

FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL

**Florida Keys Eco-Discovery Center, 35 East Quay Rd., Key West, Florida
December 11, 2007**

MINUTES

Members Present

Chris Bergh
Jeff Cramer
Jack Curlett
Dolly Garlo
Richard Grathwohl
Debra Harrison
David Hawtof
Don Kincaid

Jerry Lorenz
Martin Moe
Ken Nedimyer
George Neugent
Krueger Nicholson
Brad Simonds
Jim Trice

Alternates Present

Jason Bennis
Walt Drabinski
Peter Frezza
Bob Holston
Cal Sutphin

Jody Thomas
David Vaughan
Donald Way
Forrest Young

Call to Order/Roll Call/Approval of Minutes from October 16, 2007/Adopt Agenda for this Meeting/Vice-Chairperson's Comments/Introductions

Vice-Chairman Ken Nedimyer called the meeting to order at 9:05A.M. The minutes from the October 16, 2007 SAC meeting were reviewed. Commissioner George Neugent moved that they be approved, seconded by Don Kincaid. The motion passed unanimously. The agenda for this meeting was reviewed, and Martin Moe moved that they be approved, seconded by Jim Trice. The motion passed unanimously.

Vice-Chair Nedimyer thanked the Sanctuary Friends Foundation of the Florida Keys (SFFFK) for providing the refreshments and the lunch today. People around the table then introduced themselves and made brief comments about their seats and interests. Subsequently, Vice-Chair Nedimyer read the SAC meeting dates for 2008: February 19, April 15, June 17, August 19, October 21 and December 9.

Agency Report Highlights:

Florida Fish and Wildlife Conservation Commission (FWC) Report -- Capt. Lauri Luher (FWC) and John Hunt (FWC)

Capt. Luher talked about the *Legacy* and the *Lady Luck*, which have been here since hurricane Wilma. The *Legacy* has only moved 400 feet, but it should be out by spring, and the "aqua

village" should depart with it. Plans have been authorized to do the salvage of the *Lady Luck*. Per CDR Score, who will pay is currently the subject of litigation.

Mr. Hunt passed out a few news releases he felt would be of interest to the Sanctuary Advisory Council (SAC), on transportation and lobsters. In response to a question, Mr. Hunt said FWC is now evaluating public comments on the casitas issue. The agency is also evaluating how casitas interact with the environment. They are using a standard research design, doing survey before, making a change, and doing more surveys after. This design was successfully used in Mexico. He elaborated on some of the details. There are no FWC funds for the research, but FWC has submitted two grant proposals to the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) for funding. Environmentally Concerned Commercial Divers (ECCD) will design the traps and place them on the bottom. Debra Harrison asked if there will be an economic analysis on impacts to fishermen, and if the fact that the lobsters migrate would be taken into account. She also asked why the decision was made to do research rather than law enforcement. Mr. Hunt responded that the FWC staff received clear direction to do research at last December's Fish and Wildlife Conservation Commission (FWCC) meeting to evaluate this. They have gone through quite a process to do enforcement in a wide variety of ways. FWC is getting a wide variety of input on the casitas issues, some based on speculation. FWC is not doing an economic analysis, that he is aware. But there is no doubt casitas have taken harvest from one group to another. In terms of migration, that would be a hard thing to test; they are discussing ways to test it. The overall harvest has stayed about the same, in the overall fishery. Ms. Harrison felt the lobster fishermen who are fishing legally are being penalized. Mr. Hunt said the FWCC received public testimony on the issues at the most recent meeting, and there is casita information on the FWC web site. Jeff Cramer noted that in Cuba, which primarily has a lobster casita fishery, their production is way down, and it is also dramatically down in the Bahamas.

Regional Director's Report -- Dr. Billy Causey (NOAA, National Marine Sanctuary Program [NMSP])

Dr. Billy Causey passed around an update on the "Islands in the Stream" concept that he presented at the October SAC meeting. He passed around a handout to bring the SAC up to date about it. After this facility was dedicated, sanctuary staff took Jim Connaughton to the Dry Tortugas, and Mr. Connaughton asked if something similar could be done in the Gulf of Mexico, as was done in the northwest Hawaiian Islands. Dr. Causey replied that it could not be as big of a footprint in size, but agreed, at Mr. Connaughton's request, to work on developing a proposal for President Bush's consideration. The concept is to have a series of protected areas that are connected (many already have some kind of connection). The idea has been briefed up and down NOAA, and he has been to meetings in various parts of the country with different groups, including the oil and gas industry, to discuss it. He doesn't know how far the concept will get. Vice Admiral Lautenbacher is supportive of it. Anything the President might sign, whether it is designated under the Antiquities Act as a National Marine Monument or a designation via Executive Order, would be top down, but it would have the public process embedded in it, to take place afterwards to develop plans that make sense.

Dr. Causey also discussed the "blue shanty" proposal for Army Corps of Engineers (ACOE) modified waters delivery along the Tamiami Trail. He was unaware previously of the cost of the

proposal (\$800 million). It would be a good idea to have Stu Appelbaum give a detailed briefing of this option. Congress was clear that money should go for Everglades restoration, but they put a cap on it. Congress will not authorize more money if there is a lot of conflict and nothing gets done. Dr. Causey said people from the Miccosukee and Seminole Tribes and from the National Park Service told him they don't want the "blue shanty" option; it is too expensive. Chris Bergh recalled the SAC's resolution about this was ensure that it was still on the table for consideration by the ACOE, and that there was no discussion of the cost. Vice-Chair Nedimyer agreed that the point was to have it be considered, since it looked like the best option. Dr. Causey said it is the highest cost option, and people read the SAC resolution as pushing for that option. Dr. Causey mentioned it would be a good idea to have the ACOE give periodic briefings to the SAC, as used to occur in the past. The ACOE has presented 25-30 options for restoration.

Dr. Causey also stated that the Continuing Resolution on the Federal budget may be extended until January. Unfortunately, now the budget for sanctuaries is not looking so good.

Finally, he mentioned that he just returned from San Andreas, Columbia, where there is a fantastic coral reef archipelago and a reserve. In the past, sanctuary staff worked with Coralina, including training their staff members, and are continuing to work with them. The current work is to implement a management plan, including a marine zoning plan. There is a team there now installing demarcation and mooring buoys in the reserve there.

Florida Department of Environmental Protection (DEP) Report -- Stephanie Bailenson (DEP)

Ms. Bailenson recognized Kent Edwards, CDR Dave Score and Leigh Espy for their work in bringing the revised Florida Keys National Marine Sanctuary (FKNMS) management plan to the Governor and Cabinet last week for approval. Mr. Edwards and CDR Score did a wonderful job representing the work of the staff, the SAC and other volunteers in the Keys. There was no objection to what was in the plan, and it was approved. It is now good for five more years. There were a few questions about the capacity for taking on new issues and work within the sanctuary. The team was able to underscore issues of particular interest to some of the cabinet members, like climate change and the reef resilience program, and how research is translating into management actions. This is timely, because they are working on the state budget to get funding to continue the partnership, and are now in the middle of the second budget cut for this year.

There is a Florida Ocean and Coastal Council meeting in the next two days and they will be finalizing the next annual priorities research plan.

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

Ms. Bradley did not have a report for this meeting. CDR Score noted that she may provide a report soon to the SAC, on her work for the region on coral bioindicators.

Superintendent's Report - CDR David Score, Superintendent (FKNMS, NOAA Corps)

CDR Score introduced Karen Raine, who is with NOAA, General Counsel Enforcement Law (GCEL). She was involved in the sanctuary designation process early on. Her office sends letters to violators of sanctuary and other regulations. She is speaking later about what her office

does. CDR Score echoed what Ms. Bailenson said, and commented that it was a good opportunity to show off what everyone has been doing. The support of Secretary Sole was very evident. He understands the benefits of the partnership, solution based efforts, and integrating research with management. CDR Score added that the sanctuary is trying to keep the lights on and the doors open while on the Continuing Resolution; the license plate funding, and SFFFK grant funds and donations are helping keep the sanctuary going. He said he appreciated the work of the County to remove the *Lady Luck*; the contract starts January 2. In answer to a question, CDR Score said it would be removed by cutting it up, and taking the pieces out by barge, with all the oil and other hazardous materials having been removed beforehand. Swamp buggies will travel to and from the work site on mats. CDR Score also echoed comments made during the introductions about the recent *Diadema* workshop, which focused on solution- based restoration. The function and roles of *Diadema* are now missing in the ecosystem, and scientists do not know why *Diadema* are not recovering. Vice-Chair Nedimyer elaborated on the recovery, stating that they have come back on a patchy basis in parts, of the Caribbean, and the Keys has the least amount of recovery.

Public Comment

Dr. Shirley Freeman of Florida Keys Hydropower Research Corporation said she is very impressed with the apparent friendliness and cooperation in the room; she remembers the first meetings of SAC were anything but friendly. A lot of progress has been made since then, but there is a long way to go to protect the resources. It is a tragedy there is not much funding.

Glenn Patton of SFFFK gave Vice-Chair Nedimyer the balance of the \$10,000 grant for his work on his coral nursery and restoration for Molasses Reef and the *Wellwood*. He and his work were featured again on the front page of the *Citizen*. Vice-Chair Nedimyer said he appreciated the support and also that of the Florida Keys Commercial Fishermen's Association. He hopes that this work can expand into a sustainable effort, with more people involved, Keys-wide.

NOAA General Counsel Enforcement Law Discussion on Regulations and Review Process

-- Karen Raine (NOAA, GCEL)

Capt. Luher introduced Ms. Raine, who has been with GCEL for over 23 years. The FKNMS law enforcement staff sends enforcement paperwork to Ms. Raine's office, which is in St. Petersburg; the office also covers other Sanctuaries in the Southeast Region.

Ms. Raine said there are six regional offices in addition to the headquarters office. She reviewed the categories of enforcement actions: outreach and education, verbal warnings and fixit tickets from the Office of Law Enforcement (OLE), summary settlements and written warnings, civil enforcement, and criminal enforcement. Enforcement actions can occur for such things as groundings, unlawful fishing, unlawful anchoring, etc. There are different types of penalties, and she described the maximum amounts per each Act her office works to enforce. For example, for the Magnuson-Stevens Fisheries Conservation Management Act and the National Marine Sanctuaries Act (NMSA), the maximum is \$130,000 per violation, per day. Depending on the case, vessels may also be confiscated. She reviewed the goals, prohibitions and authorities for each act, and mentioned the partnership efforts of OLE, the Coast Guard, and state agencies, which do the investigation and referral. Once referred to GCEL, the case may get settled, or it

may go to an administrative hearing, and may then go on to other levels or appeals. Most cases are settled before going to an administrative hearing.

Dr. Causey added that there are also summary settlement cases, when an officer can write up the case, hand it with an amount to the violator, who can then mail in a check for the violation to Ms. Raine's office. Under the NMSA, most violations are civil; only one, interference with an officer, is criminal. The sanctuary also has state regulations, in addition to the federal ones.

Monies collected from violations go into different funds, depending on the case. For sanctuary violations, the monies go into a sanctuary fund for law enforcement or resource protection. If under the Magnuson Act, they may go into a general enforcement fund. CDR Score clarified that the funds go back into law enforcement or resource protection.

Ms. Raine's office has data on the actions that come to her office, and Capt. Luher said FWC keeps data throughout the sanctuary about types of violations, when written up, where it took place, etc.

Proposed Ocean Current Turbine Project -- Douglas Bedgood (Florida Keys Hydropower Research Corporation)

Dr. Shirley Freeman, who is the Chairman of the Board of Florida Keys Hydropower Research Corporation ("Keys Hydropower"), a nonprofit organization, introduced Douglas Bedgood, who serves as President, self taught engineer, Chief Executive Officer, and entrepreneur. Mr. Bedgood briefly read from the SAC resolutions made at the May 22, 2007 Climate Change and Energy workshop. Keys Hydropower is proposing an alternative energy project, which is in line with the language in the resolutions about renewable and alternative energy. Dr. Freeman also introduced the Chief Financial Officer.

Mr. Bedgood showed a brief video about the proposed energy current turbine (hydrokinetic) project, to be placed in the channel south of the old Bahia Honda bridge. The self-contained underwater generator will be tested for 60 days. The edges of the paddle are padded, and will rotate once every two seconds. It may be suspended under a barge for testing, and then anchored on a platform or directly to the seabed. The test will not include a power cable to shore. If approved, a full-scale turbine "farm" would be built, with the turbines mounted four feet above the seafloor. A work platform would be lowered from a barge, and divers would not touch the bottom. A cable would run from a hub to an onshore substation on West Summerland Key. After the first turbine test, more tests would be conducted, using different designs under consideration. The proposed farm would be 2000 feet by 1000 feet, with 1000 turbines in rows, and would be requested to be a no-anchor zone. The design is intended to be environmentally friendly.

Dr. Harold Hudson, a retired sanctuary employee, showed a short video he took of the turbine test site, which is a loose gravel field over bedrock, with a 50 foot wide depression. There is very little animal or plant life at this site, but there are sponges, macroalgae, and some arthropods. Around the perimeter, there are a few scattered hard corals. It would be easy to move the corals.

Discussion about the proposal and project site ensued; some of the main points follow. Mr. Moe wondered if the turbine would kick up sediment. Dr. Hudson replied there is little or no chance of sediment being a problem there, due to the current. Another person added that the turbine blades are turned by the current; they are not propellers, and the football shape of the turbine would also minimize any issues. Mr. Bedgood said the current there is about 2 to 2 and 1/2 knots, but that they would try to increase the current speed with spoils.

Richard Grathwohl and others commented that the test site did not pose any problems for them. It is commendable to be looking at alternative sources of energy, and ways to address climate change.

Ms. Harrison said she took information received from Keys Hydropower provided at the last SAC meeting to the Governor's Climate Action Team. She spoke with a Camille Coley from Florida Atlantic University (FAU), and subsequently with Professor Coley's boss, Dr. Hanson. Per Mr. Harrison, Dr. Hanson said ocean turbines attract sea life with their humming, including fish and marine mammals. He also said that turbines can change migration and other patterns of sea life. In addition, to be economically feasible, there would need to be hundreds of turbines. With this many, there could be flow disruption, possibly creating erosion and new channels, necessitating moving the turbines. Also, a sensitive marine sanctuary may not be the best place to test this type of technology. She noted Dr. Hanson felt the project was worthy of study, and he and his team would like to work with Keys Hydropower to make recommendations, and she said this information could then be shared back with the SAC.

Mr. Bedgood stated they are already working with Florida International University (FIU), and that he accepted the invitation from FAU to work together. He then introduced Rich Jones, from the Monroe County Marine Resources Department. Mr. Jones said the Board of County Commissioners passed a resolution supporting the project and the testing of it in general. They have now put forward another resolution supporting the specific site chosen, offering county cooperation and coordination, and urging other agencies to do the same.

Walt Drabinski asked if an energy analysis had been done to determine output. Mr. Bedgood said they want to test the generators, so can monitor what they can produce. He provided an estimate of what the turbine farm could produce. Mr. Bergh asked about the site on land; it is important to choose a site that is not in wetlands and has the proper space and resources available. Mr. Bedgood said that they are negotiating with the Department of Transportation (DOT) to get a surplus loop road, which has a parking lot, on the Gulf side. Mr. Bergh added that may pose some public access issues they may need to deal with.

Mr. Bedgood stated there will be video cameras monitoring the test site, which will capture interactions with marine life. CDR Score commented that NMFS had raised questions as well, and had said that impacts to marine mammals and fish would need to be documented during the test. Mr. Hunt agreed that rigorous testing would be needed regarding impacts. Several people commented that it is important to look ahead in the planning to the larger turbine farm project.

In response to questions about the proposed turbine site, Mr. Bedgood said the water depth in of the channel around the proposed farm is 10-36 feet deep, and is up to three feet deeper at the test

site. There are seasonal changes in tides and algae in the area, and Mr. Hunt added that there are seasonal changes in tarpon and other fish. Mr. Bedgood also said that since hurricanes affect wave action, the turbines would be shut down during a hurricane. The turbine farm could meet 100% of the energy from Big Pine Key to Key West.

Mr. Edwards said that much of the information presented today is new; he has been following this project for several months. He also urged that Keys Hydropower should focus on one design and do a feasibility study to bring all the issues out.

CDR Score echoed what other had said, that this is a good example of going after a solution to a huge issue facing everyone. But, the test area has a sensitive area designation. As soon as a turbine is hooked up to the grid, it would fall under the Federal Energy Regulatory Commission's review. FERC has given the opinion that hydrokinetic energy projects don't take place in sensitive areas, and that the sanctuary's parent agency, NOAA, has supported that. But, there are tradeoffs, and until we have the information, it is hard to evaluate this.

Ms. Harrison moved that: The Sanctuary Advisory Council recommends that Keys Hydropower accept the offer of Florida Atlantic University's Department of Geoscience, to review the proposed tidal current turbine project, to be located within the Florida Keys National Marine Sanctuary, and report back to the Sanctuary Advisory Council, prior to this board taking formal action to endorse the project.

She made this motion due to the many concerns that came back from FAU. Commissioner Neugent stated that this project is one turbine only, and that moving forward with it would address many of the questions that have been raised. Likely, the agencies involved would stop the project if major concerns had been raised. He would like to have the SAC support this single turbine project, which could be considered a demonstration. Ms. Harrison restated the concerns FAU put forward. Vice-Chair Nedimyer stated that the motion under discussion was in conflict with that of the County Commission. Martin Moe said that there is time, resources etc. being put into the test project, and that it would be good to get the scientific input prior to all of the effort being put in.

There was also some discussion of possible ways to modify the motion, including getting input from FAU before the next SAC meeting. It was also suggested that the FAU scientists could come to the next SAC meeting to provide their input directly.

Dr. Freeman reiterated that Keys Hydropower is asking for support just for one single turbine in a channel, for 60 days. The FAU research is in the open ocean, in the Gulf Stream. Keys Hydropower would be pleased to receive input from FAU, and are already working with others, but don't want the project to be delayed.

Commissioner Neugent asked if the discussion could be adjourned until later in the day, so that alternate motion wording could be discussed over lunch, to see if a consensus might be reached. CDR Score added that a consensus opinion on the pilot approach would be helpful. On the permitting, he said the ACOE is reviewing the project, but has come to the sanctuary for input, and has said the agency will not move forward until all concerns are addressed, and NMFS has

weighed in with comments. The SAC's recommendations are important and will carry a lot of weight in how FKNMS evaluates the project, in its decisionmaking, and how sanctuary staff move forward.

Ms. Harrison was willing to postpone the vote on the motion, but not willing to support the project without due diligence being done, to ensure greater harm would not be done by the project. She is a strong proponent of clean energy. Vice-Chair Nedimyer postponed the item [see summary of the subsequent discussions below, under "Unfinished/New Business"].

Education/Outreach Presentation -- Keith Douglass, Crane Point Nature Center and Museum Mr. Douglas provided an overview of the Crane Point history, mission, programs and facilities, and showed a short video. The Florida Keys Land and Sea Trust was created in 1978, from a diverse group of people throughout the Keys. It has acquired a number of parcels over the years, to preserve them. In 1988, the parcel that is now Crane Point was going to be developed into a shopping center, but it was acquired by the trust and saved from development. The organization's main focus is education, both for residents, and visitors. Their facilities include a museum, a historic house, the Marathon Wild Bird Center, the Crane house, a butterfly garden, and walking trails. They have school programs, work with Florida Keys Community College, and have a speaker program. Currently, they are embarking on phase two of a restoration project, and will be partnering with FIU and local architects to look at restoring Crane House. They have also been asked to be part of the Scenic Highway Corridor, and will be doing museum restoration as well. Crane Point is pleased to partner with a number of groups and FKNMS to help educate people about the Florida Keys environment and history, and would like to offer the Crane Point facilities to SAC members' organizations.

Mr. Moe asked Mr. Douglass what FKNMS could do to help Crane Point, and vice versa, how Crane Point could help FKNMS. Mr. Douglass replied that, when it makes sense, it would help to speak as a unified voice on education issues.

Dr. Causey commented that the FKNMS headquarters used to be at Crane Point. It was very nice to be based there, and the bid amount helped the sanctuary to get back into the black financially.

Reef Resilience and Climate Change: Coral Bleaching, Environmental Analysis and Human Dimensions -- Chris Bergh, The Nature Conservancy (TNC); Dave Loomis, University of Massachusetts at Amherst; Eric Mielbrecht, Emerald Coast Consulting; Rowena Garcia, TNC The topic was introduced by Mr. Bergh. In 2004, a Memorandum of Agreement was signed between NOAA, the State of Florida, and the Great Barrier Reef Marine Park Authority to with Australia to share information on resilience based management of reefs in Florida and Australia. The Nature Conservancy became the coordinating body for the Florida Reef Resilience Program (FRRP). There are numerous organizations represented on the steering committee. Resilience refers to response to stress, and how much stress something can take before it is negatively impacted (i.e, corals being impacted by such things as climate change or ocean acidification). The research has a number of goals, including determining where corals and reefs are resilient to climate change, what that means for people, and management recommendations for the sanctuary staff, managers of coral reefs off mainland Florida, and reef users.

Ms. Garcia spoke about disturbance response monitoring of coral reefs. She reviewed what coral bleaching is (a stress response that can lead to death), factors that may cause it, and bleaching documentation in the Keys. A survey, reviewing existing maps and data, was done from the Dry Tortugas to Martin County. Coral species were identified and coral bleaching and disease were visually noted. Between 2005-2007, 432 sites were sampled.

In 2007, some results included bleaching of less than 20% at the Dry Tortugas, over 20% at the Broward outer reef tract, and over 52% bleaching at the inshore site in Palm Beach. These data are still being analyzed and adjusted, so final conclusions may vary. In 2006, there was mild bleaching. In 2005, there was moderate bleaching. Next steps include looking at results to identify resilient coral species and reefs, will look for coral population demographics, and will integrate with water quality parameters. There were some questions about where the least bleaching was, and other ways to look at the data.

Mr. Mielbrecht, the project leader for the World Wildlife Fund Climate Change Linking Environmental Analysis to Decision Support (LEADS) program, reviewed the progress of the program. It is focused on identifying the environmental factors that contribute to coral resilience, getting input from researchers, managers and reef users, to be able to devise adaptive management solutions. Per Mr. Bergh, the program began about a year after the Florida resilience program, and many of the same people and organizations are involved.

The goal of the research component of the program is to improve understanding of patterns in coral resilience. The team is looking at the resilience of corals of climate change and at local stresses on corals, and how those impact the corals and reef structure. As a part of this, they are creating a Geographic Information System (GIS)-based tool with the data, which will be made accessible to people via the Internet. The project relies on existing data; they are not collecting new data themselves. They have had to pick among the data sets to get the right scales. Mr. Mielbrecht did a demonstration of what types of data can be displayed via GIS (including water sampling sites, reef locations, areas of high temperature), and showed preliminary results on spatial patterns for 1995-2003. The researchers are also looking at the variance in sites throughout the wet season. They hope to have the conclusions within six months. People asked questions about the data sets, how often samples are taken, other data to include, etc., and made suggestions for analysis, including looking at the variance over a whole year. Mr. Mielbrecht concluded by saying the research is aimed at determining factors of long term ecological resilience, not what is driving individual coral bleaching events.

Next steps include holding a data integration meeting, inputting coral data, testing for relationships between patterns in environmental variables and coral survey findings, translating this into the larger picture, and communicating the findings. Input from the SAC and others is desired to make sure the data and analyses are useful. The FRRP roll out conference is scheduled for April 22-24, 2008 in Key Largo, and it will include researchers from around the Caribbean.

Mr. Loomis gave a presentation on a human dimensions research project titled, "Recreational Diving, Snorkeling and Fishing in the Florida Keys," giving some of the results of a social

science study conducted as part of the FRRP. The research is focused on the people who depend on the reefs, and what reef users want and need from the reefs. The goal is to understand the reef users and their perceptions. Two mail surveys, in English, were sent out. They included 40-45 questions, and had an estimated completion time of 20 minutes. He went over the sample size and response rates, and some of the results obtained from returned surveys. The researchers identified four specialization levels for each group (going from least to most specialized). While the results varied by group, people tended to get most of their information from each other and businesses such as dive and bait shops, rather than from government agencies. Their acceptable rates of crowded conditions what they desire in their experience on the reef were determined. The study resulted in good descriptive and conceptual data, and they are now in the early stages of data analysis and report writing. Following his presentation, various questions were raised about the information gathered from respondents, why bilingual surveys were not used, the fact that some people both dive and fish rather than do just one, etc. These were acknowledged; there are always more questions to be asked in a survey, but there are many things to consider in survey design, such as length and response rates.

Mr. Bergh said more meetings would be taking place on the human dimensions research, including meeting with reef user groups, and reiterated that a meeting of the Florida Reef Resilience Program meeting is being planned for April 22-24 in Key Largo. Mr. Bergh also invited people to a public presentation Mr. Loomis would be making in the evening, from 7-9 PM in the Eco-Discovery Center, to provide more details about the study.

Public Comment

There was none.

Ballyhoo Working Group Report -- Ken Nedimyer (SAC)

Vic-Chair Nedimyer reported on the recent meeting of the Ballyhoo Working Group. The group deals with ballyhoo hair-hooking in Sanctuary Preservation Areas (SPAs) in the Upper Keys at certain times of the year. A few years ago, a group of charter fishermen approached sanctuary, presenting a good case for allowing limited hair-hooking in the SPAs, and the sanctuary established a conditional hair-hooking permit system. The permittees provide fishing logs back to the sanctuary. The group pledged to have an annual meeting to review data and the permit program. The general consensus of the recent meeting was that permitting program is still acceptable, and the group recommended it continue.

Ms. Harrison noted that, after the first year, 11% of the permittees reported back, and this year, 89% did. She moved that the SAC support the recommendation of the Ballyhoo Working Group to continue hair-hooking permits in the places and under the conditions created under the original pilot permit, for one year. Additionally, the Ballyhoo Working Group will re-convene in August, 2008 to review next season's activities. The motion was seconded by Mr. Grathwohl.

In the ensuing discussion it was raised if law enforcement officers had seen any problems, and the answer was, not with the hair-hooking permits. Officer have seen people fishing in the SPAs, but that it was not connected to the hair-hooking.

CDR Score added that Lt. Maldonado had attended the Working Group meeting, and that he had said, on principle, he does not like to have fishing in a closed area, which can send a mixed signal, but that the officers have not seen any problems related to this, such as copycat fishing. Limiting the permitting fishing to early morning hours has probably helped. Vice-Chair Nedimyer added that the fishermen believe they are helping, with more eyes on the water. CDR Score said that there was a good discussion about reporting any violations to law enforcement, so they may be tracked. He also said initially, there was a big spike in requests for permits, but over time, that has dwindled so that fewer permits are issued now to the people that really need them. Mr. Grathwohl commented that when someone is seen fishing in the SPA, the number on the boat should be reported to law enforcement. They can check to see if the boat has a permit or not, which could cut down on response calls.

No oppositions were noted, so Vice-Chair Nedimyer deemed it passed with unanimous support.

Water Quality Working Group Report -- George Neugent (SAC)

Commissioner Neugent had tried to get a speaker for this meeting, but the timing did not work out; he will work on it for a future meeting.

Mr. Grathwohl inquired about a case where someone would like to clean a septic tank with chlorine, then turn it into cistern, and wondered if the chlorine would leach out. Mr. Moe stated that would not be a long term concern, as it is quickly neutralized in the environment.

Mr. Hunt reported that there is going to be a sanctuary workshop, on the recent algal bloom, sometime in January. The heart of it will be a scientific component on the algae itself, and the group will hone in on key questions and unknowns regarding causative factors for blooms. There will also be a component to inform the public. The workshop will not focus on the impacts of the blooms, as these are known. The group will also examine how restoration or lack of it may play into the picture. Scott Donohue is working on setting it up.

Mr. Lorenz noted that on November 15, the South Florida Water Management District (SFWMD) governing board recommended that a Florida Bay algal bloom workshop be held in the Keys. The Ecosystem Restoration Working Group discussed that the SFWMD workshop agenda might be used as a model for public participation for the workshop Mr. Donohue is organizing. Mr. Hunt said that the suggestions had been discussed during the most recent teleconference.

Commissioner Neugent announced that a Water Quality Protection Plan meeting is being put together for January 30, and Mr. Hunt said a related meeting is being coordinated to follow it.

Ecosystem Restoration Working Group Report -- Jerry Lorenz (SAC)

Mr. Lorenz announced that the Everglades Coalition conference will be held in January in Captiva, focusing on estuarine areas.

The Ecosystem Restoration Working Group met last week, and discussed several things. SeaKeys was discussed, and Jon Fajans asked if he could review the program in the Keys (it is part of the coastal and ocean observing system), identify possible new areas for monitoring

within the sanctuary, and get feedback from the SAC at the next meeting. He can use that feedback to put together a proposal to utilize funds that have been made available.

The group also discussed the removal of the Lake Surprise Causeway. Mr. Pete Frezza said there was a recently published report on it (by a DOT contractor), which concluded that it was unlikely that enrichment of phosphorus would come out of the roadbed material. The group had some questions about this, and they were expressed to Cecilia Weaver during the meeting, who said she would relate them to DOT and the District and report back. The group felt removal should not be done during the hurricane season, and wondered if DOT is looking at the ecological benefits of complete removal of the road bed as an alternative. Partial removal was also discussed, replanting what is left with mangroves, which could potentially reduce boating impacts on the east side of Lake Surprise.

The upcoming workshop on marine protected areas/zoning was discussed, but a revised agenda had not yet been produced. A subset of the group planned to meet within a week or so to narrow down the agenda, which will then enable costs to be estimated. Originally, a date and location was secured at the Board of County Commissioners Chambers in Keys West, but CDR Score stated that a location in Marathon or the middle Keys is desired. Different location and date options would be explored. Suggestions were made to check into the Sheriff's office, which has a room that holds 50, or the high school gym.

Mr. Lorenz reviewed that status of Everglades restoration, Modified Waters and decompartmentalization. The ACOE is looking at a number of different things. He moved that the SAC ask the ACOE for an independent financial review of the Blue Shanty proposal, specifically ACOE alternative 5.4. Ms. Harrison seconded the motion, but requested that the South Florida Ecosystem Restoration Task Force be asked, rather than the ACOE. Mr. Lorenz stated he thinks it is the best option with the best possibility for success; restoration is expensive, and it can be a mistake to cut corners.

Mr. Lorenz restated the motion: The Florida Keys National Marine Sanctuary Advisory Council requests of the South Florida Ecosystem Restoration Task Force that an independent cost analysis of the Blue Shanty Project, ACOE alternative 5.4 for Modified Water Delivery Plan, be executed and examined.

Upon discussion, it was stated that an independent cost analysis can help determine if the estimated cost of this alternative is accurate.

Mr. Grathwohl added that if water can get flowing in the western section of the bay, it will improve habitat for pink shrimp. There used to be a pink shrimp fishery, and it disappeared. It will reopen if the flow is restored.

As there were no objections, Vice-Chair Nedimyer said he considered it to be unanimously passed.

The contentious issue with decompartmentalization right now is the issue of filling canals and perceived impacts to the bass fishery. It has been designated as a specialized fishery. Mr.

Lorenz said the canals have reduced the shrimp fishery by directed the water away from where it should go. There is concern about filling them, and impacts to the bass fishery, but the landings of bass are low when compared to other commercial landings (stone crab, shrimp and lobster).

Mr. Grathwolh read and moved the following resolution, seconded by Ms. Harrison:

**A RESOLUTION OF THE FLORIDA KEYS NATIONAL MARINE
SANCTUARY ADVISORY COUNCIL TO URGE THE U.S. ARMY
CORPS OF ENGINEERS TO SELECT AN ALTERNATIVE FOR
THE DECOMPARTMENTALIZATION PROJECT THAT
ACHIEVES ENVIRONMENTAL OBJECTIVES AND THAT FULLY
CONSIDERS THE ECONOMIC AND ENVIRONMENTAL
BENEFITS TO FLORIDA BAY AND THE FLORIDA KEYS**

December 11, 2007

WHEREAS Florida Bay is part of Everglades National Park, one of America's most unique and fragile natural treasures; and

WHEREAS the Florida Keys National Marine Sanctuary (FKNMS) helps protect the unique marine waters of the Florida Keys that are a national treasure and of international significance; and

WHEREAS the flora and fauna of Florida Bay and the Florida Keys have suffered devastating effects resulting from a system of 1,400 miles of canals and levees to divert natural water flows, built by the U.S. Army Corps of Engineers to control flooding and provide water supply for an ever-increasing population; and

WHEREAS fish and wildlife populations are under significant stress within Florida Bay and the Florida Keys National Marine Sanctuary because the "River of Grass" has been drained and diverted through so many canals that it no longer supports the web of life that depends upon it; and

WHEREAS the total economic value of fishing in Florida is valued at approximately \$9 billion, much of it driven by the fisheries in Florida Bay and the FKNMS; and

WHEREAS the Comprehensive Everglades Restoration Plan of 2000 (CERP) always intended to provide significant environmental benefits to the Florida Keys and Florida Bay; and

WHEREAS the Decpartmentalization Project of CERP is widely considered to be the heart of Everglades restoration by eliminating barriers to natural water flow and improving the ecological connectivity throughout the entire Everglades system, including Florida Bay, and if implemented correctly will provide critical environmental and economic benefits to Florida Bay and the FKNMS;

**NOW THEREFORE, THE FLORIDA KEYS NATIONAL MARINE SANCTUARY
ADVISORY COUNCIL RESOLVES AND RECOMMENDS:**

The U.S. Army Corps of Engineers and the South Florida Water Management District should:

- Ensure the selected Alternative for the Decompartmentalization Project achieves the environmental objectives outlined in the Plan adopted by the U.S. Congress in 2000.
- Consider the economic and environmental effects to Florida Bay and the Florida Keys in selecting an Alternative for the Decompartmentalization Project of CERP.
- Balance any socio-economic and environmental cost/benefit analysis of restoration impacts on the canal fisheries, specifically the bass fishery of the L-67, with a similar cost/benefit analysis of restoration impacts for Florida Bay and the Florida Keys marine industries, especially the commercial and recreational fishing industries.

Passed unanimously on this date: December 11, 2007.

The Council is an advisory body to the Sanctuary Manager. The opinions and findings of this publication do not necessarily reflect the position of the Florida Keys National Marine Sanctuary and the National Oceanic and Atmospheric Administration.

There was no further discussion prior to the resolution being deemed unanimously passed. Mr. Lorenz commented that the resolution could create some tension, due to the reference to doing additional cost/benefit analyses.

Education and Outreach Working Group Report - Martin Moe (SAC)

Mr. Moe reviewed the topics discussed at the last Working Group meeting. The sanctuary education and outreach staff are working with SFFFK, and Mrs. Mary Tagliareni is putting together a wish list.

The action plan for the working group was discussed; and group members decided the existing action plan does not adequately describe and direct the group, so members will work on it further.

Many suggestions were made for further presentations to the SAC by education and outreach groups. Dr. Vaughan, of Mote, will present at the February SAC meeting. If SAC members have suggestions for groups that might be interested in presenting, they should send them to Mr. Moe or Mrs. Tagliareni.

On updating the Florida Keys Environmental Resource Directory, the SAC had no objection to the group working on a revised edition, in electronic form. Group members are now working to make this happen.

The group also discussed getting language on ocean ethics into the Florida education standards. It should be in the national standards, but is not. The group will work on a resolution to bring to the SAC at a future meeting about this.

An informal inquiry was conducted by Mrs. Tagliareni, and the group agreed to meet quarterly, and will work on setting the dates for 2008.

Briefly the group discussed how SAC members might help the sanctuary staff by representing the sanctuary when staff members were unavailable. It was determined that this may not be appropriate, but that SAC members can help out when needed by the staff. The working group also stands ready to assist members of the Ecosystem Restoration Working Group as needed, when the time comes.

Finally, Mr. Moe reviewed the idea of a "role model for responsibility," which was something the government of American Samoa developed. The group has begun discussing the possibility of developing such a concept for the Keys. Green Living & Energy Education is working on this type of thing as well.

Unfinished/New Business -- Proposed Ocean Current Turbine Project, cont.

The SAC continued discussing the unfinished business of the proposed ocean current turbine project after lunch, and then again at the end of the day.

Vice-Chair Nedimyer inquired if there was an amendment to Ms. Harrison's motion or a new motion. Commissioner Neugent said he and Ms. Harrison had discussed the issue over lunch, and did not come to a consensus for new language. Ms. Harrison read the motion again, and it did not pass (10 votes against, and 5 for).

Commissioner Neugent then made a brief motion, which he subsequently elaborated upon, which was seconded by Mr. Trice. The final wording of the motion as presented was: The Sanctuary Advisory Council supports the testing of a hydrokinetic turbine by Keys Hydro Power at the proposed test and stated site in the Bahia Honda Channel, which should pose no significant environmental impacts or navigational hazards.

Discussion ensued. Mr. Lorenz made suggestions about possible ways to modify the resolution, to include an FAU review. Commissioner Neugent and several other people mentioned they did not want to see the permit approval process slowed down. Dolly Garlo inquired about what the offer was that FAU made; Ms. Harrison said they offered to do a review and analysis. She did not know how long this might take, but was willing to find out. She also reiterated that she is a strong advocate of clean energy. Mr. Hunt commented that if the one turbine goes forward, some of the resulting research results will answer the concerns being raised.

The vote was taken and the motion passed, with 9 votes for and 6 against.

Discussion continued after this vote on the topic of getting input, and the possibility of Mr. Lorenz or others developing another resolution. Mr. Lorenz suggested some wording, and there was discussion, but a second was not provided [in addition, later in the afternoon, Mr. Lorenz

stated he did not wish to go forward with this motion]. CDR Score stated that, in taking the SAC's recommendations into consideration, he understands that there are some conflicts, and that the regulatory agencies that will be reviewing it will understand, too. It is important to determine what the potential and real impacts might be, so society can determine what tradeoffs to make. A motion is not needed to reach out and connect with researchers or reviewers.

Vice-Chair Nedimyer asked that any more discussion be postponed to the end of the day. When the other agenda items were done, he asked again if there was a new motion regarding Florida Keys Hydropower. There was no new motion, but questions about the project continued, with further discussion. Mr. Bedgood commented that Florida Keys Hydropower's steering committee has a number of people with Ph.D.s on it; further, hydrokinetic power is a new science, and so far there are no known adverse impacts, only speculative impacts. There are pilot studies in many different places, and it would be a good idea to accumulate all of the study results; research institutions and nonprofit organizations should be invited to do this.

Jack Curlett asked if the project is found to be harmful, would Keys Hydropower remove it? Mr. Bedgood replied they would.

Mr. Moe asked about the sanctuary staff's opinion of the project. CDR Score replied that Mr. Edwards has been reviewing it all along. The sanctuary wants to take a precautionary approach. The sanctuary's parent agency does not generally support these things in sensitive areas. It is difficult to make a decision based on scanty information. As he said earlier, NMFS did provide comments to back to the ACOE, and brought up some of these same questions, in order to make the project a meaningful experiment if it goes in. The sanctuary staff is working with Keys Hydropower to get more information, in order to be able to make a recommendation to the ACOE. Dr. Causey asked if NOAA's opinion also pertained to pilot projects, and CDR Score replied that it did. He said staff members have discussed it and feel mixed about the project.

Mr. Edwards noted that all of the points that have been made are very good. He went to a meeting about the project in July, and learned the project application had been submitted to DEP. At that time, he advised Mr. Bedgood to focus on the project as being a test. After that meeting, FERC came out with its opinion that would not support these kinds of projects in sensitive areas. Today, Kent saw different information about the project that he had previously seen, and he said he would like to look at one project, with one set of designs, so true consideration could be given to what is proposed. When the information is in and is complete, DEP will decide if will it will deny the project, or will approve it with conditions. He recommended Ms. Harrison contact FAU, and that comments be provided from FIU and any other group that want to comment, and that the group proceed with qualified endorsements; Vice-Chair Nedimyer supported this recommendation. Mr. Bergh suggested that FAU's interest has been open ocean, and to request that their be directed to this specific project.

Both Mr. Douglas and Ms. Harrison stated they would contact FAU. Ms. Harrison said she would ask FAU to get in touch with Keys Hydropower representatives and CDR Score.

Adjourned, 4:25 PM.

Submitted respectfully by Lilli Ferguson