



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

September 12, 2016

Bureau of Clean Water
Department of Environmental Protection
P.O. Box 8774
Harrisburg, PA 17105-774

RE: 2016 Draft Integrated Water Quality Monitoring and Assessment Report [46 Pa.B. 4264]

Dear McDonnell:

The Chesapeake Bay Foundation (CBF) along with the undersigned signatories thank the Bureau of Clean Water for the opportunity to provide comments on the 2016 Draft Integrated Water Quality Monitoring and Assessment Report (Integrated Report).

CBF is the largest non-profit organization dedicated to the protection and restoration of the Chesapeake Bay, its tributaries, and its resources. With the support of over 200,000 members, our staff of scientists, attorneys, educators, and policy experts work to ensure that policy, regulation, and legislation are protective of the quality of the Chesapeake Bay and its watershed, the largest tributary of which is the Susquehanna River.

We commend the Department for its unprecedented efforts in studying the lower Susquehanna River and convening the scientific experts to conduct the Causal Analysis of the Small Bass decline in the Susquehanna and Juniata Rivers (CADDIS Report)¹. We recognize that the current assessment and listing methodology for surface water does not include the evaluation of the smallmouth bass population. In spite of this, there is a clear, undeniable, well-documented problem with the smallmouth bass in the lower Susquehanna River. Not only are smallmouth bass an indicator of good water quality, the lower Susquehanna was once known as one of the best smallmouth fisheries in the country.

For over ten years, the Department has continued to push this problem down the road while the smallmouth bass continue to suffer from population decline, disease, and intersex conditions. There have been many voices calling on the Department to list the lower Susquehanna as impaired for the smallmouth bass, including ourselves, the Pennsylvania Fish and Boat Commission, many conservation organizations, and a group of 22 retired DEP professionals. We are deeply disappointed to see the Department decide once again that further research is needed, instead of acknowledging the problem and committing to the solution.

¹ Department of Environmental Protection. December 2015. Causal Analysis of the Small Bass decline in the Susquehanna and Juniata Rivers. Bureau of Point and Non-Point Source Management.

The lower Susquehanna River from Sunbury to York Haven should be listed as impaired for the smallmouth bass with a high priority ranking for Total Maximum Daily Load (TMDL) development.

The 4-mile recreation impairment in the Susquehanna from the Conodoguinet to the Yellow Breeches is not a surrogate listing for the threats to the smallmouth bass. This recreation impairment does not address the parameters impacting the smallmouth bass nor does it cover the problem area as defined in the CADDIS Report.

The Department's own CADDIS Report unambiguously establishes there is a problem with the smallmouth bass population in the lower Susquehanna and Juniata Rivers- juveniles are not surviving into the adult class. Data from the Pennsylvania Fish and Boat Commission (PFBC) document a steep decline in both adult and young-of-year smallmouth bass populations, beginning in 2005. The monitoring catch numbers from PFBC have not rebounded to pre-2005 populations. Prior to 2005, the median catch rate for adult smallmouth bass was near 125 fish per hour, and after 2005 that number has declined to around 25 fish per hour. The catch rate of young-of-year surveys follows a similar pattern: pre-2005 around 8 fish/50m and post-2005 roughly 2 fish/50m².

PFBC monitoring studies also show high incidences of disease in the lower Susquehanna, much greater than areas outside of the CADDIS area and in other parts of the state. This evidence is a clear demonstration that the smallmouth bass in the lower Susquehanna are experiencing disease. The 2016 Integrated Report points out that emerging contaminants are found in higher concentration in the tributaries than in the mainstem, thus suggesting there should be greater rates of disease found in the tributaries. This statement does not change the fact that there are diseased fish in the mainstem. Furthermore, this claim appears to directly conflict with the findings in the CADDIS Report which concludes that high concentrations of emerging contaminants and herbicides are higher in the Susquehanna and Juniata Rivers than comparison sites. It also states that the highest estrogenicity levels and higher hormone concentrations were found at three locations in the mainstem- Sunbury, Harrisburg, and Marietta- as well as Lewistown on the Juniata.

In addition to population decline and disease, the smallmouth bass are experiencing alarming rates of intersex conditions in the lower Susquehanna. Studies conducted by the U.S. Geological Survey show between 70 and 100 percent of smallmouth bass in the Susquehanna, lower Juniata, and Swatara waterbodies had intersex conditions³. Such high rates undeniably point to problems with the smallmouth bass suggesting there are sources of water pollution causing abnormal changes in the fish. In the same study, streams outside of the Susquehanna drainage were not found to have such extreme rates of intersex fish.

² John Arway. August/ September 2016. Fear of the Known. Straight TALK. Pennsylvania Fish and Boat Commission. http://www.fish.state.pa.us/images/people/exec_dir/straight_talk/2016_09_10_smb.pdf

³ Blazer et al. 2014. Reproductive health indicators of fishes from Pennsylvania watersheds: association with chemicals of emerging concern. Environmental Monitoring and Assessment 186(10):6471-91.

Additionally, we ask the Department to clarify the decision to list the 4-miles as impaired for recreational use on the Susquehanna River from the Conodoguinet to the Yellow Breeches. Our analysis of the fecal coliform data used to make this decision, obtained from the Department, revealed some unclear details. Five out of eight sample locations in this reach exceeded water quality standards. Interestingly, three of the five nonattaining sites captured conditions in proximity to City Island. Analysis of data from the remaining two nonattaining sites (Locust St. Boat Launch and West Fairview) show elevated concentrations of fecal coliforms associated with rain as confirmed with increases in discharge from USGS gage data. The Department's methodology for bacteriological sampling states that following wet weather elevated bacteria are known to be found, therefore samples should not be collected after rain events⁴. The results from dry weather samples taken at these two sites show low concentrations. Analysis of the three City Island sample sites also show elevated bacteria concentrations associated with rain events.

The goal of the Clean Water Act is to "restore and maintain the chemical, physical and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). Section 303(d) of the Clean Water Act requires states to list all impaired waters, and to establish a priority ranking for such waters, "taking into account the severity of the pollution and the uses to be made of such waters." 33 U.S.C. § 1313(d)(1)(A). "Pollution" is defined as "the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of water." 33 U.S.C. § 1362(16). Pursuant to this definition, the dramatic decline of a dominant species is reason to list the lower Susquehanna as impaired with a high priority ranking for Total Maximum Daily Load development.

In the 2014 Integrated Report, the Department decided the Susquehanna needed further study. Now again in the 2016 Integrated Report, the same decision has been made. Despite finding no exceedances in water quality criteria, the smallmouth bass population is still suffering. We request the Department to list the lower Susquehanna as impaired with a high priority ranking for TMDL development addressing the threats to the smallmouth bass, so that a commitment to its recovery can begin.

We thank the Department for consideration of our comments. The health of the Susquehanna River is critically important to the economic and cultural vitality of central Pennsylvania, the entire Commonwealth, and the Chesapeake Bay. While we applaud the Department for its efforts in studying the Susquehanna, it is time to stop pushing its fate further into the future.

⁴ Department of Environmental Protection. December 2015. Recreational Use Assessment Methodology Bacteriological Sampling Protocol. Bureau of Clean Water.

Sincerely,

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