

FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY
Sanctuary Advisory Council
Meeting Minutes
January 18, 2022

VIRTUAL MEETING

Meeting Attendance Roster:

Sepp Haukebo, Recreational Diving, Present
Janavi Mahimtura Folmsbee, Recreational Diving, Present
Andy Lewis, Diving Operations, Present
Kristen Maples, Diving Operations, Present
Ruth Perry, Oil and Gas Industry, Absent
Steve Hamm, Oil and Gas Industry, Present
Scott Hickman, Fishing - Recreational, Present
Robert Kirschner, Fishing - Recreational, Absent
Shane Cantrell, Fishing - Commercial, Absent
Harris “HD” Pappas, Fishing - Commercial, Present
Adrienne Simoes Correa, Research, Present
Michael Dance, Research, Present
Brian Shmaefsky, Education, Present
Sharon Kamas, Education, Present
Joanie Steinhaus, Conservation, Present
Jake Emmert, Conservation, Present
James Sinclair, BSEE (non-voting), Present
Alicia Caporaso, BOEM (non-voting), Present
Adam Peterson, USCG (non-voting), Present
Rusty Swafford, NOAA Fisheries (non-voting), Absent
Brooke Shipley, TPWD (non-voting), Present
G.P. Schmahl, Sanctuary Superintendent (non-voting), Present

total voting member attendance: 13 of 16 of voting members; 7 votes needed

Others in Attendance:

Leslie Clift, Kelly Drinnen, Ryan Hannum, Justin Blake, Kait Brogan, Irene Olivares-Arthur, Michelle Johnston, Raven Blakeway, Marissa Nuttall, Jay Rooker, John Embesi, Terry Palmer, Frank Burek, David McBee, Kimberly Puglise, Vedika Shirtekar, George Cummings, Michele Paularena, Brendan Turley, Marga Goosen

9:00 Welcome and Announcements – Kelly Drinnen/G.P. Schmahl

Today's virtual meeting is being run through a webinar and is not being recorded.

Welcome to new advisory council members Janavi Mahimtura Folmsbee (Recreational Diving), H.D. Pappas (Commercial Fishing), Andy Lewis (Diving Operations), and Kristen Maples (Diving Operations). G.P. thanked advisory council members Michael Dance, Sepp Haukebo, and Sharon Kamas for serving on the Applicant Review Subcommittee.

9:23 Administrative Business – Jake Emmert

Call to order @ 9:23am.

Adoption of Agenda – Motion from Joanie Steinhaus, second from Sepp Haukebo. No objections on the draft agenda, motion approved.

Adoption of Minutes – Motion to approve minutes from November 17, 2021 meeting from Brian Shmaefsky, second from Sharon Kamas. No objections on the draft minutes, motion approved.

9:30 Public Comment

No public comment.

9:32 Condition Report – Dr. Michelle Johnston, FGBNMS

Michelle provided an overview of the Condition Report process, content, and progress, as well as shared information regarding climate assessments and how the advisory council can be involved. All national marine sanctuaries have conducted the first iteration of a Condition Report (2008 for Flower Garden Banks NMS (FGBNMS)), and many sites are in the process of updating their report including FGBNMS. Condition Reports are tools NOAA uses to assess the status and trends of sanctuary resources. The framework for Condition Reports is known as “DPSEER”: Driving Forces – Pressure – State – Ecosystem Services – Response. The assessment for each sanctuary's State of Resources are addressed by answering a series of 15 questions. Ratings include good, poor, and undetermined. Michelle provided explanations of Ecosystem Services and Confidence Scores and a time outline (see below) of the process for FGBNMS to update its Condition Report.

- Spring 2021 - workshop held for indicator development and data compilation
- Summer 2021 - an indicator vetting workshop held
- Winter-Spring 2021/2022 - data and indicators were prepared
- Late Spring 2022 - a Status & Trends Workshop will be held to create ratings
- Fall/Winter 2022 - staff will draft a report with three review periods slated
- Winter 2023 - expected release of the report

The Office of National Marine Sanctuaries (ONMS) has a Climate Resilience Plan (2021-2023) wherein Climate Vulnerability Assessments are underway, some taking a year or more to prepare

and publish. At some sites such as in Olympic Coast NMS, the advisory council is leading the effort to conduct a Rapid Climate Vulnerability Assessment instead, a tool that could be used after the updated FGBNMS Condition Report is completed. Michelle provided sources of information to include in this effort including: a) the climate model in *FGBNMS Projected Impacts* by Jeff Maynard: all coral reefs of FGBNMS will be exposed to severe thermal stress by 2040; and b) the Climate Change Impact Profile for Flower Garden Banks NMS that highlights four main items of concern: rising water temperature, ocean acidification, changing ecological communities, and changes to storms and weather. Michelle identified two needs: 1) advisory council member involvement with Condition Report status and trend workshops; and 2) advisory council to spearhead Rapid Climate Assessment. Michelle identified the next steps for advisory council members: 1) review Flower Garden Bank NMS and Office of National Marine Sanctuary (ONMS) climate documents; 2) schedule and engage in the Rapid Climate Assessment presentation at next meeting; 3) and indicate interest in taking on climate assessment.

Discussion followed. Adrienne Correa (Research seat) said she was encouraged to see incorporation of ecosystem services into Condition Reports. She volunteered to help with the Rapid Climate Vulnerability Assessment. Michelle described the process as a scaled-down version of the Condition Reports, to include workshops with a robust list of experts. Sepp Haukebo (Recreational Diving seat) asked for Sara Hutto to present at the next advisory council meeting on a Rapid Climate Vulnerability Assessment and include information on expected commitments. Scott Hickman (Recreational Fishing seat) urged for collaboration and also spoke on how climate change can impact fisheries such as spawning aggregations at and near Flower Garden Banks NMS.

10:45 Operational Resources for the Gulf of Mexico Mesophotic Zone – Jake Emmert, Moody Gardens

Jake Emmert (Conservation seat) explained differences in sampling the mesophotic zone (50-130 meters) as compared to the shallower reef caps. Decompression diving with mixed gases are used by divers trained in technical deep diving. Remotely Operated Vehicles (ROVs) are also used. Moody Gardens has a trained rebreather dive team. Jake led a team of Moody Garden and AAUS divers to Honduras for Rebreather Training in December 2021. Rebreathers extend the time underwater for deeper dives into the mesophotic zone. Increased depth requires additional equipment and assembly time. With regards to interaction of marine wildlife, rebreathers allow humans to enter the marine environment without noise-impacting it (no bubbles). Moody Gardens can be used as infrastructure (operational resources) for research/monitoring in mesophotic zones in the Gulf of Mexico.

Discussion followed. G.P. explained how most of the areas in the expansion area are in the mesophotic zone, and NOAA diving policies are conservative. Having this resource available is helpful.

11:01 Sanctuary Update - G. P. Schmahl

G.P. began by thanking Michelle Johnston who served as Acting Superintendent during his extended annual leave at the end of 2021. G.P. thanked outgoing advisory council member Natalie Davis (Diving Operations). G.P. recognized Dr. Martin Luther King Jr. and yesterday's federal holiday. NOAA COVID-19 protocol and guidelines: all offices and visitor centers remain closed, all employees telework from home, in-person meetings and travel are restricted to "mission critical" only, and vessel operations are greatly restricted. NOAA is considering a "phased" reentry process.

This year, the National Marine Sanctuary Program is celebrating its 50th anniversary (1972-2022), with a national website, a national theme of "Save Spectacular," and a poster series (Flower Garden Banks NMS projected poster publication in July 2022). Flower Garden Banks NMS is also celebrating an anniversary, its 30th (1992-2022). G.P. detailed its history, starting with the initial sanctuary nomination in 1979. G.P. shared some of the accomplishments of Flower Garden Banks NMS: Stetson Bank (1996), Research and Exploration, Long-term monitoring, NOAA Corps support, advisory council, move to Galveston from College Station (2006), R/V *Manta*, lionfish response, and sanctuary expansion (2021).

G.P. shared information on the acoustic anchor/ocean acidification cruise in December 2021, with more details upcoming in the next agenda item. A new instrument was installed to measure ocean acidification, under collaboration with Dr. Xinping Hu, with Texas A&M University Corpus Christi. Hu was recently named Chair of the Ecosystem Science & Modeling program at Harte Research Institute.

A couple of important papers have been published in the last few months: 1) K.R. Clements et al. (December 2021) titled "The Role of Citizen Science in the Research and Management of Invasive Lionfish across the Western Atlantic" that includes data collected by volunteer citizen scientists at Flower Garden Banks NMS from the Lionfish Invitational cruises, emphasizing the importance of volunteers in the study and management of this invasive species; and 2) M.F. Nuttall et al. (January 2022) titled "Do Oil and Gas Lease Stipulations in the Northwestern Gulf of Mexico Need Expansion to Better Protect Vulnerable Coral Communities: How Low Relief Habitats Support High Coral Biodiversity" that includes information on low relief (<8' height) habitats outside existing No-Activity Zones (NAZ) in the Gulf of Mexico that contain some of the highest density mesophotic coral communities yet described, but are not fully protected.

Education/Outreach

- Flower Garden Banks NMS 2022 "Seaside Chats" will take place again in February through four virtual presentations beginning at 6:30pm: 1) February 2 – Sex Lives of Corals: From Spawning to Conservation by Dr. Sarah Davies (Boston University); 2)

February 9 – Paradise Lost? Future Fisheries in a Climate-Driven Gulf by Sepp Haukebo (advisory council member, Environmental Defense Fund); 3) February 16 – Discovering Climate History in Coral Skeletons by Dr. Kristine DeLong (Louisiana State University); and 4) TBD with Humpback Whale National Marine Sanctuary.

- FGBNMS Kelly Drinnen and other Flower Garden Bank NMS staff have engaged in “Distance Learning” with webinars and interactive presentations with school groups.
- Janavi Mahimtura Folmsbee (Recreational Diving seat) received a commission for a major art installation at the George H.W. Bush International Airport (IAH) in Houston, Texas that will highlight Flower Garden Banks NMS. The installation is targeted to open in Summer 2022.

Divers from the WAVES Project, a veterans’ diving program, are helping with lionfish removals at Flower Garden Banks NMS.

Deepwater Horizon resulted in a quantified injury to over 2,000 km² of injured benthic habitat and substantial losses to resident corals and fish. One of the components, Mesophotic and Deep Benthic Communities (MDBC) Restoration Projects, has 4 goals: 1) mapping, ground-truthing, and predictive habitat modeling; 2) habitat assessment and evaluation; 3) coral propagation technique development; and 4) active management and protection. Flower Garden Banks NMS has been assigned this last goal with four objectives identified: 1) extend the education and outreach components of existing protected area management frameworks (Scott Jones hired); 2) coordinate with the agencies and stakeholders involved in establishing protections; 3) assess opportunities to manage and protect sensitive MDBC; and 4) reduce threats to MDBC and increase ecosystem resilience. Estimated duration: 7-8 years with an estimated budget of \$20.6 million. DWF funding to support analysis of historical ROV data from FGBNMS.

Sanctuary expansion effective date was 3/22/2021 with existing FGBNMS regulations applied to the new areas. Enforcement activities and interest in the expansion areas will ramp up in 2022, in collaboration with other agencies.

The Flower Garden Banks NMS Management Plan was last revised in 2012 with main components of sanctuary expansion, education and outreach, research and monitoring, resource protection, visitor use, and operations and administration. An updated management plan will commence after the Condition Report and Rapid Climate Vulnerability Assessment.

12:15 Determining Habitat Requirements and Connectivity for Reef Fishes in the Gulf of Mexico – Dr. Jay Rooker, Texas A&M University Galveston, and Marissa Nuttall, FGBNMS

NOAA’s National Centers for Coastal Ocean Science awarded \$1.7 million of an anticipated \$5.9 million over the next four to five years for three research projects to investigate species’ habitat usage and connectivity in and around Florida Keys, Flower Garden Banks, and

Stellwagen Bank national marine sanctuaries. Within Flower Garden Banks National Marine Sanctuary, tagging, tracking, and bioacoustics will be used to investigate migration ecology and habitat requirements of reef-associated fishes, including snapper, grouper, parrotfish, hammerhead sharks, wahoo, and invasive lionfish. The effort, led by Dr. Jay Rooker of Texas A&M University, is a collaboration between five universities, the NOAA Fisheries Southeast Fisheries Science Center, and Flower Garden Banks National Marine Sanctuary. Dr. Jay Rooker provided a summary of the project.

Installation of anchoring systems for acoustic receivers have already begun, with additional ones planned this summer. A network of acoustic receivers will cover banks and reefs in the Flower Garden Banks NMS expansion. Satellite tags will also be deployed on a subsample of migratory pelagic fishes with acoustic transmitters which will provide geolocations outside the acoustic network. This project will also assess the degree of dispersal and ecological connectivity at the ecosystem scale for early life stages (egg/larvae) of reef fishes. Locations of potential spawning hotspots (SPAGs) used as release locations for connectivity modeling will be derived from underwater video surveys with the timing refined with underwater soundscape monitoring.

Projected outputs include fish-habitat models, utilization distribution models, larval dispersal models, and identification of spawning aggregations. Projected outcomes include improved environmental or societal conditions, enhanced health and stability of the Flower Garden Banks NMS ecosystem, and sustainable fisheries and higher production yields.

Acoustic Array Anchor Installations – Marissa Nuttall, FGBNMS

FGBNMS Marissa Nuttall recently entered the PhD program at Texas A&M University as Dr. Rooker's student, and provided additional information on this project. Flower Garden Banks NMS will install an acoustic array of 20 anchors with subsurface buoys. Acoustic receivers will record some ambient sound (and temperature) on an hourly basis, but other recording devices will be deployed to record general underwater noise. Marissa asked all to please report observations of lost buoys, missing tags, and/or general damage or issues. Discussion followed. Four deeper anchors will be deployed at a deeper depth, outside of the 100 ft contour line, at East Flower Garden Bank to capture movement of fish from the reef cap to deeper areas. The shallowest receiver at Stetson will be 45 ft from the surface. Scott asked about the underwater acoustical range. Rooker replied 500m. Soundtrap recordings will likely transmit at a longer distance. Michael Dance replied tags could last 5 years and transmit up to 1km away.

12:45 New Business

Jake reviewed the discussion during the last meeting regarding forming a subunit to look at rules of orders.

12:58 Meeting Adjourned

Sepp Haukebo motioned to adjourn, seconded by Scott Hickman. All in favor. Approved.

Next SAC Meeting scheduled for Wednesday, April 13, 2022.

FGBNMS Advisory Council
Constituent Updates and Updates from FGBNMS Working Groups and Subcommittees

No updates provided.