APPROVED BY:
COMMITTEE CHAIRMAN

TCC CRAB SUBCOMMITTEE MINUTES
Panama City Beach, Florida
March 15, 2022

Because **Chairman Gandy** attended the meeting virtually, **VanderKooy** called the meeting to order at 1:30 p.m. with the following in attendance:

Members
Jason Herrmann, AMRD, Dauphin Island, AL
Jason Saucier, MDMR, Biloxi, MS
Zachary Olsen, TPWD, Rockport, TX
Ryan Gandy, FWC, St. Petersburg, FL (via Go to Meeting)
Peyton Cagle, LDWF, Lake Charles, LA (via Go to Meeting)

Others
Julie Lively, LA Sea Grant, Baton Rouge, LA
Tony Reisinger, TX Sea Grant, San Benito, TX
Laura Picariello, TX Sea Grant, Galveston, TX
Dominique Seibert, LA Sea Grant, Belle Chase, LA
Julie Falgout, LA Sea Grant, Houma, LA
Traci Floyd, MDMR, Biloxi, MS
Rick Burris, MDMR, Biloxi, MS
Zack Darnell, USM/GCRL, Ocean Springs, MS
Chris Mace, TPWD, Corpus Christi, TX
Claire Crowley, FWC, Jacksonville, FL (via Go to Meeting)
Jorie Demkovich, FWC, Jacksonville, FL (via Go to Meeting)
Katharine Becker, FWC, Jacksonville, FL (via Go to Meeting)
Samantha Russo, FWC, Jacksonville, FL (via Go to Meeting)

Staff
Dave Donaldson, GSMFC Executive Director, Ocean Springs, MS
Steve VanderKooy, GSMFC Program Coordinator, Ocean Springs, MS
Debbie McIntyre, GSMFC Staff Assistant, Ocean Springs, MS

Introductions

VanderKooy led the audience and the committee members in introductions and explained the Commission's travel and expense guidelines. All travel expenses should be submitted to Ali Wilhelm, the Commission's travel coordinator.

Adoption of Agenda

The agenda was reviewed and **Saucier** asked that his presentation title be changed to "Preliminary Findings of MDMR Red Drum Stomach Content Project." **Herrmann** *moved to adopt the agenda with changes.* **Saucier** *seconded the motion, and the agenda was adopted.*

Approval of Minutes

The Subcommittee reviewed their minutes from the virtual meeting held on March 11, 2021. **Cagle** *moved to accept the minutes as written,* **Herrmann** *seconded, and the minutes were approved unanimously.*

The Role of Predator and Meso-Predator Abundance in Blue Crab Trends in Texas

Zach Olsen gave a presentation exploring traditional and non-traditional management of Blue Crab. He highlighted the potential for managing crab, looking at predator abundance and habitat availability and the potential for additional management strategies. Much of the concept originated from thinking about Harriet Perry's paper in the latest volume of the North American Journal of Fisheries Management discussing long term trends and current management of the fishery. **Olsen** also tracked several of the common crab predator species (Sciaenidae) as well as several less common (Gafftopsail, Gar, Ladyfish). Finally, he included changes in available oyster reefs as a habitat for crabs. The question ultimately was whether crabs could be managed by managing their predators and habitat.

Olsen asked if any of the states had noticed an increase in predation and, if so, was there anything they were doing about it. **Saucier** stated that Mississippi would have difficulty changing to predator/prey-based management and no formal stock assessments are currently being done. **Herrmann** stated that Alabama is sifting through different opinions regarding this subject and he will take a look at their gill net data. **Gandy** asked if the FWC Gut Lab might have some information and maybe some inferences could be obtained from that data. **Crowley** looked at Florida's trends but stated that salt water intrusion may have more effect than the abundance of fin fish. She will share this information with the group. Tony Reisinger asked if Blue Crab abundance has been on the decline and **Olsen** stated that it has been in Texas. **Perry** covers this in her paper and the area being proposed as a sanctuary would provide a diverse habitat landscape to protect that area which is dredged.

Preliminary Findings of MDMR Red Drum Stomach Content Project

Jason Saucier stated that Red Drum foraging habits have not been evaluated since the 1980s. Since that time, the population has rebounded in response to management measures. He gave a presentation on a project which was started in 2015, funded through a MS Tidelands Trust Fund and NOAA Fishery resource disaster funding for the 2011 Bonnet Carre' opening. The project provides current seasonal and spatial foraging habits of Red Drum. The MDMR is collecting Red Drum stomachs for the purpose of looking at diet composition, particularly in regards to Blue Crab predation. Red Drum were collected for three years from recreational, charter, and fishery-independent samples to look at a wide range of sizes. Stomachs were removed and preserved, and then contents sorted and identified. Initial findings indicate that crabs make up a large portion of the diet numerically and proportionally but less so by volume. Smaller, sublegal Red Drum are needed to fill in the potential impacts on juvenile crabs as well as older, larger fish that might be feeding on larger crabs offshore. Results confirm that foraging habits do shift with fish migration, based on the life history of Red Drum and Blue Crabs. It was suggested that it might be helpful to provide a presentation on habitat in the future meetings.

Terrapin Updates in the Region

Each state gave a brief overview of the terrapin related issues/management/research in their respective waters. Florida is exploring moving forward with excluder zones and they have moved to prohibit possession of terrapins. TEDs are required on recreational traps.

Alabama is not working on terrapins but university research continues to assess terrapin abundances at the Cedar Point area.

Mississippi does not have an update on the TNC nest survey at this time. MDMR continues to distribute 2X6 TEDs to commercial and recreational crabbers but there does not seem to be a lot of use, at least not by the commercial fishery.

Louisiana indicated that researchers from Nichols State have ongoing projects looking at terrapin catches. Julie Lively provided some additional information but may have more to report in the fall.

Texas had some funding to provide TEDs in the Galveston Bay region but it has not continued and fishermen do not appear to have installed the TEDs.

VanderKooy asked if anyone has heard any updates on the GOMA Terrapin Conservation Action Plan. They held several virtual meetings during the pandemic but there has been no additional information that **VanderKooy** has seen. A member of the Technical Advisory Team working with Tom Mohrman and TNC noted that a report has been drafted but is not yet final or available. There was nothing else to report.

Blue Crab Use of Turtlegrass Across the Northern Gulf of Mexico: The Influence of Plant Complexity on Abundance, Growth, and Mortality

Zach Darnell reported data his wife Dr. Kelly Darnell (USM/GCRL) has been working on for several years looking at growth and mortality of Blue Crabs in various complex habitats. They were looking primarily at varying levels of submergent vegetation, Turtlegrass. They compared several sites from Texas to Florida with healthy patches of Turtlegrass. They conducted cage studies to explore growth and tethered crabs in situ to look at predation. Generally, increasing grass and complexity resulted in reduced mortality but coverage of Turtlegrass had little effect on growth.

Additional work Darnell provided in his report was related to relative abundance and reproductive output of spawning female crabs in offshore waters and sperm limitations in female crabs in Louisiana. While no results were provided, it appears that female crabs store far less sperm following initial mating than originally thought - in the Pontchartrain Basin at least. Initial work indicated that the reproductive output may be less, though there is no indication if males are spawning more frequently and having lower production or if there are fewer males to provide reproductive material. There could also be environmental substances or pollutants contributing to some decline. Much more needs to be done. A paper is currently in press with Transactions of the American Fisheries Society.

Summary of Written Reports State Report

The state representatives touched upon highlights of their state reports which had been submitted electronically.

Florida indicated the overall abundance and landings are down. Effort may have been down due to COVID but fishermen are reporting declines in available crabs. The catch-per-unit-effort (pounds per trip) of Florida Gulf Coast landings has remained relatively stable for the hard-shell fishery but have shown a decreasing trend since 2019. The catch-per-unit-effort of the softshell fishery has decreased since peak landings in 2009 (Figure 2). Florida does not collect recreational Blue Crab landings.

Alabama reported that the state landings were the lowest in last two years although prices were up. The number of commercial crabbing trips made in 2021 were 2,321. The Alabama Trip Ticket Program reported 848,626 lbs with a value of $1,135,239 in 2021 for all gear types.

Mississippi reported no regulatory changes. Landings have been pretty good the last several years but have shown a slight downward trend which seems to have a seasonal component with crabs disappearing in the fall. MDMR also implemented an experimental fishery-independent study with seines using the Commission's SuRF Program funding. A 50' bag seine was tested for collection of YOY and juvenile finfish, penaeid shrimp and Blue Crabs. Monthly samples were collected at six fixed sites located in the three coastal counties. A total of 72 seine pulls were completed from January to December 2021. As noted earlier, MDMR has utilized their 2011 fisheries disaster funding to distribute TEDs at no cost to Mississippi crab fishermen since October 2015. Through December 31, 2021, a total of 7,396 TEDs have been distributed to both commercial and recreational crab fishermen with this funding and the program will continue while current supplies last. Since 2008, MDMR has provided a total of 21,059 TEDs at no cost to crab fishermen through various programs. Also funded through the 2011 disaster grant, and in response to a 2017 regulation change, MDMR has distributed 76,730 escape rings (2 3/8") through December 31, 2021. The escape rings are provided at no cost to licensed resident crab fishermen while supplies last.

Louisiana completed an assessment update for crabs as part of their sustainable certification audit and they remain certified. Senate Bill 134 (SB134) was brought before the Louisiana legislation to ban nighttime shrimping in Lake Pontchartrain; this bill was drafted on behalf of the crab fishermen utilizing those state waters and an effort to eliminate damage to commercial crab gear. The crab and shrimp task forces sent a letter indicating that regulations were not necessary as they could work out an arrangement cooperatively.

LDWF is using Commission SuRF funds to sample commercial Blue Crab and collect data that will assist in characterizing the size and sex composition of commercially landed Blue Crab. Sampling began in January 2021, with each coastal study area (CSA) responsible for collecting data on 510 Blue Crabs per two-month period, or wave. There are five CSAs, so an expected 2,550 Blue Crabs are sampled every two months (Table 2). Not counting Wave 5 in CSA3 and CSA5 due to office closures after Hurricane Ida, the agency was able to sample about 93% of the dealers per wave by CSA.

TPWD reported that as of 2021, there were 127 blue crab license holders holding a total of 172 license (a person may not hold or control more than three license). There have been no buyback applications for blue crab licenses since 2017. The only regulatory action is for a small shoreline closure to crab trap use in Aransas Bay was removed. TPWD determined that this closure 1) had no significant biological impact to the crab fishery and 2) had unreasonable impacts to property owners in this area.

Derelict Trap Programs

Florida: During the 2021 derelict trap retrieval, 719 total traps were removed from the Gulf Coast of Florida. Of those, 289 were from the St. Marks area, and 430 from between Tampa Bay and Charlotte Harbor. During the 2022 derelict trap retrieval, 327 traps were removed from the St. Johns River. More collections along the east coast are set for August 2022.

Alabama: **Herrmann** reported that AMRD did not conduct a derelict crab trap cleanup during 2021 but will continue to monitor the accumulation of derelict crab pots in volunteer accessible Alabama waters twice annually. The AMRD conducted aerial derelict crab trap counts of Mobile Bay and Mississippi sound coast and found some accumulation in the Mobile Bay Delta as well as along the west end of Dauphin Island. Due to these results, the AMRD is considering hosting a volunteer derelict crab pot cleanup in the fall of 2022 and discussions among partnering agencies are currently taking place. The AMRD also continues to bring in derelict crab traps, when possible, that are found during normal biological sampling activities.

Mississippi: **Saucier** reported that a public cleanup was conducted from January 28-30, 2021. All commercial and recreational harvest areas inshore of ½ mile of the mainland shoreline were closed during the cleanup and drop-off locations were established in each of the three coastal counties. With the help of volunteers and fishermen, 310 traps were recovered and all traps were recycled at a local scrap metal recycler. The Mississippi Derelict Crab Trap Removal program has removed and recycled over 22,604 derelict crab traps from Mississippi waters since its inception in 1999.

Texas: **Olsen** reported that TPWD closed state waters to crabbing (with crab traps) from February 19 – February 28, 2021. During this time, crab traps encountered are classified as "abandoned" and were able to be removed by Law Enforcement personnel, TPWD staff, and members of the general public. A grand total of 1,561 traps were removed. They documented 112 volunteers participating onboard 83 boats during the annual closure.

Louisiana: **Cagle** stated that the Louisiana Wildlife and Fisheries Commission (LWFC) adopted a Notice of Intent in August 2021 to establish four defined derelict crab trap cleanup areas during the 2022 harvest season. Within the four areas, the use of crab traps would be prohibited for up to fourteen days. These closure areas were in the Barataria Basin, Calcasieu Basin, Terrebonne Basin, and Vermilion-Tech Basin. A scheduled volunteer event took place on the first Saturday of the Barataria Basin closure and the Calcasieu Basin closure. The closures were scheduled for: • Terrebonne Basin – February 1, 2022 – February 14, 2022. • Vermilion-Teche - February 1, 2022 – February 14, 2022. • Barataria Basin – February 7, 2022 – February 20, 2022. • Calcasieu Basin – February 18, 2022 – February 23, 2022. A Pilot Program that was developed by the LDWF and Pontchartrain Conservancy to provide an alternative strategy on the disposition of crab traps by allowing participating commercial fishermen to obtain their useable traps found within the closure was brought to the Louisiana Crab Task Force to gather interest and consideration. The Task Force requested a flyer be developed that could be used as a short survey to gather information from the local fishermen about participating in the Pilot Program. No responses were received and it was determined that the Pilot Program would be put on hold during the 2022 harvest season.

State Status and Trends (IOA)

Crowley reported that an FWC study showed a lot of variability but the overall trend does fall below average. Red tide has affected a few of the major crabbing areas. She noted that above average juvenile abundance in fishery-independent data does not necessarily translate to large adult abundance. Charlotte Harbor would be interesting to look at because of the higher abundance of Red Drum and low abundance of crabs.

Cagle reported that the landings in 2021 were 45.4M lbs which was up 11% over the five year but the value was 55% higher. Hurricane Ida caused a decrease in the average for 2021 from September forward.

Olsen indicated that the Texas Blue Crab fishery trends remain relatively unchanged from last year's report. Based on TPWD fishery independent catch rates, coastwide relative abundance of Blue Crabs has shown significant declines since the 1980s. Per **Olsen**, this trend is generally consistent in all Texas bays. Further analysis of this data suggests that juvenile mortality is increasing and thus the population is not seeing an overall increase in abundance.

Saucier stated that he does not have confidence in Mississippi's use of historical FID to assign IOAs. There has been a decline since 2010. They are using SuRF money to get into the right habitat to evaluate trends.

Hermann indicated that the Alabama landings have been relatively steady just over 1.0M lbs on average since 2012 although there was a bump in 2016, 2017, and 2019 but the 2021 landings are closer to 850K lbs. Despite the lower landings, the value as up, just over $1.1M. The number of trips seems to be down in recent years which contributes to the lower landings.

Other Business

Under other business, there was some discussion about licensing in each of the states for recreational crabbing beyond traps. Each state rep indicated that, while a recreational saltwater license was required for only certain techniques, there was not a way to identify specific anglers targeting crabs unless they had traps. Some states had better estimates of recreational trap numbers than others.

VanderKooy reminded everyone of Harriet **Perry's** manuscript and hopes it is true to each states' information. She would like to have another discussion to ground truth this is October and discuss determining an annual update to IOA.

VanderKooy suggested that at the next meeting, each state provide preliminary data using SuRF funds.

The next meeting will be held in October in person for an entire week in Texas. Two presentations will be held for Lyles-Simpson award, one for Harriet Perry and a second one posthumously for Tom McIlwain (GCRL) who passed in 2012.

With no further business the meeting adjourned at 5:01 p.m.