



# *Blue Crab FMP*

Blue Crab FMP Amendment 3

Addressing Water Quality Concerns Impacting The North Carolina  
Blue Crab Stock

*DEPARTMENT OF ENVIRONMENTAL QUALITY*

Marine Fisheries

CHPP Steering Committee| Corrin Flora| July 30, 2020



## *Appendix 4.3: Addressing Water Quality Concerns Impacting The North Carolina Blue Crab Stock*

Issue: Water quality plays an important role in blue crab life history. Improving water quality by addressing pollution sources, especially agricultural runoff, may positively impact the North Carolina blue crab stock.

- Water quality plays important role in blue crab life history
- Improving water quality may positively impact the blue crab stock
- Concerns due to mass mortality events of peeler blue crabs, mortality during hypoxic events, effect of endocrine disruptor compounds, quality habitat availability, and climate change
- Water quality restoration projects take time and collaboration
  - Neuse River Basin in 1998 set goal of reducing nitrogen load by at least 30%
  - Have yet to achieve goal
- EMC and CRC have authority over activities and development affecting water quality

## *Appendix 4.3: Addressing Water Quality Concerns Impacting The North Carolina Blue Crab Stock*

**The NCMFC has no regulatory authority over land use and other practices that impact water quality**

The NCMFC selected management strategy:

1. Highlight problem areas and potential solutions to other regulatory agencies (CRC, EMC, DWR, DEMLR, US Army Corps of Engineers, and local and state governments) on preferred options and potential solutions.
2. Push to create a joint interagency working group to facilitate cooperation and efforts in monitoring and restoring water quality and juvenile habitat. This should include coastal monitoring which is currently limited; including increased USGS sampling downstream from wastewater treatment plants.
3. Work with state agencies and interest groups to support maintaining the Clean Water Act at a national level and striving to meet or exceed recommendations.



## *Appendix 4.3: Addressing Water Quality Concerns Impacting The North Carolina Blue Crab Stock*

- 4. Task the CHPP Steering Committee to prioritize blue crab water quality impacts and juvenile habitat impacts. These should include hypoxia and toxins, while researching specific sources of water quality degradation and their effects on blue crabs.**
5. Send letters to the NCDA&CS Division of Forest Resources, Division of Environmental Programs, Division of Soil and Water Conservation, and Department of Transportation to share their concerns about water quality and juvenile habitat and the importance of Best Management Practices, especially buffer zones abutting coastal waters.
6. Invite these agencies to future MFC meetings in order to present mitigation efforts on water quality and juvenile habitat impacts, monitoring, and rehabilitation. These may include pesticide and herbicide policies, Best Management Practices reviews, and enforcement.



# Appendix 4.3: Addressing Water Quality Concerns Impacting The North Carolina Blue Crab Stock

7. Public outreach is recommended to encourage the public to report crab and fish kills.

## REPORT CRAB KILLS

**Why?** Fishermen are often the first to see dead or dying crabs. Such events may occur due to weather or human-induced causes. Water quality conditions that can contribute to crab kills include low dissolved oxygen, rapid salinity change and elevated levels of pesticides in the water. Distress or mortality of peeler crabs in shedders can be an early sign of water quality problems. Rapid reporting of kills helps state agencies determine the cause and how to prevent them in the future.

**What to look for:** Blue crabs exposed to pesticides may exhibit unusual behavior, such as difficulty moving (flipping over, legs falling off) prior to dying. Crabs stressed by low oxygen or extreme changes in temperature or salinity are more likely to become inactive.



**What to do:** Immediately report crab or fish kills when observed at your shedder or on the water. Calls may be anonymous. When abnormal behavior is observed, freeze several crabs and collect water samples. Store the water sample in a clean jar or bag and keep cold.

**Who to contact:**  
Weekdays: N.C. Department of Environmental Quality  
Washington Office: 252-946-6481; 800-338-7804  
Wilmington Office: 910-796-7215; 800-248-4536  
Weekends/evening: **Environmental Emergency hotline: 800-858-0368**

