

APPROVED BY:

COMMITTEE CHAIRMAN

**GSMFC ARTIFICIAL REEF SUBCOMMITTEE
MINUTES**

**Monday, October 16, 2023 & Tuesday, October 17, 2023
New Orleans, LA**

Chairman Travis Williams called the meeting to order at 1:30 p.m. The meeting began with introductions of the members and guests. The following were in attendance:

GSMFC Members

Charlie Robertson, GSMFC, Ocean Springs, MS
Mike McDonough, LA DWF, Baton Rouge, LA
Keith Mille, FL FWCC, Tallahassee, FL
Craig Newton, AL DCNR, Gulf Shores, AL
Emma Clarkson, TPWD, Corpus Christi, TX
Travis Williams, MS DMR, Biloxi, MS

Staff

Dave Donaldson, GSMFC, Ocean Springs, MS
Joe Ferrer, GSMFC, Ocean Springs, MS
Ali Wilhelm, GSMFC, Ocean Springs, MS
Gregg Bray, GSMFC, Ocean Springs, MS
Sarah Wakefield, GSMFC, Ocean Springs, MS

Others

Rachel Parmer, TPWD, Dickinson, TX
Ted Switzer, FWC/FWRI, St. Petersburg, FL
Jeff Plumer, LSU, Baton Rouge, LA
Alexis Sabine, TX Sea Grant, Corpus Christi, TX
Larry Beggs, Reef Innovations, Sarasota, FL
JD Dugas, GMFMC, Maurice, LA
Gray Turnage, MSU, Mississippi State, MS
Kelly Martin, NOAA
Herb Leedy, BSEE, New Orleans, LA

Adoption of Agenda

A motion was made to adopt the agenda, and the motion passed unanimously. The Motion was seconded, and the agenda was approved.

Adoption of Minutes

A motion was made to adopt the minutes from the November 9-10, 2022 meeting, and the motion passed unanimously. The Motion was seconded, and the minutes were approved.

Public Comment

Chairman **Williams** provided the opportunity for public comment. No public comments were received.

Overview of Artificial Reef Activities

Texas

Emma Clarkson reported that the Restoration and Artificial Reef Team (RART) under the Ecosystem Resource Program (ERP) are creating artificial reefs in estuarine and nearshore/offshore locations.

Upcoming Rigs to Reefs projects include structures in High Island (10), Padre Island (2), Mustang Island (1), and East Breaks (1). Rigs to Reefs has had difficulties with who owns assets, and what they will do with them. Hoping to have some deployed in 2023.

At Sabine Reef, in partnership with Friends of Sabine, 100 plates and 100 pyramids were deployed in 2022. Coastal Management Program funding was used in the amount of \$250k. HI-20 is full. Permitting is being sought for two new sites for partners - HI-54 (shallow) and HI-54 (deep). Outreach signage has been placed at the Sabine boat ramp.

The Bob Hall pier was severely damaged during Hurricane Hanna in 2020 and demolished afterwards, but is being rebuilt. Material from the old bridge was placed at MU-775.

Texas Parks and Wildlife Department will use GOMESA funds to develop engineering and design plans for the removal of the Queen Isabella Causeway in South Padre Island, TX. The causeway is in a severe state of disrepair and presents a hazard to boaters and the public. The materials will be transported and placed to construct a 320-acre artificial reef site (permit pending) offshore of South Padre Island in the Gulf of Mexico. The Demolition Plan will include removal of 105 bridge spans and 421 pilings. Three barge loads of deck material will be used.

In partnership with Friends of Rio Grande Valley, a 1,650-acre reef will be created 7.4 nm offshore, and 13.9 nm from the Port Isabel Jetties. Water depths are 55-75 feet. Materials to be deployed include a tug boat, shrimp boat, 15,000 tons of concrete rail ties, 8,000 cinderblocks, 300 concrete pyramids, and 250 low-profile modules. Renewal of the USACE permit is still underway. Two shrimp boats are awaiting deployment.

RESTORE funding in the amount of \$2,100,00 will be used to deploy plates and pyramids in Port O'Connor and Sabine at possible new reef sites. Rail ties will be deployed at RGV. Deployment will possibly take place in 2025.

A monitoring and research event called Summer Cruise 2024 will include lionfish removals, eDNA, coral surveys, "Kraken" reef surveys, natural/artificial reef connectivity, pre-reefing surveys, and long-term stations. "Directed" monitoring will be done instead of random sampling. This event is in partnership with Flower Gardens Banks NMS. Monitoring plans are being formulated on the connectivity between artificial reefs and natural reefs (ex. Flower Gardens Banks vs artificial reefs).

A current challenge is that NMFS consultations are taking a long time (over 1 year) in regions of Texas, while quicker in the North (3 months). USACE is agreeing to do pre-consultations to speed up the process, which previously they would not do.

Louisiana

Mike McDonough reported that the Artificial Reef Program now has 19 established nearshore reefs or reef complexes. There was a moratorium for a while on reef sites, but they are now able to restart building reefs. A new inshore reef site was completed that was dedicated to well-known fishermen. Two more reef deployments have been completed, but their contractor put all of the material 1,200 feet away from the designated deployment zone due to misinterpretation of GPS coordinates, and just outside of the permit boundaries. Permits for two new reef sites are in process. Permits (or applications for permits) have been obtained, along with a cooperative endeavor agreement to create three new nearshore reefs and enhance one existing (CCA).

The Program continues to be very active in accepting new platforms into permitted artificial reef sites. There are 82 established offshore reefs. A total of 440 oil and gas jackets have been accepted. In 2022, 16 have been deployed/accepted (\$5,193,136.50 in donations). There have been six so far in 2023 (\$2,267,080.99). There are 58 additional structures permitted for deployment, and 30 in the permit process. Eight drill rig legs, and one vessel (Gulf Defender) have been accepted.

Mississippi

Travis Williams reported that in July, MDMR and the Mississippi Gulf Fishing Banks deployed two decommissioned steel-hulled fishing vessels that were donated by OMEGA Protein. The F/V Mermentau and F/V G.P. Chauvin were deployed on July 26th and 27th in Fish Haven 13, which is about 25 miles south of Pascagoula. Both 155' vessels were commissioned in the late 80s, and remained in service to the industry for over 30 years.

During 2023, the Artificial Reef Bureau continued monthly monitoring of fish assemblages and physiochemical parameters at selected inshore reef sites. A total of 64 sampling events occurred during the report period, and yielded 684 individual specimens that spanned 27 species. Throughout the year, the program received and stockpiled 68 truckloads of donated concrete culverts from Design Precast and Pipe and Colony Construction which totaled 2,150 pieces. These materials were stored at the staging facility in Gulfport, MS for future deployments and artificial reef construction. Street drain materials were compiled at staging site to be able to deploy, hopefully in 2024. Monitoring of offshore reef sites continues.

Monitoring continued on the sites created from the secondary use materials deployed in FH-13 via juvenile tagging studies. Juvenile fish traps were deployed on these sites and allowed to soak for one hour. All reef fish captured were weighed, measured, tagged, and released. Data was collected from a total of 371 juvenile reef fish from five different species that were released.

Efforts to renew USACE permits for all inshore artificial reefs are ongoing. Two new offshore reef complexes for 16,575 acres of water bottoms adjacent to FH-13 are currently waiting on a biological opinion from the National Marine Fisheries Service, which could take 12-14 months.

Bureau staff continue to work with NFWF to begin the Engineering and Design phase of a project to extend Katrina Key from the existing 1.13 miles of structure to the western boundary of the permitted area for an additional 2.5 miles of structure.

Artificial Reef staff completed four deployments of 860 artificial reef ecosystem discs on Cat

Island, FH-8, FH-9/11, and FH-10 to enhance the artificial sites. The sites will be monitored over the next two years to assess recruitment on the structures.

The inshore reef assessment project is currently ongoing to determine the condition of all Mississippi's inshore artificial reefs. The contract was awarded to conduct side scan and multibeam sonar studies for that purpose.

MDMR was awarded grants for three separate artificial reef projects through the National Fish and Wildlife Foundation (NFWF) and their Gulf Environmental Benefit Fund. The projects include an extension of Katrina Key, an inshore reef assessment, and enhancement of Cat Island, FH-8, FH-9/11, and FH-10 Reefs.

Alabama

Craig Newton reported that the Alabama Rigs to Reefs Program entered into an agreement with Noble Energy, Inc. to convert the spar of Platform-A in the Outer Continental Shelf Viosca Knoll Block 826 into an artificial reef. The 705' x 72' spar was towed approximately 10nm north and it settled upon the seabed at a depth of approximately 600'. Terms of the agreement resulting in ADCNR/MRD receiving a \$3,028,880 donation from Noble Energy, Inc.

A total of 612 individual reefs constructed by members of the public were inspected and permitted by AMRD staff for deployment in the Offshore General Reef Permit Zones offshore of Alabama. The majority of the reef structures consisted of chicken transport cages, prefabricated concrete reef modules, repurposed concrete pipe and steel framed boxes. The structures were deployed between approximately 15 - 50 nm offshore of Alabama within areas authorized for artificial reef construction activities.

Phase II of the National Fish and Wildlife Foundation's (NFWF) Alabama Artificial Reef and Habitat Enhancement Project continues to provide funding for reef fish habitat enhancement and monitoring projects in the inshore, nearshore, and offshore waters of Alabama. A construction contract of \$1,352,000 to construct four new inshore reefs and enhance two existing inshore reefs with 20,700 tons of 3" - 6" limestone aggregate was completed during the reporting period. The contract was paid with \$1,100,000 worth of funds provided by NFWF and the remaining \$252,000 was provided by the Alabama Wildlife Foundation. Funds from NFWF were also utilized to collect multi-beam bathymetric data at 26 inshore and nearshore reef sites.

Two reef modules were donated as memorial reefs. The Knodel Memorial Reef and the Drew Redman Memorial Reef were deployed in nearshore reef zones offshore of Baldwin County. Each of the memorial reefs are concrete tetrahedron modules that contains limestone aggregate embedded in the exterior walls of the concrete.

Florida

Keith Mille reported that in 2023, more vessels were deployed than in the previous 10 years. High profiles structure may provide better structure and more habitat for fish, which anglers are seeing benefits from. Recently there has been an increase of funding, but there is short staff and a difficult time staying on top of what projects are ahead. Lots of great ideas, strategies, and expectations have been expressed, but permitting needs to be figured out.

Many types of reefs are being developed and deployed across Florida, such as reefline cars, wave attenuation units, Miami u-link seahive units printed with 3D printing, and other hybrid designs

intended to provide habitat for fish, corals, and even mangroves.

Several national updates have been done, such as the GSMFC & ASMFC Guidelines for Marine Artificial Reef Materials – 3rd Edition (March 2020); ASMFC Profiles of State Artificial Reef Programs and Projects (July 2021); D’Amy Steward, Avery Paxton, et al. Quantifying Spatial Extents of Artificial Versus Natural Reefs in the Seascape. *Frontiers in Marine Science* (Sept. 2022); GSMFC & ASMFC Habitat Coordinator Vacancies.

From 1980 – 2020, material trends have shifted over time. There is reduced availability of secondary-use materials, a preference for limestone, more modules, and a limited availability of large vessels.

For state Grant-in-Aid funding, FWC Artificial Reef Grant applications for FY 23/24 due April 21, 2023.

The Florida artificial reef construction 5-year summary for 2018-2022 includes 579 patch reefs, with a footprint average of 946 feet. The average weight of a patch reef is 361 tons, with a reef depth of 72 feet. Module patch reefs make up 55%. FWC state and federal funding totaled \$3.9M, and local funding totaled \$1M. There was more placement of reefs within state waters because of the ease of access, snorkel and kayak reefs available, and the desire for locations with less stringent regulations. They are species-specific and have more focused ecological considerations. Deployment trends include artform and memorial reefs, mitigation and shoreline protection reefs, material durability/stability testing for increased storm activity, and an improved use of technologies such as greater data availability for permit applications/review, and increased database accuracy.

Future SW reef projects include Air Combat Maneuvering Instrumentation (ACMI) towers being decommissioned, which are still pending.

FWC-funded research for 2017-2022 will seek to improve the best available science for management. Projects include assessment of fish and benthic communities, a southeast Florida artificial reef economic study, invasive lionfish on artificial reefs, comparing predator/prey interactions at natural and artificial reef habitats, and an Oriskany PCBs study.

Discussion: Roles and Benefits of Artificial Reef Programs Partnerships

Travis Williams wondered if nonprofits were contributing more financial or labor/manpower, or a combination of both, and if these organizations reach out to the states. **Mike McDonough** stated that the partnerships work well. They get state match, and the state gets in-kind donations. **Craig Newton** said it was mainly financial. Their contracting process is slow, and it could be a year before any work gets done. Partnerships provide benefits because they can work with contractors much easier than states can with their guidelines. **Travis** said that a performance bond with contractors is required, although there have been no issues. The states coordinate with nonprofit groups for permits held by them. The permit holder tries to run the siting, and relies on the state for monitoring. There have been issues with deployments occurring without the state’s knowledge. MS DMR wanted to acquire the permits, but the nonprofit was reluctant to turn them over to the state. The state is now seeking different permits for the state, but continue working with nonprofit’s permits. **Keith Mille** stated that some permits were held by local permit clubs in the 80s and 90s. They seemed to slowly have gotten away from this because these organizations were popping up just to create one reef, then when issues arose, nobody could be held

accountable. For this reason, they have not continued this practice. Florida statute requires tracking of deployments. Workshops have worked very well in Florida. Their partners listen, learn, and share the information within their community. **Emma Clarkson** said that Texas holds all permits for all of their sites. The state helps guide applicants through the process. **Travis** asked if there were any suggestions or ideas on using partnerships for outreach for children, and if there were any events or partnerships that target younger children. **Emma** replied that they are trying to come up with a plan for outreach right now, and they have an Outreach Coordinator.

One idea mentioned is to work with the CCA or other groups to set up fishing tournaments. Also, distance learning and virtual recordings that children can access in schools. Curriculum for different age groups can be considered. **Keith** said that they work with SCUBA nauts International. Their scuba-naughts get high school students SCUBA trained, and teach them monitoring and scientific methods. High school students have also been involved with artificial reef construction, such as boy scout troops that are always looking for projects, but this has challenges due to compliance and safety.

DWH Mesophotic & Deep Benthic Communities Restoration Update

Kelly Martin, Program Analyst - Office of National Marine Sanctuaries at NOAA, gave a Power Point presentation on mesophotic and deep benthic communities restoration projects they are working on.

The Deepwater Horizon oil spill harmed over 770 square miles of deep-sea habitat, which includes areas surrounding the wellhead and parts of the Pinnacles mesophotic reef complex, located at the edge of the continental shelf in the northern Gulf of Mexico. Among other impacts, seafloor-dwelling organisms suffered from oil toxicity and were smothered with drilling sediments. The oil contaminated seafloor habitat and the marine food web.

State and federal natural resource agencies conducted a Natural Resource Damage Assessment of the impacts of the Deepwater Horizon oil spill. They assessed injuries, quantifying the harm to natural resources and lost public services. The assessment was used to develop a science-based restoration plan for the Gulf of Mexico. In 2016, BP agreed to pay a total of \$8.1 billion in natural resource damages, and up to an additional \$700 million for adaptive management.

The Open Ocean Trustee Implementation Group, which is composed of the federal trustees—NOAA, the U.S. Department of Agriculture, the U.S. Department of the Interior, and the U.S. Environmental Protection Agency, selected four long-term projects in their second restoration plan. Teams of experts and resource managers are teaching about deep-sea habitats, and enhancing the information available to inform restoration in areas impacted by the 2010 Deepwater Horizon oil spill. The projects began in 2020 and were funded at approximately \$126 million.

The following four projects will be implemented over the next eight years:

Mapping, Ground-Truthing, and Predictive Habitat Modeling. This project will deliver high-resolution seafloor bathymetry maps, and images and video from visual surveys of mesophotic and deep benthic habitats. This information will be used to refine predictive models, which are used to generate maps of where species are likely to occur.

Habitat Assessment and Evaluation. The goal of this project is to provide information about the life histories, diversity, and population structures of the species that make up mesophotic and deep benthic communities in the Gulf of Mexico, determine baseline conditions, and identify defining characteristics of deep-sea communities. Multidisciplinary data will be collected, and assessment surveys to examine the deep-sea environment and organisms that live in these habitats will be conducted.

Coral Propagation Technique Development. In this project, a team will develop and test restoration techniques in the lab and the field. Substrates and coral transplantation techniques will be tested in the field, in areas where mesophotic and deep-sea coral habitats naturally occur. The team will also develop coral cultivation techniques in the lab.

Active Management and Protection. This project will support the protection and management of mesophotic and deep benthic communities through education, outreach, engagement, and direct threat reduction. Project activities include engagement with natural resource managers, education and outreach programs targeting resource users and the public to increase awareness of these habitats, and reducing threats to MDBC habitat through activities such as mooring buoy installations, removal of invasive species such as lionfish, documentation and removal of marine debris and derelict fishing gear, and assessing and remediating risks associated with leaking and abandoned oil and gas infrastructure.

NOAA, the U.S. Geological Survey (USGS) and partners are leading a long-term project to inform coral restoration in areas impacted by the spill. The "Coral Propagation Technique Development" project aims to develop methods and techniques for effective enhancement of coral recruitment (or settlement of coral larvae) and growth that can eventually be implemented at a large scale for restoration. Three species known to be substantially impacted by the Deepwater Horizon spill were collected – the gorgonian corals *Swiftia exserta*, *Muricea pendula*, and *Thesea nivea*. Live coral samples were transferred to three federal labs: NCCOS' Hollings Marine Laboratory (HML), Southeast Fisheries Science Center's Galveston, Texas Laboratory, and USGS Wetland and Aquatic Research Center in Gainesville, Florida.

Coral spawning was observed in Galveston and Gainesville, and several hundred new baby corals that were reared in captivity are currently growing in the tanks. In Galveston, experimentation will soon take place to learn more about mesophotic coral biology, and how to maximize growth and survivorship for out-planting and several other types of restoration strategies.

Transplanting fragments of corals onto the seafloor, or "outplanting," is part of the coral propagation project to determine the most effective way to restore deep coral communities damaged in the Gulf of Mexico. These sorts of transplanting tests will help determine whether the technique helps corals grow and reproduce, replacing individuals lost to injury and providing more habitat for fish and invertebrates that rely on corals to survive and thrive.

In May, nearly 200 fragments of three octocoral species, *Thesea nivea*, *Muricea pendula*, and *Swiftia exserta*—commonly referred to as sea fans—were brought 230 feet below the surface on a "deep-sea elevator" designed by NOAA's Southeast Fisheries Science Center for outplanting trials. At the end of July, a team of technical divers returned to the outplanting sites to check on the corals. The divers discovered 95 percent of the corals placed in May had survived over the last 2 months, and appeared healthy.

A new publication from the Open Ocean Trustees' Mesophotic and Deep Benthic Communities restoration portfolio provides a detailed inventory of seafloor maps, ground-truthing data and predictive habitat modeling data. The compilation of these data resources represents a key milestone in supporting deep-sea restoration efforts near and around the site of the oil spill. Compiling the inventory involved gathering existing datasets for the northern Gulf of Mexico from 1980 through 2021 and integrating them with new data into a comprehensive collection.

The inventory includes seafloor mapping footprints, seafloor mapping tracklines, seafloor mapping derived products, seafloor mapping raster images, ground-truthing datasets, and predictive habitat modeling datasets. The associated dataset has been archived with NOAA's National Centers for Environmental Information, and is publicly available to download.

Public Comment

Chairman **Williams** provided the opportunity for public comment. **Keith** informed the subcommittee of the recent medical diagnosis of Ron Lukens, the former Sportfish Restoration/AIS Program Coordinator at the Gulf States Marine Fisheries Commission, who in previous years had coordinated Artificial Reef Subcommittee meetings, and had been instrumental in developing policies, etc. for the subcommittee. **Craig** suggested coming up with a way to honor Ron for his many contributions to the Artificial Reef Subcommittee. Perhaps a tribute to Ron can be included in a future update of the Guidelines. There were several suggestions, and this will be discussed further at a future meeting in conjunction with the Atlantic States Marine Fisheries Commission.

Larry Beggs, Vice-President of the Reef Ball Foundation, spoke about the Parrot Head Reef Project that will pay tribute to the late Jimmy Buffet. Reef World, in collaboration with the Reef Ball Foundation, wants to place artificial reefs in a Parrot Head Reef System in different areas. Reefs will be created or renamed to a Parrot Head Reef. They are in talks with reef coordinators on the west coast of Florida, the Florida Keys, Panama City, Destin, and Pensacola. The project will then spread out to Alabama, Mississippi and Texas.

There being no further business to discuss, **Williams** recessed the meeting.

Tuesday, October 17, 2023

Chairman **Williams** called the meeting to order at 8:30 a.m.

Bureau of Safety and Environmental Enforcement Update

Herb Leedy stated that BSEE is hiring a new Rigs to Reef coordinator this year. Any questions or updated information can be directed to Herb until the new coordinator is hired. There were no other program updates.

Anticipated Impacts of Designation of Critical Habitat for T&E Species

Green Sea Turtle

Travis asked the subcommittee members if they were already under that designation for Green Sea Turtles specifically. **Craig** stated that encounters are more of the pelagic critical habitat, which extends from their state waters into the EEZ. **Emma** said that the Green Sea Turtle critical habitat in Texas is proposed from the high-tide line out to 20 meters in depth. Rice's Whale critical habitat is 100-300 meters. The Rigs-to-Reef Program will be impacted by the increased consultation time. TPWD wrote letters after they were confronted with the Green Sea Turtle and

Rice's Whale issues. The letter focused on consultation time, especially given the time it adds to the process, which can be over six months. For Green Sea Turtles, estuarine restoration projects, living shorelines, breakwaters, etc. could be impacted because TPWD does a lot of marsh and oyster restoration. **Emma** spoke to NMFS about this issue. Singular projects should not adversely modify habitat in a significant way across the entire critical habitat range. TPWD uses USACE's Nationwide Permit 27 (Aquatic Habitat Restoration, Enhancement, and Establishment Activities) for restoration in the bays. There is a condition in there that states that Nationwide 27 areas that are designated as critical habitat cannot be used.

Rice's Whale

Travis said they got a lot of pushback from anglers and charter boat operators with respect to boat speeds. **Emma** didn't think that vessel speeds apply to recreational anglers, but maybe to federally-permitted vessels. This could be a misunderstanding from the public. How do the vessel speeds apply? Perhaps NMFS should be contacted to clarify. **Keith** said that this species of whales, unlike other whale species that come to rest at the surface, come to rest during the day instead of at night, which leads to more interaction with boaters. This could be one reason NMFS has elevated the issue of critical habitat. He brought up the possibility of holding the next meeting in St. Petersburg, Florida, and invite NMFS to participate in the meeting to provide opportunities for mutual understanding. **Emma** suggested encouraging information transfer between the regulatory entities regarding permitting, construction parameters, and consultations. The Gulf states could help leverage this effort. Herb stated that they are not expecting more consultations regarding these designations. They are currently working with NMFS on the Rice's Whale issues. BSEE should have some of the larger Rigs-to-Reef projects on the radar this winter.

Regarding wind farm equipment, **Emma** pointed out that decommissioning plans were not going to be required for wind farms. It appears that many of the mono-pile designs aren't going to be used in the Gulf. Equipment very similar to what is used in the oil and gas industry will be used. Most of the WEA areas are in Texas and western waters, and not other Gulf states.

New Permitting Challenges for Artificial Reefs in the Gulf of Mexico

Travis stated that regulatory agencies are starting to ask about cultural resource surveys for new permit proposals. State historic resources say there are no issues, but USACE says there may be. **Travis** asked if this was an issue in other states. **Craig** replied that it has been an issue in Alabama for about 10 years. **Emma** said that renewing permits is a challenge if they weren't required originally. If a survey wasn't done and the materials were not received, a request is made for a waiver because of the impacts, and no way to survey with a magnetometer, given the depth of materials in many cases. When pre-surveys are done and a culturally significant site is found, they just avoid them entirely because the permitting process and surveys are too costly. **Keith** said that offshore submarine springs and paleo levees impact permitting. There is a particular Native American burial site that is near the shore in about 10-15 feet of water, which is the depth of nearshore reefs they consider. Perhaps they should be more mindful of these areas when siting artificial reefs. **Craig** said they are working on a permit for another 25 square miles, but the Coast Guard required that they must put navigational buoys on the corners of each site until charted, and maintain at least 50 feet of vertical clearance. AL DCNR is considering looking into the water column issue to avoid having to place navigational buoys. They could also obtain the permit, then wait for the site to be charted before placing reefing materials. **Emma** replied that they have found that when 2/3 of the water column is kept open, those requirements

are waived by the USACE. They have slightly moved over from the proposed area to avoid navigational issues. **Travis** said in Mississippi, buoys were required if 35% of the water column is exceeded. **Mike** stated that Louisiana had issues with delays and no responses for nearly a year. They elevated the problem to their agency leaders, who wrote the USACE district a letter requesting a status update, and the permits were finalized shortly after. **Emma** said that if they have a private partner, they can devote their funding to allow USACE to hire an individual to work specifically on prioritizing their permits.

Artificial Reef Monitoring

Craig stated that when sending permits, they utilize side scan, ROV dives, and other types of monitoring data. Funding is limited for future monitoring. Some reef zones are not selected during a given year. They are recording observations of sea turtles during ROV dives. Over 1,500 ROV dives have been done without witnessing any entanglements. Derelict nets, etc. are also noted. Their state plan does not have monitoring requirements. **Travis** said that monitoring is done as funding allows. They try to do offshore tagging each year, which is funded by NFWF for the next few years. Some state funds have allowed for diving to conduct monthly surveys. SEAMAP considering doing camera-based surveys as opposed to vertical line surveys. **Mike** said that multi-beam surveys are done on a rotational basis. NRDA is currently monitoring reefs, but not doing biological monitoring. **Keith** stated that he seemed to remember about a summary that was developed of state artificial reef monitoring summaries for Gulf states. Dives were done to do structural and observational assessments. There were very general observations for biological assessments. Modified fish census forms were done that mention the general presence of fish assemblages. Now, if there are enough divers in the water, one diver will do a point count survey. ROV may be a good idea, as well as fixed camera on the bottom. Consideration could be done for coordination with SEAMAP to include artificial reef monitoring. Perhaps it could be considered to use APAIS surveys to meet permitting requirements. Florida contracts with universities for monitoring at specific sites that result in peer-reviewed publications, but this often doesn't apply to the large amount of artificial reef sites.

Does vertical long line sampling provide beneficial information? **Craig** said they can't get away from it because of the importance of the Red Snapper fishery. **Keith** replied they have deployed passive acoustic listening devices to listen for boats to monitor human use. They are having a difficult time figuring out how to process and analyze the data. They have done mail-out surveys and gotten high response rates. Other programs may be doing more of this, but it is not a state artificial reef-managed program to monitor corals. **Emma** wondered if mail-out surveys could be considered. **Mike** said that when they did ROV surveys, they would get a lot of footage with corals, but this was over 10 years ago. Funding is provided through Sea Grant for an assistantship program with Masters students to do studies and analyze data recorded through video/photo surveys done by the state. **Keith** replied that projects have been funded over the years, but the majority of coral monitoring is associated with mitigation reefs. Many steel vessels in the Florida Keys are covered in Orange Cup Coral, a highly aggressive aquatic invasive species. **Emma** said they are working on designing methodologies for roving coral surveys. Texas has software that could help analyze photo/video data that other states have recorded, but don't have time to watch and analyze.

One consideration is to have a recurring agenda topic regarding research projects (upcoming, current, results). Each state would update on what monitoring work has been done recently. Specific questions would be asked from state reports/updates. Guidance from the subcommittee is needed to decide what information would be pertinent from each states' report.

GSMFC Water Quality Monitoring Pilot Study Update

Charlie Robertson reported on deployment and data collection. There are three units at nearshore sites (FH-9/11, 10, and Cat Island). Water quality data is obtained every 30 minutes. There are three more units at offshore sites (FH-13, 3, and 2). The GARMAP Database website address is: (<http://garmap.gsmfc.org/map.php>). The multiparameter datasondes are strategically positioned. There is an acoustic release system to eliminate entanglements. They operate year-round to assess season water quality variations, specifically DO. There are acoustic receivers to track species movements. Coordination is with the IJF Program.

The Gulf Artificial Reef Monitoring and Assessment Program (GARMAP) assesses water quality on artificial reef locations. Dissolved oxygen records from October 2021 - October 2023 and acoustic records for GARMAP water quality stations from October 2022 – October 2023 for Cat Island, FH 10, and FH 9/11 sites are available.

Things to consider include: The frequency of hypoxia; site difference; causes; seasonal; management implications; affects to benthos.

Next Meeting

The next meeting location will be decided at a later date. Possibly meeting jointly with the Atlantic States Marine Fisheries Commission is being considered. If this is possible, the meeting would be sometime between January-April 2024. One possible location is St. Petersburg, FL. If not meeting jointly, the meeting would be in conjunction with the GSMFC annual meeting, which will be in October 2024 in Mississippi. The city location has not been decided yet.

Other Business

There being no further business to discuss, Williams adjourned the meeting at 5:00 p.m.