



October 28, 2023

Re: Comments on the draft Economic Impact Statement for amendments to ch. NR 140 to set numerical standards to minimize the concentration of polluting substances for certain per- and polyfluoroalkyl substances (PFAS) in groundwater; Board Order DG-17-22

For over 50 years Clean Wisconsin has been the leading statewide advocate for clean water, clean air and clean energy. As a nonprofit, nonpartisan environmental organization with over 30,000 members and supporters around the state, we employ scientists, policy experts and attorneys to protect and improve Wisconsin's environment.

We appreciate the opportunity to submit the following comments on the draft economic impact analysis (EIA) for the proposed groundwater standards for PFOS, PFOA, PFBS, and HFPO-DA.

1. A recent study has quantified health care costs associated with PFOS and PFOA exposure.

Groundwater is the source of drinking water for approximately 30% of Wisconsin residents using private drinking wells. Those wells are not protected by Wisconsin's drinking water standards. As the draft EIA notes, this proposed rule will provide health benefits to these populations by avoiding adverse health effects associated with PFAS exposure.

A recent study quantified the public health burden attributable to PFOS and PFOA in the United States.¹ This analysis reported a conservative main estimate of \$5.52 billion in health care costs for five end points with the strongest evidence for probable causation with PFAS exposure: low birth weight, childhood obesity, kidney cancer, testicular cancer, and hypothyroidism in females. Assuming exposure and case rates in Wisconsin are like the United States as a whole, this would extrapolate to approximately \$100 million in annual health care costs in Wisconsin.²

Recognizing that this is a conservative figure, the study also reports an analysis that expands the number of PFOA and PFOS-related health endpoints and potentially attributable cases. That analysis resulted in an upper estimate of \$62.2 billion in annual health care costs potentially attributable to PFAS exposure. Again, extrapolating based on Wisconsin's share of the United States' overall population, this would mean up to \$1.1 billion in annual health care costs in Wisconsin is attributable to PFOA and PFOS exposure.

Including these figures in the department's economic impact analysis would provide important context regarding the extent of the potential benefits to be gained in contrast to the estimated regulatory and compliance costs of this rule.

¹ Obsekov et al. 2023. Leveraging systematic reviews to explore disease burden and costs of per- and polyfluoroalkyl substance exposures in the United States. *Exposure and Health* 15: 373-394.

² Wisconsin's population is approximately 1.8% that of the United States' population; \$5.52 billion x 0.018 = \$99.4 million.

2. PFAS contaminated groundwater can impact Wisconsin's agricultural industry.

Groundwater is often the source of irrigation water for crops and livestock drinking water, both providing a pathway for PFAS to get into the food system.³ Dietary intake is the primary source of PFAS for most people⁴, and thus limiting agricultural contamination will have downstream public health benefits.

More immediately, PFAS contamination of agricultural products can have direct economic impacts on farms and producers themselves. The extent of PFAS contamination of agricultural products in Wisconsin has, to our knowledge, yet to be examined, but farms in Colorado⁵, Maine⁶, Michigan⁷, and New Mexico⁸ have incurred significant economic impacts to their operations including disposing of their agricultural products like milk, pulling products from shelves, culling herds, or even closing down entirely due to PFAS contamination.

The proposed groundwater standards in NR 140 will thus help to protect Wisconsin's agricultural industry, which contributes \$105 billion annually to the state's economy.⁹ Strong groundwater standards will help minimize the number of farms whose products are contaminated by PFAS and help to ensure public confidence in the quality and safety of Wisconsin's agricultural products.

We acknowledge that while this benefit is unquantifiable right now, it is an important benefit to a strong groundwater rule in Wisconsin and should be noted in the economic impact analysis.

3. PFAS contamination affects home values

Missing in the list of benefits in the draft EIA is the benefit of avoiding home value losses due to PFAS contamination. Pollution—and even the perception of contamination—is known to reduce property values, particularly by pollutants with higher levels of public notoriety like PFAS.¹⁰

³ Brown et al. 2020. Assessing human health risks from per- and polyfluoroalkyl substance (PFAS)-Impacted vegetable consumption: a tiered modeling approach. *Environmental Science & Technology* 54: 15202-15214 ; Costello & Lee. 2020. Sources, fate, and plant uptake in agricultural systems of per- and polyfluoroalkyl substances. *Current Pollution Reports*. <https://doi.org/10.1007/s40726-020-00168-y>

⁴ See literature review summarized in Table 1 of Sunderland et al. 2019. A review of the pathways of human exposure and poly- and perfluoroalkyl substances (PFASs) and present understanding of health effects. *J Expo Sci Environ Epidemiol* 29: 131-147; De Silva et al. 2021. PFAS exposure pathways for humans and wildlife: a synthesis of current knowledge and key gaps in understanding. *Environmental Toxicology and Chemistry* 40: 631-657.

⁵ <https://www.cpr.org/2019/07/31/despite-a-50m-cleanup-residents-still-bear-the-costs-of-peterson-afbs-water-contamination/>

⁶ <https://www.wsj.com/articles/maine-farmers-dump-milk-lose-crops-as-forever-chemicals-taint-soil-11656932400>; <https://www.newscentermaine.com/article/tech/science/environment/pfas/dairy-farm-coming-out-of-a-toxic-nightmare-from-forever-chemicals-pfas-environment-maine-business-agriculture/97-96c362b4-f9fd-42e8-9591-eeb69726c4f4>; <https://www.mainepublic.org/environment-and-outdoors/2022-02-07/complete-crisis-as-pfas-discovery-upends-life-and-livelihood-of-young-maine-farming-family>

⁷ <https://www.greatlakesnow.org/2022/02/ap-forever-chemicals-michigan-beef/>;

<https://www.dtnpf.com/agriculture/web/ag/livestock/article/2022/05/06/michigan-farm-cautionary-tale-pfas>

⁸ <https://www.newmexicopbs.org/productions/newmexicoinfocus/art-schaaps-dairy-dilemma/>

⁹ United States Department of Agriculture. 2021. Wisconsin Agricultural Statistics. Available at: https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Annual_Statistical_Bulletin/2021AgStats-WI.pdf

¹⁰ Cordner et al. 2021. The true cost of PFAS and the benefits of acting now. *Environmental Science & Technology* 55: 9630-9633.

PFAS contamination has been documented to reduce home values. A report prepared for the State of Minnesota in their legal action against 3M analyzed the impact of PFAS contamination in the east metro area of the Twin Cities.¹¹ Using a hedonic analysis of home sale prices in Oakdale and other affected communities compared to surrounding unaffected areas of the East Metro area, the report found that home values were reduced by 7.3% in Oakdale and 4.4% in other affected areas due to PFAS contamination.

More directly relevant to this proposed rule, a recent lawsuit in French Island is claiming \$42 million in reduced property value and other harms due to PFAS groundwater contamination of private wells in the area.¹² Although this lawsuit is still in progress, it highlights the potential economic impact groundwater contamination can have on property values and should be noted in the draft economic analysis.

4. PFAS contamination disproportionately affects disadvantaged communities

The Union of Concerned Scientists published a report¹³ finding that non-military PFAS contamination sites are more likely to be found closer to minority and low-income populations. Furthermore, a recent analysis found a positive relationship between PFAS levels in rural community water systems and the proportion of residents below the federal poverty line in 18 states, including Wisconsin.¹⁴ This indicates that PFAS contamination of drinking water sources may disproportionately impact the rural poor, which is particularly relevant for this proposed rule since groundwater is the source of drinking water for Wisconsin's rural communities.

These potential disproportionate economic impacts on populations that are least able to deal with the contamination should be noted in the department's assessment.

Thank you again for the opportunity to provide additional information to support the department's economic impact assessment process. While the costs of PFAS contamination clean-up are extensive, it is equally as important to recognize the public health and other economic costs that can be avoided through strengthened PFAS regulation of our groundwater resources.

Respectfully submitted this 28th day of October, 2023.

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¹¹ Sunding DL. 2017. Damage to Minnesota's Natural Resources Resulting from 3M's Disposal of PFASs in Washington County, MN. Prepared for the State of Minnesota in the matter of the State of Minnesota v. 3M Company. September 22, 2017.

¹² Fitzpatrick, Skemp & Butler, LLC. 2023. French Island PFAS Claims of \$42.4 million asserted against city of La Crosse. New Release June 9, 2023. Available at: <https://www.news8000.com/news/local-news/la-crosse/city-of-la-crosse-served-with-42-4-million-in-claims-related-to-pfas-contamination/article_52196ee2-06fc-11ee-8c9b-2f593d8793e6.html>

¹³ Desikan, Anita, Jacob Carter, Shea Kinser, and Gretchen Goldman. 2019. Abandoned Science, Broken Promises: How the Trump Administration's Neglect of Science Is Leaving Marginalized Communities Further Behind. Cambridge, MA: Union of Concerned Scientists. <https://www.ucsusa.org/resources/abandoned-science-broken-promises>

¹⁴ Liddie et al. 2023. Sociodemographic factors are associated with the abundance of PFAS sources and detection in U.S. community water systems. *Environmental Science & Technology* 57: 7902-7912.

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