by Rule 403.93:
 - General permit.
- Includes trimming, altering or cutting.
- Professional mangrove trimmer needed if mangroves taller than 10 feet.
- Height restrictions; no less than six feet from substrate at final stage
- Different techniques.





Living Shorelines



LIVING SHORELINES SUPPORT RESILIENT COMMUNITIES

Living shorelines use plants or other natural elements—sometimes in combination with harder shoreline structures—to stabilize estuarine coasts, bays, and tributaries.



One square mile of salt marsh stores the carbon equivalent of **76,000 gal of gas** annually.



Marshes trap sediments from tidal waters, allowing them to **grow in elevation** as sea level rises.



Living shorelines improve **water quality**, provide fisheries **habitat**, increase **biodiversity**, and promote **recreation**.



Marshes and oyster reefs act as natural **barriers** to waves. **15 ft** of marsh can **absorb 50%** of incoming wave energy.



Living shorelines are **more resilient** against storms than bulkheads.



33% of shorelines in the U.S. will be **hardened** by **2100**, decreasing fisheries habitat and biodiversity.



Hard shoreline structures like **bulkheads** prevent natural marsh migration and may create seaward **erosion**.



The National Centers for Coastal Ocean Science | coastalscience.noaa.gov

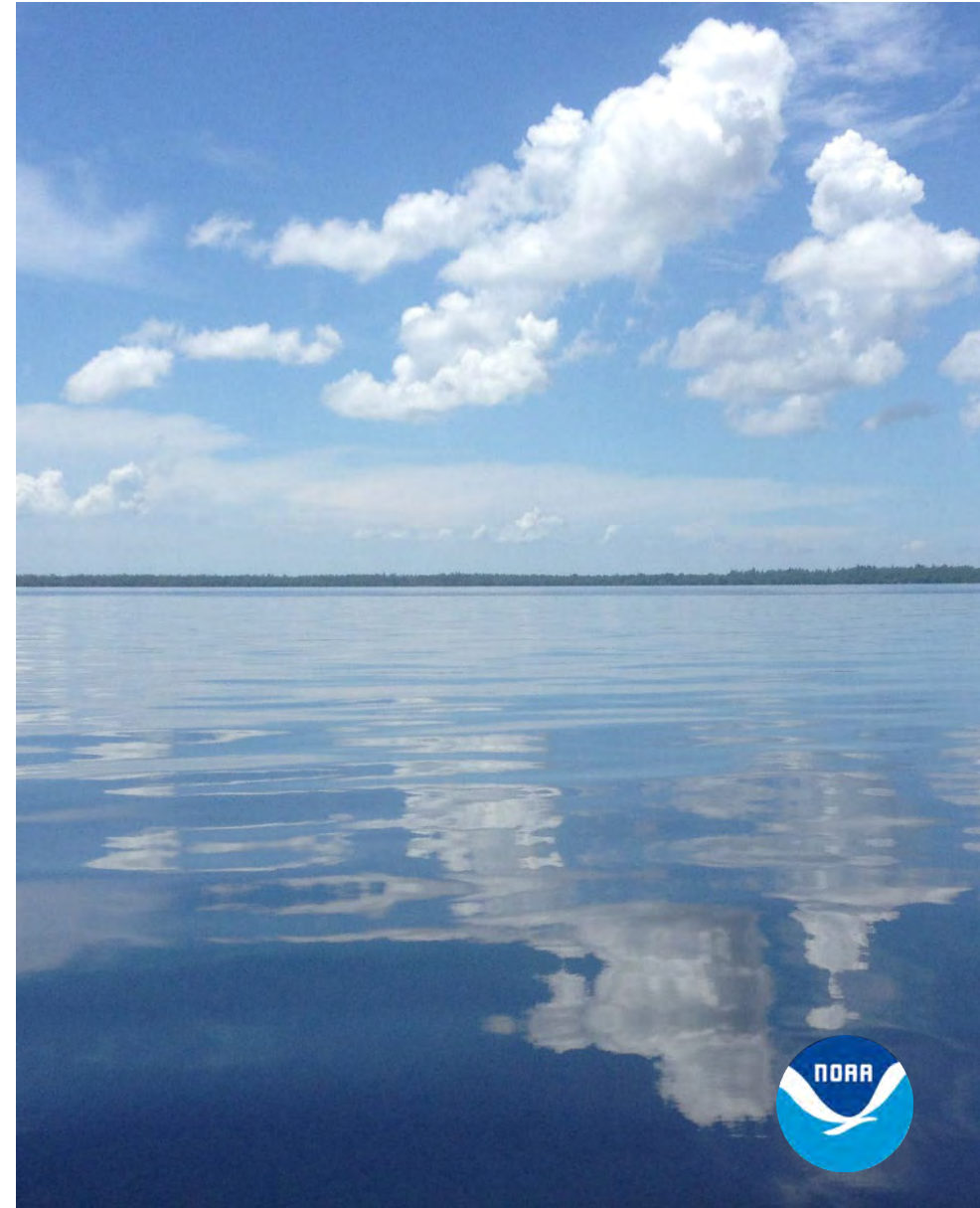
Some graphics courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science (iain.umces.edu/symbols/)





Help Protect 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.





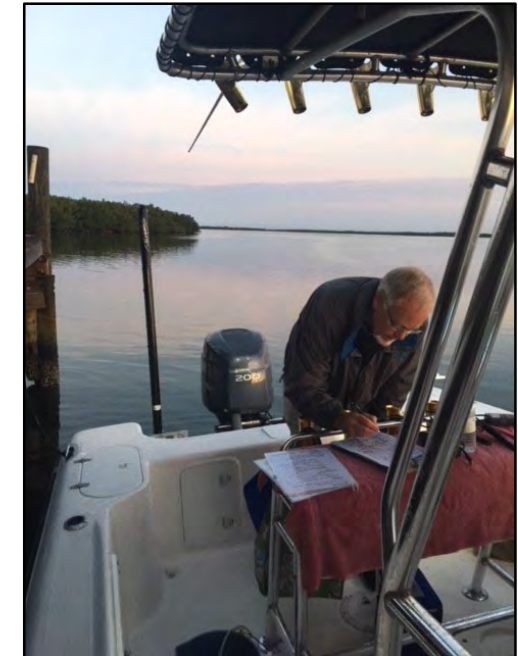
How to Get Involved

Volunteer

- Water quality sampling [Charlotte Harbor Estuaries Volunteer Water Quality Monitoring Network](#).
- Seagrass- Seagrant's Eyes on Seagrass.

Join a Friends Citizen Support Organization

- Friends of Charlotte Harbor Aquatic Preserves: fchap.org.
- Estero Bay Buddies: EsteroBayBuddies.org.
- Aquatic Preserve Society: AquaticPreserveSociety.org.





Questions?

Charlotte Harbor Aquatic Preserves
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Punta Gorda, FL 33955

Melynda Brown
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