

University of Florida and West Coast Inland Navigation District

Estero Bay Collaborative Management Workshop

Report

September 19, 2013

Ruttenberg Park, Fort Myers, Florida



Estero Bay Seagrass Workshop

Overview

There were 24 stakeholders in attendance on Thursday September 19th at the Estero Bay Seagrass Workshop (Table 1). The workshop was held in the Support Services Facility at Lee County's Rutenberg Park, 6490 S. Pointe Blvd in Fort Myers, from 8:30 am to 5 pm. The workshop was facilitated by Dr. Carol Lippincott, a certified professional facilitator. The West Coast Inland Navigation District (WCIND) and University of Florida, Florida Sea Grant/Boating and Waterway Planning Program (BWPP) collaborated to put the workshop on. During the workshop, stakeholders talked about the value of seagrass to their agencies, livelihoods, and community. They also built a common history of seagrass distribution in the area, crafted visions for the future of Estero Bay, identified and prioritized seagrass restoration actions, and established a steering committee to work on a Seagrass Restoration and Protection Plan for Estero Bay.

Workshop Purpose

1. Provide information about the historical and present conditions of the bay and its submerged aquatic habitats. Discuss what stakeholders would like the bay to look like in the future and what steps and/or management actions need to be taken to achieve that vision. Potential actions gathered from interviews will be used to guide the discussion.
2. Determine stakeholder interest in continuation of similar workshops (activities) with the goal of developing a stakeholder-driven plan for sustainable use, protection, and restoration of submerged aquatic habitats in Estero Bay.

Workshop Products

- List of management actions that can be undertaken to improve the bay (Figure 1).
- Increased understanding of the value and condition of submerged aquatic habitats in Estero Bay, impacts to submerged aquatic habitats related to use of Estero Bay, and management and restoration activities for submerged aquatic habitats in Estero Bay.
- Improved awareness by participants of other stakeholders' interests, and enhanced communication and trust between Estero Bay stakeholders.



Figure 1. Stakeholders are creating a list of seagrass management actions for Estero Bay.

Attendees

Fifty eight stakeholders were invited to the workshop; 24 of them (41%) attended it (Table 1). Attendees represented multiple organizations from different sectors; the major contingent groups were Non-profit organizations (25%), Academic institutions (17%), Federal, State and Local Government agencies (46%), and Marine Industry (12%) (Figure 2).

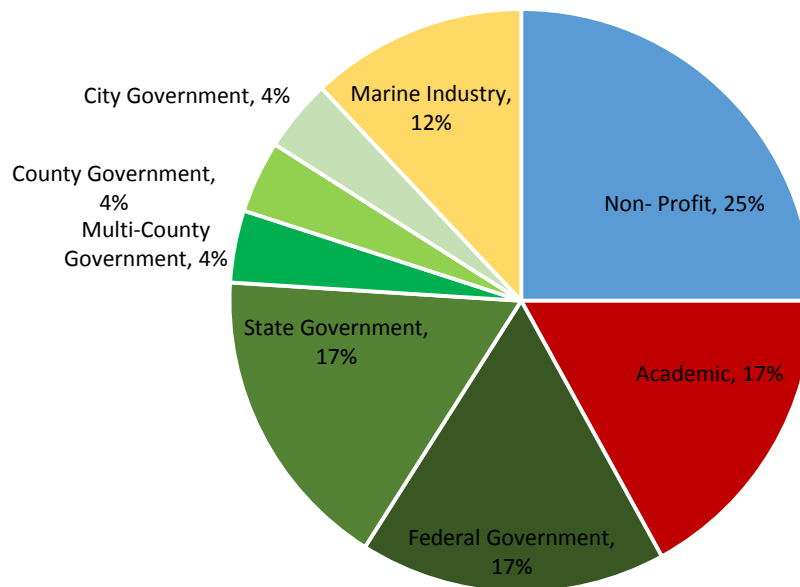


Figure2. Percentage of attendees by organization at the Estero Bay Collaborative Management Workshop.

Values

At the beginning of the workshop stakeholders were asked to state why they valued seagrass. The most common answer was for its value as habitat for commercial and recreational fisheries species as well as others species of interest, like manatees and sea turtles (Figure 3). Seagrass is seen as critical to maintain biodiversity and integral to the estuarine/marine food chain. The ecosystem services that seagrass provides to local residents and visitors were also frequently mentioned. These services include improving water quality through filtration, oxygen production, sediment stabilization, and nutrient cycling. It was also noted that seagrass can be used as an overall indicator of bay health. Many stakeholders recognized the importance of seagrass to local livelihoods, particularly those linked to recreational fishing and tourism. It was also noted that healthy ecosystems have positive socioeconomic benefits, such as higher real estate values and greater desirability as retirement destinations. The intrinsic and unmeasurable value of beautiful vibrant seagrass beds was noted as a reason to protect them for future generations and a way to inspire citizens through

environmental education. Many participants who work for state agencies felt it was their duty to protect seagrass as it is located on sovereign submerged land held in trust for the states citizens and managed with their interests in mind. All stakeholders willingly participated in the workshop activities, although some guidance was needed to keep participants on task regarding a statement of why they values seagrass.

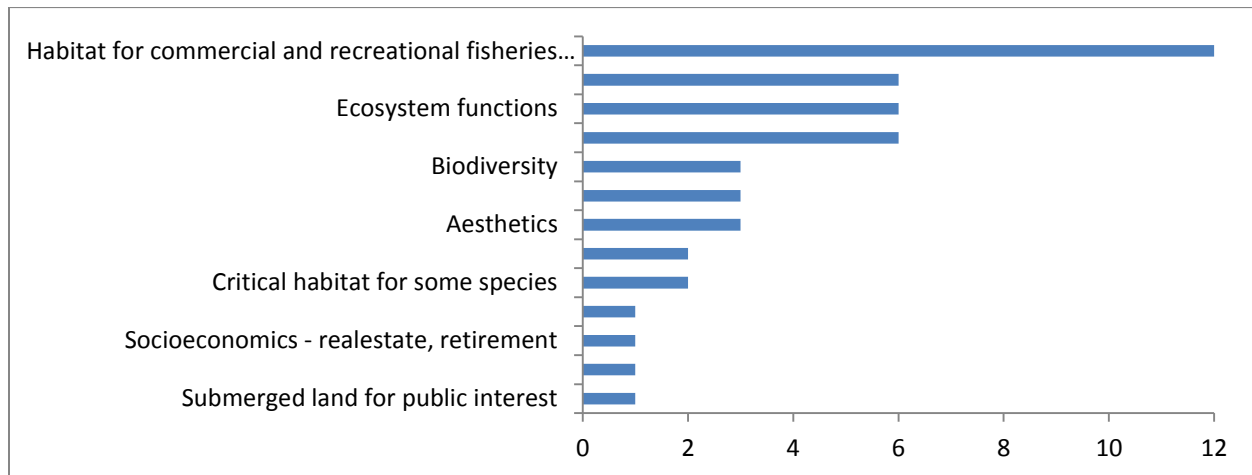


Figure 3. Responses obtained from stakeholders when they were asked why they valued seagrass.

Timeline

Stakeholders then worked in small groups of 4 or 5 people on a historic timeline and seagrass mapping exercise. Each group was asked to create a timeline of major events that may have impacted seagrass during 1 of 4 time periods (1940-1960, 1961-1980, 1981-2000, and 2001-2013). Group members recorded their timeline on a flip chart and drew on the provided aerial imagery to indicate maximum extent of seagrass coverage during that time period (Figure 4). When each group finished with their time period they were allowed to rotate through the other groups areas and edit both the time line and aerial imagery as they thought necessary. Dr. Lippincott then facilitated a whole-group discussion of the activity to make sure all points were covered and everyone agreed with the timeline.

Many impacts to seagrass that occurred during the period 1940 to 1960 were identified, such as upland drainage and excavating of Ten Mile and Keil canals. There was also initial growth of Fort Myers Beach as a result of military and rail expansion in the area. Much of the areas orange crop passed through Estero Bay and its passes and Lee County's

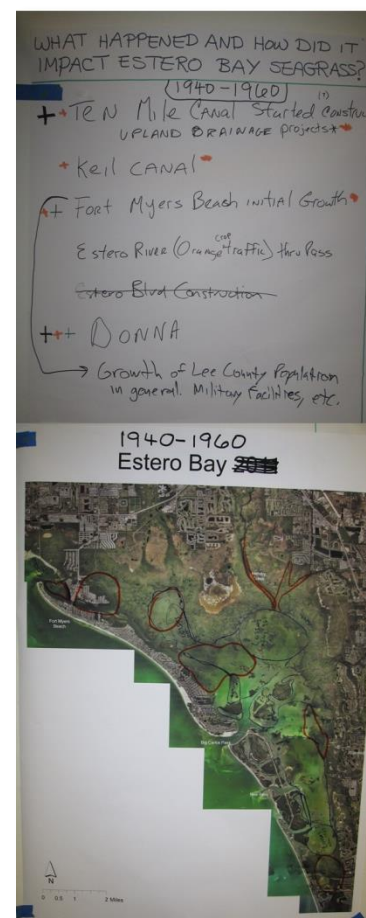


Figure 4. Example of a flip chart and map created during the timeline exercise.

population in general increased. In 1960 Hurricane Donna passed over and devastated the area. As a result federal and private funds flowed into the region for reconstruction and development leading to numerous dredge and fill projects under lax or nonexistent permitting. The causeway was also constructed across the front of the bay in the early 60's and the federal channel was dredged at Matanzas Pass. On the positive side, there was a transition from septic to sewage treatment plants in developed areas although some of the sewage treatment was carried out at small package plants which failed on occasion. Throughout this time mosquito ditches were dug and the hydrologic system became flashier due to development and lack of retention ponds leading to changes in salinity and nutrients in the bay. In the 1970's the Aquatic Preserve was established.

In the 80's and 90's explosive population growth and development continued, leading to decreased water quality as the system became flashier and nutrients increased causing a drop in dissolved oxygen. There was also an associated increase in recreational boating and prop scarring which impacted seagrass negatively. The completion of I-75 and construction of FGCU increased runoff to rivers and further altered the hydrology of the area. There also was an increase in mining and the number of golf courses in the watershed. On the positive side the Town of Fort Myers Beach was incorporated, the south ½ of the bay was added to the aquatic preserve, squaw creek was restored, the retention pond law was passed, land was acquired by the state to form the buffer preserve, Lover's Key State Park was created, and the Fort Myers mooring field was established. In 2004 Hurricane Charley impacted the area with 6' storm surges and damaged mangroves. Matanzas and Big Carlos Passes have been dredged multiple times since 2000. The Lee County Fertilizer Ordinance was passed and jet ski Eco tours were started.

Throughout the entire time period there were natural cycles of drought, flood, and cold snaps. There were also periodic red tide events as a result of high nutrient loads to the bay. In general participants actively worked on the timeline and mapping. There were a few participants who felt they didn't have much to add as they were new to the area or were not knowledgeable about the history of the bay. Those participants probably had the most to learn from participating in the activity.

Breaks

During lunch and periodic breaks, participants had time to interact informally and discuss topics that interested smaller groups of people. Just after lunch, Thea Hotaling, a PhD candidate from the University of Florida, presented her dissertation research on mapping potential seagrass restoration locations based on light availability at the bay bottom. Maps of potential seagrass restoration areas were presented to stakeholders and stakeholders had the opportunity to ask question or make comments about the research. Most stakeholders showed interest in the research project results, and expressed their interest in using the information for planning/management actions.

Vision

For this activity stakeholders were asked to work in small-groups again and discuss the best-possible scenarios for Estero Bay's seagrass communities in the year 2033. Information provided by each group was recorded in a flip chart. In addition to that, some groups created illustrations of their visions. At the end, someone from each group presented their vision and showed their illustrations (Figure 5).

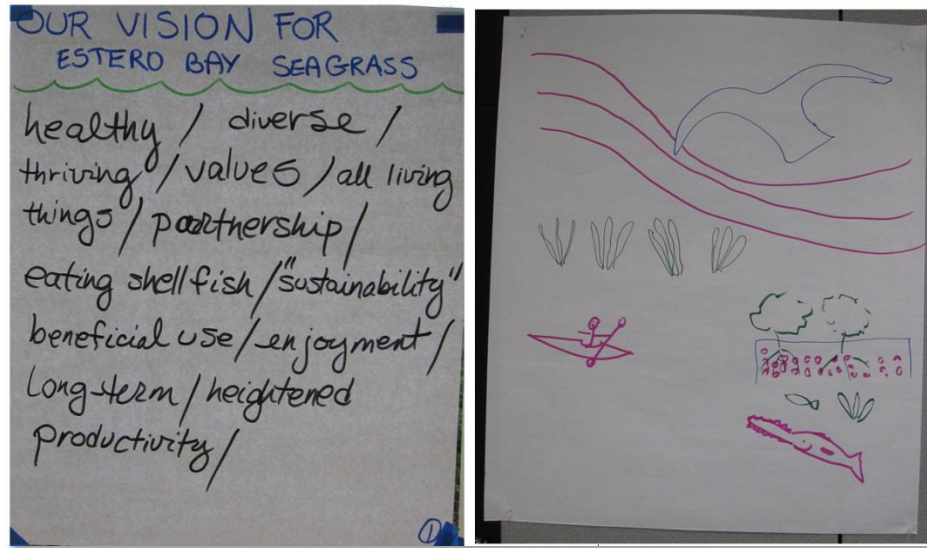


Figure 5. Flip chart and illustration created for one of the groups with their vision for Estero Bay's seagrass communities in the year 2033.

During the visioning exercise a number of common elements emerged that were mentioned in multiple groups. These elements included: healthy, diverse, and thriving ecosystems and human populations; partnerships between agencies and the public sector; sustainability in general; long term thinking; beneficial use and enjoyment of the system; growing businesses leading to a robust tourism based economy; increasing production, particularly edible shellfish; and heightening educational awareness leading to community support and pride of the ecosystem. Some of these elements were included in each group's visions. Participants worked together to create visions that included everyone's interests and tried to tie a cohesive thread through disparate goals to create a vision everyone could strive towards.

Actions

Stakeholders worked together in the afternoon to create a list of actions they deemed important in restoring the bay. Each participant was given a few large sticky notes and asked to list 3 to 5 actions and benefits that they thought were important to restoring Estero Bay, one on each note. Volunteers then read their favorite action and placed it on the wall in a semi organized fashion. Stakeholders were asked not to read (re-state) actions already mentioned by

others, but to continue to add new ones until everyone had added at least one and there were no gaping holes in the actions list. Forty one actions were listed in total. Then everyone was given 10 circle stickers with which to cast their votes for those actions that they felt needed to happen first. Participants were allowed to place more than one sticker on an action (e.g., the action was so important that it receives several of one's limited votes). The results of the vote can be seen in Table 2. Some of the top ranked actions identified one specific thing to work on (Map 2014 seagrasses), while others are broad and general (Acquire large land parcels in watershed) and need to be broken down further to figure out how to accomplish them. This activity gave the group a good first stab at identifying actions and projects that interest a large group of stakeholders. This activity helped to produce one of the main products of the workshop, which is a list of management actions that can be undertaken to improve the bay. Some will be easier to accomplish than others. The action that received the most votes is being pursued by Lisa Beever and it looks like the mapping will be done in January 2014.

Steering Committee

The last thing stakeholders did at the workshop was to form a steering committee. Stakeholders were asked to volunteer if they were willing to be on the committee and several people were volunteered or volunteered themselves. The formation of the steering committee addressed the second of the workshops two purposes which was to "determine stakeholder interest in continuation of similar workshops with the goal of developing a stakeholder-driven plan for sustainable use, protection and restoration of submerged aquatic habitats in Estero Bay." Nine members attended the first meeting on Oct 11th 2013. The 12 current members of the steering committee are: Heather Stafford, Cheryl Clark, Al Durrett, Bob Swett, Christina Denegre, James Douglass, Joanne Semmer, Joy Hazell, Judy Ott, Keith Laakkonen, Robert Brooks, and Thea Hotaling. The group is in the process of setting up an FTP site where everyone can post and share their Estero Bay data related to seagrass and plans to meet again in November 2013.

Survey

To determine if the workshop achieved its purpose and produced the desired products, participants were asked to fill out a survey at the end of the day. More than half (59%) of the participants felt that they had increased their knowledge of the ecological issues related to submerged aquatic habitat in Estero Bay by a moderate to a large amount. 71% learned about existing efforts related to submerged habitats that they were not aware of prior to the workshop. Also, 94% of respondents were able to identify potential projects that they might be able to collaborate on. Nearly everyone (94%) who participated thought the workshop was helpful in overcoming some of the things that were hindering restoration in Estero Bay. These survey responses all point to accomplishment of the second product of the workshop, which was "Increased understanding of the value and condition of submerged aquatic habitats in Estero Bay, impacts to submerged aquatic habitats related to use of Estero Bay, and management and restoration activities for submerged aquatic habitats in Estero Bay".

We found that 63% of respondents noted concerns and interests similar to their own that they did not perceive before the workshop. The workshop also appears to have helped stakeholders be more willing (82%) to participate in the management and restoration of Estero Bay. Many stakeholders (31%) were already very knowledgeable about what other stakeholders who attended the workshop believe and care about and of those who were not knowledgeable 67% increased their knowledge of other stakeholders' beliefs by a moderate to large amount. These responses indicate that we did a fairly good job of accomplishing the third product "participants have improved awareness of other stakeholders' interests and communication and trust between stakeholders is improved in Estero Bay".

Table 1. Seagrass restoration workshop participants.

	Name	Stakeholder Group
1	Al Durrett	Fish Tale Marina
2	Bob Swett	UF/IFAS Extension – Boating and Waterways Program
3	Buddy Powell	Sea to Shore Alliance
4	Christina Denegre	Good Time Charter & Marine Resources FMB
5	Chuck Listowski	West Coast Inland Navigation District
6	Connie Langmann	Regional Growth Management Council, Sierra Club, GAEA Guides
7	Heather Stafford	FL Department of Environmental Protection – Estero Bay Aquatic Preserve
8	James Douglass	Florida Gulf Coast University Seagrass Professor
9	Jonathan Meyer	FL Department of Environmental Protection – Estero Bay Preserve State Park
10	Joy Hazell	University of Florida/IFAS Extension – Florida Seagrass Program
11	Judy Ott	Charlotte Harbor National Estuary Program
12	Katie Tripp	Save the Manatee Club
13	Keith Laakkonen	Town of Fort Myers Beach – Environmental Sciences Division
14	Lisa Beever	Charlotte Harbor National Estuary Program
15	Marisa Carrozzo	Conservancy of Southwest Florida
16	Mark Sramek	NOAA – Habitat Conservation Division
17	Nicole Bailey	NOAA – National Marine Fisheries Service
&	Ray Judah	Florida Coastal and Ocean Coalition
19	Reid Lichwell	NOAA – Habitat Conservation Division
20	Robert Brooks	Florida Department of Environmental Protection – Lovers Key State Park
21	Shelley Norton	NOAA – National Marine Fisheries Service, Protected Resources Division
22	Steve Boutelle	Lee County Department of Natural Resources
23	Tim Schwan	Florida Department of Environmental Protection
24	Thea Hotaling	UF/IFAS Extension – School of Natural Resources and Environment

Table 2. Actions listed by stakeholder at the seagrass restoration workshop.

Most Important Actions That Need to Happen To Protect & Restore Seagrass in Estero Bay	# Votes - Actions That Need To Happen First
Map 2014 seagrasses	20
Acquire large land parcels in watershed	17
To start a Pole & Troll in Estero Bay A.S.A.P. - locations that are 2 locations that are designated only	15
Better stormwater treatment for urban runoff	13
Restore severely scarred grass bed communities	12
Promote Living Shorelines	11
Start thinking about sea level rise and habitat migration	10
Amend state numeric nutrient standard to comply with federal Clean Water Act	9
Increase funding for seagrass protection, management and restoration	9
Improvements at public boat ramps	8
Begin analyzing data collected in Estero Bay	8
This "group" continue meeting - establish actions - achieve targets	7
Implement TMDLs & BMAPs for Estero Bay & contributing waters	7
Replace failing septic systems in Estero Bay watershed with modern, working septic +/- or sewers as economically most appropriate	6
Engage all users (fishing, boating, etc.) in protection, research, and restoration of seagrass in Estero Bay	6
Maintain home rule	6
Develop water management systems for Estero Bay that deliver appropriate quality/quantity/timing/duration of freshwater inflow to include an Estero Bay MFL (Minimum Flow & Level) & a water reservation	5
Fund Estero Bay law enforcement with natural resource protection as focus i.e. prop scar legislation	4
Restore hydrology Estero Scrub	3

Require new homeowner & renter orientation about natural resources	3
Remove causeway portions	3
Mandatory education of elected officials	2
Vegetate detention ponds	2
Make list of restoration areas for regulatory agency	2
Promote use of power pole anchoring systems on boats using the bay	2
Increase political will to restore and protect seagrasses	1
Require property owners in Ft. Myers Beach to have planted yards, w/ native drought tolerant plants	1
Ban St. Augustine grass & mandate Florida Friendly yards	1
Require depth sounder on all rental and nonrental boats in Estero	1
Create/research an economic valuation (defensible) of an acre of seagrass to Lee Co. economy.	1
Modeling & data to accurately capture septic contributions when developing TMDLs & BMAPs	1
Run public service announcements describing Estero Bay seagrasses	1
Invasive/exotic vegetation removal	1
Mandatory environmental education at all grade levels	1
Restore scallop population	0
More regulated upland community around the Estero Bay	0
Make knowing the state of the bay as important as knowing the weather.	0
Slow speed zones throughout Estero Bay	0
Implement better construction management	0
Implement statewide stormwater management rule	0
Get more research & data on bivalve restoration +/- introduction in areas of low light shallow water	0