



## GRAY'S REEF NATIONAL MARINE SANCTUARY ADVISORY COUNCIL MEETING – SEPTEMBER 22, 2017

### **Sanctuary Advisory Council (SAC) Attendees**

Rick DeVictor, Chair  
Michael Denmark, Vice-chair  
Peter Auster  
LT David Clifford  
Mary Conley  
Pat Geer  
Monique Gordon  
Tim Henkel  
Ben Hughes  
Warren Hupman  
Capt. Bob Lynn  
Kevin Mitchell  
Scott Noakes  
Jene Nissen  
Mark Padgett  
Tim Tarver  
Suzanne VanParreren

### **SAC Members Absent**

Anna George, Secretary  
Mona Behl  
LT Warren Fair  
Dustin Rhyan

### **Gray's Reef National Marine Sanctuary (GRNMS), and Office of National Marine Sanctuary (ONMS) Staff**

Steve Gittings (ONMS)  
Chris Hines  
Jody Patterson  
Todd Recicar  
Michelle Riley  
Kim Roberson  
George Sedberry  
Becky Shortland  
Matt Stout (ONMS)  
Ericka Sawicki (GRNMS Intern)  
Mandy Harvey (GRNMS volunteer and today's note taker)

### **GRNMS Foundation (GRNMSF)**

Cathy J. Sakas

### **Public in Attendance**

Tom Wright

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Council chair Rick DeVictor called the Gray's Reef National Marine Sanctuary (GRNMS) Advisory Council meeting to order at 9:59 AM. He and George Sedberry, Acting Superintendent of GRNMS, welcomed members, staff and public in attendance. Following group introductions, Rick briefly reviewed the agenda and outlined the meeting objectives.

### **Advisory Council Business**

Opening Remarks - Matt Stout, Communications Director at the Office of National Marine Sanctuaries (ONMS), kicked-off the meeting by updating the group on two presidential executive orders issued in April that impact marine

sanctuaries. The first of these calls for the review of the designation of land-based and marine-based monuments under the Antiquities Act. The other is focused on offshore energy development in coastal areas and directs the Department of Commerce to review the designations and expansions of 11 national marine sanctuaries and marine monuments. The public comment period for these two executive orders closed in August. ONMS received over 200,000 public comments on the order pertaining to monuments and the Antiquities Act and over 100,000 public comments on the order pertaining to impact on energy resources. This represents the highest number of public comments ever received by ONMS. The previous record was approximately 18,000. Addressing a question from the SAC, Matt clarified that the GRNMS research area was not included in the public comments. A report is due to be finished this month and should soon be available to the public.

Matt updated the group on the status of the Florida Keys National Marine Sanctuary following Hurricane Irma. There was a small amount of damage to the facilities and to one vessel and a definite impact on the resources within sanctuary waters, and to staff personal property. He also reported that there are 2 new sanctuary designations in process: Mallows Bay in Maryland, which contains 200 known historic shipwrecks dating back to the Civil War, and Wisconsin - Lake Michigan. These are expected to receive final designation early next year.

Matt distributed the second issue of *Earth is Blue* magazine to the group and announced that the theme of the next issue will be "*What do sanctuaries mean to you?*" Matt invited anyone who would like to provide comments on this topic to contact him within the next few weeks with initial input, which would then need to be finalized by March. Dr. Steve Gittings, ONMS Science Coordinator, stressed that the magazine should include comments from researchers who do work within the sanctuaries. Matt closed by announcing that 15,000 people around the country participated in Get Into Your Sanctuary Day and asked the SAC to continue to find ways to use this day to focus attention on the sanctuaries.

Update on Superintendent Process - George Sedberry updated the group on the search for the new GRNMS Superintendent, filling the vacancy created by Sarah Fangman's relocation to become Superintendent for the Florida Keys National Marine Sanctuary. George will remain the Acting Superintendent until he retires at the end of this year. The process to hire a permanent replacement is underway, and is structured as a Reassignment Opportunity Notice (RON) that is open to anyone within NOAA that is currently at the same grade level as the superintendent position. There is no timeline for the hire, but Matt stated that it could be a relatively fast process taking between 4 to 6 weeks. If the new superintendent is not in place by George's retirement date, there will be another Acting Superintendent until the position is permanently filled.

Approval of June 2017 Meeting Summary - The June 28, 2017 SAC webinar summary was unanimously approved with no changes.

Update on SAC Seats - Chris Hines introduced the group to Monique Gordon, who has assumed the K-12 Education seat on the SAC. Chris also announced that Dr. Peter Auster is beginning a new term in the Living Resources Research seat. Chris announced that Dustin Rhyan is no longer active in the sport diving industry and therefore has offered to vacate the Sport Diver seat. Recruiting for this seat will begin soon. In addition, the Executive Committee will reach its term limit at the beginning of next year. Chris thanked Rick DeVictor, Michael Denmark, and Anna George for their tremendous service and requested that SAC members contact him with nominations for the incoming Executive Committee. This topic will be discussed during the next webinar. Peter Auster inquired if the entire committee had to be rotated out, to which Chris responded "no". However, each member would need to assume a different role on the committee.

## **Council Working Groups**

Recreational Fishing Working Group Update - Tim Tarver provided an update on the recent activities of the Recreational Fishing Working Group, which is charged with finding better ways to communicate and promote collaboration with recreational fishing interests, raise awareness of GRNMS, enhance compliance, and obtain more visitor use information. The group most recently met on August 9, 2017 in Midway, GA. During the meeting Kim Philippi, Director of Communications and Media for the Building Conservation Trust (BCT) delivered a presentation about the organization, its origins, current and future projects. BCT is a separate habitat program developed by the Coastal Conservation Association. All projects they fund align with five key objectives: restore degraded habitats, create new habitats, advance the science of coastal habitat and marine fisheries conservation, foster habitat stewardship, and educate coastal communities on the value of conservation. A video about Gray's Reef was shown and reinforced for the group how GRNMS is one of the very few places in the world with such healthy fish populations.

The working group then discussed ideas for future projects, including having a presence at fishing tournaments, boat shows, seminars and local schools in order to provide education to increase survival rates of released fish, recruiting and training recreational anglers for a tagging program (i.e. tagging cobia for genetic testing), developing a kit for local fishing groups to expose them to a variety of descending devices, and interacting with media sports writers to educate them about descending devices and GRNMS. The group also proposed developing a video to capture the passion of recreational fishing intermixed with science and research that could be shown in high-visibility public areas such as River Street in Savannah or Hartsfield-Jackson Airport in Atlanta. The video would be available in a long version, a shorter version, and a brief PSA. A funding request for this video has already been submitted to the National Marine Sanctuary Foundation.

The working group also discussed the current regional prohibitions by NMFS on Cobia and Red Snapper and suggested incorporating local knowledge, as well as science and research, into federal fisheries management. They feel it could significantly improve local confidence in federal management strategies.

Tim spoke about a potential citizen science program that could integrate GRNMS information into a reporting program being developed by the South Atlantic Fishery Management Council (SAFMC). SAFMC will soon launch an online notebook program to collect data from charter fishing captains, followed by an app that can collect the same data via mobile technology. Warren Hupman is a pilot user of these applications and feels the notebook program will quickly be replaced by the app, as the app is more user-friendly. Warren stated that all charter boat captains will be required to report electronically to SAFMC at least once a week. He has encouraged SAFMC to consider the needs of all charter boat captains (i.e. some are very tech savvy and some don't even own a smart phone) and allow reasonable time for data input for busy captains at an appropriate level of detail. In addition, all charter captains will need training. Rick DeVictor expects implementation of the SAFMC reporting program in spring or summer of 2018. Relative to enforcement needs generated by the SAFMC reporting program, Rick stated that data will simply be stored initially but eventually enforcement may be required. Warren suggested one approach to enforcement could be a requirement that captains report on a consistent basis in order to renew their licenses. This requirement is currently in place for recreational charters in the Northeast region.

Mary Conley suggested that members of the recreational fishing working group be invited to future SAC meetings where relevant topics will be discussed. Peter Auster stated that there are abundant opportunities for collaboration between the working group and the Science Advisory Group (SAG), and encouraged Tim to involve interested members of the SAG, as appropriate. Mary also suggested inviting Bob Crimean to be a member of the RFWG.

Law Enforcement Working Group Update - Ben Hughes of NOAA Law Enforcement made his first trip to GRNMS last month. He observed one vessel transiting through and no fishing activity. He informed the group that there is an

investigation underway concerning a vessel fishing within the GRNMS research area. There are three ongoing investigations of fisheries violations regarding Black Sea Bass offshore of Brunswick near GRNMS. Ben has been in contact with Marybeth Head and the Coast Guard about finding new ways to track vessels within GRNMS. Ben and a representative from the Georgia Department of Natural Resources (DNR) have joined GRNMS staff at a number of fishing tournaments to provide education on where one can and cannot fish.

The US Coast Guard has conducted 15 patrols totaling 80 hours within GRNMS this year. There have been six sightings of recreational fishing activities. They will have a cutter patrol in GRNMS within the next few months. DNR Law Enforcement has conducted three DNR patrols in GRNMS since July 2017 with six contacts.

NOAA Law Enforcement has ongoing investigations concerning shark finning and transportation of juvenile sharks out of state (Atlantic Sharpnose Shark, Bonnethead, Blacktip Shark, plus two other species). Five prohibited sharks have been found in New York state that were shipped from the region. While it is legal to take a Bonnethead for aquarium use, the shark must be within legal limits, the collector must have a federal permit, and prohibited species cannot be taken under any circumstances. Peter Auster suggested that shark violations should be better publicized to help stem demand.

### **Council Member Reports**

NOAA Fisheries Update - Rick DeVictor informed the group that the most recent SAFMC meeting was delayed due to Hurricane Irma and has been rescheduled for the week of September 25. The potential reopening of the Red Snapper for harvest will be discussed during this meeting. If the harvest were reopened, it would be under the emergency rule that would be implemented late-October and/or early-November of this year. Recreational harvest would be limited to one fish per person per day with no size limit and commercial harvest would allow for a 75-pound trip limit. The recreational season would likely consist of two weekends. SAFMC is also scheduled to review an amendment to the Red Snapper management plan to set an annual catch limit (ACL) for 2018 and beyond, which would also allow the recreational harvest of one fish per person, with commercial and recreational seasons opening in July.

Speakers Bureau Update - Michael Denmark stated that the speaker's bureau is gaining momentum and thanked Chris Hines and Jody Patterson for their continuing work on the program. There have been 12 presentations so far this year, reaching over 300 people. A program outline and automated request form are now available online and an eblast promoting the speakers bureau, soliciting new speakers, and informing interested parties about how to request a presentation has been sent to all GRNMS subscribers. Two more trained speakers have recently been added to the bureau and there are now trained speakers in both the Savannah, Brunswick, Charleston, and Atlanta areas. Michael requested that the SAC members contact Chris or Jody if they would like to volunteer to be a speaker and/or provide suggestions for groups that might be interested in scheduling a presentation.

Sapelo Island Visit - Suzanne VanParreren reviewed the GRNMS visit to Sapelo Island. Chris Hines, Becky Shortland, Michelle Riley, Aria Remondi and the Sapelo Island NERR team discussed potential areas for collaboration and strategies to leverage outreach efforts to the benefit of both organizations. Chris Hines and George Sedberry thanked Suzanne for facilitating the visit and hosting the GRNMS staff members.

Atlantic Fleet Testing and Draft Environmental Impact Statement - Jene Nissen reported on the draft environmental impact statement (EIS) for Atlantic Fleet Training and Testing (AFTT). He stated that between 350 and 400 public comments were received on the draft EIS. He reviewed the background, objectives, and process of the EIS and stated that no mortalities have occurred in the AFTT study area from sonar or explosives in the last 20 years. Addressing a question from the SAC, Jene stated that unused training and testing hours do not rollover from year to year. Jene explained that mitigation areas are focused around areas with highest concentration of animals and that the size of the right whale mitigation area has been increased in the latest EIS. Sanctuary resource statements are

forthcoming to ONMS in late-October and the final EIS will be published in August 2018, with implementation slated for October 2018. For GRNMS specifically, the draft EIS allows for up to seven dolphin takes and five sea turtle behavioral takes per year.

Becky Shortland commented on the remarkable communication with the Navy and thanked Jene for his efforts.

## **Lionfish Management**

Context from GRNMS - Kim Roberson provided the group with an overview of the lionfish population within GRNMS. The first reported lionfish sighting in GRNMS was in 2007, and consisted of one lionfish in one location. Although numbers have increased over time, the population has remained fairly stable in recent years, with the exception of 2012 when a large increase in sightings occurred. Sightings returned to pre-2012 levels the following year and have generally remained stable since. Most all lionfish that have been sighted have been removed.

Kim has correlated dive efforts to lionfish sightings and found that this does not account for the one-year spike in observations in 2012. Peter Auster suggested that the minimum context polygon where lionfish are found should be correlated to dive efforts and that the number of lionfish sightings should be correlated to the minimum winter water temperature. Michael Denmark asked if dives are distributed equally over time in any given year, to which Kim responded that dives do occur during all months of the year, but most dives are conducted during the warmer months.

Warren Hupman asked if there could be any issues of concern when humans eat a fish that has consumed lionfish. Steve Gittings responded in the negative, but noted that lionfish can cause some complications in the throats of fish that eat them. Steve went on to explain that lionfish have no greater propensity for ciguatera than any other species of reef fish and noted that groupers have quite an appetite for lionfish. Warren then suggested tests should be conducted on fish after they eat a lionfish. Pat Geer suggested that GRNMS staff could give captured lionfish to DNR for testing and Kim responded that other organizations are already doing this in areas with higher concentrations of lionfish. Steve Gittings mentioned a forthcoming paper analyzing the gut content of lionfish that found some changes in diet as lionfish age, but he went on to say that lionfish will basically eat whatever is around.

Control Measures - Steve Gittings provided an overview of new lionfish traps. Steve stated that many studies have shown a significant impact of lionfish on local fish populations. For instance, one study showed up to a 45% decline in local populations of Tomtate. This impact on fish populations has been well-documented in shallow water and the amount of data showing a similar impact in deep water is increasing. Lionfish love structures and are particularly drawn to artificial reefs. They don't seem to like to be inside the structure, but do like to be all over the outside. This behavior creates a challenge when designing a lionfish trap. One must also consider how to decrease deep water populations of lionfish via commercial fishing practices with minimum impact.

Steve developed a trap that attracted lionfish and then lowered a net to trap them. The trap was tested offshore of Pensacola, FL in an area with a high concentration of lionfish. Following these tests, Steve worked with SAC member Dr. Scott Noakes to refine the trap design. They came up with a circular design with a collapsible FAD, which has since evolved into a purse trap with a big hoop and a single vertical sheet of FAD material. This next-generation trap was tested in the same area offshore of Pensacola and caught lionfish within minutes. It attracted 30% - 60% of lionfish in the area and captured up to 80% of fish that entered the trap. Based upon these results, Steve and Scott feel the trap offers great potential for commercial harvest in deep water. They would like to test the device with a broader audience and collaborate with engineers and other experts to optimize the design. Specific areas where help is needed include the variety of habitats, gear modifications (i.e. materials and design), fishing approaches, and observations (i.e. effectiveness, bycatch, habitat impacts, entanglements, ghost-fishing). Next steps are commercial and international trials.

Following Steve's presentation, he was asked if there is much bycatch in the traps. Steve noted that there has not been any to date, but cautioned that there has not been nearly enough testing to be able to definitively say there is no bycatch. Another question was asked about how far from reef structures the traps were placed during testing and if they would be as successful when placed out in the sand rather than right next to the reef. Steve responded that they have tested traps 10 to 30 meters away from a reef structure and have observed that lionfish will venture off the reef to hunt if food is scarce on the reef. He has also heard anecdotal reports of shrimpers catching lionfish far from reef areas. Peter Auster encouraged Steve to pay attention to the soak time and impact on other species during future testing and suggested that researchers should evaluate the gut content of lionfish in larger commercial studies to help determine if the traps are altering behavior.

George Sedberry asked if there is data showing that lionfish at deeper depths are larger. Steve responded that there's no data, just anecdotal reports. Kim Roberson offered that during deeper dives outside GRNMS this summer the lionfish were indeed larger. But not everyone is convinced they are larger at deeper depth. Peter Auster will send Steve a recent paper on this issue. Steve was also asked if there have been any analyses of the cost effectiveness/ROI for a commercial lionfish operation and/or if the market would need to be subsidized. Rick DeVictor stated that commercial fishing operations would most likely need to have other focuses in addition to lionfish.

Scott Noakes discussed his work evaluating strategies to improve lionfish capture rates via acoustic approaches. Through hydrophone observations, he has discovered that lionfish vocalize and communicate with one another. But it is not yet known what the fish are communicating. A better understanding of lionfish vocalizations is needed to determine if lionfish can be lured into a trap or repelled from an area using similar sounds. Scott is continuing to investigate this issue.

NOAA Fisheries - Rick DeVictor reported that the National Marine Fisheries Service (NMFS) does not manage lionfish and that federal regulations prohibit the use of fish traps, other than Black Sea Bass pots, to harvest any species of finfish, including lionfish. Lobster traps often contain lionfish as bycatch, but these traps can only be used from August through March. Black Sea Bass pots were mentioned as another potential approach, but Rick is not aware of any reports of lionfish as bycatch in these devices. There are two possible avenues to obtain a permit to trap lionfish—exempted fishing permits (EFP) and letters of authorization (LOA). There are currently five or six proposals under these exemptions designed to test the effectiveness of gear (i.e. type, where, when, soak time, bait) and consumer receptiveness to lionfish.

Rick stated that NMFS conducted a scientific workshop in August to evaluate some of the barriers to establishing a commercial lionfish fishery, including unknown impacts (i.e. bycatch, protected resources, habitat, ghost fishing), the prohibition on fish traps, and the fact that a fishery cannot be managed by EFP. The key conclusion is that NMFS would like to design a large-scale study to evaluate these issues programmatically and, in the long-term, allow for a commercial fishery for lionfish, allow for exemptions for fish traps for invasive species, and build in allowances for new gear like lionfish traps. Citing a recent paper that modelled the impact of climate change on lionfish distribution and concluded that lionfish will continue to move northward, Peter Auster stated that it is very important to do this work now.

#### **Public Comment**

- There were no comments from the public

## Visitor Use Interactive Session

Recap of Visitor Use Call and Proposed Letter - Peter Auster kicked-off this session by recapping the Visitor Use call and proposed letter. The impact of visitor use on GRNMS was discussed during the February 28, 2017 SAC meeting, where concern was expressed regarding the challenges inherent in identifying the degree of present and future human activity in GRNMS, any related impacts, and the identification of human-use and associated ecological indicators when patterns of use significantly impact GRNMS resources. The Science Advisory Group (SAG) was tasked to provide comment and general guidance on this issue. The output of this process was a proposal that outlined a preliminary approach to address ecological effects of visitor use on GRNMS. This proposal was a topic of discussion during both the April 27 and June 28 SAC webinars. Following these discussions, a small subgroup of SAC members, including Peter, evaluated the SAG proposal and developed a letter addressed to John Armor, Director of ONMS. This letter was distributed to SAC members for review in advance of today's meeting.

GRNMS Sources of Visitor Use Information – George Sedberry reviewed the available sources of visitor use information for GRNMS, including satellite data, marinetraffic.com/AIS data, on-water observations from law enforcement and others, the GRNMS buoy camera, and surrogate data from marine debris monitoring. George stated that although none of these data sources are perfect, they each provide valuable information and some can be further mined for additional information. Potential future sources include radar and additional satellite imagery available from USGS. GRNMS would like more data to determine if there is fishing within the research area. This information could provide additional insights into whether the similarities in fish populations inside and outside the research area is naturally occurring or the product of fishing within the research area. It could also help assess the effectiveness of ongoing communications efforts. Peter Auster offered that Stellwagen Bank NMS may have recently evaluated shore-based radar systems.

ONMS Sources of Visitor Use Information - Steve Gittings then reviewed ONMS sources of visitor information including surveys, visitor centers, access points, commercial operators, on-water and aerial counts, events, and licenses to obtain recreational data. Areas for potential growth include satellites, acoustic and video monitoring, citizen and patrol reports. Michelle Riley mentioned an upcoming drone summit at the University of Georgia could yield some information on this topic. Matt Stout stressed that visitor use data is one of the most important tools ONMS uses when talking to congress.

Interactive Session - Following these presentations, the group participated in an interactive session to evaluate the impact, monitoring approaches, and messaging strategies surrounding visitor use at GRNMS. During this session, the SAC divided into three subgroups to evaluate the following issues:

- What are the potential impacts of increasing users on the sanctuary resources?
- How can the sanctuary most effectively monitor the patterns of visitor use in the sanctuary?
- Are the GRNMS messages getting across to your constituent groups about welcoming users to the sanctuary as long as they use it sustainably and follow the regulations?

Each subgroup took notes on flipcharts that are recorded in Appendix 1. The top-level consensus of the group was that there must be a more robust understanding of who is using the sanctuary now in order to plan effectively for the future. The group cautioned that any efforts to increase visitor use must be balanced with the potential impact upon the sanctuary and stressed that it is imperative that any such efforts must encourage proper use. Another key recommendation was to develop a constituency that is focused on sense of place rather than direct use. Other suggestions included doing more to leverage Get Into Your Sanctuary Day (i.e. user surveys, fish counts), stressing that sustainable use of the oceans means responsible use, and collecting data at non-sanctuary sites in our area to identify any similarities and/or differences in use. In terms of next steps, GRNMS staff will further analyze this feedback and report back at a subsequent meeting.

The interactive session concluded with a discussion of the Visitor Use Letter. The consensus of the group is that the letter needs to be simplified and have a clearer and stronger statement of what the letter is asking of ONMS. Key points should be made more strongly, succinctly, and directly, as it takes too long to get to the action the letter is requesting. The letter should stress the need to balance the desire for more visitation with the responsibility for maintaining the health of the sanctuary. It must also compellingly explain why high-quality visitor use data is needed to effectively manage the resource and that this represents an opportunity to help sanctuaries find better ways to do just that. It was also suggested that GRNMS recruit other sanctuaries to be co-signatories to the letter to give it more weight, but there were concerns that this could compromise the timeliness of the letter.

Next steps for the letter are as follows:

- GRNMS staff will synthesize today's input
- This synthesis will be utilized by Peter Auster to refine the letter
- The letter will then be distributed to the subgroup (including new member Mary Conley) for edits
- Peter will incorporate edits
- The letter will then be distributed to the full SAC
- The letter will be discussed during the next SAC webinar
- The goal is to finalize the letter during the webinar

### **“So What” Project – Where Do We Go From Here**

Becky Shortland provided an update on the “So What” Project that started with a working session during the February 28 SAC meeting. She reviewed the key takeaways from that session relative to the value of the ecosystem and the sanctuary, and some of the barriers to creating a perception of value with the public. The next step is to work with communications experts to craft and refine messages to better tell the GRNMS story. Steve Gittings suggested that these messages should communicate the overwhelming amount of life found at GRNMS. Peter Auster suggested investigating opportunities to do live dives to engage the public on dry land.

### **GRNMS Report**

This portion of the meeting started off with a new video about GRNMS, which highlights the scope and importance of ongoing research.

Superintendent's Report - Following the video, George Sedberry talked about the sanctuary climate change vulnerability workshop that will kick-off on November 7 and 8. This will be a facilitated workshop with climate experts. During this initial meeting, the group will prioritize what species and habitats will be the focus of the project. The final version of the 5-year strategic plan has been mailed to all SAC members. George asked that the SAC members forward any comments to him. GRNMS staff are currently working on a summary of the 5-year research and monitoring in the research area to determine the effects of fishing on sanctuary resources. A draft of the report will be completed by the end of this year and will be reviewed by the SAC.

SAC Questionnaire - Chris Hines provided an update on the results of the SAC questionnaire. Thirteen responses were received. The report that was distributed at today's meeting summarizes the survey findings. Key takeaways include:

- The SAC and GRNMS staff are perceived to be making good progress on key issues
- There needs to be a clear connection made between SAC feedback and direct actions taken at the site
- The sanctuary should take advantage of the SAC members' strengths
- GRNMS should work to gain more notoriety within the sanctuary system and collaborate with other sanctuaries at a regional level
- The SAC should have shorter and more frequent meetings
- SAC webinars could be improved to increase engagement

- Mary Conley suggested doing more surveys that everyone can see in real time. She will discuss with Chris.
- Connectivity is a high priority
- There was high praise for the Foundation and its events
- Government officials may not know a lot about GRNMS
- There is an overall feeling that the sanctuary is healthy

Research Area Synthesis - Kim Roberson provided an update on the research area synthesis. She and Peter Auster are currently working on compiling the 5-year report, as well as authoring the introduction and discussion sections of the report. Contributions from several authors have been received, but Kim is still awaiting some contributions. The report will detail the amount of research conducted in the research area and highlight the value of the research area and the sanctuary. The report will also outline the recognized gaps in the understanding of visitor use. A draft of the report should be available before the end of the year.

Kim stated that, overall, she and Peter have not seen a lot of differences between the research area and the rest of the sanctuary in the work they have done to date. Tim Tarver suggested looking at the overall diversity in the sanctuary as a whole. He feels the research area and the sanctuary are too closely linked geographically to show any meaningful differences. Steve Gittings cautioned that the downside to seeing no difference is the potential to undermine the value and the need for the research area. Kim responded that five years is a relatively short timeframe in which to observe meaningful differences and Peter stressed that the important function of the research area is that it serves as a control. He stated that you don't necessarily need to demonstrate huge differences and that the research area shouldn't go away if differences are not observed. Overall feedback from the group was to be careful about the way data are presented and remember the objectives for the research area when it was established.

KAP Survey - Becky Shortland provided an update on the "knowledge, attitudes, and perceptions" survey. The survey is designed to gauge the effectiveness of GRNMS programs and evaluate perceptions of the research area. The survey will be targeted to both users and non-users of GRNMS and will be mailed to respondents at the beginning of 2018. The goal is to survey 500 users and 500 non-users Pat Geer offered to provide a list of registered anglers and the boating registry to Becky. Michael Denmark suggested creating a handout to distribute at events that people can take home and mail back when completed.

GRNMS Foundation Update – Cathy Sakas, Chair of the GRNMS Foundation, provided an update on Foundation activities, including the new mobile exhibit and this evening's event, the Third Annual *A Fishy Affair*. She thanked council members for their support of Foundation events and recognized the Trustees, Mandy Harvey, and Dr. Barbara Phillips as an integral part of the Foundation's success. Cathy noted the considerable amount of sponsors and donors for *A Fishy Affair* and how important those partnerships are to grow the Gray's Reef brand throughout Savannah. Cathy also mentioned the mobile exhibit that is toured the library system and is now at the Savannah History Museum.

### **Next Meetings**

Chris Hines proposed that the next two SAC meetings take place via webinar on November 29 and January 30 or 31. Both webinars would be two hours in length. Afternoons still work best for most council members. The next in-person SAC and SAG meetings are proposed for March 6 and 7, 2018. Potential topics for upcoming meetings include SAC Executive Committee nominations, SAFMC charter fishing reporting requirements and smart phone app, lionfish management follow-up, and the revised visitor use letter.

### **Public Comment**

- Tom Wright had to leave early but expressed his appreciation and thanks to the SAC and he will share information with the Georgia Marine Business Association.

The meeting was adjourned at 4:18 PM.

## **APPENDIX 1 – Interactive Session Notes**

- Question 1: What are the potential impacts of increasing users on the sanctuary resources?
- Question 2: How can the sanctuary most effectively monitor the patterns of visitor use in the sanctuary?
- Questions 3: Are the GRNMS messages getting across to your constituent groups about welcoming users to the sanctuary as long as they use it sustainably and follow the regulations?

### **QUESTION 1**

#### *Group 1*

- Declining fish in GRNMS (localized depletion)
- Acoustic impacts
- Food change effect
- Loss of recreational value
- Water quality impacts – potential oil and waste release
- Diver impacts on reef
- Economic benefits for the area
- More visibility for GRNMS
- No oil from vessels (not so many 2-stroke engines left, 4-stroke much cleaner and quieter)

#### *Group 2*

- Degrading health
  - Reduced fish abundance
  - Leading to trophic cascades
  - Reduced biodiversity
- More impacts on research area
- Increased noise and ecological impacts on marine mammals, fishes, invertebrates
- Changes in water quality
- Increased marine debris
- Increased awareness and improved perception of GRNMS
- More educational and research opportunities
- Increased funding
- Mechanical damage to invertebrates
- Increased diver disturbance

#### *Group 3*

- Students (potential visitors) are unaware/lesson plans needed
- Fishing working group moving forward with messages
- Diving is an issue due to lack of charters (should develop a working group)
- If you build it, they will come – Build demand
- Follow-up with dive community on spearfishing ban
- Assess dive community interest in GRNMS
- Many fishermen would rather fish elsewhere with less regulations

- Intern surveys
- Events to lure fishers
- Inquire w/GAMBA

## QUESTION 2

### Group 1

- Patrol reports and staff observations
- System to detect users prior to patrols
- Acoustic monitoring via AUV and/or hydrophones
- Marine debris survey
- Citizen observations with app for boat counts
- Satellite imagery, especially when used with recognition software
- DNR surveys at the dock and known fishing spots

### Group 2

- Consistent surveying
- Systematic satellite imaging
- Aerial surveys during flights for other purposes/organizations (i.e. right whale monitoring)
- Increased patrols, but need to be at times of heaviest use
- Drones (look at partnership opportunities)
- AUVs
- DNR fishing surveys

### Group 3

- Satellite – how effective
- Extrapolate existing data
  - Interns
  - Crowdsourcing
  - Citizen science
- Cameras and hydrophone – outreach
- Monitor buffer zone and other near-shore habitats
- Consistent baseline data
- Cellular bump-back with GPS data from visitor

## QUESTION 3

### Group 1

- Radio message on data buoy itself and webpage
- USCG messages
- Transmit GRNMS buoy conditions via smartphone app (include information on sanctuary)
- Fishing reports about what's being caught in GRNMS
- Message that the sanctuary is open to fishing is being received - word of mouth
- Media (fishing columns)

### Group 2

- Message is getting out, but to limited users, especially relative to recreational fishing
- Perception among anglers that there are a lot of patrols

- Users have to want to know the regulations
- Research area leads to confusion
- It's too far away to visit
- Limited access to boat ramps
- Bigger message is sustainable use
- Supporters vs. users
- Conclusions
  - Don't screw the sanctuary up
  - Critically important to know how much use there is
  - Need to understand current visitation to plan for the future
  - Lack of funding
  - Know what you have

*Group 3*

- Increased understanding by users of resources
  - Violations
  - Anchor/bottom habitat
  - Debris
  - Dumping/water quality
  - Extraction – fishing or geological
  - Sound pollution
- Word of mouth – experience – perceived value
- Increase economics – tourism, added local value
- Legal extractions – fish and geological
- Shipping traffic – loss of life - strikes