

Seagrass Protection and Restoration Steering Committee Meeting #11

December 19, 2014 12:00pm – 2:00pm

Estero Bay Aquatic Preserve Office

700-1 Fisherman's Wharf, Fort Myers Beach, Florida 33931

Participants: Lt Mike Andriano (Florida Fish and Wildlife Conservation Commission), Joanne Adams (Florida Fish and Wildlife Conservation Commission), Chuck Listowski (West Coast Inland Navigation District), Althea Hagen (University of Florida), Eric Milbrandt (Sanibel-Captiva Conservation Foundation), Cheryl Clark (DEP, Estero Bay Aquatic Preserve), Heather Stafford (DEP, Charlotte Harbor Aquatic Preserves), Kevin Cunniff (DEP, Rookery Bay National estuarine Research Reserve), Mike Campbell (Lee County).

- Reviewed minutes from November 13, 2014 meeting
- Mike C. gave us an update on the Lee Co seagrass project in Pine Island which started in 2011.
 - They have held focus groups and there is a website that tells people how to prevent seagrass damage.
 - The educational signs have been created and are shown below – the sign on the left is the one they are going with.
- Cheryl and Eric talked about site visit to SW of Mullock and seagrass planting
 - 4 sods with 25 shoots per sod were planted, macro algae was heavy, sediment was mucky, there was seagrass at the edge of the channel.
- Kevin C. wanted more information regarding historic extent of seagrasses in Estero Bay and indicated that there should be a balance between seagrass and algae
 - CHNEP has had seagrass beds mapped using aerial photographs and this data has shown a decline in seagrasses in Estero Bay.
 - Areas that have had seagrass in the past 10 years now do not have seagrasses.
- Water Quality factors in the SW of Mullock area were discussed.
 - Heather indicated BMPs may be helping water quality
 - Cheryl and Eric indicated concerns regarding salinity in the area and we reviewed salinity maps of the area.
 - EBAP will look at placing 2 sondes in the SW of Mullock area one near the channel and one in the bay.
- Restoration Plans for Priority Areas
 - Reviewed Altheas write-ups for SW Mullock and propscar restoration (attached).
 - Cheryl will calculate areas for restoration sites.
 - Althea will work on write-up for areas with heavy prop scarring.
 - 2014 Aerials should be used to look at scarring and assess changes.
 - Filed mapping will need to be conducted.
- Seagrass signs
 - Education:
 - we could have a team oceans group that would educate boaters about the seagrasses and aquatic preserve
 - ESPN radio
 - FWC PIO
 - Create fact sheet for communications
 - FMB marine resources task force created a sticker for rental boats which talks about seagrass
 - Enforcement – continue working with FWC to place seagrass/AP signs at the aquatic preserve boundary.

- NICMZs signs need to be permitted -look at regional funding project through WCIND.

Draft Seagrass Education signs developed for Pine Island. Provided by Mike Campbell, Lee Co.



FMB Marine Resources Task Force Console Sticker for rental boats.

Tips to Help You Enjoy & Protect Estero Bay!
From the Port Myrtle Beach Marine Resources Task Force

- Follow navigation markers and obey speeds zones. The Lee County Boaters Guide App. can aid you in your travels (pearlbrands.com/app/waterways/).
- Pole or walk your boat through seagrass. Over 80% of recreationally and commercially important fish species depend on seagrass beds and destruction of seagrass in Aquatic Preserves is a violation of Florida Law (Section 253.04(3)(a) F.S.).
- Enjoy fishing in Estero Bay and abide by FWC fishing regulations (myfwc.com/fishing/saltwater/recreational/).
- Protect wildlife by removing fishing line and trash, never feeding wild animals and keeping a safe distance – 150 feet from dolphins and manatees; 300 feet from nesting birds.

Observe wildlife, wonder about its beauty, contemplate its value, respect its space and it will be here year after year for you to enjoy.



Please remember to put any information you have to share with the group on the ftp site <ftp://ftp.dep.state.fl.us/pub/incoming/CAMA/EBAP/> and materials can be viewed at http://publicfiles.dep.state.fl.us/CAMA/Estero_Bay/.

Please submit a spreadsheet with metadata so we can effectively track materials being added and provide appropriate credit.

http://publicfiles.dep.state.fl.us/CAMA/Estero_Bay/EsteroBaySeagrassDatabase_BLANK.xlsx

Seagrass Scar Repair

Chili Pepper, Mound Key, Estero River/Mullock Creek

- ❖ FWC identified these areas from aerial imagery as severely prop scared in 2006
 - Need to confirm through field observation or new imagery
 - Did we ever get the new imagery that was flown at the beginning of the year?
- ❖ The areas of interest cover roughly acres?
 - Chili Pepper
 - Mound Key
 - Estero River/Mullock Creek
- ❖ Current existence of seagrass indicates environmental conditions are suitable for seagrass
- ❖ Options for repairing scars
 - Increase signage and enforcement and allow scars to slowly repair themselves
 - Repair scars using sediment tubes
 - Sediment tubes and plantings
 - Planting
- ❖ Sediment tubes
 - Sediment is lost when prop digs into soil or subsequently from erosion after seagrass roots are cut
 - Allow for the addition of sediment while minimizing turbidity
 - Made of material (typically cotton) that biodegrades after a few months
 - Fill with native or local sediment
 - Seagrass rhizomes grow laterally not vertically so sometimes sediment tubes alone provide substrate for lateral recovery of seagrass rhizomes without planting
- ❖ Sediment tubes and seagrass plugs
 - After a few months when sediment tubes are degrading plant seagrass plugs
 - Speeds up recovery over using sediment tubes alone
 - Depending on width of scar and erosive forces may be necessary as sediment may erode away before seagrass can regrow
- ❖ Planting alone
 - Works in areas where sediment in scars has not eroded away significantly
 - Fast growing and tolerant species
 - Mound Key and Chili pepper - *Halodule wrightii* and *Syringodium filiforme*
 - Might want to add *Ruppia maritima* in Estero River/Mullock Creek site due to freshwater creek outflow
 - Can go back after a few years and add *Thalassia testudium* if desired
- ❖ Seagrass transplanted from nearby would be best source of vegetative material
 - Perhaps seagrass from dredge footprint
 - Plugs could be removed from a healthy bed.
 - Purchase seagrass from nursery (Sarasota nursery).
 - Possibly grow seagrass at Vester or elsewhere.
- ❖ Lots of monitoring would be necessary
 - Accurately map/GPS scar locations and monitor recovery

Seagrass Bed Creation

SW Mullock Creek

- ❖ The area of interest covers roughly 197 acres (80 hectares)
- ❖ A model created from light and water depth data indicates that the area SW of Mullock Creek could support seagrass (Hagan et al., in review).
 - Light environment looks favorable throughout the year
 - Is not classified as having seagrass from aeriels
- ❖ Planting seagrass in this area would be a test of the model.
 - It is possible that another parameter other than light and depth is preventing seagrass from growing in the area.
 - Flow, salinity, soil type, etc.
- ❖ Worth going to site and checking out soils and water clarity, salinity before recommending project
- ❖ Target species would be tolerant of low salinity because of proximity to freshwater creek outflow and quick growing
 - *Halodule wrightii*
 - *Ruppia maritima*
- ❖ Seagrass transplanted from nearby would be best way to create bed.
 - Perhaps seagrass from dredge footprint
 - Plugs could be removed from a healthy bed.
 - Purchase seagrass from nursery (Sarasota nursery).
 - Possibly grow seagrass at Vester or elsewhere.
- ❖ Planting near oyster reefs is recommended as the reefs provide protection from currents and stability to the soil
 - Start near oyster reefs and move toward other areas
- ❖ Lots of monitoring would be necessary
 - Grass and water quality/clarity.

Hagan, Althea Hotaling, Robert Swett, Thomas K. Frazer, L. Rex Ellis (In Review). Improving Site Selection for Seagrass Restoration Using Spatial Modeling of Ecological Variables and Sociological Data. Restoration Ecology