

PFAS Informational Meeting for the Grand Traverse Band of Ottawa and Chippewa Indians

May 25, 2021

Webinar Housekeeping



All lines are muted during the webinar.



We are recording this webinar

How to ask a question in Zoom



Submit your questions using the “Q/A” box in at the bottom of your screen.



Click the “hand” icon at the bottom of your screen.



Type #2 to raise your hand.

#2

Introductions, Logistics, and Agenda

- Introductions – Abigail Hendershott, MPART Executive Director
- Environmental Services Coordinator – Carolan Sonderegger
- EGLE: Katie Kruse – Tribal Liaison, EGLE
- Agenda: MPART: Abigail Hendershott
- DHHS: Marcus Wasilevich, DHHS
- MPART Website – Abigail Hendershott
- Logistics/Housekeeping – Q&A at the end; how to ask questions;
- Q&A

*** This meeting is being recorded.***

Grand Traverse Band of Chippewa and Ottawa Indians

**Carolyn Sonderegger
Environmental Services Coordinator**

Grand Traverse Band of Ottawa and Chippewa Indians

Michigan PFAS Action Response Team (MPART)

Abigail Hendershott
MPART - Executive Director
HendershottA@Michigan.gov

Michigan PFAS Action Response Team (MPART)



- Executive Order 2019-03
- Unique Multi-Agency Approach
- Leads Coordination and Cooperation Among All Levels of Government
- Directs Implementation of State's Action Strategy

MPART Coordination Structure

MPART Members

Michigan Department of Environment, Great Lakes, and Energy (EGLE)

Michigan Department of Health and Human Services (DHHS)

Michigan Department of Agriculture and Rural Development (MDARD)

Michigan Department of Natural Resources (DNR)

Michigan Department of Transportation (MDOT)

Michigan Department of Licensing and Regulatory Affairs (LARA)

Michigan Department of Military and Veterans Affairs (DMVA)

Governor's Office
Environmental Policy Advisor

MPART
Executive Director

Science Advisory Workgroup

Local Health Department Advisory Council

Citizens Advisory Workgroup

Treatment Technology Roundtable

Legislative / Policy

Communications

Budget

MPART
Representatives

Operations
Manager

PFAS
Regional
Team
Leads

PFAS
Site
Leads

PFAS Technical Advisory Workgroup

Topical Workgroups

Air Quality (EGLE)

Biosolids (EGLE)

Groundwater (EGLE)

Landfills (EGLE)

Surface Water (EGLE)

Wildlife (DNR)

Airports (MDOT)

Drinking Water (EGLE)

Human Health (DHHS)

Military Installations (DMVA)

Treatment Technology (EGLE)

Animal Health & Food Safety (MDARD)

Fire Stations (LARA)

Lab Standards (EGLE)

Pollution Prevention (EGLE)

Wastewater (EGLE)

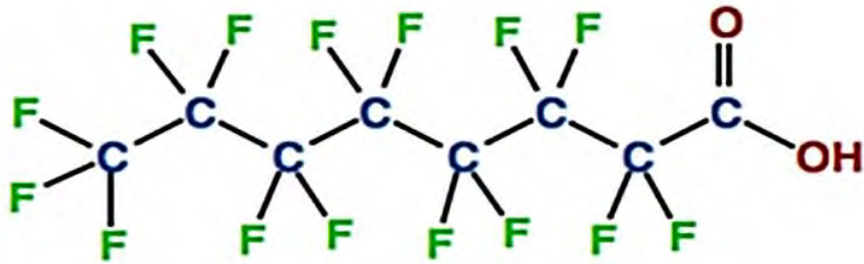
MPART Response



Protect Public Health

- Study occurrence of PFAS
- Systematically identify sources and source pathways
- Study environmental transport and fate
- Study ecological effects
- Develop standards
- Educate to:
 - Prevent future contamination
 - Minimize future use of PFAS

Per- and Polyfluoroalkyl Substances (PFAS)

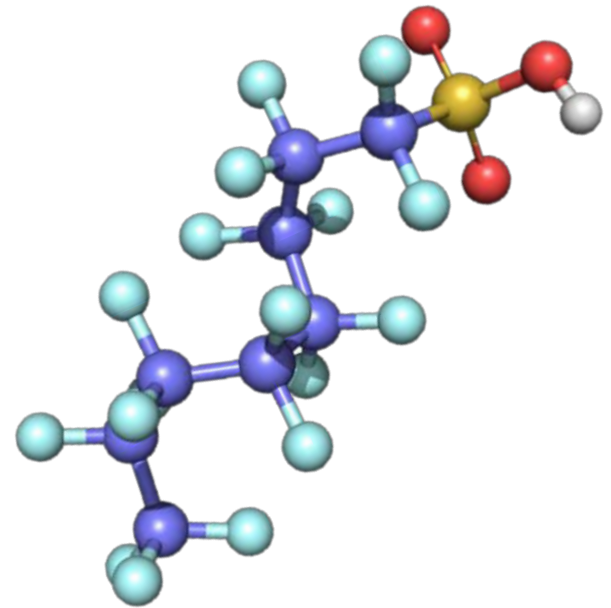


PFOA - perfluorooctanoic acid

- Strong Carbon-Fluorine Bonds
- Surfactants
- Highly Stable
- Repel Water, Oil, Fat, and Grease
- Began Developing in 1940s
- 5,000+ Compounds Today

Why the Concern?

- Widespread
- Don't Break Down Easily - Hard to Get Rid of
- Bioaccumulative – Build Up in Our Bodies
- Some PFAS May Affect Health
- Lack of Information
- Lack of Standards



PFAS Uses



Aerospace



Apparel



Building and Construction



Chemicals and Pharmaceuticals



Electronics



Oil & Gas



Energy



Healthcare and Hospitals



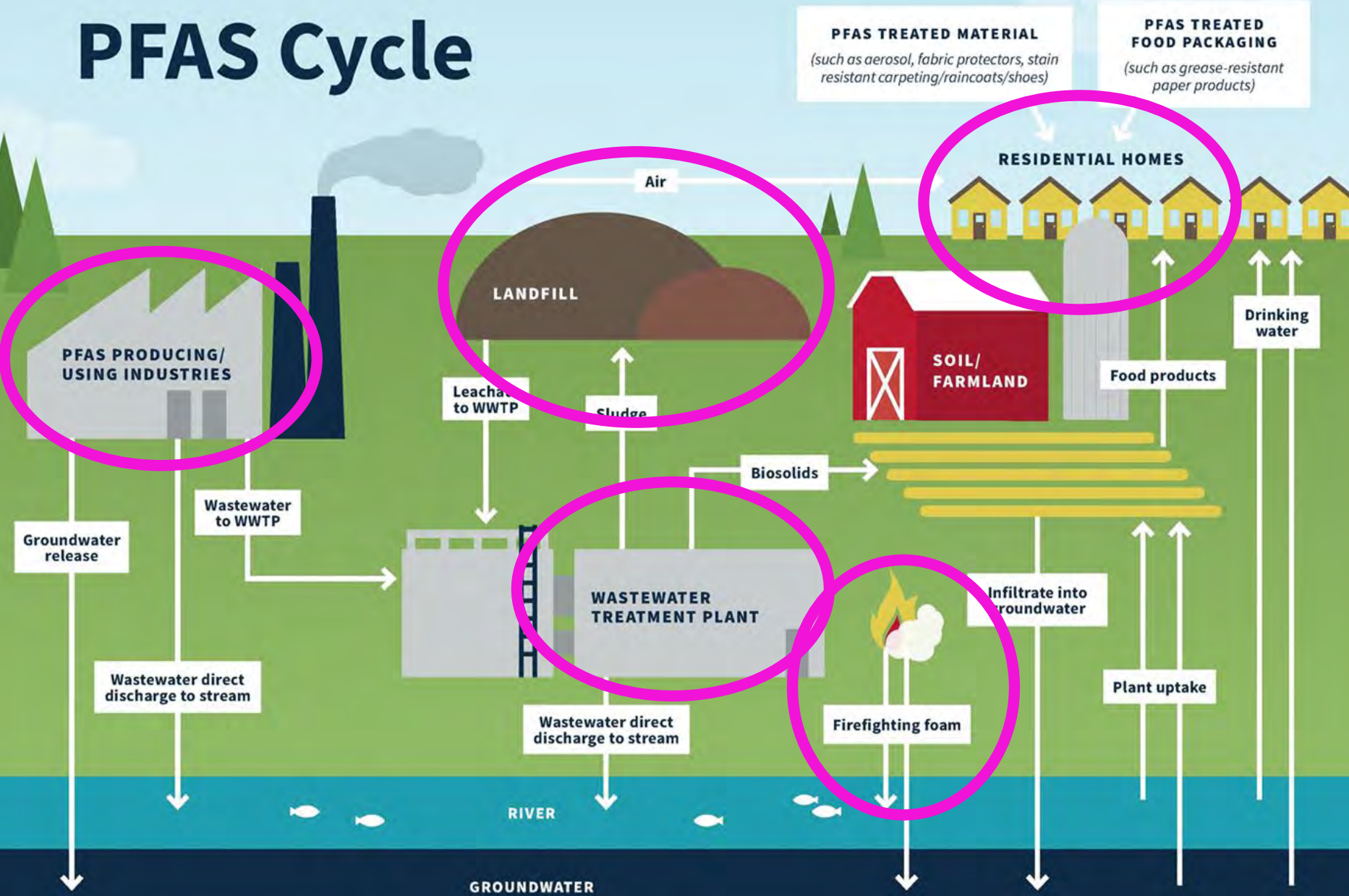
Aqueous Film Forming Foam



Semiconductors

PFAS Sources

PFAS Cycle



MI Public Water Supply Testing

- **Phase I:**
 - May – December 2018
 - All community water supplies
 - All Nontransient Noncommunity Water Supplies schools and day cares
 - Tribal systems
 - Informed additional testing of other supplies
- **Phase II:**
 - May – October 2019
 - Non-community water supplies
 - Children's camps and medical care facilities
- **Monthly monitoring**
 - All community water supplies surface water systems
- **Quarterly monitoring**
 - systems with results over 10 ppt Total Tested PFAS from 2018 - 2019 testing



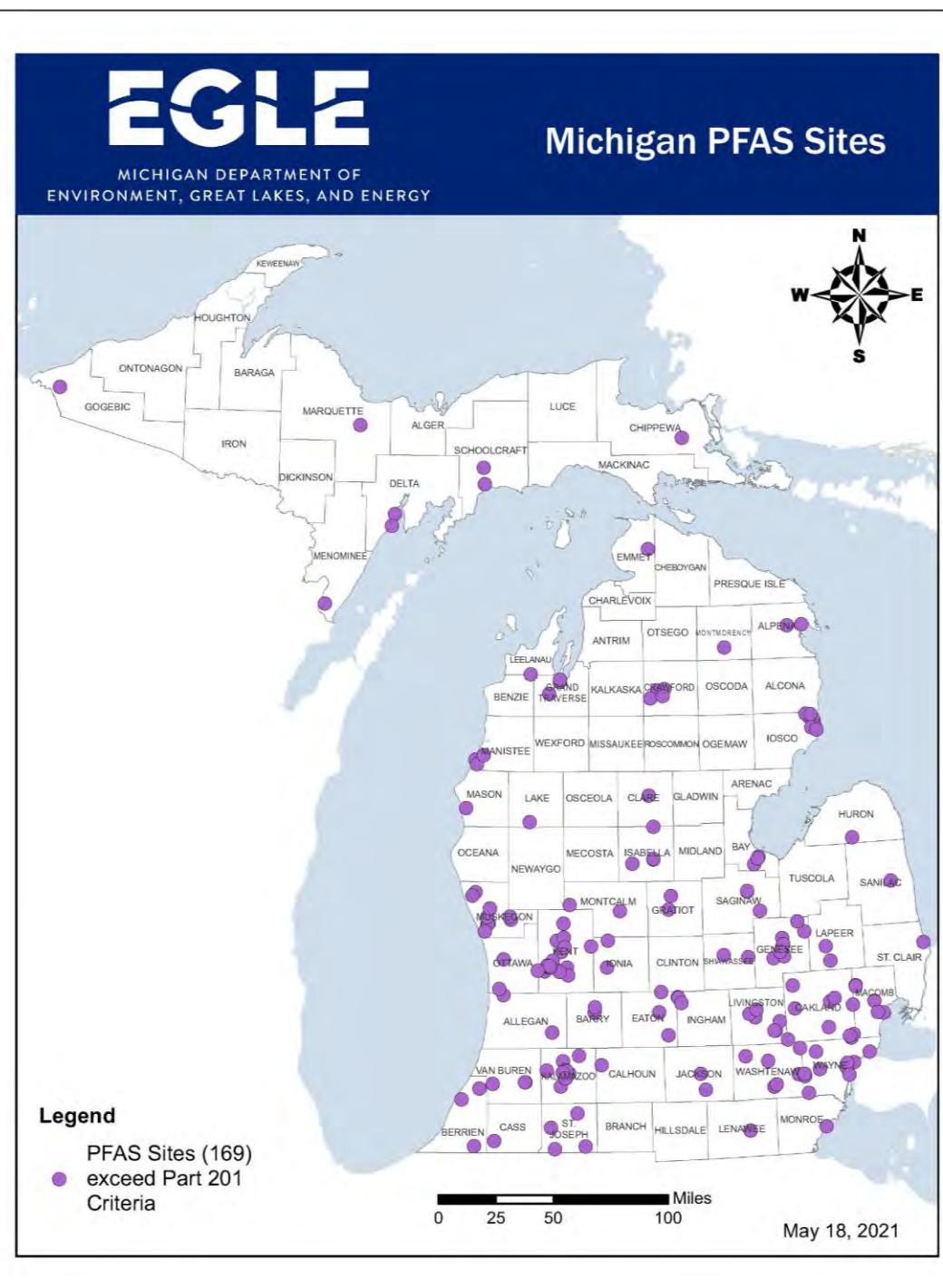
Michigan's Drinking Water Standards

- August 3, 2020
- Maximum Contaminant Levels (MCLs)
- 2,700 water systems

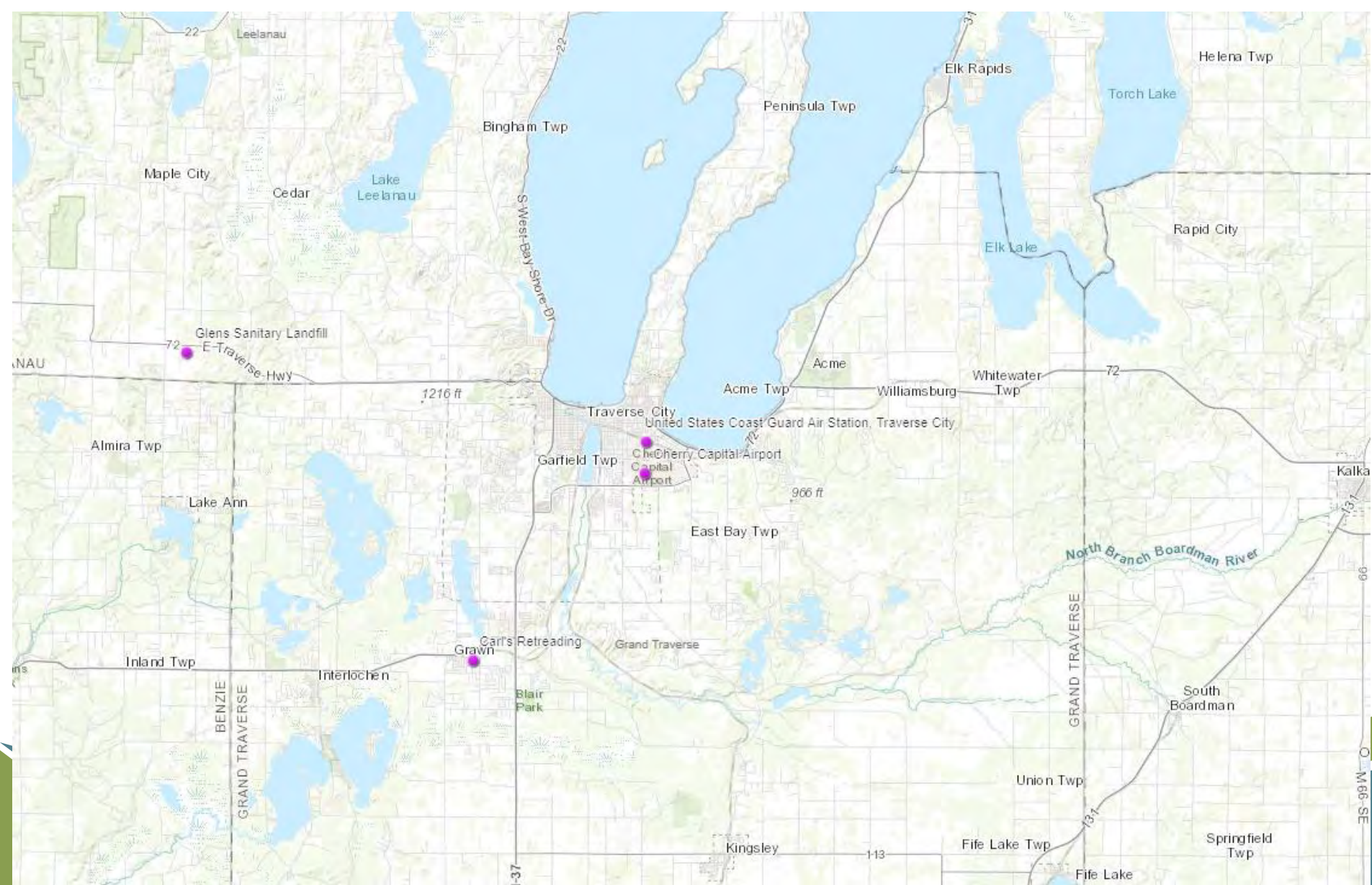
Compound	MCL
PFNA	6 ppt
PFOA	8 ppt
PFOS	16 ppt
PFHxS	51 ppt
GenX (HFPO-DA)	370 ppt
PFBS	420 ppt
PFHxA	400,000 ppt

Michigan PFAS Sites

- Prioritized Investigations Based on Known or Suspected Sources, Potential for Exposure
- Protect Drinking Water Pathway
- Multiple Other Investigations Underway



Michigan PFAS Sites: Grand Traverse Region

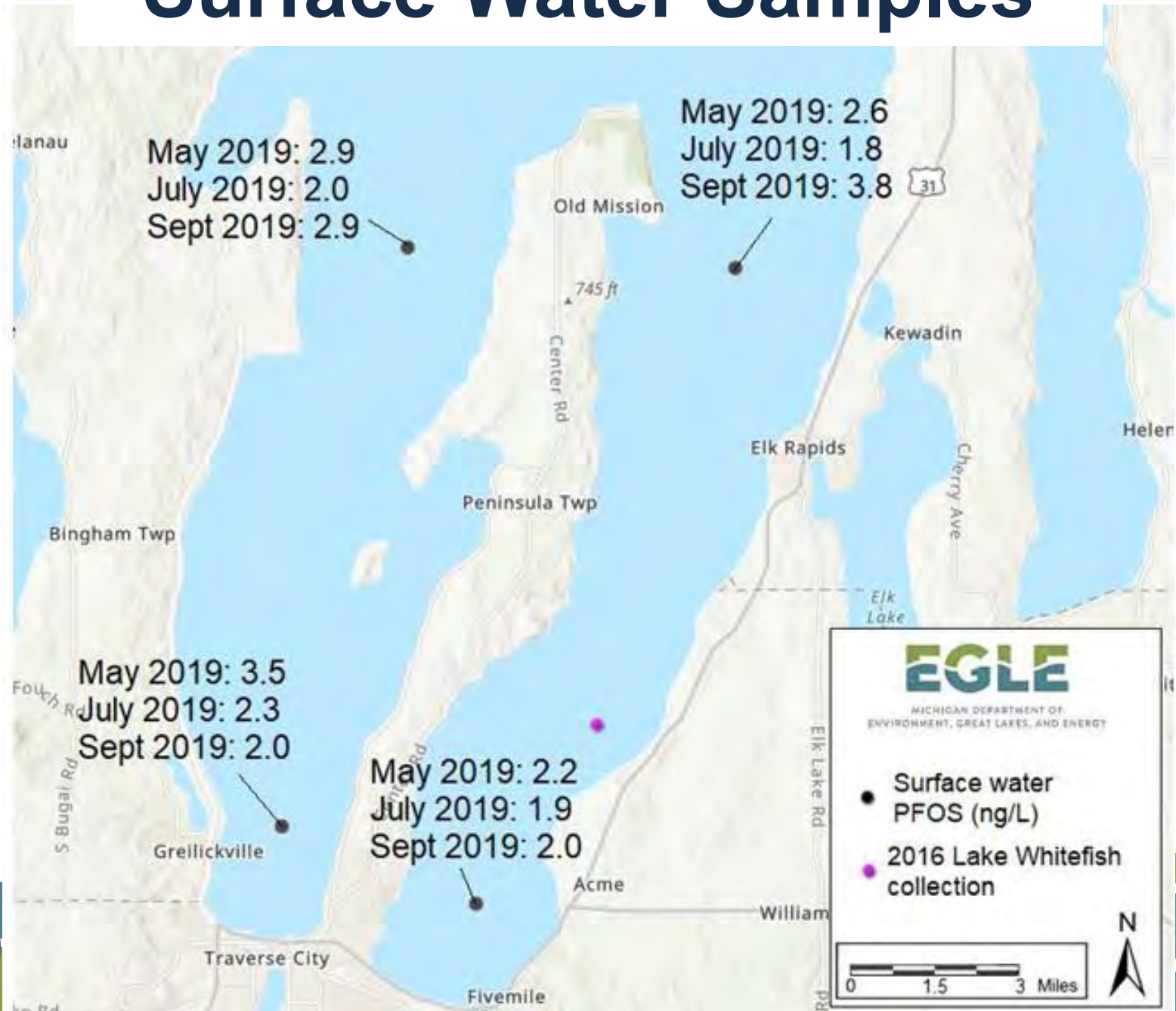


Surface Water Investigation

- Water and Fish
- Discharges
- Foam



Surface Water Samples





Fish Sampling

- Au Sable Watershed
- Clinton Watershed
- Grand River Watershed
- Flat Watershed
- Rogue Watershed
- Thornapple
- Huron River Watershed
- Shiawassee Watershed
- St. Joseph Watershed

Biosolids Interim Strategy



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

LAND APPLICATION OF BIOSOLIDS CONTAINING PFAS

Interim Strategy

March 2021

EGLE, WATER RESOURCES DIVISION
800-662-9278 | Michigan.gov/EGLE





Studies and Research

- Statewide soil survey
- Plant uptake
 - Crops



Aqueous Film Forming Foam (AFFF)

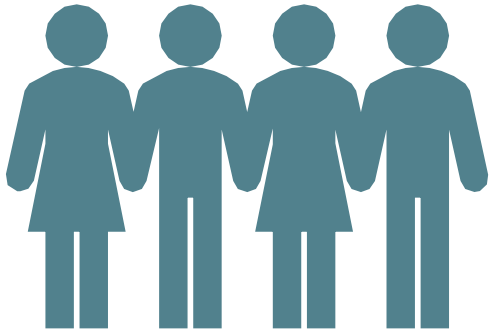
- Class B AFFF for hydrocarbon fires
- Major source of PFAS contamination
 - Military sites
 - Airports
 - Refineries
 - Fire Departments
- State Fire Marshal
 - Surveyed fire departments
 - Developed best practices

Prevention

- State AFFF collection and disposal
 - \$1.4 million
 - 52,000 gallons
- Legislation regulating AFFF
 - Prohibits use in training
 - Requires reporting of use
 - Requires firefighter education
 - AFFF collection and disposal
- Market-driven limitations in other products
 - National policy needed



Citizens Advisory Workgroup



- Residents From Impacted Communities
- Key Charges:
 - Recommend How to Engage and Empower Communities
 - Recommend How to Educate the General Public

Marcus Wasilevich

PFAS Response Coordinator
Toxicology and Assessment Section
Division of Environmental Health



Association with Increased Risk of Health Effects PFOA and/or PFOS

- Reduced fertility
- High blood pressure or pre-eclampsia in pregnant women
- Small decreases in infant birth weight
- Higher cholesterol
 - Especially total cholesterol and LDL cholesterol

Association with Increased Risk of Health Effects PFOA and/or PFOS

- Thyroid disease
- Liver damage
- Decreased immune system response to vaccines
- Developing certain types of cancer
 - In particular kidney and testicular cancers*

* PFOA only

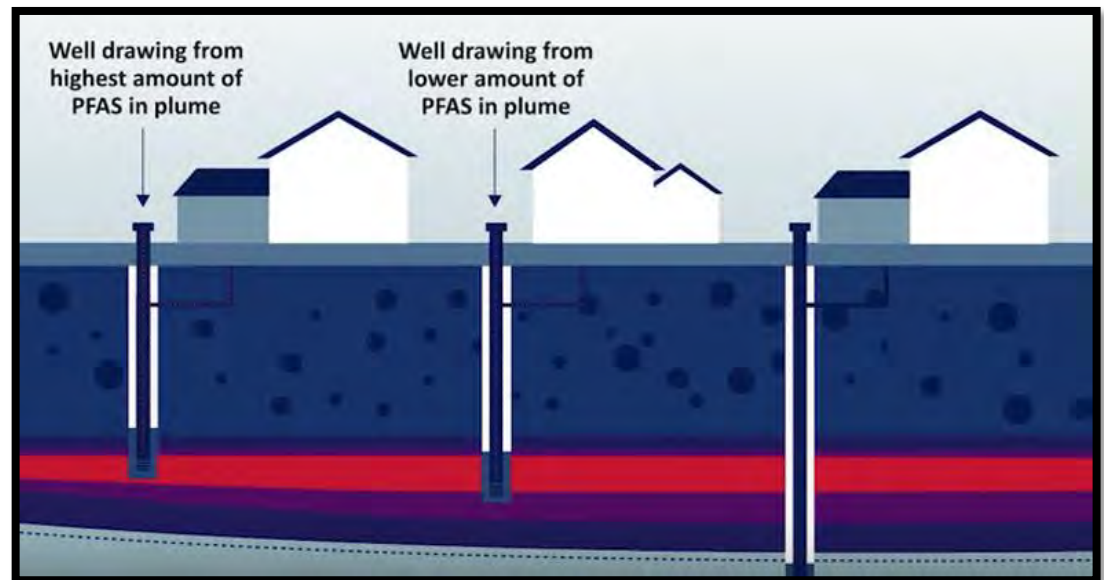
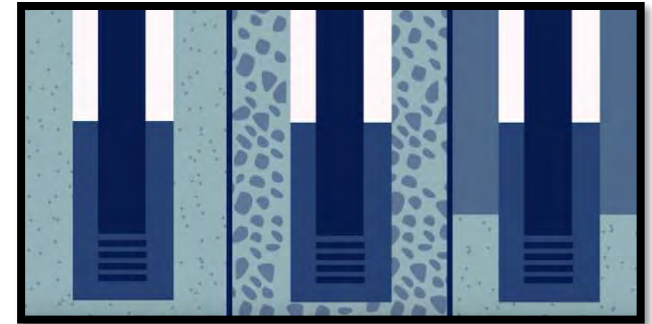
MPART Project Team

- Evaluate site
- Identify receptors

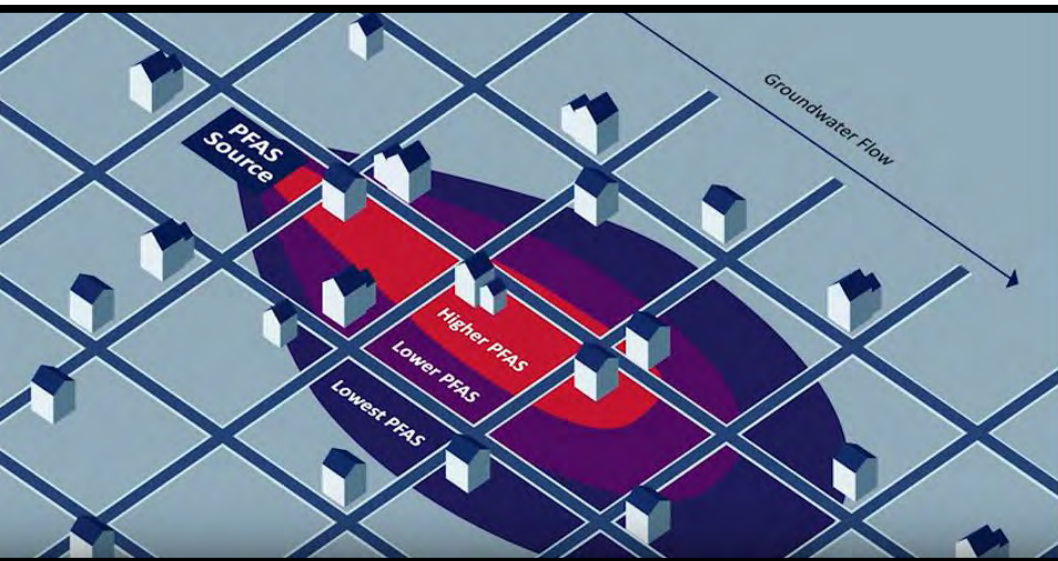


Interim Response Actions – dependent on...

- Source... Known? Strength?
- Geology... Well depths? Soil?



Interim Response Actions



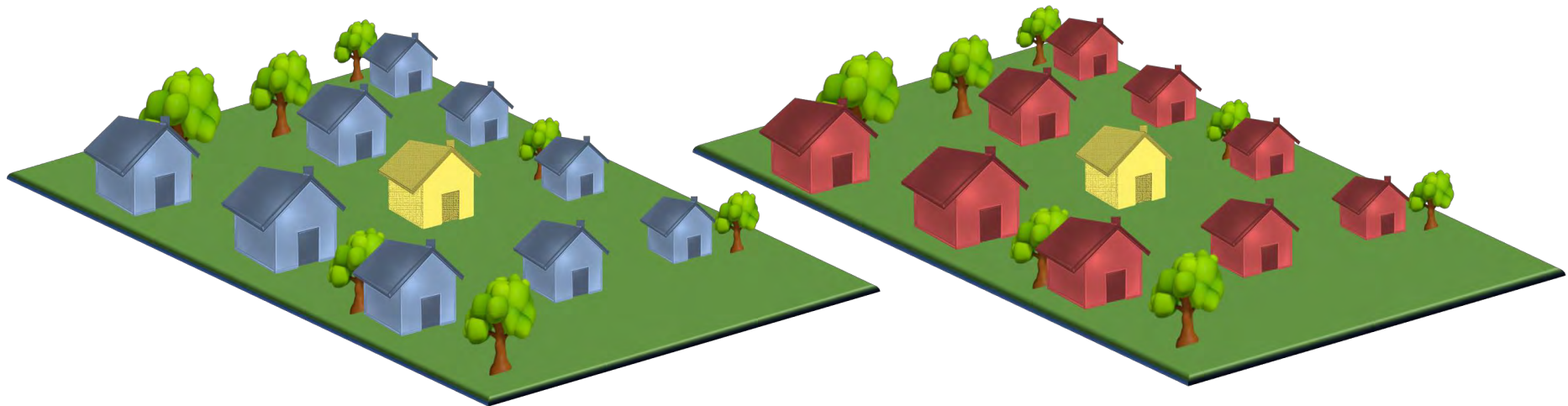
dependent on...

- Plume...
- Groundwater flow?



Recommendations may vary...

- Bottled water may be recommended while waiting for residential well sampling results
- Results will indicate whether interim action is needed



■ Not Detected

■ Detected but less than
the screening level

■ Exceedance

PFAS Filters

- Work with local health departments
- Provide/install filters
- Provide replacement cartridges as needed

Full system certified to NSF/ANSI Standards 42, 53, 401 and conforms to NSF protocol P473.



- Certified to remove up to 96% of PFOA and PFOS
- Certified to reduce PFOA + PFOS concentrations up to 1,500 ppt

Other Exposure Pathways

- Fish
- Wildlife
- Soil/dust
- Surface Water
- Foam
- Others?



Learn about PFAS fish testing results

Click on any of the boxes below to learn more about choosing and eating safe fish!

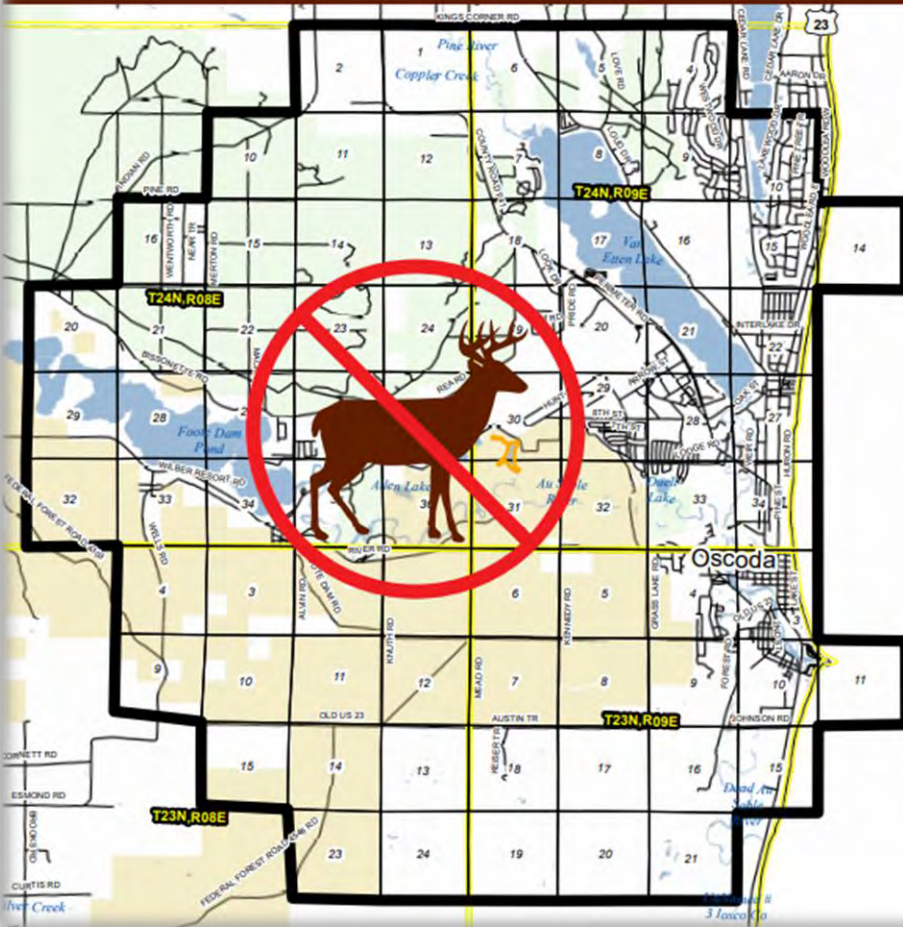
 <p>Going Fishing?</p>	 <p>Health Benefits</p>	 <p>Buying Fish?</p>
 <p>Find Your Area</p>	 <p>Eat Safe Wild Game</p>	 <p>Kids' Corner</p>

To date Northwest Michigan does not have PFOS advisories for Fish

Region	County	Water body	Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month
Northeast	Iosco	Van Etten Lake	Suckers	Mercury & PFOS	Under 14"	8
Northeast	Iosco	Van Etten Lake	Suckers	Mercury	14" to 20"	4
Northeast	Iosco	Van Etten Lake	Suckers	Mercury	Over 20"	2
Northeast	Iosco	Van Etten Lake	White Crappie	Mercury & PFOS	Any	4
Northeast	Iosco	Clark's Marsh	All Other Species	PFOS	Any	Do Not Eat
Southeast	Bay	Saginaw River	Bluegill	PFOS	Any	4
Southeast	Bay	Saginaw River	Largemouth Bass	PFOS, PCBs, & Mercury	Under 18"	2
Southeast	Bay	Saginaw River	Largemouth Bass	Mercury	Over 18"	1

HEALTH ADVISORY

Do not eat deer from the advisory area. High amounts of PFAS may be found in deer and could be harmful to your health.



Map Legend

- | | | | |
|---|---------------|---|------------|
|  | Clark's Marsh |  | Town Range |
|  | Advisory Area |  | USFS Land |
|  | Sections |  | State Land |

For more information, call MDHHS at 800-648-6942 or visit Michigan.gov/PFASresponse.



v. 9/18/2019

Statewide: Don't Eat Organ Meat

Avoid Foam

Foam may have high amounts of PFAS.

Rinse off foam after contact. Rinsing in the lake or river is okay.

Bathe or shower after the day's outdoor activities.



PFAS contaminated foam can:

- Be bright white
- Be lightweight
- Pile up like shaving cream
- Be sticky
- Blow inland

Touching the water is not a health concern. Enjoy swimming, boating, and fishing.



Do not allow pets to drink foamy water. Rinse pets with water after contact with foam to avoid swallowing PFAS that may be on their fur.



For more information, call MDHHS at 800-648-6942 or visit www.michigan.gov/PFASresponse.

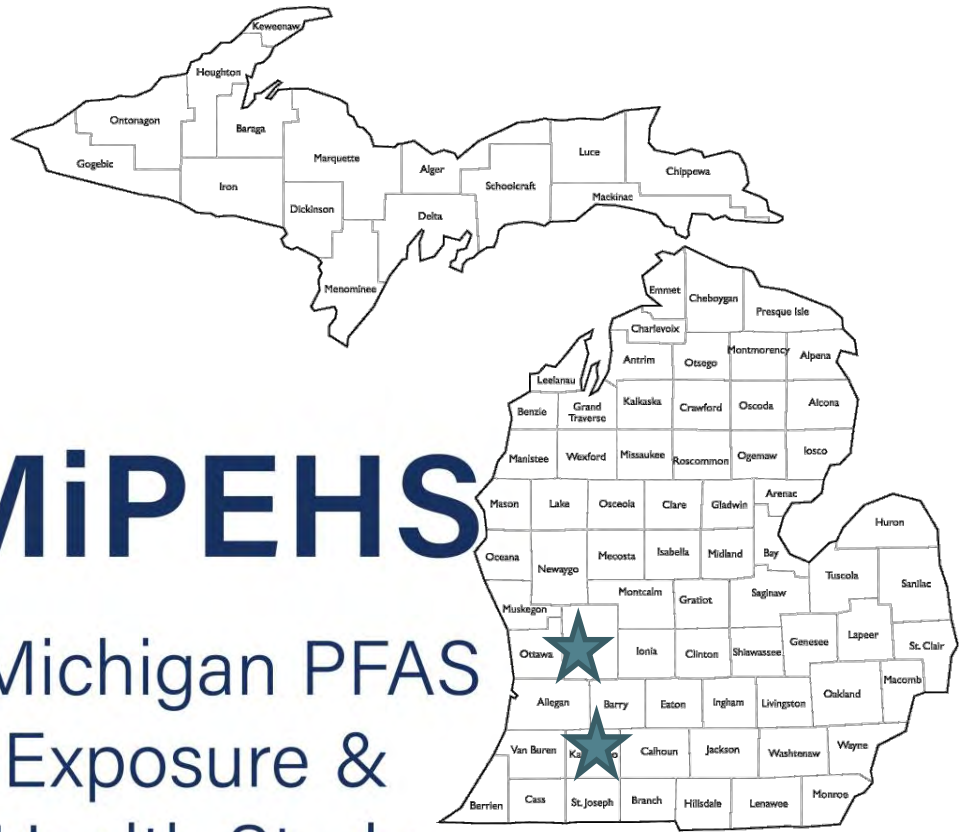


Home garden studies & understanding the potential risks






**Multi-site
Health Study**



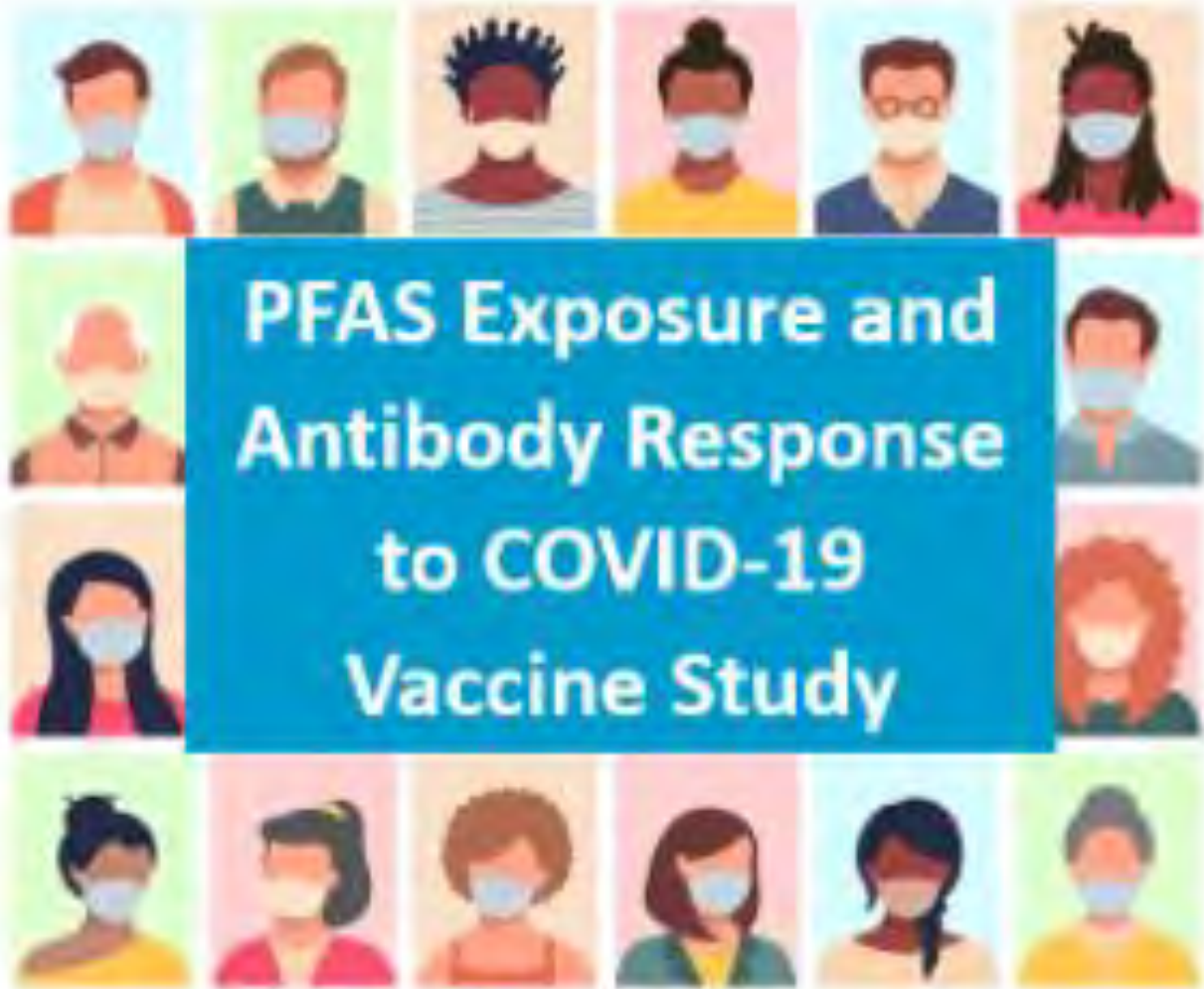
MiPEHS

Michigan PFAS
Exposure &
Health Study



PFOMS

PFAS in Firefighters of
Michigan Surveillance



**PFAS Exposure and
Antibody Response
to COVID-19
Vaccine Study**



MiChEM

Michigan Chemical
Exposure Monitoring



For more information:
Michigan.gov/DEHBio

MICHIGAN PFAS ACTION RESPONSE TEAM (MPART)

www.Michigan.gov/PfasResponse



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY



Contact Information:

Abigail Hendershott, MPART:

hendershotta@Michigan.gov ; 616-888-0528

Marcus Wasilevich, DHHS:

WasilevichM@Michigan.gov ; 517-388-4569

Katie Kruse, EGLE:

Krusek2@michigan.gov ; 517-249-0906

Questions?