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Apr 20, 2023

MEMORANDUM

TO: Marine Fisheries Commission
Habitat and Water Quality Advisory Committee

FROM: Anne Deaton, Habitat Program Manager, Habitat and Enhancement Section
Jimmy Harrison, Fisheries Resource Specialist, Habitat and Enhancement Section

SUBJECT: Meeting of the Marine Fisheries Commission's Habitat and Water Quality Advisory Committee, Apr 19, 2023

The Marine Fisheries Commission's (MFC) Habitat and Water Quality Advisory Committee (AC) held an in-person meeting on Apr 19, 2023, at the Division of Marine Fisheries, Central District Office, Morehead City, NC, or could attend virtually.

The following AC members were in attendance: Ana Shellem, Bart Durham, David Glenn, Nathan Hall, Scott Leahy, Mark Sonder. Online: Doug Rader, Lisa Rider (Absent: Markham Parrish, Joel Fodrie; James Hall has resigned)

Division of Marine Fisheries (DMF) Staff: Paula Farnell, Debbie Manley, Corrin Flora, Anne Deaton, Jimmy Harrison, Jason Parker, Lucas Pensinger, Jason Rock, Andy Haines, Tina Moore, Mike Loeffler, Garland Yopp

Public: None in attendance, two viewers watched on YouTube.

Habitat and Water Quality Chair Ana Shellem called the meeting to order at 6:05 p.m.

The chair invited members to introduce themselves and a quorum was met.

APPROVAL OF AGENDA AND APPROVAL OF THE MINUTES

A motion was made by Scott Leahy to approve the minutes from the Habitat and Water Quality AC meeting held on January 18, 2023. Second by Mark Sonder. Motion passed unanimously.

MARINE FISHERIES COMMISSION UPDATE

Paula Farnell provided an update on the February MFC meeting held in New Bern. Similar to AC meetings, MFC meetings are recorded and available on the Department of Environmental Quality (DEQ) YouTube channel and through DMF website. The next meeting is May 24 at the Beaufort Hotel in Beaufort.

The Commission reviewed a false albacore information paper that was prepared by the Division at the direction of the MFC. This was an update to a 2017 information paper reviewing the overall fishery in North Carolina. The MFC passed a motion asking staff to develop rulemaking language with management options for false albacore, starting with the status quo and allowing for growth in the fishery at various percentage points. Staff have been reviewing available data and will present information at various upcoming meetings.

In February, Spotted Seatrout staff leads presented an overview of the spotted seatrout fishery and received input from commissioners on items for consideration in FMP development. The scoping period recently closed, so FMP development is in very early stages.

In November 2022, the Commission selected their preferred management option for Striped Mullet Supplement A, which was for state-wide November 7 to December 31 season closure, estimated to result in a 22.1% reduction. At the February meeting, the commission was to make its final approval of the supplement but after discussion, no decision was made. Staff are currently working on regional options at the request of the commission to be presented at the May business meeting. Supplement A will only be a temporary measure to address overfishing and will potentially only impact the 2023 season while comprehensive management is developed through Amendment 2, which should be complete prior to the 2024 season.

The Coastal Habitat Protection Plan (CHPP) Amendment was adopted in 2021 and initiated the development of the Stakeholder Engagement for Collaborative Coastal Habitat Initiative (SECCHI). This initiative is meant to develop a public-private partnership to encourage stakeholder engagement. Recently, the SECCHI drafted a coastal habitat resolution requesting the state legislature provide additional cost share funding specific to water quality issues such as nutrient loading and run-off. The resolution was brought before the Marine Fisheries, Environmental Management, Coastal Resources, and Soil and Water Conservation commissions. The MFC as well as the other commissions voted to support this resolution for more funding and encourage people to participate in these types of programs to improve water quality.

JULY JOINT MFC ADVISORY COMMITTEES MEETING PLANNING

The Joint AC meeting will be July 10 at the NC Aquarium at Pine Knoll Shores and will be from approximately 10 a.m. - 3 p.m. The aquarium has agreed to a reduced rate, allowing for funds to be available for hotel rooms. Purpose of the joint AC meeting is collaboration and cross-sharing of information and expertise. Stock assessments, FMPs, AC role in FMP process, etc.

SPOTTED SEATROUT SCOPING PERIOD

Lucas Pensinger and Jason Rock reviewed discussion from the four Spotted Seatrout scoping meetings held in March. The scoping period was March 13 through 24 and over 700 people participated (attending or submitting comments). Pensinger gave a brief overview of comments received during the scoping period. Comments ranging from strongly “for” and “against” and everything in between. Regarding sustainable harvest, comments ranged from no quota/quota, seasonal closures, bag limit reduction, trip limit reduction, and increase in minimum size. For recreational management there was support for making spotted seatrout a game fish, outreach for catch and release best practices, ending the use of recreational commercial gear licenses, boat limits, eliminating captain and crew limits, and limited entry. General recreational comments included reducing the impact of catch and release tournaments, and gear requirements. Commercial comments included making it entirely a hook and line fishery with limited entry. General commercial comments included gill net limits, closing the personal consumption loophole, area limits, phasing out gill net limits, increased gill net mesh size, gill net attendance regardless of area

or time, and limited entry. Regarding protecting spawning stock biomass, comments included bag limit reductions, increase minimum size, and modifying cold stun protocols. Area management came up quite a lot during the scoping period and included closing certain areas to gill nets and/or all spotted sea trout fishing, and regional management. Commissioner Cross's strategy was also discussed at the scoping meetings and the public was overwhelming against quota allocation. Overall, there was general opposition to a quota and ending catch and release fishing. Multispecies management, stocking, increasing enforcement, considering management in other states, and developing a recreational reporting app (mandatory and optional reporting) were also brought up.

Scott Leahy asked how catch and release mortality was determined. Staff replied it is delayed mortality, and the rate was determined by a study done in NC. Average mortality is ten percent, but it depends on time of year, temperature, and handling. Doug Rader asked if they received any comments on habitat or water quality issues at various life history stages. They did not. Rader noted that spotted seatrout is an estuarine-dependent species and will likely be stressed by estuarine nursery area stresses. Rader also asked if we know if habitat needs are being met. Pensinger said that based on high spawning stock biomass (SSB), their habitat needs appear to be met. The fishery is above target and threshold levels. Rader noted that's based on current conditions, but what about over time as climate change impacts continue, such as increased temperature and habitat change. Will there be bottlenecks. Rock said there seems to be good recruitment now. Anne Deaton mentioned NOAA Fisheries conducted a climate vulnerability assessment for South Atlantic fish and spotted seatrout was included in the assessment. The final report has not been finished yet. Rader said the HWQ AC would like to help as questions develop.

SHELLFISH SANITATION ON SHELLFISH HARVEST CLOSURES

Andy Haines gave an overview of the Shellfish Sanitation and Recreational Water Quality Section (SSRQ). He focused on methods to classify waters for shellfish harvest and inspect shellfish plants. They are a public health agency responsible for assuring shellfish are safe for consumption. The recreational water quality sampling assesses safety for human activity such as swimming. Because shellfish filter 25-50 gallons of water per day, they are susceptible to accumulating pollutants. They can concentrate pathogens up to 100 times greater than ambient waters. They need to make sure shellfish come from healthy waters because they're typically eaten raw.

Monitoring shellfish for consumption suitability began in 1925 due to typhoid outbreaks. The SSRQ is part of the National Shellfish Sanitation Program (NSSP), and therefore must be in compliance with criteria contained in the NSSP Guide for Control of Molluscan Shellfish Model Ordinance.

Haines reviewed the growing areas and how staff samples, conducts shoreline surveys to identify pollutant sources, and hydrographic surveys to look at pollutant dispersal. Shoreline surveys look at on-site systems, functionality of WWTPs, marina, development, ditch and stormwater outfalls that could be carrying runoff to shellfish waters. These pollutant sources are mapped in the field. Hydrographic studies inject fluorescent dye into waste stream to track contaminant dispersion/dilution to determine closure boundaries. For bacteriological sampling, they are required to sample each area at least 6 times/yr. They analyze fecal coliform, an indicator of other bacteria and contaminants nearby.

Stormwater runoff, particularly from large storm/rain events, can impact water quality and therefore shellfish bacteria levels. Haines explained the effect of rain and that certain thresholds of rain (e.g., 1-2.5 inches) in shellfish harvest classifications cause temporary closures until resampling finds acceptable levels. Maps are available to see permanent and temporary closures (https://www.deq.nc.gov/about/divisions/marine-fisheries/shellfish-sanitation-and-recreational-water-quality). There are 22 growing areas under conditional management (42,857 acres). Increased rainfall quantities correlate with increased number of closure days; also results in increased work taking samples

to re-open. The program collects approximately 5,500 samples per year, and rainfall events result in additional samples – roughly 1,400 per year depending on frequency of rain events.

Bart Durham asked about the percent of onsite systems they find during shoreline surveys that are failing. Haines said about 3-5 within a watershed, with rural watersheds having more. There can also be underground issues that can't be observed. Durham also asked about frequency of wastewater treatment plant failures and whether they can dump a percent of the sewage. Haines noted that many treatment plants have been upgraded over the past 20 years, resulting in fewer failures, and they are not allowed to discharge untreated sewage in NC. He also said that infiltration from leaky collection pipes is not as bad anymore. Durham asked where is most of the bacteria coming from; Haines replied wildlife, birds, and pet waste that are carried into the water with runoff. Durham said based on problems he has seen at Falls Lake and inland, that systems further up may not be working as well. Deaton noted that pollution from wastewater treatment plants and their collection lines was addressed in the 2021 CHPP. The Division of Water Resources (DWR) has said that issues with collection pipes and treatment plants are still an issue because there are so many, and its expense to maintain or upgrade. The Division of Water Infrastructure (DWI) received a large increase in funding this year from federal infrastructure money and the state. Local entities have to apply for the funding. The AC discussed other pollutants that could impact human health, including toxins.

Commissioner Shellem mentioned seeing a large number of birds fly over the marsh and oysters, land and die suddenly, possibly due to bird flu. Mark Sonders asked if hog lagoon waste could reach the coast and impact shellfish. Lisa Rider said they just started a study to look at that and will be using DNA tracking to see if they can detect wild or farm raised hog waste in the New River. Sonders asked about effect of drought and increased salinity on water quality and Haines said they see improvements in bacteria counts when dry and can sometimes open Conditionally Approved Closed areas. The AC discussed sources of rainfall data to assist Shellfish Sanitation. David Glen mentioned that the public can volunteer to record rainfall with the Community Collaboration Rain, Hail, and Snow Network (CoCoRaHS; https://www.cocorahs.org/), and they especially need more volunteers in rural areas.

DEVELOPMENT OF A WATER CLARITY STANDARD IN NC

Nathan Hall, AC member and scientist at UNC- Chapel Hill, gave a presentation on evaluation of water clarity metrics for protection of SAV in Albemarle-Pamlico estuarine system. He began by explaining that this work was initiated due to recommendations in the 2021 CHPP SAV Issue Paper that call for developing water clarity and nutrient standards sufficient for SAV survival. Light requirements differ between the high and low salinity grasses due to differences in underground biomass and plant canopy structure. He reviewed minimum light requirements for both at their documented maximum depth. The Nutrient Criteria Development Plan Scientific Advisory Council has agreed on targets for water clarity standards for all waterbodies that have supported SAV during the growing season (May – October). Light is attenuated by chlorophyll a, turbidity, and tannins (color from dissolved organic matter – C-DOM). Hall explained that once you know how much light is needed, you can determine maximum values for these light-affecting parameters. His role for the APNEP project was to validate and refine as needed an existing optical model with NC data, in both high and low salinity waters. By doing that, it can be determined if existing chlorophyll a, and turbidity standards are sufficient and what is the light climate for SAV in NC. He found that the model worked good in high salinity waters but underestimated in low salinity waters. He is working to re-calibrate for these areas and had to collect more data on chlorophyll and C-DOM in low salinity waters. For high salinity, he estimated C-DOM from salinity. Results found that the existing chlorophyll standard was alright, but turbidity standard is too high. Since turbidity is harder to control (wind), chlorophyll as well as turbidity will need to be lowered to result in SAV improvement. Hall showed graphs of exiting water quality data for Albemarle Sound, Neuse, and Pamlico rivers. Some rivers do have SAV present in upstream areas. For the most part, Chowan and Albemarle

stations are not meeting the criteria. Upstream water is typically not as clear and not going to meet the standard, while downstream will. Bogue Sound was mostly above proposed criteria. Core Sound is basically ideal for SAV because of less development and proximity to inlets. He will be continuing to work on re-calibrating the model for low salinity waters. While we have a lot of secchi data, which indicates most of the waters are not meeting the water clarity target, more precise water clarity data (Photosynthetic Active Radiation (PAR), chlorophyll a, C-DOM) is needed for assessing the standard. Rader asked if one could use citizen science to get more data. Hall noted one limitation of that is the high cost of the equipment.

PUBLIC COMMENT

There was no public comment.

ISSUES FROM AC MEMBERS

Sonde said a dolphin had its tail cut off and found dead. A necropsy is being done, but he guesses it was from a commercial fisherman. He asked if there could be a way to prevent entanglement, similar to a "TED" for gillnets. Farnell said she would check. Leahy said that further north (e.g., New Jersey) they use pingers to deter whales. As another issue, Leahy would like the AC to look into mitigating strategies for new development. He is voluntarily working on a living shoreline but was told he cannot add live oysters to it because the waters were closed to shellfish harvest. He is voicing his frustration over the fact that property owners cannot voluntarily mitigate impacts by placing shellfish on their property (for water quality improvement) in closed waters.

It was noted that links would be included in a post-meeting follow-up email.

The meeting adjourned at 8:05 p.m.