

FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL

**Marathon Garden Club, Marathon
Tuesday, April 20, 2010**

MINUTES

Members Present

Jason Bennis
Chris Bergh
Jeff Cramer
Jack Curlett
Dolly Garlo
Richard Grathwohl
David Hawtof

Bob Holston
Don Kincaid
Jerry Lorenz
Corey Malcom
Martin Moe
Bruce Popham
Jim Trice

Alternates Present

Clinton Barras
Joe Boyer
Alex Brylske
Bill Chalfant
Bruce Frerer

Peter Frezza
David Makepeace
Jessica Pulfer
Bob Smith
David Vaughan

**Call to Order/Pledge of Allegiance/Roll Call/ Approve Minutes from February 16, 2010 Meeting/
Adopt Agenda for this Meeting/Chairperson's Comments/Introductions**

- Chairman Bruce Popham called the meeting to order at 9:01 A.M. He thanked Lilli Ferguson and the staff for the work they did to prepare for the meeting.
- David Hawtof then led the group in the Pledge of Allegiance.
- Sean Morton announced that Jessica Pulfer and William Chalfant were new appointed alternates to the Sanctuary Advisory Council (SAC), beginning their terms today; Ms. Pulfer was appointed as the alternate for the Conservation and Environment [1 of 2] seat, and Mr. Chalfant was appointed as the alternate for the Submerged Cultural Resources seat. Mr. Morton welcomed Ms. Pulfer, who was present, and she briefly introduced herself. Later in the meeting, Chair Popham welcomed Mr. Chalfant.
- After review of the draft minutes of the February 16, 2010 meeting, Alex Brylske moved that they be approved, and Corey Malcom seconded the motion. As there were no suggested changes, Chair Popham deemed the minutes approved.
- Chair Popham asked if there were any additions or changes to the agenda. Chris Bergh moved the agenda be approved, seconded by Dolly Garlo. As there were no suggested changes, Chair Popham then deemed the agenda approved.
- Chair Popham mentioned that a couple of members of the community were recently lost, Brian Keller, and Mr. Bergh's brother, Matt [Bergh]. Richard noted that a marine biologist was also lost, Jeff [Simonds]. The group observed a moment of silence in their memories.
- Chair Popham noted Ken Nedimyer out on the water and begged forgiveness for not being at the meeting. He said that the National Oceanic and Atmospheric Administration (NOAA) Administrator, Jane Lubchenco, was coming to the Keys in a few days, and that Mr. Nedimyer was preparing for her visit to dive and see the [Coral Restoration Foundation's] corals.
- Chair Popham reminded the SAC that he and Ms. Ferguson would be attending the national SAC Summit in early May. He said he welcomed ideas from the SAC about things they wanted him to talk about while there.

- There was an article in the paper the day before the SAC meeting on a new Florida Bay Stewardship Fund, Chair Popham said, with Jack Curlett's name prominently displayed. He also said it was incredible that 700 people had already completed the EcoMariner program.
- Mr. Curlett said a million dollars had already been spent. He noted that a format similar to EcoMariner would be used by the Biscayne and Everglades National Parks for licensing. This fund is an offshoot of earlier efforts, Mr. Curlett noted, and will be perpetuated by the [South Florida] National Parks Trust.
- Chair Popham referred to the notice the SAC had received the status of NOAA's aquaculture policy and the feedback sessions, and he encouraged people to keep their eyes on this.

Acting Superintendent's Report – Mr. Morton, Acting Superintendent, Florida Keys National Marine Sanctuary [FKNMS]

Mr. Morton introduced Major Alfredo Escanio, noting he took over in December from Major Mike Edwards, representing Florida Fish and Wildlife Conservation Commission (FWC) law enforcement. – Major Escanio said he was looking forward to working with everyone.

Mr. Morton said there would be an Earth Day in the Keys the Friday following the SAC meeting. Dr. Lubchenco would be coming to give a speech and to make two dives. She would be viewing the coral restoration work of Mr. Nedimyer and his partners, which was funded by stimulus funds, Mr. Morton said. She was already a diver, but recently went through NOAA dive training, and this will be her first NOAA dive. After seeing the nursery, she will be diving Molasses Reef, he reported. Mr. Morton announced her visit was being done in partnership with The Nature Conservancy, and they were doing a lot of the work. He said a lot of media would be involved, and in addition, the head of the National Ocean Service would be coming to see some of the FKNMS operations on the Thursday following the SAC meeting.

Chair Popham asked if there would be any opportunities to participate in the events or visit with Dr. Lubchenco. James Byrne of The Nature Conservancy said there were some limited opportunities to join the lunch from 2-3 on the dock of Amy Slate's resort, and offered to add interested SAC members to the list; several indicated interest. Mr. Morton also asked for people who wanted to come to let him know by the end of the day.

Billy Causey said the sanctuary was also doing this in conjunction with NOAA Fisheries habitat group, Mote, and The Nature Conservancy, and many other organizations. Mr. Morton said the head of NOAA Communications and the Chief of Staff for the Department of Commerce would be coming.

Mr. Morton reported that the event for the new photovoltaic roof was a good one, and said that the project was being done in partnership with Keys Energy and the Florida Municipal Power Agency. He encouraged people to go to keysecosolar.com to see real time power generation information.

He also said that Mote Marine Laboratory had a good Keys Ocean Day at the Eco-Discovery Center. He said the event was record-breaking in attendance, and was very successful.

Rob Mitchell's company is the newest Blue Star operator in the Keys, Mr. Morton said.

Finally, Mr. Morton said the *Condition Report* and the ten-year ecosystem monitoring report would be out soon and would be the foundation for the sanctuary zoning review. He said some SAC members, particularly SAC Ecosystem Restoration Working Group members, may be tapped to participate in an early review. After a peer review and headquarters review, he hoped the report would be out in the summer.

NOAA Office of National Marine Sanctuaries (ONMS) Southeast Region Report – Dr. Causey, ONMS

Dr. Causey thanked Bruce Frerer and Mote for continuing to support the many projects in the Keys and corals in Florida through the Protect Our Reefs license plate. He said a group recently spent two days reviewing projects from last year and reviewing proposals.

- Mr. Frerer said close to \$400,000 was spent last year.
- Dr. Causey said a lot of that came back to research and education projects in the Keys.

Dr. Causey asked about the SAC's familiarity with the Sargasso Sea and the importance of Sargassum weed. He said he was part of an IUCN High Seas Marine Protected Area Advisory Committee, serving in advisory and technical capacities. The government of Bermuda invited the group to the Bermuda and they met there for a week in February. It is the only territory in the Sargasso Sea, he noted. He said they are moving forward with a Sargasso Sea High Seas Marine Protected Area, and that there was huge excitement about it. He said the U.S. Department of State was on board, and he would report back when there were more tangible results. *ACTION ITEM*: Dr. Causey to provide an update to the SAC on results of the Sargasso Sea Marine Protected Area in the future.

- Martin Moe asked about extensive harvesting of Sargassum weed out of North Carolina in the past.
- Dr. Causey confirmed that took place eight years ago. He said the Fishery Management Council was concerned and had developed a Fishery Management Plan for Sargassum, up to the north. The one company that had done that work was now out of business, he said.

Regarding the northeast Florida initiative, Dr. Causey mentioned the initiative was still alive, and work would continue with the group south of St. Augustine that has been working on this. He said it could take some time to get a sanctuary established in that area. He added that some representatives of that group planned to meet with Dr. Lubchenco and Senator Nelson at the end of the month.

- Mr. Bergh asked if the proposal included state and federal waters.
- Dr. Causey confirmed that it did, and that it came into the Guana Tolomato Matanzas National Estuarine Research Reserve, and that it mirrored the Reserve's boundaries offshore.

On ocean acidification, Dr. Causey said he was still working with the chair of the Flower Garden Banks National Marine Sanctuary Advisory Council on an ocean acidification event. He said there would be a public panel with both sides of the issue, including both those who do not believe it is happening and those that do represented.

Dr. Causey announced a new NOAA research vessel was coming as a resource for the Great Lakes and Southeast Region, and would arrive in mid to late May. It was built for the Navy and provided to the Coast Guard; the Coast Guard gave it to NOAA, he said. It is a fast boat, he said. There will be an open house for it in Port Everglades, and depending on the schedule, there may be an open house in Key West. In July, the vessel will be operating in the *Monitor* area, he said.

Agency Report Highlights:

Florida Department of Environmental Protection (DEP) Report -- Kent Edwards, DEP

The State legislature was in session, Mr. Edwards stated, adding that the budget outlook for DEP was looking pretty good, relatively speaking. He said there was no real impact on the Office of Coastal and Aquatic Managed Areas, the office he is in, but there were two more weeks, and anything could happen. He said he would report on this again at the next SAC meeting. *ACTION ITEM*: Mr. Edwards to report on the DEP budget at the June SAC meeting. Regarding oil drilling, Mr. Edwards said it did not look like anything would move forward in state waters but there would likely be activity next year in the legislature on this. He mentioned some bills addressing dock construction, etc. that could affect the sanctuary, and also said there was an opportunity associated with sovereign and submerged lands to bring in funding.

The FKNMS DEP diving program is hitting its stride and is supporting a number of program activities, Mr. Edwards said. He said there would be classroom and practical dive training for sanctuary divers April 27-30.

Mr. Edwards said the *Dante Fascell* had been taken out a few times as a diving platform for coral nursery work and was also used to support the community college.

He mentioned two recent permitting coordination meetings. In one meeting, the Army Corps of Engineers reached out to other regulatory partners, so people could become familiar with each other and the processes. The other meeting was with the regulated community.

Mr. Edwards commended Robert Keeley and Todd Hitchins for their work with the community on shoreline cleanups. They also hope to address the source of the problem, including plastic bags, trap debris, etc.

- Mr. Morton said he thought about 5,000 pounds had already been cleaned up for the year. Later in the meeting, Chair Popham obtained updated information from Mr. Morton, saying that it was 6,000 pounds, and announced that the total so far since 2007 was approximately 30,000 pounds.

South Florida Water Management District (SFWMD) Report -- Thomas Genovese, SFWMD

Mr. Genovese reported that Mike Collins was no longer on the Governing Board, but that in March the Governor had appointed Glenn Waldman to take his place. He reappointed Shannon Esteveos, and also appointed Sandy Batchelor, Mr. Genovese said. He said that his agency was also in the midst of its budgeting process. He said he did not know what the budget would look like, but would have a better picture in June.

National Park Service (NPS) Report – Tracy Ziegler, NPS

Dr. Ziegler said Everglades National Park was undergoing an Environmental Assessment (EA) for the Flamingo Area. The Park is trying to rehabilitate the seawall and other facilities there, which were built in 1954 and are now very hazardous.

- Mr. Bergh commented he was sure she was familiar with the concept of living shorelines for bulkheads and other structures, and wondered if this was included as an option in the EA.

- She agreed it was a good idea. She was not sure if the budget might prohibit this or not, but said she would check into it. She added that the EA would take a long time.

- Mr. Bergh noted it would be a good demonstration project.

- Mr. Frezza asked if this would go through a public review.

- Dr. Ziegler said it did, in January, but that he could still make a comment and file it through her. She said she would let the group know if another public review was scheduled. ***ACTION ITEM:*** Dr. Ziegler to inform the SAC if an additional public review of the Everglades National Park Flamingo project is scheduled in the future.

Dr. Ziegler reported that, in 2009, 367 pythons were captured and removed from the Park. Up to March 15 in 2010, she said 147 were removed.

Everglades National Park staff members are writing a report on effect from the cold snap, she said. Snook and tarpon took a big hit, but 14 of 16 non-native species were greatly [negatively] affected. She said data were collected from Park staff members, law enforcement rangers and others.

FWC Report – John Hunt, FWC

Mr. Hunt reported that the three year report for Tortugas Research Natural Area (RNA) was done; he had one copy available for people to look at. He said Dave Hallac was drafting a letter and the reports would

be sent out shortly. He noted this was not an agenda item at the FWC Commission meeting, but was simply an update that the requirement was met. He noted there had been discussion about presenting on this in June and on some more detailed research. He said his staff would be on the *Sprees* then, but he confirmed he and Mr. Hallac could give an overview of the RNA in June. A PDF version of the report was also available, he thought, on one or both of their web sites, he said. **ACTION ITEM:** Mr. Hunt to present to the SAC at its June meeting on the Tortugas RNA.

- Chair Popham asked if FWC had to go back to the Governor with this.

- Mr. Hunt said that would be in two years, as there was a five year time frame. He also said it was premature to have a discussion on this general issue at the FWC Commission level, as not enough time had gone by.

- Dr. Causey commented about the RNA having been closed to commercial fishing since the early 1980s, and the difference between that area and the Tortugas Ecological Reserve in terms of numbers and sizes of fish. He has not heard the results yet, but he hoped people would not get too excited just yet.

- Mr. Hunt agreed it was too soon for that general discussion. He provided a few details about the RNA and local connectivity and mutton snapper moving from inside the Park where they are protected, out to Riley's Hump, and back.

NOAA Office of General Counsel for Enforcement and Litigation, Southeast Region – Karen Raine, NOAA

Ms. Raine reviewed some recent matters, including some notices of violation, including a couple of groundings, and the assessment amounts for those. She said there was an administrative hearing in front of a Coast Guard administrative law judge for anchoring and fishing in Tortugas North about a month from now. She expressed her appreciation of FWC's help in these cases. She also mentioned a recent fishing case involving a head boat out of Marathon that did not involve FKNMS, for which there was an administrative hearing in February.

FWC Report cont.—Major Escanio and Capt. Pat Langley, FWC

Major Escanio said he was looking forward to participating with the group on the SAC and to obtaining feedback to better accomplish their mission.

Major Escanio said Capt. Langley would be at the forefront of the operations here and on the SAC. The Major noted he was not based in Marathon, as his predecessor was. He said he was stationed in Miami.

Capt. Langley reported four new officers had been trained and were on their own now, and that in the coming month, another five would be getting out of the academy; it will take about three months for them to be on their own, he said.

Earlier in the month, he said a search had been done with the Coast Guard; debris was found off Alligator Reef, but nothing else. He asked people to let him know if they found anything.

Capt. Langley said a special detail tackled water quality issues in Key West, checking on water quality and derelict vessels. He said 25 derelict vessels were marked, and that he hoped the County would remove them. Other vessels were checked for sanitary and safety issues, and more operations were planned throughout the Keys, he said.

- Jim Trice commented that he hoped derelict vessels in the Upper Keys were also being addressed.

- Capt. Langley said there was an officer there, but as soon as a derelict vessel is removed, there are more.

Recently, FWC made a case for hard corals off Boca Chica beach, and some fishing cases off of Alligator Reef, Capt. Langley reported.

Lt. Scarpa and Officer Lopez cited a towboat in the Area To Be Avoided south of Sand Key, towing two barges, Capt. Langley noted.

He also reported the numbers of recent groundings and citations for the past quarter.

U.S. Environmental Protection Agency (USEPA) Report -- Patricia Bradley, USEPA

Mrs. Bradley mentioned their research group was holding a workshop for coral reef modelers, sponsored by NIMBioS. She said applications were still open, and some travel costs could be covered by the sponsor.

NOAA Office of Law Enforcement (OLE) – Jeff Radonski, OLE

Assistant Special Agent in Charge Radonski said that John O'Malley and Kenny Blackburn were not able to make the meeting, as Special Agent O'Malley was in a training and Special Agent Blackburn was out on the water.

He said they still working with the casitas and thought the responsible parties reported to jail in the next month to do their sentences.

He mentioned a priority for his office was the Individual Fish Quota in the grouper fishery. They have been active working with their state partners on surveying and approving landing spots and monitoring the program, from the Keys to the Texas-Mexico border, he reported.

As an aside, David Makepeace asked if anyone had information on the "Bio Blast" to take place in Biscayne National Park April 30 and May 1; he said a group from his school was going, and helping with monitoring.

- Ms. Pulfer said she and some of her staff were going to collect data, and to lead some public groups collecting data.

- Dave Vaughan said the name of the event was "Bio Blitz", and that people from Mote were also attending, and that 1500 kids from the Miami area were expected. There would be an open house for the public on the Saturday of the Blitz, he said. He also noted the event was co-sponsored by National Geographic.

- Dr. Ziegler elaborated with some additional details about who was coming and said there were numerous events planned.

Public Comment

John Walton mentioned he had had a commercial lobster license for probably 30 years. He said for the last 10-12 years they were required to have license placards visible from the air and the side to identify their boats, and he wondered why something similar had not been done for marine life collectors – tropical fish. He thought it might be harder to do, but that it would be good to have them identify themselves when needed and that it could possibly help enforcement.

- Chair Popham said this was duly noted.

Mr. Trice spoke about scholarship funds for marine affairs, and three charities that have been giving them out locally for the last 5-6 years to high school seniors majoring in marine affairs. He said these scholarships were making a difference, and not just for kids going to Harvard or other such schools. This year, he said there was a local high school student who wanted to major in criminology at the Florida Keys Community College, then become a FWC officer.

- Mr. Makepeace commented he had seen it on the receiving end, and some of the kids had come back to make a difference in the community.

- Chair Popham thanked Mr. Trice for his comments.

SAC Education and Outreach Working Group Report – Mr. Moe, SAC

The SAC Education and Outreach Working Group met on April 5, and draft minutes will be available soon, Mr. Moe stated. Right now the group is working on two initiatives, he said.

One is a letter to youth leaders and teachers in Monroe County, part of the effort to increase the awareness of youth about the FKNMS and the SAC. A copy of the draft letter was provided to SAC members in their meeting packets, he noted. The Working Group will finalize the letter at the next Working Group meeting, he said; he asked people with any comments to provide them to him, Mary Tagliareni, or Dr. Brylske, and the comments will be considered by the group.

The other project is the concept of SAC development of a PowerPoint library of topics for SAC members to use, he said. He said education and outreach was key, and referred to correspondence he had had recently with Brown University and a report he had received on the Florida Keys National Marine Sanctuary; the group is looking at the structure of sanctuaries and SACs all over the country, and plans to use the information to help the Northeast Regional Ocean Council as it implements ecosystem management. He read an excerpt from the report.

Mr. Moe then scrolled through a set of draft template PowerPoint slides. He said the slides could be used by SAC members to create presentations on their own, or with assistance from Working Group members. After showing them, he then went through each slide to explain the key information presented on the sanctuary and SAC, features of PowerPoint, such as the notes function, and a list of potential ideas for topics. Some of the slides were courtesy of Mrs. Tagliareni, he acknowledged. He also said that he brought his camera to the meeting and would be taking photos to get more updated SAC pictures. Mr. Moe said if people wanted to contribute suggestions, the Working Group would look at them at its next meeting, when it would be working to finalize the template of introductory slides. He said when ready, the template would be provided to SAC members for their use. He added that anyone who created a presentation using the template should provide a copy to him, Dr. Brylske or Mrs. Tagliareni.

- Dr. Brylske commented that he would use the slides at the Key Largo Reef Fest in June.
- As an aside, Dr. Brylske announced that the community college deployed the first phase of a coral reef nursery off Key West the weekend prior to the SAC meeting.
- On another topic, Dr. Brylske said he recently met with the Sanctuary Friends Foundation of the Florida Keys (SFFFK) and was impressed with the work they are doing with eco tourists.
- Additionally, Ms. Garlo mentioned that that SFFFK has a Keys Environmental calendar that people can sign up for, then post events. She also said SFFFK has a fan page on Facebook and get 380 hits a week. She encouraged everyone to join and be a fan and post material.
- Mr. Bergh commended the Working Group on the great ideas, and as a suggestion for letter and presentation template, suggested including where and when the SAC was meeting. He also suggested listing the FKNMS web site in the PowerPoint template.
- Someone else suggested adding in information about visiting SFFFK on Facebook.

SAC Ecosystem Restoration Working Group Report – Jerry Lorenz, SAC

Dr. Lorenz said that Jon Fajans had stepped down as the SAC Ecosystem Restoration Working Group Chair. Mr. Fajans was having some difficulties with his employment and did not have the time to be the Chair, Dr. Lorenz said. Dr. Lorenz said he offered to take over chairing the Working Group again, and the Working Group was agreeable but suggested that he ask the SAC at this meeting if anyone else was interested in doing it. He added that Megan Tinsley, part of the policy team but not part of his staff, committed to helping him with necessary legwork that comes with the chairmanship. There was brief discussion among the SAC, and it was agreed that Dr. Lorenz should be Chair of the Working Group.

Dr. Lorenz reported that the Working Group met on April 1. One topic the group discussed was the Florida Power and Light (FP&L) and Miami-Dade Department of Environmental Resources Management (DERM) proposed projects in the Card Sound Road area. He said it was reported that the borrow canal drains the wetlands to the south and west very quickly after they receive rainfall, which can be damaging to the receiving waters. He said that, FP&L, as part of its Mitigation Bank, was planning to put a plug at the freshwater-salt water interface, in that canal, with the goal of block the flow of the water off the wetland and down the canal. He said it was a gated culvert, so Card Sound Road would not flood with storm surges. Also, Dr. Lorenz said DERM was proposing to put in at least one earthen plug down by the culverts. He said that Mr. Genovese said that was unlikely to get permitted because of the flood control issue, and that he had talked to someone else who said there had been discussions about multiple plugs or filling the canal.

- This came up before the Working Group, as Mr. Curlett had asked about it and how it would work at that site, Dr. Lorenz said.

The group also talked about monitoring of the cold water effects, Dr. Lorenz said. As that was a topic on the SAC meeting agenda for later in the day, Mr. Byrne said he would talk about it then.

Mr. Byrne provided an update on the Recovery Act project Mr. Morton mentioned earlier. The Nature Conservancy and others had done pilot coral nursery projects, and put together a proposal to receive a grant for coral nurseries from NOAA Habitat Restoration. The project was funded last summer, Mr. Byrne said, and got going last August. It involves expanding existing nurseries and starting some new ones in different locations in the Keys; he mentioned the partners involved with The Nature Conservancy, some of which were Nova Southeastern University, the University of Miami, the Coral Restoration Foundation, FWC, Mote, and the NPS. The project suffered a bit of setback from the cold spell, so they decided not to actively manipulate corals until April 1, to avoid further stress to the corals. Mr. Bryne then reviewed the scientific basis and setup of the project. He noted the primary focus for imperiled corals was on staghorn coral, but that there was also some work with elkhorn coral. He said the project was funded for three years, with the idea of growing as much as possible to do outplantings and also keep some corals as stock for future work.

Mr. Byrne said that this administration selected environmental eight sites to highlight during Earth Week, and this project, part of the *Acropora* recovery project, was chosen as one of those. He said the first draft of the project report should be available next summer. He reviewed details of the event, noting both local and national media would be attending. He also took a show of hands from SAC members who wanted to attend the lunch mentioned earlier during Mr. Morton's report.

Dr. Lorenz reported the Working Group also talked about proposed changes to the state bonefish and permit regulations, which the SAC passed a resolution on at the December SAC meeting. Mr. Frezza reviewed an idea first proposed by the Bonefish and Tarpon Trust, to create a catch and release rule to go along with the no harvest rule. Technically, he said no harvest meant people were not allowed to bring a fish out of the water to take a photo. He said the proposed rule change had great implications for conservation.

- Richard Grathwohl was supportive and wondered if it was feasible for one of the FWC Commissioners (and he provided some suggestions) to attend a SAC meeting to address this.

- Mr. Hunt said he was not sure how those people would respond and made some further suggestions, saying about who might be the best choice to ask.

- Chair Popham asked what was being proposed and Mr. Grathwohl responded that it was to find out how the FWC Commission felt about a proposed catch and relief rule.

- Mr. Hunt said perhaps such a request should go to an FWC staff member.

- Mr. Trice said that Bonefish and Tarpon Unlimited many months ago did not understand the definition of "harvest", but now they know it means the fish have to be let go immediately. He said it would be great

to get a new definition on the books about catch and release, to allow bringing the fish out of the water. This catch and release rule could then be applied and enforced by FWC officers during cold water or other emergency events, he said.

- Bennis asked if this was on the FWC Commission meeting agenda, coming up; Mr. Curlett replied that it was not on their April agenda.

- Chair Popham asked if made sense to have the SAC Ecosystem Restoration Working Group create a definition.

- Mr. Trice said the Bonefish and Tarpon Trust would come up with draft, working with scientists.

- Dr. Lorenz asked Mr. Trice to send him the draft, when ready, and that he would put the matter on the agenda for the next SAC Ecosystem Restoration Working Group meeting, for drafting a resolution, then would bring the issue back to the SAC in June. ***ACTION ITEM:*** Dr. Lorenz to obtain draft catch and release definition from Mr. Trice and have the SAC Ecosystem Restoration Working Group work on a draft resolution related to the resolution at its next meeting; Dr. Lorenz to then report back to the SAC in June.

The Working Group also gave brief updates during its meeting on the C-111 Canal, Decomp, and the Biscayne Bay Coastal Wetlands project, Dr. Lorenz briefly explained.

- Mr. Frezza said the draft implementation plan was available for the Biscayne Bay Coastal Wetlands project, and he had three CDs of it. He noted comments were due May 2.

The Working Group discussed the *Condition Report*, and Dr. Lorenz said Scott Donahue had promised to send it to Working Group members within two weeks of the group's meeting, but that it had not yet been sent out. Dr. Lorenz reviewed that Mr. Donahue had said the draft report would go through several reviews, then a peer review, then would be put out for public consumption.

The final topic discussed by the Working Group was scheduling a time for the group to hear a presentation from a University of Miami graduate student, Dr. Lorenz said.

Education/Outreach Presentation—Dolphin Research Center (DRC) —Kirsten Donald, DRC

Ms. Donald said that the DRC was established in 1984; it is open seven days a week and houses twenty Atlantic bottlenose dolphins and some sea lions as well, most retired from other places, she said. The basic purposed of the DRC are education, research, and conservation, she said, with their first priority being taking care of the DRC family, which includes the animals. Ms. Donald said the animals and the fish in DRC's lagoons are the teachers. DRC staff members educate people to get them in touch with the environment, build connections, and motivate change, and they use activities with the animals, or activities that can be replicated with the animals, to do so.

Ms. Donald then provided an overview of the many education and outreach programs offered by DRC. Some of main points from this overview follow.

- The staff does narrations and workshops throughout the day. The main focus of all programs is conservation of the environment, and how people can have positive impacts.

- There is a dolphin lab program at the adult level and at various kids' levels. The adult level is part of a certification program with the Florida Keys Community College.

- There is a free admission program for any school group within Monroe County. All educational programs are aligned with Sunshine State standards, national standards, and ocean literacy standards.

- DRC offers half and full day interactive trips.

- Distance learning is another program offered.

- DRC has a grant that enables the organization to provide a variety of curriculum things for teachers at no charge.

- DRC partners with a variety of organizations, including FKNMS, on an annual Ocean Celebration Day, which includes rotating activities for students.

- Staff members do extensive outreach up and down the Keys, and in addition to teaching about wild dolphins and dolphins in care, they also cover manatees, turtles, invasive species, threats to the environment, the Marine Mammal Protection Act, and the ecosystem and how everything is an interconnecting web of life. They introduce people to sea life in the Keys and how to interact appropriately with it.
- The use of public service announcements is another outreach tool DRC utilizes.
- DRC is involved with manatee rescue, and is the only licensed rescue facility in the Florida Keys; the animals are taken to the Miami Seaquarium for rehabilitation.
- Staff members educate people about boating entanglement, and efforts people can take.
- DRC conducts a half behavioral, half cognitive program.
- DRC is involved in a number of green efforts, including the City of Marathon's efforts and beach cleanups.
- DRC is part of an entanglement working group.

Ms. Donald concluded by showing a slide depicting the groups DRC is affiliated with, and she provided a quotation, "In the end, we will only conserve what we love; we will love only what we understand, and we will understand only what we are taught." She said this was the mission of DRC, and her organization wanted to continue to collaborate on its work. She noted she had put materials at the back of the room on the organization for those who were interested, and asked if there were questions.

- Mr. Frezza asked about having calls about marine mammals going to FWC.
- Ms. Donald replied that it was necessary to go through the government channels and that a caller would always be able to get someone that way.
- Mr. Moe asked about DRC visitors' general awareness of FKNMS.
- Ms. Donald said it was about half and half, with people in the Keys being aware of it. She said they do a workshop on Keys critters about the importance of protecting the area and its resources, so people are aware after leaving DRC. She added that DRC is a partner with the Dolphin SMART program, providing information to people about good vendors to choose.
- Dr. Causey commented that one thing he found in Key West was that people think of the Sanctuary Preservation Areas as being the whole sanctuary, and that FKNMS is making efforts to make them aware the sanctuary is much broader. He also commented that there was great turnover in residents and the workforce.
- Mr. Morton made people aware that NOAA has a 24-7 number for people to call regarding marine mammal strandings, entanglements, etc., and he provided it to the group.

SAC Officer Election

Chair Popham reviewed that the SAC officer election was scheduled for this meeting, with nominations having been made at the April SAC meeting. He reviewed that primary members and agency representatives to the SAC had been provided with the nominees' names, voting instructions, and written ballots. He instructed people to fill out their ballots and provide them to Ms. Ferguson.

- Mr. Bergh, who had been nominated at the previous meeting as a candidate for election as Vice-Chair, said he had spoken to Mr. Nedimyer (who was also nominated as a candidate Vice-Chair), and that Mr. Nedimyer told him he wanted to continue to serve as Vice-Chair. Mr. Bergh supported Mr. Nedimyer in that, and said he would be voting for him as Vice-Chair.
- Ms. Garlo declined the nomination made at the April SAC meeting for her to run for Vice-Chair.

Ms. Ferguson gathered the written ballots, and, with Mrs. Tagliareni, tallied them, along with several absentee ballots received by the deadline in advance of the meeting. She announced that Mr. Popham and Mr. Nedimyer had been reelected as Chair and Vice-Chair, to serve for two more years.

Law Enforcement in the FKNMS and SAC Priorities – Mr. Radonski, OLE

Assistant Special Agent in Charge Radonski said he appreciated the opportunity to come before the SAC. He said NOAA's Office of Law Enforcement is part of the National Marine Fisheries Service, and that it has six different divisions, each with a Special Agent and Charge and an Assistant Special Agent in Charge. He said he oversees the region covering Miami, the Florida Keys and the Caribbean. Assistant Special Agent in Charge Radonski said that the primary laws OLE enforces are the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act of 1973, the Marine Mammal Protection Act of 1973, the Lacey Act Amendments of 1981, the Marine Sanctuaries Act, and the Florida Keys National Marine Sanctuary and Protection Act. He added that they also deal with other federal crimes in their work, including money laundering and other issues. Cases may deal with such things as whales, corals, imports or terrorism. The special agents dress down and do not display guns, he commented.

Assistant Special Agent in Charge Radonski then reviewed some of the work OLE has done in FKNMS. Operation Freezer Burn was a case involving lobsters and casitas that had a direct impact on the sanctuary and changed the lobster migration. The perpetrators were caught as a result of an OLE investigation, he said, and the casitas were still being cleaned up. There was also a case of some people illegally taking coral from FKNMS for export to Germany.

In the international realm, he said that OLE deals with CITES and the Lacey Act for things like conch smuggling to various places, including Canada. He said there were problems in Haiti with people dynamiting their reefs and then sending pieces to Florida for sale in the aquarium trade. There was also an international smuggling case involving import of 13 cases of toothfish to the U.S., he said. Sometimes cases result in boat forfeiture, he noted.

Also, OLE deals with domestic fisheries cases, he said. They had one case of a charter boat going out and harvesting undersized billfish, which were then mounted, with the captain and crew splitting the proceeds. This case also involved wire fraud and other issues. Other cases involve permit, import or undersized fish issues related to highly migratory species. Live bait enforcement also comes up, he said.

OLE's priorities are FKNMS, highly migratory species, sustainable fisheries, protected resources, and international trade, Assistant Special Agent in Charge Radonski said. He described how a case would flow, using a simplified diagram. Civil cases go to NOAA General Counsel, and criminal cases go to the Department of Justice or the U.S. Attorney's Office, he said.

Assistant Special Agent in Charge Radonski said he wanted to discuss a law enforcement working group concept, which OLE is already using for highly migratory species. The group model he showed had OLE, those in the Joint Enforcement Agreement, the U.S. Coast Guard, FKNMS staff and any other entities doing enforcement in this region. The group would not write regulations, but could provide guidance to FKNMS on proposed and current regulations as part of its purpose, he said; another purpose would be setting sanctuary enforcement priorities. He said communication was essential, and that in the existing highly migratory species group, they generally have quarterly meetings. The proposed group would also address the SAC. He asked if there were questions.

- Mr. Bergh commented about many of the issues being fisheries-related, and said he like the idea of having this help with the resiliency of the system and dealing with global climate change. He thought that to do so, fisheries managers would have to be part of the working group.

- Assistant Special Agent in Charge Radonski said that he was just thinking of the law enforcement, and getting their advice to those that needed it. He also said though part of NMFS, OLE does enforcement NOAA-wide, and that, though fisheries are important, the group would need to know what the SAC and

the sanctuary staff think the enforcement priorities are. A law enforcement working group allow for open discussion, he felt.

- There were questions from the SAC regarding if a SAC Working Group or an agency working group was being proposed.
- Don Kincaid said he thought the SAC was not to work on regulations.
- Chair Popham said he thought Assistant Special Agent in Charge Radonski was talking about having an agency working group, which would report to the SAC from time to time.
- Mr. Kincaid said when the SAC makes advice, it is based on SAC members' own input and input from other experts. Something like this, he said he could see it blowing up to be the sole focus of the SAC's time and energy, and he felt the best thing was to have people provide input on law enforcement matters on an individual basis.

Mr. Morton provided some background for the SAC. He said there was an Inspector General's report a few years ago on sanctuaries, and one part of the report covered enforcement, and had a series of recommendations. One of the broader ones was to have each SAC have a law enforcement working group. Some of the other councils did not have knowledge about on-the-water activities, and at the FKNMS SAC meeting, every meeting, there are updates from multiple law enforcement sources. He said if the FKNMS SAC members felt they were getting adequate input on enforcement matters, that was OK. He said the proposal could be a bit more of a formal conduit to provide input to all the agencies. For example, he said if the SAC was making recommendations on zones, it may want some input on enforceability of zones or regulations. He said that was what the working group did on the fishery management side.

- Assistant Special Agent in Charge Radonski said that such a group could help the law enforcement agencies get back to a single voice.
- Mr. Grathwohl said it was helpful, when he went to a state snook workshop, to have law enforcement there, as they would comment when they felt a suggestion was not enforceable.
- Mr. Moe suggested not setting up a separate law enforcement group, but to provide information to the SAC and its Working Groups about sources of law enforcement information/pathways to the people with the answers.
- Mr. Trice said he was delighted with the feedback and education the SAC got from the law enforcement officials, and said he felt if he wanted to get more specific input, he could do that. He added that anything that could be done to get law enforcement working together and getting public input would help, and that the benefit would be more for the agencies.
- Mr. Bergh said the SAC would need to trust Mr. Morton and the staff to know when to bring law enforcement issues back to the SAC.
- Mr. Morton said that could be a SAC recommendation, for the law enforcement group to go have quarterly meetings and to report back to the SAC. Or, [another recommendation could be] the SAC could say it is happy with the law enforcement reporting it is getting now.
- Ms. Garlo said, based on last slide and the participants noted, no SAC members were listed, so it did not appear to be a SAC Working Group that was proposed, and she was not sure the SAC needed to [voice the opinion] to create a group. She felt if the agencies want to create one and report back to the SAC, that was great. Since FKNMS staff would be sitting in the group, they could flag things to come back to the SAC, she said.
- Bob Smith agreed with these points, adding that he wanted to be sure the lines of communication remained open both ways.
- Jeff Cramer said the thought any communication with law enforcement should be one on one, and that commercial fishermen have done this in the past, such as with the trap robbing problem. He also felt more interaction with law enforcement was good, and that if he had a commercial fish problem, it would be great to have a group to go to with the problem.

- It was noted that no one from the U.S. Coast Guard, the Sheriff's Office or National Park Service law enforcement were at the meeting. Chair Popham said the proposed group would give all the law enforcement people a conduit to talk to each other.
- Mr. Cramer said the SAC only had a set amount of time at these meetings, and if there was a hot topic and time did not permit getting into it too much on the agenda, it might work better to get together on the side.
- Jason Bennis agreed all the law enforcement agencies should get together and talk; he thought all the SAC would need to do would be to issue an open invitation for them to update the SAC through the existing agency reports or by putting a hot topic on the agenda.
- Mr. Kincaid said, to his mind, he had not seen anything that required a specific entity to tell the SAC things they get anyway; there are other opportunities, he said.

Mr. Bergh moved, seconded by Mr. Grathwohl, that the Office of Law Enforcement and all of its partners in law enforcement within the Florida Keys National Marine Sanctuary convene a Law Enforcement Working Group for the purpose of law enforcement coordination, prioritization, and vetting of existing and proposed regulations, and that the Sanctuary Superintendent or existing agency representatives on the SAC keep the SAC abreast of emerging law enforcement priorities under review by the Working Group, in addition to their standard agency by agency reports.

Chair Popham inquired if there was further discussion.

- Corey Malcom said it seemed like Assistant Special Agent in Charge Radonski or someone from the OLE staff could be the one representing that group and reporting to the SAC at every meeting.
- Mr. Moe said it would be helpful to know what the representatives from law enforcement agencies present at the meeting felt about this.
- Ms. Raine said she was on a law enforcement advisory panel for the South Atlantic Fishery Management Council, and that she had an individual opportunity to comment there, but that it gave the partners a chance to get together and collectively discuss regulatory changes, which was very helpful. She said that they did talk and coordinate together on an individual basis as well.
- There was some more discussion along the lines of people supporting the desire of the relevant law enforcement agencies to work together and inform the SAC, and work with it as needed, as well as for community groups to work on their own with the law enforcement agencies. There was also the opinion that the SAC didn't need to authorize the agencies to form a law enforcement group, though there was support for the SAC to encourage them to do so. A friendly amendment along those lines was accepted.

The motion passed unanimously upon roll call vote. Final wording of the motion follows.

The SAC supports the Office of Law Enforcement and all of its partners in law enforcement within the Florida Keys National Marine Sanctuary convening a Law Enforcement Working Group for the purpose of coordination, prioritization and vetting of existing and proposed regulations and that the Sanctuary Superintendent or existing agency representatives on the SAC keep the SAC abreast of emerging law enforcement priorities under review by the Law Enforcement Working Group in addition to their standard agency by agency reports.

- Chair Popham commented about not having heard from FWC law enforcement. Major Escanio said they already had plans in the works for these types of activities.

Recovery of Seagrass Beds Following Removal of Donor Material in Card Sound – Anne McCarthy, CSA International, Inc.

Ms. McCarthy introduced herself, and acknowledged that Deborah Kilbane was her right hand as part of this project. She describe the recovery of two donor seagrass (*Halodule wrightii*) sites for a project related to impacts to seagrass when the Village of Key Biscayne was doing beach nourishment. The Village

proposed restoring 1.47 acres of seagrass as required mitigation, and hired her company to create a plan and implement it, once approved. She said to date, 2/3 of the project has been completed.

Ms. McCarthy stated that DEP, as part of its permit, said 50% of the area must be planted. The company developed a plan to restore seagrass injuries from scars, and during plan review, her company was told that not to collect within the Biscayne Bay Aquatic Preserve. During the discussions, she said her company offered to monitor the donor beds' recovery. She described the efforts and criteria used to locate donor seagrass beds, including that they must be less than an hour away from the area to be restored. The donor sites ended up being in Western Card Sound and Little Card Sound, and she said FKNMS staff members had described these areas as excellent sources of materials. She provided detailed information about how the seagrass plugs were taken (one core per square meter, hole not backfilled) and about the resulting monitoring. Unfortunately, she noted that they did not have baseline data when creating their plan. She said after nine months of monitoring at Western Card Sound, the holes were basically undistinguishable, and that the same was true for Little Card Sound after twelve months of monitoring. The company concluded from analyzing the monitoring data that this type of project did not cause any long term detrimental impact. She commented that there was a change in the seagrass community composition in the donor area, however. She said lessons learned included that natural infilling is dependent on sediment type; to always collect baseline data, even for private sector mitigation projects; and to increase the sample size number and area. Ms McCarthy said that her company was going to work on publishing these results.

Ms. McCarthy also briefly went over recently completed project work. She said they were not allowed to plant in certain areas, and went with DEP staff to do surveys of larger blowholes. Thirty five deep scars were filled and staked, 23 in the FKNMS. Monitoring is for 18 months of the planting and staking sites (six sites and two reference sites in the FKNMS). She said there were a lot of bird stakes out there, but that they were temporary. She said as soon as approval was received, her company would remove some of the stakes.

- Mr. Curlett asked how big a project this was -- how many hours; Ms. McCarthy replied that she was not sure.

- Mr. Curlett brought a photo of the bird stakes, which the SAC viewed. Ms. McCarthy thought there were at least a thousand stakes. Mr. Curlett felt there were several thousand stakes, and said they were impeding access, with flats guides having trouble getting on and off that area. He also felt the strong currents were not allowing the bird fertilizer to settle there. He also wondered how this project occurred without public input. Ms. McCarthy said this was not part of the National Environmental Policy Act, so no public process was required, and that the State of Florida said this needed to be done. She added that the area was outside of the navigable waterway and had been approved. She mentioned FKNMS had the reports.

- Mr. Moe wondered why the donor sites fill in, but the damage sites do not.

- Ms. McCarthy said the damage sites are turtle grass, which grow much more slowly, she said. The idea is to get seagrass in there to stabilize the area, while turtle grass grows in over time, she explained.

- Mr. Trice said he was delighted to see the donor bed recovery, and hoped the area shown in Mr. Curlett's slide would recover too, though he said he was not optimistic, given the current.

- Ms. Carthy provided additional details about the restoration site protocols, parameters and constraints. She agreed she wanted the project to be successful, and did not want the fishermen to be upset.

- Mr. Bennis asked if the 50% rule was just a number or if it was based on factors like the sites needing to be a certain depth and staking alone would not work.

- She said that the 50% was arbitrary.

- Mr. Cramer asked about aquaculture of plugs and if fishermen could grow them.

- Ms. McCarthy replied that they want to keep things as natural as possible, while bearing in mind the ability to collect and to benefit the aquatic preserve.

- There were additional questions and comments about seagrass restoration, then Mr. Edward asked if the permit was issued before her firm was signed to the project; Ms. McCarthy confirmed that it was. Mr. Edwards said he thought that was a source of a lot of the problems here. He talked about guidelines (specifying that they are not requirements) and said some discretion should be used when looking at an area for planting. He thought he recalled that the guidelines had a planting unit for a specific area, and that they probably thought her company was thinking of a more consolidated area for planting. He said he had been contacted by a member of the Aquatic Preserve Program, and though he did not have all the details and did not necessarily agree, he said they were looking to not do the transplantation. He also asked about the monitoring protocol, and she elaborated on how it was done.
- Dr. Causey said propeller scarring was a major issue, and thought we needed to continue to educate people about not creating propeller scars.
- Ms. Pulfer said the reason for putting in stakes was to encourage the growth of shoal grass by bird fertilization, and asked if putting in stakes without shoal grass served a purpose.
- Ms. McCarthy said putting them in could encourage the growth of any particular seagrass, including *Thalassia*.
- Mr. Frezza asked if “idle speed” might fix the problem [of creating scars].
- Various people commented about the tides and markers, and people’s boating habits in this area.

Chair Popham thanked Ms. McCarthy and the group for the discussion.

Mote Marine Laboratory’s Protect Our Reefs Grant Program – Dr. Vaughan and Mr. Frerer, SAC and Mote Marine Laboratory

Mr. Frerer said that some in the SAC may be familiar with what goes on at Dr. Vaughan’s Tropical Research Laboratory, but he felt that many may not be aware of the plates or the activities of the Protect Our Reef Grant Program. He said there were 119 specialty plates in the state, and that the Mote plate was the number eight best seller. The plates are marketed by Mote’s Sarasota office, in tax collector offices, dive shops, etc. in southeast Florida and Sarasota. He said they had been ignoring snorkelers, boaters, environmentalists, and Miami-Dade, Broward and Palm Beach counties. He noted that plate sales flattened out about three years ago and have remained flat. He said Dr. Vaughn was put in charge of the program but not the marketing budget, but that changed three months ago and now he is in charge of that budget, and that efforts are underway to increase plate marketing.

There is a \$25 premium for the plate, Mr. Frerer said, with 7.5% to going to the state for administration, 7.5% to Mote for administration, 10% to Mote for marketing, 37.5% to the Mote Tropical Research Laboratory, and 37.5% to the Mote Protect Our Reefs grants program.

Dr. Vaughan reviewed how he, Kim Ritchie and others from Mote had given talks to the SAC over the past few years. He said Mote had been involved in research in the Keys since 1993, initially based on Pigeon Key, but now on Summerland Key. He described the facilities of the Tropical Research Laboratory and the work done there by their own and visiting researchers; Mote also has educational programs for all age groups, he said. Also, Mote has some space at the Eco-Discovery Center, which highlights the living coral reef and Mote research, he reviewed. The different Mote Centers are the Center for Coral Reef Research, the Center for Ecotoxicology, the Center for Aquaculture Research and Development, the Center for Shark Research, the Center for Fisheries Enhancement, the Center for Coastal Ecology, and the Center for Marine Mammal Research. The Center for Coral Reef Research has a Coral Reef Science and Monitoring Program, a Marine Microbiology Program, and a Reef Restoration Program.

Mr. Frerer then elaborated about the Protect Our Reefs grant program. He said Kumar Mahadevan, the Mote President, has overall responsibility for it, but noted that Dr. Vaughan now has the marketing

budget. There is also a grants committee, which Mr. Frerer chairs; he mentioned the other members of the committee, which include several with SAC connections (Dr. Causey, Mr. Bergh and Mr. Hunt).

The request for proposals goes out about mid September each year, with a due date of mid December, Mr. Frerer said. The committee decides which grants will be funded by mid April, and grantees are required to submit interim and final reports, and present about the project to the grants committee. He reviewed the grant guidelines, and noted Mote gives extra credit for matching funds. He reviewed that, along with other criteria, grants were for special projects, that research projects had to have the ability to produce tangible results in 3-5 years, and that education/outreach projects must have defined audiences and outcomes. In its fifth year, the program has funded 77 projects for a combined total of over \$1.9 million, he said. About twenty organizations, including FKNMS, have received grants.

Mr. Frerer then highlighted a few of these projects: debris mapping and analysis in Martin County; Marine Ecosystem Event Response and Assessment in FKNMS; *Diadema* restoration in FKNMS; a variety of coral reef-related work in Miami-Dade, Broward, and Palm Beach Counties; the FKNMS Blue Star Program; the impact of climate change and carbon dioxide on ocean acidification and calcium carbonate in FKNMS; a South Florida ecological synthesis book; vertical connectivity of coral in FKNMS; microbial impacts on Elkhorn coral; and land based culture of critical coral species.

Public Comment

Mr. Bennis made an announcement, inviting SAC members to the second annual Earth Day for Florida Bay, to be held April 22 at the Green Turtle Hammock property. He said he would forward an invite to Ms. Ferguson to provide to the SAC. ***ACTION ITEM:*** Mr. Bennis to forward information about an Earth Day for Florida Bay event to Ms. Ferguson, for providing to the SAC.

Climate Change Action Plan for the Florida Reef Tract 2010-2015 – Alex Score, EcoAdapt

Mrs. Score presented on the Florida Reef Tract Climate Change Action Plan. She said since she presented a year ago on CC LEADS, the World Wildlife Fund (WWF) closed its Keys office, in June 2009. She said she was fortunate to move to a nonprofit out of Seattle, EcoAdapt. Its main goals are to build the field of adaptation, build capacity of future professionals, and support implementation of adaptation strategies, she said. EcoAdapt is trying to make adaptation a piece of CAKE, Climate Adaptation Knowledge Exchange, Mrs. Score said. It is a similar concept to Facebook, and allows viewers to see what folks are doing in different places. It will be georeferenced and provide tools for the user. She said it would be launched in the summer.

Regarding the Climate Change Action Plan for the Florida Reef Tract, Mrs. Score said it is part of the Florida Reef Resilience Program (FRRP), which is designed to improve understanding of reef health of the Florida reef tract and to identify factors that influence the long-term resilience of the marine ecosystem. Many partners, agencies, and stakeholders are involved, she noted, and she provided a brief history of progress in Florida on climate change since 2006. Currently, she felt Florida was mostly focused on energy and energy credits. The Steering Committee's priority, from the 2008 FRRP conference, was to develop a climate change action plan, since climate change was already affecting Florida's reefs, there were other pressures on reefs, and action needed to be taken.

Mrs. Score said the action plan recognizes the need to reduce local impacts to increase resilience and offers a framework of adaptable actions to comprehensively address the complex factors associated with climate change. She said that Mr. Bergh had drafted and circulated a plan in fall 2008/winter 2009, using the Great Barrier Reef plan as a template. She said a WWF grant was transferred to EcoAdapt in the summer of 2009, noting she was fortunate to work on the grant and that she serves as coordinator of the project. She said the FRRP Steering Committee agreed in the fall of 2009 that creating a plan was still important.

She said the general outline of the plan is: enabling conditions, management education goals and objectives and research needs. She described the enabling conditions for the plan, noting feedback from the SAC was welcomed, to any member of the FRRP. There are strategic goals and objectives for climate change impacts, fishing impacts, and impacts from land-based sources of pollution. She said that last summer, NOAA's Coral Reef Conservation Program (CRCP) released its goals and objectives for 2010-2015, and so the draft was able to be framed within that framework.

She then showed the objectives for the program, and stated there were specific actions under each objective.

For Management:

- Develop and implement a climate-related crisis response plan for Florida's reef tract that coordinates across management and county jurisdictions in order to provide a framework for early warning system.
- Promote conservation of the Florida reef tract through identification of areas potentially resilient and vulnerable to climate change where actions are likely to increase resilience.
- Integrate climate change predictions and uncertainties into Florida's comprehensive planning laws and procedures.
- Working with Florida's coral reef management jurisdictions, assess how to improve regulatory and management frameworks to facilitate adaptation to climate change and ocean acidification.
- Provide training opportunities for Florida coral reef managers to increase their understanding of the impacts of climate change, the predicted range and uncertainty of changes that will occur, and management strategies that address the impacts of climate change.

For Education:

- Decrease the likelihood of negative fishing, diving, and other reef use impacts to key habitats and important functional groups of plants and animals (for example herbivores).
- Develop and implement effective local communication plans that serve to provide relevant and up-to-date information on climate change and ocean acidification effects to stakeholders, including the local community, Florida residents, business and industry, and visitors and tourist.
- Characterize socioeconomic effects of climate change impacts on the Florida reef tract to identify vulnerable reef-dependent human communities and understand the impacts to these communities
- Enhance coral reef resilience through increased awareness and appreciation of the Florida Reef Tract.

For Research:

- Characterize physical and chemical changes in coral reef environments by enhancing question-based monitoring to fill gaps in our current observations. This both establishes a baseline to assess climate change impacts on coral reef ecosystems and reveals changes through time which are essential in correlating observed and forecasted potential impacts.
- Develop science based integrated impact models of changes in the Florida Reef tract as it responds to expected physical, chemical, and reef-dependent social and economic impacts associated with climate change and ocean acidification, and the interactions of these processes with local stressors.
- Explore intervention and restoration measures that increase survivorship of coral reef species and enhance reef resilience to directly reduce climate change and ocean acidification impacts.

Mrs. Score said the goal was to complete the draft plan within two weeks, then to present it to the FRRP Steering Committee. She hoped it would be released for Oceans Day, June 8. She added that she hoped the SAC supported development of the plan, and concluded by saying that a few nongovernmental organizations would be developing a policy piece about how to get money to implement the actions. She said this would include asking Congress for support for Florida's reefs.

Discussion ensued.

- Mr. Bergh complimented her for a great job on the history of the process.
- Dr. Causey said the CRCP had three main priorities, and that he has lobbied for a fourth related to habitat degradation to resources, but he could not get it in.
- Mrs. Score acknowledged that was not in, but that it was captured in pollution and the other influences that would be compounded with climate change impacts.
- Mr. Moe commented that this was very ambitious, and said he supposed support would need to be gained from many.
- Mrs. Score said she appreciated his remarks and thought they were getting there. She said it would be up to FKNMS, the NPS, Miami–Dade County, etc. to implement parts of the plan. She said it would be a challenge, but the plan was a first step, and that it was adaptable and changeable at any time.

Chair Popham asked if there was a motion to be presented.

- Dr. Vaughan said a draft resolution had been put out, and he wondered if a resolution was needed, or if it was the best avenue or not.
- Mrs. Score said she thought it was, as supports the development of the plan and that it is a good idea to look at the whole Florida Reef Tract, and that the plan would be released prior to the next SAC meeting.
- Dr. Vaughan said he know staff from the FKMS were involved in putting the plan together and believed they supported it, so that was why he wondered if the SAC needed to make a resolution to advise them to do the plan, or if it was good for the external politics of it to have it on record. Several people said that was exactly it, right there. He said he would make a motion that the SAC entertain this [resolution]; this was seconded by Ms. Garlo.

In discussion, Dr. Boyer asked about the title, and wondered if it should be more generic – not endorsing Eco-Adapt, but just the concept, and taking out the quotes [in the last paragraph]. This friendly amendment was accepted.

The motion passed unanimously upon roll call vote. The wording of the resolution follows.

**A RESOLUTION OF THE FLORIDA KEYS NATIONAL MARINE SANCTUARY
ADVISORY COUNCIL IN SUPPORT OF A CLIMATE CHANGE ACTION PLAN FOR
THE FLORIDA REEF TRACT – 2010-2015**

April 20, 2010

Whereas, land-based sources of pollution, habitat degradation and overfishing have been the major drivers of accelerating decline in the health of the world’s coral reef ecosystems over the past two centuries;

Whereas, climate change is now exacerbating and compounding these more localized stressors;

Whereas, the Florida Keys National Marine Sanctuary (FKNMS) Management Plan directs implementation and development of strategies to minimize negative impacts to sanctuary resources from direct and external stresses;

Whereas, the combined effects of climate change and direct human-related stresses are now recognized as the greatest long-term threat to the Florida reef tract;

Whereas, the FKNMS Advisory Council has been engaged in the process of developing and recommending management actions to conserve the marine resources of the Florida Keys and adjacent waters since 1990;

Whereas, FKNMS research and monitoring results have demonstrated consistent declines in coral health and percent cover since 1990 with significant and alarming episodic mass bleaching events correlated to elevated sea surface temperatures;

Whereas, the FKNMS Advisory Council, members of the public, resource managers, stakeholder representatives, and scientists have been collaboratively engaged in the effort to define and establish best practices to ensure the resilience of Florida's Reef Tract and dependent socio-economic concerns through the activities of the Florida Reef Resilience Program (FRRP) since 2004;

NOW THEREFORE BE IT RESOLVED, THE FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL SUPPORTS the development of a Climate Change Action Plan for the Florida Reef Tract 2010-2015 with a goal of providing resource managers, law-makers, and the public a framework and set of prioritized actions to ensure a sustainable future for the Florida Reef Tract and the regions socio-economic interests.

Passed on this date: April 20, 2010.

The Council is an advisory body to the sanctuary superintendent. The opinions and findings of this publication do not necessarily reflect the position of the Florida Keys National Marine Sanctuary, the National Oceanic and Atmospheric Administration, the Florida Department of Environmental Protection, or the Florida Fish and Wildlife Conservation Commission.

Winter 2010 Cold Weather Effects on FKNMS Marine Resources – Mr. Byrne, The Nature Conservancy

Mr. Byrne said back in January, here was a cold spell of several weeks in length, and they started to get reports of fish die-offs, corals dying, corals bleaching, reports of corals dying in the coral nurseries, and other reports. The Florida Reef Resilience Program, which The Nature Conservancy coordinates, organized a response to this. A number of organizations participated.

They had to figure out where to go first, and they used some sea surface temp data and sites that were known to have coral, and stratified the sites to get some in cold water and some outside the cold water areas. Thirteen organizations then collectively sent 31 scientists to 78 sites. The data they gathered went in to the Florida Reef Resilience Program database, and some initial analysis was conducted.

Mr. Byrne said the results showed that there was some paling of coral, but there was little impact of that. Some inshore and mid-channel coral reefs showed some response to coral bleaching, but not much. What was happening, he said, was mortality species-wide, or dead tissue on coral heads, mostly in the middle Keys, upper Keys, and Miami-Dade County. There was some moderate mortality of corals in Broward County, but in Palm Beach and Martin Counties it was mild; the water did not get as cold in those places, he noted. In the Biscayne sub region, he said the upper area was not impacted much, but outflow from Biscayne Bay created a lot of mortality in the remainder of the sub region. The Upper Keys sub region corals were hardest hit in the inshore and mid-channel reefs, and the offshore corals were not as badly hit, he said. He added that data loggers showed the temperature fluctuation, with a drop to 51 degrees in one place, and the fore reef not dropping much below 67 degrees. In the Middle Keys sub region, it was

pretty much the same story with inshore and mid-channel reefs, Mr. Byrne said. In the Lower Keys sub region and farther west, Mr. Bryne said that less impact was seen than in the other regions, except a bit in the nearshore. The Dry Tortugas were not particularly affected.

Mr. Byrne commented that, on the tourism side, the fore reef is where tourists like to dive, and that was the least impacted. He thought people would hear more about the impacts and get more questions in coming weeks and months from local residents. He also added that, there was more that happened from the cold event than the impact to corals; there were also fish kills, impacts to manatees, etc.

- Mr. Hunt asked about the color scale and the GIS data.
- Mr. Byrne said that red indicated greater than 10% prevalence of mortality, and that in most cases, the mortality was much higher than 10%.
- Dr. Causey commented that the inshore and mid-channel corals have adapted over hundreds of years. He noted that there was no impact to the corals in the nursery in Key West. Around Rodriguez Key, he said the water got down to 11 degrees Celsius. He felt the monitoring response was noteworthy and impressive, and said that in the past, people had missed responding while the event was happening.
- Mr. Grathwohl said the young juvenile bonefish got wiped out, and the last time this happened in 1990, it took close to ten years to get a sustainable brood stock back. He said the young fish are in the back country, especially in the wintertime, and that the finger fish on the ocean side ran to the reef.
- Mr. Kincaid commented that, since the Tortugas were not affected, that made that site all the more important since it is protected, and that it could help in repopulating the corals in the Keys.
- Mr. Bergh said that was a good point, and that they should be able to learn about the recovery potential of the areas that got hit. They may find some areas are more likely to recover than others, and why this is the case.
- Chair Popham asked if the corals might recover faster from cold damage than heat damage.
- The answer was, once the corals are dead, they are dead.
- Several people expressed their appreciation for the good work the Coral Reef Resilience Program, including all the participants, had done in response to the cold event.

Jeff Cramer made a brief announcement, that Bill Kelly had been hired on full time with the Florida Keys Commercial Fishermen's Association.

- Chair Popham asked when the next advertisement would be for people to apply for SAC seats.
- Mr. Morton replied that it would be in the summer [of 2010].

Adjourned, 4:35 PM.

Submitted by Lilli Ferguson