FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL

Hyatt Place
1996 Overseas Highway
Marathon, FL 33050
Tuesday February 19, 2019

FINAL MINUTES

SANCTUARY ADVISORY COUNCIL MISSION STATEMENT
(adopted unanimously, December 6, 2005)

Council Members
Boating Industry: Bruce Popham (Chair) (absent)
Tourism – Lower Keys: Clint Barras (Vice-Chair)
Citizen at Large – Lower Keys: Mimi Stafford
Citizen at Large – Middle Keys: George Garrett
Citizen at Large – Upper Keys: David Makepeace
Conservation and Environment: Ken Nedimyer
Conservation and Environment: Chris Bergh
Diving – Lower Keys: Joe Weatherby
Diving – Upper Keys: Elena Rodriguez
Education and Outreach: Jessica Dockery (absent)
Elected County Official: Michelle Coldiron
Fishing – Charter Fishing Flats Guide: Will Benson
Fishing – Charter Sports Fishing: Steven Leopold (absent)
Fishing – Commercial – Marine/Tropical: Ben Daughtry
Fishing – Commercial – Shell/Scale: Justin Bruland (absent)
Fishing – Recreational: Ken Reda
Research and Monitoring: David Vaughan
South Florida Ecosystem Restoration: Jerry Lorenz
Submerged Cultural Resources: Corey Malcom
Tourism – Upper Keys: Andy Newman

Council alternates (present)
Boating Industry: Karen Thurman
Citizen at Large – Lower Keys: Stephen Patten
Citizen at Large – Middle Keys: Rachel Bowman
Citizen at Large – Upper Keys: Suzy Roebling
Diving – Lower Keys: Don Kincaid
Fishing – Charter Fishing Flats Guide: Dale Bishop
Research and Monitoring: Shelly Krueger
South Florida Ecosystem Restoration: Elizabeth Jolin
Submerged Cultural Resources: Diane Silva
Tourism – Upper Keys: Lisa Mongelia

Agency Representatives (present)
Florida Department of Environmental Protection: Joanna Walczak, Kevin Claridge
FWC Division of Law Enforcement: Captain Dave Dipre
FWC Fish and Wildlife Research Institute: John Hunt
U.S. Coast Guard (USCG): Petty Officer 1st Class Brian O'Neal, Phil Goodman (Auxiliary)
U.S. Navy Naval Air Station Key West: Ed Barham

Municipalities
City of Key West: Sam Kaufman
Village of Islamorada: Honorable Deb Gillis

I. CALL TO ORDER, ROLL CALL, AND MEETING MINUTES APPROVAL OF DECEMBER DRAFT MEETING NOTES

MOTION (passed)
A motion to approve the December 2018 minutes was made by Ken Nedimyer and seconded by Dave Vaughn. The minutes were approved. A motion to adopt the agenda was made by Mimi Stafford and seconded by Ken Nedimyer. The agenda was adopted without change.

Chairperson's Comments
Chairperson Barras acknowledged the passing of former SAC member David Hawtof, who provided years of service to this council.

On February 10th, the National Marine Sanctuary Foundation held their annual board meeting in Key West. During that meeting, the new chapter of the Foundation based in the Florida Keys was announced. The new chapter will focus on coral restoration within the sanctuary. Fury Water Adventures is supporting this chapter with a very generous $25,000 initial donation.

In other recent news, the City of Key West recently passed a ban on certain sunscreen ingredients, and the council is looking forward to seeing the results of this ban in the future.

Chairperson Barras welcomed new council member John O'Leary, who is the alternate on the Lower Keys Tourism seat.

To view the presentations given by speakers at this meeting, visit https://floridakeys.noaa.gov/sac/meetings.html?s=sac.

II. MARITIME HERITAGE MANAGEMENT, RESEARCH, AND INTERPRETATION
Matthew Lawrence, Florida Keys National Marine Sanctuary Maritime Archaeologist

Mr. Lawrence's presentation summarized heritage management, research and interpretation in the sanctuary. In the Keys, people depend on the coral reef for recreational and economic support and the shallow reef is the reason why the sanctuary has so many important historical resources. Through the shipwrecks, lighthouses and other submerged resources, the stories of people who came before can be told and people can use this knowledge to better understand the present.

In the Florida Keys, Native American culture is represented by submerged archaeological sites dating 15,000 years before present when the sea level was much higher. Such submerged sites can be difficult to locate and study, but not impossible. Native American sites have been uncovered in other locations in Florida. Shipwrecks from the past 500 years of history provide a glimpse of a different kind of past when European ships navigated along the Keys coastline where they encountered the shallow reef. The City of Key West became a trading port that connected the Keys to other parts of the Caribbean and world. Later, American ships sailed these waters and historic navigational structures were installed by the federal government to warn mariners of the shallow reefs and prevent groundings/casualties. Today, an estimated 2,000 shipwrecks are found along the narrow reef tract and they help tell the story of how people lived onboard ships as well as in nearby settlements.

Mr. Lawrence explained that sanctuary regulations use the term historical resources to describe physical items such as shipwrecks and lighthouses. Other terms with slightly different meanings have also been used. Maritime heritage is a broader term that refers to the culture and larger context. Artifacts are non-renewable items and this fact is considered in managing these resources. Historical resources provide unique information on the past and can enrich lives.

One of the management challenges is unpermitted disturbance of artifacts. Most artifacts are best left where they were found in the sea and illegally removing and/or damaging them in some way is against sanctuary regulations. This includes hand-fanning to uncover artifacts. In recent years, the maritime heritage team has trained law enforcement officers in the regulations covering these historic resources. Education and sharing information are key to protection.

Inventory of the resources is important and allows for informed decision-making. Over the years, the sanctuary has developed partnerships with a variety of organizations that have helped with inventory and information gathering. Indiana University has been a long-term partner that has developed a variety of technologies to photograph, document shipwrecks and other sites. *Diving With a Purpose* is a volunteer group has mapped the *Hannah M. Bell* and Acorn wrecks, both British steamships. The University of Miami is currently conducting the Carysfort Reef Landscape Study, which involves mapping using drone technology. The Molasses Reef Landscape project, which is being conducted by FKNMS staff member Cassie Qualls, involves identifying the different wrecks from different periods found on Molasses Reef. MAST (Maritime Archaeological Survey Team) has been studying pickle's wreck and uncovering the truth about the cement barrels, which are not related to the original wreck.

Historical resources are managed in conjunction with Florida's Division of Historical Resources through a Programmatic agreement for operation and management that is currently being renewed. FKNMS consults with the state managers in permitting and other matters pertaining to historical resources.

This past year, the History and Discovery Museum has hosted the Treasures of NOAA's Ark, which tells the story of NOAA's roles in mapping and charting the oceans. Other historic displays are at Crane Point Museum and the Key Largo Chamber of Commerce. The maritime heritage team is currently developing exhibits for History of Diving Museum, John Pennekamp Coral Reef State Park Visitor Center and the refresh of exhibits at the Florida Keys Eco-Discovery Center. The sanctuary's Shipwreck Trail is one of the signature ways that FKNMS has provided education to the public.

New technologies for exploring and depicting resources have been developed in recent years. Mr. Lawrence showed the 360 degree imagery that people can explore on the marine sanctuaries virtual dive website.
Questions/Comments/Discussion

- The question as to when something discarded (as debris) in the water become of historic/archaeological value was raised. Mr. Lawrence stated that generally the policy is to remove anything that is derelict fishing gear, etc. to prevent it from damaging natural resources. A 50 year time period is used to attribute historic value. It is possible that something that is trash today could be of historic value. This situation is not likely, although it would depend on the context/circumstances at the time.
- A suggestion was made to include the Vandenberg wreck as part of the sanctuary's Shipwreck Trail. This is a signature wreck that is included on the Tourist Development Council's Wreck Trek. Mr. Lawrence explained that this idea could be explored. The original ships on the trail were selected for a variety of reasons.
- A comment that the story of Flagler's railroad and the artifacts associated with it would also be of interest to tell.

III. RESEARCH AND INTERPREATION OF SLAVE SHIP SHIPWREACKS IN FKNMS
Corey Malcom, Mel Fisher Maritime Heritage Society Director of Archaeology and Advisory Council Submerged Cultural Resources member

Mr. Malcom explained that the slave trade was in existence for close to 400 years and that during that time, the rules varied over time and place. Every story is unique, but overall, 12,000,000 people in 36,000 voyages across the Atlantic Ocean were enslaved. In 1972, Mel Fisher's salvers came across the *Henrietta Marie* using a magnetometer. This ship, which was identified by its bell, was an English slave ship that wrecked in 1700s on New Ground reef (off Key West). This wreckage, which has been documented and mapped, has yielded trade goods, weapons, and shackles used to hold two people together chained by the angle. In 2001, the Mel Fisher Museum team partnered with RPM to use a magnetometer to search for the rest of the ship. Using the magnetometer technique, they located the ancient shoreline of Florida, which was now 50 feet below the surface. The rest of the ship was never found. A memorial was placed on site in 1993 by the National Association of Black SCUBA Divers.

Mr. Malcom recounted what is known about the *Guerrero*, a Cuban pirate slave ship that sank in 1827 near Key Largo while being pursued by the HMS Nimble, a British ship. Slavery was illegal at the time. When the ship wrecked, over 500 people were aboard; most were rescued, but later, while sailing to Key West, the ship was captured by pirates. Most of the Africans aboard were sold as slaves in Cuba, but some ended up in Key West and were eventually returned to Liberia in Africa. Archaeologists may have discovered the wreck site of the *Guerrero* and the *Nimble*. Biscayne National Park has an archaeological team examining another site within the national park.

The *Ivory Wreck*, known because it contained ivory tusks, is located on Delta Shoals. It was first discovered by a doctor and his family. Later Art McKee, treasure salver became involved. One tusk is housed at the Mel Fisher Museum. This wreck may be a slave ship because of the African elephant connection. In the mid-1800s, when slavery was illegal, Navy ships were stationed in Key West to

block this highly profitable illegal trade. Three ships were captured and the enslaved people were delivered to Key West, where they were eventually relocated to Liberia. During the three month period in Key West, 295 African refugees died from illness and were buried in 1861 on the south shore of Key West. Most of the burial site is in Higgs Beach Park is under West Martello Tower. Using ground penetrating radar, the Mel Fisher team was able to locate actual graves. A memorial on the beach tells the story of these people, which is a unique site in the United States. The Mel Fisher Maritime Society just launched Floridaslavetradecenter.org. Mr. Malcom also showed 3-D models of artifacts using the Sketchfab technique, Sketchfab.com/mfmaritimemuseum. The Florida Keys is home to some of the most incredible sites in history.

Questions/Comments/Discussion

- Congratulations were offered for the extensive work done by Cory Malcom and his team. They have had incredible success partnering with a wide array of organizations. Mr. Malcom commented that the partnerships formed under different circumstances over the years.
- With regards to the slave burial grounds in Key West, they used the ground penetrating method to avoid disturbing the sites.
- New technologies have made shipwrecks and other artifacts come alive for people.

Break

IV. FLORIDA PUBLIC ARCHAEOLOGY NETWORK: HANDS ON HISTORY
Sara Ayers-Rigsby, Florida Public Archeology Network

The Florida Public Archeology Network (FPAN) is focused on education and outreach, assisting local governments and the Florida Department of Historic Resources to increase the awareness of historical resources. From these partnerships, two programs have formed: Heritage Awareness Diving Seminar (HADS) and Heritage Monitoring Scouts (HMS).

The focus on HADS is to empower scuba instructors to become more aware of submerged cultural sites and become certified to teach their clients about the importance of these sites. Over 150 instructors have been certified to teach the Heritage Awareness specialty diving course through PADI or NAUI.

Historic preservation has a large economic impact on the state of Florida, increasing interest in cultural tourism brings over $6 billion annually to the state, which is one of the many reasons to preserve these cultural sites. The HMS program is a citizen science program to empower participants to monitor specific heritage sites that are at risk as determined by the state of Florida. During 2018, over 860 reports were submitted spanning over 700 at risk sites. Every county in the state has volunteers, with a total of 432 trained citizen scientists contributing to this effort.

An expansion of the HMS program has recently been launched to explore underwater sites and collect additional data of those heritage resources. In coordination with FKNMS, trained volunteers can monitor addition data such as mooring buoy status, coral health, and ecosystem condition. Currently, this program focuses on the various public trails throughout the state, including the Shipwreck Trail within the sanctuary. To date, 23 sites have been documented by these volunteer

divers, with many more that need to be monitored. Additional training dates will be announced via the FPAN website.

Discussion

- A council member asked about resources which are in danger of being lost due to sea level rise. Ms. Ayers-Rigsby described the massive efforts undertaken to document archeological sites, and that the unfortunately reality is that some sites will be lost without documentation or possibly without ever being identified.
- To sign up for the next HADS or HMS training, please check the FPAN website.

V. COMMUNITY ENGAGEMENT IN FLORIDA KEYS MARITIME HERITAGE
Matthew Lawrence, Florida Keys National Marine Sanctuary

Mr. Lawrence introduced the council to an FAQ page produced by sanctuary staff for this council to assist with public awareness of maritime heritage within FKNMS. This document is in draft form and sanctuary staff would appreciate any comments to strengthen the content before it is made available for wider distribution.

Discussion

- An anchor near the *Benwood* shipwreck was uncovered during Hurricane Irma, which was partially unearthed previous to the storm but is now fully visible. Additionally, other sites have been uncovered which were not formerly known. For example a wooden hull structure that had been buried was reported on Molasses Reef.

VI. STATUS UPDATE: MARINE ZONING AND REGULATORY REVIEW
Sarah Fangman, Florida Keys National Marine Sanctuary

Superintendent Fangman announced the expected release date of the Restoration Blueprint (also known as the Draft Environmental Impact Statement) will be the August 2019 Advisory Council meeting. This document will contain the four alternatives, including boundary and regulatory changes and the updated sanctuary's management plan. During the advisory council meetings prior to August, sanctuary staff will ensure the agendas cover the key topics and issues within that document. Sanctuary staff and advisory council outreach efforts will begin to increase as we approach that date, and will be augmented by various outreach products including a PowerPoint, a video, and an infographic.

The intention of the August meeting will be to brief the advisory council on this document, and public informational meetings will be held after in areas around South Florida. A public comment period will follow the release, and will be open for as long as possible. In order to provide input, the public can provide online comments through regulations.gov or by attending a public meeting.

After the public comment period is closed, sanctuary staff compile those comments and make adjustments to the Restoration Blueprint in order to be released for final public comment. Finally, regulations will be posted and the Governor of Florida has a chance to comment.

Discussion

- From draft release to final implementation of regulations can be a minimum of a year.
- The agency is obligated to consider each public comment in order to shape and advance the document to the final stages. If there is a large scale issue which emerges during this process, a supplemental document may be necessary.

Lunch

VII. DIVE N2LIFE SUPPERTS GOAL CLEAN SEAS: FLORIDA KEYS

Kama Canon and students, Dive N2Life

Ms. Canon introduced the Dive N2Life program as an extracurricular scientific diving non-profit organization dedicated to introducing middle and high school students to higher level marine science education. The organization is supported by the National Marine Sanctuary Foundation and the National Park Conservation Association, and through this funding support has been able to reach nearly 100 students since 2016.

Each semester, the program welcomes a cohort comprised of approximately 12 students, and includes participants as young as 8 years old. Adults also participate in the program working as dive masters, dive instructors, and volunteers. As part of the board of directors, the organization created a Youth Leadership Council that allows the students to participate in the leadership of the non-profit.

One of Dive N2Life's students, who is the youngest SSI master junior diver in the world, spoke about her experiences in the program which has allowed her to expand her interests in ocean conservation. Another student described her initial fear of the water, and through this program is now a dive master in training. Beyond learning how to dive, the students participate in conservation and scientific activities including marine debris removal, invasive species mitigation, and coral disease research.

As part of Goal: Clean Seas Florida Keys, Dive N2Life was permitted to remove derelict fishing gear, and received a grant from the National Marine Sanctuary Foundation to carry out five marine debris cleanup events, collecting over 4,000 lbs. from the reef. To learn more about the organization, please visit the website or Facebook page.

Discussion

- Many council members expressed their appreciation and support for the goals of Dive N2Life.
- During their attendance at the Everglades Coalition in January, the students were able to understand more about advocacy in conservation and meet with congressional leaders from their district.
- A council member suggested adding a youth member to the advisory council.

VIII. OCEAN GUARDIAN SCHOOL PROGRAM

Marlies Tumolo Florida Keys National Marine Sanctuary Blue Star and Goal: Clean Seas Florida Keys Coordinator

Ms. Tumolo introduced the Ocean Guardian School Program, which recognizes schools across the

United States that are committed to watershed/shoreline restoration and protection. Once recognized, grants are available to the schools to support their conservation project. Projects can be focused on one of multiple pathways: the 6Rs, Community Habitats, Watershed Restoration, Marine Debris, and Energy Use/Ocean Health. Since program inception in 2009, students in the program have removed over 300,000 lbs. of trash, removed over 200,000 square feet of non-native plants, and installed more than 1,000 recycle containers within their schools and communities.

A study was recently completed to better understand the impacts and reach of the Ocean Guardian School program. Parents reported their willingness to pledge the most financial support to the community habitat creation pathway, almost $60/student. Additional studies have shown that if schools are given a small amount of funding ($4,000) to implement these projects for a few years, the practice will become engrained within school culture and can continue even without funding.

In the Florida Keys, four schools are recognized as Ocean Guardian schools, two of which are funded through NOAA grants. Key Largo School is working to restore a nature trail and add interpretive signage. Stanley Switlik Elementary School is focusing on the 6Rs to add a recycling program throughout their campus. The Academy at Ocean Reef is focusing on habitat creation with mangrove seedlings and marine debris removal focusing on monofilament recycling within their community. Ocean Studies Charter School is working with their third grade classes to restore mangrove habitats.

IX. TURTLES IN FLORIDA KEYS NATIONAL MARINE SANCTUARY

Blair Witherington and Ryan Welsh, InWater Research Group

Mr. Witherington explained that InWater Research Group (IRG) is a nonprofit organization that specializes in sea turtle research and education/outreach in Florida. IRG has received funding from the sea turtle license plate and ongoing contracts and grants. Mr. Witherington showed a video of scientists conducting research on sea turtles near the Marquesas (https://vimeo.com/304205299). On behalf of IRG, Mr. Witherington offered its help to the advisory council and sanctuary if there are questions and/or information needs pertaining marine turtles.

Mr. Witherington recounted the history of sea turtle harvesting in the Florida Keys. A turtle processing plant began processing turtles in the mid-1800s. It took a while for the plant to process all living turtles in the Keys; By the 1950s/60s turtle hunters were capturing turtles from outside of the Keys for processing. (Note: Sea turtle species were protected under the Endangered Species Act of 1973).

Today, IRG is monitoring sea turtle populations in the Keys. The team collects growth data, blood samples, etc. on hand-captured turtles. Tag return data on turtles indicates that Keys turtles have nesting connections with areas in the Yucatan, Florida and elsewhere. Satellite tags on turtles has been used to track finer scale movements and give an indication of the home ranges of these animals. Research findings have shown that the Key West National Wildlife Refuge is an important foraging area for sea turtles: adult and subadult greens, small loggerheads, and hawksbills. Kemp Ridley's have also been observed in the area. The different species tend to be located in different places and have somewhat different habitat preferences. The Quicksands, Mooney Harbor, Lakes Passage and Cottrell Reef and West Jetty have been identified as important areas for sea turtle foraging in the Lower Keys.

Mr. Welsh explained that IRG used the Haphazard Unmarked Nonlinear Transects (HUNT) method to identify hotspots of turtle activity added. One hotspot was the Quicksands, west of Marquesas. Fixed transects that are regularly sampled were set up in the hotspots. IRG estimates on turtle density indicate that the highest densities of adult green turtles in the world are found in the Quicksands, making this area very special. In this area, IRG data detected a spatial separation between adults and subadults. Adults tend to prefer shallow water where ecotones exists (bare sand/seagrass/hardbottom) and subadults prefer seagrass habitat and deeper water. This may be due, in part, to predator (shark) avoidance behavior in the different sized turtles.

Mr. Witherington explained that sea turtles experience many threats and some species are endangered worldwide. In the United States, where fisheries are highly regulated, commercial fishing trawls use Turtle Exclusion Devices TEDs to keep turtle mortalities down. Even so, shrimp trawling and long-line fishing each kills an estimated ten thousand of turtles every year. Direct strikes by vessels are the single most recognizable cause of mortality for turtles that strand on beaches. Entanglement in abandoned fishing line, trap rope, and other marine debris is also a significant issue and points to the importance in marine debris cleanups in the Florida Keys. Green turtles are known to become inflicted by Fibropapillomatosis, which manifests as skin tumors, and can eventually kill them. Florida Bay and the Upper Middle Keys are hotspots for Fibropapillomatosis. IWG is working with the Sea Turtle Hospital in Marathon and Force Blue team to catch sea turtles and examine habitat characteristics where disease incidence is higher. Other surveys are planned in other locations. Green sea turtles, which were largely depleted due to overharvesting, have made a comeback in the Keys. Today, the highest density area for this species is in the Keys. This is a great success story. IWG would like to see these high density hotspots in the sanctuary get the protection they deserve.

Questions/Comments/Discussion

- In response to a question about seasonal variation in distribution, Mr. Witherington explained that it is somewhat difficult to draw conclusions about year-round distribution because most surveys are done in the summer months. In many cases, though, turtle residence seems to be year-round, except for green turtles, which are usually migrating to and from nesting beaches in Florida, Mexico and elsewhere during the summer months.
- A question was asked regarding the status of Fibropapillomatosis. Mr. Witherington explained that it is hard to tell whether the disease is on the rise, but Florida Bay and Indian River Lagoon seem to be two hotspots for this disease. Water quality has been implicated in this disease, especially water bodies with limited circulation and that receive input from agricultural.
- In response to a question about hotspots for boat strikes, it seems that boat strikes can occur anywhere. It is hard to tease out patterns from what is known.
- In response to the status of the population of green turtles west of the Marquesas, it is difficult to say whether the entire population is growing, but scientists do know that there is a concentration in this most important foraging area.
- In response to fishing gear causing impacts to turtles, it is difficult to estimate mortality from traps, entanglement, etc. but marine debris contributes to turtle mortality. Many turtles that die do not end up on shore where they can be counted, so the overall impact is difficult to estimate.

X. SOUNDSCAPES IN NATIONAL MARINE SANCTUARIES

Dr. Jenni Stanley, PhD, Woodshole Oceanographic Institute and Stellwagen Bank National Marine Sanctuary

Dr. Jenni Stanley described the research being conducted using low-frequency acoustic monitoring stations, called noise reference stations. Twelve low-frequency listening stations exist nationally, each with identical instrumentation, which allows for using data in a comparative manner. (https://maps.ngdc.noaa.gov/viewers/passive_acoustic/). Most noise stations are found in deeper water, but four shallow stations were established with two locations per sanctuary in Stellwagen, Florida Keys, Gray's Reef and Flower Gardens.

For one month in each of the four seasons per year, the instruments recorded continuously in order to characterize the site and allow for comparisons with other sites. In the Florida Keys, Western Dry Rocks, was selected as one noise station. This area is a spur and groove reef system that is thought to have fairly high fishing activity. In contrast, the second location, Eastern Sambo Research Only Area, is closed to all fishing activity. Boating noise can still be detected in Eastern Sambo RO because noise travels in water.

The soundscape is composed of abiotic sounds made by wind and waves, biotic sounds made by animals such as snapping shrimp, lobster, fish and anthropogenic sounds made by boat engines and sonar. The soundscape of an area, which can be used to give an indication of habitat quality/health, helps to characterize or monitor changes between and among habitats. Acoustical data can be used to examine seasonal trends, diurnal and nocturnal trends in the different areas and for different species. Certain frequencies are associated with sounds made by certain marine life. In the Florida Keys NMS snapping shrimp sounds are important cues for larval marine life. Planktonic organisms use snapping shrimp sounds to orient to and find areas for settlement for the next phase of the organisms' life.

Vessel traffic data, collected through the Automatic Identification System (AIS) are available at MarineCadastre.gov. These data can be used to identify vessels within the radius of a particular listening site. AIS data are very helpful in Stellwagen Bank NMS, but not so useful at FKNMS where most vessels are less than 55 feet and are not required to have AIS. In this situation, scientists use computer automation and hand browsing to detect vessel traffic. Vessel traffic at Western Dry Rocks in the summer of 2016 was determined during the three days around each moon phase. This kind of work can show key characteristics of the soundscape and how it changes over time and space. Events such as fish grazing, whale vocalizations and vessel traffic are detectable in the acoustic data.

In December 2016, Navy and NOAA settled with the plaintiffs (National Resources Defense Council). The parties agreed to carry out ocean noise work over the next four years. This includes developing the capacity to protect acoustic habitats, including in national marine sanctuaries, modeling marine mammal density and distribution in data-poor areas; identifying areas of biological importance and collecting density data. The program will have 30 monitoring stations spread across marine sanctuaries on the east and west coasts and the Pacific. Soundtraps, slocum gliders and animal telemetry networks will be used to characterize the soundscapes on these sanctuaries. Four stations will be located in the FKNMS and will collect data that will give a better picture of the movement of organisms between the recording sites.

Questions/Comments/Discussion

- In response to a question about the goal of using this technology in the Florida Keys, Dr. Stanley explained that the Navy is interested in finding out how their activities are influencing the soundscape and how human noise might change over time. This information will also establish a baseline for soundscape data. Hearing and sound are important in the marine animal world.
- In response to comment about how the soundscape changes at a reef as the reef dies, Dr. Stanley explained that the lack of sound can indicate that habitat losses have taken place and sound can return as the habitat returns.

XI. PUBLIC COMMENT

Charline Queneé, Graduate Student at University of Miami, Rosensteil School of Marine and Atmospheric Science

Ms. Queneé stated that she is working on the Florida Keys Integrated Ecological Assessment project with sanctuary staff, Beth Dieveney and Andy Bruckner. This project is collecting information on biological, physical and sociological indicators in the sanctuary. Her interest lies in the sociological aspects of management. As part of her Master's thesis, she has developed an anonymous survey that she hopes advisory council members will take and provide feedback. Ms. Queneé will be working with Beth Dieveney to distribute the survey via email. The goal of the survey is to look at management perceptions of diverse stakeholders to help fill in the gap between management and stakeholders. She is happy to answer any questions. The survey asks people to rate the top threats to the sanctuary and provide feedback on regulations. Most people are completing the survey in 7-8 minutes.

XII. MEMBER UPDATES OF NOTE

Andy Newman mentioned the absence of red tide currently in the Florida Keys, and would like to hear from the science managers about the impacts of red tide. He also noted a change in certain fish species in Florida Bay and would like to hear from researchers about their abundance and if that species shift is in anyway tied to water quality issues.

Chris Bergh provided updates on the Florida Reef Resilience Program's public outreach and education campaign called Respect our Reef (#RespectOurReef). This commitment is a seven item pledge aimed at recreational angler and divers, and asked the council to share the campaign with their consituents. Mr. Bergh also discussed the Marine Zoning Works for Me outreach campaign, which encourages the general public to engage with the upcoming Restoration Blueprint and provides materials that can be used for outreach (https://www.marinezoningworksforme.org/).

George Garrett reported on the possibility of a new artificial reef which would be placed in the Atlantic waters off Marathon. Presentations on this idea were made to the Marathon City Council and were well received by the city officials who expressed interest in sponsoring the permit to host this type of project, though are not prepared to commit to any financial pledge at this point. Joe

Weatherby elaborated that he would like to present this idea to the council at a future meeting.

XIII. AGENCY REPORTS

Sarah Fangman, FKNMS

- Superintendent Fangman and other FKNMS staff participated in the Reef Futures Conference, which was held at Ocean Reef Club in December. This conference brought together over 500 people from 30 plus countries to discuss reef restoration. It was very timely having this event in the Keys where FKNMS staff could participate and benefit from the knowledge and information exchange that took place.
- Superintendent Fangman shared that FKNMS, in conjunction with the state, is developing guidelines for restoration in sanctuary waters. These guidelines are meant to address the false perception that the sanctuary is not encouraging restoration activities. Sanctuary staff is exploring ways to streamline restoration permit procedures to encourage practitioners to work in FKNMS. FKNMS is supportive of responsible restoration and wants the restoration community to know of this support. This is an exciting endeavor that includes working with partners.
- During the government shutdown, FWC was able to continue with law enforcement in the sanctuary and that was very much appreciated. Non-federal employees of FKNMS were able to continue to work during the shutdown so long as they didn't use federal facilities and incur additional costs, etc. FKNMS is very appreciative of state park service, FWC and DEP partners who were able to work with FKNMS non-federal staff, thus allowing some projects to continue to move forward. Unfortunately, there were some meetings and programs that were missed and FKNMS was not able to issue permits at this time.
- The Florida Keys Eco-Discovery Center in Key West is undergoing a refresh of its exhibits, including updates of the exterior of the facility.
- Dr. Billy Causey has retired after 40 years of service. A celebration is planned for April. Invitations will be sent to all.

Florida DEP Updates, Kevin Claridge, Director of Office of Resilience and Coastal Protection
Office of Resilience and Coastal Protection:

- The formerly named Florida Coastal Office (FCO) of the Florida Department of Environmental Protection has been renamed by Governor Ron DeSantis as the Office of Resilience and Coastal Protection (RCP).
- Governor Updates:
    - As many of you are undoubtedly aware, Governor DeSantis signed an Executive Order to implement major reforms to ensure the protection of Florida's environment and water quality. In particular, the order calls for:
        - $2.5 Billion over the next four years for Everglades restoration and protection of water resources (a $1 Billion increase in spending over the past four years and the highest level of funding for restoration in Florida's history)
        - The establishment of a Blue-Green Algae Task Force, which will focus on expediting progress toward reducing the adverse impacts of blue-green algae blooms now and over the next five years, as well as re-establishing a Red Tide Task Force.
        - Expediting projects to clean and reduce discharges from Lake Okeechobee,

and pursuing the federal government's unfulfilled commitment of $200 million annually for Everglades restoration.
        - Creating grant programs to assist communities with water supply and septic tank projects.
        - Appointing a Chief Science Officer to prioritize scientific research and analyze needs for addressing the state's most pressing environmental concerns
        - The Creation of the Office of Environmental Accountability and Transparency charged with organizing and directing integrated scientific research and analysis to ensure that all agency actions are aligned with key environmental priorities.
    - He has also supported $6 million in resilience funding, half of which would be for coral priorities in the next Fiscal Year.
    - Secretary Noah Valenstein was officially appointed to continue serving as the Secretary of the Florida Department of Environmental Protection last Friday, 2/15.
    - Recently, Secretary Valenstein spoke with legislative partners about the agency's goals and priorities, as well as the continued focus on implementing Gov. DeSantis' Executive Order to Achieve More Now for Florida's Environment during the House Agriculture and Natural Resources Appropriations Subcommittee meeting. Secretary Valenstein discussed how the department is working to show Floridians the immediate impact water quality projects have throughout the state, including establishing the Blue Green Algae Task Force, filling the DEP Chief Science Officer position, and establishing an enterprise data portal.
    - Additionally, Joanna Walczak from DEP's Office of Resilience & Coastal Protection – SE Region presented about the status of coral disease in Southeast Florida, the importance of coral reefs for Florida's tourism and coastal resilience, as well as the department's coordinated efforts and collaboration with stakeholders to understand and respond to the disease impacts. Watch the meeting here

- In response to the Stony Coral Tissue Loss Disease (SCTLD) outbreak that has affected corals throughout the majority of the Florida Reef Tract, DEP is providing funding for a collaborative effort between FORCE BLUE and Nova Southeastern University (NSU) to initiate coral disease intervention treatments in the Keys. The strike teams officially began work in early January, treating priority coral colonies with either a mixture of amoxicillin or powered chlorine. Despite delays due to weather and the federal government shutdown, as of last week (2/8) they have treated nearly 400 lesions across 134 colonies at SPA sites across the upper and middle Keys, including Carysfort South, Key Largo Dry Rocks, Grecian Rocks, Molasses, Crocker, and Sombrero.
    - On each treated coral, strike teams are affixing numbered tags, which are being incorporated into a citizen science opportunity as part of a new project developed by NSU and the Citizen Engagement Coral Disease Response Team. With these tags, local divers can help researchers monitor the success of these treatments and identify areas that require retreatment. To participate, divers simply need to find any corals marked with a yellow tag, and send photos of the numbered tag, whole coral colony and any diseased areas to www.SEAFAN.net/tags.
    - An additional 7 sites were also visited, however no treatments were applied because

the susceptible corals at those sites were either healthy, small, or too diseased to attempt treatment. On a happy note, two inshore SPAs (Hens & Chickens and Cheeca Rocks) had a high density and diversity of corals but no active disease, despite disease having been clearly present on these sites in the past.

- The FORCE BLUE/NSU strike teams will continue conducting treatments at additional sites over the next couple months, including Looe Key.

Office of Ecosystem Restoration

- (Ed Smith) Regarding Everglades restoration, it is anticipated that the C-111 South Dade project will be complete this spring (May 2019).

Florida Parks Service:

- The John Pennekamp Coral Reef State Park revised Unit Management Plan was approved by the State's Acquisition and Restoration Council (ARC) in February. ARC is a 10-member group composed of appointed and agency representatives who, among other responsibilities, review management plans for the use of all state-owned conservation lands.

NOAA National Marine Fisheries Service, Heather Blough

- Due to the government shutdown, NOAA Fisheries was unable to process vessel and dealer permit renewal applications from December 21 through January 25. For that reason, we are temporarily extending the validity of those permits for which we received complete renewal applications prior to the permit expiration date. We anticipate making final determinations on all delayed permit renewal applications by March 31.
- The February data workshop for the yellowtail snapper stock assessment also has been postponed because of the shutdown. The new schedule will be posted on the SEDAR website when available.
- The Gulf Council will hold a public meeting at the Harvey Government Center in Key West at 6pm March 7 to inform charter and headboat operators about new electronic reporting requirements.

FWC, Captain Dipre

- FWC was able to make several cases during the government shutdown. Many people did not expect to see law enforcement on the water at this time.
- In the Tortugas region, FWC caught several people fishing the Tortugas Ecological Reserve.
- FWC offshore vessel came down from Tampa to patrol the shrimp fleets. They found three TEDs (Turtle Exclusion Devices) that had been sewn shut. FWC officers worked with NOAA Special Agent Kenny Blackburn on these cases. The catch on these vessels was seized. Other violations were also found on shrimp boats.
- More patrols are expected to be sent to the Tortugas as the weather warms.
- FWC still has hours to achieve on its contract with NOAA. Some smaller boats will be sent on patrols. Three additional vessels will be patrolling on the weekends.
- Marine life cases have been made in the Keys on the bridges.
- Since 2014, FWC has lost 33 officers (does not include retirements). They have left for better money or because of the high cost of living here. Rent is very expensive down here. This retention issue is also affecting the sheriff's office. This represents a loss to the community because new officers don't have the knowledge that experienced ones do.
- FWC mentioned the idea of working with Habitat for Humanity on rental housing for FWC officers. The idea of using poor conservation lands as locations for FWC housing was also

mentioned. Note: Chris Bergh suggested that the council work on a resolution that articulates this issue (not at the meeting today). He added, though, that low quality conservation lands were made conservation lands for a very good reason and can be made high quality again. This approach of using these lands in this way would not be well received in the community. George Garrett added that the state's Stewardship Act might allow for buying land for such purposes.

US Coast Guard, Petty Officer 1st Class Brian O'Neal (for LT Long)

- Since the last advisory council meeting, the USCG has received and investigated 18 National Response Center pollution reports.
- FWC was acknowledged for their assistance during the federal shutdown.
- USCG is currently monitoring a vessel that sank offshore of Islamorada. The vessel is not discharging anything and the owner is taking care of its recovery.

XIV. UPCOMING MEETING AND CLOSING REMARKS

Chairperson Barras reminded the council to submit their volunteer hours spent outside the meetings via the Google Form sent by the volunteer coordinator. (This doesn't include the time members spend at advisory council meetings.) The next council meeting will be held April 16th in Marathon.