**DEPARTMENT OF HEALTH SERVICES (DHS)**

**FY2019 Highlights**

- In FY2019, DHS received a request from DNR to recommend NR 140 groundwater quality enforcement standards for 40 substances. DHS is reviewing available scientific information regarding the health effects of these substances to use in the development of the standards.

- In FY2019, multiple DHS programs provided health education and information related to several groundwater contamination sites in Wisconsin, including one in which per- and polyfluoroalkyl substances (PFAS) were found in private wells in Marinette County. DHS toxicologists and public health educators characterized health risks from PFAS, participated in technical discussions, and shared these findings in public meetings to help address health concerns regarding the contamination.

- In FY2019, DHS toxicologists and public health educators reviewed technical information on 27 substances on request from the DNR and recommended NR 140 groundwater quality enforcement standards.

- 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 2018-2019, three local public health agencies (LPHAs) completed projects to address well water quality. Along with providing funding, Tracking staff offered each mini-grantee connection to subject matter experts and provided technical assistance related to epidemiology, communications, and evaluation as requested.
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 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, that 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 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 27 substances, called Cycle 10. In FY2019, DHS reviewed available scientific information regarding the health effects of these substances and provided recommendations to the DNR to use in the development of the standards.

Cycle 10 Substances

<table>
<thead>
<tr>
<th>New Substances</th>
<th>Substances with NR 140 standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium, Hexavalent</td>
<td>Trichloroethylene (TCE)</td>
</tr>
<tr>
<td>Strontium</td>
<td>Tetrachloroethylene (PCE)</td>
</tr>
<tr>
<td>Thiamethoxam</td>
<td>1,2,3-Trichloropropane (1,2,3-TCP)</td>
</tr>
<tr>
<td>Imidacloprid</td>
<td>1,1-dichloroethane (1,1-DCA)</td>
</tr>
<tr>
<td>Clothianidin</td>
<td>Boron</td>
</tr>
<tr>
<td>Isoxaflutole</td>
<td>Molybdenum</td>
</tr>
<tr>
<td>Isoxaflutole DKN degradate</td>
<td>Aluminum</td>
</tr>
</tbody>
</table>
In FY2019, DHS received a request from DNR to recommend NR 140 groundwater quality enforcement standards for 40 substances, called Cycle 11. DHS is reviewing available scientific information regarding the health effects of these substances to use in the development of the standards.

Cycle 11 Substances

- Metalaxyl
- Chlorantraniliprole
- Flumetsulam
- Fomesafen
- Hexazinone
- Saflufenacil
- Perfluorotridecanoic acid
- Perfluorotetradecanoic acid
- Perfluorobutanoic acid
- Perfluoropentanoic acid
- Perfluorohexanoic acid
- Perfluorononanoic acid
- Perfluorodecanoic acid
- Perfluoroundecanoic acid
- Perfluorobutane sulfonic acid
- Perfluorohexane sulfonic acid
- Perfluorohexanesulfonic acid
- Perfluorooctane sulfonamide
- Perfluorodomodecanoic acid
- 6:2 Fluorotelomer sulfonic acid
- 8:2 Fluorotelomer sulfonic acid
- Perfluorodecane sulfonic acid
- Perfluoropentane sulfonic acid
- Perfluoro-2-methyl-3-oxahexanoic acid
- 4:2 Fluorotelomer sulfonic acid
- 10:2 Fluorotelomer sulfonic acid
- Perfluorohexadecanoic acid
- Dodecafluoro-3H-4,8-dioxanonanoate
- 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate
- Perfluorododecanesulfonic acid
- Perfluorononanone sulfonic acid
- N-Methyl perfluoroctane sulfonamide
- N-Ethyl Perfluoroctane sulfamide
- N-Methyl perfluoroctane sulfonamidoacetic acid
- N-Ethyl perfluoroctane sulfonamidoacetic acid
- N-Methyl perfluoroctane sulfonamidoethanol
- N-Ethyl perfluoroctane sulfonamidoethanol
- GenX

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.

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 or accidents. One example of this effort is a project that DHS is working on with the DNR and Marinette County Health and Human Services Department assessing health risks from PFAS groundwater contamination in the Town of Peshtigo.

**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 a project related to contaminants in groundwater that are described in the Tracking program report excerpt 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 concluded on July 31, 2018, they offered 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 the Centers for Disease Control and Prevention, 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 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 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 LPHA and local emergency management planning processes.

CHP is currently working on two flood-related 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:

- 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. This tool will eventually be translated into Spanish.

A third flood-related strategy was launched in March of 2019. The Wisconsin Flood Risk Mapping Application (WFRMA) provides an online user-friendly interface for assessing a community’s risk and vulnerability during a flooding event. This tool helps local emergency management, local emergency preparedness, and LPHAs plan and prepare for flooding events, as well as inform future educational dissemination projects designed for 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 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 decommissioning of 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
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