

October 3, 2018

Marcia Willhite  
Wisconsin DNR - WT/3  
PO Box 7921, Madison, WI 53707



SENT BY ELECTRONIC MAIL

**RE: Public Comment on 2018-2020 Triennial Standards Review, Priorities for the Water Quality Standards Program**

Dear Ms. Willhite:

Our recommendations are as follows:

1. We commend the WDNR for recommending PFOA and PFOS as priorities for development of new water quality criteria, but also strongly recommend that surface water criteria be developed for the summed-total concentration of all per- and polyfluoroalkyl substances (PFAS), including precursors. We support the more detailed recommendation in the letter submitted by the PFAS Community Campaign letter organized by CSWAB.

2. DNR's water quality criteria should consider exposures to PFAS from the consumption of fish, as EPA recommends (see point #3 below). Fish represent a significant PFAS exposure route for humans; several studies (including a WDNR study of state fish—Williams & Schrank, 2016) have demonstrated that PFAS can accumulate in freshwater fish to concentrations that pose a threat to human health (Martin et al. 2004; Ye et al. 2008; Delinsky et al. 2009; Xiao et al. 2013; Jain, 2014; Stahl et al. 2014; Williams & Schrank, 2016).

Scientific studies indicate that fish PFAS burdens are dominated by bioconcentration directly from water, and bioaccumulation also occurs at varying levels depending on the type of PFAS compound and fish (Lanza, 2017). Studies show that some PFAS (especially PFOS) can accumulate to thousands of times more than the levels in water, and Bhavsar et al (2016) calculated that PFOS in fish could accumulate to over 100 times greater than the Canadian “do not eat” advisory benchmark for sensitive populations (children and women of childbearing age) without exceeding the country's drinking water guideline. The draft “fish consumption based water quality guidelines” they calculated for PFOS (8 ng/L-16 meals/month, 15 ng/L-8 meals/month) were within the range of those drafted by RIVM Dutch National Institute for Public Health and the Environment and Minnesota Pollution Control Agency: < 1-12 ng/L (ppt) (Bhavsar et al, 2016, Moennond et al., 2010; Stevens and Coryell, 2007).

3. In developing water quality criteria that consider fish consumption, DNR should test water, sediments, and fish downstream of identified PFAS sources in the state immediately so that water quality criteria can be based on bioaccumulation factors that are informed by actual levels in of PFAS in waterways and fish. There are now numerous identified sources of PFAS in Wisconsin that have discharged PFAS to the state's surface waters (or groundwaters that feed surface waters) where people consume fish.

DNR's own studies support the above. The 2016 DNR study by Williams & Schrank states clearly that based on their study of Wisconsin fish (gathered from 2007-2012) "proximity to a PFC source is an important factor affecting concentrations" in fish. Further, they recommend that "Monitoring fish from Wisconsin's rivers and Great Lakes for PFCs should continue. In particular, future work should target analysis of fish collected near possible sources or uses of PFCs."<sup>1,2,3,4</sup>

4. We support the following recommendations outlined in the draft TSR document (submitted by Wis. Dept. of Health Services and Great Lakes Indian Fish & Wildlife Commission):

"Incorporate recent EPA recommendations into how WDNR calculates human health criteria (HHC) (i.e., water quality standards that protect human health while swimming or eating locally-caught fish). This effort could include one or more components: 1) Update calculation methods (specifically exposure parameters) to be consistent with EPA's latest recommendations for water consumption rate and average body weight. Evaluate most appropriate fish consumption rates to be protective of fish consumers like tribes. 2) Update the state's existing HHC based on latest toxicological information (31 substances). 3) Adopt HHC for chemicals which EPA has criteria and/or a drinking water standard and Wisconsin does not (14 substances)."

We recommend that all three of the components proposed above be included by WDNR in calculating human health criteria.

Thank you for considering our comments.

Sincerely,

s/ Maria Powell, PhD  
President, Midwest Environmental Justice Organization

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<sup>1</sup> There is no legitimate reason to delay this fish testing; it should be done immediately to protect fish consumers. The DNR has been aware of this issue for a long time (DNR analyzed fish for PFAS from 2006-2012, per Williams & Schrank, 2016). The WI State Lab of Hygiene and other labs have the analytical capabilities to appropriately test fish tissues for PFAS.

<sup>2</sup> If high PFAS levels (see point 3) are found in fish people consume, the DNR water quality program staff should work with the Department's fish advisory staff to make sure fish consumers are warned immediately, as is being done in other states. Many scientific studies (including Williams & Schrank) show that smaller fish can have higher PFAS levels than larger fish, so existing mercury and PCB advisories (which generally advise fish consumers that they can safely eat more of the smaller fish than the larger fish) will not protect people, especially vulnerable groups, from ingesting harmful PFAS levels in fish.

<sup>3</sup> Wisconsin should update its PFAS fish advisories immediately to be reflective of current science. The WI PFOS advisories currently in place (only for the stretch of the Mississippi river downstream of 3M--see point 4) are outdated and unprotective. While new Wisconsin PFAS fish advisories are under development, Wisconsin should use Minnesota's current PFOS advisories, issued in April 2018 and much more protective than the advisories issued by Wisconsin in 2007. This also makes sense since Minnesota and Wisconsin share borders (including part of the Mississippi River).

<sup>4</sup> In a [September 28, 2018 presentation to the DNR Brownfields Study Group](#), MPCA reported that groundwater PFOS levels alone (not including other PFAS) were 10-50 times above Minnesota's "health-based value" (HBV) of 0.027ppb (27 ppt) over two miles downstream of one of the 3M sites and 1-5 times the HBV about four miles downstream (see slide 19). Notably, they found that the groundwater plume is controlled by "groundwater-surface water interactions" (see slide 16). Fish in a lake at least two miles from the sources (Lake Elmo) had high enough PFAS levels that a "do not eat" advisory was issued for the whole lake; these PFOS are traveling via groundwater and surface water. Moreover, PFOS traveled in surface water and groundwater (with roughly parallel movement) over 8 miles east of one of the 3M sites, to the Mississippi River, where fish are already on advisory for PFAS (as noted in Williams & Schrank, 2016).