

FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL
Hyatt Place
Marathon, FL 33050
February 16, 2016 FINAL MINUTES

The Florida Keys National Marine Sanctuary Advisory Council met on Tuesday, February 16, 2016 in Marathon, Florida. Public Categories and government agencies were present as indicated:

Council Members

Conservation and Environment: Ken Nedimyer (Chair)
Conservation and Environment: Chris Bergh (Vice Chair)
Boating Industry: Bruce Popham (absent)
Citizen at Large – Lower Keys: Mimi Stafford
Citizen at Large – Middle Keys: David Vanden Bosch
Citizen at Large – Upper Keys: David Makepeace
Diving – Lower Keys: Don Kincaid
Diving – Upper Keys: Rob Mitchell (absent)
Education and Outreach: Martin Moe
Elected County Official: George R. Neugent (absent)
Fishing – Charter Fishing Flats Guide: Tad Burke (absent)
Fishing – Charter Sports Fishing: Steven Leopold
Fishing – Commercial – Marine/Tropical: Ben Daughtry
Fishing – Commercial – Shell/Scale: Justin Bruland
Fishing – Recreational: Jack Curlett
Research and Monitoring: David Vaughan (absent)
South Florida Ecosystem Restoration: Pete Frezza
Submerged Cultural Resources: Corey Malcom (absent)
Tourism – Lower Keys: Clinton Barras (absent)
Tourism – Upper Keys: Andy Newman

Council alternates (present)

Citizen at Large – Upper Keys: Suzy Roebling
Conservation and Environment: Caroline McLaughlin
Conservation and Environment: Jessica Dockery
Diving – Lower Keys: Bob Smith
Education and Outreach: Kasey Fey
Fishing – Charter Fishing Flats Guide: Will Benson
Research and Monitoring: Shelly Krueger
Submerged Cultural Resources: Diane Silvia
Tourism – Lower Keys: Joe Weatherby
Tourism – Upper Keys: Lisa Mongelia

Local Elected Officials

City of Key Colony Beach – Mayor Jerry Ellis (absent)
City of Key West – Mayor Craig Cates (absent)
City of Layton – Mayor Norman Anderson (absent)

City of Marathon – Mayor Chris Bull (absent)
Village of Islamorada – Vice Mayor Deb Gillis

Agency Representatives

Florida Department of Environmental Protection: Joanna Walczak (absent)
FWC Division of Law Enforcement: Captain Dave Dipre
FWC Fish and Wildlife Research Institute: Tom Matthews
NOAA National Marine Fisheries Service: Heather Blough
NOAA Office of General Counsel: Karen Raine (absent)
NOAA Office of Law Enforcement: Kenneth Blackburn (absent)
Dry Tortugas and Everglades National Park: Christopher Kavanagh
U.S. Coast Guard: Phil Goodman (Auxiliary) (absent)
U.S. EPA: (absent)
U.S. Fish and Wildlife Service, National Wildlife Refuges Florida Keys: Dan Clark
U.S. Navy: Ed Barham (absent)

**I. CALL TO ORDER, ROLL CALL, AND MEETING MINUTES
APPROVAL OF 12/8/15 DRAFT MEETING NOTES**

**Pledge of Allegiance
Roll Call**

MOTIONS (Passed)

Chairperson Nedimyer welcomed everyone. A motion was made by Will Benson to approve the minutes from the December 8 meeting. The motion was seconded by Chris Bergh. Minutes were approved unanimously. The agenda was accepted without any objections.

Chairperson’s Comments

- Chairperson Nedimyer recently participated in the Sanctuary Advisory Council chairperson’s conference with chairs from other National Marine Sanctuary sites. He found the meeting to be very valuable. The work of the SAC is very much supported by Sanctuary leadership in Silver Spring, including the work related to the regulatory review. John Armor is acting director of the National Marine Sanctuary program.
- Conference topics of discussion/activities included:
 - The sanctuary nomination process and the two proposed new sanctuaries.
 - Presentation from NOAA Office of Law Enforcement Director, Jim Landon, about the role of law enforcement. He welcomes input on enforcement needs and priorities from sanctuary advisory councils.
 - Development of a Sanctuary Advisory Council orientation for new council members. Chairperson Nedimyer would like to see the new FKNMS council members undergo a better orientation in the future and suggested that Education/Outreach council members might consider taking that task.
 - A climate change workshop to learn more about communicating on the topic. The council should consider forming a climate change working group.
- Chairperson Nedimyer attended a public workshop held by FWC and the South Atlantic Fisheries Management Council. The topic of mutton snapper at Western Dry Rocks was discussed. FWC is taking input on this topic.

II. NATIONAL WILDLIFE REFUGE MANAGEMENT -- INTRODUCTION

Superintendent Morton welcomed and introduced the new Manager of the Florida Keys National Wildlife Refuge Complex, Dan Clark. Refuge Manager Clark has extensive experience with Marine Protected Areas and endangered species in the Department of Interior in South Florida, the Caribbean and most recently the Pacific. He is also a captain in the U.S. Coast Guard Reserve.

Refuge Manager Dan Clark provided an introduction on the National Wildlife Refuge (NWR) system. He explained that one of his goals is to better connect the four refuges in this Florida Keys complex with the community through effective communication and transparency. To that end, he has been meeting with organizations in the community. The entire refuge system consists of over 500 units in the Department of Interior and similar to its sister bureau, the National Park System, the refuge system has organic legislation. National Wildlife Refuges follow Fish and Wildlife policies to make sound judgements on what are considered appropriate uses. The National Wildlife Refuge Improvement Act of 1997 guides how determinations are made regarding compatible uses. Such uses are defined as those that do not detract from or materially interfere with the refuge system or the purpose of the refuge. The Florida Keys Refuges have designated wilderness managed under the National Wilderness Act.

III. FLORIDA KEYS NATIONAL WILDLIFE REFUGE COMPLEX OVERVIEW

Lead Wildlife Biologist Kate Watts gave a presentation with an overview of each of the four refuges: Key West, Great White Heron, Key Deer and Crocodile Lake. To view this presentation, visit: http://floridakeys.noaa.gov/sac/othermaterials/20160216_refugecomplex.pdf.

Ms. Watts reviewed the mission of each refuge unit and described some of the key species and ecology. The presentation provided an overview of the National Wilderness Act, Florida Keys Wilderness Area, “Backcountry Management Plan or Submerged Lands Agreement (1992), National Wildlife Refuge System Improvement Act (1997) and Endangered Species Act (1973). The Florida Keys Wilderness Area was created in 1975. It designated all of the Key West NWR as wilderness and 1,900 acres in Great White Heron NWR and 2,278 acres in Key Deer NWR.

IV. NATIONAL WILDLIFE REFUGE BIOLOGICAL RESOURCES – BIRD SPECIES OF SPECIAL CONCERN

Kate Watts, Senior Wildlife Biologist gave a presentation reviewing the status of key bird species being managed on refuge lands. To view this presentation, visit: http://floridakeys.noaa.gov/sac/othermaterials/20160216_lknwr_birds.pdf.

The refuge works closely with Avian Research Institute to study and monitor four birds—white-crowned pigeons, reddish egrets, magnificent frigatebirds and great white herons. Telemetry is used to track bird species to learn about their movement patterns. White-crowned pigeon populations have been affected by habitat degradation and deforestation and liberal hunting regulations in the Caribbean. This species may not be rebounding as quickly because they have very specific and limited foraging habitat. The reddish egret inhabits shallow tidal flats and salt ponds and has low productivity. This species is threatened by human disturbance and limited foraging area. The magnificent frigatebird is very sensitive to human disturbance. A colony once nested out at the Marquesas Keys, but that area was finally abandoned as a nesting area in the late 1980s. The refuge has launched a social attraction pilot project for frigatebirds. Great white herons are impacted by the loss of contiguous seagrass foraging areas and human disturbance. Monitoring and minimizing human disturbance of nests on backcountry islands is important for the recovery.

Discussion/Comments

- In response to a question about the refuge's views on the shallow water working group/advisory council recommendations, refuge staff stated they had discussed the recommendations and will continue to consider them fully as they move forward under the direction of their new manager.
- In reference to great white herons and seagrass habitat, degraded grassbeds with mechanical damage from boating impacts have been shown to reduce the value of the grassbeds as foraging habitat for these birds. Herons are also affected by iguanas, which can swim from island to island, and prey on their eggs.
- Visitor attendance in the refuge is difficult to assess. One refuge report estimates about 100,000 users total annually. Having a zoning plan and transparency gives people guidance they can follow while in refuges, which can contribute to compliance with marine zones and regulations.

V. NATIONAL WILDLIFE REFUGE BIOLOGICAL RESOURCES – SEA TURTLE NESTING AND MARSH RABBIT

Wildlife Biologist Adam Emerick gave a presentation that described the history and status of sea turtles and marsh rabbits in habitats of the lower Keys refuges. To view this presentation visit http://floridakeys.noaa.gov/sac/othermaterials/20160216_lknwr_turtle.pdf.

Three species of sea turtles – green, loggerhead and hawksbill – are known to inhabit the lower Keys refuges. Great White and Key West NWRs are very important as nesting for green and loggerhead turtles and foraging habitat for all species. Protective measures such as restrictions on use and access, informational signage and monitoring of nests are also in place to aid recovery. Removal of destructive marine debris is needed and takes place especially on nesting beaches, some of which are suffering from erosion. Green turtles have had successful nesting in the past few years and may be related to protections put in place in the early 1970s.

The Lower Keys Marsh Rabbit is a federally endangered subspecies with population centers in Big Pine Key, Sugarloaf and Boca Chica. Grassy marshes are important to these rabbits. Populations of this species have suffered from a fragmented habitat, development and predation from cats. Cats are the most immediate threat and represent one area where management actions can be effective in aiding recovery. Cameras have documented cats preying on this species and predator management is in place. Prescribed burns and removal of exotic plants also help maintain the quality of their habitat.

Discussion/Comments

- In response to a question about whether controlled burns harm marsh rabbits, the refuge takes precautions not to disturb them in any way while they have dens and young. Mr. Emerick knows of no fatalities associated with controlled burns. These rabbits are adapted to their environment and due to their mobility can respond to various threats. For example, they can move away if tides are too high.

VI. NATIONAL WILDLIFE REFUGE BIOLOGICAL RESOURCES – HABITAT RESTORATION, CANDIDATE PLANT SPECIES, AND BUTTERFLIES

North Carolina State PhD candidate Erica Henry gave a presentation about Miami Blue and Bartram's scrub hairstreak butterflies and habitat restoration. To view this presentation, visit http://floridakeys.noaa.gov/sac/othermaterials/20160216_nwrbutterflies.pdf.

Historically, Miami Blue populations were found scattered in coastal areas around South Florida and the Florida Keys. In the past 50-60 years, major declines have occurred and the only remaining population is in the Key West NWR on remote, low-lying islands where their host plant blackbead grows. Declines are attributed to coastal development. Precipitation also appears to be a factor affecting abundance and a drought induced pause in reproduction may take place at times. Precipitation changes that are expected with climate change may affect populations in the future.

Bartram's scrub hairstreak butterflies occupy pine rockland habitat, which is a fire dependent system. The host plant, croton, was once very common on Big Pine Key and thrives in open pine forest and after fire moves through. Controlled burns can be difficult to conduct in areas of Big Pine Key near human populations, so mechanical clearing is also taking place. Ms. Henry is conducting an experiment to see how fire and mechanical disturbance affect the growth of croton. This technique of mechanical clearing mimics the patchy nature of fire. She is also interested in seeing how these treatments affect biological predators such as ants and anoles. Many butterflies depend on some kind of disturbance.

Discussion/Comments

- A question was asked regarding the effects of atrazine and other pesticides on these butterfly populations. Ms. Henry noted that it is unclear how much pesticides are used in the rocklands and the effects of pesticides on these butterflies are not fully known. In some other species, studies have found that the surfactants used in the pesticides can negatively affect the caterpillar.
- A question was asked about how management of the vegetative system for butterflies affects other organisms such as key deer. Fire helps benefit the other inhabitants of the pine forest that are also adapted to living in this environment.

Refuge Complex Manager Dan Clark made the following additional comments:

- It is not the intent of the management regime to manage for one species, although they are very dedicated to aiding recovery of endangered species.
- By studying and monitoring a species such as the hairstreak butterfly, FWS can learn about the needs of other species and the hairstreak butterfly can be considered an indicator as to the health of the pine rockland. Through their work with fire and the ecosystem, they are trying to understand how to better manage the system.
- FWS management goals are to be very cautious about fires to prevent problems and they try to be sensitive to the community. Prescribed burns help prevent the build-up of fuel and in that way benefits the community.

Break

VII. CROCODILE LAKE NATIONAL WILDLIFE REFUGE BIOLOGICAL RESOURCES

Crocodile Lake NWR Manager Jeremy Dixon gave a presentation that described the habitats and endangered species at Crocodile Lake NWR, which is located in North Key Largo and Key Largo woodrat. To view this presentation, visit

http://floridakeys.noaa.gov/sac/othermaterials/20160216_clnwupdate.pdf.

Crocodile Lake NWR has eight species that are federally listed as either threatened or endangered under the Endangered Species Act. This refuge is closed to the public to allow recovery of these

species. At the time the American crocodile was listed as endangered in 1975 only about 100 individuals remained. In 2007, the species was down-listed to a threatened status. Today, populations only occur in northern Keys, Everglades National Park and Turkey Point Cooling Canal System on the mainland. Crocodiles prefer to nest on natural beaches, but these habitats are nearly non-existent, including inside the refuge where they nest on excavated banks of canals. The crocodile population today is about 2,000. Habitat loss, roads, human-wildlife conflicts and invasive predators are threats. Cleaning fish and placing the scraps in canals is detrimental because it attracts crocodiles. FWC has crocodile response agents that educate people to prevent these conflicts. Monitoring of crocodile nests using cameras has not detected the invasive tegu lizard, which is moving south from the mainland.

Historically, Key Largo woodrats ranged from Ocean Reef to Tavernier Creek, but today populations are somewhat isolated and confined to Dagny Johnson State Botanical Park and Crocodile Lake NWR on North Key Largo. In the early 2000 woodrats stopped building nests and less than 100 individuals existed in 2002. In 2004, the refuge started building artificial nests for them to occupy and that has helped increase the population. The woodrat is a keystone species and supports other hammock animals. Cats have been recorded preying on woodrats and other species. The refuge has been conducting a cat trapping program on refuge lands. Increasing occupancy of nests, expansion of their range and creation of new nests are indicators that management actions are working at increasing woodrat density. Pythons may become established and if so prey on woodrat nests. If someone sees a python, they should call 1-888-IVE-GOT1 and stay with it until someone comes to catch it.

On March 18 at the refuge headquarters, FWS is offering a workshop on how to build “catios” for pet cats. This program and others will be offered as part of the Florida Keys Refuges Outdoorfest. Many other events are also taking place in Key Largo and in Big Pine Key. The refuge depends on its many volunteers to support its efforts and recognizes them for their hard work and dedication.

Discussion/Comments

- At this time it doesn't appear that the python population is reproducing in the Keys. This is partially based on healthy populations of raccoons, possums, etc. Most pythons are probably dispersing animals from the Everglades.
- Crocodile nesting is down at Turkey Point Power Plant to the north due to unfavorable cooling canal conditions. An increase in the refuge population has not been observed in response to the the cooling canal situation. The refuge is very limited on nesting habitat and some habitat is declining due to sea level rise and subsistence of spoil materials. The refuge has done some enhancement of nesting areas by adding sand and marl.
- Crocodile Lake NWR will take advisory council working group and advisory council marine zoning recommendations under advisement and will be happy to discuss any changes being considered in the future.

VIII. NATIONAL WILDLIFE REFUGE LAW ENFORCEMENT

Refuge Law Enforcement Officer Jared Brierley gave a presentation about law enforcement in the refuge complex. Officer Brierley had extensive experience in South Florida parks before joining the refuge. To view this presentation, visit

http://floridakeys.noaa.gov/sac/othermaterials/20160216_nwr-le.pdf.

A Backcountry Management Plan went into effect in the Lower Keys in 1992. With this plan, administrative boundaries in the water were identified for the Key West NWR, Great White NWR and Key Deer NWR to give the FWS authority to enforce the National Wildlife Refuge Systems Act on State waters to better protect federally and state owned backcountry islands. The Backcountry Management Plan created different types of boating zones and prohibited certain activities such as operating PWCs, airboats, aircraft, and waterskiing and having unrestrained pets.

Federal wildlife officers enforce National Wildlife Refuge Systems Administration Act, Title 50 CFR on the water within boundaries and on land enforcement can occur only on federal land. They can enforce federal laws such as the Endangered Species, Marine Mammal Protection and Migratory Bird Treaty Acts both on and off federal lands. Common violations in Key Deer NWR include feeding touching key deer, unrestrained pets, entering closed areas, illegal dumping, homeless camps, human caused fires, and vandalism. Similar violations are common in Great White Heron and Key West NWRs. Other violations relate to seagrass destruction, fishing, PWC, idle-speed zones, discharging firearms and illegal camping that causes habitat destruction. All backcountry islands are closed to entry except for a few beaches. Violations in Crocodile Lake NWR involve entering the refuge and unrestrained pets, including feral and domestic cats that hunt wild birds and woodrats. FWS has limited law enforcement staff and limited off refuge authority to address cat feeding stations and activities on the road right of way.

IX. NATIONAL WILDLIFE REFUGE PANEL DISCUSSION AND QUESTIONS

Discussions were held after each of the refuge presentations.

Lunch

X. FLORIDA KEYS SPINY LOBSTER ECOLOGY AND MANAGEMENT RESEARCH

FWC Fish and Wildlife Research Institute Biologist Tom Matthews gave a comprehensive presentation on spiny lobster research and management. To view this presentation, visit http://floridakeys.noaa.gov/sac/othermaterials/20160216_fwclobsterintro.pdf.

Florida's lobster fishery is the most valuable commercial fishery in the state and is a very popular recreational fishery. Approximately 540 Saltwater Products Licenses have been issued, which provides an estimation of how many fishing entities exist. Trap fishery captures most of the landings, followed by recreational divers and bully netters. The Lobster Sport Season effectively creates two opening days for lobster season. Sport season is a fisherman management tool that reduces congestion on the water. It is very difficult to know how many lobsters people are taking illegally through multiple trips. A decline in lobster catch that occurred around 2000 may be related to a viral disease that affects very young lobster and causes mortality (PaV1 Virus). Landings have been creeping up in recent years but have not truly recovered. Even though landings are down, the fishery value is still good because of market for them in China.

Research on habitat conservation showed that traps move during storms and cause damage to stony corals, sponges and octocorals. FWRI has worked with fishermen on different trap types and found that wire traps reduced movement, but increased catch of bycatch. Trap ropes and buoys impact sea turtles, marine mammals and sawfish. Debris accumulates on reefs because of the nature of reefs. Preventing loss of traps is the key to success for fisherman and the environment.

FWRI conducted a study comparing lobsters in Western Sambo Ecological Reserve with those landed through the fishery. After six years of reserve protection, lobsters in the reserve were larger

and older than their counterparts in the fished area. Lobsters are reaching the age in which they can reproduce inside the reserve and reserve females were observed to release eggs into the current at the outlier reef beyond the boundary of the reserve. Legal sized lobsters caught in the fishery tend to be less than two years old and are not reproductively mature. Recent and current research projects address topics related to habitat, stock assessment, migration, biology and ecology and support management of the fishery. FWRI also posts information on their website for outreach.

Discussion/Comments

- The incidence of the PaV1 virus has remained about the same since tracking of this disease began. This disease results in a loss to the fishery.
- Lobsters are fully exploited in most places in the Caribbean where declines have been detected. FWRI tracks juvenile lobster recruitment to the Florida Keys and has detected no reduction over the years.
- Lobsters caught in the Florida Keys originated in different areas of the Caribbean. Florida Keys lobster larvae go elsewhere and constitute 6% of the entire Caribbean population. Pan-Caribbean management is necessary.
- It is always illegal to molest traps and FWC charges people with trap robbing on a regular basis. Even if the rope/buoy is missing, the lobster fisherman can still find and harvest from the trap during open season. During the closed season, that trap is not being fished. If identifiers can be obtained from the lost trap, FWC will contact the owner.
- The rules about traps could be examined to evaluate the possibility of retrieving traps under certain conditions to reduce ghost fishing. Losing traps is expensive and time consuming for the fisherman and detrimental to the environment.
- The practice of people cutting off trap lines and buoys seems to be very widespread this year and is causing fishers to spend time looking for their traps. The suggestion was made to have a central location (website) where lost trap info could be reported and displayed to aid in retrieval.
- An observation was shared that years ago spiny lobsters and fish used to hide in the many holes throughout the Lower Keys. It seems as if these holes have filled in over time and that may have had an effect on lobster and fish populations. FWRI recognizes that more research needs to be done to fully document the role of lobsters in the environment.
- Most lobsters and finfish are exported from the Keys for the highest price with the exception of some consumption within the Florida Keys.

FWC Fish and Wildlife Research Institute Biologist Gabby Renchen gave a presentation summarizing what is known about commercial fishermen knowledge of and compliance with three types of marine zones that prohibit lobster gear. To view this presentation, visit http://floridakeys.noaa.gov/sac/othermaterials/20160216_fwclobstermpa.pdf.

In 2014, FWC conducted a project designed to evaluate fishermen compliance with MPAs that prohibit trap fishing and evaluate marine debris accumulation inside MPAs that prohibit trap fishing. Three different MPAs were included in the study: FKNMS Sanctuary Preservation Areas (marked and charted), Pennekamp Lobster Exclusion Zones (marked) and National Marine Fisheries Service *Acropora* Protection Zones (unmarked and uncharted). All three types protect lobster habitat and prohibit lobster traps and fishing. Due to long term declines, two *Acropora spp.* were listed as threatened in 2006. Traps can impact coral reefs through trap hauling, wind-driven movement and the accumulation of debris. This project involved identifying and counting the number of traps and trap owners in each type of MPA and then conducting a pre- and post- education effort to determine

how many traps were voluntarily removed from the MPAs due to their educational efforts. Educational efforts included attaching a courtesy notice to buoys, mailing a *Guide to Closed Areas for Commercial Spiny Lobster Trap Fishing* to fishermen and additional contact through phone calls and interactions on the water. Study results documented that unmarked MPAs had the highest density of traps and that trap density decreased post education. Traps were evenly distributed throughout the unmarked MPAs, but concentrated near the boundaries of the marked MPAs. The study also showed improved compliance after education.

To evaluate marine debris accumulation, FWC conducted 261 diver transects to record and document the type of debris, location on the seafloor, and habitat type. The most prevalent debris was trap debris, which was found in all types of MPAs surveyed and on coral reef and hard bottom habitat. Trap debris include concrete slab, rope, wood slats, etc. The second most common category of debris included cans, bottles, snorkel gear. Other fishing gear included fishing poles and tackle. From this study, scientists concluded that MPAs may not protect corals from debris because the transport of traps can be wind-driven. They also concluded that the area inside the MPA is actually smaller than intended because traps are fishing along the edge of MPA boundaries. This study was conducted with funding from NOAA's Coral Reef Conservation Program and National Fish and Wildlife Foundation.

Discussion/Comments

- An observation was made that trap density was higher in the unmarked MPAs than in the open control areas. This suggests that the placement of traps inside the MPA was not random. FWRI stated that the reasons for this are not clear.
- A question was asked about whether more disease was observed where debris was more common. A recent study in Australia showed a link between fishing gear and disease. The FWC study did not assess coral health, but debris resting on coral was observed.
- A suggestion was made to make the locations and boundaries of *Acropora* protection zones more readily available in software that could be used in GPS devices (so that manual input of the locations is not needed). This approach may not be effective because some fishermen don't use GPS, but instead use plotters that are downloaded NOAA charts. If this kind of effort is made, it should cover all the methods used by fishermen.
- Updating NOAA charts will help get the information to the fishermen.
- Captain Dipre recognized the difficulty in making state or federal cases for traps inside zones that are not marked as such. Marking is essential if any legal action is to be effective.
- Superintendent Morton pointed out that electronic charts are regularly updated and available through Coast Survey, another part of National Ocean Service. If something should be on the chart, he can provide the contact information for the regional navigation manager. Typically, zones made to support commercial fisheries management do not appear on charts.
- The *Acropora* Protection Zones (Fishery Management Plan no lobster trap zones) were created in response to a legal action brought when the *Acropora* corals were listed under the Endangered Species Act. These zones can be viewed as a failed response to the intent, which was to protect these very rare corals. It would be best to avoid creating any more zones that don't work.
- Heather Blough, NMFS representative on the Advisory Council, acknowledges that more outreach is needed by NMFS to make the coral protection zones more effective. NOAA Fisheries has re-initiated consultation on the spiny lobster Biological Opinion (Bi OP) because of the newly listed corals and is aware of the trap study.

- Acropora Protection Zones are all in federal waters in the South Atlantic Fishery Management Council jurisdiction. FWC doesn't have any no-trap zones to protect threatened or endangered corals in state waters at this time.

XI. PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA

Jan Edelstein, Cudjoe Key resident

Ms. Edelstein provided a handout that she referred to and may be viewed by visiting http://floridakeys.noaa.gov/sac/othermaterials/20160216_edelsteincomment.pdf.

Ms. Jan Edelstein wants to talk briefly today about protecting the Sanctuary waters from the underground discharge of large quantities of advanced treated wastewater. We all know that the job of sewerage the Keys and building regional Advanced Wastewater Treatment plants are almost completed after twenty long years. The shallow well discharges from those treatment plants are largely being ignored. You might not know that DEP operates on the basis that the discharge of large quantities of wastewater (something less than 1 million gallons per day) is of no concern to Sanctuary water quality, even though the wastewater still contains nitrogen and phosphorous far in excess of water standards and contains pharmaceuticals and other personal care products. DEP instead assumes that there are geological confining layers throughout the Keys that will prevent the rise of freshwater effluent to the surface waters. My goal today is to simply highlight the fact that geological information is easily obtained to refute this assumption, and should be obtained before any more large quantity shallow well permits are allowed or renewed. For example, when DEP issued the shallow wells for Cudjoe Key, they assumed the existence of confining layers. Nevertheless, because of the litigation that stopped the permit issue in the summer of 2014 and public scrutiny at the Cudjoe Waste Water Treatment Plant, last summer DEP did require from Florida Keys Aqueduct Authority (FKAA) in addition to an aquifer capacity test, new core borings and well water elevation tests. These two items proved conclusively that there is a direct and rapid connection between surface waters and groundwater.

Please see the handout with the cover of the geology report, and the diagram showing the tidal change over two weeks and another diagram showing the rise and fall of waters in the four wells over the same period of time. Well water levels move in sync with the tidal cycle. The first statement on the first page from statements of Dr. Briceño states very clearly that this is direct evidence of a rapid link between the two. The other statement is from the sanctuary's seagrass expert Dr. Fourqurean, who explains why the sanctuary should be worried about these large discharges of even advanced treated wastewater. I am here to urge the advisory committee to work as individuals to look into the DEP practice and urge them to routinely require this kind of straightforward information before they issue or renew any new shallow water permits, particularly with respect to the wells that are about to be drilled on Stock Island. Stock Island is about to have permits issued that will allow them to increase their discharge to an annual average of 849,000 gallons per day, which means on a max day, they will discharge about 1.5 million gallons through shallow wells. Again, there was an assumption made by DEP that there were confining layers. The litigants in that case tried to do a dye tracer study; they were blocked by DEP and the operator of the site. This kind of basic information will help us all and everyone would appreciate your help in getting DEP to collect it. Thank you.

Discussion/Comments:

- Vice Chair Bergh acknowledges and shares Ms. Edelstein's concerns with large volumes of even treated wastewater getting into shallow wells. People who have been following the issue

know that what FKAA and the county have been prudent in deciding to install a deepwell. There is the other issue with Stock Island just down the road with very similar volumes of water and circumstances.

- Vice Chair Bergh announced the Water Quality Protection Program steering committee meeting on March 2. This program was established when the sanctuary was created and is co-chaired by DEP and EPA. Vice Chair Bergh participates in these meetings and will be attending. The public is welcome.
- Mr. Martin Moe suggested that after the WQPP has had time to work on water pollution that the advisory council take up this topic at a future meeting.

XII. FKNMS Marine Zoning and Regulatory Review – Update and Next Steps

Deputy Superintendent FKNMS Beth Dieveney gave an update on the development and release of the Draft Environmental Impact statement (DEIS).

Deputy Superintendent Dieveney’s presentation included a review of the overall timeline for the marine zoning and regulatory review. A DEIS is required according to the National Environmental Policy Act and always contains a no action option, which means that no changes are made to the zones, regulations or management to the FKNMS. At this point in the process, the advisory council working groups and advisory council have provided their recommendations to the sanctuary. Sanctuary and other state and federal staff have been working through those recommendations to develop the DEIS. The DEIS will contain proposed range of alternatives and will be open for public comment. Development of alternatives is coordinated amongst agencies, including US Navy, Army Corps of Engineers, US Fish and Fish and Wildlife Service and with state partners FWC, DEP and with offices within NOAA. This involves making sure that scientific information and economic data are used to evaluate the potential impacts and feasibility, enforceability, administrative requirements, legality and costs of proposed alternatives. The analysis of alternatives evaluates the environmental and economic benefits and impacts.

Alternatives development involves an in-depth consultation with state and federal agencies and the two fisheries councils—South Atlantic and Gulf of Mexico.

Once the DEIS is released, it will be available for public comment for at least 90 days, which will span two advisory council meetings to provide opportunity to understand what it is contained in the DEIS and to provide time for discussion and comment.

Superintendent Morton added that the sanctuary is continuing to work on the DEIS with the goal of releasing it this summer for public comment. It will not contain proposed regulations until after public comment is heard. This is similar to the way that National Marine Fisheries Councils operate with regards to regulations. Developing the DEIS involves a lot of work and coordination and is a joint document with the National Wildlife Refuges. The FKNMS website is a portal for information for this process. It is kept up to date and has the history of the process and next steps.

XIII. PUBLIC COMMENT (Items on the agenda)

Bill Wickers Key West Charter Boat Association

Captain Wickers thanked Beth Dieveney for the clear and concise description of the process. He would like to say that there have been other meetings taking place such as Fish and Wildlife and the South Atlantic Council meetings. One of the areas of contention early on has been the

spawning aggregation off of Western Dry Rocks. Both of these councils have addressed this issue and are still addressing it. He and others have been trying to get across is that they really didn't feel that the sanctuary should get into fisheries management because the other councils are doing this. Right now it looks as though the proposal is that the 10 fish bag limit for mutton snapper in the spawning area be reduced to two and maybe zero during the spawn; the rest of the year the limit would be three. That is down from a total now of 10, which means it is an 80% reduction. This is what they have tried to get across. As a fisheries organization, they have to deal with many groups and fisheries managers spend all their time on fisheries related issues. He wants the council to know that this process is moving forward at the same time the SAC is doing this, so it would be nice to take the heat off of the council and sanctuary and let fisheries managers handle it. He is not sure how it would work. If there is such an issue such as this, what does the sanctuary have as a tool other than taking a measure to close all year long? Would seasonal closures or bag limits be tools that could be used by the council or sanctuary? He doesn't think so. That's why the fisheries councils have those tools. If the council feels strongly about something, wouldn't it be better to draft a resolution and take it up before one of these councils that do have this in their purview?

Captain Wickers referred to the person who provided the water quality related hand-out earlier in public comment. This topic is something that goes to the core of everything that basically controls what happens on these Keys. We can play fisheries management, we can do this and that and put balls around the reefs, but until we actually get around to taking care of the water....We should have the most stringent water regulations of anywhere in the country because the water is our economy and our quality of life. He hopes that this topic will be brought up again at the next Water Quality Protection Program meeting. If we make a mistake, we need to err on the side of caution. We as a community should not play Russian roulette with our economy and environment because that's what makes this paradise. It is really frustrating when you see this latest thing like this. You would think that the powers to be would be bending over backwards to try to do everything we have to save what we have here. It's just like Florida Bay. Florida Bay was a mess 20 years ago when he was on the board. Now, we're approaching the mess. Twenty years later we are still discussing the same problems and we all know what the answers are and try, but nothing much seems to happen. He appreciates the council letting him speak.

Ritchie Gomez, Key West Charter Boat Association

Mr. Gomez thanked everyone for having him and added that we do know what the problems are. He is going to be brief because he will have more opportunities to speak on this subject in the future. He would like to continue to stay on record stating that the charter boat industry, whose members are for the most part law abiding citizens, continues to be against any further closures of any of our fishing grounds. He recently attended the Reef Resilience meeting in Hollywood, Florida as did some of the sanctuary board members. Although it was very eye opening to see the devastation occurring on all of our reefs, the reasons for decline didn't surprise him—water quality, pollution, coral bleaching, algae blooms. None of these reasons have anything to do with fishermen. This only intensifies the charter boat fishermen's intent to fish all areas that have not been closed off already. We would love to be on the same page to you, but... Ken Nedimyer said in at a closed door meeting that fishermen had to get their heads out of the sand. Mr. Gomez challenges the council to to do the same thing and stop worrying about closing off areas and being fisheries managers. He and the charter boat fishermen are dealing with South Atlantic and

Gulf Fisheries Management Council and they are doing a terrific job. The charter boat fishermen are certainly working to limit themselves on size and bag limits. They are all about that, but are not about losing grounds because of something that doesn't work. That's all.

XIV. SUPERINTENDENT'S REPORT, REGIONAL DIRECTOR'S REPORT AND AGENCY REPORT HIGHLIGHTS: DEP, FWC, NOAA NMFS Southeast Region, NOAA OGCES, NOAA OLE, NPS, USCG, USEPA, USFWS, and U.S. Navy

NOAA Florida Keys National Marine Sanctuary Report, Sean Morton

- Superintendent Morton thanked Chairperson Nedimyer for a good summary of the SAC Chair meeting.
- John Armor, Acting Director of the NOAA Office of National Marine Sanctuaries, will be invited by FKNMS to attend the SAC meeting around the time of the release of the DEIS. John is doing a great job in the director position. The director position should be recruited in weeks, not months.
- The Water Quality Protection Program will be having a meeting on March 2nd. The formal agenda will be sent to the advisory council when it becomes available.
- Regional Director Billy Causey is in South Africa participating in a world-wide program called Sustainable Oceans Lab. He sends his apologies and plans to attend the upcoming Water Quality Protection Program meeting.

Discussion/Comment

In reference to a request to having a representative from South Florida Water Management District attend a council meeting to address Florida Bay, Superintendent Morton stated that the time is right for the FKNMS to have the SFWMD and he would like to have a representative for the April meeting, if possible. At this time, the SFWMD is dealing with some very serious water issues with Lake Okeechobee releases and impacts to tourism, health, etc. are expected. Regional Director Billy Causey is the representative for NOAA on the South Florida Ecosystem Restoration Task Force and has raised the Florida Bay water management issue at the staff level and with NOAA leadership.

FWC Fish and Wildlife Research Institute (FWRI), Tom Matthews

- FWRI is working with the sanctuary to conduct aerial boater use surveys. Results from this study will be available in about two years.
- Sponge restoration is underway on the bay side and involves transplanting pieces of sponge into hardbottom habitat. Sponges are critical for water quality and for juvenile fish. Diverse, intact hard-bottom is needed for this habitat to function fully as a nursery ground for juvenile fish to thrive. The restoration includes a suite of sponge species and does not involve using commercial sponges.
- Coral restoration is underway in the Gulf (Gulf-Coral restoration) with funding from the State of Florida.

Discussion/Comments

In response to questions, Mr. Matthews explained that for a hard-bottom to support high densities of juvenile fish, a dense forest of sea fans, etc. is needed. If even thirty percent of the organisms are missing, the area won't function fully. It is difficult to say what factors led to the declines in hardbottom, but a host of factors may have been involved. Nearshore water quality, trap movement, siltation, and other ways that individual species are removed are implicated. Algal blooms are toxic to sponges and have caused mortality.

Martin Moe added that there is an absence of red grouper in the Gulf and these fish create and maintain holes. Holes are very important for keeping hardbottom exposed. This has been studied in recent times by Dr. Chris Koenig and other scientists from FSU. One way to restore the Gulf habitat is to bring the groupers back that are important for maintaining that environment.

Chairperson Nedimyer announced the pink anemone workshop prohibition at Key Colony Inn at 6 pm on February 23rd.

FWC Law Enforcement, Captain Dave Dipre

- Boating under the Influence incidents has been increasing. Since December 2015, there have been nine arrests.
- Officer Steve Golden will be leaving June 2016. FWC will be recruiting a new sanctuary officer for the middle to lower Keys.
- FWC does work traffic under circumstance of careless and reckless operation, although it is not their primary mission. If they see careless and reckless operation, they will respond. This includes the Key Deer Zone where they have made a number of arrests. In spite of the fence, key deer are still being hit by cars. FWC and FWS have a reasonable safe plan to euthanize key deer languishing from traffic injuries. How to do deal with fatally injured deer has been a big public issue.
- FWC helped biologists rescue two manatees. Nine manatees were struck by boats in 2015. Manatees in the Keys in the winter are scattered about, so manatee zones won't help protect them very well.
- Search and rescues (SARS) are up for kayakers and paddleboards. People seem to be going out even during high winds and seas. Six SARs were conducted since December 2015.
- Commercial fisheries inspections at the docks have turned up a number of violations.
- Trap robbing cases are being worked up in Marathon and Stock Island.
- Shrimp fleet vessels anchored in the lower keys; FWC checked 12 shrimp boats and found no resource violations, but did find that each vessel had its Marine Sanitation Devices open, which means they were discharging into the sanctuary waters. They were cited for those violations.
- Pelicans are being harassed by bridge fishermen. They are throwing bait out to catch pelicans. Bridge fishermen have also been caught taking undersized fish.
- Turtle cases were made by FWC and were highly publicized. FWC lost a case where someone had a turtle inside his cooler in his truck because they said they were trying to get it somewhere to get help. The turtle was not injured. At the time of this case, Florida's statute did not prohibit possession because there were fears that innocent people trying to help injured turtles would be prosecuted. FWC assured Representative Holly Rachein that this was not the case and possession is again prohibited in the state statute.
- FWC also looks after endangered plants as well as animals. People are encouraged to report activities such as collecting plants or anything suspicious near FWC protection areas. FWC will be releasing some PSAs in the future.

NOAA Fisheries Service Report, Heather Blough

- Last month, the NOAA Fisheries announced implementation of a new program in the Gulf of Mexico that authorizes NOAA Fisheries to permit up to 20 offshore aquaculture operations for an initial 10-year period. The species authorized for culture include the same species managed by the Gulf Council except for shrimp and corals.
- Through April 5, NOAA Fisheries is requesting comments on the South Atlantic Council proposal to discontinue management of the dog, black, mahogany and schoolmaster snappers in federal waters.
- Within the next few weeks, NOAA Fisheries will be requesting comments on other actions approved by the South Atlantic Council actions including:
 - Change of start dates of commercial and recreational yellowtail snapper fishing seasons to August 1
 - Establishment of a commercial trip limit for dolphin
 - Increase recreational bag limit and commercial trip limit for blueline tilefish.
- South Atlantic Council continues to develop electronic reporting requirements for federally-permitted charter boats and continue to work on a rebuilding plan for the Florida Keys hogfish stock, and new regulations for mutton snapper.
 - The Council's scientific advisors will meet via webinar on March 4 to discuss new hogfish catch limits
 - FWC will hold a webinar February 24 to discuss mutton snapper options.
- Gulf Council approved for NOAA Fisheries review an action to extend shrimp permit moratorium for another 10 years. They also scheduled public hearings in Key West over the next few weeks to request input on:
 - New king mackerel fishing zones, catch limits, allocations, and sale provisions (Feb 29)
 - New regulations to eliminate the commercial yellowtail snapper circle hook requirement and modify the fishing season start dates to August 1 to be consistent with those proposed by the South Atlantic Council (Mar 1).
- NOAA Fisheries is requesting applications for up to \$2.5 million in funding for bycatch research and \$9 million in funding for community-based coastal and marine habitat restoration.
- Through February 27, NOAA Fisheries Headquarters Protected Resources Office is requesting feedback on their draft 5-year Strategic Plan.

Note: Aquaculture activities require permits issued by NOAA Fisheries. The location of proposed activities will be reviewed and needs approval from NOAA administrators. Sensitive site locations will be considered in the process and FKNMS will be consulted by NOAA Fisheries in such cases. The FKNMS permit process is in place.

Everglades and Dry Tortugas National Park Service, Chris Kavanagh

- Marine Biologist in Dry Tortugas Tracy Ziegler will be taking a new position in Colorado in Fort Collins with the Ocean and Coastal Resources Branch of the National Park Service. She will continue to support ongoing projects in the Dry Tortugas National Park.
- Due to extreme high rainfall and water levels on the mainland, water managers will move water into Shark River Slough over the next several days to alleviate high waters elsewhere in the system.
- Everglades National Park boater education course for Florida Bay and Ten Thousand Islands is coming online soon.

- With regards to the status of Florida Bay, Everglades National Park briefed staff at the regional office and discussed next steps, which include aerial flyover and the use of drones for specific areas. Drone use requires an exception to park policy. Scientists are setting up sampling sites to monitor for water quality to respond to the die-off and conducting habitat assessment bay-wide.

US Fish and Wildlife Service Florida Keys National Wildlife Refuge Complex

- The refuge system will hold its first Outdoor fest in March. This will involve a variety of activities throughout the Florida Keys.
- A Visitor Center is being built in Big Pine Key on property next to US Highway 1. The center will be funded out of the local office budget and will be focused on outreach and education.
- FWS is working with partners, including the Coast Guard, to remove derelict vessels in the Marquesas and elsewhere.

CLOSING REMARKS/ADJOURN

Chairperson Nedimyer announced that Beth Dieveney sent out an announcement seeking input on the Protected Resource Division plan. Please feel free to provide input. John Armor and others at headquarters asked him to express their appreciation for the volunteer time that everyone here puts in working with the council. Chairperson Nedimyer appreciates everyone's input and participation, too.

ADJOURN