

Wisconsin Department of Health (DHS)

FY2023 Highlights

- The Groundwater program assisted the Department of Natural Resources (DNR) in FY2023 in a project to sample public water systems and private wells across the state for per and polyfluoroalkyl substances (PFAS).
- Multiple DHS programs, including the Groundwater program and the Site Evaluation program, provided technical assistance and health education related to more than a dozen groundwater contamination sites in Wisconsin. In FY2023, these programs addressed PFAS contaminants at several locations within the state (e.g., Marinette, La Crosse, Eau Claire, Wausau, Peshtigo, French Island, Madison, Rhinelander, Town of Stella). The Site Evaluation program also assessed groundwater contamination at other sites for polycyclic aromatic hydrocarbons; benzene, toluene, ethylbenzene, and xylene (BTEX) compounds; and several chlorinated volatile organic compounds (VOCs).
- **Wisconsin's Environmental Public Health Tracking program released a request** for applications in FY2023 for local and tribal health departments (LTHDs). Funds are used by grantees to explore data from the County Environmental Health Profiles and the tracking data portal to identify an environmental health concern in their jurisdiction. Five LTHDs were funded and two of these projects focused on water quality, specifically testing of nitrates in private well water and improving access to private well testing. In addition, Wisconsin Tracking will be working with the DNR and two LTHDs to streamline data flow of private well water results to the DNR.
- The Climate and Health program (CHP) and Wisconsin Sea Grant piloted the Flood Resilience Scorecard (FRS) during the pandemic in summer 2020 to **evaluate the City of Washburn's flood** vulnerabilities. FRS is a comprehensive tool designed to help communities identify what makes them most vulnerable to flooding and what actions they can take to increase their resilience. FRS has been published online and is available for use. CHP will continue to evaluate flood vulnerability using FRS in 2023 to improve local flood resilience and health equity in Wisconsin communities. CHP also continued to promote its Risk Assessment Flood Tool (RAFT), an interactive flood planning and response map, to LTHDs and flood and emergency management professionals. DHS flood planning and response tools can help identify flood-prone areas of the state and identify populations at greatest risk to drinking water contamination resulting from flooded wells.

Overview

DHS serves as a primary resource for information about the health risks posed by drinking water contaminants and is charged with investigating suspected cases of waterborne illness. Toxicologists, public health educators, epidemiologists, and

environmental health specialists employed in the DHS Division of Public Health work together to:

- Develop recommendations for groundwater standards for the protection of public health upon request by the DNR.
- Present information on water quality and human health implications of groundwater and drinking water contamination to the public through town meetings and conferences, as well as a wide variety of informational materials.
- Provide direct assistance to families via home visits, letters to well owners, and telephone consultations.
- Educate residents who have contaminated water supplies on the health effects of specific contaminants and recommend strategies for reducing exposure until a safe water supply can be established.
- Provide advice and assistance in cases of vapor intrusion when shallow groundwater is contaminated with volatile organic chemicals, such as benzene and vinyl chloride, which are released as vapors from groundwater directly into buildings through foundations.
- Improve understanding of current and potential groundwater and drinking water issues related to human health in Wisconsin through disease surveillance, health assessment, and capacity and vulnerability assessment. Information from these activities assists project development, focuses area prioritization, and supports academic research. This information also aids local and state agency work on groundwater-related public health issues.

Detail

Working with Partners to Address Drinking Water Concerns

DHS' Groundwater and Drinking Water program works with other DHS programs to support state, local, and community partners in response to groundwater contamination issues.

In FY2023, DHS' Groundwater and Drinking Water program assisted the DNR Groundwater Section in a project to sample private wells across the state for per and polyfluoroalkyl substances (PFAS) by drafting joint results letters and sharing these letters with the appropriate health department as results for PFAS and non-PFAS analytes became available. In total, we shared 934 letters with our local health partners.

The DHS' Groundwater and Drinking water section worked with other DHS programs and the DNR Groundwater section to respond to a PFAS Plume around the Town of Stella in Oneida County. The DHS worked to provide health guidance to residents and helped raise awareness for the ARPA Well Grant for the DNR.

Additionally, DHS' Groundwater and Drinking Water program worked with DNR's public water program on a project to voluntarily sample public water systems across the state for PFAS. The program worked to develop public notice language for systems with high levels of PFAS. In total, 140 systems were sampled and PFAS detections were observed in 33% of them, with five systems having exceedances. The DHS worked with the DNR to respond to the exceedances.

The Groundwater program also interacts directly with members of the public to address issues affecting their drinking water and increase public awareness of groundwater and drinking water health issues. In FY2022, the Groundwater program provided advisory letters to residents with concerns about their water quality on hazards including copper, manganese, and sodium.

Environmental Cleanups

Multiple DHS programs including the Groundwater program and the Site Evaluation program provided technical assistance and health education activities related to several groundwater contamination sites in Wisconsin.

In FY2023, PFAS was a major focus of our work within these programs. DHS supported DNR in a voluntary municipal PFAS testing program that took place through spring and summer 2022 as well as a statewide private well survey in fall of 2022 and continues to play a supporting role in the interpretation and response and serves as a liaison to local public health for the ongoing PFAS regulatory testing. The team routinely provided technical assistance to concerned citizens, impacted water systems, and contamination sites through the assessment of multiple interconnected exposure pathways, including groundwater, surface water, and biota (such as fish or deer consumption), providing appropriate recommendations to reduce or halt exposure to reduce PFAS levels in the body.

The Site Evaluation program has worked on multiple emergency responses that had potential impact to drinking water or groundwater, including the Menominee, Michigan Warehouse Fire and a wildfire in Necedah that impacted an abandoned junk yard. In both cases, rapid assessments of groundwater and drinking water were necessary to determine whether there were impacts to drinking water.

Beyond PFAS, the Site Evaluation program has also worked to assess groundwater contamination at several other sites across the state. These assessments included evaluating exposure pathways; performing hazard assessments; and mitigating risk for PAHs, BTEX compounds, and chlorinated VOCs such as TCE, PCE, and 1,2-DCA through risk communication. For example, in St. Croix, DHS staff attended a public listening session in a large special well casing area due to TCE concerns, where appropriate filtration and filter maintenance practices were discussed.

Taking Action with Data: Use of the Environmental Public Health Data to Improve Environmental Health in a Community

DHS continuously seeks to provide data and resources to LTHDs to assist them in making public health improvements in their communities. In FY2023, Wisconsin Tracking released a request for applications (RFA) to LTHDs for the seventh round of funding for the *Taking Action with Data* mini-grants project. Five LTHDs were funded through this mini-grant opportunity and two projects focused on water quality. LTHDs often select private well water quality as a topic they wish to address within their jurisdictions, as this is a significant concern in Wisconsin. **Columbia County's project aims to increase education and testing for nitrates in private well water**, while Eau Claire is working on improving rural access to well water testing through courier pick up. To learn more about prior mini-grant LTHD success stories, please see our [Environmental Public Health Tracking webpage](#). We will release the RFA for our eighth round of funding in June 2023.

Wisconsin Tracking and other DHS staff provide ongoing support, technical assistance, and guidance to LTHDs on epidemiology, communications, and evaluation throughout the project period. LTHDs carry out their projects with support and assistance from the Tracking program as needed. Some examples of technical assistance we provide to LTHDs include sharing summaries of past projects focused on water topics completed by grantees; reviewing and providing feedback on surveys and data visualization; and assisting in their writing of project success stories.

One of the requirements to apply for mini-grant funding is for LTHDs to use data we **have on our Environmental Public Health Tracking program's [public data portal](#)** or in our County Environmental Health Profiles. The [2023 Profiles](#) were recently released and provide a county-specific sampling of data available on our portal in a PDF document. Private well water quality (arsenic and nitrate) is included in the Profiles. In spring 2022, Wisconsin Tracking successfully applied for a competitive grant to the Centers for Disease Control and Prevention (CDC). We were awarded funding for the next five years to continue the work our program started in 2002. The CDC is currently focused on data modernization as an essential component in the improvement of public health and our program is incorporating that into our workplan.

Climate and Extreme Weather Vulnerability Assessment

The DHS Climate and Health program (CHP), funded by the CDC, works to enhance statewide capacity to prepare for and respond to the public health impacts of climate change, including impacts to private wells from heavy rainfall and flooding events.

Gaps identified previously by the Wisconsin Climate and Health Profile Report have led to the development of several flood-related resources and tools over the past grant cycles. Projects have been developed with the goal of enhancing

understanding of flood risks in watersheds, populations vulnerable to flooding events, and identifying how to increase community resilience in flood prone areas. Flooding events can have negative effects on groundwater quality and public health. These effects can include well contamination and impacts to aquifers due to chemical releases and flood runoff that contains nutrients and other chemical pollutants from both urban and agricultural sources. These projects involve partnerships within DHS and with the University of Wisconsin Center for Climatic Research, Wisconsin Sea Grant, the Association of State Flood Plain Managers, Wisconsin Emergency Management, and several LTHDs. The findings from these flood-related projects have helped inform LTHDs and local emergency management planning processes.

The CHP is continuing to promote and evaluate flood-related tools to help LTHDs, local emergency management, tribal emergency management, and municipal government officials and planners better understand flood vulnerability in Wisconsin:

- A [Flood Resilience Scorecard](#) has been published as a document online and is currently available in an interactive format. The tool has been created to aid communities at the municipal and county level in flood vulnerability assessment. The scorecard identifies institutional, social, environmental, and **infrastructure vulnerabilities that could hinder a municipality's ability to** prepare for and respond to flood events. The scorecard will provide recommendations for improvements that will ultimately reduce the negative health impacts from flooding events. CHP hopes to continue to conduct outreach and evaluate the scorecard.
- The [Wisconsin Flood Toolkit](#) has been recently revised to include specific considerations for priority populations—those who are particularly susceptible or vulnerable to flooding events. This update will help municipalities better tailor their response and messaging to those most in need during a flooding event. This tool has also been translated into [Spanish](#).
- A third flood-related tool was launched in March 2019 and is undergoing continuous updates. The [Risk Assessment Flood Tool \(RAFT\)](#) provides an online customizable graphic interface for assessing a **community's higher risk** areas during flood events by overlaying critical infrastructure and vulnerability data with live river gage data from National Oceanic and Atmospheric Administration (NOAA). RAFT assists local emergency management, local emergency preparedness, tribal health centers, and local public health agencies in planning and preparing for flooding events. It will also inform future outreach efforts targeted at private well owners in vulnerable areas.

Environmental Radiation Monitoring

Wisconsin Stat. ch. 254 directs the DHS Environmental Monitoring (EM) program to collect various types of samples for environmental radiation monitoring, including surface and well water from selected locations at planned sampling intervals near operating and decommissioning nuclear power plants. The EM program provides an ongoing baseline of radioactivity measurements to assess any Wisconsin health concerns from the operation of nuclear power generating facilities in or near Wisconsin, or other radiological incidents that may occur within Wisconsin or worldwide. In addition, the EM program will monitor the decommissioning of Kewaunee Power Station for possible radioactive contaminants related to decommissioning.

DHS' ongoing EM program will provide assurances to the citizens of Wisconsin that the environment surrounding nuclear power facilities and other monitoring areas will continue to be evaluated.

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