



PFAS Contamination as an Emerging Threat to Drinking Water

March 2, 2018 | 9 am CST/10 am EST



GREAT LAKES
LEGISLATIVE CAUCUS



MIDWEST

Agenda

Welcome and Introductions

Senator Darwin Booher (Michigan), Chair, Great Lakes Legislative Caucus

Featured Presentation: PFAS Contamination as an Emerging Threat to Drinking Water

Carol Isaacs, Director, Michigan PFAS Action Response Team (MPART)

Melanie Brown, Communications Director, Michigan Department of Environmental Quality

Dr. Eden Wells, Chief Medical Executive, Michigan Department of Health & Human Services

Business Session

- GLLC Member Sign-on Letter
- Strategic Planning Process
- 2018 Election

Adjourn

Housekeeping

- This event is being recorded. The recording will be available later today at www.greatlakeslegislators.org
- To reduce noise on the phone lines, all participants will be in “listen-only” mode during the presentations.
- There will be time for questions after the presentations.
 - Click on the “raise hand” icon in the webinar console, or
 - Type questions using the “questions” pane in the webinar console.
- If you wish to speak, you must enter the audio PIN.

About the GLLC

- The GLLC is a binational, nonpartisan group of state and provincial lawmakers from the Great Lakes region.
 - Eight U.S. states: Illinois, Indiana, Michigan, Minnesota, New York, Pennsylvania, Ohio and Wisconsin
 - Two Canadian provinces: Ontario and Québec
- The Caucus has three primary goals:
 - Facilitate the regional exchange of ideas and information on key Great Lakes issues;
 - Strengthen the role of state and provincial legislators in the policymaking process; and
 - Promote the restoration and protection of the Great Lakes.

Featured Speakers



Carol Isaacs

Michigan PFAS Action
Response Team

IsaacsC11@michigan.gov

517.230.8973



Melanie Brown

Communications Director,
Michigan Department of
Environmental Quality

brownm45@michigan.gov

313.220.6215



Dr. Eden Wells

Chief Medical Executive,
Michigan Department of
Health & Human
Services

WellsE3@michigan.gov

517.284.1055

Agenda

Welcome and Introductions

Senator Darwin Booher (Michigan), Chair, Great Lakes Legislative Caucus

Featured Presentation: PFAS Contamination as an Emerging Threat to Drinking Water

Carol Isaacs, Director, Michigan PFAS Action Response Team (MPART)

Melanie Brown, Communications Director, Michigan Department of Environmental Quality

Dr. Eden Wells, Chief Medical Executive, Michigan Department of Health & Human Services

Business Session

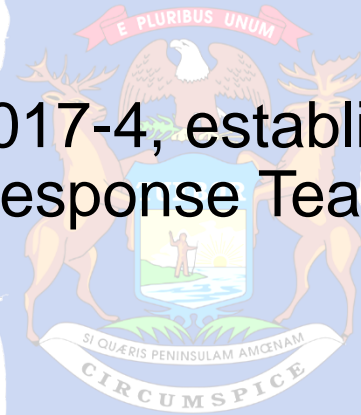
- GLLC Member Sign-on Letter
- Strategic Planning Process
- 2018 Election

Adjourn



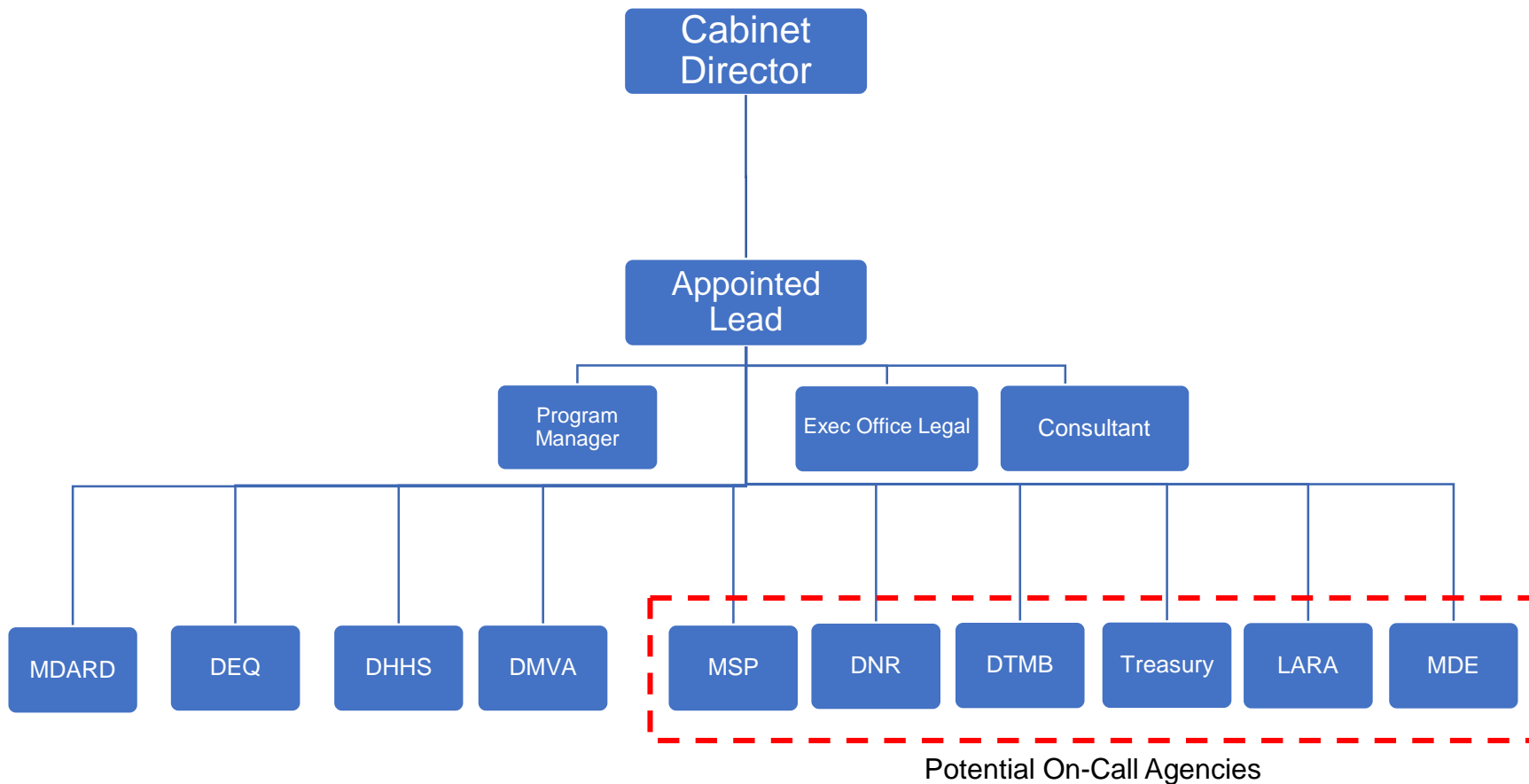
Michigan PFAS Action Response

Executive Directive 2017-4, establishes the
Michigan PFAS Action Response Team (MPART)





Michigan PFAS Action Responses Team





Taking Action, Protecting Michigan

“To safeguard Michiganders from this emerging contaminant, it’s critical that responding agencies at all levels are effectively communicating and coordinating efforts.”

Gov. Rick Snyder

- Taking immediate action to mitigate risks to public health and protect environment.
- Studying the science and working with national experts to obtain the most up-to-date information.
- Working daily to identify potential locations for additional testing, environmental clean up and monitoring.
- Working to provide interim and long term solutions to this issue.



PFAS -

Sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil.

- Per- and polyfluoroalkyl substances (PFAS), sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil.
- PFAS have been classified by the U.S. Environmental Protection Agency (EPA) as an emerging contaminant on the national landscape.
- For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating.
- These chemicals are persistent, which means they do not break down in the environment.



PFAS cont.

- Studies in people who were exposed to PFAS found links between the chemicals and increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers.
- They also bioaccumulate, meaning the amount builds up over time in the human body.
- The EPA has set a lifetime health advisory level (LTHA) of 70 PPT, combined, for two PFAS in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).
- THE PFOA and PFOS LTHA is the level, or amount, below which no harm is expected from these chemicals. There are other PFAS compounds that do not have LTHA levels.



Michigan's Plan

- **Organizational Response – Formation of MPART**
 - Ten State Departments, along with federal and local partners.
 - Leadership, consultations, advisory boards
- **State Protocols for PFAS Response**
 - Responding to military base analysis, citizen complaints and historical data. 14 areas. 30 testing sites.
 - Following the data, mapping all the contamination.
 - Individual wells and municipal wells.
 - 45% of Michigan resident's drinking water comes from groundwater. 2.6M residents served by wells.
 - Tracking ground water contamination - plumes.
- **Establishing Standards**
 - Advisory levels are not enough to establish enforceable action by a state.
 - Science Based Standards
 - PFOA and PFOS and other analytes now and in the future.



State of Michigan PFAS Standard and EPA Lifetime Health Advisory Level – 70 PPT

- Michigan set a State standard of 70 PPT for PFAS in drinking water on January 9, 2018.
- The EPA has set a lifetime health advisory level for two PFAS in drinking water:
 - Perfluorooctanoic acid (PFOA)
 - Perfluorooctane sulfonate (PFOS)

The lifetime health advisory level is 70 parts per trillion (ppt) for PFOA and PFOS combined.

- The PFOA and PFOS lifetime health advisory is the level, or amount, below which no harm is expected from these chemicals.
- There are other PFAS compounds that do not have lifetime advisory levels.



Challenges

- **Funding**
 - Meeting the costs – citizen wells and monitoring wells.
 - Large amount of staff time – community outreach.
 - Long Term Remediation.
- **Outreach and Education**
 - Communication is the key to successful management of a state's response to PFAS. Talk to legislators, mayors, township officials, school systems, businesses, county officials, etc.
 - State's team must be fully integrated with the local partners.
 - Communication is continual and intense. Citizens are highly educated on this issue.
 - The legislature is a full partner. Regular updates about their specific area. Citizen calls to legislators.



Answering the Questions

- **What questions will legislators, mayors, township officials, state departments, etc. be asked?**
 - How did this happen?
 - Who is responsible?
 - Is my water safe to drink?
 - Has my family been harmed?
 - What regulatory standard is appropriate? Sound science.



Answering the Questions cont.

- My property value has declined or I can't sell my house. What do I do?
- Developers want to know if they can build in a specific area. Should I dig a well or hook up to municipal water.
- Redevelopment questions for local governments.
- Is a specific restaurant safe for customers?



Answering the Questions cont.

- **Tourism, recreational lakes and rental values**
 - Is it safe to swim?
 - PFAS lake foam – is it harmful?
- **Agricultural Issues –**
 - Is my food safe?
 - Agricultural businesses and individual farms
 - Biosolids application policies
- **Fishing and Hunting**
 - Fish Advisories
- **Landfills**
- **Water system operators**
- **Lawsuits and responsible parties**



For more information about PFAS contamination and the coordinated efforts currently underway to address it in Michigan.

Michigan.gov/pfasresponse

State of Michigan Environmental Assistance Center


800-662-9278

MDHHS Toxicology Hotline

800-648-6942

Melanie Brown — Communications Director, Michigan Department of Environmental Quality

- Background in Public Sector and Community Communications, with emphasis in Crisis Management; Lansing, Washington D.C.
- Career philosophy is to help connect people to government
- MPART Community Affairs – Response that focuses on transparency, interpersonal communication, real-time status updates.




Michigan Department of Health and Human Services (MDHHS)

EDEN V. WELLS, MD, MPH, FACPM

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

SLIDES COURTESY OF DEB MACKENZIE-TAYLOR, DEH/MDHHS



MDHHS's Role = Provide Technical Support to Local Health

- ▶ Evaluate potential exposures to environmental chemicals
- ▶ Determine if harm may occur
- ▶ Provide recommendations
- ▶ Outreach to public, healthcare, others

Evaluating toxicity of chemicals

- ▶ Evaluation includes:
 - ▶ Information from human epidemiology studies
 - ▶ May find associations with diseases or cancers
 - ▶ Exposure levels have varying levels of uncertainty (dose-response may not be available)
 - ▶ Information from laboratory animal studies
 - ▶ Do human and laboratory animals have similar health outcomes?
 - ▶ Are health outcomes biologically possible in humans?
 - ▶ Dose-response data used to develop toxicity values

Health Outcomes (PFOS and PFOA)

In people:

- ▶ Alter cholesterol
- ▶ Thyroid disease (PFOA)
- ▶ Ulcerative colitis (PFOA)
- ▶ Testicular and kidney cancer (PFOA)
- ▶ Alter immune system function

In laboratory animals:

- ▶ Developmental effects
 - ▶ Reduce ossification of the proximal phalanges
 - ▶ Decrease pup birth weight
 - ▶ Accelerated puberty in male pups
- ▶ Immune system dysfunction
- ▶ Alter liver and kidney weight

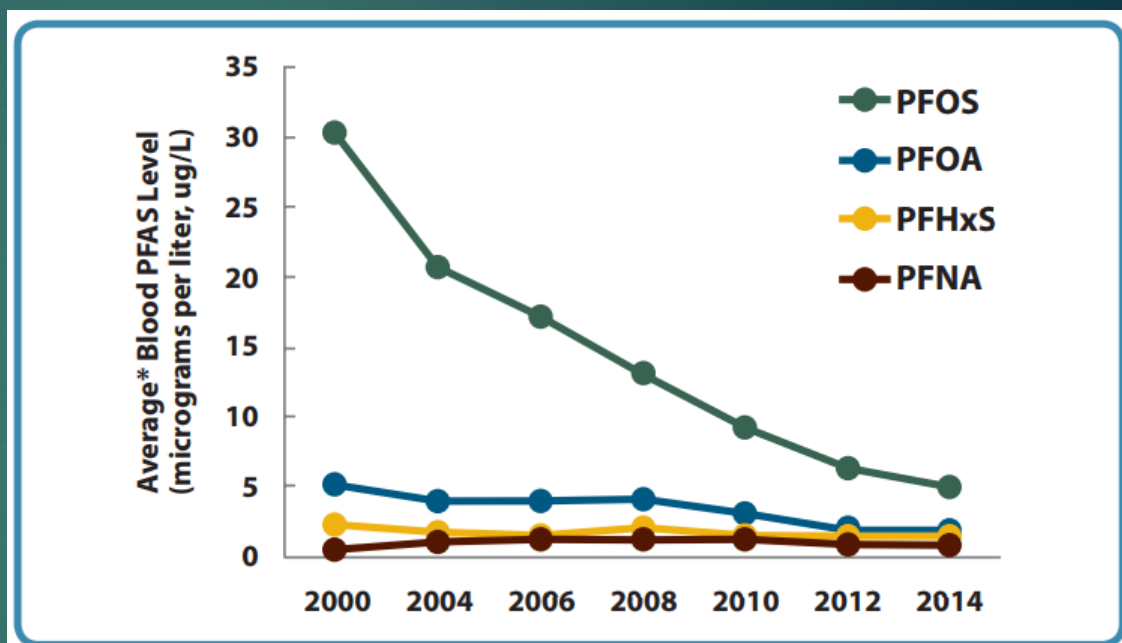
EPA's Health Advisory Levels

- ▶ Based on reference doses (RfD) derived from developmental toxicity study in mice (PFOA) and rats (PFOS)
- ▶ “Lifetime” Health Advisory
 - ▶ PFOA + PFOS = 70 ppt (ng/L)
 - ▶ Short-term and long-term exposure
- ▶ Protects fetus and others against noncancer health effects (also protective against development of cancer)

Blood Testing

- ▶ PFAS are in many products commonly used
- ▶ People are expected to have some level of PFAS in their blood
- ▶ Blood testing:
 - ▶ CAN tell you the concentration in your blood at time of test
 - ▶ CANNOT tell you if current or future health conditions are due to PFAS or how you were exposed (where the PFAS came from)

Blood Levels of the Most Common PFAS in People in the United States from 2000-2014



* Average = geometric mean

Data Source: Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (January 2017). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Business Session

- GLLC Member Sign-on Letter
 - Expressing support for the Great Lakes Restoration Initiative
 - Executive Committee will review on March 9
 - If approved, staff will circulate the letter on March 12
- Strategic Planning Process
 - Executive Committee meeting on April 27-28 at CSG Midwest's office in Lombard, Illinois
 - Outcomes will include a policy agenda, a communications strategy, and a plan for assuring the GLLC's long-term financial stability
- 2018 Election
 - All 12 seats are up for election, including chair and vice chair
 - Two volunteers are needed to serve on the Nominating Committee



PFAS Contamination as an Emerging Threat to Drinking Water

March 2, 2018 | 9 am CST/10 am EST



GREAT LAKES
LEGISLATIVE CAUCUS



MIDWEST