

MAEAP Water Monitoring

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The Water Monitoring program is the only program in Michigan routinely testing water quality in privately-owned (non-community) water wells. Samples are analyzed for pesticides, volatile organic compounds, and nitrate contamination. Well owners with results indicating a water quality problem are provided with information on risks and steps to take to verify water quality safety. If a groundwater contamination problem is identified, the program works with local landowners to determine the extent and severity of the problem. In some cases, financial assistance can be provided for alternate water supplies.

IMPACT FOR MICHIGAN:

Pesticide contamination of groundwater has been detected at 120 of 5,268 sites sampled by the program in Michigan, or 2.3 percent of the sites sampled. Elevated nitrate levels have been identified at 18 percent of private sites tested for nitrate, and half of these contain nitrates above public drinking water standards. Contaminant concentrations in groundwater indicate the need for improving pesticide and fertilizer management by both homeowners and agriculture.

2020 ACCOMPLISHMENTS:

- Continued work on a privately funded multi-year research study evaluating the impact of the recently-registered pesticide, isoxaflutole.
- Worked with MDARD's Geagley Lab staff to develop protocols for testing water samples for neonicotinoids.
- Continued working with the multi-agency Michigan Water Quality Workgroup.

MEASURING SUCCESS:

Metric	2016	2017	2018	2019	2020
EGLE or MDARD Analytical Lab Analysis					
Wells sampled	84	94	114	116	61
Pesticide detections	1	3	1	0	0
Pesticide > drinking water standards	0	0	0	0	0
Nitrate elevated between 5 and 10 ppm	5	7	8	10	7
Nitrate over drinking water standard of 10 ppm	5	8	4	8	8
Screening with Test Strips					
Water screenings	932	567	825	778	152
Nitrate elevated between 5 and 10 ppm	44	33	69	59	6
Nitrate over drinking water standard of 10 ppm	67	47	54	39	14
Households Notified of Drinking Water Risks	122	98	136	116	35

2021 PROGRAM GOALS:

- Conduct at least one online and one in-person training on well monitoring procedures.
- Work with state colleagues and supervisors, university researchers, and commodity groups to evaluate monitoring for neonicotinoid pesticides in Michigan groundwater and surface water.



KEY STAKEHOLDERS:

- Domestic well owners and users
- Pesticide and nitrogen fertilizer users
- Pesticide registrants
- Local health departments
- State and federal partner agencies

LEGAL AUTHORITY:

- Natural Resources and Environmental Protection Act, Public Act 451 of 1994, Part 87 (Groundwater and Freshwater Protection), as amended