

**FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY**  
**Sanctuary Advisory Council**  
**Meeting Minutes**  
**February 2, 2023**

**HYBRID MEETING**

**Meeting Attendance Roster:**

Sepp Haukebo, Recreational Diving, Absent  
Janavi Mahimtura Folmsbee, Recreational Diving, Present virtually  
Andy Lewis, Diving Operations, Present  
Kristen Maples, Diving Operations, Absent  
Don Craig, Oil and Gas Industry, Present  
Steve Hamm, Oil and Gas Industry, Absent  
Fishing - Recreational, Vacant  
Sepp Haukebo, Fishing - Recreational, Absent  
Shane Cantrell, Fishing - Commercial, Present  
Harris “HD” Pappas, Fishing - Commercial, Present  
Diego Gil-Agudelo, Research, Present virtually  
Michael Dance, Research, Present virtually  
Brian Shmaefsky, Education, Present virtually  
Education, Vacant  
Joanie Steinhaus, Conservation, Present  
Jake Emmert, Conservation, Present  
James Sinclair, BSEE (non-voting), Absent  
Alicia Caporaso, BOEM (non-voting), Present virtually  
Adam Peterson, USCG (non-voting), Present virtually  
Rusty Swafford, NOAA Fisheries (non-voting), Present  
Emma Clarkson, TPWD (non-voting), Absent  
Zach Salinas for John O’Malley (NOAA OLE (non-voting)), Present  
G.P. Schmahl, Sanctuary Superintendent (non-voting), Present  
**Total voting member attendance:** 10 of 14 voting members (2 vacant)

**Others in Attendance:**

Leslie Clift, Kelly Drinnen, Michelle Johnston, Ryan Hannum, Kelly Martin, Kait Brogan (virtually), Olivia Eisenbach, Donavon French, Sasha Francis (virtually), Todd Jacobs (NOAA), Terrell Bradford (NOAA), Jesse Cancelmo, Scott Hickman, George Cummings, Frank Burek, Natalie Davis, Shelby Rodriguez (USCG, incoming seat), Tarice Taylor (BSEE), Gretchen Luchauer, Johnny Walker, Bill Platt, Sandra Metoyer, Michele Paularena, Ken Fountain, Daniel Lippi, Mike Jennings, Mohammed Humran, Rose R

**9:15 Welcome and Announcements – Kelly Drinnen/Leslie Clift**

Today’s hybrid meeting, hosted by Flower Garden Banks National Marine Sanctuary (FGBNMS) at NOAA’s Galveston Lab in Building 305, is being run through a webinar.

### **9:27 Administrative Business – Jake Emmert (Chair, Conservation)**

Chair Jake Emmert (Conservation seat) encouraged all who can, to attend the advisory council meetings in-person.

Adoption of Agenda – Motion from Shane Cantrell (Commercial Fishing), second from Don Craig (Oil & Gas Industry). No objections on the draft agenda, motion approved.

Adoption of Minutes – Motion to approve minutes from November 15, 2022 meeting, pending edit to include Chris Ledford as present, from Shane Cantrell (Commercial Fishing) second from Chris Ledford (Recreational Diving). No objections on the draft minutes, motion approved.

### **9:30 Constituent Updates**

Brian Shmaefsky (Education) – conducted outreach with Environmental Educators Association, as well as with high school and college students regarding watershed impacts from pollution caused by flooding.

Alicia Caporaso (BOEM) – shared BOEM info regarding new regional director is Dr. Jim Kendall who previously worked with and in FGBNMS.

Diego Gil-Agudelo (Research) – conducts aerial survey flights for conservation purposes and has recently been working with Florida Fish & Wildlife Commission to transport corals from Moody Gardens Aquarium to an aquarium in Orlando, opening space at Moody Gardens Aquarium for additional colonies from FGBNMS.

Janavi Mahimtura Folmsbee (Recreational Diving) – has been working on her website and offering tours to local dive clubs of her artwork installation, *The Aquarius Art Tunnel*, at Houston's Intercontinental (IAH) airport, which transformed a tunnel between two airport terminals (>2,500 people/day).

Michael Dance (Research) – recently downloaded the first data from acoustic receivers for the reef fish tracking project he and other partners are conducting to look at ecosystem and habitat connectivity across the sanctuary – fish species include graysby, yellowmouth grouper, lionfish, and gray snapper.

Adam Peterson (USCG) – works in Living Marine Resources office for District 8 but will be transferring this summer. Shelby Rodriguez will take his seat. USCG has focused recently on the influx in illegal immigration though USCG is still allocating resources to accomplish all goals.

Don Craig (Oil & Gas Industry) – will share update during his presentation today

Chris Ledford (Recreational Diving) – is trying to get more participation from Texas A&M University Galveston (TAMUG) on the advisory council, and also outreach to Dr. Sheila Kitchen regarding her conducting coral work in the sanctuary.

Joanie Steinhaus (Conservation) – has been involved with the Winter Texas season with multiple programs located at the Turtle Island Restoration Network (TIRN) office including aquaria/zoos

across Texas; also working with Powerful Learning Innovators in Galveston Independent School District with funding from Moody Foundation to work on ocean conservation and will pilot K-12 programs in Spring 2023 including Dickinson High School, one of NOAA's Ocean Guardian Schools; the 5<sup>th</sup> Annual Plastics Symposium (no-cost) at University of Houston Clear Lake is scheduled for April 5, 2023; sea turtle nesting season begins in April with 1<sup>st</sup> annual 5K Family Walk "Hatchling Hustle" and TIRN is looking for sponsors (\$250-\$2,500); has been partnering with Perpetual, a nonprofit organization, to bring reusable foodware to Galveston with support from Galveston's Chamber of Commerce and upcoming public meetings on March 6-7, 2023 at the TIRN office building; has been developing internships for TAMUG and Galveston College students.

Shane Cantrell (Commercial Fishing) – was inshore of sanctuary to tag greater amberjack for Greater Amberjack Count which is targeting a 80% reduction in landings in 2022 with management actions; working on recreational understanding of expanded sanctuary regarding boundaries and NOAA chart mapping issues.

Jake Emmert (Conservation) – Moody Gardens recently met with National Resource Damage Assessment managers & Teichman Marine regarding technical diving in the Gulf of Mexico over the next few years to support restoration and research needs in mesophotic zone; two Moody Gardens staff are currently in Amazon for Project Piaba to help local communities sustainably raise local fish species of interest to aquaria/zoo; has been supporting dive operations in sanctuary with the FGBNMS team.

Andy Lewis (Dive Operations) – is gearing up for the upcoming dive season on the M/V *Fling*; has been attending local dive club meetings to conduct fish identification and education/outreach regarding FGBNMS; recently reviewed a Memorandum of Understanding for Texas Parks & Wildlife Department regarding the sanctuary's Lionfish Invitational.

HD Pappas (Commercial Fishing) – is looking forward to wahoo discussion and fishing pressure in general because sanctuary is a special place. More boats equals more fishing pressure and he wants to be able to fish in the future.

Rusty Swafford (NOAA Fisheries) – works on essential fish habitat in coastal areas but have been working recently with BOEM on offshore wind energy and lease sales (March and June 2023) with placement of offshore wind infrastructure 3-5 years away; surveying permits underway now for bottom seismic surveys. Jake Emmert added Moody Gardens is finalizing dates for an offshore wind energy conference.

Zach Salinas for John O'Malley (NOAA OLE) – covers TX gulf coast and reports no recent illegal fishing activity in sanctuary.

Kelly Martin (MDBC) – at end of 2022, held workshops for the Mesophotic Deep Benthic Communities (MDBC) projects to review and inform; planning for upcoming cruise season with 11 cruises (130-140 days at sea) using a remotely operated vehicle (ROV), an autonomous operated vehicle (AUV), and saturation/technical diving; upcoming early March 2023 invitational workshop.

Web References:

[NOAA Fisheries Office of Habitat Conservation MDBC webpage](#)

[National Centers for Coastal Ocean Science MDBC webpage](#)

[2022 Cruise Season Webstory](#)

Marissa asked about fish aggregating devices (FAD) that are planned for deployment 30 miles west of West Flower Garden Bank. Shane replied fishers use FADs because they offer opportunity to target pelagic species and also for researchers to collect larval/juvenile stages of pelagic species; Rusty said it's not NOAA Fisheries but could be BOEM or ACOE; Dr. Michael Dance has been conducting research on FADs in Desoto Canyon and offered to present on FADs at an upcoming advisory council meeting.

### **10:15 Sanctuary Update – G.P. Schmahl (FGBNMS Superintendent)**

Recruitment applications are due February 10, 2023 for the following five seats on the advisory council:

- Conservation (Emmert)
- Research (Dance)
- Recreational fishing (Hickman\*)
- Education (2) – Shmaefsky\*, Kamas\* (\*=not re-applying or is term limited)

The applicant review subcommittee consists of the following advisory council members: Sepp Haukebo, Shane Cantrell, Janavi Mahimtura Folmsbee and with Chris Ledford as alternate. Because Shane is applying for a seat, alternate Chris will serve on this subcommittee.

SAC action 11/15/2022 – FGBNMS Charter Amendment – motion to “Reclassify the two Oil & Gas Industry seats as Energy seats.” Approved by John Armor on January 19, 2023.

A female manta ray in FGBNMS was named in memory of Maite Yuleana Rodriguez, a student killed in the Uvalde school shooting in May 2021. Subsequently, a sea turtle was also named in Hawai'i after Maite.

*The Aquarius Art Tunnel* by Janavi Mahimtura Folmsbee had an official ribbon-cutting and grand opening on November 30, 2022 at Houston's Intercontinental (IAH) airport (between Terminals D & E) attended by GP Schmahl and other FGBNMS staff. The tunnel can be accessed by the general public (i.e., is not behind security gates). This permanent art installation has coordinating lighting, carpet, sound, murals on walls and lenticular panels on ceiling.

Seaside Chats began last night (Feb 1) and will continue each Wednesday evening this month (February 2023) from 6:30-7:30 p.m. Speakers include Dr. Steve Gittings, Bill Precht, Dr. Tom Bright, and Luke McCartin. This year's theme is history-related since 2022 was the 30<sup>th</sup> anniversary of FGBNMS.

Moody Gardens had another “Iceland” exhibit simulating a coral reef, and included again a model of the R/V *Manta* on which FGBNMS staff took their holiday photo.

The Houston Museum of Natural Science had a holiday-themed area featuring a FGBNMS

Christmas tree decorated with species specific to the sanctuary.

Ocean Guardian Schools (OGS) program has 4 schools for 2022/2023 school year: Oppe Elementary (Year 6), Dickinson High School (Year 5), Yorkshire Academy (Year 5), and Poe Elementary (Year 1). New bilingual signs (Spanish/English) arrived and will be distributed to interested schools within the OGS program.

The R/V *Manta* will have its annual NOAA fleet inspection in March 2023 with an annual shipyard service planned for March/April 2023.

The Climate Vulnerability Analysis (CVA) has a draft (March 2023) and a draft is scheduled for the FGBNMS Condition Report in Fall 2023.

The coral disease outbreak paper was published in January 2023, titled “Coral Disease Outbreak at the Remote Flower Garden Banks, Gulf of Mexico” in *Frontiers in Marine Science*. The sanctuary continues ongoing monitoring of SCTLD-like observations, and conducted a research cruise in January 2023. The coral disease rate at which disease has spread on documented colonies is not as great as other areas with corals with SCTLD. Adrienne Correa (former advisory council member) was awarded an emergency National Science Foundation grant for disease outbreak monitoring in Spring 2023 and also for bacterial sequencing in the corals which could help discernment of SCTLD and White Plague Disease. Texas Sea Grant issued a Request for Proposals to promote research to help study this disease outbreak. Dr. Sarah Davies will be sending her corals she collected from FGBNMS (pre-disease, with permits) back to Texas which will be housed at Moody Gardens. Sepp Haukebo requested a standing update on future agendas for a coral disease outbreak update.

FGBNMS received additional money from the Bureau of Ocean Energy Management (BOEM) for its long-term coral reef monitoring project (2023-2026) for East and West Flower Garden Banks.

A recent FGBNMS research cruise was conducted (January 2023) to conduct water quality sampling and also to retrieve acoustic receivers to download data for the connectivity project led by Dr. Jay Rooker (Texas A&M University Galveston) titled, “Determining Habitat Requirements and Connectivity for Reef Fishes in the Gulf of Mexico.”

Drs. Steve Gittings & Tom Bright recently published a paper regarding the localized coral mortality event in 2016, titled, “Geological faulting a possible trigger for brine-induced reef mortality at East Flower Garden Banks, NW Gulf of Mexico” in *Bulletin of Marine Science*.

Texas A&M University deployed a wave glider focused on the sanctuary. The wave glider is autonomous and is sending back real-time data on water quality parameters.

### **11:05 Gulf of Mexico Fishery Management Council (GMFMC) Fishing Regulations Update – Sepp Haukebo (Recreational Fishing)**

GMFMC resources for federal fishing regulations include [Gulfcouncil.org](http://Gulfcouncil.org) and Fish Rules (mobile app).

Recent regulation changes now in effect for the Gulf of Mexico:

1. Modification of catch limits for red snapper: increased annual catch limit (ACL) from 15.1 million pounds to 16.3 million pounds (Note: some science supports this increase but many fishers spoke against increase based on firsthand experience of fishery health declines), and also reallocated a portion from the commercial to the recreational sector.
2. Modification to the greater amberjack: decreased ACL from 2.9 million pounds to 0.5 million pounds, and also reallocated a portion from the commercial to the recreational sector.
3. Modification of catch limits for vermilion snapper: increased ACL from 3.1 million pounds to 5.4 million pounds.

Climate change is impacting species distribution. Fishing effort/mortality is the other big concern. King mackerel is declining and its management is being considered by GMFMC. GMFMC is voting on gag grouper management this week. Red grouper was voted to adjust ACL between recreational and commercial, but was challenged with an appeal. G.P. mentioned a recent agenda item at Florida Keys NMS regarding Pulley Ridge with a potential to restrict access (no trolling).

### **11:35 Wahoo (*Acanthocybium solandri*) – Johnny Walker/Bill Platt (local fishers)**

Wahoo (*Acanthocybium solandri*) are in the mackerel family and have an elongated body shape with irregular, iridescent vertical bars along the body. Wahoo are fast growing and early to mature. All life stages are found around drifting objects including sargassum. An annual winter Wahoo Championship (January-March) targets aggregating wahoo within FGBNMS. The FGBNMS Climate Vulnerability Assessment workshop identified harvest as wahoo's greatest threat.

Johnny Walker, who has been fishing for 35 years out of Galveston, discussed changes he has seen in the wahoo fishery and changes in accessibility in the last 3-4 years. A fishing charter trip to FGBNMS used to be an overnight trip but in the last few years, he has seen smaller/faster boats now accessing these places in 2 hours, resulting in higher impacts to this resource. In the middle of the week last week, he saw 9 boats at East Flower Garden and 7 boats at Geyer. Johnny explained when wahoo aggregate, they're easy prey and it's like shooting fish in a barrel. Because the population has been diminished, fishers are not catching wahoo in areas inshore areas and have also seen decreases in wahoo weights. Johnny asked if the sanctuary can set a bag limit (recommends 2 fish/person, as does Bill Platt) or require a permit. Shane responded the sanctuary can make recommendations to GMFMC or NOAA's Highly Migratory Species (HMS), but neither have taken ownership/responsibility for the management of this species, and instead the sanctuary could manage the wahoo fishery inside sanctuary boundaries. Rusty Swafford explained wahoo is not included as an HMS so it cannot be managed by HMS. He added although wahoo are managed in the Atlantic by the South Atlantic Fishery Management Council, wahoo are not managed in the Gulf of Mexico. NOAA's HMS does not manage the mackerel family and that management of wahoo would fall under local fishery councils (e.g., GMFMC). G.P. said FGBNMS can promulgate regulations within sanctuary borders, but must consult with GMFMC for any fishing regulations. Doing so, gives them the opportunity to move

forward with a fishery regulation, but GMFMC may opt to defer to sanctuary. He added NOAA's Office of National Marine Sanctuaries (ONMS) has not yet gone into the realm of typical fishery management (e.g., bag limits, size limits, seasonal restrictions) for species-specific regulations, and that fishing regulations like restricting fishing in certain areas by all or by gear types, which could be seasonal, would likely work best. Johnny clarified he is not promoting restriction access but is in favor of limiting the number of wahoo harvested.

Bill Platt added that compounding impacts (faster, more boats; technology; winter-long wahoo tournament; aggregation behavior) need to be regulated so that some fish are saved. He reported seeing 1-2 boats in the past, but now is seeing 20 boats fishing these wahoo aggregations. Bill requested limits on wahoo harvest so that wahoo can be a resource for future generations. Michelle reported staff observed 4 boats at EFGB and 3 at WFGB during the middle of the week in January 2023, presumably fishing for wahoo, representing the greatest number of boats FGBNMS staff have seen while out on a research cruise.

Marissa asked if people are accessing mostly from Texas. Bill responded wahoo fishers are based out of Galveston, Freeport, Matagorda, and Port O'Conner through Port Aransas. Marissa asked about a comparison to Florida's wahoo tournaments. Bill mentioned wahoo tournaments also take place in Louisiana. He said local fishers know FGBNMS have the largest aggregation in the area and without a limit, it's a massacre. Some boats in the tournament catch thousands of wahoo each week. Michelle Johnston pointed out the rankings of the CVA workshop participants on how climate change (increased water temperature; almost certain likelihood; major consequence, extreme risk, high vulnerability) will also impact wahoo. Additionally, a lot of wahoo are lost due to fishing mortality due to sharks; for every 20-30 fish caught, Johnny said about 10-15 are lost to shark predation.

Scott Hickman (former advisory council member) advocated a working group, and agreed that keeping access to fishers is important but regulations are needed to protect this iconic species, and urges support of SAC to help with this. Leslie Clift referred to the Grouper Moon Project in Little Cayman with Nassau grouper and how just a handful of fishers with simple fishing gear (handlines) removed 4,000 groupers over two spawning seasons, harvesting half of the population.

Discussion continued with several advisory council members expressing alarm that wahoo is not a managed fish species in the Gulf of Mexico. G.P. said the sanctuary should contact GMFMC to raise the concern directly and by establishing a working group. Jake requested this working group to meet and advance action at the next advisory council meeting (May 4, 2023).

### **12:06 Wahoo (*Acanthocybium solandri*) Research – Dr. Michael Dance (Research)**

Dr. Michael Dance's Fisheries and Movement Ecology Lab is housed with the Department of Oceanography and Coastal Sciences at Louisiana State University (LSU). He has been working on the Interbank Connectivity project with Dr. Jay Rooker (TAMUG; lead scientist) and Marissa Nuttall (FGBNMS) to understand the movements of reef and pelagic fish taxa that use the extensive network of shelf edge refs in the northern Gulf of Mexico. Two species, greater amberjack and wahoo, are the two reef-associated bony fishes will be researched since they have the potential to move between banks and are ubiquitous across the sanctuary. In addition to

placing acoustic telemetry equipment (20 total) at each of the reefs/banks in the sanctuary, Claypile, Jakkula, and Ewing Banks are included. The greater amberjack project added receivers at artificial habitat (reefed platforms near a bank) so that movement between natural and artificial can be studied. Three offshore areas are divided longitudinally into zones. Receivers are on an acoustic release system whereby the hydrophone canister is released from its anchor to the buoy. Additional receivers were placed on the outer shelf off Louisiana and further south and inshore in Texas and mid-shelf on outer continental shelf. Expected acoustic tag longevity is 6 years with data sent every 1-3 minutes. For the wahoo project, the goal is to tag 50 wahoo. A subset will receive satellite tags during winter/spring aggregations to track movement, depth, and temperature when outside of receiver areas. Fidelity data (i.e., how often and when do tagged fish return) will be obtained. Tagging began in winter/spring 2023. A recent cruise to Ewing Bank was canceled due to weather, but rescheduled to next week. Wahoo tagging troughs were developed, similar to tuna tubes, to allow for easier tagging. Wahoo aggregate at shelf edge reefs, platforms, and other structures during winter, but does not appear to be due to spawning (summer spawning is suggested in research). Site fidelity is unknown at this time.

Discussion followed. Leslie asked if any wahoo have been caught inshore when outside of aggregation time, and also asked about wahoo's life history with regards to hydration of eggs. Michael said anecdotal evidence said opportunistic tagging during the summer saw no wahoo. Michael added he is uncertain of trends regarding recent declines. **Shane Cantrell made a motion for a wahoo interaction and aggregation working group to be formed to explore and understand wahoo interaction and aggregation within FGBNMS.** HD Pappas seconded this motion. **No objections, motion approved.** Identified members of the Wahoo Working Group: Shane Cantrell, Johnny Walker, Bill Platt, HD Pappas, Marissa Nuttall, Michelle Johnston, Sepp Haukebo, Michael Dance, and Olivia Eisenbach. Shane Cantrell motioned to approve members, with second from Joanie Steinhaus. No objections, motion approved.

## **LUNCH**

### **1:10 Public Comment**

No public comments.

### **1:15 Emerging Technologies that Promote Sending with Real-Time Data Acquisition for Ocean Environments – Don Craig (Oil & Gas Industry)**

The energy transition together with the US government's renewed focus on research into cleaner energy systems, offers FGBNMS an opportunity to partner with the energy industry, ocean technology contractors, and the DOE to provide for an ideal testing site for data collection providing real-time insights to the health and dynamic nature of one of the world's most unique ocean ecosystems.

Don reviewed technology descriptions, example development programs, and opportunities for FGBNMS. He explained artificial intelligence in motion, by making its own decisions and learning/adapting, creates autonomy in the marine environment. Don shared the following technology descriptions:

OWE – Ocean Wave Energy (e.g., mocean energy (UK))

AUV – Autonomous Underwater Vehicle (AUV) with docking station (e.g., Oceaneering,



Teledyne Systems) is an underwater advanced fuel cell (subsea supercharger) that uses oxygen and hydrogen as its power source.

Halo battery system (subsea battery) (e.g., Verlume (UK))

Uncrewed surface vessel (USV) – (e.g., Ocean Infinity (US/UK))

Digital solutions (e.g., DFO, subsea wifi, IoT)

Example technology development programs:

1. Partner engagement & co-development program (Hawaii/Oregon) to test devices – offshore test in March 2023 and continuing over 3-4 years
2. Blue Horizon technology development – sponsored through energy sector – located in North Sea, UK
3. NOAA GLERL under-ice observation program (Great Lakes, US) – resident AUV under the ice

Opportunities for FGBNMS:

- Tropical Offshore Power System (TOPS) project
- US Dept of Energy (DOE)
- Small Business Innovation Research Project (SBIR)
- Gulf of Mexico
- Charge USVs
- Incorporate complementary generation sources
- C-Power is seeking industry non-binding use case support

One potential project is to test a wave energy device with a combination system (alternative energy source (e.g., solar)) to deliver power subsea for charging USVs that would transit the region, with charging stations distributed.

Discussion followed. Shane Cantrell asked about how navigation works with AUVs and USVs. Don responded satellite data. Michelle Johnston asked about sensors on AUVs. Don responded whatever payload (e.g., sensors, cameras) is wanted can be put on AUVs. Michelle said the sanctuary and research partners really need data at depth and in more areas (e.g., gap in wintertime and mesophotic depths), and having AUV data would be huge asset to sanctuary especially at banks/reefs beyond recreational diving depths. Don said some AUVs are built for fairly deep water (i.e., 10,00 feet deep). G.P. expressed interest from the sanctuary on these opportunities.

### **1:45 NOAA's Chart Mapping – Dr. Quentin Stubbs (NOAA's Office of Coast Survey)**

Office of Coast Survey – Transition from Raster to Electronic Navigation Charts (ENCs)

In the United States several agencies are currently responsible for hydrography and carry out complementary tasks. For nearly 200 years, NOAA's Office of Coast Survey has produced traditional paper nautical charts. However, since 2008, sales of traditional paper charts have dropped by half, while ENC sales have quadrupled. The five-year process to end all traditional paper nautical chart production will shut down all other raster chart products and services associated with traditional NOAA paper nautical charts. The expected cancellation date of these products and services is January 2025. NOAA plans to end production of all forms of these raster

charts during the sunseting process, and is now focusing efforts on keeping up with the demand for ever more detailed ENC coverage. NOAA is now providing access to paper chart products based on ENC data, through the NOAA Custom Chart prototype and through third-party commercial data providers. The online NOAA Custom Chart (or NCC) application enables users to create their own charts from the latest NOAA ENC data. Users may define the scale and paper size of custom-made nautical charts centered on a position of their choosing.

NOAA surveys US waters/shoreline for legal boundaries, tides and currents, and nautical charts (to US EEZ 200 nautical mile limit); see [Nauticalcharts.noaa.gov/customer-service/assist/](https://www.nauticalcharts.noaa.gov/customer-service/assist/). Locally, NOAA is currently engaged in Project 11 with the US Army Corps of Engineers on the deepening and widening of ship channels in Texas.

Current initiatives:

1. Reminder of up-coming raster chart cancellations in the region.
2. Tweaking new ENC tools due to impacts from changing mapping scales
3. Ongoing Improvements (e.g., symbology, labels, changing metric to imperial units)
4. Chart Corrections (requesting, reviewing, conducting, processing)

Existing raster NOAA Chart 11340 includes FGBNMS has different labeling than Custom Chart Tool which doesn't have CFR regulations but can still access that information using the Information Tool (similar to metadata). Example of issue: the ENC Viewer lists "East Flower" but doesn't list "West Flower."

Next steps:

1. Conduct inventory of spatial and metadata of sanctuaries in the region
2. Evaluate spatial distribution and labeling of existing sanctuaries on ENCs
3. Inventory of proposed sanctuaries

NOAA's ship *Thomas Jefferson* will be coming to Houston/Galveston area to conduct surveying in Summer 2023 from Galveston entrance out to ~40 miles offshore.

Discussion followed. Shane Cantrell said many chart plotters are lapsing their equipment (i.e., can no longer support updates). Jake suggested FGBNMS webpage could have a reminder about NOAA's charting changes. G.P. said the ENC labels are different than raster charts, but recognizes the art form needed to have a balance of information and readability. For example, no-anchor symbols are on Horseshoe Bank but has no label or other info re: sanctuary regulations. Also, the sanctuary needs to request a correction on buoy information (i.e., two lighted buoys and the TABS buoy are no longer in place in the sanctuary). Quentin said local printing companies will likely continue printing maps and NOAA's Chart Tool offers a print option. NOAA Coast Pilot is the biggest tool for non-electronic resource with definitions, and will still be available. Outreach to third party vendors is important because paper charts could still be supplied by them, but products need to be updated.

## **2:30 Cruise Ship Industry – Joanie Steinhaus (Conservation)**

The letter from the advisory council for Channel Islands NMS (CINMS) to the City of Santa Barbara regarding the cruise ship program (titled "CINMS Advisory Council Cruise Ship

Letter”) was shared via email and hardcopies provided at today’s meeting with the advisory council for Flower Garden Banks NNMS. Of note, the CINMS letter said to be mindful and consider ways to reduce impact from cruise ship industry, including capping/reducing the existing number of annual visits.

Joanie shared the following information on the cruise ship program in Galveston:

- 362 cruises in 2023 with an average of 7 cruises/week
- Milestone reached of 1 million passengers in 2022
- Proposed fourth cruise terminal

Impacts of cruise ships on the environment and human health:

- Noise pollution
- Vessel strikes – in the last 5 years, at least 112 whales washed up dead (all areas, not just Gulf of Mexico) were identified by NOAA as having injuries that were consistent with ship collision
- Water pollution: grey water, ballast water, food waste
- Air pollution: a large vessel may have a carbon footprint greater than 12,000 cars
- Health risk to passengers and crew

Joanie displayed a map of the Rice’s whale “Core Area” (as identified by NOAA’s National Marine Fisheries Service) in the Gulf of Mexico. Rice’s whale vocalizations have been reported in FGBNMS, as detected by passive acoustic instrumentation.

Preliminary data of shipping fairways coming to/from Galveston show cruise ships passing within:

- 2 miles of McGrail Bank
- 6 miles of Stetson Bank
- 30 miles of West Flower Garden Bank

Discussion followed. GP responded said addressing Galveston’s cruise ship program would first require the identification of the nexus of impacts to the sanctuary, such as in the Florida Keys with impacts to turning basins. Shane Cantrell asked about whale strikes. Don Craig commented on the cruise ship industry’s significant emissions and hull cleaning procedures that introduce toxic chemicals, adding he is concerned about shipping fairways over sanctuary boundaries. Diego Gil-Agudelo mentioned the upcoming change in fuel for the cruise ship industry. Jake asked for this topic to be on the next advisory council agenda and for the advisory council to consider also writing a letter similar to CINMS.

## **2:45 New Business**

Chris Ledford asked about including the maritime shipping industry in the advisory council.

Next meeting’s agenda items to include: wahoo working group update, cruise ship industry, and community engagement (e.g., SEEDs, Dickinson High School). Don Craig will share a SBIR letter with the advisory council and/or sanctuary regarding a letter of support.

**3:02 Meeting Adjourned**

Meeting adjourned at 3:09pm by Jake Emmert.

Next SAC Meeting scheduled for Thursday, May 4, 2023.