Welcome

Public Meeting:
PFAS Contamination in Marinette and Peshtigo Area

July 10, 2019

WISCONSIN
DEPT. OF NATURAL RESOURCES

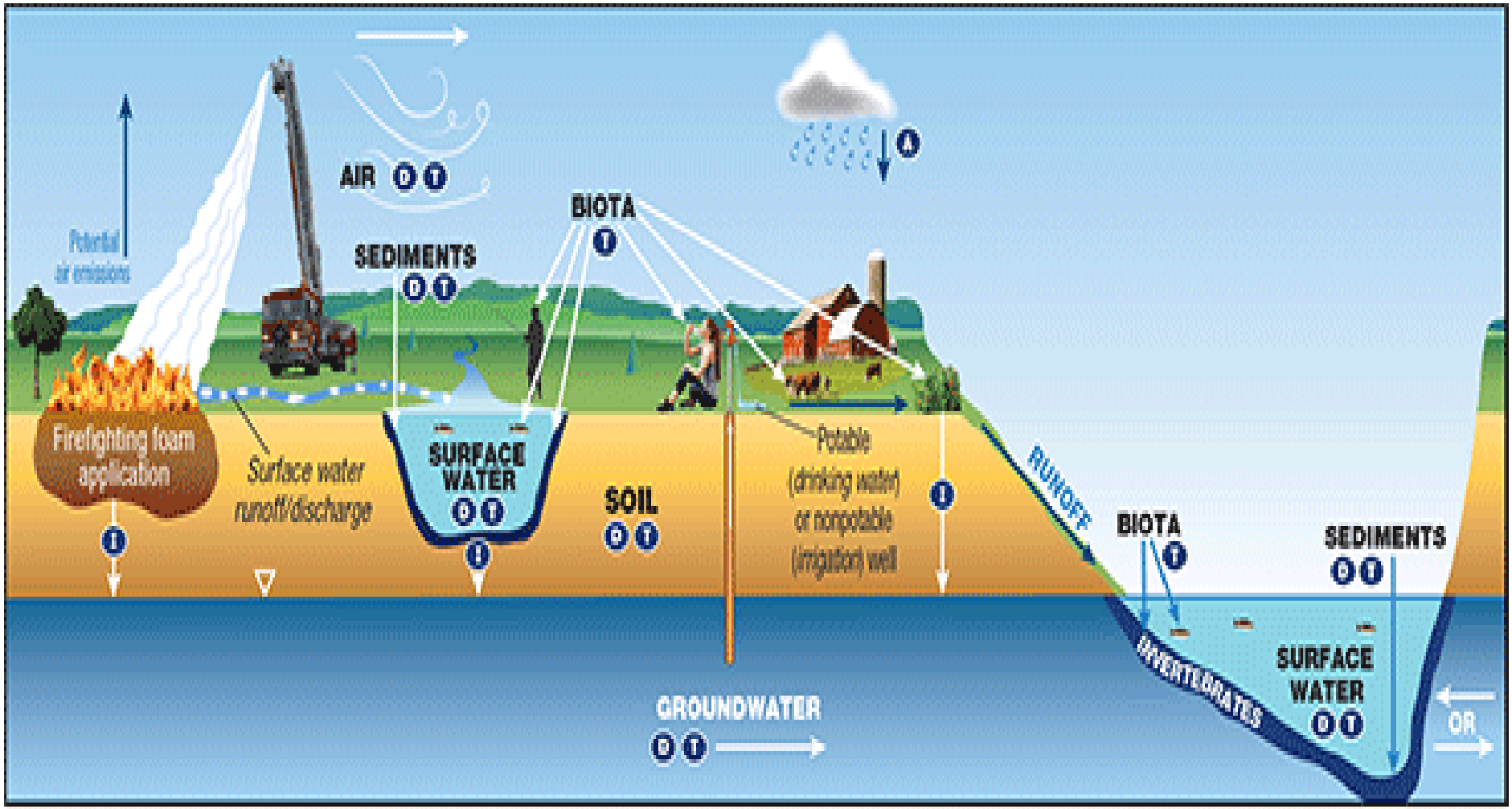
Wisconsin Department of Natural Resources

Wisconsin Department of Health Services

Purpose of Meeting

1. What’s known?
2. What’s new?
3. What’s next?
4. Questions from community

PFAS Migration Paths



KEY A Atmospheric Deposition D Diffusion/Dispersion/Advection I Infiltration T Transformation of precursors (abiotic/biotic)

Recent DNR Actions

DNR Actions

Last 6 months:

- DNR requested Peshtigo not landspread their biosolids in June 2019. Marinette was asked in September 2018.
- DNR working with the city of Peshtigo to determine the source of PFAS contamination in biosolids.
- Working with both communities on protective method for biosolids disposal.
- Assisting on a long-term solution to contaminated drinking water and groundwater in the town of Peshtigo.

DNR Actions

Groundwater Standards & Rulemaking:

- Received PFOA and PFOS recommendations from DHS.
- Recommendation of 20 ppt, cumulative.
- Sent request for 34 more PFAS standards to Wisconsin DHS.
- DNR will begin rulemaking in fall.

2006 Rule Process

DNR PERMANENT ADMINISTRATIVE RULE PROMULGATION PROCEDURE (2006)

1. Scope Statement (pink sheet) prepared and approved Secretary's signature November 10, published December 1

2. Yellow sheet deadline December 27

3. Green Sheet deadline January 23

4. Board authorization for hearing February 25

5. Hearing notice deadline March 10

6. Public hearing held April 15

7. Yellow sheet deadline April 25

8. Green sheet deadline May 25

9. Board approval of rules June 25

10. Submit to Legislature for Review - To Chief Clerks/To Presiding Officers (7 working days/ To Standing Committees (30-60 days+) – July 10

11. Review period ends Secretary's signature filed with Revisor September 10

12. Rule becomes effective November 1

Today's Rule Process

DNR PERMANENT ADMINISTRATIVE RULE PROMULGATION PROCEDURE
[When Governor approval of scope received after April 2013] Rev. 7/10/18

PHASE I – Scope Statement

1. Scope statement completed and approved by the Secretary.

2. Scope statement submitted to DOA for review of explicit authority.

3. DOA submits the scope statement to the Governor who may approve or reject the scope statement.

4. Governor issues written notice of approval via email to the Department rule officer.

5. Scope statement is submitted to Legislative Reference (LRB) for publication in the Administrative Register. The LRB will note the expiration date of the scope statement in the Register. 2017 WI ACT 39.

6. Scope statement is also submitted to chief clerks of the legislature for distribution to JCRAR, who may request a public hearing on the scope statement. 2017 WI ACT 57.

7. Yellow sheet is prepared to reserve time on NRB agenda for scope approval and conditional approval of the Notice of Public Hearing and Notice of Submittal to Legislative Council.

8. Green Sheet package is prepared to request NRB approval of scope statement and conditional approval of the Notices.

9. NRB meeting is held for approval of the scope statement and conditional approval of the notices.

PHASE II – Rule Development

10. Proposed rule language is prepared in Board Order format.

11. Complete the analysis section of the board order.

12. Does the rule require incorporation by reference? If yes, be sure to update analysis. See step 23.

PHASE III – Soliciting Comments on Economic Impact

13. Solicitation Notice is prepared for seeking comments on economic impacts of the proposed rule.

14. Drafting bureau meets with the Department Economist to determine Economic Impact level.

15. Fiscal estimate and Economic Impact Analysis (FE/EIA) prepared using Fiscal Estimate form DOA-249.

16. Solicitation Memo to NRB is prepared informing the Board of the department's intent to seek comments on economic impact.

17. Solicitation Memo and other documents are routed, then approved by the Secretary's office and submitted to NRB.

18. Solicitation Notice and other documents are sent by the drafting bureau to affected businesses, interested parties; rules officer posts on the DNR website.

PHASE IV – Public Hearings

19. Public hearing documents are prepared for 15-day passive review by the NRB.

20. Rule documents sent to the Legislative Council for their 20-working day review; docs also sent to DOA and Chief Clerks for referral to JCRAR, 2017 WI Act 57

21. The public hearing notice is published in the Administrative Register.

22. Public hearing is held and public comment period closes.

PHASE V – Final Rule Adopted by NRB and Governor

23. Board order for proposed rule may be modified as necessary based on public comments received and Incorporation by Reference if needed.

24. Yellow Sheet is prepared to hold a place on NRB agenda for adoption of proposed rule.

25. Green Sheet package is prepared and approved by the Secretary to request NRB adoption of the proposed rule.

26. NRB meeting is held requesting adoption of final rule.

27. Final rule and rule checklist is submitted by the rule officer requesting Governor approval.

28. The rule officer notifies JCRAR that the Department has submitted a rule to the Governor for approval.

PHASE VI – Legislative Review This is the 30 month deadline. The end result is that rulemaking must go from scope statement publication to legislative review within 30 months. 2017 WI ACT 57.

29. Report to Legislature and Notices prepared and submitted to Assembly and Senate Chief Clerks.

30. Standing Committee's review completed. (30 days; an additional 30 days can be requested by the committees).

31. JCRAR Reviews the rule and can object to the rule in whole or in part, or just review. Usually a 30 day review. Rule officer notes the final date of the review time period.

32. The Department rule officer prints the rule and it is signed by the Secretary; the rule officer files with LRB.

33. Rule proof received from LRB, the program reviews the proof copy and it's returned to the LRB by rule officer.

34. Final Rule is published in the end of month Administrative Register.

35. Rule becomes effective the first day of the month following publication in the Administrative Register.

DNR Actions

Last 60 days:

- Referred JCI/Tyco to the Wisconsin Department of Justice.
- Sent a letter to JCI/Tyco requiring signage and notices.
- Issued a responsible party letter to ChemDesign.
- Sent letter to JCI re: property on Woleske St., Marinette.
- Sent letter to JCI asking for info on disposal practices.
- DNR issued a responsible party letter to JCI regarding city of Marinette’s land-spreading fields.
- Hired contractor to provide technical support to the DNR.
- Launched a Marinette/Peshtigo PFAS website.

DNR Actions

Upcoming actions:

- Hire two new, PFAS research scientists
- Conduct fish tissue and surface water sampling
- Develop rules for PFOA and PFOS for groundwater, surface water and soil
- Request monitoring and source reduction of potential PFAS discharges
- Develop procedures to test foam
- **Sept. 2019:** town of Peshtigo water supply meeting
- Hold community listening sessions next six months

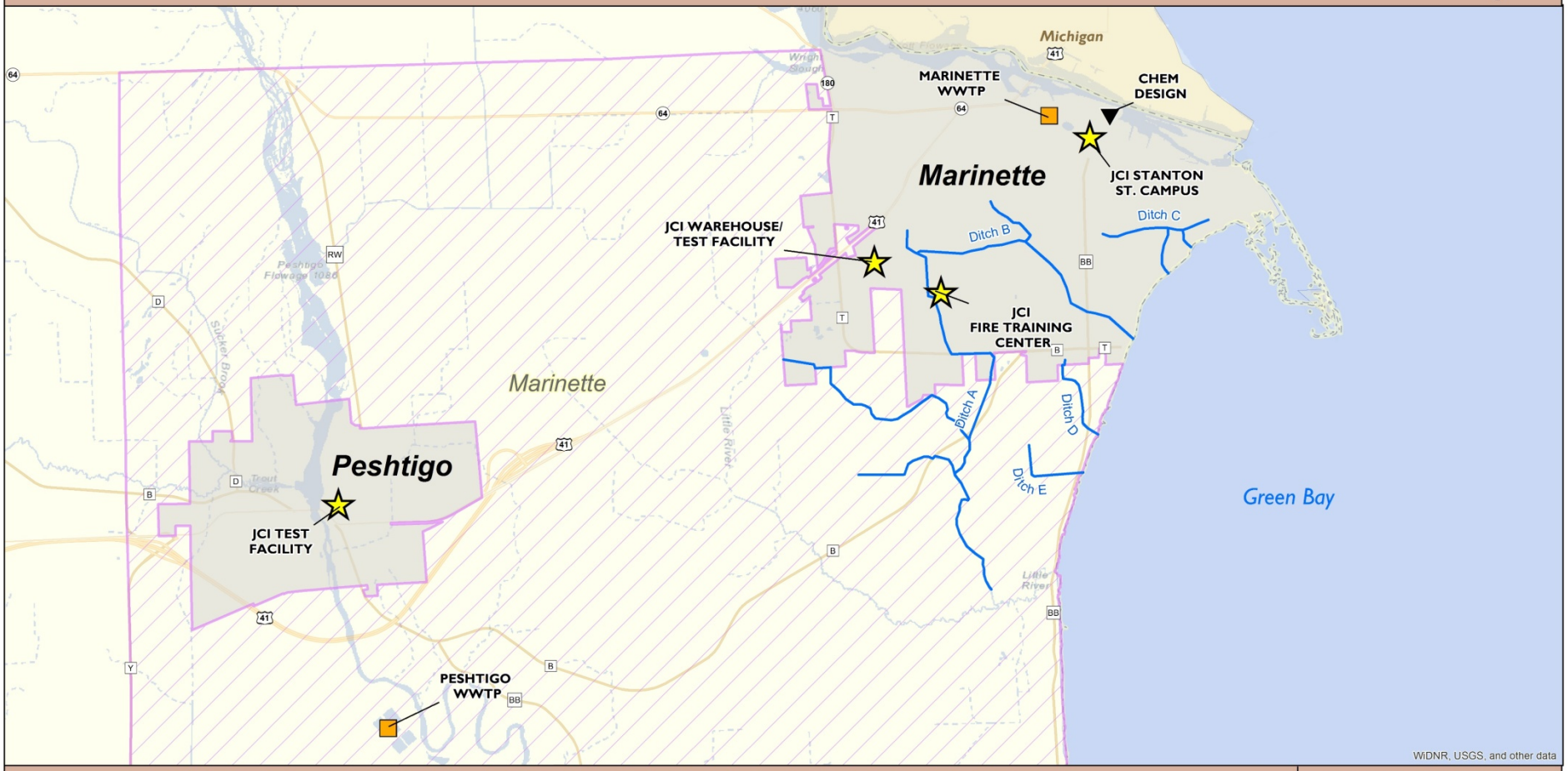
Program Areas Under Development

- Status of EPA Actions
- Number of analytes tested
- Air emission and deposition pathways (part of conceptual site model and NR 700 process)
- Disposal for biosolids – landfill or incineration?
  - Is incineration an adequate method to dispose of PFAS?
- Biosolids post-JCI discharge – future landspreading?
- Fish and game consumption

Status of PFAS Investigations

1. JCI Fire Training Center, Marinette
    - Including impacts in town of Peshtigo
2. JCI – 1 Stanton St., Marinette
3. City of Marinette WWTP + biosolids + fields
4. City of Peshtigo WWTP + biosolids + fields
5. ChemDesign – 2 Stanton St., Marinette
6. Woleske Road Warehouse, Marinette
7. Other potential sources

MARINETTE & PESHTIGO



JCI Facilities

Ditches

Town of Peshtigo

WWTP

Chem Design

0 0.5 1 2
Miles

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Remediation & Redevelopment Program

Jun 27, 2019 drs

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JCI Fire Technology Center

JCI Fire Technology Center

What's Known

Overview:

- >2,000 soil, groundwater, surface water, sediment, and drinking water samples collected

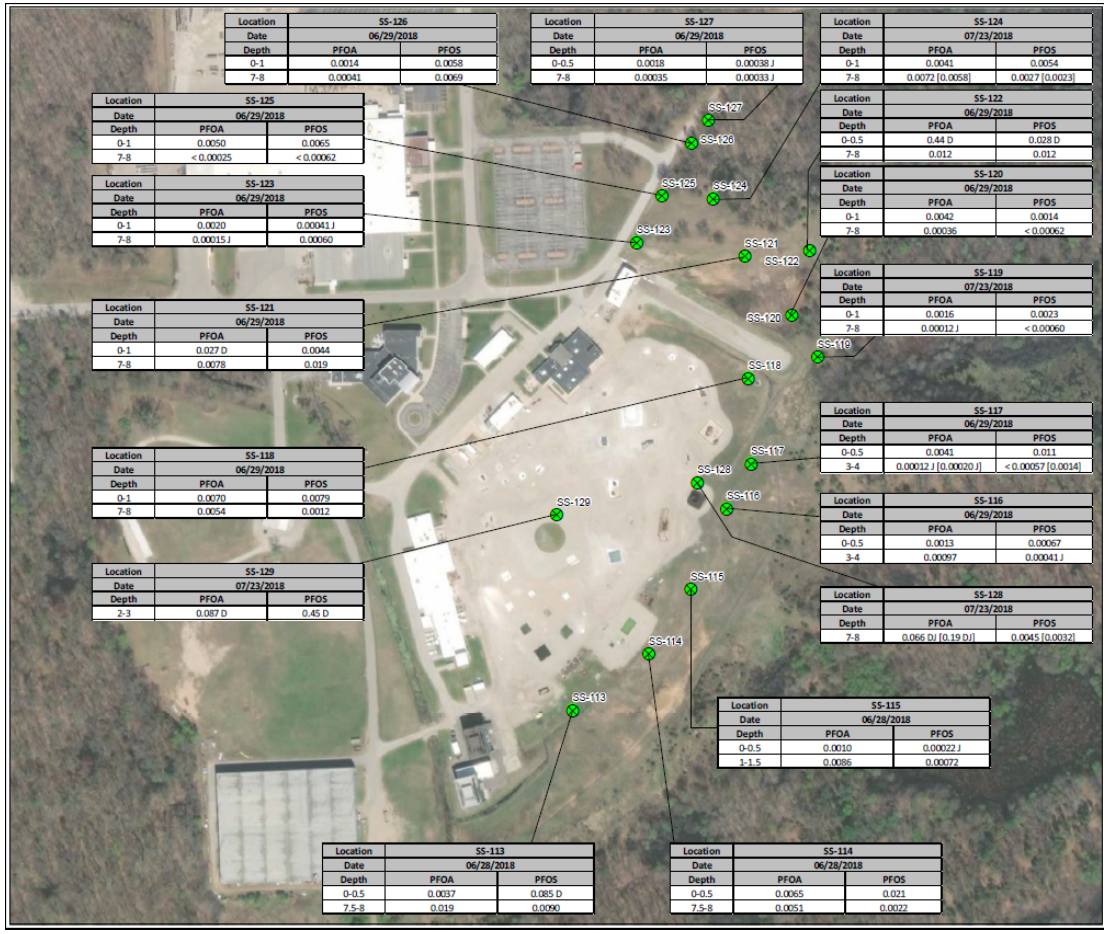
PFAS Sampling Results Marinette/Peshtigo Area Through June 2019					
Type of Sample Media	Date Sampled	Number of Samples Collected[1]	Number of Non-detects	Number of samples with detects greater than EPA LHA[2]	Number of samples with detect greater than DHS recommended groundwater standard[3]
Drinking Water (Potable Wells)	Through June 1, 2019	168	110	16	29
Groundwater	Through June 1, 2019	39	0	PFOA: ND to 254,000 ppt PFOS: ND to 64,000 ppt	
Shallow Groundwater	Through June 1, 2019	51	26	PFOA: ND to 1,140 ppt PFOS: ND to 97.9 ppt	
Surface Water	Through June 1, 2019	36	0	PFOA: ND to 6,000 ppt PFOS: ND to 1,100 ppt	
Sediment	Through June 1, 2019	18	3	PFOA: ND to 550 ppb PFOS: ND to 100 ppb	
Soil	Through June 1, 2019	39	0	PFOA: 0.97 to 1300 ppb PFOS: ND to 380 ppb	
[1]PFAS Analytes Sampled: PFOS and PFOA [2]EPA HAL: 70 ppt [3]DHS Recommended Groundwater Standard: 20 ppt				ND = No Detect ppb = parts per billion ppt = parts per trillion	

JCI Fire Technology Center

What's Known

On Site: Soil and Groundwater

- No direct contact soil standard exceedances on site; extent not yet defined
- Groundwater impacts on site exceeding HAL (70 ppt) and proposed ES (20 ppt)



Location	SS-126	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.0014	0.0058
7-8	0.00041	0.0069

Location	SS-127	
Date	06/29/2018	
Depth	PFOA	PFOS
0-0.5	0.0018	0.00038 J
7-8	0.00035	0.00033 J

Location	SS-124	
Date	07/23/2018	
Depth	PFOA	PFOS
0-1	0.0041	0.0054
7-8	0.0072 [0.0058]	0.0027 [0.0023]

Location	SS-125	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.0050	0.0065
7-8	< 0.00025	< 0.00062

Location	SS-122	
Date	06/29/2018	
Depth	PFOA	PFOS
0-0.5	0.44 D	0.028 D
7-8	0.012	0.012

Location	SS-123	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.0020	0.00041 J
7-8	0.00015 J	0.00060

Location	SS-120	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.0042	0.0014
7-8	0.00036	< 0.00062

Location	SS-119	
Date	07/23/2018	
Depth	PFOA	PFOS
0-1	0.0016	0.0023
7-8	0.00012 J	< 0.00060

Location	SS-121	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.027 D	0.0044
7-8	0.0078	0.019

Location	SS-117	
Date	06/29/2018	
Depth	PFOA	PFOS
0-0.5	0.0041	0.011
3-4	0.00012 J [0.00020 J]	< 0.00057 [0.0014]

Location	SS-118	
Date	06/29/2018	
Depth	PFOA	PFOS
0-1	0.0070	0.0079
7-8	0.0054	0.0012

Location	SS-116	
Date	06/29/2018	
Depth	PFOA	PFOS
0-0.5	0.0013	0.00067
3-4	0.00097	0.00041 J

Location	SS-129	
Date	07/23/2018	
Depth	PFOA	PFOS
2-3	0.087 D	0.45 D

Location	SS-128	
Date	07/23/2018	
Depth	PFOA	PFOS
7-8	0.066 DJ [0.19 DJ]	0.0045 [0.0032]

Location	SS-115	
Date	06/28/2018	
Depth	PFOA	PFOS
0-0.5	0.0010	0.00022 J
1-1.5	0.0086	0.00072

Location	SS-113	
Date	06/28/2018	
Depth	PFOA	PFOS
0-0.5	0.0037	0.085 D
7.5-8	0.019	0.0090

Location	SS-114	
Date	06/28/2018	
Depth	PFOA	PFOS
0-0.5	0.0065	0.021
7.5-8	0.0051	0.0022

JCI Fire Technology Center

What's Next

On Site: Soil and Groundwater Investigation

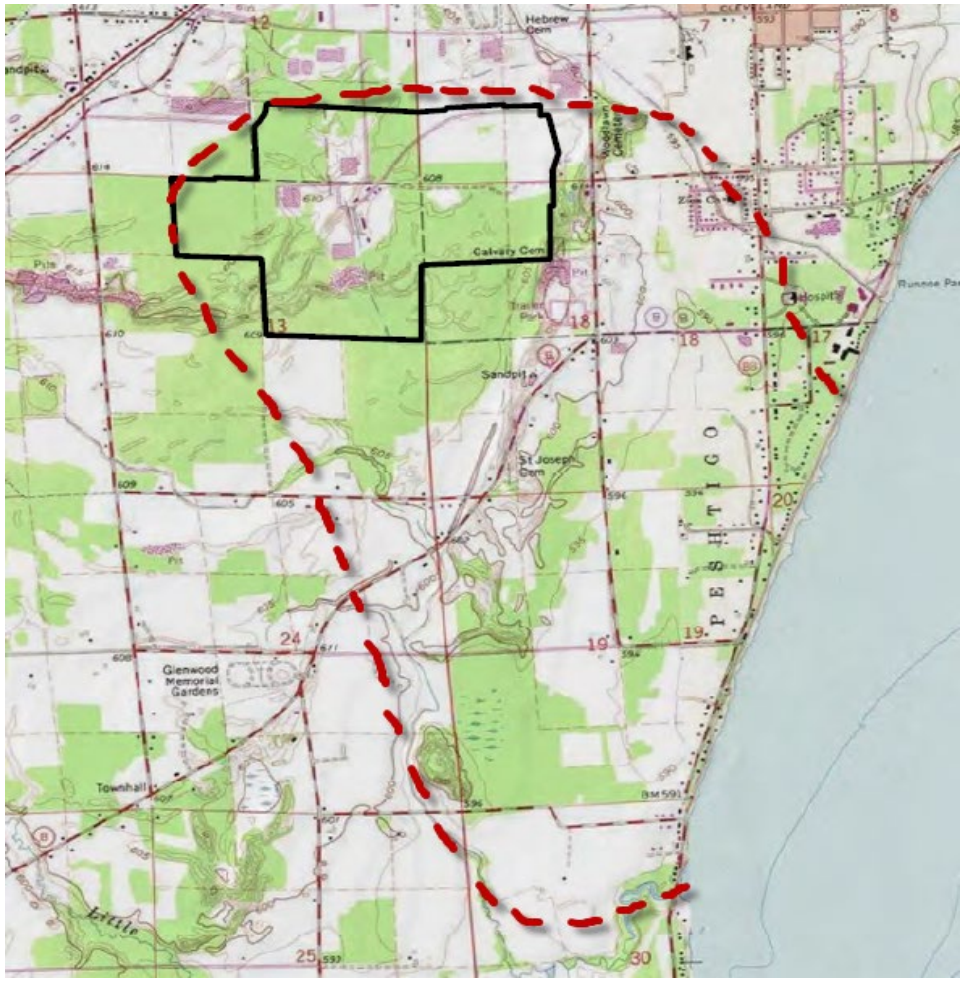
- 2019 Soil investigation:
  - Define extent, including overspray area
  - Options for remedial action
- Remediation Strategy:
  - On-site action to control & treat groundwater
  - DNR requested to discuss JCI's preliminary plan
  - Timeline for remediation strategy

JCI Fire Technology Center

What's Known

Offsite: Groundwater

- Estimated groundwater plume extends approximately 2 miles southeast of fire training center



JCI Fire Technology Center

What's Next

Offsite: Groundwater and other media

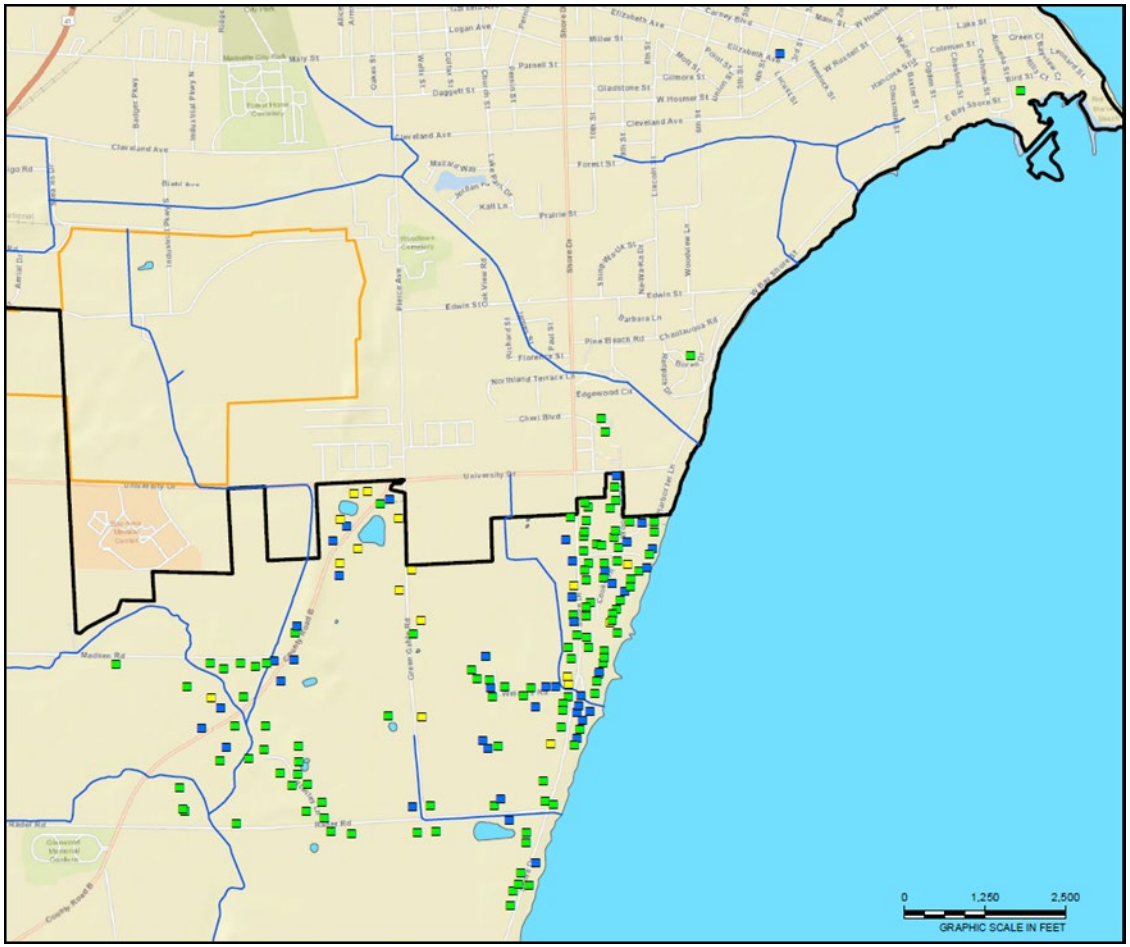
- More sampling, more data

JCI Fire Technology Center

Private Drinking Water:

- **168** private wells sampled in JCI study area
- **58** wells have tested positive for PFAS
- **16** have levels exceeding the EPA lifetime Health Advisory Level of 70 ppt

What's Known

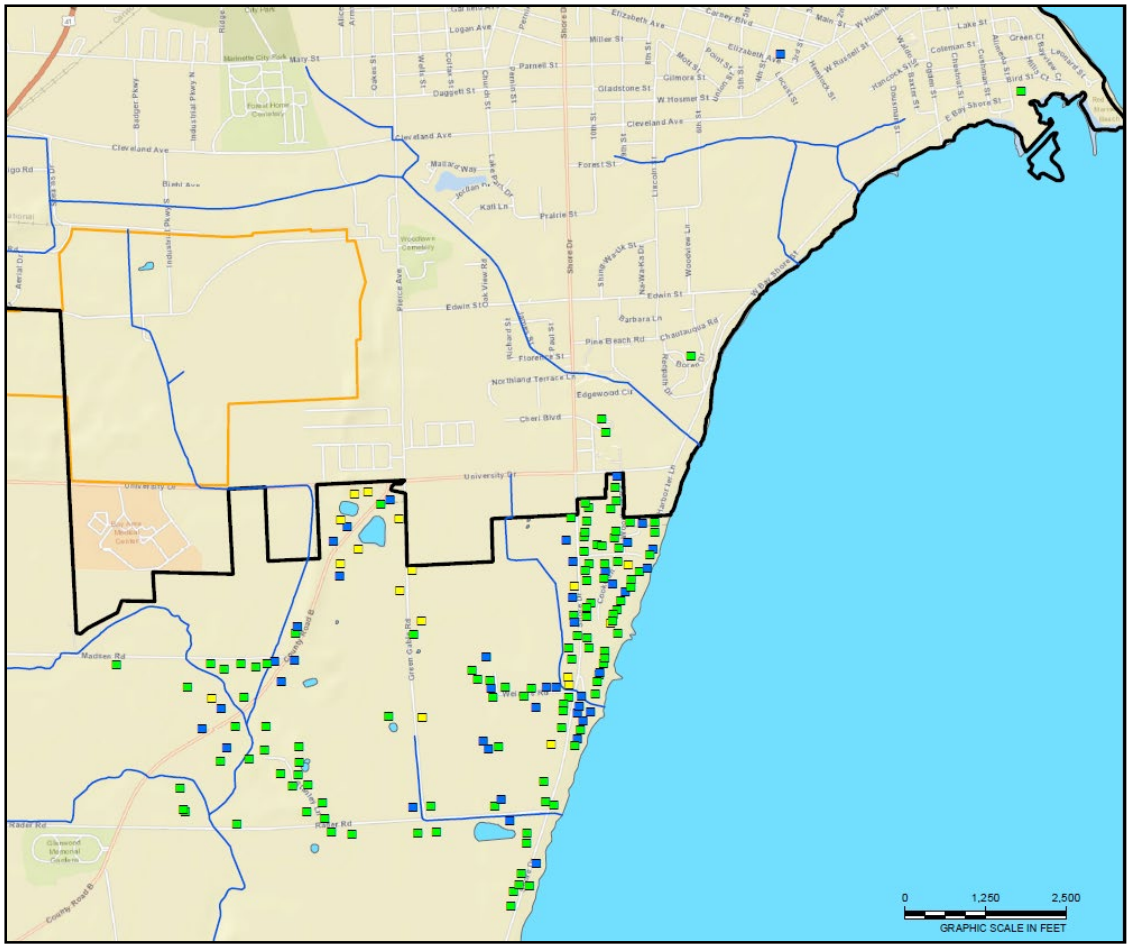


JCI Fire Technology Center

What's Known

Private Drinking Water:

- **29** exceed the DHS recommended groundwater standard of 20 ppt
- **37** point of entry treatment drinking water systems
- JCI offering bottled water to all in the sampling area



JCI Fire Technology Center

What's Next

Private Drinking Water:

- Further sampling of private wells
- Determine long-term solution for drinking water with those impacted
- Letter to JCI on July 9 with DNR comments
- September 2019 meeting with affected residents

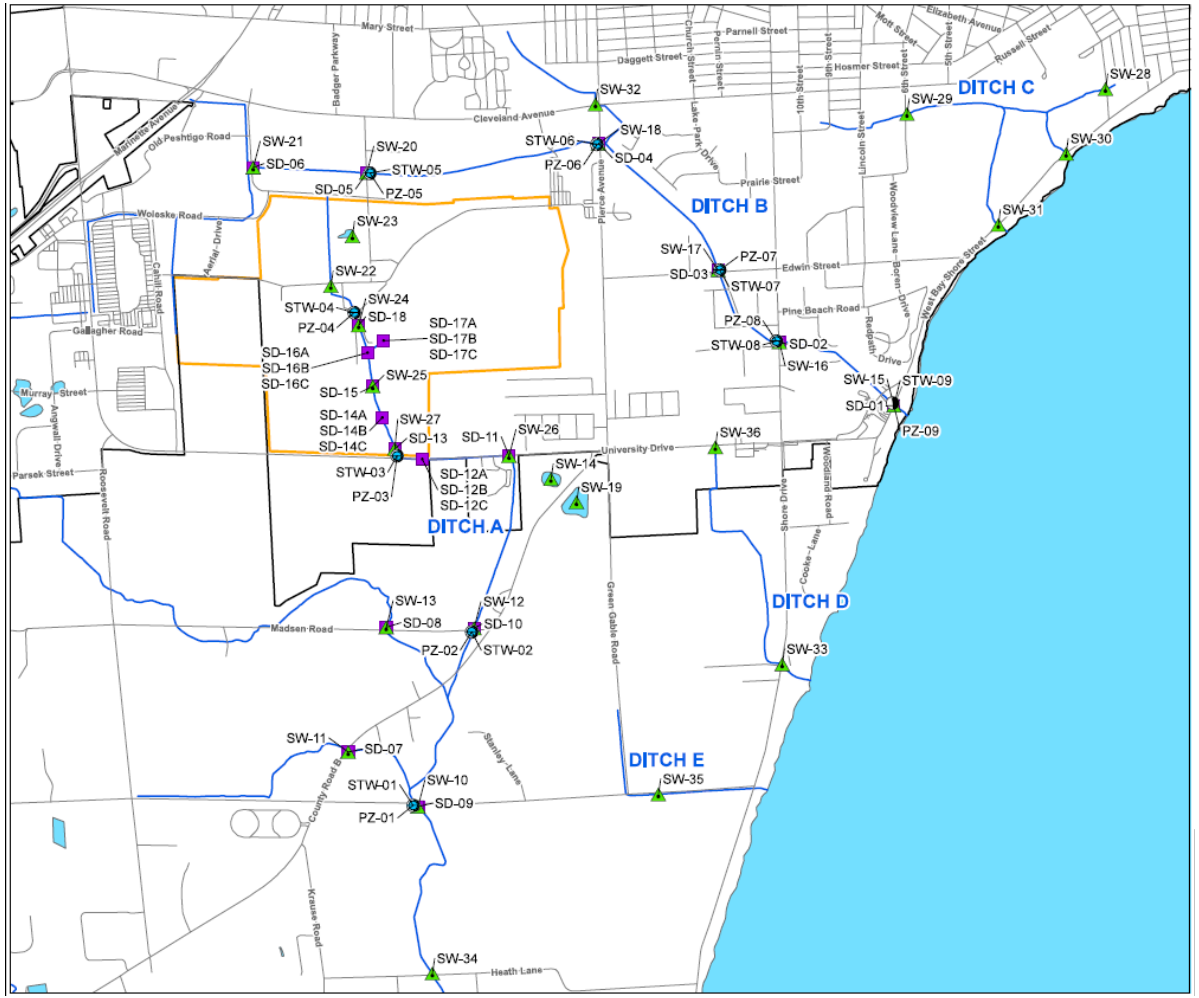
JCI Fire Technology Center

What's Known

Offsite: Surface Water

LEGEND:

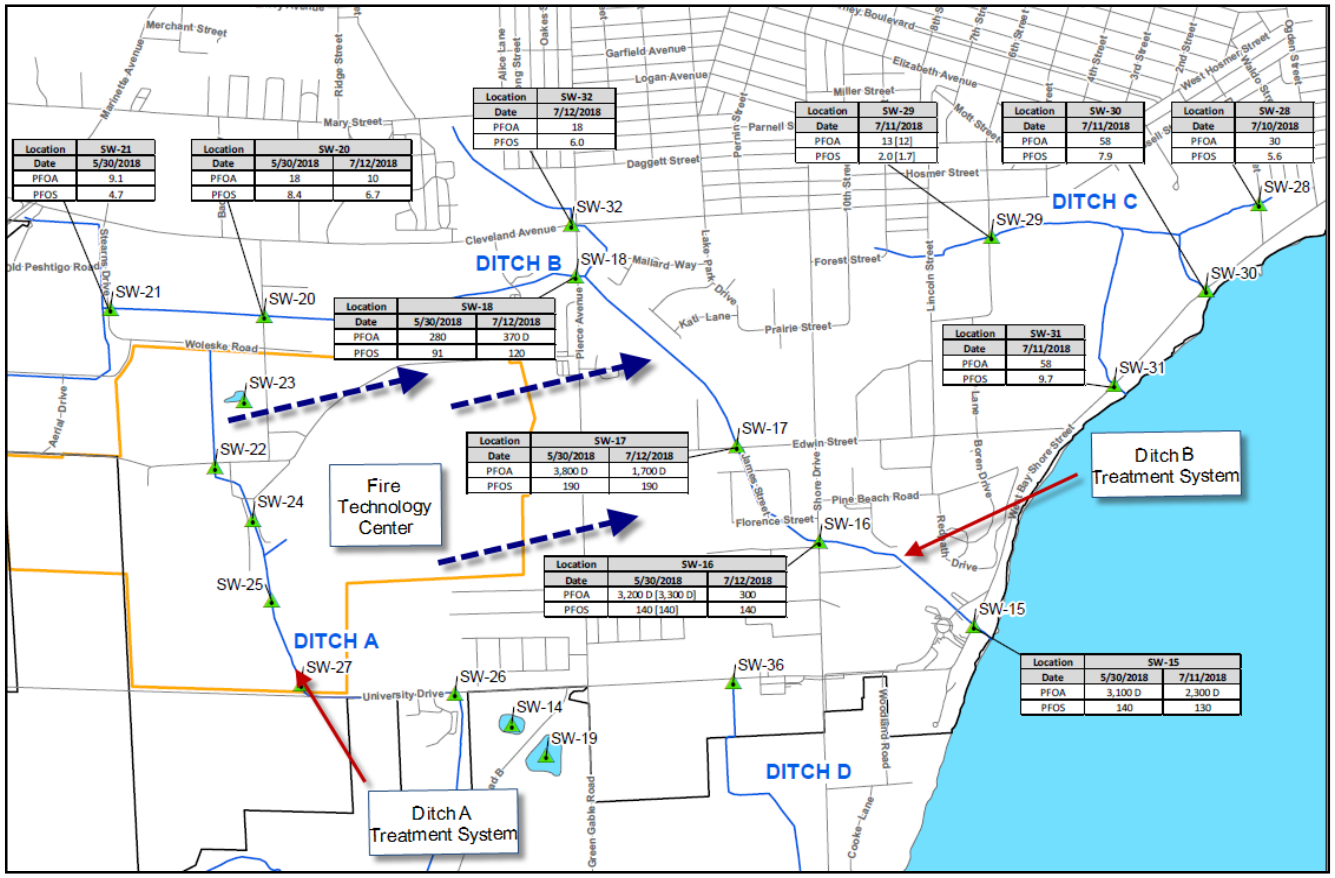
- SEDIMENT SAMPLE
- PIEZOMETER
- STILLING WELL
- SURFACE WATER SAMPLE
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- ROAD
- DITCH/STREAM
- WATERBODY



JCI Fire Technology Center

What's New

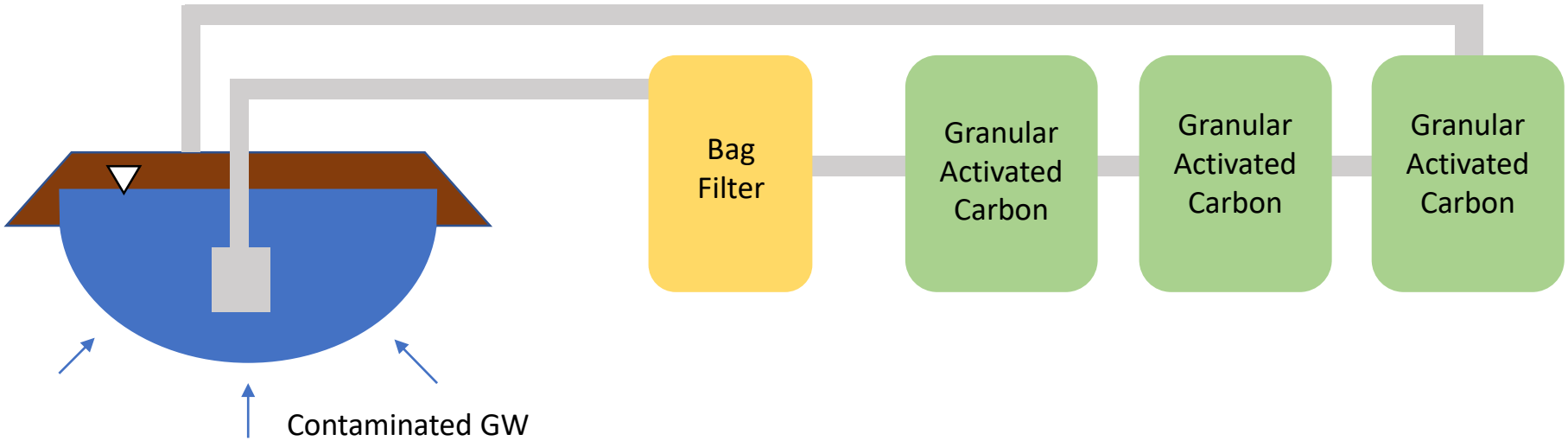
- WI DNR is currently using the Michigan surface water standards as guidelines:
  PFOA = 420 ppt
  PFOS = 11 ppt



JCI Fire Technology Center

What's New

- Ditch A and B Treatment
  - Withdraw and treat water, return to streams



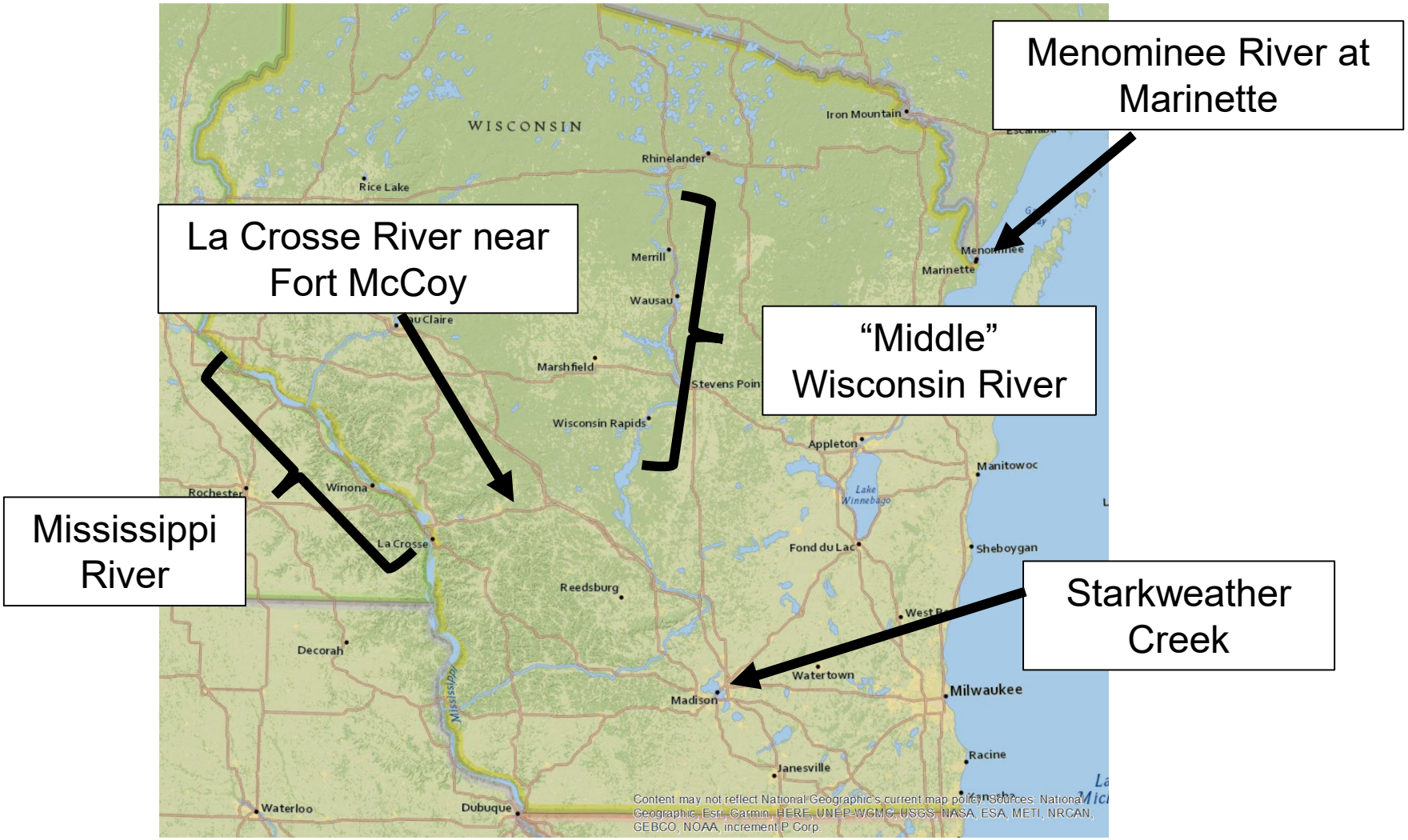
JCI Fire Technology Center

What's Next

Offsite: Surface Water

- Treatment at other ditches – Ditch B installation
- JCI will conduct surface water and fish sampling in:
  - Menominee River
  - Lake Michigan
  - Peshtigo River
- JCI will conduct fish sampling in select ponds
- DNR will conduct surface water and fish tissue monitoring - mid-late summer 2019 – Menominee River is included

2019 DNR Surface Water and Fish Tissue Monitoring Plans



DNR Surface Water Sampling

Waterbody	Source known?	Known contamination	Number of sample sites	Sample types
Menominee River from Scott Flowage to mouth	**Y**	**Groundwater wells, surface water**	**3-5**	**Fish & water**
Starkweather Creek from headwaters to Lake Monona	Y	Groundwater wells	4	Fish & water
La Crosse River and Silver Creek	Y	Groundwater wells	4	Water
Wisconsin River, middle reach	N	Groundwater wells, bald eagle plasma	3	Fish & water
Mississippi River Pools 3, 4, 6, & 8	Y	Surface water, fish tissue	4	Fish & water

Menominee River from Scott Flowage to mouth

DRAFT

Signs

ADVISORY

Possible Chemical Exposure Hazard

This water contains PFAS (per- and polyfluoroalkyl substances).
The Wisconsin Department of Health Services recommends people and pets avoid drinking or accidentally swallowing the water or foam. To best protect you and your family from potential PFAS exposure:

Avoid drinking or accidentally swallowing the water or foam.
Wash your hands after wading or playing in the water or foam.
Avoid having your pets wade in or drink the water.

For more health information, visit:
WI DHS website: www.dhs.wisconsin.gov/chemical/pfas.htm
WI DNR Fish Advisories: dnr.wi.gov/topic/fishing/consumption

This surface water is currently being investigated and cleaned up in accordance with Wisconsin laws.
For more information:
WI Department of Natural Resources & WI Department of Health Services: 1-800-XXX-XXXX
Johnson Controls, Inc. (Tyco), 1 Stanton St., Marinette, WI: 1-800-314-1381
WI DNR web site: XXX
WI JCI website: http://marinette.tycofpp.com/

Signs

- **July 1, 2019:** DNR letter to JCI requiring JCI to:
  - Work with locals & city on locations
  - Post signs at various surface water access points
  - Mail letters to all land owners adjacent to ditches A-E
  - Provide other notices
- **July 15, 2019:** JCI to provide DNR with a map of proposed locations, mock-up and draft letters
- JCI to install signs within **14 days** of DNR approval

Foam

- DNR is hiring a contractor to sample foam
- Developing process to take calls
- Michigan foam guidance – developing a similar process
- Working with DHS on health message

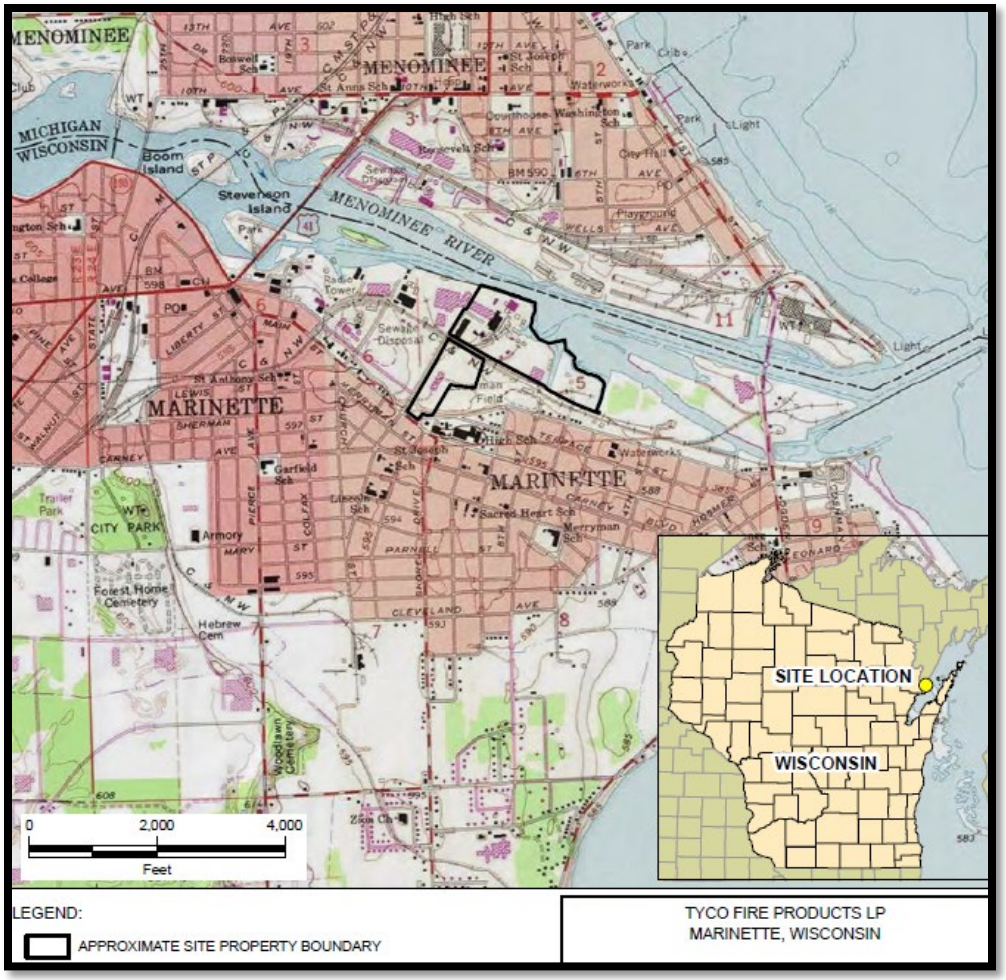
Photo credit: Michigan DHHS

JCI – 1 Stanton St.

JCI - 1 Stanton Street

What's New

- March 2019: Site investigation plan approved
- Investigation of soil and groundwater in 2019 – underway
- Must identify other pathways (e.g., air)



City of Marinette

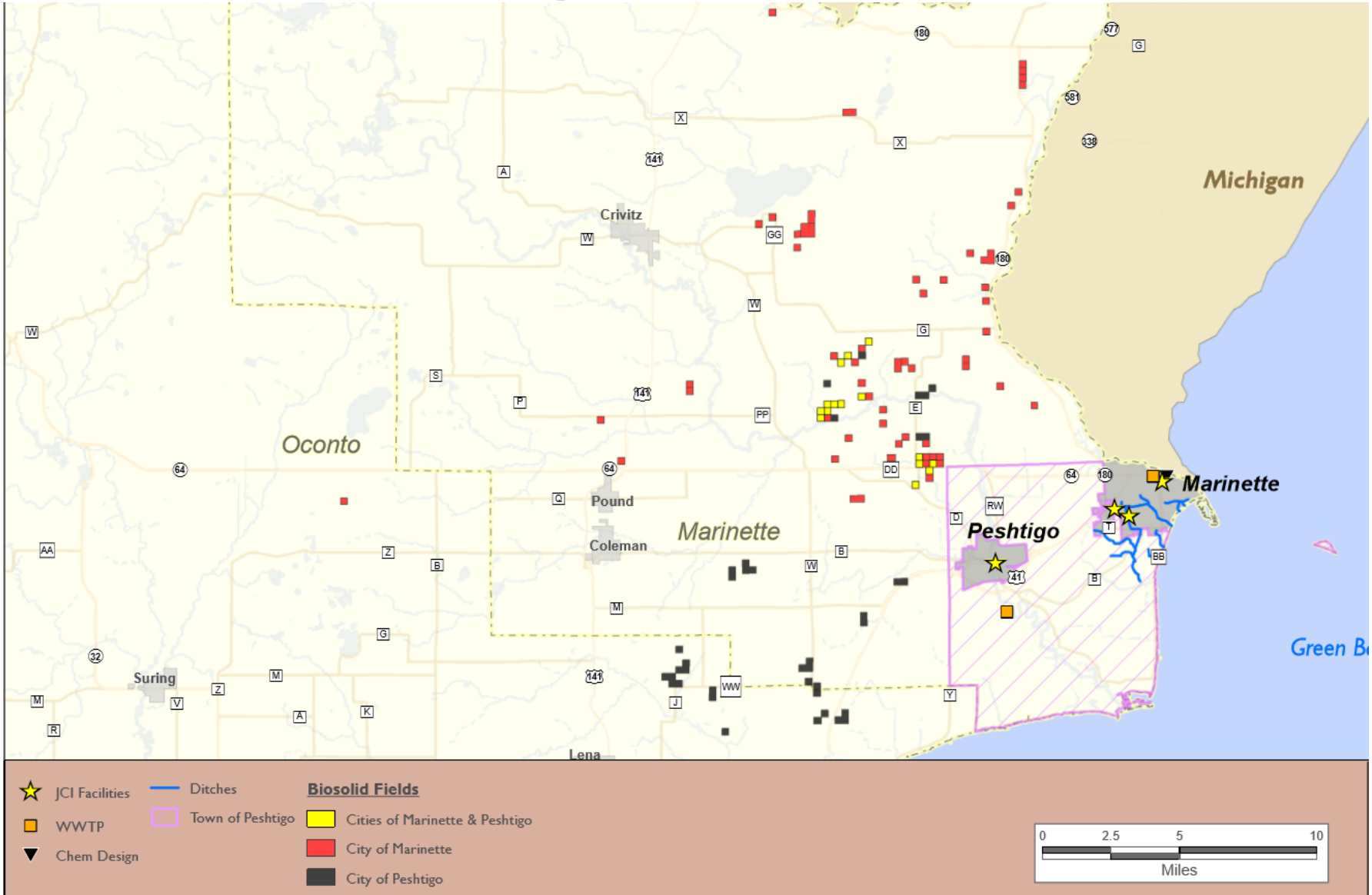
Wastewater Treatment Plant, Biosolids and Landspreading Fields

City of Marinette Biosolids and Fields

What's Known

- **September 2018:** DNR requested that Marinette cease landspreading
- Biosolids at 210,000 ppt PFOS
  10,000 ppt PFOA
- Location of fields
- Volume of biosolids spread on fields

Map of Fields



City of Marinette Biosolids and Fields

What's New

- **July 3, 2019** – DNR sent letter to JCI requesting:
  - Expand evaluation of biosolids sludge to the fields on which they were applied
    - Impact on farm field sites
    - Potential impacts to private wells
    - All potential transport pathways and routes of exposure
  - Expand testing of surface waters – Peshtigo and Menominee rivers

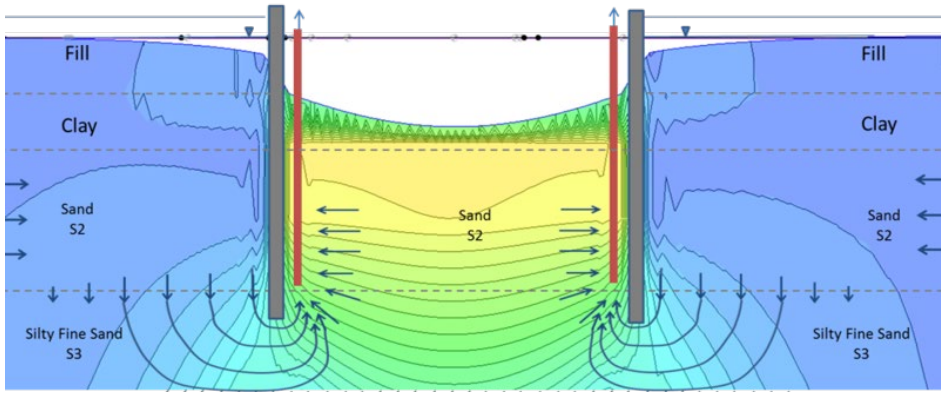
City of Marinette Biosolids and Fields

What's Next

- **September 3, 2019** – JCI site investigation work plan due to DNR
- Work with Marinette to identify alternative disposal options
- **Fall 2019:** Results of study in Michigan expected to inform strategy on biosolids
- DNR funding UW-Madison/State Lab of Hygiene Study on fields for past landspreading
- Prevent new sources of PFAS to sewer (i.e. dewatering projects)

Dewatering Projects

- DNR working with City on areas of concern
- Analyzing available groundwater data prior to permitting projects
- If adjacent to known PFAS contaminated site and no groundwater data available, sample may be requested
- If elevated PFAS is found, discuss options with applicant, require treatment if warranted



City of Peshtigo

Municipal Water, Wastewater Treatment Plant, Biosolids and Landspreading Fields

City of Peshtigo

What's Known

- **June 2019:** DNR requests Peshtigo cease landspreading of biosolids
- Biosolids at 26,000 ppt PFOS
  2,500 ppt PFOA
- Location of fields
- Volume of biosolids spread on fields

City of Peshtigo

What's Next

- DNR to support Peshtigo in addressing PFAS sources
- JCI is providing report to DNR and city on type of PFAS and possible sources
- DNR will determine next steps

Other Locations

DNR Evaluating These Other Locations

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ChemDesign
2 Stanton St. Marinette

- **July 2, 2019** – DNR sent a Responsible Party letter to ChemDesign

- ChemDesign required to:
  - By **September 2, 2019** - Submit site investigation work plan to DNR
  - Begin site investigation 60 days after work plan approval
  - Must identify likely & known migration pathways

JCI Foam Storage Warehouse 3100 Woleske Rd. Marinette

- **July 2, 2019** – DNR sent a Potential Responsible Party letter to JCI requesting information on:
  - Use, storage or discharge of PFAS-containing compounds by JCI or predecessor
  - History of occupancy and land use
  - Manufacturing and years of operation
  - Past/present production, usage, management, transportation or disposal
- Information in letter due to DNR by **September 2**

Warehouse used by JCI Pine St. Peshtigo

- JCI presented preliminary report to DNR
- Final report pending from JCI to DNR
- DNR will evaluate next steps

JCI – Other Locations

- **July 2, 2019** - DNR sent letter to JCI requesting information on:
  - WWTFs used for disposal of PFAS-containing wastewater
  - Landfills or incinerators used
  - Facilities used for the reconditioning or disposal of PFAS-containing totes and containers
  - Businesses acquired by JCI and predecessors that manufactured PFAS-containing products
  - Historic PFAS data collected on or off FTC property by previous environmental consultants
- Information in letter to DNR with by **September 2**

Wisconsin Department of Health Services

DHS' Work

- Evaluating literature to determine safe levels in water
- Identify exposure pathways at specific sites
- Make recommendations to prevent or reduce exposure
- Educate affected communities and local health professionals about site contamination and potential health effects

Search by iamcreator, Adrien Coquet, and Massupa Kaewgahya from the Noun Project

ATSDR's Work

- Multi-Site Health Study
  - 6,000 adults and 2,000 children across the country
  - >40 blood tests, interviews, medical records reviews
  - ✓ We can apply what is learned about PFAS exposure and health outcomes
- Exposure Assessment
  - Communities near current or former military bases with high levels of PFAS in drinking water
  - ✓ Understand environmental factors that affect PFAS exposure

How do PFAS get in our bodies?

MAJOR

Ingesting

Eating food or drinking water that contains PFAS

MINOR

Inhalation and Dermal

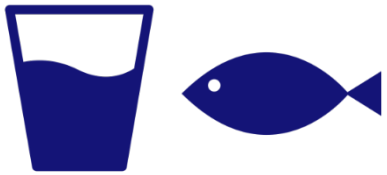
Breathing air or dust and touching water or material that contains PFAS

Search by Deemak Daksina, Julien Micolo, priyanka, and Marek Polakovic from the Noun Project

How do we lower our contact?

Use alternative water source and follow fish consumption advice

Use alternate water source if water has high levels of PFAS



Wash your hands after touching surface water or foam containing PFAS

PFAS does not easily enter through our skin, but washing our hands after touching surface water or foam with high levels of PFAS will limit what we accidentally ingest

Search by Deemak Daksina and Ecem Afacan from the Noun Project

DHS' Next Steps

- Evaluate multiple exposure pathways
  - Biosolids
  - Drinking water
  - Foam
  - Surface water
  - Other
- Continue support of DNR in assessing human health risks

Community Information Resources

DNR Websites

www.dnr.wi.gov

DNR Website

search: “Marinette Peshtigo PFAS”

BRRTS on the Web

search: “BOTW”

Other DNR Resources

- Handout in back of room
  - DNR email for JCI questions
  - DNR message line

Other Websites

- JCI https://tycomarinette.com/?archive
- City of Marinette https://www.marinette.wi.us/
- City of Peshtigo https://ci.peshtigo.wi.us/

Monthly Community Session

- Next 6 months
  - DNR will host a community listening session every month
  - Dates, times and location on DNR's Marinette and Peshtigo Area PFAS webpage

Questions
15 minutes

Wrap Up Q&A at Stations

END

Please feel free to visit tables