

# FLORIDA KEYS NATIONAL MARINE SANCTUARY

## WATER QUALITY PROTECTION PROGRAM

### STEERING COMMITTEE MEETING

February 20, 2013

City of Marathon Council Chambers

### DRAFT MINUTES

#### **Steering Committee Members Present**

Jon Iglehart, FDEP (Co-Chair)

Bill Cox, EPA Region IV (Co-Chair)

Gerald Briggs, Department of Health, Bureau of Water and Onsite Sewage

Suzy Hammaker, FIU arts and society

Chris Bergh, The Nature Conservancy

Charlie Causey, Florida Keys Environmental Fund

John DeNeale, Key Colony Beach

Sandra Walters, SWC, Inc. citizen representative maritime interests of the Florida Keys

Billy Causey, Southeast Region of National Marine Sanctuaries

Carol Mitchell, Department of Interior, South Florida Natural Resources Center

#### **Management Committee Members Present**

Sean Morton, NOAA Florida Keys National Marine Sanctuary

Scott Donahue, NOAA Florida Keys National Marine Sanctuary

John Hunt, FWC Florida Research and Wildlife Institute

Gus Rios, Florida Department of Environmental Protection

Steve Blackburn, EPA Region IV

George Garrett, City of Marathon

#### **Meet and Greet**

#### **I. Call Meeting to Order** (Chair, Jon Iglehart)

#### **Opening Remarks**, Jon Iglehart (FDEP), Bill Cox (EPA)

Jon Iglehart thanked Mayor Neugent for making use of the meeting facility possible. This meeting will address several topics: special demonstration projects, the Sanctuary Advisory Council, private public partnerships in the regulatory context and outreach strategies for water quality.

Bill Cox thanked Sanctuary Superintendent Sean Morton for having the Water Quality Protection Program as a topic at the February 19 Sanctuary Advisory Council meeting. It was a good opportunity for the two bodies to communicate with one another and discuss better integration of their activities. In terms of federal budgets, this program has traditionally received 2 million, but is now at the 1.6 million dollar level, which may also be cut. This money supports activities in the Everglades and coral reefs in southeast Florida, too. EPA is focused on four things in this region: water quality and nutrients, ocean disposal (port expansions), habitat restoration and coral reefs.

These priorities mesh well with our partners like the sanctuary and national estuaries and working together makes it possible to get projects implemented.

## **SC Member Introductions**

### **Review Agenda, Chair**

Agenda was accepted with no changes, except to offer a public comment period both in the morning and the afternoon.

### **II. Public comment:**

Dottie Moses, Save-A-Turtle and Keys Federation of Homeowners Associations

An amendment to the Monroe County comprehensive plan was passed by the planning commission on November 11 and will be coming before the Board of County Commissioners in April for a final vote. The homeowners association, which has over 3,000 members, has drafted a resolution requesting the commissioners to vote against it. Save-A-Turtle members are also opposed and are concerned about the detrimental effects of dredging habitat and about establishing a procedure that would allow dredging to occur elsewhere. They have asked the commissioners to get an independent environmental assessment of the area.

### **Discussion and Approval of Minutes, Chair**

Minutes were approved with no changes.

### **III. Status of Implementation of Monroe County Wastewater**

Ms. Liz Wood, Monroe County and Representatives of Municipalities and Key Largo Wastewater Treatment District

To view Ms. Wood's presentation, visit

[http://ocean.floridamarine.org/fknms\\_wqpp/pages/wqpp.html](http://ocean.floridamarine.org/fknms_wqpp/pages/wqpp.html)

Ms. Liz Wood thanked everyone from the federal level to the county level. Mayor Neugent helped make the sales tax possible so that the community could afford wastewater upgrades. The wastewater treatment standards have not changed with the new law, but the goal is now 2015. In reference to onsite systems, this treatment standard is a difficult with today's technology and homeowners have to maintain a biological reactor to meet this target or they are out of compliance. At the last steering committee meeting, the Islamorada and Cudjoe projects were yet to be funded. Sales tax did pass with 70% approval. A contract for the Cudjoe regional project is now in place. Tom Walker, FCAA, is in charge of this project and doing a great job staying on a tight schedule. Liz gave updates on progress made by other entities (Key Largo, Duck Key, Big Coppitt, Ocean Reef). Some grant money is still available for homeowners who meet the qualifications.

Liz suggested updating the Reasonable Assurance Document (RAD) so that the county can be given credit for additional homeowners that have been added to central systems. There are also concerns about how nutrient loadings could increase, instead of decrease, unless treatment is brought to No Name Key (either onsite or some central).

George Garrett explained that the City of Marathon, with one exception, is 100% done with construction for wastewater and stormwater upgrades. The utility for wastewater and stormwater were joined and stormwater was done at the same time as wastewater.

Liz will work with George Garrett to update the connection numbers for Marathon. It is important to track costs of project, along with outside funding sources including the Mayfield appropriations.

Gus Rios explained that the RAD is on a five year cycle and will be updated in 2015.

#### **IV. Canal Project Update / Using FDEP funds for bathymetric study**

Wendy Blondin (AMEC), Gus Rios (FDEP)

Ms. Wendy Blondin has briefed the committee before on a proposal being developed by AMEC and Monroe County to apply for FDEP funding. To meet the deadline for utilization of funds (June 30, 2013), they are seeking approval on the proposed scope of work from the steering committee. The proposal is to develop the bathymetry for all the Keys canals (502 systems). The organic accumulation information will be excellent for helping evaluate restoration options and is highly needed to move forward. They have added 10 sediment samples to the original proposal. Samples would be collected from areas with highest loadings of organics and tested for physical parameters and for chemical content. The steering committee was sent the proposal for review in advance. The canal subcommittee already approves of this proposal.

Wendy also provided a general overview of what AMEC, Monroe County and the canal subcommittee have been doing since the last meeting. In November, AMEC received from Board of County Commissioners approval to proceed with EPA funds to complete the canal management master plan. This planning process will allow AMEC to assess all canals in Keys and rank for water quality and proposal recommended treatments. As part of this process and based on input from residents, they have fine-tuned their canal ranking system. Rhonda Haag, Monroe County, has been getting information from residents and letting them know about the project. She is in communication with AMEC. AMEC and the county have put together a white paper on canal restoration to be considered for restore act funding. Mayor Neugent has been spearheading the necessary meetings and will be taking white paper to Tallahassee. AMEC has also been working with the county to develop a pilot program to test canal restoration technologies. This pilot program will make it possible to apply for other grants and funding opportunities.

Billy Causey and Charlie Causey commended Wendy for the work that she has accomplished and how well she has worked with the canal subcommittee.

#### **MOTION (Passed)**

George Garrett made a motion to approve the funds for the continuation of the AMEC study on canal bathymetry. Chris Bergh seconded the motion.

#### **Discussion**

Wendy worked with Gus Rios, FDEP, on the chemical analysis and provided a detailed list of what would be analyzed. She does not think they are missing any analyses for disposal characterization and this is only the first step in a longer process. This kind of study provides the detailed information needed to improve the chances of being funded by restore money or any grant money.

Motion carried without opposition.

#### **Canal discussion (continued).**

In response to Suzy Hammaker's inquiry about whether a subcommittee was needed to do outreach about canals, Wendy noted that Rhonda Haag has been working on this for the county under Mayor

Neugent and has worked with local media and held meetings on the topic. This is an ongoing effort and they can provide more detail at the next canal subcommittee meeting.

Jon Iglehart initiated a discussion on the status of the canal subcommittee, which is currently acting as an advisory committee involved in fact finding. Once the studies are completed, the subcommittee will be needed to review the studies and make recommendations. To make recommendations, they will need to move into the Sunshine phase. An action would be needed to make that change. FDEP has 100k in legislative budget again this year. If the subcommittee wants to approve spending this money on a project, they will need to make an endorsement by the January/February meeting.

Charlie Causey pointed out that with a group of projects in different phases of canal restoration, deciding where to spend the money can be very subjective and depends upon the money available to operate with. He is not sure if timing is right to make choices now. He would rather have money in place before making choices on projects.

Jon Iglehart explained that the subcommittee will be looking at projects and will want to bring some viable projects before the larger steering committee for approval. Such action will fall under Sunshine rules and will need to be done in public so that the decision-making process is transparent. Even a list of prioritized projects needs is a recommendation and needs to be done in accordance with Florida's Sunshine law. This body and its subcommittees (when making recommendations) are under Sunshine rules.

#### **MOTION (Passed)**

Motion to bring the canal subcommittee under Sunshine status was made by Suzy Hammaker and seconded by George Garrett.

Motion was carried without further opposition or discussion.

Discussion: It was decided to call the subcommittee the canal restoration advisory subcommittee.

#### **Break**

#### **V. FKNMS Zoning/SAC update –open discussion regarding WQPP's role in the process**

Sean Morton, (NOAA FKNMS Superintendent), Steering Committee

Superintendent Morton provided an update on the sanctuary's marine zoning and regulatory review. At the last steering committee meeting, the sanctuary had just finished its' scoping period and the public comments were being compiled by category into a single document. The sanctuary was entering the phase with the advisory council to determine what priority issues would be addressed in the review. Many issues had been identified in the scoping process and through the condition report. Working with the advisory council, nine priority topics were identified that could be addressed in different manners. Most regulations and zoning plans haven't been updated since 1997 (except Tortugas Ecological Reserve in 2001). The other update to sanctuary rules was making the whole sanctuary a no discharge zone in 2010. Water quality is a significant topic, both in the public comments document and condition report.

The sanctuary wants to make sure that it is responsive to the water quality comments and that the public is aware of water quality improvements. To begin the process of reviewing water quality, the steering committee chairs were invited to present to the advisory council at the February 19 meeting. In his presentation to the council, Bill Cox gave a great overview of the accomplishments of the

WQPP during the past 20 years and what is still to come. He also initiated the discussion about how the council and steering committee can better connect and communicate in the future, including letting people know what has been done in and what is planned for the future. Sean provided the scoping comments document to steering committee members. The comments summary is also available on the sanctuary's website.

At yesterday's advisory council meeting, it was decided that the best course of action was to first take the water quality comments from the scoping period and assign the water quality management committee to review them and produce a document with recommendations/responses. The WQPP is effectively the working group for water quality in the sanctuary's review. The report would be brought before the steering committee for input and then the council and would become part of the draft impact statement in development by the sanctuary as part of the scoping review.

## **Discussion**

### **Addressing Sanctuary's Water Quality Scoping Comments**

The steering committee discussed whether or not the scoping comments task should involve both the water quality management and technical advisory committees. The technical advisory committee (TAC) has members of the public on it and can provide advice that is very helpful. If this is going to fold into the EIS, then it might be better to involve the public/TAC. After a discussion, it was decided that this task should involve only a small group of knowledgeable people at first--before reporting the results in public and publishing anything and that it is an appropriate task for the management committee. The steering committee is the body that handles water quality issues for the sanctuary and the scoping comments report is a form of communication to say how things have been and will be addressed. After working on the document, the management committee can report to the steering committee at a meeting for feedback. The document will eventually go to the sanctuary advisory council for airing in public.

### **Waterway's Television Series**

EPA and the national park service funded *Waterways* Television program, produced under sanctuary direction. This series, which is still producing shows, has reached many people through the cable network system over the years. The Keys population is transient and that fact should be considered when reaching out to people.

### **WQPP Sanctuary Advisory Council Representative**

Chris Bergh announced that he has been delegated by the advisory council chair, Ken Nedimyer, to serve as the advisory council representative on the steering committee. Bruce Popham (former SAC representative on the steering committee) can still vote the marine industry seat.

**MOTION (Passed):** Chris Bergh made a motion to have the management committee address the public scoping comments regarding water quality and recommend to the steering committee how to proceed. The steering committee can then communicate its recommendations to the advisory council. Motion is seconded.

Sean noted that the council is meeting in August and that might be a good time to have this topic on their agenda. The steering committee will hear back from the management committee on the scoping comments at its July meeting.

Motion carried unanimously.

## **Discussion**

### **Water Quality Outreach**

There is a need for more outreach to the public and to decision-makers. Sanctuary media personnel are available to help publicize water quality for the steering committee using the web, facebook, etc. Many opportunities for outreaching on water quality exist. The sanctuary is also working on gathering *Waterways* videos to be housed on a You-Tube channel to make the programs easier to find.

## **VI. Everglades Restoration Projects update/Impacts to Florida Bay**

Carol Mitchell (NPS)

To view Dr. Mitchell's presentation, visit

[http://ocean.floridamarine.org/FKNMS\\_WQPP/pages/wqpp\\_minutes.html](http://ocean.floridamarine.org/FKNMS_WQPP/pages/wqpp_minutes.html)

Dr. Mitchell provided an overview of Everglades restoration projects, especially with regards to Florida Bay. The Central Everglades Restoration Plan (CERP) started in 1999 with the goal of restoring freshwater flows to the everglades and Florida Bay. Since that time many projects have been adjusted based on new information indicating the wetlands were much wetter than previously thought and new planning tools that incorporate revised water delivery models. In 2008, through the River of Grass process, agricultural lands were purchased and could be used for water storage and treatment to meet a water quality consent agreement between the EPA and State of Florida. The agreement is designed to keep phosphorus levels below a certain target to protect the downstream Everglades. Managing seepage from central restored lands has been a challenge and is needed to keep enough water in the system. Recently, the mining industry created an underground barrier to control seepage as a mitigation project.

In 2011, Army Corps of Engineers selected projects that would be streamlined to reach a record of decision in about 18 months instead of the typical 6 to 10 years. The Central Everglades Planning Project (CEPP) was selected and has been moving through the process quickly. The goals for CEPP are the same as for CERP, including restoring central everglades habitat, delivering new clean water to the central everglades and reducing damaging flows from estuaries. CEPP has storage and treatment, de-compartmentalization, seepage management and water operational changes. The challenge is to get water through the central everglades to the bay without damaging habitats for the Cape Sable Seaside sparrow, an endangered species. So far, the modeling is such that concerns have not been raised by the Fish and Wildlife Service regarding the sparrow. Original CERP projects that are at the edge of the system such as Biscayne Bay Coastal Wetlands are still moving forward and are expected to be authorized in the next Water Resource Development Act bill.

CEPP has four alternatives; alternative IV is expected to get close to the Florida Bay salinity target and to reduce some of the high salinity events. Unlike previous projects, CEPP uses ecological models in conjunction with hydrological models. CEPP is expected to yield improved salinity conditions in Florida Bay and models show that spotted sea trout, crocodile and pink shrimp will benefit. If CEPP is authorized by Congress and funded, it may be implemented in 2022. Until then, the C-111 project phase I, designed to keep seepage water in the park, will be implemented. This project may change the need to open S-97, which releases damaging pulses of freshwater during periods of high rainfall. Water quality will be monitored using hydrostations to see how it benefits the Bay and tweaks can be made in water operation as needed. The park has worked with the South

Florida Water Management District to install additional water quality wells to see if agricultural water is intruding.

### **Discussion**

The C-43 project is very important to the Keys because the Caloosahatchee River freshwater pulse releases are damaging to the nearshore and downstream marine environments. Other smaller restoration projects will also help to reduce damaging flows.

### **VII. Limited Dredging Activities in the Sanctuary**

Charles Causey addressed the committee regarding a proposed change to Monroe County's comprehensive management plan. The proposed change would allow the county to issue a permit to dredge a channel through a seagrass flat located in state/sanctuary waters. This channel has not been dredged in 50 years and dredging it under the current plan is not permitted. He requested this topic as a topic of discussion on the agenda. The county estimates that there are 200 other projects similar in nature to this project (Walker Island) and this is a concern with regards to the natural resource. The sanctuary and other agencies have no dredging policies. Charlie presented letters from experts who oppose this amendment and read only brief portions of the letters. The points that were made are provided below.

Curtis Kruer's letter (seagrass biologist and former TAC member) is strongly against the change in the county's plan. Evidence is mounting that seagrass beds are in a state of decline and this proposal will result in harm and could allow for dredging projects that could never truly be mitigated for. Dredging protections should not be removed.

Dr. Jerry Ault's letter (fisheries scientist, University of Miami and TAC member) stated that the proposed dredging project will likely subject species in essential habitats to suite of stressors that will have deleterious impacts on fish productivity by degrading water quality, damaging sensitive habitats and denigrating food sources. Multiple life stages may not be safe. The project compromises efficacy of innovative management strategies for resource conservation and sustainability.

Pete Frezza's letter (senior scientist Audubon of Florida, backcountry fishing guide) states that research shows that the central reason for decline in nearshore fish species is due to perturbations in the habitat, which minimize the ability of the habitat to support game fish. Dredging operations are harmful in many ways and he is strongly opposed.

Dr. Jim Fourqurean commented that seagrass has been identified as the most valuable habitat on an aerial basis for protecting water quality. The value of goods and services provided by seagrass per acre was estimated in 1996 to be \$10,000. While this project is relatively small, the cumulative impacts on the commonly held land are quite large. This project amounts to more than dredging seagrass, it is also the loss of services provided by the grass and the cumulative effects of such actions.

Ms. Sandy Walters addressed the committee on this topic. She is the primary consultant on the Walker Island project and has spent 5 years working with SFWMD before asking for a change in the county's comprehensive plan amendments. To get this far, she and her client had to pass extremely high standards and so would anyone else who is proposing a similar project. An applicant would have to go through this whole process of demonstrating the project is clearly in public interest and carry out more mitigation than usual. The UMAM scores (uniform mitigation assessment method) are 8.5 times higher than direct compensation. She had to demonstrate that the project was part of

regional restoration plan. Specifically, they would be restoring grass on state lands and developing a management plan for surrounding submerged lands around the dredged channel. This plan calls for signage and putting privately owned lands under conservation easement. Property owners will then be responsible for restoring any damage that does take place. Losses of seagrass take place each year due to boating impacts. Damaging seagrass is against sanctuary regulations, but is difficult to enforce the regulation in such a large area. Seagrass was an important topic in the sanctuary scoping process and must not ignore this opportunity for a public private partnership to help heal damage done by prop scars.

Sandra explained that Monroe County does allow dredging and has issued 114 permits for maintenance dredging this year. This Walker Island project involves re-dredging legally established entrance channels, legally established docking facilities serving legally established upland development. The project is not one that would encourage new development but would provide a balance. Over 200 pages of information about the project are online at the county's website and a public meeting is being held on February 28, 6pm, in this room (Marathon BOCC). A detailed presentation on benefits of restoring and protecting seagrasses will be given at this meeting. The regulatory process is ongoing. She has received input from the state and will be requesting a federal permit. She did not request this topic as an agenda item.

### **Discussion**

Several members indicated that at this time the permit process ongoing at state and federal level and therefore it is not appropriate for the steering committee to render an opinion on this project. The agencies that are in a permitting role have to maintain a level of objectivity and it wouldn't be right for this committee to advocate one way or the other on a project. The steering committee generally focuses on larger scale water quality issues, not on individual projects. This agenda item was not requested as an action item. In this case, there is a legal question as to whether this channel is considered to have been dredged previously.

Several agencies on this committee would have to issue a permit for this project to move forward: South Florida Water Management District, NOAA, and Army Corps, County (also requires change in comprehensive plan). The project has been in the process for several years, but was not widely known until recently. The project represents a change in the way the county looks at dredging maintenance. Perhaps, in the broader context, the sanctuary or its advisory council should look at this issue because (if passed) it represents a significant change in how a dredging project is viewed locally.

Chris Bergh noted that the seagrass area has likely healed since the dredging took place years ago. Even though the mitigation proposed goes above and beyond what is expected, it wouldn't be right to dredge since the area has recovered and is providing the goods and services typically provided by seagrass habitat.

### **Lunch**

#### **VIII. Annual Monitoring Program updates (20 minutes each)**

**A. Coral Reef Environmental Monitoring, Mr. Rob Ruzicka, FFWRC**

Mr. Rob Ruzicka gave a presentation with updates from the Coral Reef and Evaluation Monitoring Program (CREMP). To view this presentation, visit:

[http://ocean.floridamarine.org/FKNMS\\_WQPP/pages/wqpp\\_minutes.html](http://ocean.floridamarine.org/FKNMS_WQPP/pages/wqpp_minutes.html)

Mr. Rob Ruzicka summarized the results of this past year's coral monitoring research. A scientific paper describing CREMP results is in review (Marine Ecology Progress Series) right now and will be important for the marine zoning review. CREMP has changed to address new issues and funding cuts. They have 40 sites in the Keys now and no sites in the Dry Tortugas. They have ceased monitoring hard bottom with low coral cover and added new patch reefs to monitor. Until 2010, the focus of the program was benthic surveys, species richness. Since then, the sampling method has been modified to include stations that had previously been dropped.

Between 2010 and 2011, there was a slight increase in live coral cover. The new patch reef sites have high cover so they may be driving up the values. Some of the main trends in octocoral, sponges and macroalgae cover were reviewed. Macroalgae appears to spike after bleaching occurs and drops after hurricanes as in 2005. Macroalgae in the Keys might be kept in check by management actions that protect herbivorous fish from being overfished. No major bleaching took place from 1999 to 2009, but a cold water mortality event occurred in 2010. *Montastrea annualaris* has been experiencing an overall decline across the Caribbean. This species was once responsible for a high proportion of stony coral cover in the Keys. Statistical analyses show that octocorals are becoming a more important component of the reefs over time (1999-2009) and an increase in octocorals Keys-wide was seen in all habitats.

### **Discussion**

In response to a question about why octocorals are increasing, Rob explained that the reasons are not fully understood, but the trend is expected to continue. *M. annularis* is being listed because of its decline regionally. Stony corals may or may not recover in the long run, but the outcome will probably vary from one species to another. Other corals such as porites and cavernosa are doing okay. Protections for herbivorous fish have probably been helpful in many ways and should remain in place. Species designations for certain corals should be helpful, along with water quality restoration. The change that is taking place on reefs is that the benthic autotrophs are declining while heterotrophs are increasing (in proportion), which suggests that there may be more chlorophyll in the water column for heterotrophs to consume. Elsewhere in the Caribbean have experienced changes from stony corals to octocorals. Climate change is a reality and it is important to preserve and protect as the transition is made to new conditions. Climate change needs to be addressed more actively. Resiliency is a good tool to use, along with data from other parts of the Caribbean. *Diadema* recovery has been slow and water quality is an important factor, but teasing out the contributions of each factor is difficult. Octocorals do provide services for fish, but restoration programs using key coral species could help restore reefs. *Acropora* restoration is already underway and has been successful.

### **B. Water Quality, Dr. Henry Briceño, Florida International University**

Dr. Henry Briceño gave a presentation about the water quality monitoring program. To view this presentation, visit: [http://ocean.floridamarine.org/FKNMS\\_WQPP/pages/wqpp\\_minutes.html](http://ocean.floridamarine.org/FKNMS_WQPP/pages/wqpp_minutes.html)

Dr. Briceño reviewed the EPA water quality targets: chlorophyll, light attenuation (Kd) and dissolved inorganic nitrogen (DIN) and total phosphorus (TP). Targets are based on 10 years of data. Yearly values are calculated and compared against the baseline for water quality. In most cases targets have been met in recent years. Waters in the Keys are naturally very oligotrophic. Trend analysis shows that the sluiceway is a place where many changes are taking place. DIN has increased in Tortugas and Marquesas and in a couple of sluiceway stations. TP has not changed much over time. Chlorophyll has increased along northeast Shelf and sluiceways and has declined in the backcountry. Light extinction (Kd) increased in eastern Shelf and stayed practically the same in sanctuary. Total organic carbon (TOC) is declining sanctuary-wide and has been since the early 1990s. TOC is also

declining in the Everglades. TP is influenced by land, especially the Ten Thousand Island area. TN has increased in Tortugas, upper Keys and lower Keys. Due to a significant budget reduction, many stations were dropped in recent years. Without the sampling stations to the north and west outside of sanctuary boundaries (middle Keys shelf), it is difficult to say where nutrients are originating.

Using biogeochemical properties (identified through analysis of the data), Keys waters were divided into geographically distinct separate water bodies. These subdivisions have been adopted by EPA and FDEP for nutrient criteria and this approach was possible because of the long-term monitoring data that pointed out the different water characteristics in different areas. Recently, the team has been working with NOAA IMPACT program to link climatological information with water quality data and detect changes using remote sensors. A proposal to fund this work has been sent to NASA-ROSES. The program has not detected any trend toward acidification in the Keys at this point.

### **Discussion**

A brief discussion took place regarding sampling and analyses costs. The Dry Tortugas stations were dropped because of the costs involved in getting to this remote location.

### **C. Seagrass, Dr. Jim Fourqurean, Florida International University**

Dr. Fourqurean provided a presentation on the seagrass monitoring program. To view this presentation, visit: [http://ocean.floridamarine.org/FKNMS\\_WQPP/pages/wqpp\\_minutes.html](http://ocean.floridamarine.org/FKNMS_WQPP/pages/wqpp_minutes.html)

Dr. Fourqurean explained that recently published research paper suggests that the seagrass community buffers the ocean from acidification. Although the seagrass program has cut back sampling from 4 times per year to 2 times, they were able to add 10 additional sampling sites near canal entrances to help track changes associated with wastewater improvements. Today, the program collects data on nutrient content, stable isotope ratios and relative abundance of species from 40 fixed sites. The sites are co-located with water quality monitoring sites. From the data, scientists produce seagrass distribution maps for each species and track trends in nutrients. Each plant species has a different response to environmental conditions and tracking the kinds of plants growing in a location over time can help detect whether an area is trending toward or away from nutrient enrichment. In 2012, species composition shifted in a manner consistent with increased nutrient availability at 19 of 30 sites. Data (from 10 years) were distilled down to create two indicators, the N:P ratio as it relates to the Redfield Ratio (Elemental Indicator) and Species Composition Index (SCI). In many areas, light is becoming more limited and nutrients are becoming more available, producing conditions not favorable to seagrass growth.

### **Discussion**

In most cases, indicators are trending to more nutrients, less light. The only place where they have seen the reverse trend was at the stations placed at the entrance of Little Venice canals. This reverse trend was attributed to better water quality associated with wastewater upgrades that took place in the canals of Little Venice.

### **D. Data and Website update, Mr. Daniel Kiermaier, Fish & Wildlife Research Institute**

Mr. Daniel Kiermaier provided a presentation on data and website update. To view this presentation, visit: [http://ocean.floridamarine.org/FKNMS\\_WQPP/pages/wqpp\\_minutes.html](http://ocean.floridamarine.org/FKNMS_WQPP/pages/wqpp_minutes.html)

Daniel provided a CD with the protection program data and information for everyone.

Mr. Kiermaier made the following key points regarding data management and the website ([http://ocean.floridamarine.org/FKNMS\\_WQPP](http://ocean.floridamarine.org/FKNMS_WQPP) ). Field data are reformatted to be part of the stored data retrieval system. Both the manipulated and raw data are available on the website, along with ESRI shapefiles. The NASA ROSES project is also featured on the website now. Non-ESRI users can download KMZ files and use Google Earth to view data layers. Website visitation has increased in the past few years. People seem to be looking for and using data.

Note: All of the presentations from steering committee meetings are posted on the website.

## **IX. WQPP Open discussion, Future direction, funding, updating WQPP action plan, other ...**

### **Funding Issues and Outreach**

The impacts to the program due to funding reductions have been communicated to the funding agency, but more can always be done to communicate with Washington and to inform local and congressional representatives. Other people involved in this program can also carry this message to decision-makers and local representatives. Programs have already been cut so much. EPA expects to receive 1.7 million for the next year, not taking into account any impacts from possible sequestration. The application for funding is due from the PIs by May 15 (last year's funding level).

### **WQPP Biennial Report and Outreach to the Media**

The Biennial report was well done. It is going through EPA legal right now and if there are any corrections please send them to Steve Blackburn. This report will be useful in informing decision-makers about the program. Steve will send out a final draft to the steering committee.

FKNMS has some tools that can be used to communicate to people regarding water quality issues. On the sanctuary's web, web stories are featured and science summaries are posted. *Waterways* is a television program that has been very successful in reaching people with natural resource information. The sanctuary's media coordinator at the sanctuary, Karrie Carnes, can also send out press releases, for example, to announce the release of the WQPP Biennial report.

The timing of the release of the Biennial report is important to reach decision-makers and should be accompanied with a press release, if that is appropriate. Multiple releases can be done at a variety of levels and different agencies, including possibly EPA. It is dated 2013 right now. The executive summary can stand alone and serves as a brief summary, but might consider shortening the next biennial report.

### **General Public Education and Scoping Comments on Water Quality**

Now that **Tropical Connections** has been published, it could be time to think about reaching out to tourists with information about the natural resources and revisit the original intention of the outreach program. Outreach was suggested as a topic for the next meeting. Having this item would give a chance to explore different options for reaching people on these issues. Sometimes outreach can also generate funds for a non-profit friends group.

Another opportunity to reach the public will take place when the management committee reviews the water quality scoping comments and produces a document containing this information. Water quality comments might also be news in this community. In the outreach strategy, the message needs to be carefully considered and explained to provide a true understanding and in order not to convey conflicting information that could be misunderstood. The population of the Keys turns over fairly

often and that needs to be considered. Some of the messages about water quality are already contained in the Condition Report, 2011, and the water quality science summaries. During Water Quality Awareness Month, an awareness campaign coordinated by the WQPP in past years, steering committee who took opportunities to speak in public or appear on live radio.

**X. Public comment**

Alison Higgins, City of Key West

The City of Key West has launched the *Preserve Island Life campaign* to promote sustainable practices in Key West. As part of this campaign, they are celebrating Water Quality Awareness Month. Alison reached out to the sanctuary for materials and information regarding Water Quality Awareness Months sponsored by the Water Quality Protection Program in past years. Whenever possible, Alison would like to coordinate with the protection program on water related outreach issues.

**XI. Closing Remarks/Next meeting date,**

The date for the next meeting is July 10<sup>th</sup>. Steve will send an email to everyone to make sure they have it on their calendars. This meeting will be one day after the Sanctuary Advisory Council meeting.