DEPARTMENT OF HEALTH SERVICES (DHS)

FY2018 Highlights

- Wisconsin Environmental Public Health Tracking (Tracking) Program gives mini-grants to local public health agencies and tribal health agencies to increase overall environmental public health improvement initiatives. In 2017, one local public health agency (LPHA) completed a project related to nitrate in drinking water with a mini-grant from the. Along with providing funding, Tracking staff offered the mini-grantee connection to subject matter experts and provided technical assistance related to epidemiology, communications, and evaluation as requested.

- In FY2018, multiple DHS programs have provided health education and information dissemination related to several groundwater contamination sites in Wisconsin, including one in which perfluorinated compounds (PFCs) have been found in private wells in Marinette County. DHS toxicologists and public health educators have characterized health risks from the PFCs, participated in technical discussions, and shared these findings in public meetings to help address health concerns regarding the contamination.
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 Department of Natural Resources (DNR).
- Present water quality information and human health implications of groundwater and drinking water issues 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 with 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 organic vapor intrusion when shallow groundwater is contaminated with volatile substances, such as benzene and vinyl chloride, and the contaminants 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 exposure biomonitoring, 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

Reviewing Scientific Information to Develop Public Health Recommendations for Groundwater Contaminants

Wisconsin Stat. ch. 160 directs DHS to recommend health-based enforcement standards for substances found in groundwater and specifies the protocol for developing the recommendations. Recommended standards are sent to the Wisconsin Department of Natural Resources (DNR) and are submitted through the rule-making process as amendments to Wis. Admin. Code ch. NR 140.

In FY2018, DHS received a request from DNR to recommend NR 140 groundwater quality enforcement standards for 26 substances. DHS is reviewing available scientific information regarding the health effects of these substances to use in the development of the standards.

<table>
<thead>
<tr>
<th>New Substances</th>
<th>Substances with NR 140 standards</th>
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<tbody>
<tr>
<td>Chromium, Hexavalent</td>
<td>Trichloroethylene (TCE)</td>
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<tr>
<td>Strontium</td>
<td>Tetrachloroethylene (PCE)</td>
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<tr>
<td>Thiamethoxam</td>
<td>1,2,3-Trichloropropane (1,2,3-TCP)</td>
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<tr>
<td>Imidacloprid</td>
<td>1,1-dichloroethane (1,1-DCA)</td>
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<td>Clothianidin</td>
<td>Boron</td>
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<tr>
<td>Isoxaflutole</td>
<td>Molybdenum</td>
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<tr>
<td>Isoxaflutole DKN degradate</td>
<td>Aluminum</td>
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<tr>
<td>Isoxaflutole BA degradate</td>
<td>Cobalt</td>
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<tr>
<td>Dacthal TPA &amp; MTP degradates</td>
<td>Barium</td>
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<tr>
<td>Glyphosate</td>
<td>1,4-Dioxane</td>
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Providing Public Health Support for Manure Contamination Events that Impact Drinking Water

Every year, microbial contamination of drinking water wells occurs as a result of agricultural landspreading or accidental discharge of animal waste. Problems can occur when there are spills of stored or transported waste, when there is waste runoff due to excessive rain or snowmelt, or when waste is improperly applied. Such incidents often generate public interest, especially with respect to the immediate local public health response.

Responding to problems related to landspreading livestock waste is a focus area for federal, state, and local agencies that have a regulatory role in agricultural practices. DHS does not have a defined regulatory role for agricultural activities, but environmental health experts from DHS frequently participate in multi-stakeholder workgroups that examine agricultural practices related to manure storage, handling, and landspreading. Past and ongoing partnerships include the University of Wisconsin-Extension; the Department of Agriculture, Trade and Consumer Protection (DATCP) (Livestock Siting Review Committee); and DNR ad hoc groups. As a participant, DHS contributes public health expertise and perspectives during workgroup discussions.

In addition, through its Groundwater Standards Development program and On-Call Chemical and Natural Disasters Emergency Response Team, DHS provides support to LPHAs responding to a broad range of groundwater contamination events, including those related to manure contamination. Such responses include:
- Determining appropriate public health recommendations for users of affected drinking water wells.
- Developing and implementing health outreach efforts (through advisory letters, public meetings, fact sheets, etc.).
- Providing technical assistance to LPHAs and tribal health clinics that are responding to issues of groundwater and drinking water contamination.
- Facilitating communication between LPHAs and various state partners (for example, DNR and DATCP).
- Providing well water testing capacity through the Basic Agreement with the Wisconsin State Laboratory of Hygiene for LPHAs conducting public health investigations in affected communities.

Responding to Private Citizen Calls, Questions, Concerns, and Complaints

DHS receives hundreds of inquiries each year regarding various environmental health concerns. Many of these calls from the public are specifically about groundwater and drinking water concerns. Some of the inquiries are related to concerns at individual residences while others are related to concerns regarding active environmental cleanup projects. Those related to environmental cleanup projects can result in DHS conducting or supporting a comprehensive public health response for the site. These responses are often carried out by the DHS Site Evaluation Program, which provides site-specific technical assistance to state, local, and tribal agencies for testing, health assessment, and outreach on groundwater and drinking water contamination from present or past commercial or industrial practices and/or accidents. One example of this effort is a project that DHS is working on with the DNR and Marinette County Public Health Department assessing health risks from PFC groundwater contamination in the Town of Peshtigo.
Increasing the Availability and Accessibility of Data and Information on Private Well Water Quality
As a state partner in the Centers for Disease Control and Prevention’s (CDC) Tracking network, DHS continually seeks to expand the availability and accessibility of data on environmental exposures and environmentally related diseases. To this end, the Tracking program has worked with the University of Wisconsin—Stevens Point (UWSP) and the Wisconsin Association of Local Health Departments and Boards (WALHDAB) to support expansion of UWSP’s Private Well Water Viewer to summarize and visualize data from LPHA water testing laboratories. Partnership with UWSP and WALHDAB has resulted in the addition of data from the Eau Claire City-County Health Department on the UWSP data portal. It is anticipated that other local laboratories will make their data available on this platform to support well testing and community health assessment.

Taking Action with Data: Use of the Environmental Public Health Data to Improve Environmental Health in a Community
DHS continually seeks to provide data and resources to LPHAs and assist them in making positive public health improvements in their communities. The Wisconsin Tracking Program continued its successful mini-grant program and issued a request for applications for LPHAs and tribal health clinics in 2017. Funds were used by grantees to explore data from the Environmental County Health Profiles and the Tracking data portal to identify an environmental health concern in their jurisdiction. LPHAs developed and implemented environmental health initiatives within their communities.

The Wisconsin Tracking Program and other DHS staff provided ongoing support, technical assistance, and guidance to LPHAs on epidemiology, communications, and evaluation throughout the project period. LPHAs were empowered to carry out their projects with support and assistance from the Tracking Program as needed. Some examples of technical assistance the Tracking Program provided LPHAs include: sharing examples of work completed by grantees working on water topics during past grant years; providing guidance on surveys and data visualization; and assisting in writing up success stories.

One LPHA conducted projects related to contaminants in groundwater that are described below. Results from the project were shared at the annual Wisconsin Public Health Association Conference.

La Crosse County: Moving Local Nitrate Data to Focused Solutions
La Crosse County funded a coordinator to create a nitrate task force to review current data, collect additional data, and research potential policy solutions. When their project concludes on July 31, 2018, they will offer an implementation plan for the best policy solution to address their county’s root causes of nitrate contamination of private wells.

Climate and Extreme Weather Vulnerability Assessment
The DHS Climate and Health Program (CHP), funded by CDC, works to enhance statewide capacity to prepare for and respond to the public health impacts of extreme weather events, including impacts to private wells from heavy rainfall events.

Gaps identified previously by the Climate and Health Profile Report have led to the development of several flood-related projects, with the goal of enhancing understanding of flood risk in specific watersheds and populations vulnerable to flooding events. Flooding events can have profoundly negative effects on groundwater quality and public health, such as well contamination, impacts to aquifers from flood runoff, and chemical releases. 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 (WEM), and a number of LPHAs. The findings from these flood-related projects have helped inform the CHP Wisconsin Climate and Health Adaptation Plan, WEM’s Wisconsin Hazard Mitigation plan, and LPHA and local emergency management planning processes.

CHP is currently working on three flood-related vulnerability intervention strategies to assist local public health departments, tribal health agencies, local emergency management, tribal emergency management, and municipal government officials and planners in better understanding flood vulnerability in Wisconsin:

- The Flood Resilience Map (FRM), currently in the second phase of development, provides an online user-friendly interface for assessing a community’s risk and vulnerability during a flooding event. This tool, once completed, will help local emergency management, local emergency preparedness, and LPHAs plan for and prepare for flooding events, as well as inform future educational dissemination projects designed for private well owners in vulnerable areas.

- A Flood Resilience Scorecard is in the final stages of development before dissemination later this year. The tool has been created to aid communities 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 infrastructure improvement that will reduce the negative health impacts from flooding events.

- The Wisconsin Flood Toolkit is currently being 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.

In addition to these activities, CHP continues to investigate climate and extreme weather impacts on groundwater resources, including changes to groundwater quality and quantity, climate indicators related to water supplies, and climate-related health impacts on residents who rely on groundwater resources for drinking water.

**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 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. These monitoring programs show the following:

- Environmental radioactivity levels have been trending downward in the time period since the 1950s-1960s’ atmospheric nuclear testing and such radiological incidents as the Chernobyl nuclear reactor incident of 1986.

- During FY2018 additional environmental monitoring occurred around the decommissioned La Crosse Boiling Water Reactor due to tritium concentrations detected in site groundwater. No elevated levels were detected in off-site samples taken by the DHS EM program.
DHS’s 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.

For more information
Visit the [DHS Water Quality](#) webpage.
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