

PFAS update

Protective values for PFOS

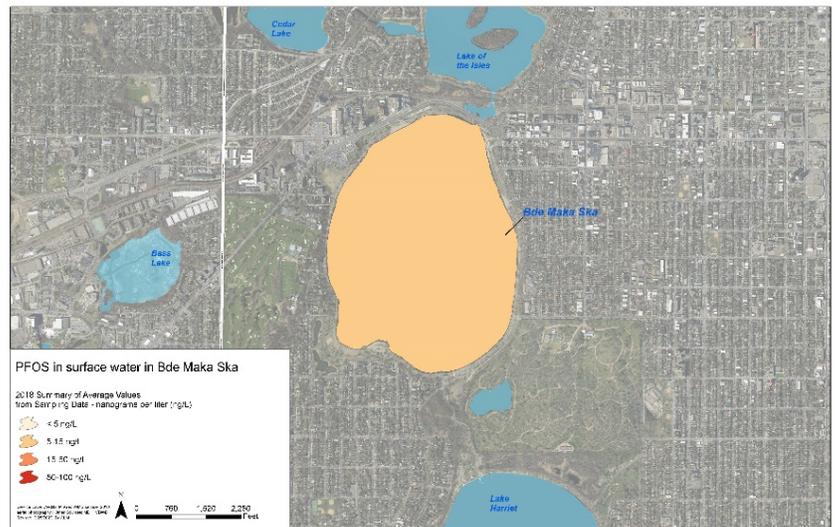
The Minnesota Pollution Control Agency (MPCA), Minnesota Department of Health (MDH), and Minnesota Department of Natural Resources (MDNR) have been working to understand the presence and levels of per- and polyfluoroalkyl substances (PFAS) in Minnesota’s environment, especially surface and groundwater. To protect the environment and human health, we need goals for safe levels of PFAS in our waters – levels that allow waters to be used as a source of drinking water and edible fish, for swimming and boating, and that support a healthy population of aquatic life.

Minnesota has been monitoring for PFAS in fish since the early 2000s. Based on current understanding, PFOS (perfluorooctane sulfonate) is the main PFAS of concern present in fish tissue. PFOS is highly bioaccumulative. Levels of PFOS in fish tissue build up through the food chain from the fish’s intake of water and of organisms that have PFOS in them (like bugs). PFOS has been measured at low levels in fish statewide, and higher levels have been found some areas. The MPCA is using new science and information to update responses to PFOS in metro area water bodies that have the highest levels.

Setting goals

MPCA and MDH have the tools to set goals for some PFAS levels that protect human health and the environment. MPCA is releasing a pair of new PFOS protective values for fish consumption (called “site-specific water quality criteria”) – one is for fish tissue, the second is a surface water value that supports meeting the fish tissue value.

- The value for fish tissue is a maximum 0.37 nanograms PFOS per gram (ng/g) in fish tissue
- The value for water is a maximum 0.05 ng/L PFOS in water



Bde Maka Ska

This is not a statewide standard. This is a targeted site-specific water quality criteria for Lake Elmo and connected waterbodies, Bde Maka Ska and Pool 2 of the Mississippi River. These are new values for the East Metro area, and updates to existing values for Bde Maka Ska and Pool 2 that were more than 10 years old, and needed to be updated to the new criteria values to reflect the recent changes in the science of PFAS impacts.

Along with MPCA’s new protective values, MDH is extending “do not eat” fish consumption advice to lakes and streams in the Project 1007 Area of Washington County with PFOS measured in water at levels similar to or higher than Lake Elmo.

These waters include Raleigh Creek, Eagle Point Lake, Horseshoe Lake, and Tartan Pond. The site-specific criteria for PFOS in fish tissue and water incorporate a toxicological and exposure approach that is similar to that used by MDH to develop drinking water values. **This is based on protecting our most vulnerable populations** (for PFOS, the developing fetus and infant).

Addressing fish means looking at bioaccumulation in the food chain, which is why the value for PFOS in fish tissue is more stringent than values to protect drinking water. Concentrations of PFOS can be more than 7000 times higher in fish tissue than the surrounding water, so where a waterbody is used for harvesting fish and as a source of drinking water, eating fish can be a larger source of exposure because the PFOS concentrates so highly in fish tissue.

Working with permittees

We know there is concern about the ability of permitted dischargers to reduce levels of any PFAS in their effluent. Many facilities, such as wastewater treatment plants, are “conduits” of PFAS to the environment rather than sources that generate it.

The MPCA is in contact with the affected permittees and will work closely with them to identify and minimize sources of PFAS to wastewater treatment plants. PFAS treatment is expensive and we know creative solutions and tools like variances may be needed.

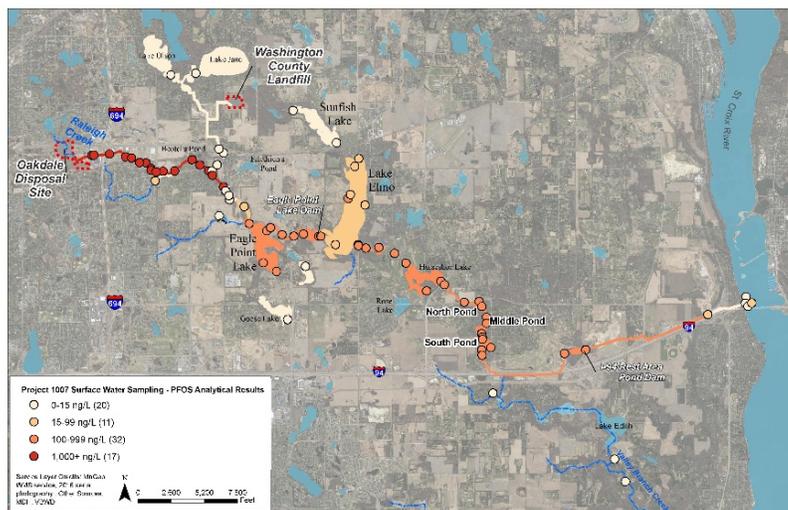
Next steps

We cannot ‘clean up’ our way out of this problem. The sustainable, longer term solution is to remove PFAS use in products and industrial processes before it gets into our water. The MPCA, MDH and DNR are committed to a long-term, holistic approach to dealing with PFAS. MPCA anticipates future actions using the site-specific water quality criteria framework, and over time may need to do statewide water quality standards through rulemaking for aquatic consumption or to protect the aquatic community itself.

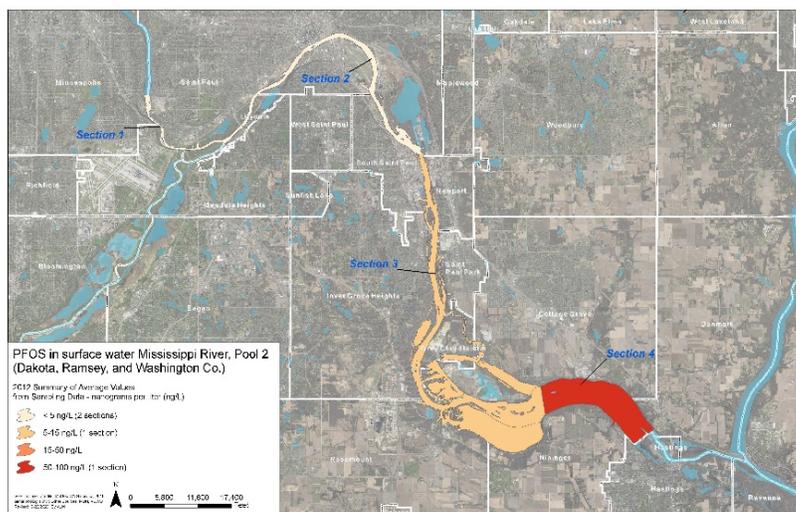
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Project 1007 is a large flood control project completed in the late 1980s. It uses a number of stormwater pipes, lakes and creeks to control flooding.



Mississippi River – Pool 2