



COASTAL HABITAT PROTECTION PLAN UPDATE

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MEMO

COASTAL HABITAT PROTECTION STEERING
COMMITTEE MEETING MINUTES



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

July 31, 2020

MEMORANDUM

TO: N.C. Marine Fisheries Commission

FROM: Anne Deaton, Habitat Program Manager
Habitat and Enhancement Section

SUBJECT: 2021 Coastal Habitat Protection Plan Amendment Update

Issue

Update the Marine Fisheries Commission (MFC) on the status of the ongoing amendment to the North Carolina 2021 Coastal Habitat Protection Plan

Overview

At the MFC's November 2019 business meeting, staff provided an update on the 2021 Coastal Habitat Protection Plan Amendment. A timeline for completing the amendment and the five selected priority issues were reviewed. Currently, the interagency CHPP Team has completed two informational chapters, two issue papers and continue work on the three remaining issue papers. The completed sections were reviewed and approved by the CHPP Steering Committee in May and July 2020. The issue papers that are currently underway will be reviewed by the CHPP Steering Committee in the fall. In November 2020, all three commissions (N. C. Environmental Management Commission, Coastal Resources Commission and MFC) will be provided the entire draft amendment for review with recommended actions. In addition, staff will be asking for approval to take the draft out for public comment. To review the full CHPP source document please follow this link:

[2016 Coastal Habitat Protection Plan](#)

As was described during the November 2019 update, the 2016 CHPP document will continue to serve as the source document for the 2020 amendment.

Listed below are the five issue papers described above, their completion status and a brief summary of each.

Submerged Aquatic Vegetation (SAV) Protection and Restoration with Focus on Water Quality Improvements – Complete

The issue paper Submerged Aquatic Vegetation Protection and Restoration, with Focus on Water Quality Improvements was selected because of the high ecological value of SAV, the trend of declining SAV nationally and in North Carolina, and because reduced water clarity, associated with increased nutrient and sediment loading, is recognized as the most significant factor limiting SAV distribution and causing habitat loss. Therefore, any water quality improvements for SAV are

also expected to reduce pollutant loading in general, reducing algal blooms, fish kills, and bacteria contamination associated with shellfish harvest closures.

In March 2020, a joint workshop entitled Clean Waters and SAV: Making the Connection, was held by DMF, Albemarle-Pamlico National Estuarine Partnership (APNEP), and The Pew Charitable Trust to gather input from and collaborate with a broad group of SAV and water quality experts. This included scientists from Chesapeake Bay and Tampa Bay, where they have successfully restored SAV by focusing on water quality improvements.

The maximum quantified known historic extent of SAV in NC is 191,155 acres, based on a composite of mapping events ranging from 1981 to 2015. The majority of this occurs behind the Outer Banks from Manteo through Ocracoke. The high salinity grass community appears to be in better condition than the low salinity grass community, although change assessments by APNEP detected losses in both areas. In high salinity waters from Manteo to Bogue Inlet, SAV losses between 2007 and 2013 ranged from 2.7 to 10.4%. In low salinity waters, SAV loss between the historic extent and that reported in 2014 to 2017 sonar surveys ranged from 52% in Albemarle Sound to 97% in Tar-Pamlico River. The proposed strategy for protecting and restoring SAV will include setting SAV acreage goals, and associated water quality criteria, such as chlorophyll *a* levels and nutrient loading needed to achieve the required light penetration. The CHPP team will work with Division of Water Resources' (DWR) Nutrient Criteria Development Program (NCDP) to develop revised nutrient criteria that will enable SAV to survive in its historical range. Other recommended actions will involve needed research, monitoring, outreach, and improved collaboration. Additional background and recommended actions will be presented in November.

Environmental Rule Compliance to Protect Habitat and Water Quality - Complete

Improving compliance of environmental rules through inspections and enforcement represents a way to reduce habitat and water quality impacts without creating new rules. The Environmental Rule Compliance to Protect Habitat and Water Quality issue paper reviews data on current and past compliance with environmental rules, particularly those related to wetlands, buffers, and sedimentation control under the authority of Environmental Management, Sedimentation Control, and Coastal Resources commissions. Existing rules allow low thresholds of non-coastal (Section 401) wetland impacts from individual projects to be authorized, although they can be substantial on a cumulative basis. From 2014 to 2019, approximately 1,400 acres of wetland impacts were authorized under Section 401 water quality certifications within the CHPP region. In comparison, during the same time period, 2,156 acres of unauthorized impacts were documented. Studies have shown that having dedicated positions for compliance inspections and enforcement activities greatly reduces non-compliance. The percent compliance was 14 to 46% higher when DWR had compliance positions (2007 to 2011) compared to when they did not (2014 to 2019). The increased compliance, even with as little as one compliance position per agency office, was considered a highly effective deterrent method if the potential penalty is adequate. While additional compliance positions were established around 2006 in DWR and Division of Coastal Management (DCM), a 34% DEQ budget cut since 2008 has resulted in a loss of over 350 positions, including these compliance positions.

Reducing Inflow and Infiltration Associated with Wastewater Infrastructure to Improve Coastal Water Quality – In Progress

Inflow and infiltration are problems associated with central wastewater treatment plant infrastructure that can lead to water quality degradation. Collection pipes are particularly

vulnerable to deterioration and failures associated with inflow and infiltration (I&I) in low-lying coastal areas where they may actually be sitting in the ground water. Inflow refers to the entry of stormwater into the sewage collection system during storm events, usually from an improper connection or open manhole or wastewater cleanout. Infiltration refers to the movement of groundwater into the sewer pipe system through cracks and joints. Together, these two processes overload the collection system, which is often the cause of wet weather Sanitary Sewer Overflows (SSOs) where failure of the collection system can result in large volumes of untreated sewage entering surface waters. Water quality ramifications of such spills include high bacteria levels elevated nutrient levels, depressed dissolved oxygen levels, and increased potential for algal blooms due to nutrient loading at chronic SSO locations. Inadequate maintenance of the wastewater collection system resulting in sewer overflows can financially impact the community through fines and effect on tourism, recreation, and fishing industries. However, adequate maintenance of the collection system is also costly. The I&I issue paper will cover potential solutions to this water quality issue.

Wetland Protection and Enhancement with a Focus on Nature-Based Methods – In Progress

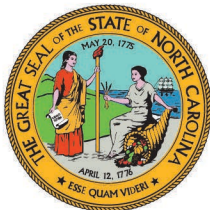
In the 2016 CHPP, encouraging use of living shorelines was a priority issue, as a strategy to restore wetlands while reducing shoreline erosion. Significant progress was made on research and regulatory improvements related to living shorelines to facilitate greater use of this alternative method of shoreline stabilization. Living shorelines, as well as other methods to protect and restore wetlands continues to be a priority due to multiple anthropogenic stressors and an increasing rate of sea level rise. In the 2021 plan, the Wetland Protection and Enhancement with a Focus on Nature-Based Methods issue paper will discuss collaboration with NC Coastal Federation and APNEP regarding living shorelines and explore other wetland conservation and restoration strategies. There is growing science that coastal wetlands in NC are not keeping up with sea level rise. Without focused and strategic efforts to offset these losses, fish populations are likely to be impacted, and water quality degraded, which could also impact SAV and oyster reefs. To gather additional input from scientists and managers, the CHPP Team will hold a series of three virtual technical meetings in August on three different wetland topics: 1) mapping and monitoring, 2) threats and conservation, and 3) restoration and living shorelines. The input will aid in completion of the issue paper.

Habitat Monitoring to Assess Status and Regulatory Effectiveness – In Progress

The last issue paper will summarize the status of coastal habitats and include long-term monitoring strategies with particular attention to the coastal habitats not covered by the Submerged Aquatic Vegetation Protection and Restoration, with Focus on Water Quality Improvements and Wetland Protection and Enhancement with a Focus on Nature-Based Methods issue papers. Establishing standardized monitoring programs for coastal habitats is critical for understanding the state of the habitats, whether existing management is adequate or additional management measures are needed. Since the 2016 CHPP, progress has been made to establish enhanced coastwide monitoring of oyster and SAV habitat. Specific monitoring recommendations will be identified in the issue paper. Additional funding will likely be needed to fully implement.

Action Needed

For informational purposes only, **no action is needed at this time.**



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MEMORANDUM

TO: Coastal Resources Commission
Environmental Management Commission
Marine Fisheries Commission
Coastal Habitat Protection Plan Steering Committee

FROM: Jimmy Johnson
Albemarle-Pamlico National Estuary Partnership
Anne Deaton
Division of Marine Fisheries

DATE: June 1, 2020

SUBJECT: Coastal Habitat Protection Plan Steering Committee Meeting

The Coastal Habitat Protection Plan Steering Committee met via webinar at 9:00 a.m. Monday, May 11, 2020. The following attended:

Advisers: Martin Posey, Pete Kornegay, Bob Emory, Larry Baldwin, David Anderson, Yvonne Bailey

DMF Staff: Brandi Salmon, Dan Zapf, Anne Markwith, Zan Batchelder, Katy West, Anne Deaton, Casey Knight, Alan Bianchi, Corrin Flora, Kimberly Harding, Ger Hardin, Chris Stewart, Morgan Klein, Kacee Zinn, Jimmy Harrison, Nico Craig, Bryan Hall

APNEP Staff: Bill Crowell, Jimmy Johnson, Trish Murphey, Tim Ellis

DCM Staff: Curt Weychert, Mike Lopazanski, Daniel Govoni, Braxton Davis

DEACS Staff: Lyn Hardison

DWR Staff: Anthony Scarborough, Jeff Manning, Adriene Weaver, Bridget Shelton

DEMLR Staff: Samir Dumpor

NCDA&CS: Eric Pare (S&W), Alan Coats (FS)

Public: Natalie Snider (EDF), Paul Cough (EPA & APNEP), Pat Donovan-Brandenburg (City of Jacksonville), Ruth Driscoll-Lovejoy (Pew Charitable Trust), Sara Hallas (NCCF), Joseph Gordon (Pew Charitable Trust), Leda Cunningham (Pew Charitable Trust), Michael Flynn (NCCF), Chris Ballie (ECU), David Glenn (NOAA, H&WQ Committee), Barry Nash (NCSU), Steve Yuhasz (Shellfish Cultivation Lease Review Committee), Tolar Nolley (OCVA), aewilliams4 (unknown screen name/no chat box id)



WELCOME AND INTRODUCTIONS

Jimmy Johnson, serving as chair, called the meeting to order. He welcomed everyone on the webinar and asked them to provide a name, who they represent and their favorite fish, in the chat box, in order to get a list of attendees. He also shared thoughts on the role steering committee members play as liaisons to their commissions. He shared some key messages provided by Leda Cunningham with PEW. He will be emailing them out soon.

APPROVAL OF AGENDA AND 10/15/19 MEETING MINUTES

Both the agenda and meeting minutes were approved by consensus.

UPDATED TIMELINE FOR CHPP REVISION

Anne Deaton, DMF provided an update on the timeline for the 2021 CHPP. The CHPP Source document will not change. Today we will go over different chapters of the 2021 CHPP.

REVIEW CHPP IMPLEMENTATION PROGRESS CHAPTER

Deaton presented a brief overview of implementation progress on the 2016 CHPP priorities.

Oyster Restoration. The extent of oyster sanctuary construction, cultch planting, monitoring and research to improve future restoration was reviewed. Oyster restoration will not be a CHPP priority in the 2021 CHPP but it does not mean it is not an ongoing priority. Oysters are an important habitat and there has been a lot of progress made to restore and enhance oyster in North Carolina. She discussed DMF partnering with others on the N.C. Oyster Steering Committee which has resulted in great success. The N.C. Coastal Federation (NCCF) serves as the lead organization for the steering committee and the production of the Oyster Restoration and Protection Plan: A Blueprint for Action, that is updated on five year cycles. The 2015-2020 Blueprint summarizes work being done in North Carolina related to oysters, and builds on progress accomplished through the 1995 Blue Ribbon Advisory Council for Oysters and the CHPP. Many of the goals in the Blueprint closely align to recommendations and implementation actions of the CHPP. There are several CHPP Team members and other DMF staff that actively participate in development and implementation of the Oyster Blueprint.

Living Shorelines. This has also been a successful implementation priority of the CHPP. There are now general permits available for marsh sills through DCM. Since March of 2017 there have been 14 applications for marsh sill development. Research has been completed on the performance and resiliency of living shorelines. There have been nine living workshops through the coastal training program on living shorelines and there is now a NC Living Shoreline Steering Committee to further advance this method of shoreline stabilization. She also described an online living shorelines application by The Nature Conservancy and NOAA that help identify where more natural techniques could be successfully applied.



Sedimentation. There has been some progress related to reducing sedimentation in tidal creeks. She described two study projects that assessed rates and sources of sedimentation in multiple tidal creeks. There has also been considerable research on innovative methods to control sediment and stormwater, and several Watershed Restoration Plans have been developed for coastal communities. Deaton explained how the revised stormwater rules in 2016 led to an updated Stormwater Design Manual with more focus on infiltration on site and additional options. She also mentioned there is still a continued need to encourage expanded use of stormwater Best Management Practices (BMPs) and low impact development (LID) as well as improving the effectiveness of sediment and erosion control programs. The latter requires additional funding for compliance monitoring, training, equipment, and outreach.

Development of Habitat Metrics. Monitoring standards, drone technology and the use of side scan sonar have been incorporated into monitoring shallow subtidal and intertidal oysters. The Albemarle-Pamlico National Estuary Partnership (APNEP) Submerged Aquatic Vegetation (SAV) Partnership has developed monitoring protocols for low and high salinity SAV. Some wetland monitoring has been done through DWR and NERRs Sentinel Site program. Strategic Habitat Area (SHA) validation has been completed in the White Oak River Basin (Core Sound through Topsail Sound).

Other implementation progress has been made in outreach, and removing or modifying obstructions to anadromous fish passage.

Discussion by the committee included sedimentation of tidal creeks and whether there were any natural processes that could restore creek depth. The group discussed how flushing of creeks via storms, wind, could have a restoration effect over time. The group also discussed how sentinel sites were selected based on certain criteria.

REVIEW CHPP CLIMATE CHANGE AND RESILIENCY CHAPTER

Casey Knight, DMF presented the new chapter on climate change. She provided some background on the governor's Executive Order 80 which directs all cabinet agencies to integrate climate adaptation and resiliency planning into their policies, programs, and operations. Several working groups were formed and resulted in the development of the Climate Science Report and the Natural Working Lands Report which were then incorporated into the NC Risk Assessment and Resiliency Plan. The 2016 CHPP provided valuable information during this process and many of the goals and recommendations were aligned with this plan. These reports should be out soon. She also reported the various findings of these reports in regard to sea level rise and rising temperatures. Coastal resilience to climate change is broken down into two parts; community resilience and ecosystem resilience. Most coastal habitats will be impacted by climate change in the future. The 2021 CHPP will examine these threats and recommend actions that will benefit both coastal habitats while providing community and ecological resilience.

REVIEW CHPP ENVIRONMENTAL RULE COMPLIANCE ISSUE PAPER

Anthony Scarbraugh, DWR presented the priority issue paper on environmental rule compliance. Historically, emphasis has been on the permitting of impacts to wetland and surface water of the North Carolina. Staff time is dominated by permit processing deadlines and so compliance and enforcement lag because of time priorities and funding limitations. It is difficult to estimate wetland loss due to non-compliance but the extent could be significant. Less than one percent of



permitted sites is checked for compliance. There is a need for a more balanced approach between permitting and compliance efforts. He noted that having dedicated compliance positions serves as a deterrent for potential violators, with an analogy to police presence on highways and speeding. Two studies conducted in North Carolina found less than 50% compliance with Sediment and Erosion Control site plans. He provided a history of wetland loss along with the ecosystem and industry job value and recreational benefits that comes with the protection of wetlands and surface waters. Scarbraugh described numerous permits and the accompanying permit agencies and some typical non-compliance examples, often related to silt fencing, inadequate ground cover establishment, ditching and filling of wetlands or small streams. He reported that the rate of DWR's compliance for complaint inspections has fallen from 68.2% in 2011 to 22.5% in 2019. The rate of compliance from routine inspections dropped from 82% in 2011 to 69% in 2019. Over the last six fiscal years, DWR reported unauthorized jurisdictional wetland impacts exceeded authorized impacts by margin of 1.54:1. He then presented possible solutions to the compliance issue such as additional staffing, funding, the creation of a watch list and developing a cooperative effort with river keepers, NGOs, and citizens on reporting violations.

Deaton suggested the committee review these solutions and they could have further discussions at the next meeting to finalize recommendations. The committee felt this was a compelling presentation. Other members asked about any cooperation from local governments.

PUBLIC COMMENT

No Public Comment

UPDATE ON CHPP SAV AND WATER QUALITY ISSUE PAPER

Trish Murphey, APNEP gave the committee an update on the priority issue paper on SAV with the focus on water quality. This paper has been the subject of a collaboration of several state and federal agency staff as well as NGOs. She provided information on a recent SAV technical workshop held in Raleigh that will provide information for the paper. This workshop brought together managers, scientists, and NGOs to learn and discuss the connection of water quality to SAV. There were experts from Chesapeake Bay and Tampa Bay to provide information on their experiences in increasing SAV abundance by reducing nutrient loading.

She then went on to explain the content of the issue paper background including trends in both high salinity and low salinity abundances. A change analysis conducted for APNEP found reductions have occurred in different high salinity regions, between 2007 and 2012, with the highest losses occurring in the more developed Back and Bogue sounds area. The loss in low salinity grassbeds appears to be much higher. She provided information on nutrient reductions achieved in both Chesapeake and Tampa bays, which has led to successful restoration of SAV. She explained how the DWR's Nutrient Criteria Development Plan (NCDP) for the Albemarle Sound and Chowan River and their Scientific Advisory Committee will be developing new water quality standards to achieve endpoints, including survival of SAV. The CHPP Team and the NCDP staff are working together to integrate and implement future CHPP recommended actions with NCDP outcomes. Murphey explained that submerged aquatic vegetation needs a certain amount of surface light penetration, which is affected by chlorophyll a concentrations, which is affected by nutrient load concentrations. By controlling the nutrients, you improve light penetration and consequently SAV abundance. She also discussed potential steps that can be



followed to increase SAV abundance by reducing nutrient loading in North Carolina. Other issues that will also be included in the issue paper include climate change, SAV pathogens, physical disturbance and chemical impacts.

The Committee discussed the potential of impacts by climate change on SAV abundances as well as the value of SAV for the protection of other important habitats such as protecting from erosion. Murphey stated that she hopes to have the paper finished soon for review by the CHPP Steering Committee.

NC MARINE DEBRIS ACTION PLAN

Sara Hallas with the NC Coastal Federation presented the first ever NC Marine Debris Action Plan. She reviewed the goals and actions of the plan. This plan is an outline of how partners can work together to reduce marine debris along the coast. She provided background on the process of developing the plan through surveys, assessments and workshops that provided the input to develop the different strategies. She then presented the five different implementation goals within the plan including leading and coordinating, prevention, removal, abandoned and derelict vessels, and research and assessment.

NEW WAYS TO SOLVE THE RESOURCE CHALLENGES OF TODAY'S RESTORATION PROJECTS

Tolar Nolley with the Oyster Company of Virginia Holdings, LLC presented information on restoration work ongoing in Virginia by his company. The mission of his company is to promote sustainable returns of the oyster as the basis for health of the Chesapeake Bay and its ecosystem. He discussed several ongoing programs and projects and how they have enlisted Virginia Watermen as a part of the solution. He provided examples such as oyster hatcheries and nursery operations, the use of oyster cages as "mini reefs", use of shell for restoration and calcium buffering, reef creation, and other programs.

UPDATE ON BLUE CRAB FISHERY MANAGEMENT PLAN HABITAT AND WATER QUALITY ISSUES

Deaton provided an update on the finalized Blue Crab Fishery Management Plan Amendment 3 and the different habitat and water quality recommendations within the plan. One of the main issues was improving water quality by addressing pollution sources, especially agricultural runoff, that impacts the North Carolina blue crab stock. She reviewed the different water quality recommendations with the committee. One of these recommendations was to task the CHPP Steering Committee to prioritize blue crab water quality impacts. These should include hypoxia and toxins, while researching specific sources of water quality degradation and their effects on blue crabs. The division is also evaluating the motion passed by the commission in August to consider adding information and/or research recommendations concerning issues with juvenile blue crab habitat availability and quality and may include additional information on this topic in the next draft of the amendment.

The committee discussed how best to address the water quality issue and it was suggested that it may be able to be incorporated into the SAV/Water quality issue paper. It was left that the CHPP Team will further discuss how best to address the issue.

NEXT MEETING

The next meeting will tentatively be in late summer.

/plm

