

Investigation of Per- and Polyfluoroalkyl Substances (PFAS) in Michigan's Macatawa River watershed: Surface Sampling Update May 2021

EGLE Water Resources Division (WRD), Surface Water Assessment Section (SWAS) conducted surface water sampling in the Macatawa River watershed in April 2021 to determine if surface water PFAS contamination exists in the watershed. This watershed was selected for sampling as part of EGLE's [five-year rotating watershed monitoring strategy](#). This investigation was initially planned for 2020 but was postponed due to COVID-19 delays to the 2020 field season. Surface water samples were collected in accordance with the Michigan Per- and Polyfluoroalkyl Substances (PFAS) Sampling Guidance document (MDEQ 2018) and tested for 28 different PFAS following the Michigan Surface Water PFAS Investigation 2019 QAPP (EGLE 2019).

As depicted in Table 1, two of the 23 surface water sampling locations, both in the Maplewood Drain, exceeded the Rule 57 Human Noncancer Values (HNV) for PFOS of 12 parts per trillion (ppt). These samples were collected downstream of a [former paint packaging facility](#) in Holland. PFOS concentrations in Lake Macatawa ranged from 2.8 to 3.6 ppt. None of the 23 surface water samples collected in the watershed exceeded the PFOA HNV of 12,000 ppt with concentrations ranging from non-detect to 8.1 ppt. Fish were collected from Lake Macatawa in 2021 for contaminant analyses through EGLE's [Fish Contaminant Monitoring Program](#). These data are expected back in 2022.

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Table 1. Surface water PFOS and PFOA concentrations (in ppt) in surface water samples in the Macatawa River watershed collected in April 2021. As these water bodies are non-drinking water sources, Results are compared to the Rule 57 Human Noncancer Value (HNV) of 12 ppt for PFOS and 12,000 ppt for PFOA. Results exceeding the Rule 57 HNV are bolded and italicized.

Sample ID	Waterbody	Description	Collection Date	Latitude	Longitude	PFOS (ppt)	PFOS Flag	PFOA (ppt)	PFOA Flag
MR-0010	Macatawa River	Holland State Park	4/20/21	42.7726	-86.20659	2.5	J, Q	2.7	J
UD-0010	Unnamed Drain to Big Bay	Ottawa Beach Rd	4/20/21	42.7925	-86.18582	2.5	J, Q	3.8	J
PC-0010	Pine Creek	Ottawa Beach Rd	4/20/21	42.7977	-86.14239	1.7	J, Q	2.8	J
LM-0050	Lake Macatawa	Boat Access	4/20/21	42.78	-86.18163	2.8	J	3.0	J
LM-0100	Lake Macatawa	Boat Access	4/20/21	42.7815	-86.14670	3.6	J	3.0	J
LM-0150	Lake Macatawa	Boat Access	4/20/21	42.7941	-86.12744	2.8	J	3.3	J
LM-0200	Lake Macatawa	Boat Access	4/20/21	42.7951	-86.11677	3.0	J	3.2	J
MR-0100	Macatawa River	Boat Access	4/20/21	42.7993	-86.11472	2.6	J, Q	3.4	J
MR-0150	Macatawa River	Windmill Island	4/20/21	42.7986	-86.09284	4.2		3.3	J
MD-0010	Maplewood Drain	Energy Park Way	4/20/21	42.7923	-86.09015	20.9		3.0	J
MD-0100	Maplewood Drain	E 32nd St.	4/20/21	42.7688	-86.09120	86.5		7.2	
RT-0010	Railroad Tributary	Near E Lakewood Blvd	4/20/21	42.803	-86.08317	4.7		6.9	
MR-0200	Macatawa River	American Legion Memorial Park	4/20/21	42.7975	-86.05532	2.4	J	2.6	J
FTY-0010	No. 40 Drain	James Rd	4/20/21	42.8121	-86.09571	1.0	K	8.1	
BH-0100	Bosch & Hulst Drain	104th Ave	4/20/21	42.8079	-86.03872	4.6	Q	2.9	J
NBM-0010	North Branch Macatawa River	Adams St	4/20/21	42.7836	-86.03822	2.0	J	1.7	J, Q
BRW-0100	Brower Drain	Riley St	4/20/21	42.8267	-86.03616	2.8	J	2.1	J
BOO-0010	Boone Drain	N. State St	4/20/21	42.8228	-86.01936	3.4	J	3.6	J, Q
BRW-0110	Brower Drain	N. Centennial Ave	4/20/21	42.8161	-86.01207	6.2		2.1	J
BRW-0120	Brower Drain	E. Washington Ave	4/20/21	42.8152	-86.00618	2.1	J, Q	1.7	J
NBM-0100	North Branch Macatawa River	Lincoln Rd	4/20/21	42.7471	-86.07529	3.7	J, Q	2.3	J
SBM-0010	South Branch Macatawa River	Lindy Ct	4/20/21	42.7716	-86.00347	1.0	K	1.0	K
MR-0300	Macatawa River	Adams St	4/20/21	42.7835	-86.00042	1.8	J	1.4	J

PFAS Laboratory Codes

K: Result is below detection limit; therefore, the method detection limit is displayed

J: Result is above detection limit, below the reporting limit

Q: The ion transition ratio is outside of the acceptance criteria.

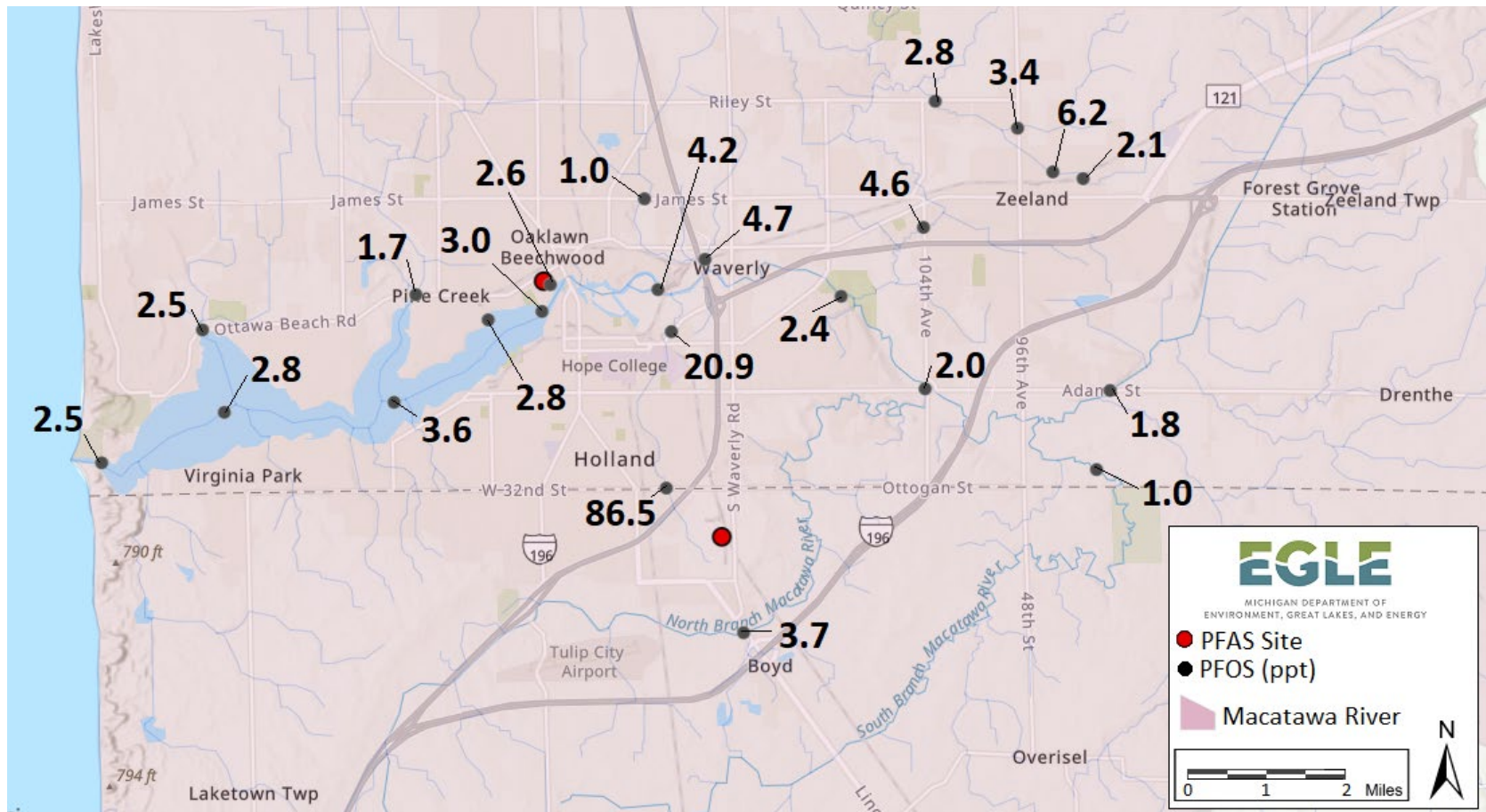


Figure 1. Surface water PFAS sampling locations in the Macatawa River watershed in April 2021. PFOS concentrations are depicted in parts per trillion (ppt).