

# WHAT IS LEMON BAY AQUATIC PRESERVE?



*Lemon Bay Watershed Tour*  
October 17, 2006

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Charlotte Harbor Aquatic Preserves  
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# This Program Briefly Describes Lemon Bay Aquatic Preserve:



*What?*

*Where?*

*How?*

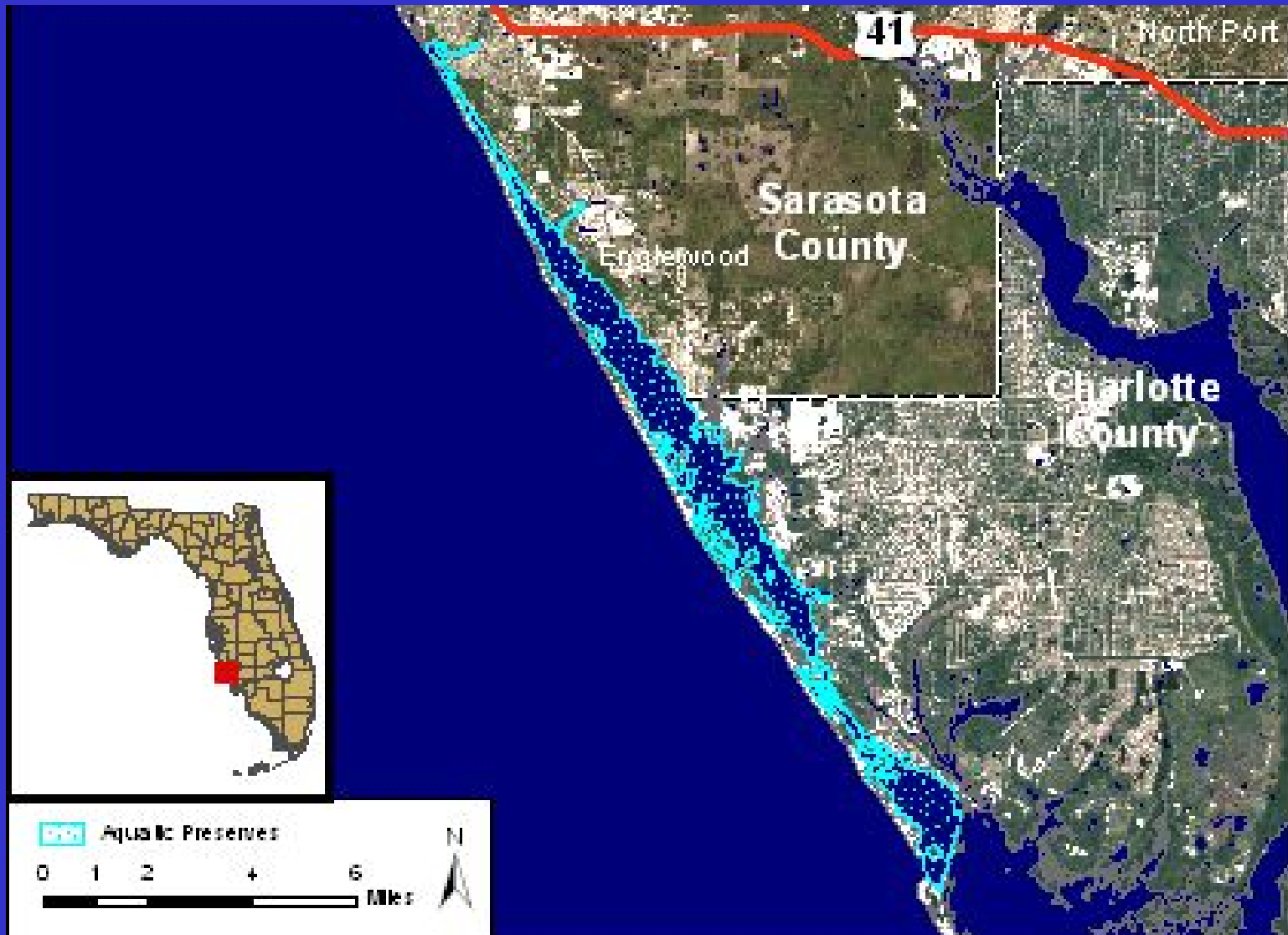
*Why?*

*Resources*

*Management*

# What is Lemon Bay Aquatic Preserve?

Exceptional Submerged Resources of Lemon Bay & Tributaries Set Aside To Be Preserved For Future Generations to Enjoy.



# Who Manages Lemon Bay Aquatic Preserve?

## FL Department of Environmental Protection

### Charlotte Harbor Aquatic & Buffer Preserves

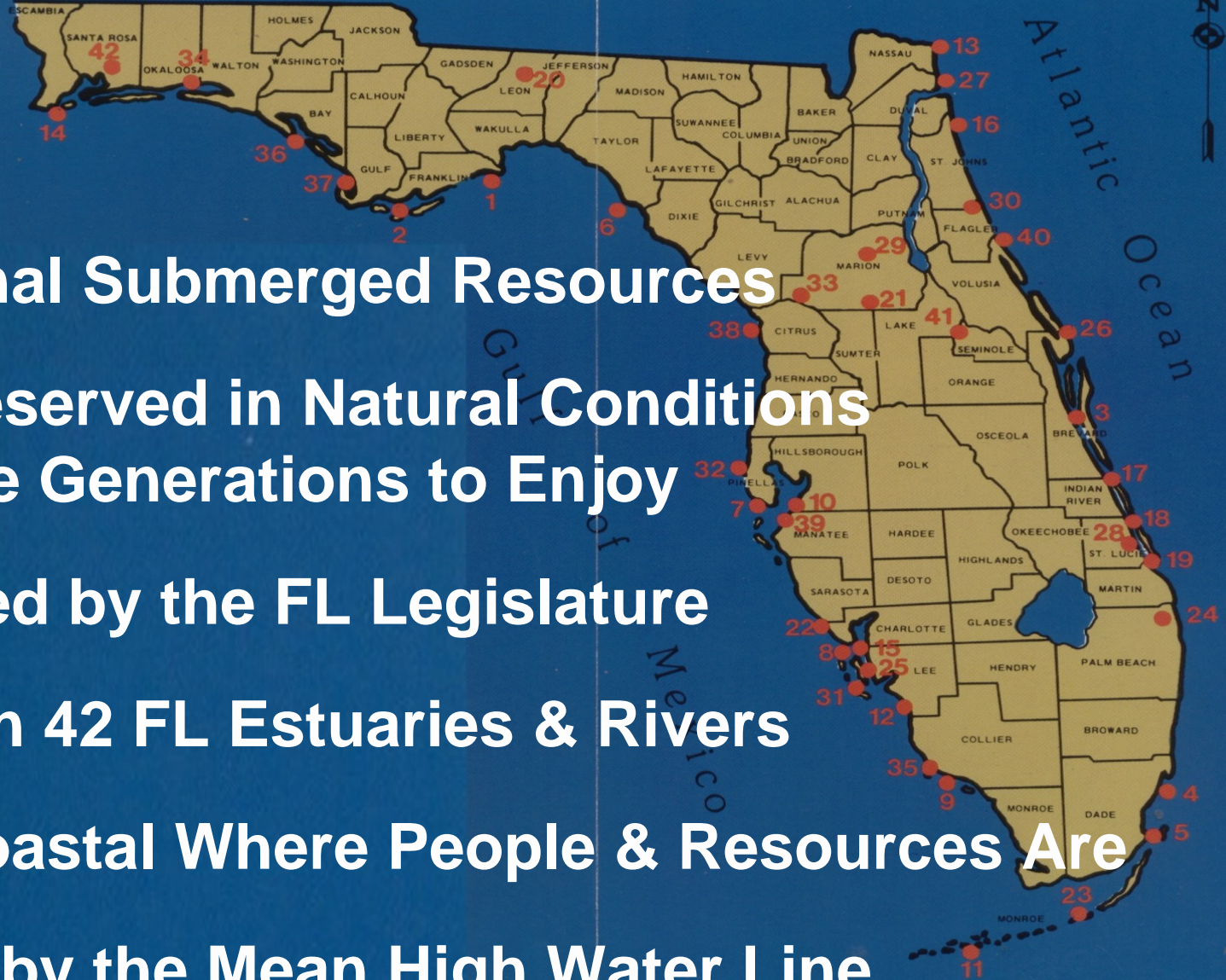
### In Punta Gorda FL





# What are FL Aquatic Preserves?

- Exceptional Submerged Resources
- To Be Preserved in Natural Conditions for Future Generations to Enjoy
- Designated by the FL Legislature
- Located in 42 FL Estuaries & Rivers
- Mostly Coastal Where People & Resources Are
- Bounded by the Mean High Water Line



# Where is Lemon Bay Aquatic Preserve?

## Lemon Bay Aquatic Preserve



 Aquatic Preserves  
 State Parks



0 1 2 4 6 Miles

CAMA Map  
Created April, 2005

Aquatic Preserves layer maintained by:  
Office of Coastal and Aquatic Managed Areas  
3900 Commonwealth Blvd, MS 235  
Tallahassee, FL 32399-3000  
850-245-2094

Aquatic Preserves include all the state-owned submerged lands within their boundaries. This map is not intended for use for determination of wetlands or land ownership.

- Sarasota & Charlotte Co.
- To MHWL for Estuary & Tidal Influence of Tribs
- Includes Estuary, 7 Tributaries & 2 Gulf Passes
- Lemon Bay = 15 sq miles  
13 miles long X ave 3/4 mile wide
- Watershed = 73 sq miles  
16 miles long X ave 4.5 miles wide

# How Did Lemon Bay Become an Aquatic Preserve?



- Value & Quality of Resources Recognized by Local Citizens

- Designated by FL Legislature In July 1986

- Lemon Bay Aquatic Preserve Management Plan in April 1992

- Partners with Charlotte Harbor National Program Since 1995.





# Why is Lemon Bay An Aquatic Preserve?

“To Preserve Exceptional Submerged Resources in Essentially Natural Conditions for Future Generations to Enjoy” – 18-20 F.A.C.





# What Submerged Resources are Found in Lemon Bay Aquatic Preserve ?

Red

*Rhizophora sp*



Mangroves

Black

*Avicennia sp*



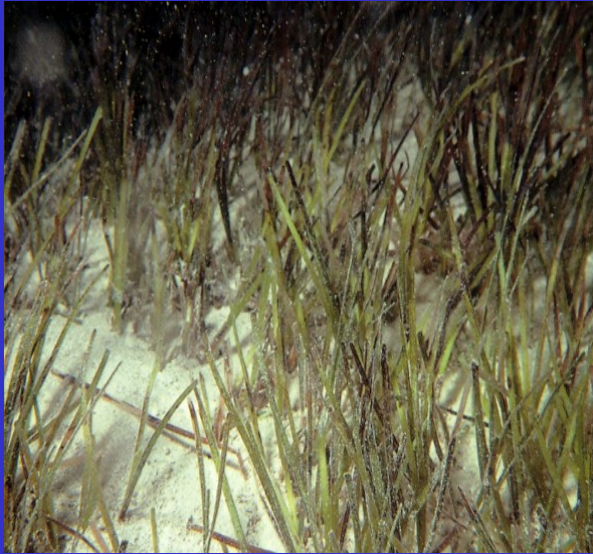
White

*Laguncularia*



# Seagrasses

## Shoal



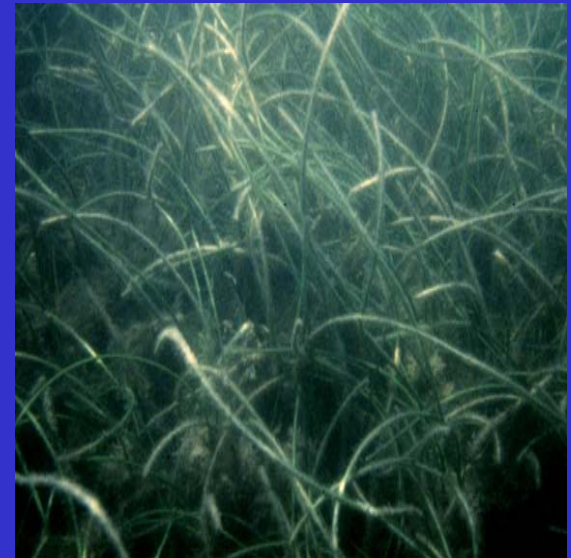
*Halodule sp*

## Turtle



*Thalassia sp*

## Manatee



*Syringodium Sp*



# Invertebrates

**Sand Dollar**



**Comb Jelly**



**Sea Hare**



**Sea Star**



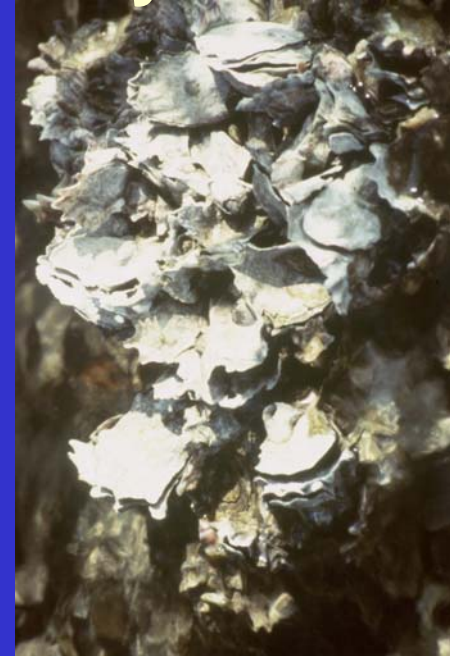
**Tunicate**



Photos from Amos 1987,  
Shefton 1986 & Reppenning

# Mollusks

## Oysters



## Quahog Clam



## FL Crown Conch



## Tulip Snail

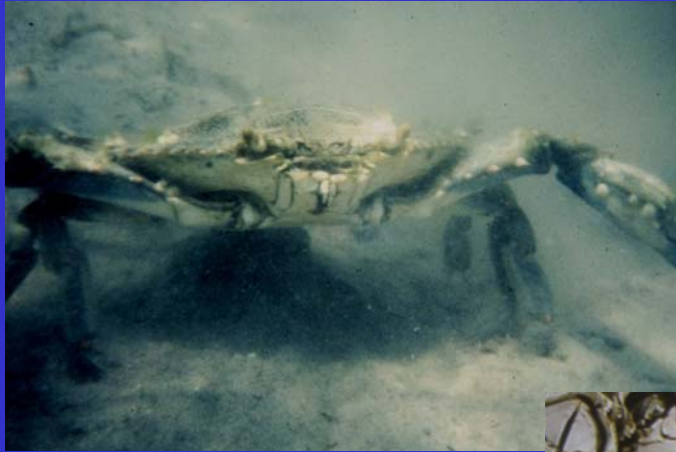


Photos from Amos 1987 & Reppenning



# Crustaceans

Blue Crab



Fiddler Crab



Barnacles



Horseshoe Crab



Shrimp



**Killifish**



**Fish**

**Seahorse**



**Sheepshead**



**Snook**



**Mangrove Snapper**





# Birds

**Yellow Crown  
Night Heron**



**Ibis**



**Little Blue  
Heron**

## More Birds

**Snowy Egret**



**Roseate  
Spoonbill**

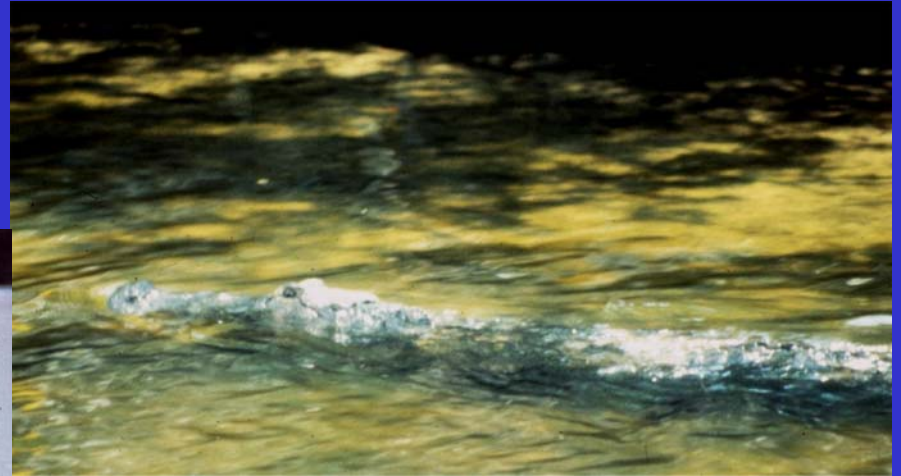


**Ospreys**



# Reptiles & Mammals

Alligators



Dolphins



Manatees

# What Are Management Concerns in Lemon Bay?

Depends on at Human Activities



- In the Lemon Bay
- Adjacent to Lemon Bay
- In the Watershed



# In Lemon Bay, Resource Concerns Include:

## Prop Scars



## Dock Shading





# Seawalls



# Dredging



# Cumulative Habitat Losses



# Adjacent to the Estuary, Concerns Include: Hydrological Changes



**Stormwater Runoff**

# Changes in Shore Movement



**Septic Runoff**



# **In the Watershed, Resource Concerns Include:**

- Nonpoint Source Runoff from Residential, Commercial, Industrial, Agricultural & Land Uses**
- Hydrologic Changes to Natural Surface & Ground Water Flows**
- Direct Habitat Loss of Natural Habitats**



# How Do We Manage Lemon Bay?

- In the Estuary, Adjacent Lands & Watershed
- With the help of Many Partners

Charlotte Harbor Aquatic Preserves

Charlotte Harbor Preserves State Park

Charlotte Harbor Environmental Center

Charlotte Harbor National Estuary Program

Sarasota & Charlotte Counties

SWFWMD





# What Tools do We Use to Manage Lemon Bay Aquatic Preserve?

## FLORIDA STATUTES

### CHAPTER 258

#### STATE PARKS AND PRESERVES

##### PART II

#### AQUATIC PRESERVES (ss. 258.35-258.46)

258.35 Short title; ss. 258.35-258.394 and 258.40-258.46.

#### CHAPTER 18-20 FLORIDA AQUATIC PRESERVES

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.
18-20.005	Uses, Sales, Leases, or Transfer of Interests in Lands, or Materials, Held by the Board. (Repealed)
18-20.006	Cumulative Impacts.
18-20.007	Protection of Riparian Districts.
18-20.008	Inclusion of Lands.
18-20.009	Establishment or Exchange of Lands.
18-20.010	Exchange of Lands.
18-20.011	Gifts of Lands. (Repealed)
18-20.012	Protection of Indigent.
18-20.013	Development of Riparian Districts.
18-20.014	Enforcement. (Repealed)
18-20.015	Application Form.
18-20.016	Coordination with Other Agencies.
18-20.017	Lake Jackson Aquatic Preserve.
18-20.018	Lake Weir Aquatic Preserve.
18-20.019	Boca Ciega Bay Aquatic Preserve.

#### 18-20.001 Intent.

(1) All sovereignty lands within the propagation of fish and wildlife, and the managing agency.

(2) Aquatic preserves which are preserved in an essentially natural condition for the enjoyment of future generations.

(3) The preserves shall be administered:

(a) To preserve, protect, and enhance human activity within the preserves

(b) To protect and enhance the value of those waters such as swimming, fishing, and boating.

(c) To coordinate with federal, state, and local preserves;

(d) To use applicable federal, state, and local laws, rules, and regulations, and to assist in the enforcement thereof;

(e) To encourage the protection of the preserves including but not limited to the management of the preserves and the activities which would degrade the preserves, or when developing an application, or when developing an application;

(f) To preserve, promote, and use corals, submerged grasses, mangrove, and non-game fish species, shellfish and mollusks;

(g) To acquire additional title in the preserves, or scientific values of the preserves;

(h) To maintain those beneficial uses of the preserves.

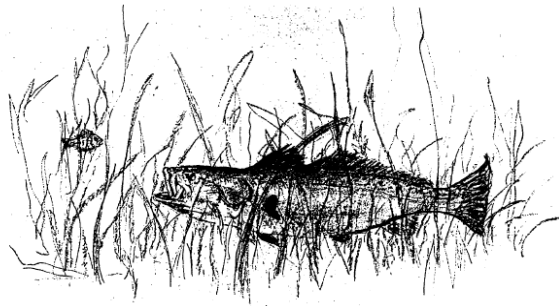
(4) Nothing in these rules shall include counties and municipalities inconsistent with the act and this chapter.

Specific Authority 120.53, 258.43(1), F.S.

History—New 2-23-81, Amended 8-7-85.

## LEMON BAY

### AQUATIC PRESERVE MANAGEMENT PLAN



1992

DEPARTMENT OF NATURAL RESOURCES

- State Statutes  
Chapt 258 FS
- Agency Rules  
Chapt 18-20 FAC
- Management Plans  
Lemon Bay Aquatic  
Preserve Management Plan

# What does Lemon Bay Aquatic Preserve Resource Management Focuses on?

- Resource Monitoring
- Research
- Education





# Resource Monitoring Includes: CHEVWQMN Water Quality Monitoring

- Monthly for 19 parameters
- 11 sites in Lemon Bay
- 40 sites throughout the Charlotte Harbor APs



# Summary of 1999-2005 Results Available

- Compared to Typical Florida Estuaries

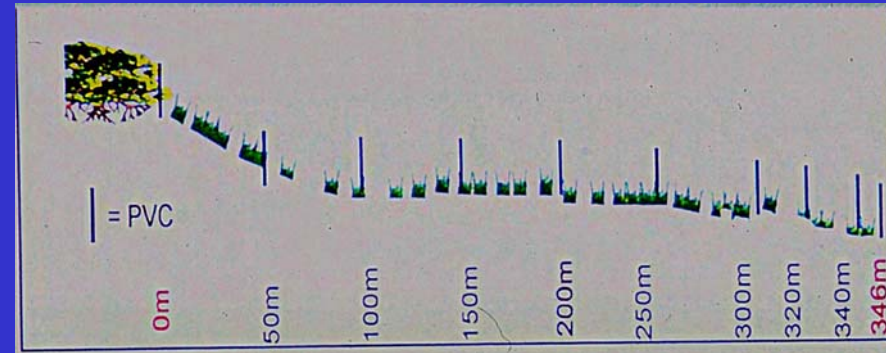
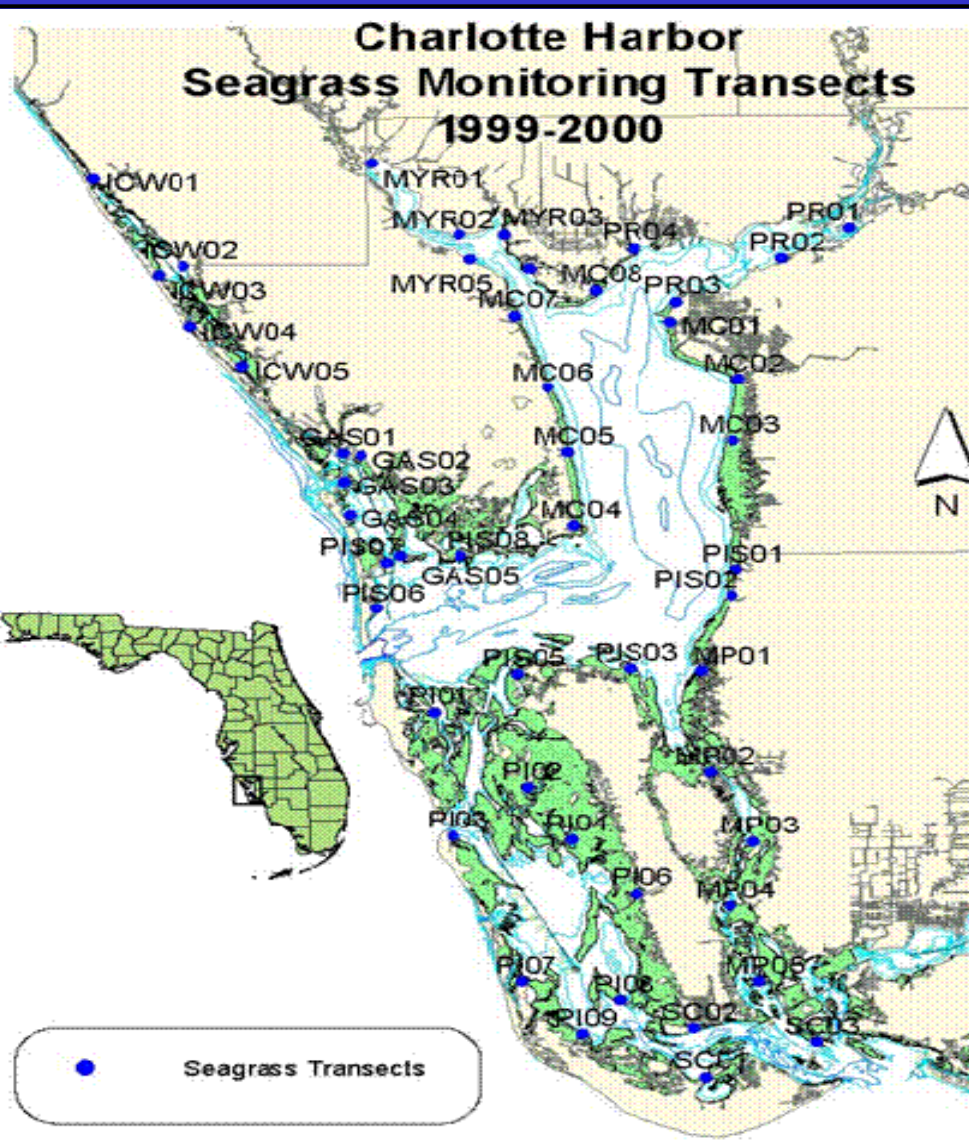
Units	Secchi Depth meters	Temp. °C	Dissolved Oxygen mg/l	pH	Salinity ppt	Total Nitrogen ppm	Total Phosphorus ppm	Chlorophyll a µg/l	Fecal Coliform Bacteria cfu/100ml	Turbidity NTU	Color PCU	Average Overall Conditions*
Upper Lemon Bay	0.9	24.5	3.9	8.0	25.3	1.005	0.180	6.40	35	2.5	30	below average
Lower Lemon Bay	1.3	24.0	4.8	8.3	33.5	0.767	0.070	3.94	8	2.6	15	average
Upper Charlotte	0.9	24.0	5.2	7.8	17.9	0.975	0.240	6.32	24	2.7	50	below average
Lower Charlotte	1.5	24.5	5.5	8.2	29.0	0.755	0.100	4.61	3	2.1	24	average
Gasparilla/Cape Haze	1.5	25.0	4.6	8.2	33.2	0.806	0.080	3.66	6	2.7	20	average
Pine Island Sound	1.3	24.5	5.9	8.4	32.9	0.752	0.060	5.01	2	2.6	18	average
Mattacha Pass	1.6	24.5	5.5	8.2	22.1	0.851	0.076	3.62	4	2.1	30	average
San Carlos Bay	1.4	24.8	5.9	8.2	30.6	0.753	0.060	3.58	2	3.2	20	average
Estero Bay	1.1	25.0	4.8	8.2	30.4	0.762	0.060	4.48	10	4.2	30	average
All Sites	0.9	24.0	5.2	7.8	17.9	0.975	0.240	6.32	24	2.7	50	below average
Below Average: < 30	≤ 0.70	≤ 18.9	≤ 5.62	≤ 7.76	≤ 17.8	≤ 0.440	≤ 0.048	≤ 3.80	≤ 1	≤ 1.9	≤ 10	
Average: 40-60	0.71 - 1.2	19.0 - 25.1	5.63 - 6.90	7.76 - 8.0	17.9 - 26.1	0.441 - 0.790	0.049 - 0.120	3.81 - 7.84	2 - 8	2.0 - 4.1	11 - 25	
Above Average: ≥ 70	> 1.2	> 25.1	> 6.9	> 8.0	> 26.1	> 0.790	> 0.120	> 7.84	> 8	> 4.1	> 25	

\*average of percentiles from secchi depth, DO, TKN, TP, chlorophyll a, coliform and turbidity



# Seagrass Transect Monitoring

- Annually at 6 sites in Lemon Bay
- 50 sites throughout Charlotte Harbor APs



# 1999-2005 Data Available

- Compared to Typical Florida Estuaries

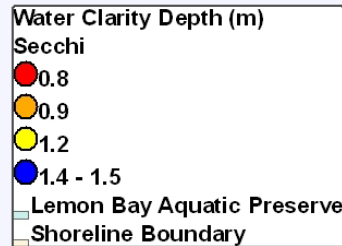
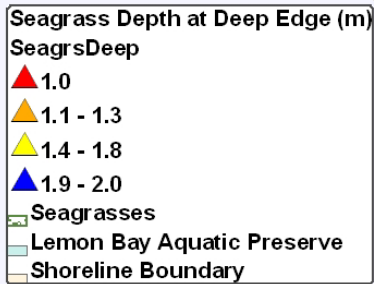
1999-2000 Seagrass Summary			Most		Ave
Estuary	# Sites	# Species	Common Species	Densest Species	Deep Edge
Lemon Bay	6	3	Halodule	Syringodium	143 cm (4.7')
Gasparilla Sound	7	3	Halodule	Syringodium	156 cm (5.1')
W Charlotte Harbor	3	3	Halodule	Thalassia	147 cm (4.8')
E Charlotte Harbor	4	2	Halodule	Thalassia	114 cm (3.7')
Myakka River	6	3	Halodule	Thalassia	82 cm (2.7')
Peace River	6	1	Halodule	Halodule	86 cm (2.8')
Pine Island Sound	9	3	Thalassia	Syringodium	167 (5.5')
Matlacha Pass	6	4	Halodule	Syringodium	137 cm (4.5')



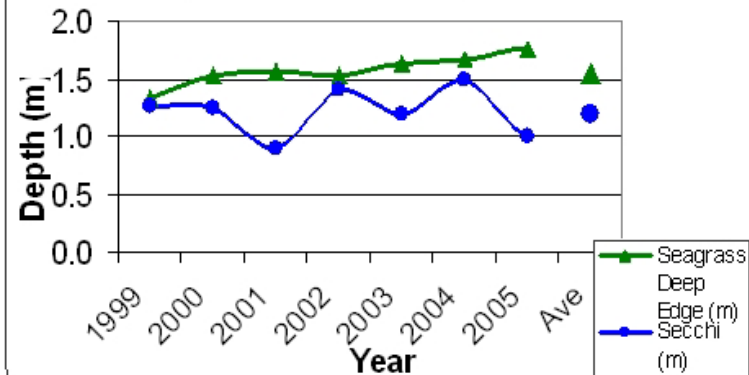
# Comparison of 1999-2005 Lemon Bay Seagrass Deep Edge & Secchi

**Seagrasses  
Deep edge in meters  
Average = 1.5 meters**

**Water Clarity  
Secchi depth in meters  
Average = 1.2 meters**



**Seagrass & Water Clarity 1999-2005**



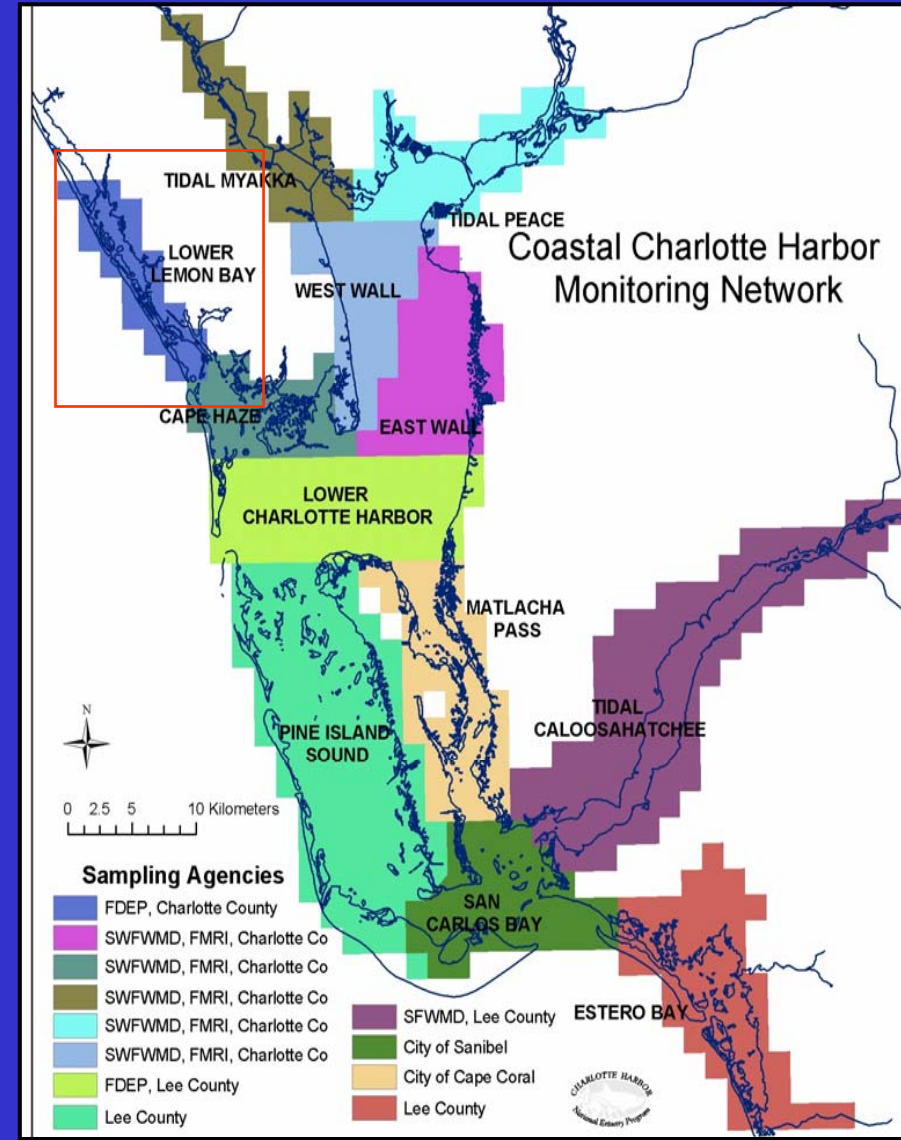
# Uses of CHAPs Seagrass & Water Quality Data

- Compare water quality & seagrass conditions.
- Set resource management goals for Charlotte Harbor Aquatic Preserves & National Estuary Program.
- Identify priority pollutants & locations & Impaired Waters
  - Identify potential impacts & public interest activities for proposed permits by agency staff & citizens.
- Research evaluating estuary conditions (SCCF, CHEC, Mote).
- Educate Citizens & elected officials (CHEC WRC).



# Coastal Charlotte Harbor Water Monitoring

- Cooperative Project with Many Local Agencies
- Monthly Monitoring at Random Sites in Random Grids
- 5 Sites in Lemon Bay



# Lemon Bay Aquatic Preserve Education Activities Include:

- Presentations
- Aquatic Preserves Signs
- Assist CHEC & CHNEP





# How You Can Help Manage Lemon Bay Aquatic Preserve?

- **Participate in Watershed Planning Activities**
  - **Help Educate Friends & Elected Officials about the Resources & Their Values**
  - **Support “Estuary Friendly” Programs for Boating & Landscaping**
- **Support Citizen Support Organization Activities**
- **Support Volunteer Resource Monitoring Activities**
- **Encourage Wise & Responsible Use of Estuary Resources**



# For More Information, Please Call:

**FL Dept of Environmental Protection  
Charlotte Harbor Aquatic Preserves  
in Punta Gorda (941) 575-5861**

