MPART PFAS Community Meeting

June 4, 2025

MPART

MICHIGAN PFAS ACTION RESPONSE TEAM

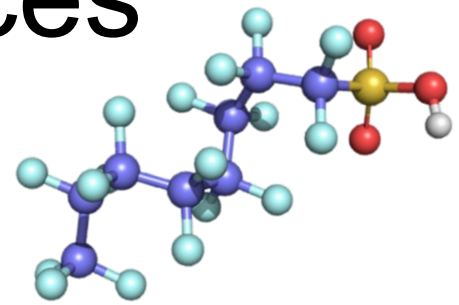
Agenda

- Introductions
- Agenda:
  - MPART Overview – Lisa Kruse, Michigan Department of Environment, Great Lakes, and Energy (EGLE)
  - Health – Lisa Fischer, Michigan Department of Health and Human Services
  - Filters – Jeremy Fruk, Health Department of Northwest Michigan
  - Investigation Area – EGLE, LimnoTech - Emmet County
  - Next Steps – OHM - Village of Pellston
- Q&A

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

Per- and Polyfluoroalkyl Substances (PFAS)



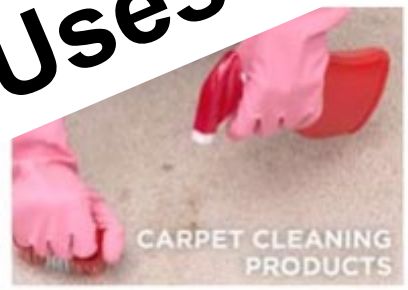
What are they?

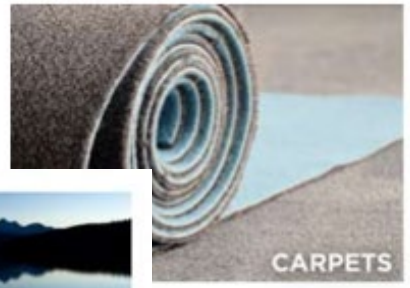
- Strong Carbon-Fluorine Bonds
- Surfactants
- Highly Stable
- Repel Water, Oil, Fat, and Grease
- Began Developing in 1940s
- Thousands of Compounds Today

Why the concern?

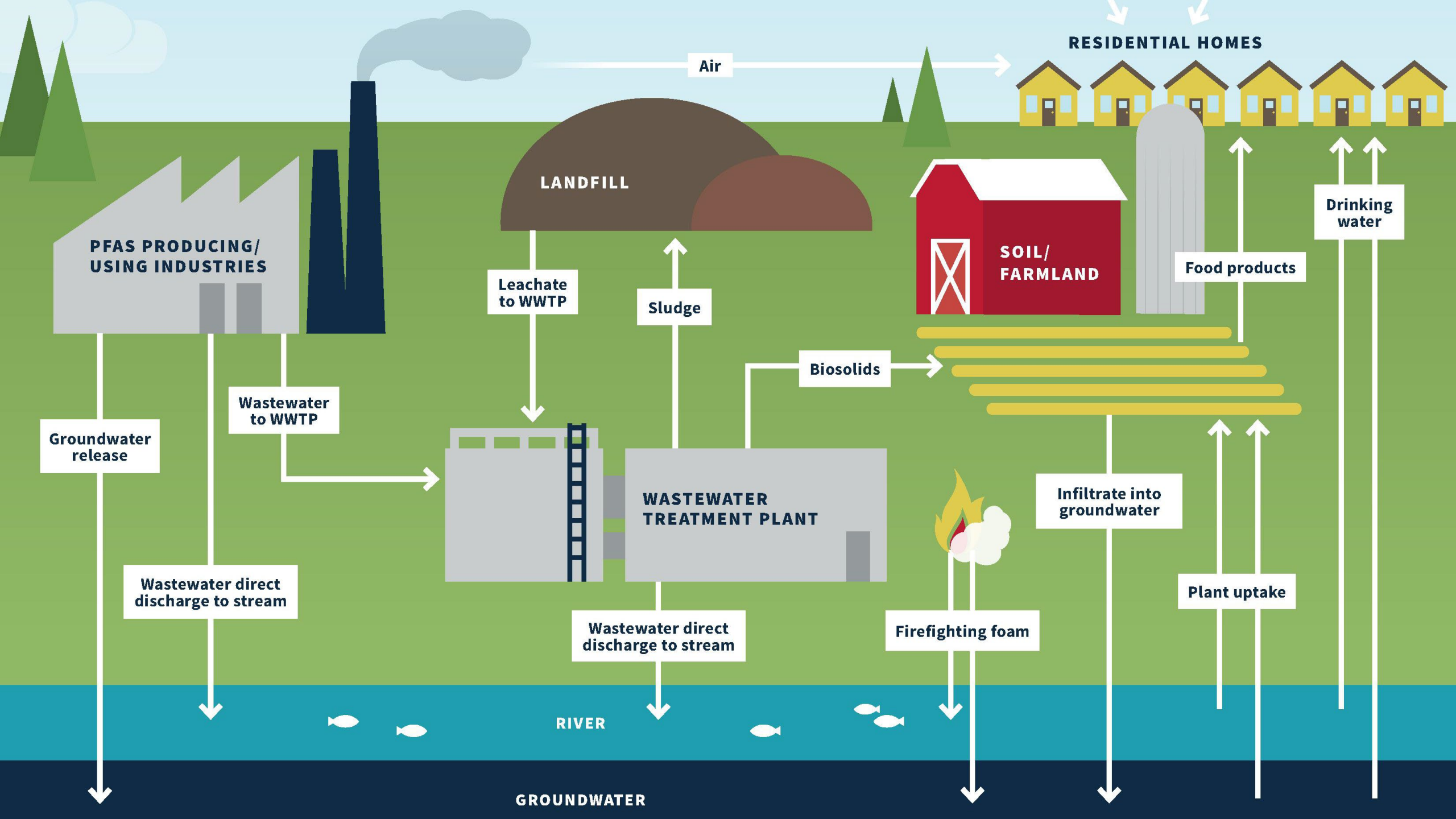
- Widespread through the ecosystem
- Don’t Break Down Easily - Hard to Get Rid of
- Bioaccumulate – Build Up in Our Bodies
- Some PFAS May Affect Health
- Some emerging science/information
- Need for additional Federal Standards

PFAS Uses





https://www.sixclasses.org/videos/pfas


RESIDENTIAL HOMES
Air
LANDFILL
PFAS PRODUCING/
USING INDUSTRIES
SOIL/
FARMLAND
Drinking
water
Food products
Leachate
to WWTP
Sludge
Biosolids
Wastewater
to WWTP
Groundwater
release
WASTEWATER
TREATMENT PLANT
Infiltrate into
groundwater
Plant uptake
Wastewater direct
discharge to stream
Wastewater direct
discharge to stream
Firefighting foam
RIVER
GROUNDWATER

What is Michigan doing?

Protect Public Health

- Investigating where PFAS is in the environment
  - Drinking water, groundwater, water bodies
- Developed and enforcing, standards for PFAS in surface water, drinking water, and groundwater cleanup standards
  - Modifying standards as science evolves
- Educating the public to:
  - Prevent future contamination
  - Minimize future use of PFAS

Michigan's Drinking Water and Groundwater Cleanup Standards

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

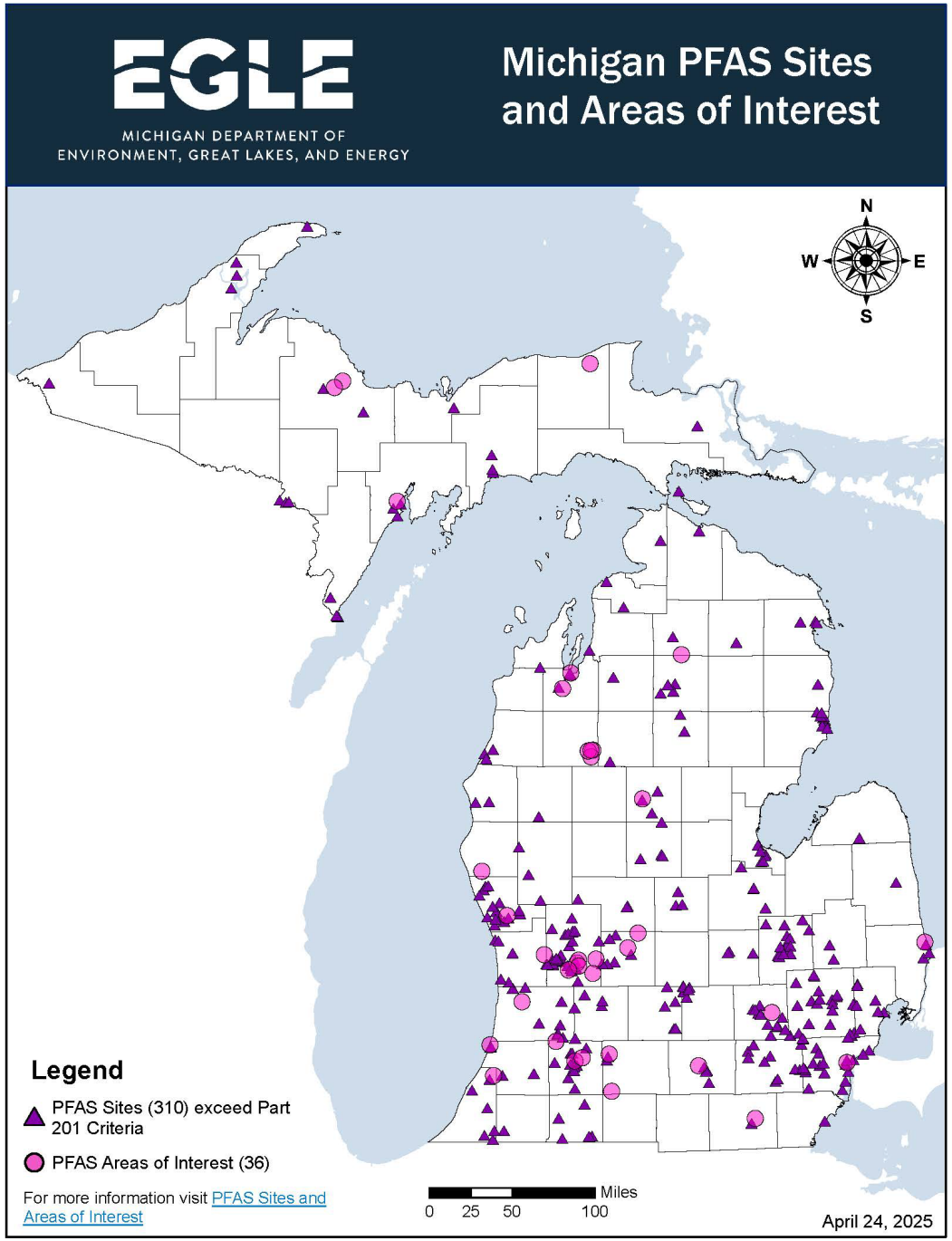
Michigan Surface Water Quality Values

Compound	Water Quality Value
PFOA	170 ppt
If Drinking Water Source	*66 ppt*
PFOS	12 ppt
If Drinking Water Source	*11 ppt*
PFBS	670,000 ppt
If Drinking Water Source	*8,300 ppt*
PFHxS	210 ppt
If Drinking Water Source	*59 ppt*
PFNA	30 ppt
If Drinking Water Source	*19 ppt*

Michigan's Rule 57 Water Quality Values apply to NPDES discharges

Lakes and Streams Investigations

- Collecting water and fish samples



Sites Being Investigated

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

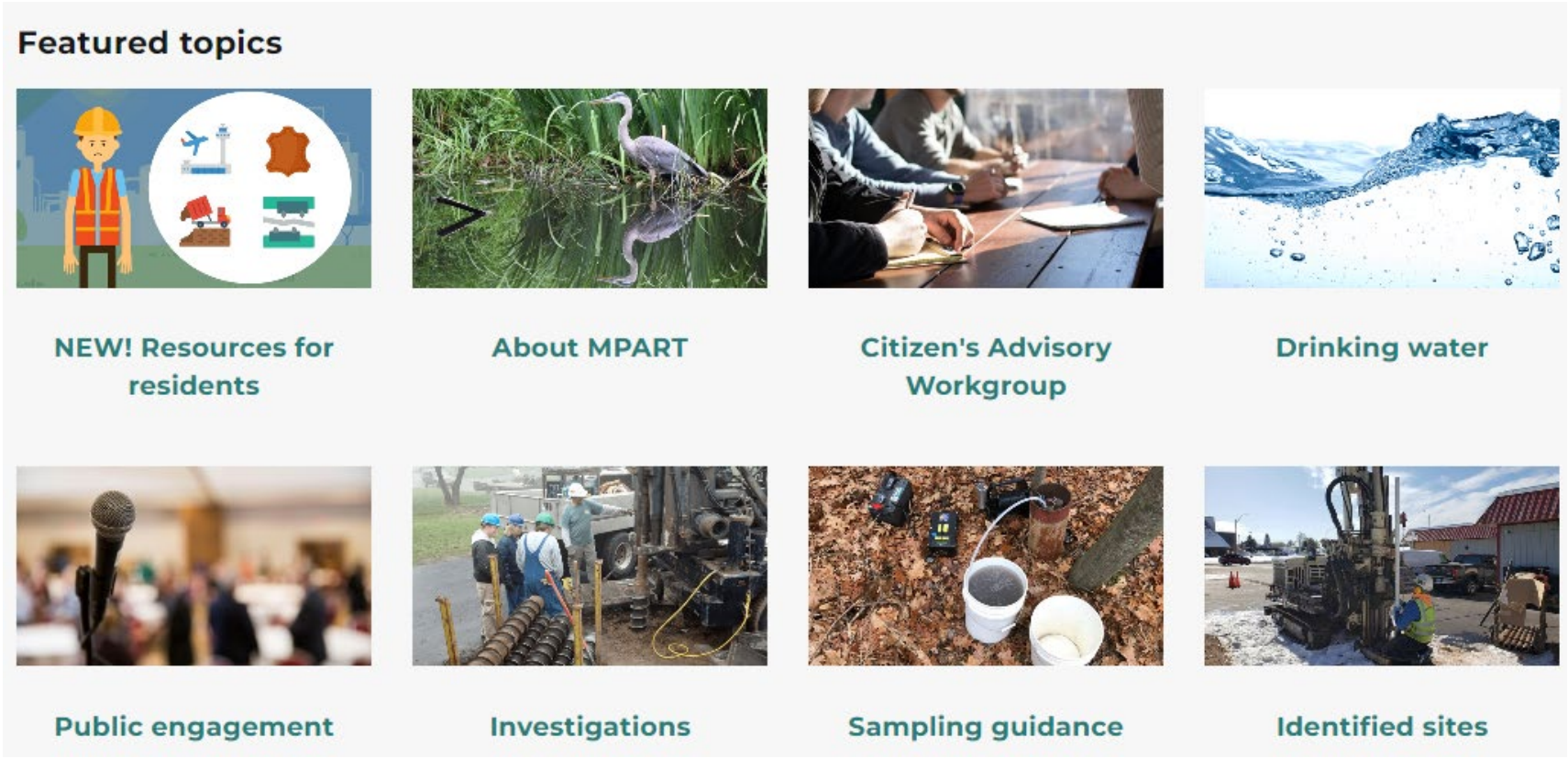
QR Code for:
MPART Sites and Investigation

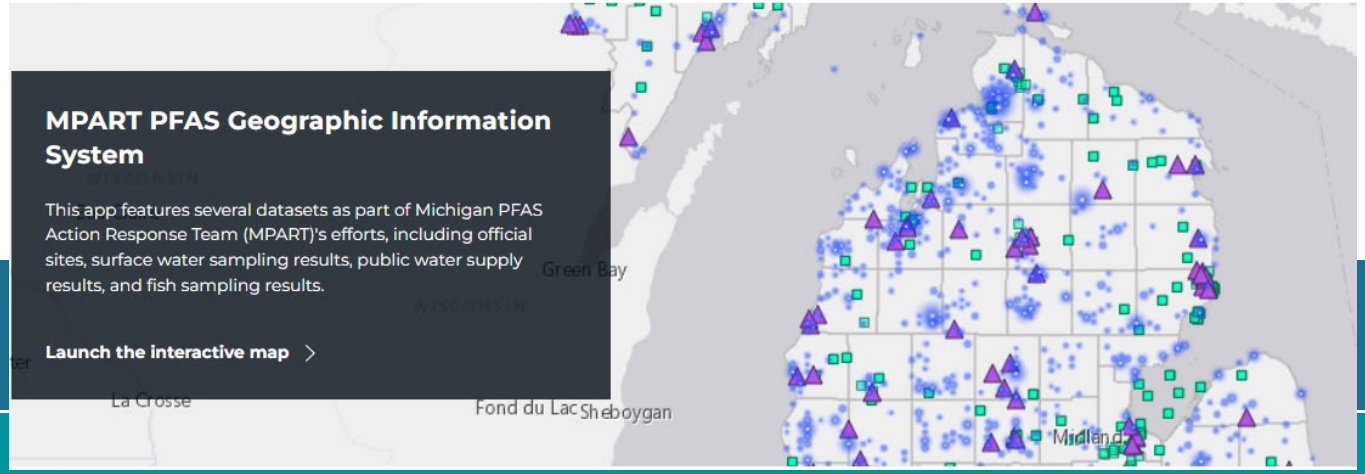
Michigan.gov/PFASResponse

MPART

MICHIGAN PFAS ACTION RESPONSE TEAM

- PFAS 101
- FAQs
- Site investigation summaries
- Public meeting calendar





MPART

MICHIGAN PFAS ACTION RESPONSE TEAM

Citizens Advisory Workgroup

Michigan.gov/MPARTCAWG

- Residents From Impacted Communities
- Key Charges:
  - Recommend How to Engage and Empower Communities
  - Recommend How to Educate the General Public
- Residents interested in becoming a CAWG Member:
  - Read the CAWG Charter
  - Submit a Membership Registration Form

QR Code for:
MPART Citizen Advisory Workgroup

PFAS and Health

Lisa Fischer, Toxicologist
Michigan Department of Health and Human Services
517-331-2523
FischerL@Michigan.gov

MDHHS
Michigan Department of Health & Human Services

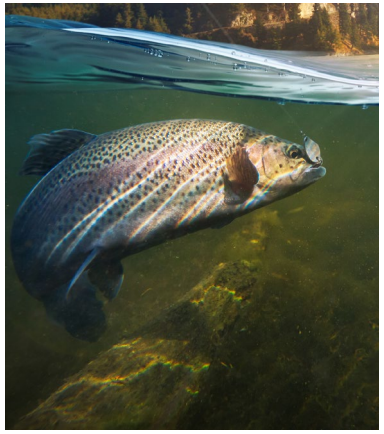
The Role of MDHHS/ Local Health Department (LHD)

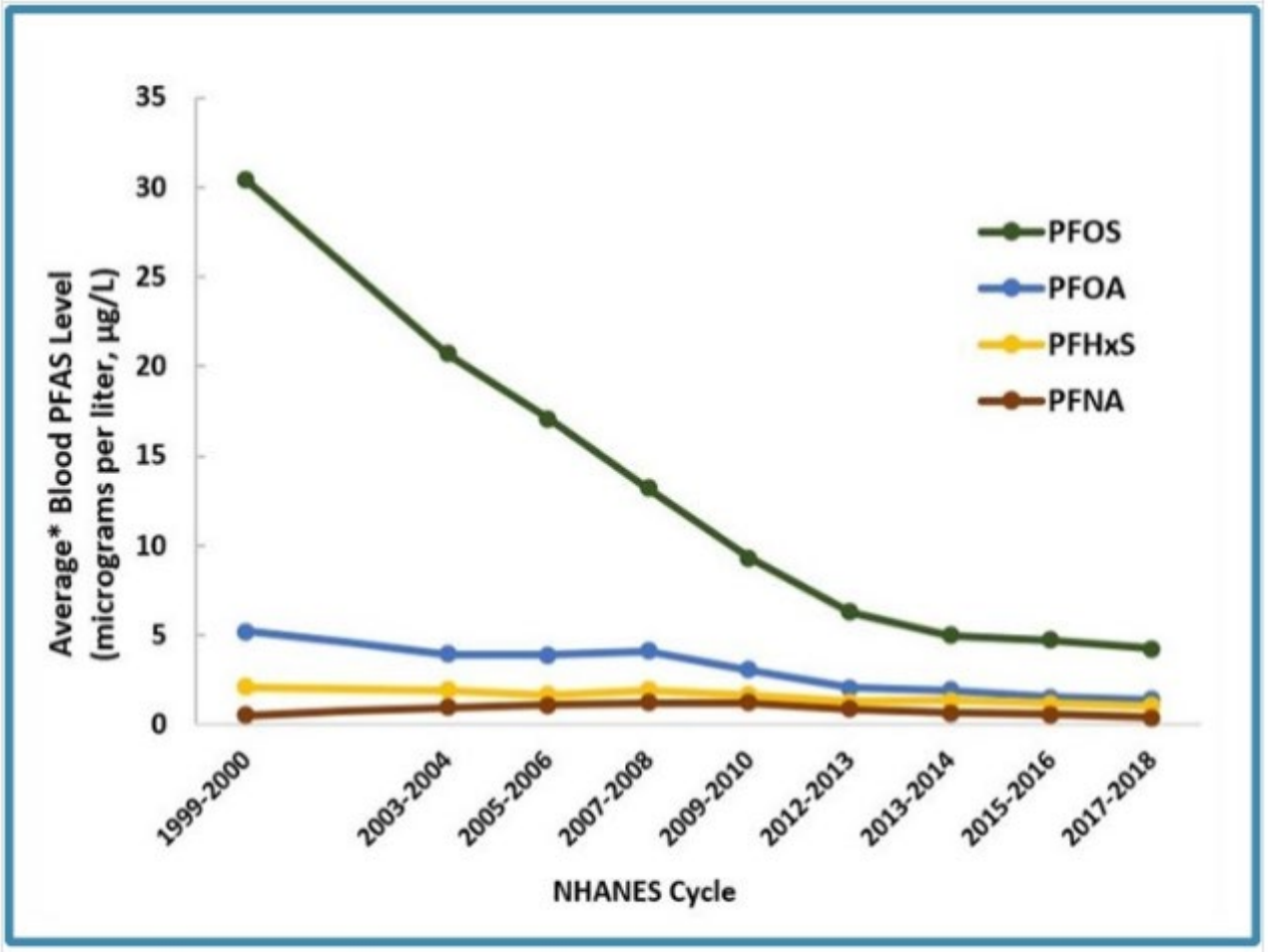
- Understand the health concerns facing your community
- Develop a plan to investigate and address health risks
    - EGLE leads the site investigation
    - MDHHS and the Local Health Department lead the public health planning and response
- Evaluate PFAS exposures to residents in the community
    - Recommend public health actions as needed

Exposure to PFAS Chemicals

MDHHS
Michigan Department of Health & Human Services

- Drinking contaminated water
- Eating fish caught from water contaminated by PFAS
  - “Eat Safe Fish” Guidelines
- Incidental swallowing of contaminated soil or dust
- Eating food packaged in materials containing PFAS
- Using some consumer products
- PFAS absorption through skin is typically not a concern





Blood levels
of the
most common PFAS in
people in the
United States
2000-2018

Associated Human Health Outcomes 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

Associated Human Health Outcomes 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

Multiple Lines of Consideration for Determining Public Health Response Actions

- MDHHS Comparison Values
- Residential Well Results (individually and collectively)
- Site–specific information (e.g., known source, geology, etc.)

MDHHS Comparison Values

- MDHHS Comparison Values are the lowest of:
  - MDHHS Public Health Drinking Water Screening Level
  - MPART Health-Based Value or Maximum Contaminant Level (MCL)

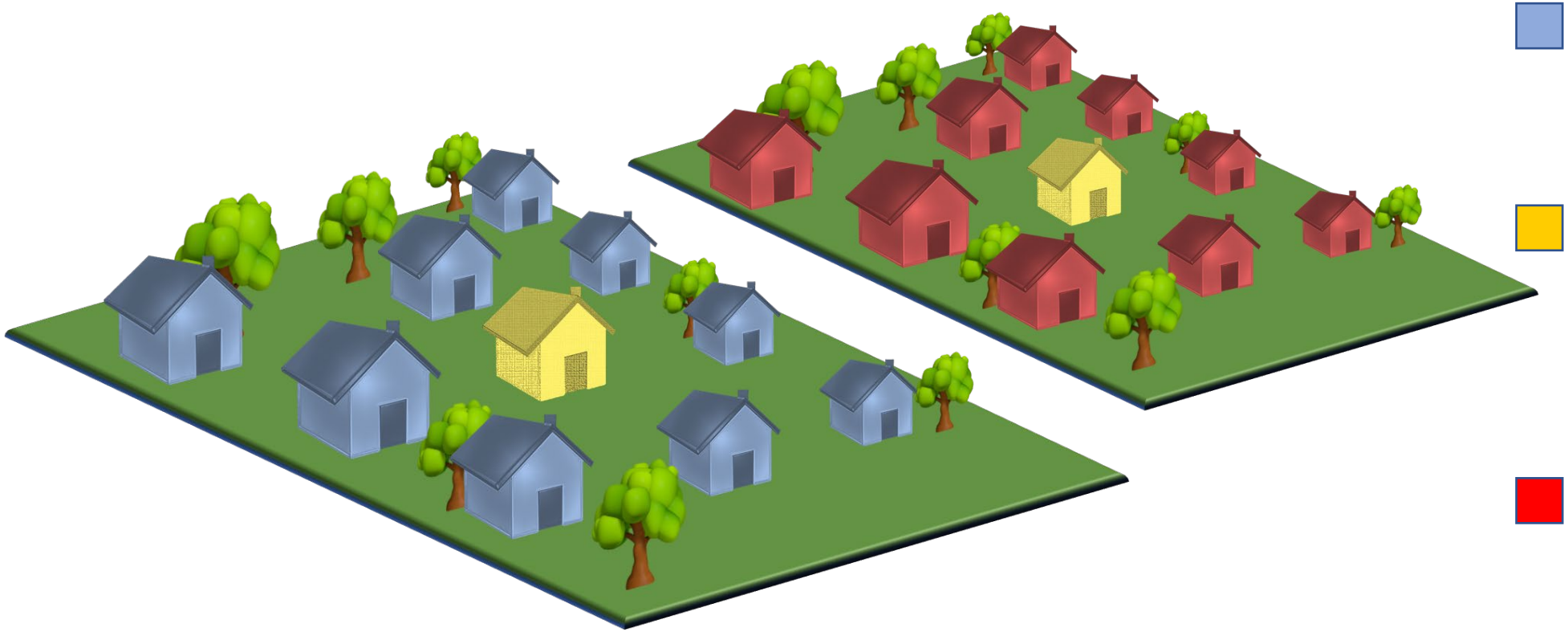
- Both the MDHHS screening levels and the MCL were set to protect everyone
  - including those most at risk of harm to their health: fetuses and breastfed babies

MDHHS Comparison Values

PFAS	Comparison Values
PFOS	8 ppt [A]
PFOA	8 ppt [B]
PFNA	6 ppt [B]
PFHxS	51 ppt [B]
PFBS	420 ppt [B]
PFHxA	400,000 ppt [B]
GenX	370 ppt [B]

A. MDHHS Public Health Drinking Water Screening Level
B. MPART Health-Based Value or Maximum Contaminant Level (MCL)

Residential Well Results (individually and collectively)

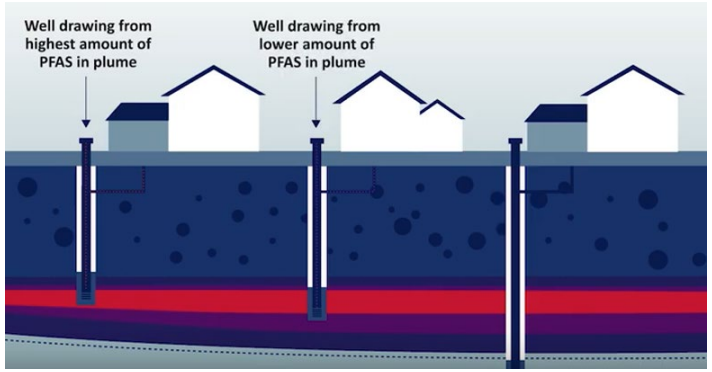


- No Detection
- Detected but less than the comparison value
- Exceedance

Site –Specific Information

Known Source

Geology

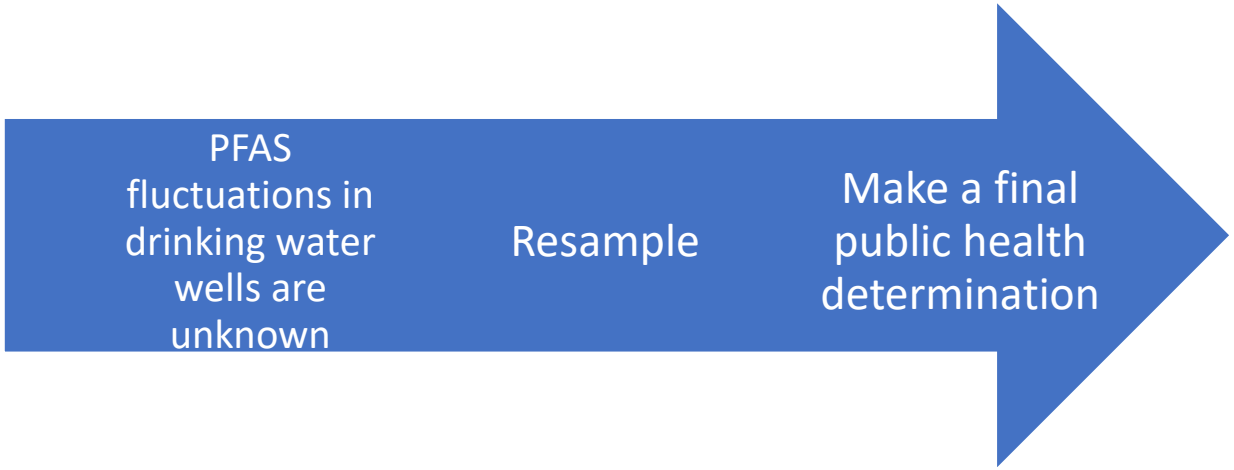


Plume

MDHHS/LHD Public Health Response Actions

- No public health actions necessary
- Recommend filter or use of alternate water
  - Need time to conduct investigation
  - Provides residents with protection from potential fluctuations in PFAS levels, if any, while investigation is ongoing
- Education
  - Provide information on PFAS in drinking water

Well Water Resampling- Purpose



- Assess the adequacy of existing public health response actions
- Determine the need for additional public health response actions
- Assess long-term exposures to PFAS in drinking water by determining if the amount of PFAS is increasing, decreasing, or remaining the same over time.

Well Water Resampling- Results

MDHHS Resampling Efforts	
# Resampling Rounds	4
# Wells Resampled at Least Once	188
# Wells Non-Detect	66
# Wells w/ Detections less than Comparison Values	49
# Wells w/ Detections greater than Comparison Values	73

Note- The data provided is based on a summary of all resampling results

Public Health Response Actions

- All residents with any detections of PFAS were advised to use a point-of-use filter certified for PFOA and PFOS reduction.

- Filters and replacement cartridges are available to those residents at no charge.

What to Look for When Selecting a Filter

http://bit.ly/PFASHomeFilter

- Make sure the filter has an NSF/ANSI Standard 53 for PFOA and PFOS reduction.
- Follow all manufacturer's instructions to make sure the filter functions as expected.

Eating Fish from Michigan's Lakes & Rivers

Michigan.gov/eatsafefish

Maple River

(including West and East Branches)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brook Trout	PFOS	Any	2

Filters and Filter Replacements

Jeremy Fruk, Environmental Health Director
Health Department of Northwest Michigan
800-423-4121
J.Fruk@NWHealth.org

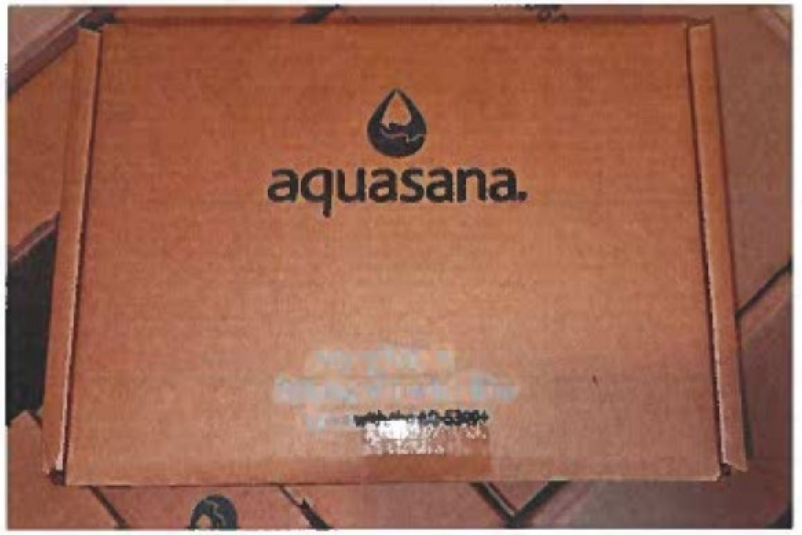
Filter Unit Install Process

- Sampling occurs, you are contacted and told you need a filter.
  - **Now what**?
  - The Health Department of Northwest Michigan (HDNW) receives sampling information from MPART.
  - HDNW will then contact W.W. Fairbairns and Son's Plumbing and Heating and provide the resident's contact information.
  - W.W. Fairbairns and Son's will schedule an appointment directly with the resident to install the filter unit free of charge.

HEALTH DEPARTMENT *of* Northwest Michigan

Filter Distribution

- Filters need to be replaced after 6 months
- HDNW delivers Aquasana filters to residents based MPART recommendations from sampling.
  - Delivery occurs in June and December
  - Delivery is door to door
  - If you were told you needed a filter and did not receive filter please contact Jeremy Fruk EH Director 231-547-7660



HEALTH DEPARTMENT of Northwest Michigan

Filter Unit Replacement

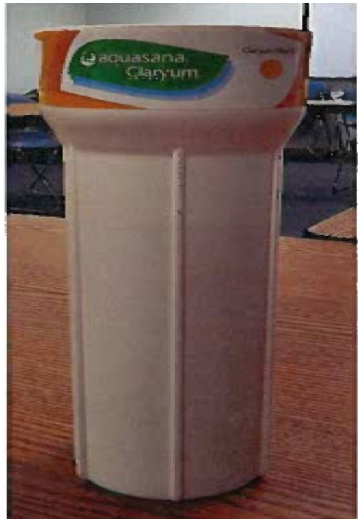
- The components of the filter units need replacing every 5 years.
- These will be delivered this month as we approach the 5-year mark
- Examples of filter components needing replaced.

Sump Caps

Pre-filter

Filter A

Filter B



HEALTH DEPARTMENT of Northwest Michigan

Contact Information

Questions regarding filters and replacement filters

Health Department of Northwest Michigan

Jeremy Fruk, Environmental Health Director

231-547-7660

J.fruk@nwhealth.org

Scheduling questions for filter install or repairs

W.W. Fairbairn and Son’s

Jessie Bunker Service Tech Dispatcher

231-548-224

cottages@wwfairbairn.com

HEALTH DEPARTMENT *of* Northwest Michigan

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Pellston Regional Airport

Lisa Kruse, RRD Gaylord District

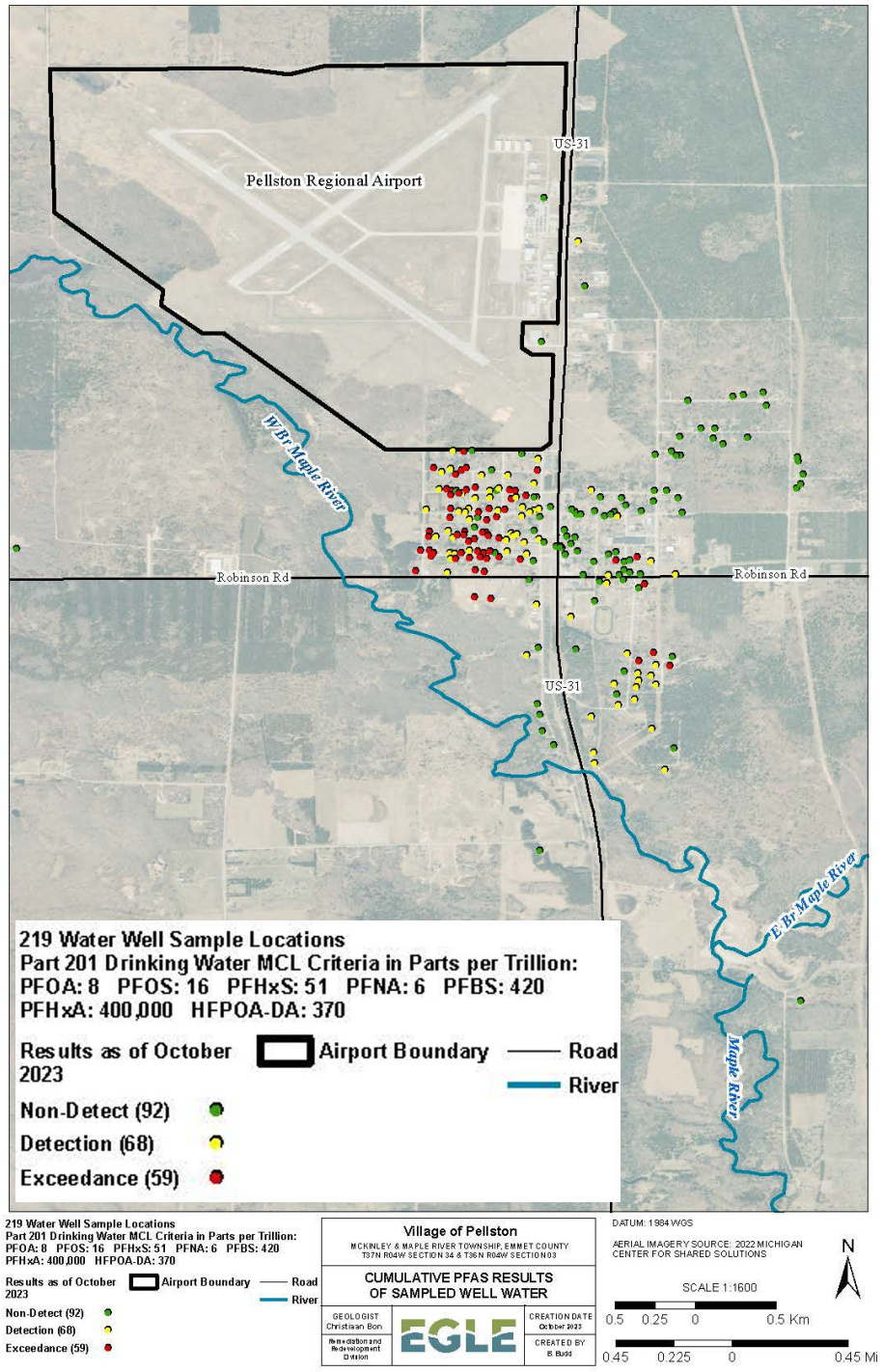
KruseL@michigan.gov

(989) 370-1424

EGLE Timeline of Activities

Residential Drinking Water Samples 2020-2024

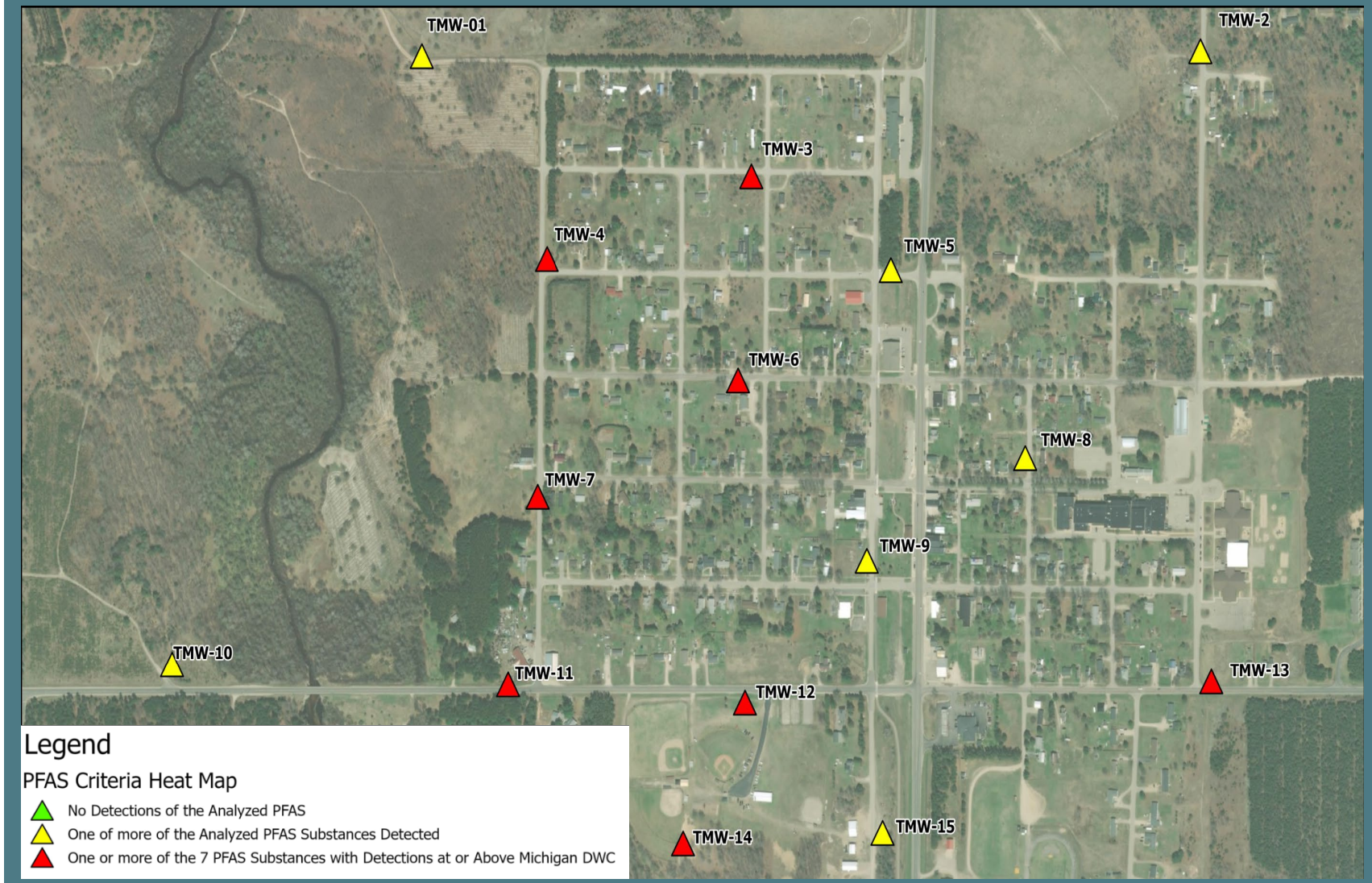
- Total of **226** samples collected between 2020 and 2024
- **60** Above Michigan Part 201 Drinking Water Criteria
- **70** With detections above analytical reporting limits, but below Michigan Part 201 Drinking Water Criteria
- **96** Non-detect for all analyzed PFAS



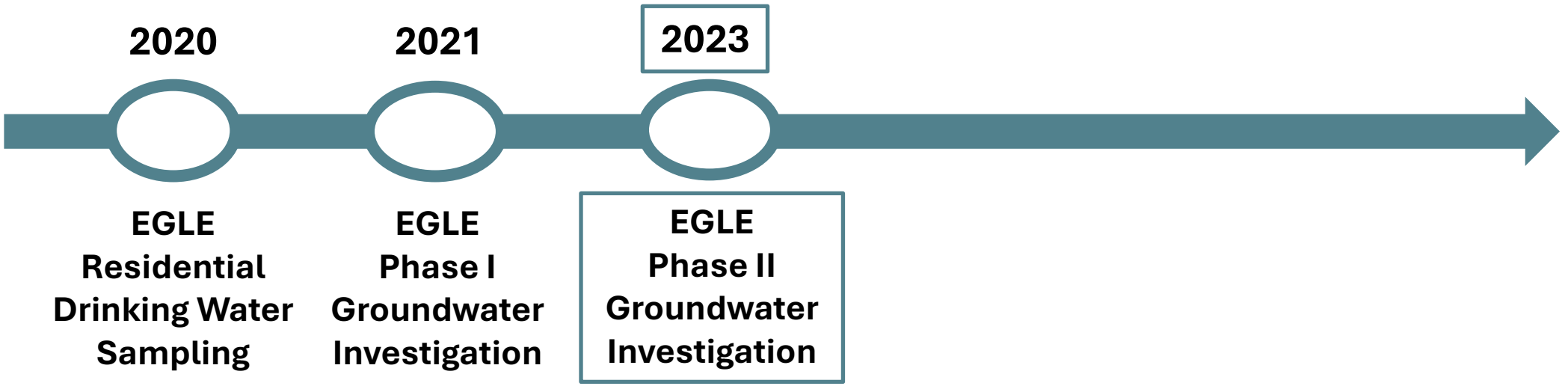
EGLE Timeline of Activities

Groundwater Investigation Phase I Fall 2021

- Collected Vertical Aquifer Samples (VAS) from 11 locations
- Five samples collected at each location: 20-ft, 40-ft, 60-ft, 80-ft, and 100-ft
- Conclusions:
  - Southerly groundwater flow direction
  - **75** VAS collected
  - **28** above Michigan Part 201, Michigan Part 201 Drinking Water Criteria
  - **39** detections above analytical reporting limits, but below Michigan Part 201 Drinking Water Criteria
  - **8** Non-detect for all analyzed PFAS

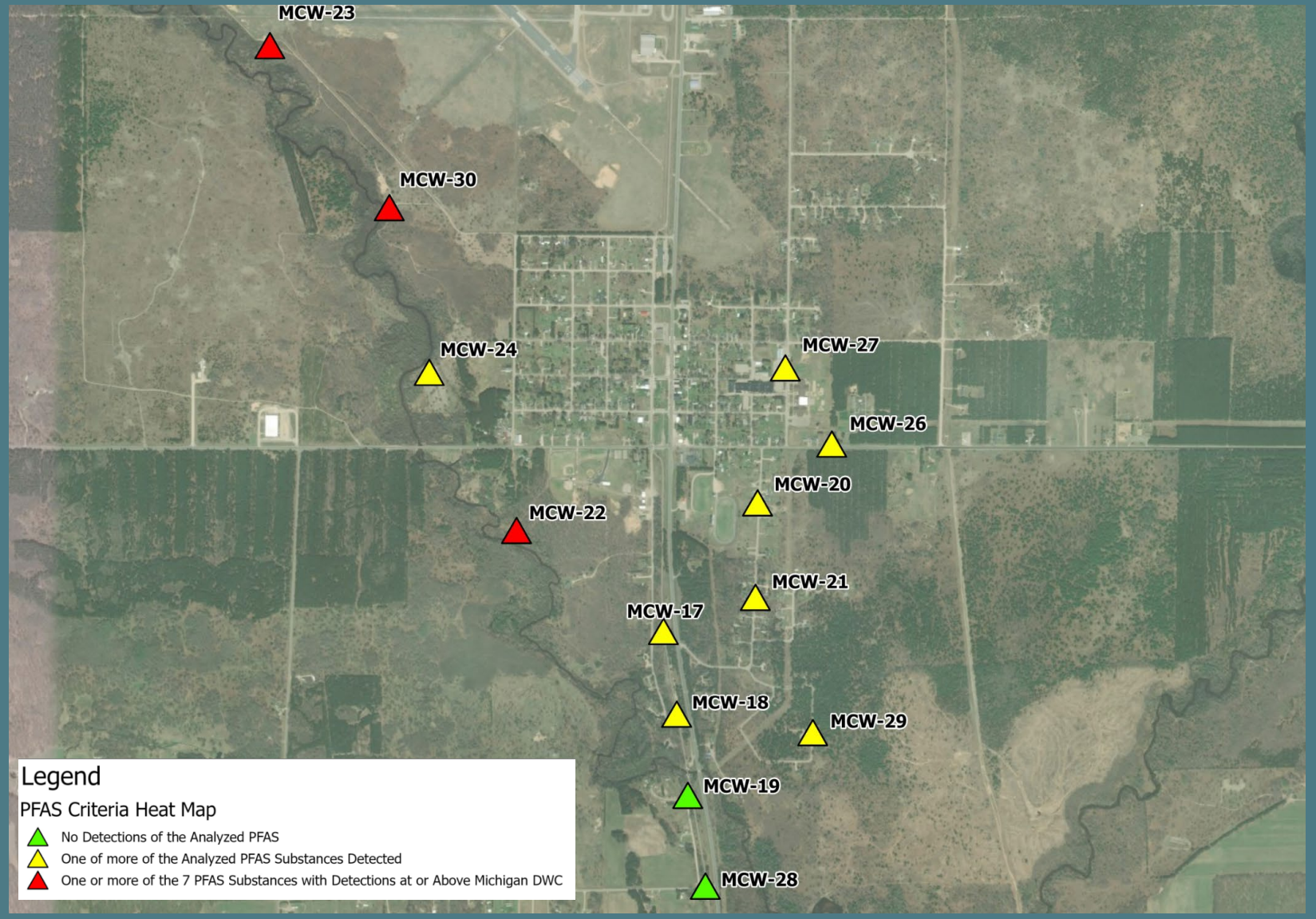


EGLE Timeline of Activities



Groundwater Investigation Phase II Fall 2023

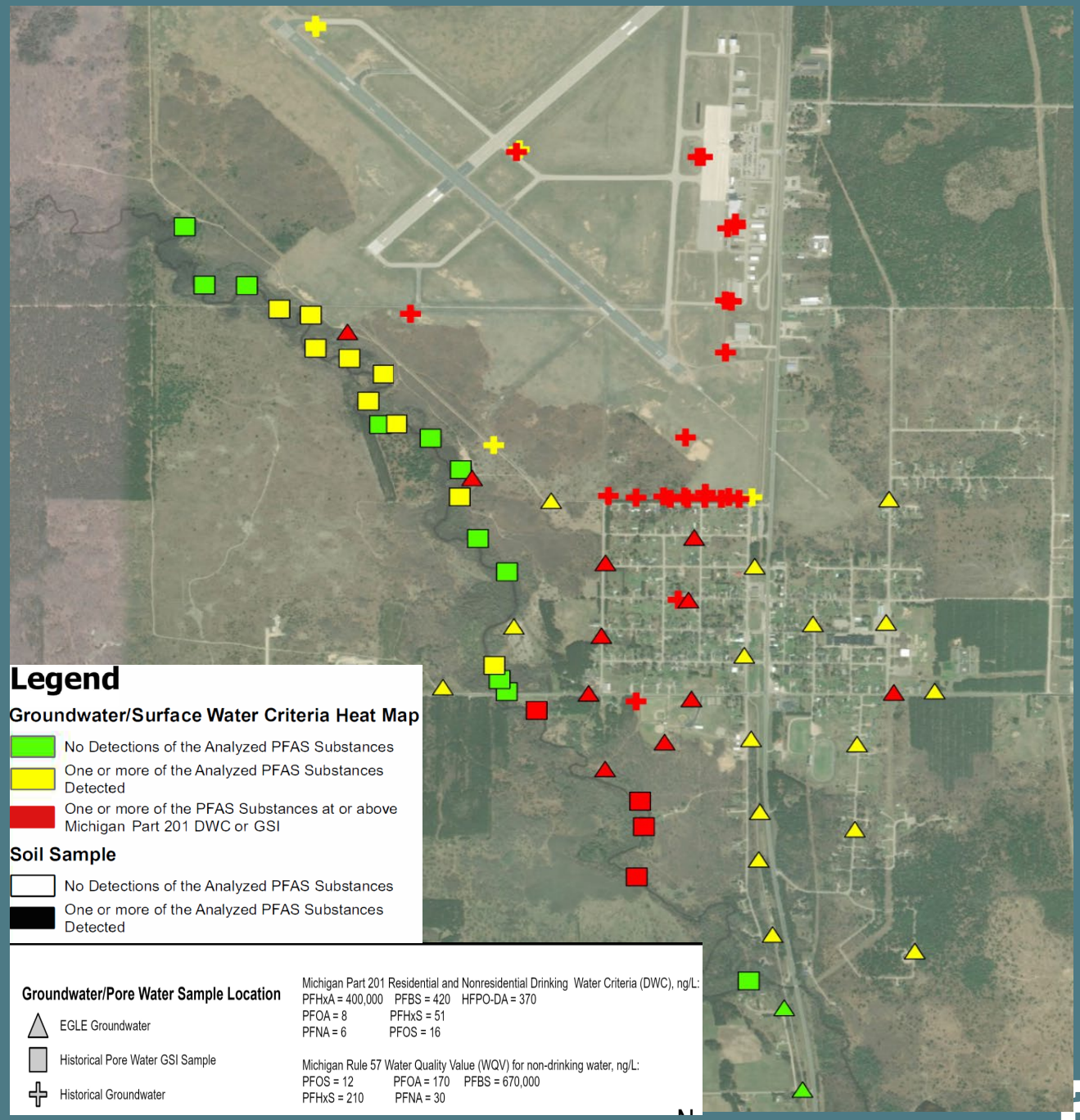
- Collected Vertical Aquifer Samples (VAS) from 14 locations
- Up to five samples collected at each location: 20-ft, 40-ft, 60-ft, 80-ft, and 100-ft
- Conclusions:
  - Southerly groundwater flow-direction
  - **71** VAS collected
  - **3** above Michigan Part 201 Criteria
  - **18** detections above analytical reporting limits, but below Michigan Part 201 Drinking Water Criteria
  - **50** Non-detect for all analyzed PFAS



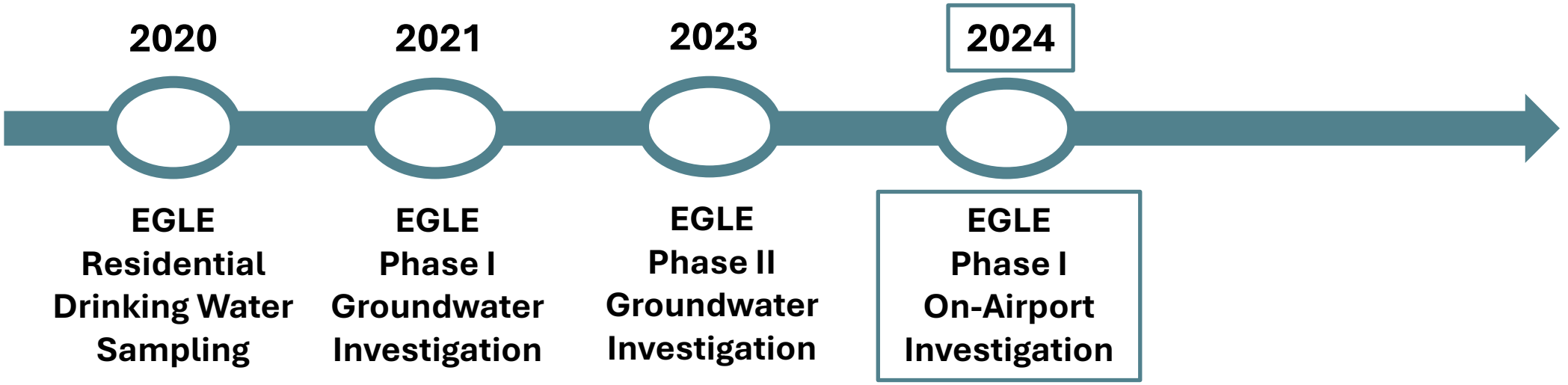
EGLE

Groundwater Investigation 2020-2024 (EGLE & Airport)

- Combined groundwater and pore water samples from EGLE and Pellston Regional Airport
- Compared to Part 201 Michigan PFAS Drinking Water Criteria and Part 201 Groundwater Surface Water Criteria

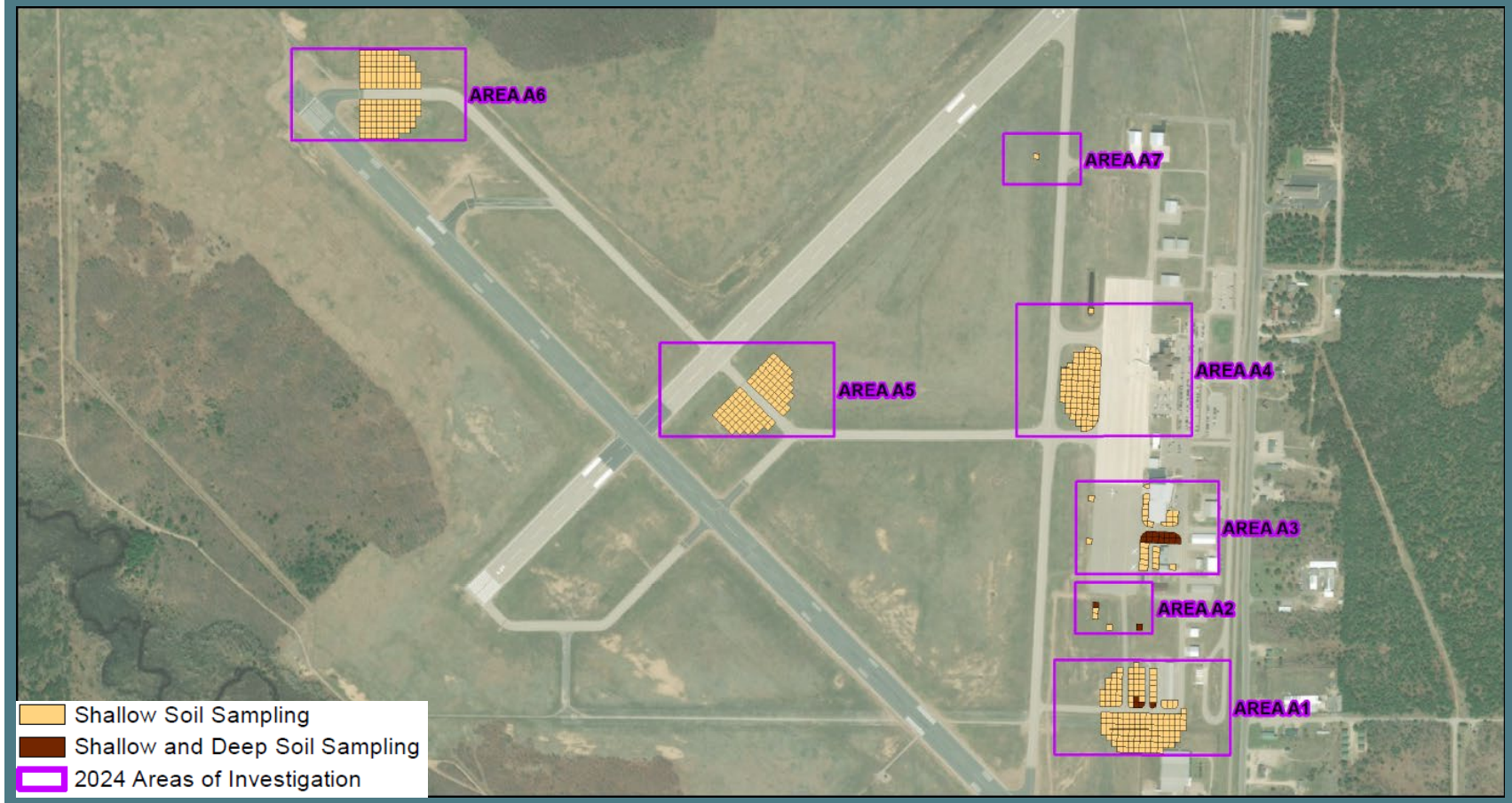


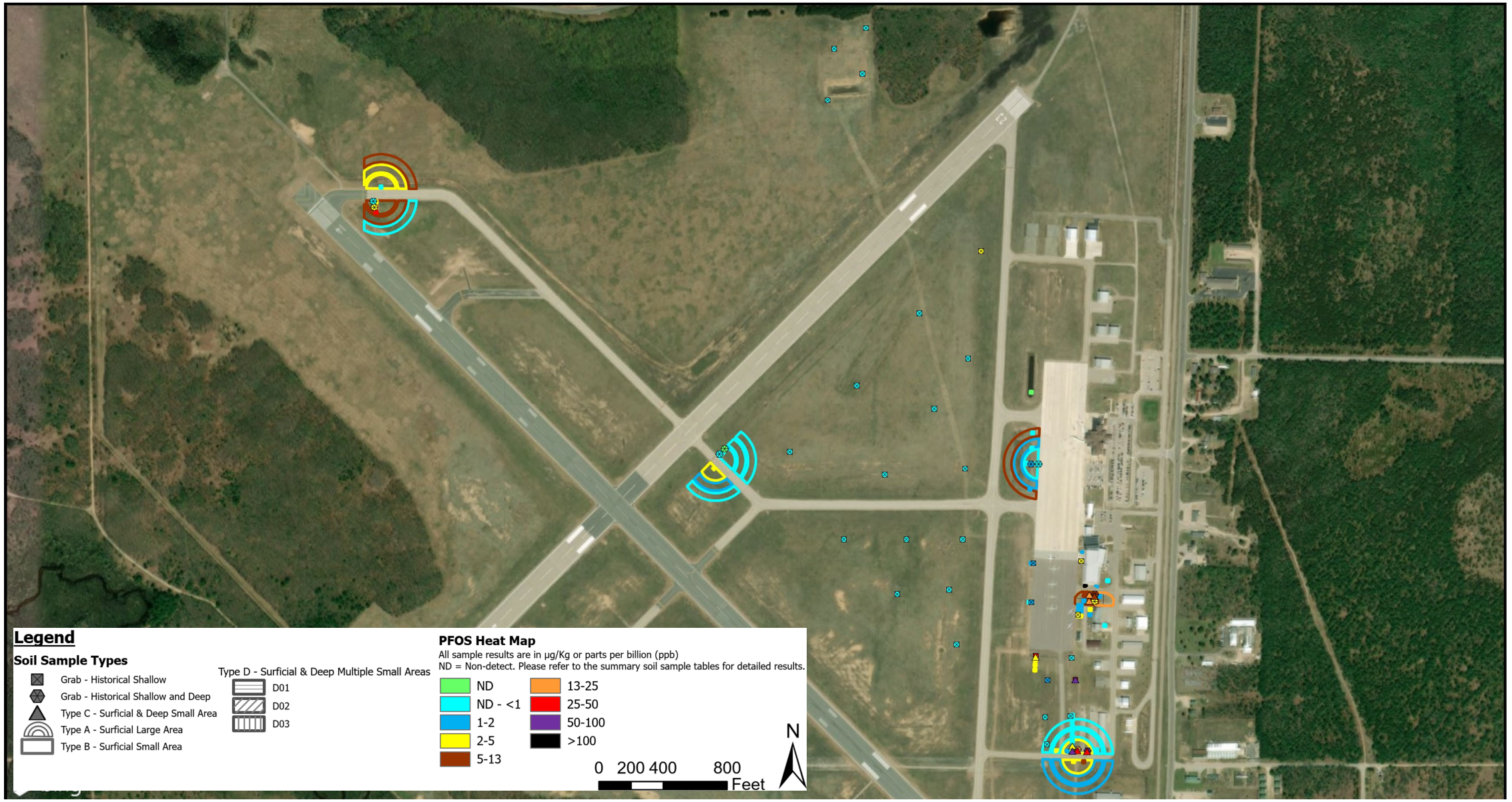
EGLE Timeline of Activities



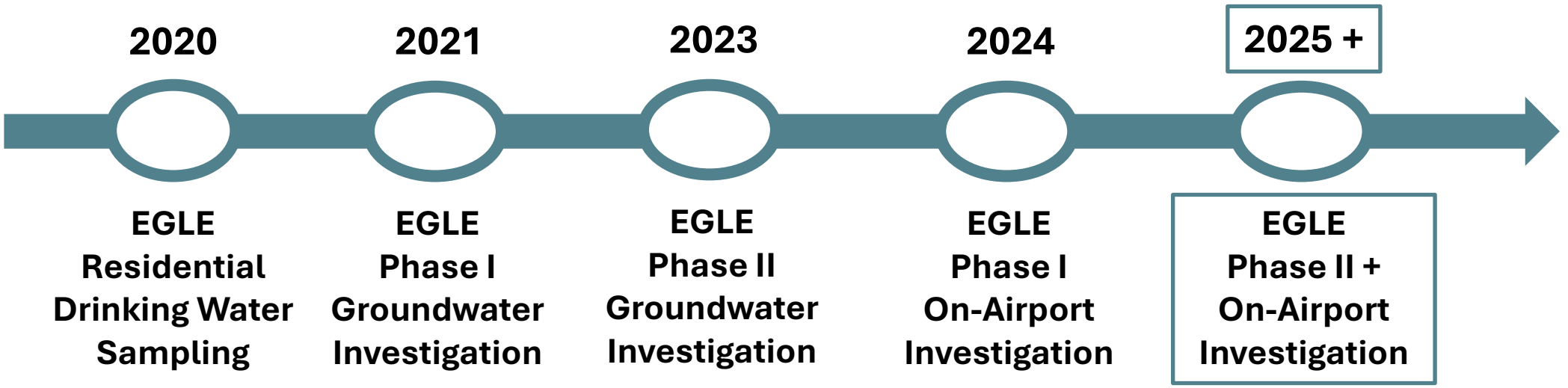
Phase I
EGLE On-Airport Investigation

- Collected a total of 135 soil samples
- Four different types of composite samples collected
  - Type A: Surficial Large Area (21)
  - Type B: Surficial Small Area (56)
  - Type C: Surficial & Deep Small Area (43)
  - Type D: Small Area (15)




Legend
Soil Sample Types
Grab - Historical Shallow
Grab - Historical Shallow and Deep
Type C - Surficial & Deep Small Area
Type A - Surficial Large Area
Type B - Surficial Small Area
Type D - Surficial & Deep Multiple Small Areas
D01
D02
D03
PFOS Heat Map
All sample results are in µg/Kg or parts per billion (ppb)
ND = Non-detect. Please refer to the summary soil sample tables for detailed results.
ND
ND - <1
1-2
2-5
5-13
13-25
25-50
50-100
>100
0 200 400 800
Feet
N

EGLE Timeline of Activities



EGLE Additional Airport Investigation

- **2025-2026**
  - Evaluate the 2024 Soil data
  - Update the Conceptual Site Model
  - Identify data gaps
  - Proposed additional soil and groundwater samples at the Airport

Site Investigation

Scott Bell, PE
Environmental Engineer
LimnoTech
sbell@limno.com

PFAS Investigation at Pellston Regional Airport

LimnoTech

JUNE 4, 2025

SUMMARY OF INVESTIGATION TO DATE

INVESTIGATION HISTORY

May 2020 – October 2021

- PFAS investigation phases 1 & 2
- $250,000 grant from State of Michigan
- Soil & groundwater sampling, sampled seeps on West Branch Maple River

April 2021 – October 2021

- PFAS investigation phase 3
- $150,000 funded by Emmet County
- Drilling and groundwater sampling

July 2022 – November 2022

- PFAS investigation phase 4
- $350,000 grant from State of Michigan
- Drilling and groundwater sampling, more sampling at groundwater/river interface

INVESTIGATION HISTORY (CONTINUED)

November 2022 – April 2023

- Field pilot test for PlumeStop barrier to treat groundwater
- $120,000 funded by Emmet County

March 2024 – September 2024

- Emmet County sought funding for cleanup from Senator Peters' office – not successful
- Emmet County applied for FAA PFAS grant - $700,000 awarded

October 2024 – present

- Additional investigation by EGLE on & off Airport property (ongoing)

Investigation Findings

- Past use of AFFF (mandated by FAA) has resulted in PFAS in groundwater
- PFAS in groundwater flowing towards Village of Pellston
- Some PFAS in shallow groundwater also seeping to West Branch Maple River

NEXT STEPS

NEXT STEPS

2025

- Currently finishing bench testing & design for FAA grant - $25,000 funded by Emmet County
- Begin field test to evaluate soil additive to bind PFAS and prevent further leaching to groundwater - $700,000 FAA grant
- Emmet County continuing to look for funding to address PFAS in groundwater, possible new grants available through EGLE in 2025

Next Steps

Alisha Busuttil, Project Manager

OHM Advisors

231-344-1163

Alisha.Busuttil@ohm-advisors.com

Steve Warren, Principal

OHM Advisors

989-393-1716

Steve.Warren@ohm-advisors.com

Project Alternatives

The following alternatives were evaluated in addition to “No Action” and “Optimization of Existing System” and “Point of Entry (POE) Filters*”:

Category	Alternative 1: Connection to Wholesale Supply	Alternative 2: Village Well Supply
Well Abandonment	Private Well Abandonment	Private Well Abandonment
Source	Harbor Springs	Village Well
Treatment	N/A	Treatment at Well Stie
Transmission	Harbor Springs to Village	Local Well Site
Distribution	Village Distribution System	Village Distribution System
Storage	N/A	Elevated Storage Tank

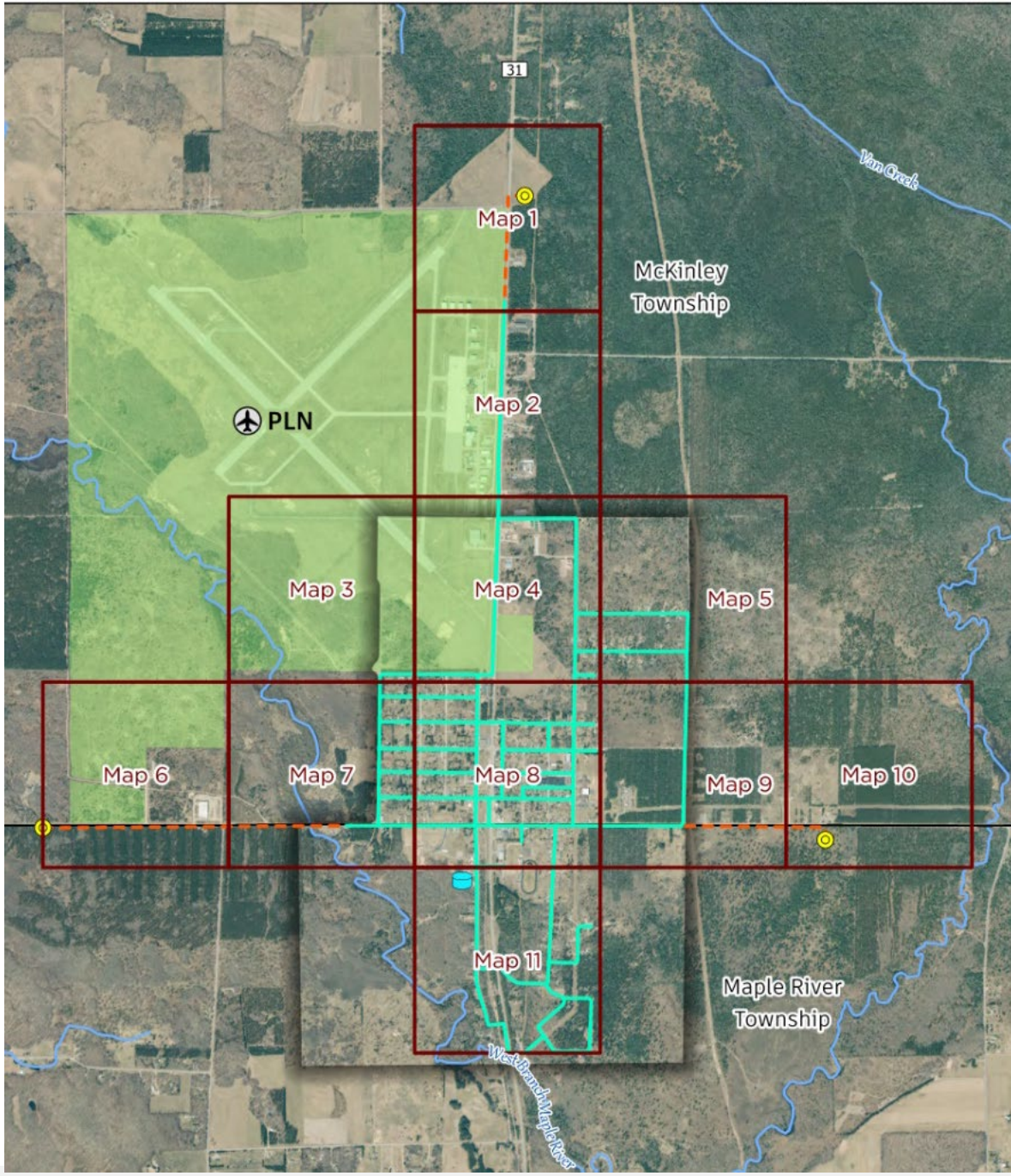
*POE filters are not eligible for the DWSRF program and are *not a preferred* long-term solution to contamination by EGLE.

Selected Alternative

The selected alternative is the implementation of a public water system with Village well source.

The projects include the following:

1. Private well abandonment
2. Well supply
3. Treatment at site of well supply
4. Transmission main from well site to distribution system
5. Water main (distribution system)
6. Elevated storage tank



Project Alternative Costs

Alternative 1: Connection to Wholesale Supply	Capital Cost
Private Well Abandonment	$1,400,000
Transmission Main	$80,000,000
Distribution System	$22,300,000
Total	$103,700,000

Alternative 2: Village Well Supply	Capital Cost
Private Well Abandonment	$1,400,000
Well Field, Treatment, Elevated Storage	$17,300,000
Transmission Main	$3,000,000
Distribution System	$22,300,000
Total	$44,000,000

User Costs

Project Category	Initial Capital Investment	Annual Debt Retirement (40 yrs. @ 2% interest)	Annual Cost per Household*	Quarterly Cost per Household*
Private Well Abandonment	$1,400,000	$51,200	$142.00	$35.50
Well, Treatment, and Elevated Storage	$17,300,000	$632,500	$1,753.00	$438.25
Transmission Main	$3,000,000	$109,700	$304.00	$76.00
Distribution System	$22,300,000	$815,200	$2,259.00	$564.75
Total	**$44,000,000**	**$1,608,600**	**$4,458.00**	**$1,114.50**

*Based on 361 households. Source: Census

User cost analysis does not consider any potential principal forgiveness on loan or grant funding. These are actively being sought after in efforts to reduce user costs.

Operation and Maintenance (O&M) costs were considered separately in the project planning document.

Construction Schedule

Task	Submittal Date
Draft Design Documents Submittal to EGLE	2/13/2026
Environmental Assessments Published No Later Than	4/22/2026
Part I and Part II Application	5/13/2026
Final Documents Submittal to EGLE	5/15/2026
Finding of No Significant Impacts Clearance; Plans & Specs Approved	5/22/2026
Bid Ad Published No Later Than	5/22/2026
Part III of Application; Bid Data Submittal (With Tentative Contract Award)	7/7/2026
EGLE Order of Approval Issued	8/5/2026
Borrower's Pre-Closing with the MFA	8/17/2026
MFA Closing	8/27/2026
Notice to Proceed Issued	10/26/2026
Construction Completed	12/31/2031

Project Benefits

- The implementation of a public water system will provide long-term safe, reliable drinking water for residents.
- The public water system eliminates the need to draw water from private wells that contain PFAS, which pose a health concern to residents.
- As the village continues to develop, the public water system can grow and adapt to these changes providing economic benefit.
- Social benefits such as community collaboration.
- Environmental benefits such as source water protection.

Michigan PFAS Action Response Team (MPART)

www.Michigan.gov/PfasResponse

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan Department of Agriculture & Rural Development

Department of Natural Resources Michigan DNR

MDOT Michigan Department of Transportation

Department of Military and Veterans Affairs Michigan

MDHHS Michigan Department of Health & Human Services

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