

PFAS IMPACTS: MARINETTE, PESHTIGO & SURROUNDING COMMUNITIES

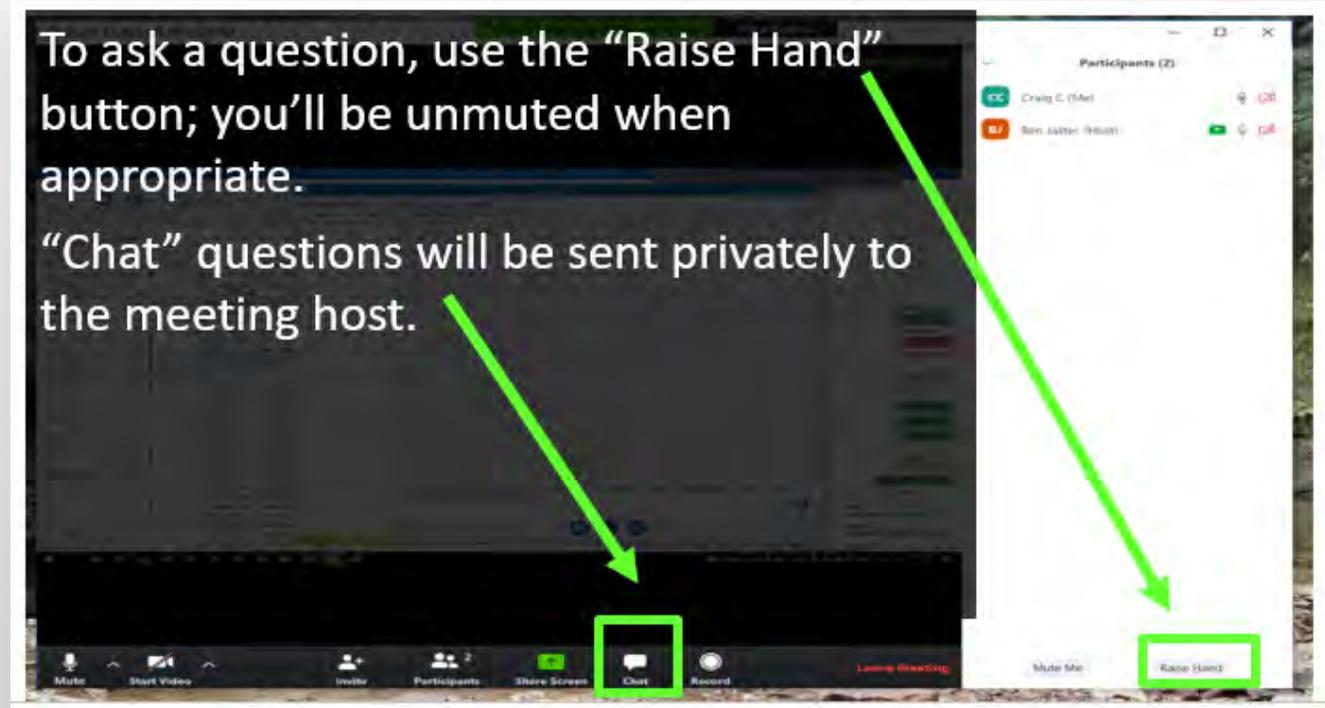
Listening Session 17

April 20, 2022



ZOOM MEETING LOGISTICS

- All attendees muted
- To comment/ask questions via **Zoom**
 - During Presentation:
Use **'chat'** to type questions
 - During Q/A Session:
Use **'chat'** to type questions or
Use **'raise hand'** to request to be unmuted
- To comment/ask questions via **Phone**
 - *9 raise hand
 - *6 mute/unmute



TEAM MEMBERS



DNR

Remediation and Redevelopment

- Alyssa Sellwood, Project Manager
- Christine Haag, Director
- Jodie Peotter, Brownfields, Outreach and Policy Section Chief
- Trevor Nobile, Field Operations Director
- Jenna Soyer, Program and Policy Operations Director

Drinking Water And Groundwater

- Kyle Burton, Field Operations Director

Water Quality

- Adrian Stocks, Director
- Heidi Schmitt-Marquez, Supervisor
- Alexis Peter, Wastewater Specialist
- Laura Gerold, Wastewater Engineer

Fisheries

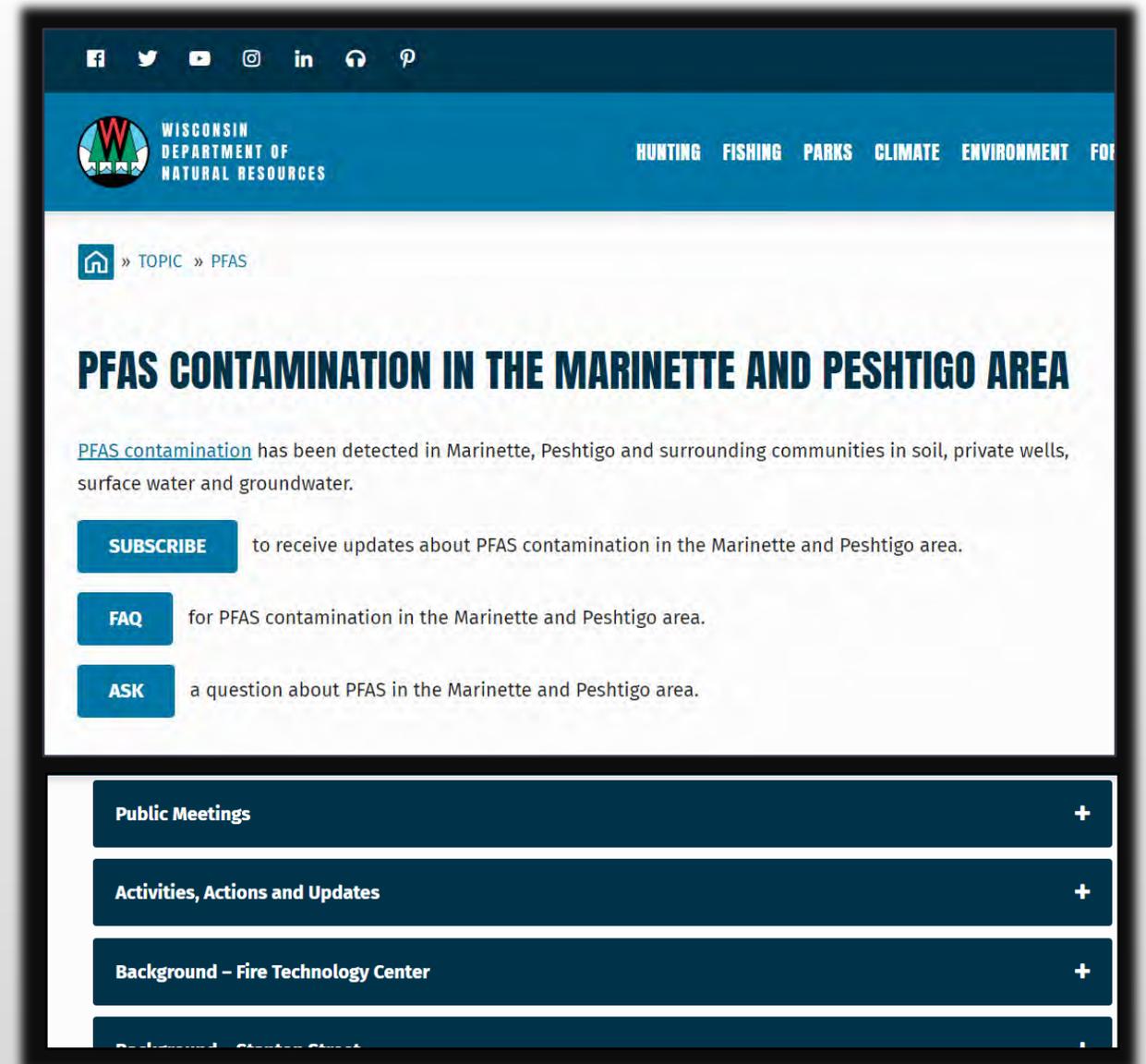
- Sean Strom, Environmental Toxicologist

Department of Health Services

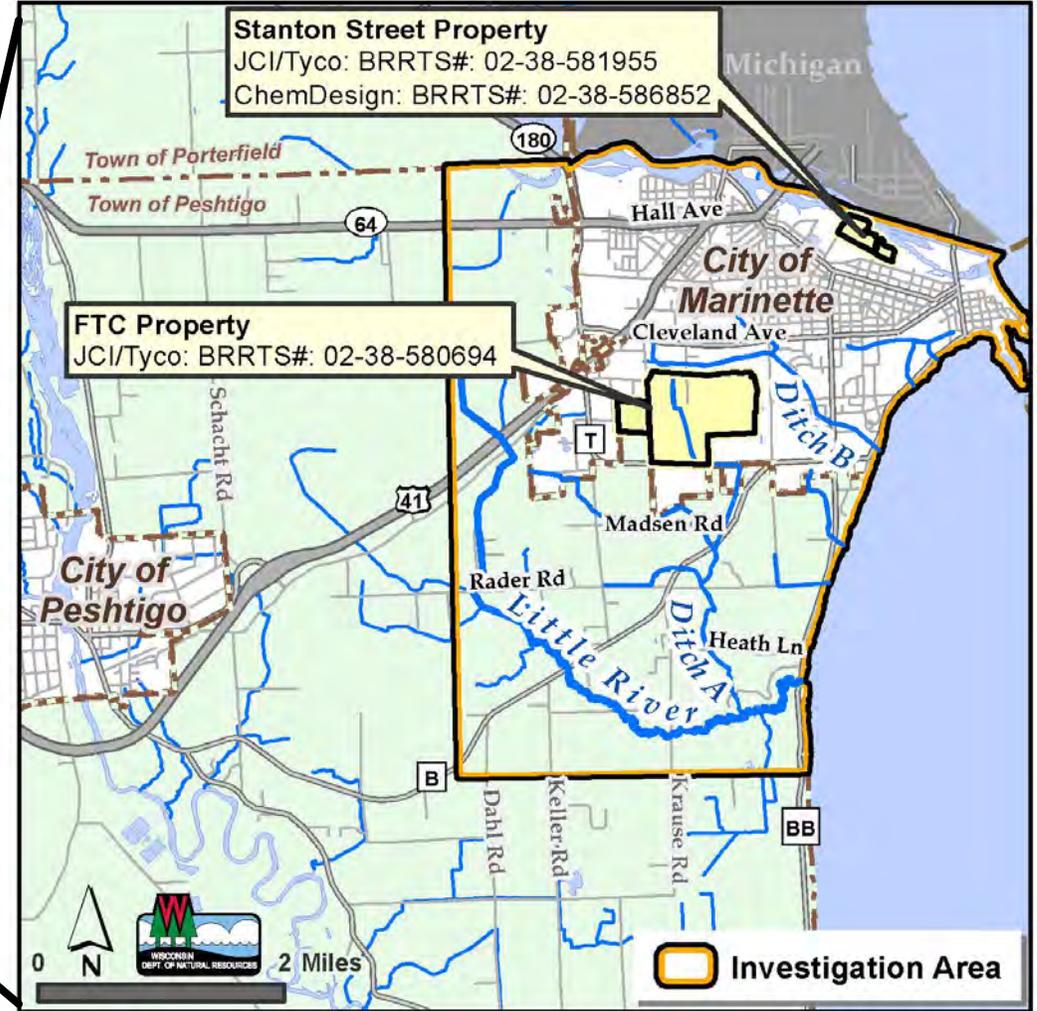
- Amanda Koch, Health Educator
- Nathan Kloczko, Site Evaluation Coordinator

STAYING CONNECTED

- DNR Website and FAQs
 - [DNR homepage](#) → search 'PFAS Marinette'
- Receive Email Updates
 - Sign up through the “**Subscribe**” Button
- Ask a Question / Voice a Concern
 - **Click** on the “**Ask**” Button
 - **Email** us: DNRJCIPFAS@wisconsin.gov
 - **Call** us: 1-888-626-3244

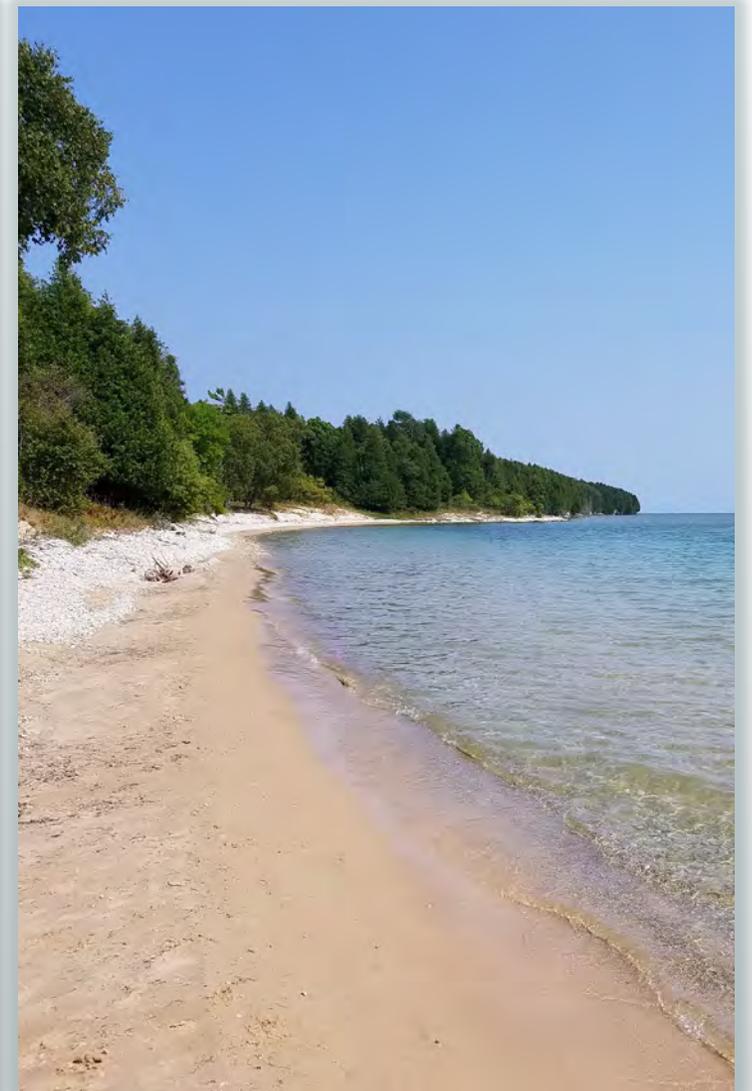


PFAS INVESTIGATION SITES IN MARINETTE PESHTIGO AREA



AGENDA

- I. Regulatory Updates
- II. Fish Advisory
- III. Interim Action Updates
- IV. Biosolids Study Area Updates
- V. FTC Updates
- VI. Q/A Session





REGULATORY UPDATES

CHRISTINE HAAG, DNR REMEDIATION & REDEVELOPMENT PROGRAM DIRECTOR

DEPARTMENT OF JUSTICE (DOJ) LAWSUIT

MARCH 14, 2022



- **DOJ** filed complaint against JCI/Tyco for FTC Site
- **DNR** cannot comment on the DOJ case
- **DNR** continues...
 - to see that JCI/Tyco completes its site investigation
 - to see that JCI/Tyco takes actions to restore the environment and minimize the harmful effects of the PFAS contamination.
 - to supply bottled water to those DNR is currently assisting in the ESIA

UPDATE ON RULEMAKING FOR PFAS

NATURAL RESOURCES BOARD (NRB) ON FEBRUARY 23, 2022



Proposed Rule	NRB Actions	What this Means
1) Groundwater standard <i>PFOA + PFOS ≤ 20 ppt</i>	Did not advance rule	DHS's public health recommendations unchanged DNR continues to use DHS recommendations
2) Public Water Systems MCL <i>PFOA + PFOS ≤ 20 ppt</i>	Advanced to Governor and Legislature with modification <i>PFOA + PFOS ≤ 70 ppt</i>	Criteria for public water systems
3) Surface water standards <i>PFOS ≤ 8 ppt and PFOA* ≤ 95 ppt</i> <i>(PFOA ≤ 20 ppt if public water supply)</i>	Advanced rule to Governor and Legislature	Criteria for surface water discharge permits and cleanup actions

MCL = Maximum Contamination Level
ppt = parts per trillion

DNR AUTHORITY TO REGULATE PFAS

WAUKESHA COUNTY CIRCUIT COURT RULING ON APRIL 12, 2022

- “Spills Law”: RP must restore environment & minimize harmful effects of discharge of **hazardous substance (Wis. Stat. 292.11(3))**
- DNR has rules in place (NR 700) for RP to follow Spills Law
- Judge Michael Bohren questioned DNR’s authority to regulate “emerging contaminants” under Spills Law
 - The judge hasn’t issued a written order yet; once issued, he has agreed to a temporary stay until he hears arguments about whether his order should be stayed while the DNR appeals it
 - Hearing to evaluate stay scheduled for June 6th
- RP may continue to follow NR 700 rules for reporting, investigating and cleanup of **hazardous substances**



RP = Responsible Party

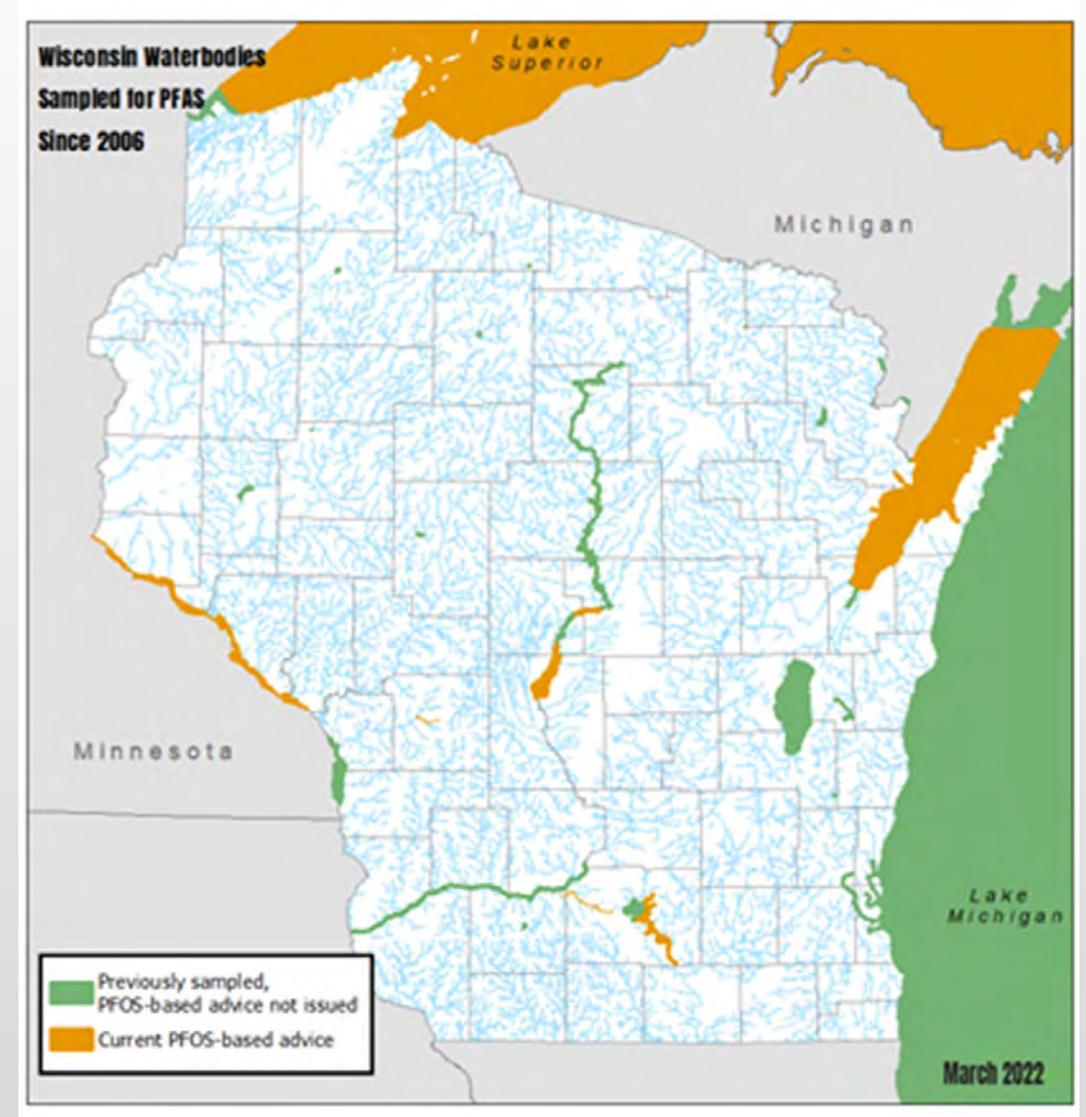


FISH ADVISORY

SEAN STROM, DNR ENVIRONMENTAL TOXICOLOGIST

FISH CONTAMINANTS MONITORING PROGRAM

- Samples from 10 to 50 sites/year
- Primary Contaminants
 - **Mercury (Hg)**
 - **PCBs**
 - Banned Chlorinated Pesticides (Primarily Great Lakes)
 - Dioxins/Furans (Select species in Great Lakes and WI River)
- “Emerging” Contaminants
 - **PFAS** = Growing concern and priority!



DNR-DHS ADVISORY DETERMINATION

- Great Lakes Fish Advisory Consortium
- Utilize tissue concentrations and meal frequencies
- Advisories according to species and reach/chain/waterbody
- Concentrations of specific contaminants
 - Look at average, maximum, sample size
 - Frequency distribution in meal category
 - Concentration-Length Relationship (PCBs and Hg)
- Number of years min to relax is 2 yrs in last 10 yrs
- **Strength of data and best professional judgment**

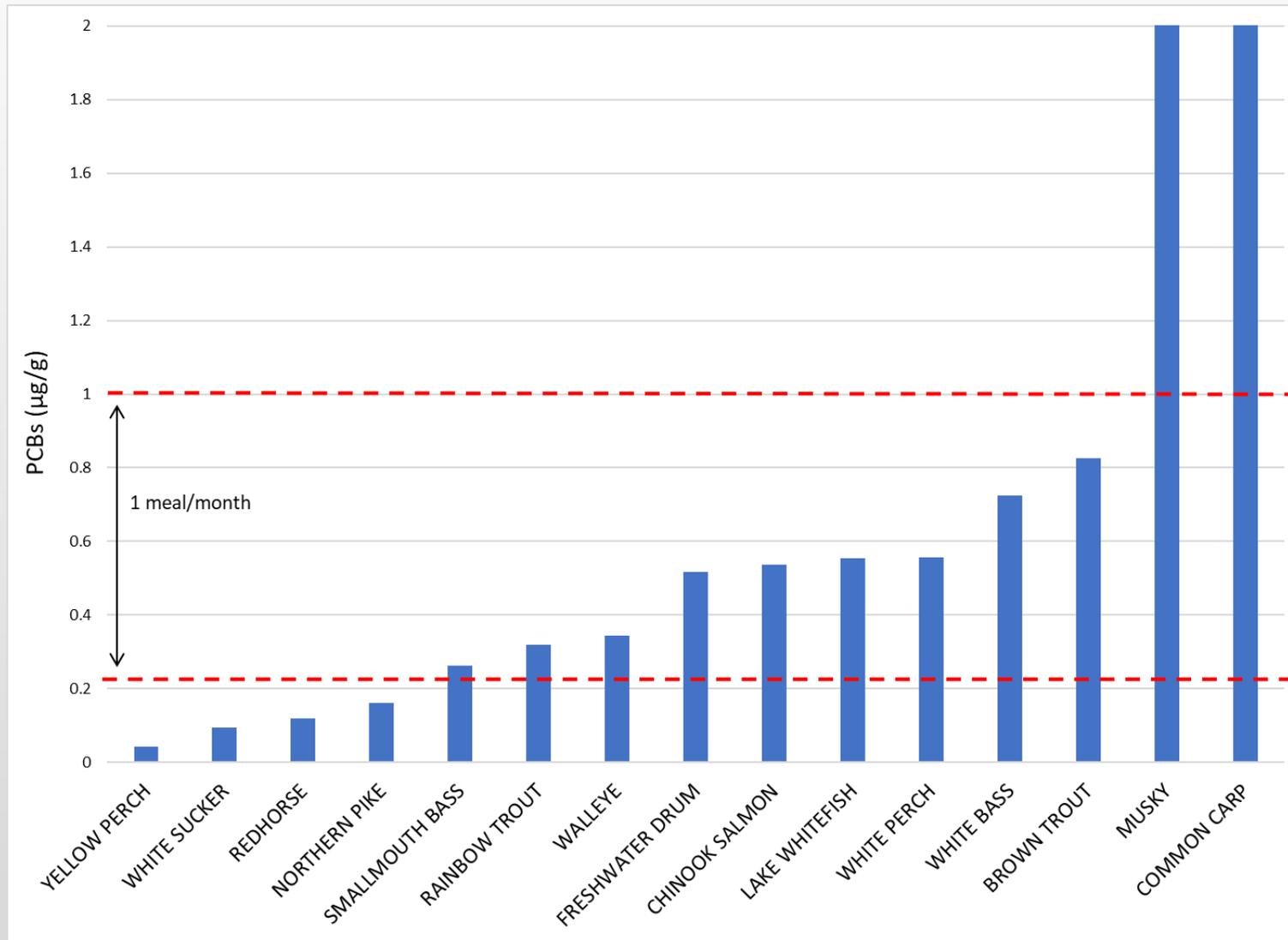
Great Lakes Consortium for Fish Consumption Advisories



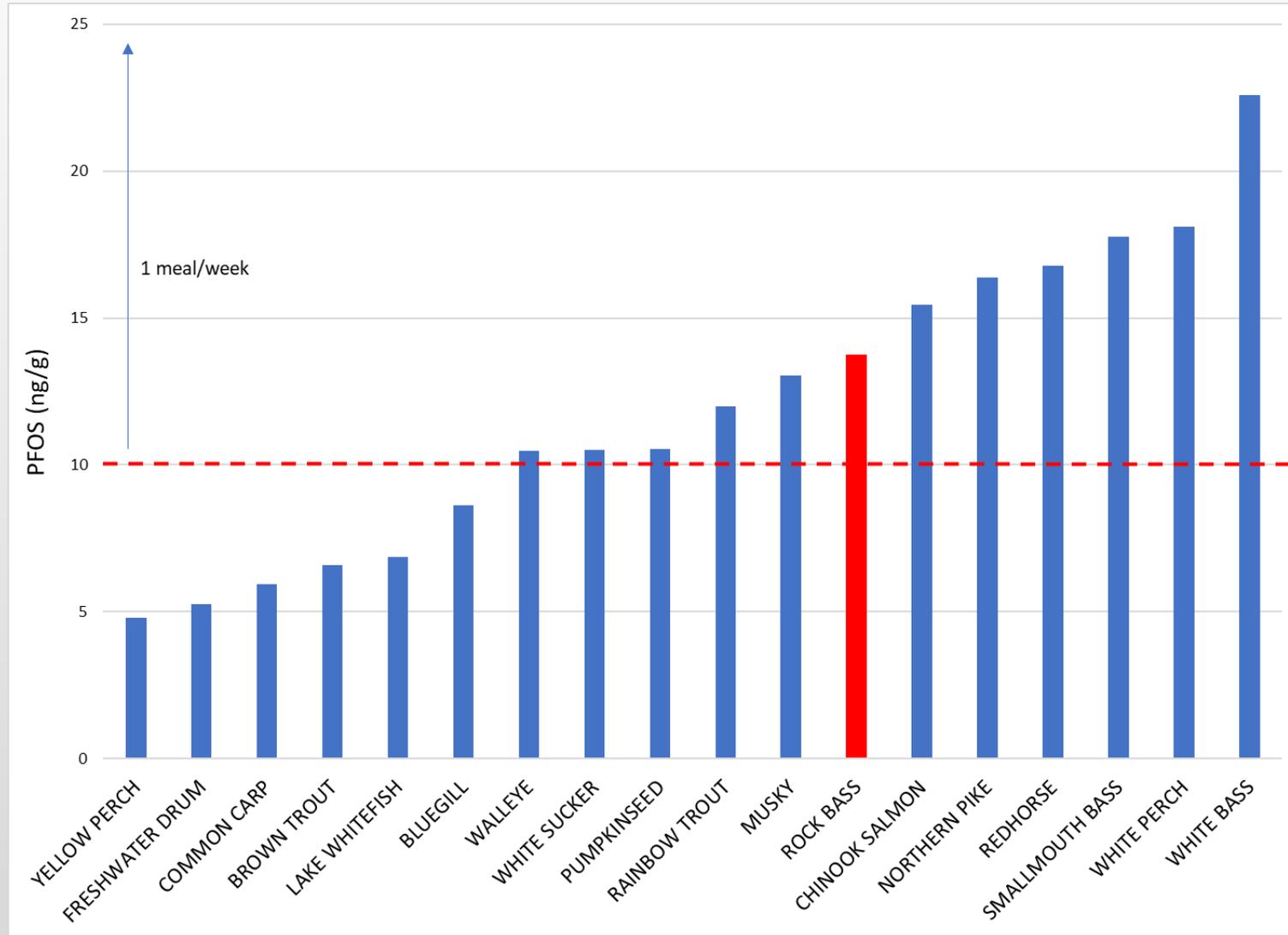
Best Practice for Perfluorooctane Sulfonate (PFOS) Guidelines

November 2019

PCB LEVELS IN GREEN BAY (+ TRIBUTARY) FISH



PFOS LEVELS IN GREEN BAY (+ TRIBUTARY) FISH



SUMMARY

- Rock bass only species which warranted a PFOS-specific advisory
- PCBs are still the primary contaminant for Green Bay (and tributary) fish
- Examining accumulation patterns (with Great Lakes Consortium)
- Work with WI Dept. of Health Services to issue new advisories as needed

WISCONSIN DEPARTMENT OF NATURAL RESOURCES PFAS FISH CONSUMPTION ADVISORIES

DATE ISSUED: JANUARY 2022

WHERE

Green Bay and all of its tributaries up to the first dam including the Oconto, Peshtigo and Menominee rivers.

WHAT

A new consumption advisory for rock bass of one meal per week for everyone.

WHY

Recent sampling shows elevated levels of perfluorooctane sulfonate (PFOS) in the fish tissue of rock bass taken from the Peshtigo River. As a result, the Wisconsin Department of Natural Resources (DNR) and the Department of Health Services are recommending a new consumption advisory.

PFAS DEFINITION

PFOS is one of many per- and polyfluoroalkyl substances (PFAS). PFOS detection is the driving force behind establishing fish consumption advisories. PFAS are a group of human-made chemicals used for decades in numerous products, including non-stick cookware, fast food wrappers, stain-resistant sprays and certain types of firefighting foam. These contaminants have made their way into the environment in a variety of ways, including spills of PFAS-containing materials, discharges of PFAS-containing wastewater to treatment plants and certain types of firefighting foams. PFAS are very resistant to breaking down. **PFOS, in particular, builds up in fish tissue, but how it builds up is hard to predict.**

HEALTH RISKS

PFAS can be stored in your body for years. Health risks may increase as you eat more fish that are high in PFAS. Following these consumption advisories will help protect you from excess PFAS exposure and other contaminants found in fish, including mercury and polychlorinated biphenyls (PCBs).

Exposure to high levels of certain PFAS may:

- Increase cholesterol levels
- Decrease how well the body responds to vaccines
- Increase the risk of thyroid disease
- Decrease fertility in women
- Increase the risk of serious conditions like high blood pressure or pre-eclampsia in pregnant women
- Lower infant birth weights

SITE SPECIFIC ADVISORY FOR Green Bay And Its Tributaries		
GUIDELINES FOR EVERYONE (PFOS)		
Species	Up to 1 meal per week	Up to 1 meal per month
Rock bass	All sizes	



Find consumption advice in the DNR's [Choose Wisely: A Health Guide For Eating Fish In Wisconsin](#).

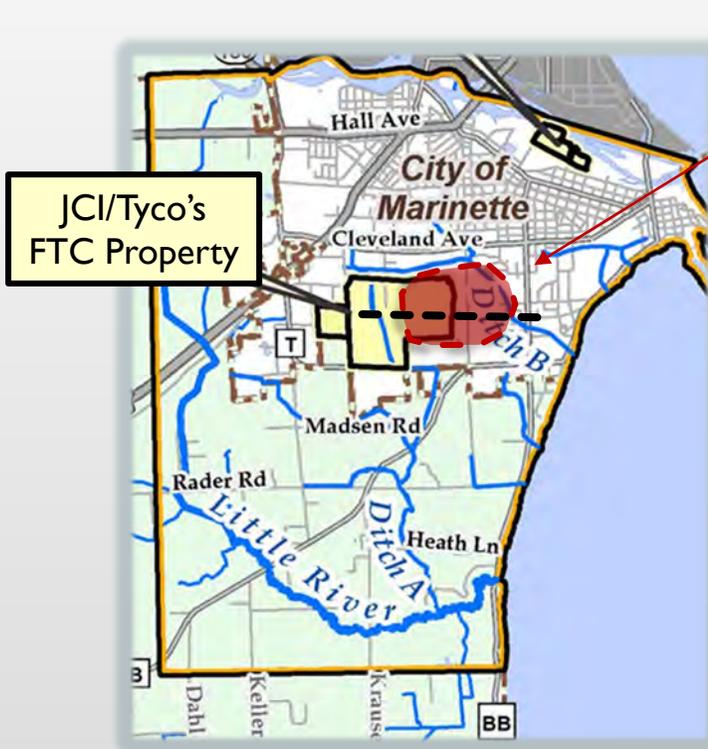


INTERIM REMEDIAL ACTION UPDATES: 'GETS' AND FOAM

ALYSSA SELLWOOD, DNR PROJECT MANAGER

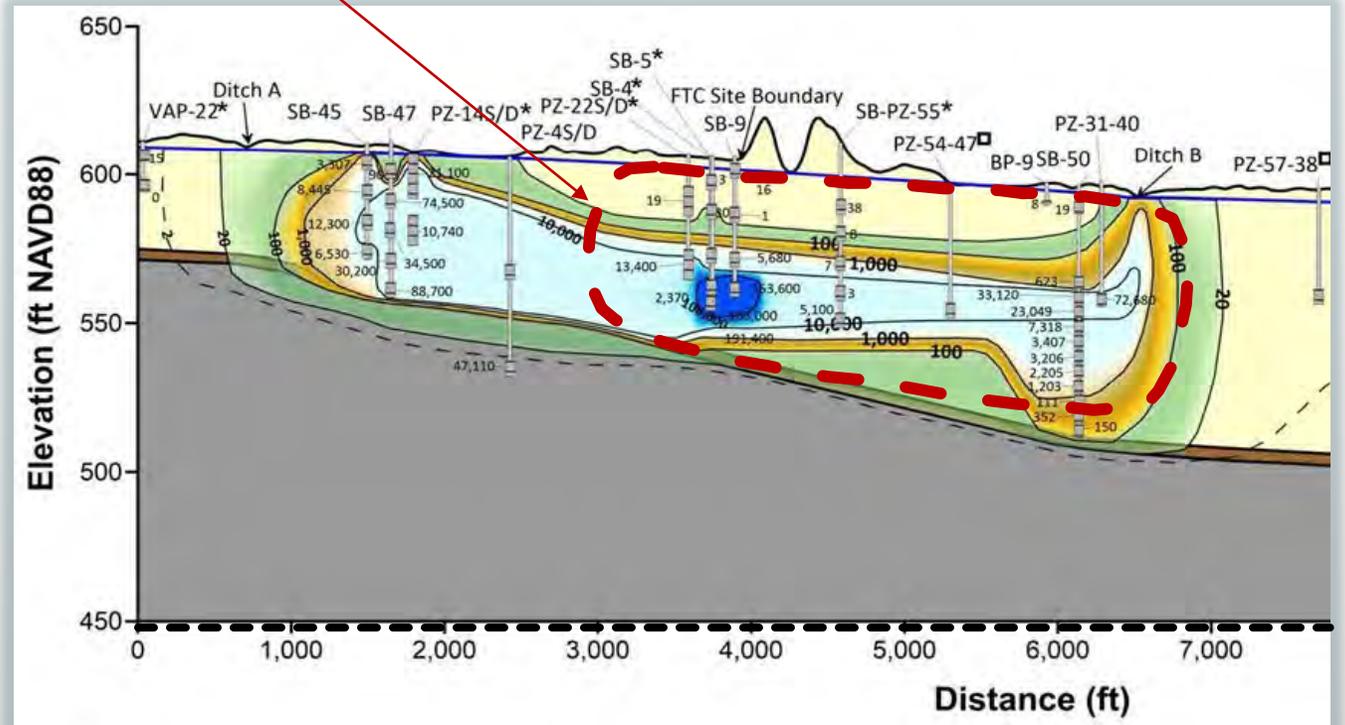
INTERIM REMEDIAL ACTION

GROUNDWATER EXTRACTION AND TREATMENT SYSTEM (GETS)



GETS Capture Zone
(approximate)

Cross-Section (Below Ground)



GOALS: Capture & treat groundwater with high PFAS concentrations. Limit PFAS going into Ditch B.

INTERIM REMEDIAL ACTION

GETS CONSTRUCTION WRAP-UP



Nine Groundwater Extraction Wells



Below Ground Conveyance Pipes



Treatment Building →



Discharge Outfall
(treated water back to Ditch B)



INTERIM REMEDIAL ACTION

GETS OPERATION BEGINNING SUMMER 2022

Expectations

1. Monitoring (*before, during and after startup*)
 - Data to measure success/outcomes of GETS
2. Slow-Startup & Fine-Tuning (*many months*)
 - Slowly start pumping (~1 month for all nine wells)
 - Operate at full capacity and fine-tune
 - Achieve WPDES limits
3. Overtime (*decades*)
 - Less PFAS in Ditch B
 - Slow Improvement in groundwater near GETS
 - Less PFAS flowing into Green Bay



Photo of inside of the groundwater treatment building [JCI/Tyco]

INTERIM REMEDIAL ACTION

FOAM COLLECTION UPDATE

DITCH B: JCI/TYCO FOLLOWING FOAM RESPONSE PLAN

- JCI/Tyco deployed booms in March (once ice gone)
- Foam observed starting March 18th
 - JCI/Tyco inspecting booms daily
 - JCI/Tyco collecting foam for disposal
- Reminder to public:
 - Avoid contact with foam for people and pets
 - Wash hands and pets to minimize potential ingestion

Surface water foams can accumulate PFAS when PFAS is present in the water.

PFAS have been detected in the foam in Ditch B.



Photo of Ditch B foam collected at boom. March 2022.

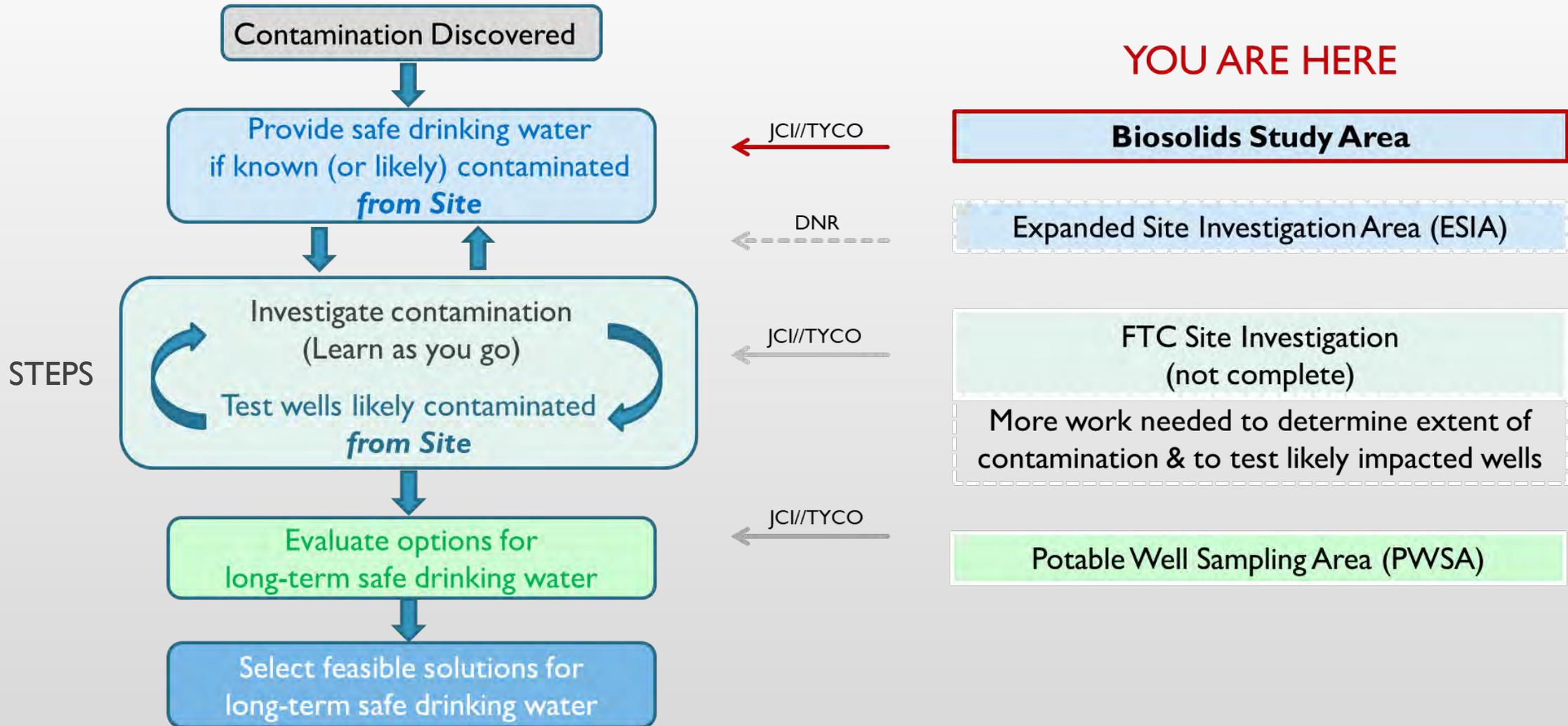


BIOSOLIDS STUDY AREA

BOTTLED WATER OVERVIEW

SITE INVESTIGATION UPDATE

DRINKING WATER & SITE INVESTIGATION



BIOSOLIDS STUDY AREA

DRINKING WATER

RECAP 2020/21

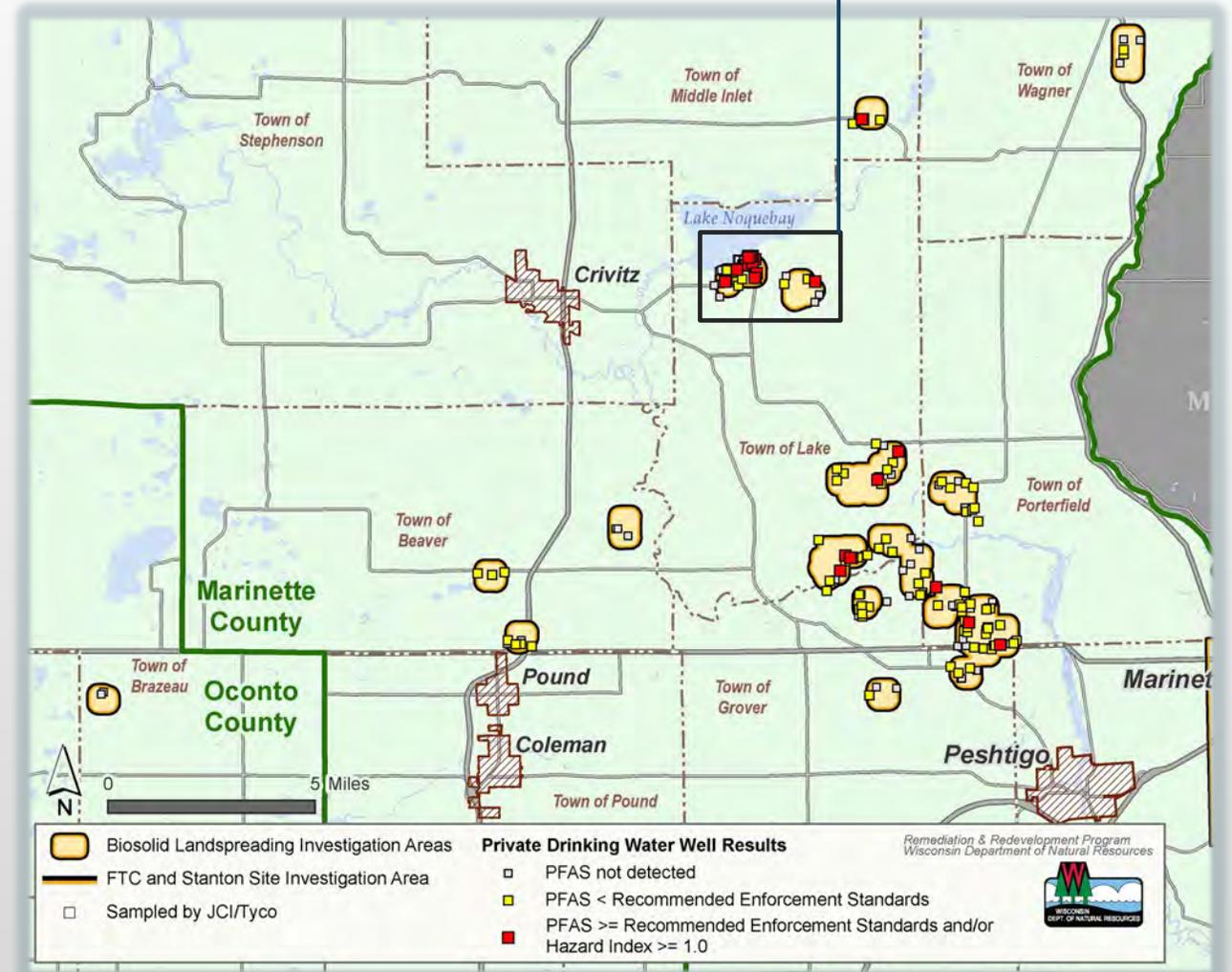
Testing + Bottled Water

- Wells within ~1,200-ft of fields where Marinette biosolids were landspread *
- 191 private drinking water wells tested
- 30 wells offered bottled water (if PFAS \geq DHS's recommendations)

* *Why These Fields?*

Testing of Marinette's biosolids in 2018 found high PFOS

Detailed Map on Next Slide →

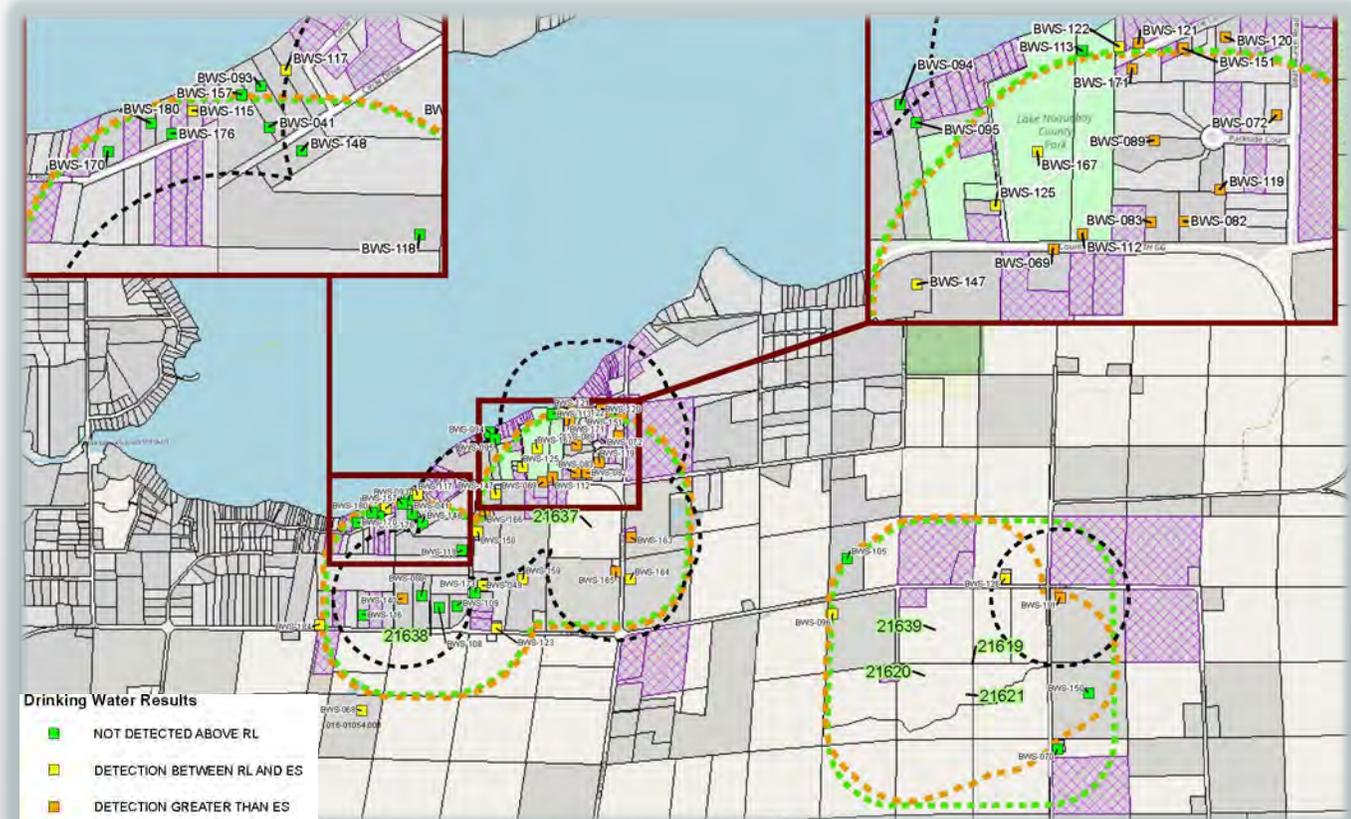


BIOSOLIDS STUDY AREA

DRINKING WATER UPDATES FOR 2022

Bottled Water

- DNR asked JCI/Tyco to test more wells
 - within 2020/21 testing area, no response (**dash line**)
 - within 2020/21 testing area, omitted (**dash line**)
 - within 1,200-ft of well \geq DHS recommendations (**dash line**)
- JCI/Tyco offering bottled water while they start the site investigation
- 196 additional properties offered bottled water



Lake Noquebay: Map of Properties offered Bottled Water in 2022 (purple hatch)
Wells tested in 2020/21 (green, yellow, or orange squares)
Parcel with field approved for Marinette biosolids (green number)

BIOSOLIDS STUDY AREA

PRELIMINARY SITE INVESTIGATION

UPCOMING IN 2022



Example of direct push sampling for soil and groundwater

Start Site Investigation

- ✓ Questionnaire to landowners
- ✓ Review historical records
- ✓ Select 5 biosolids fields and 1 'background' field
 - Collect soil samples
 - Collect groundwater samples
 - Collect surface water samples?
- ✓ Analyze and develop work plan for next steps

Begin to learn about extent of PFAS contamination.

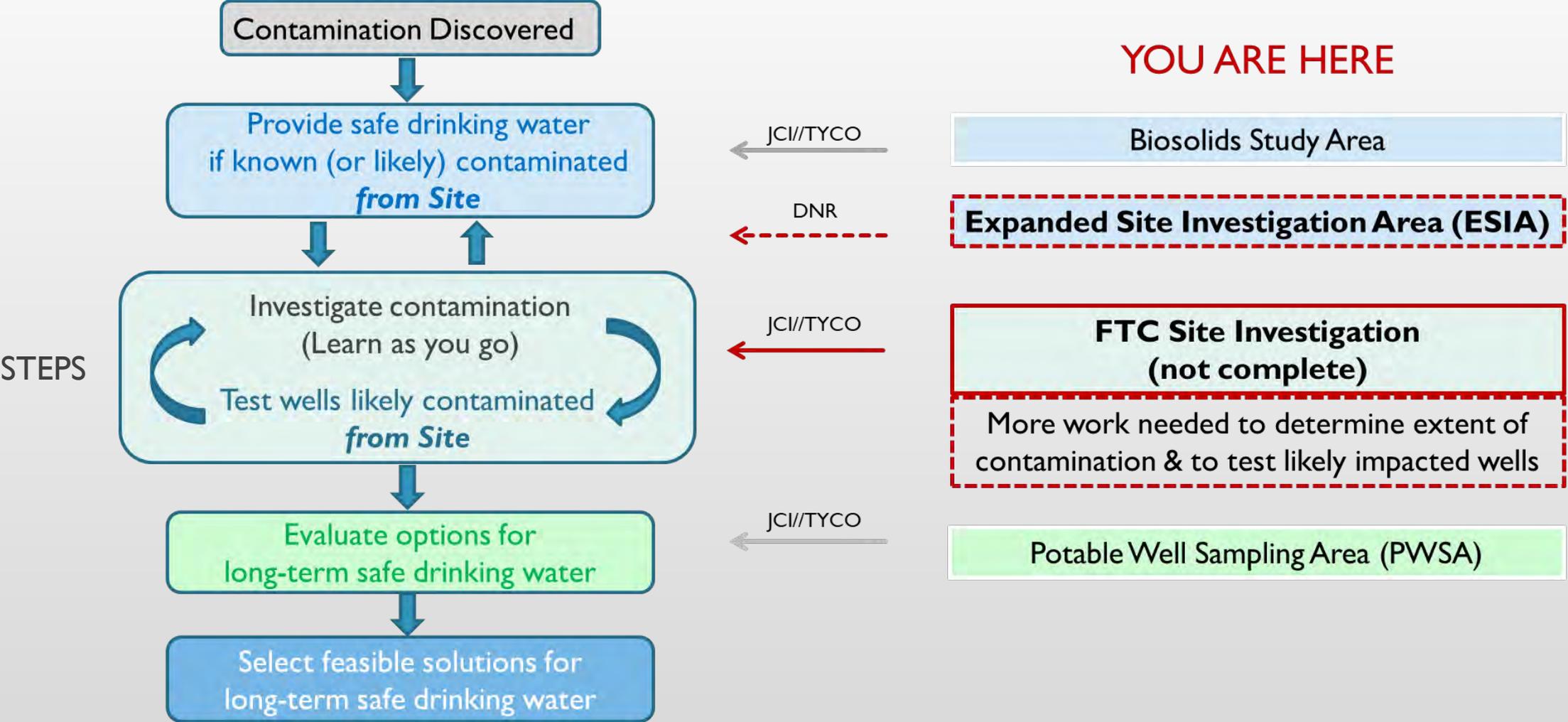


FTC SITE

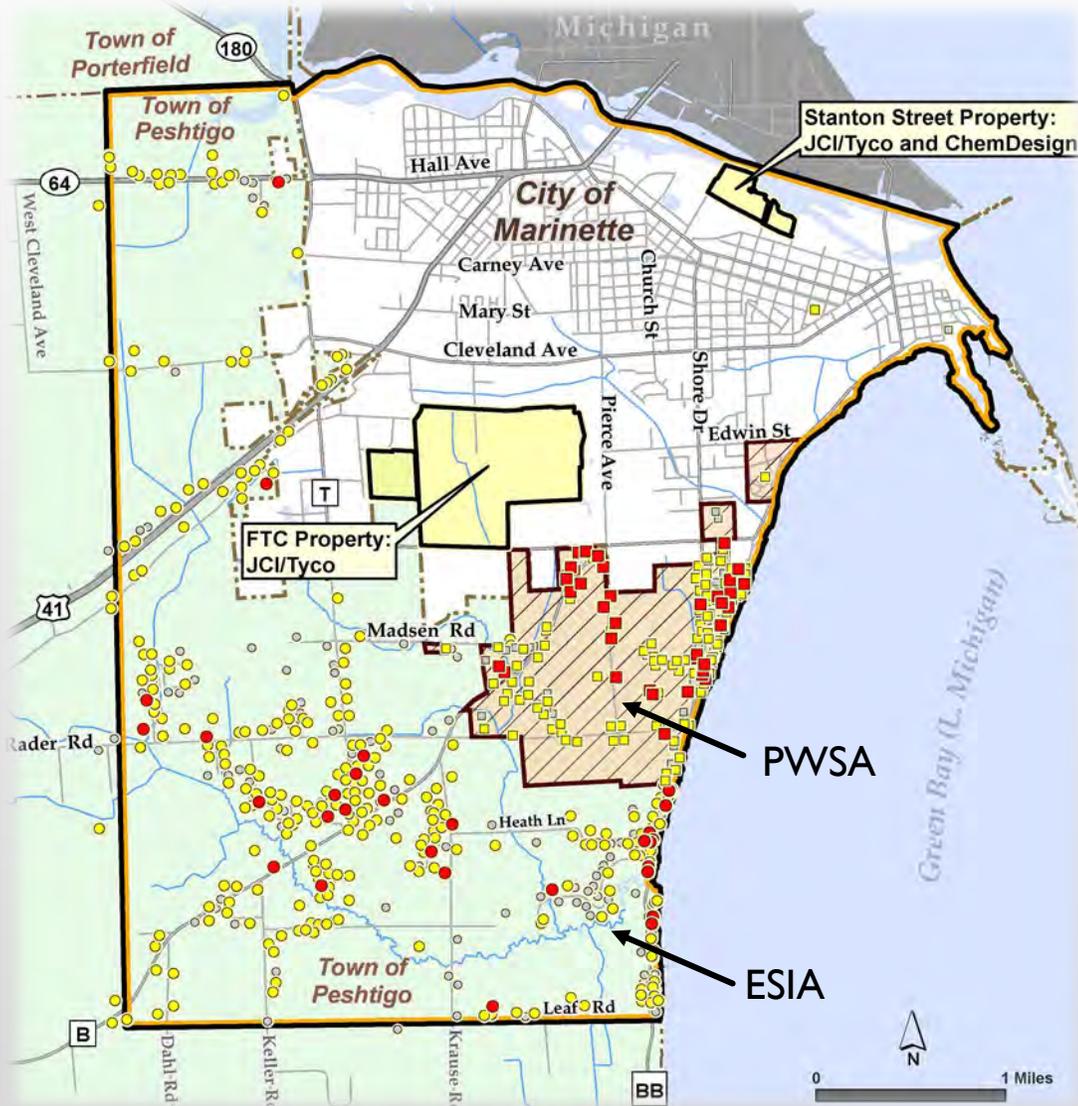
ADDITIONAL SITE INVESTIGATION

LONG-TERM SAFE DRINKING WATER UPDATES

DRINKING WATER & SITE INVESTIGATION



FTC: DRINKING WATER & SITE INVESTIGATION



□ Potable Well Sampling Area (PWSA)

- Bottled Water Service/POETS Continue
- JCI/Tyco *Improving Investigation*
- JCI/Tyco Evaluating Long-Term Water

○ Expanded Site Investigation Area (ESIA)

- Bottled Water Service Continues
- JCI/Tyco *Beginning Investigation*

NUMBER OF DRINKING WATER WELLS

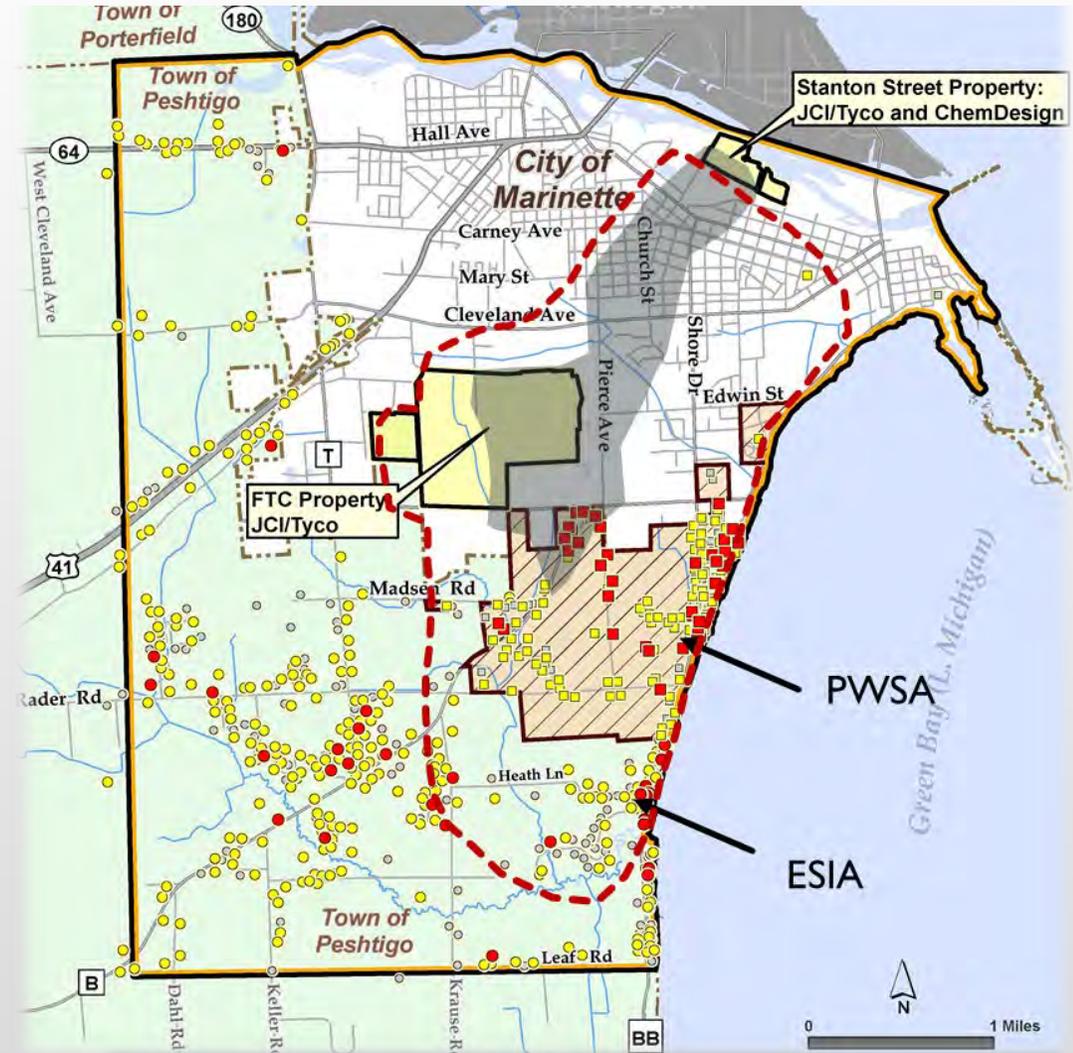
Testing Result	PWSA	ESIA
○ □ PFAS Not Detected	38	85
● □ PFAS < DHS Recommendations	97	298
● □ PFAS ≥ DHS Recommendations or Hazard Index ≥ 1	38	32

FTC: ADDITIONAL SITE INVESTIGATION

MONITORING NETWORK EXPANDED TO COVER MORE AREA

PERMANENT MONITORING WELLS (MW)

LOCATION	PREVIOUS PFAS MW NETWORK (Grey Area)	NEW PFAS MW NETWORK (Red Outline)
FTC Property	14	30
City and town around the FTC Property	24	95
TOTAL	38	125

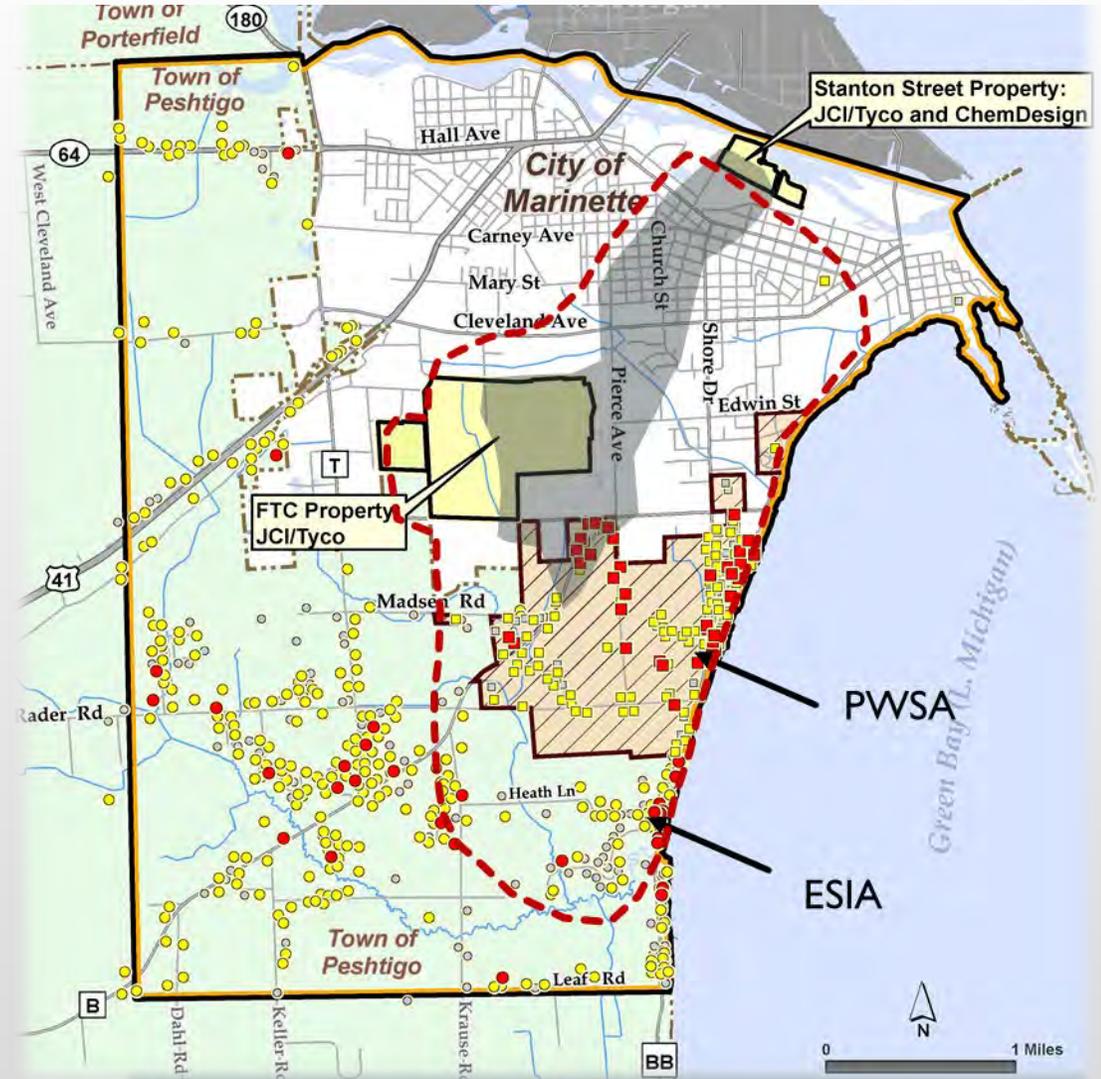


Monitoring wells previously tested for PFAS in **gray** area
NEW monitoring network outlined in **red** dash

FTC: ADDITIONAL SITE INVESTIGATION

MONITORING NETWORK PROGRESS & IMPROVEMENTS

- Permanent Monitoring Network: **Why is it required?**
 - Better data quality
 - Find location/depth of PFAS contamination
 - Track change in PFAS over time
- Expected Improvements: **Steps to complete investigation**
 - Better understanding of area and depth of PFAS impacts
 - Begin to evaluate where and how PFAS is moving
- More investigation and information to come...



Monitoring wells previously tested for PFAS in gray area
NEW monitoring network outlined in red dash

FTC: ADDITIONAL SITE INVESTIGATION

REPORTING

WINTER 2022/23



I. Update Data

- Plume maps
- Groundwater flow maps
- Surface water data



2. Evaluate Results

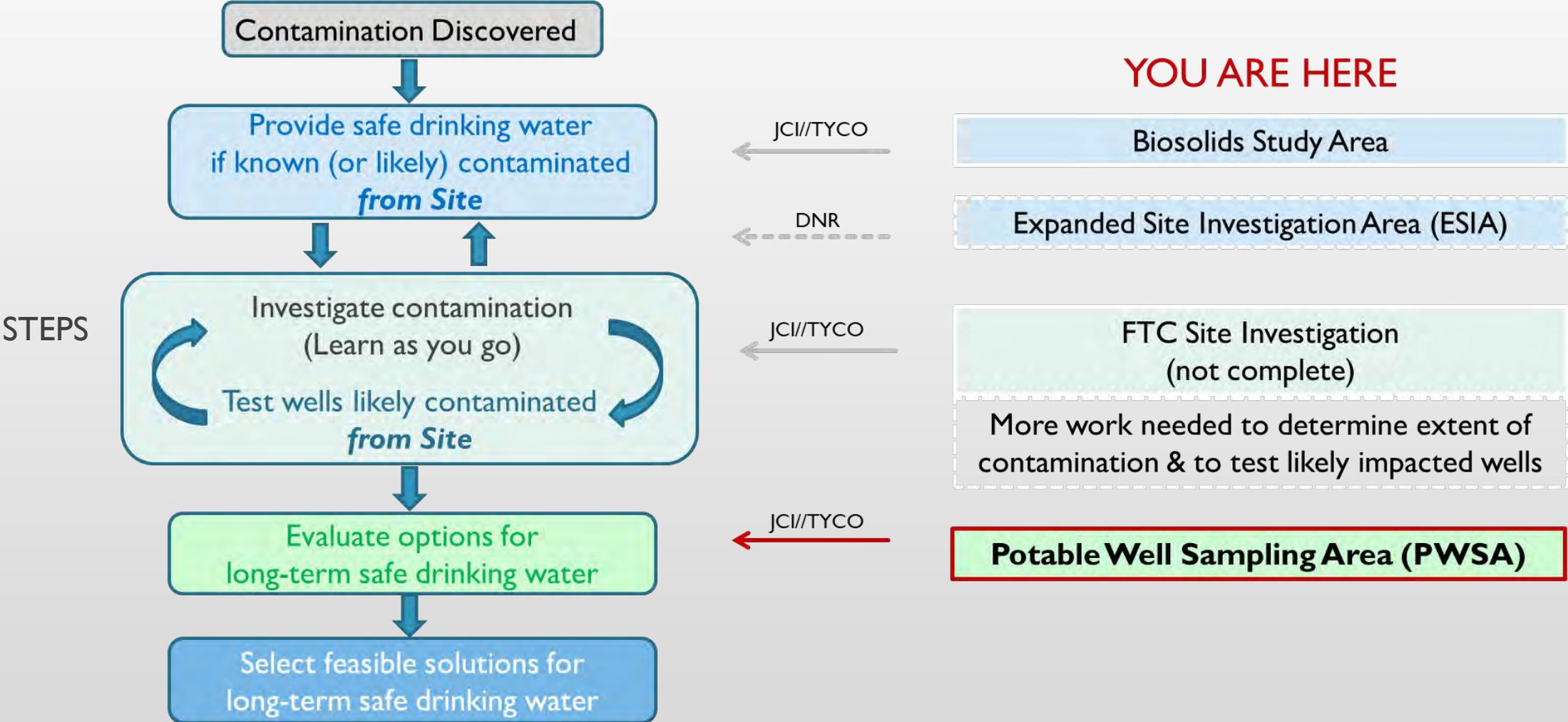
- Where did surface water move PFAS?
- Where did groundwater move PFAS?
- Did PFAS migrate other ways?
- Are boundaries defined?



3. Determine Next Steps

- Continue monitoring, where?
- Add locations, where?

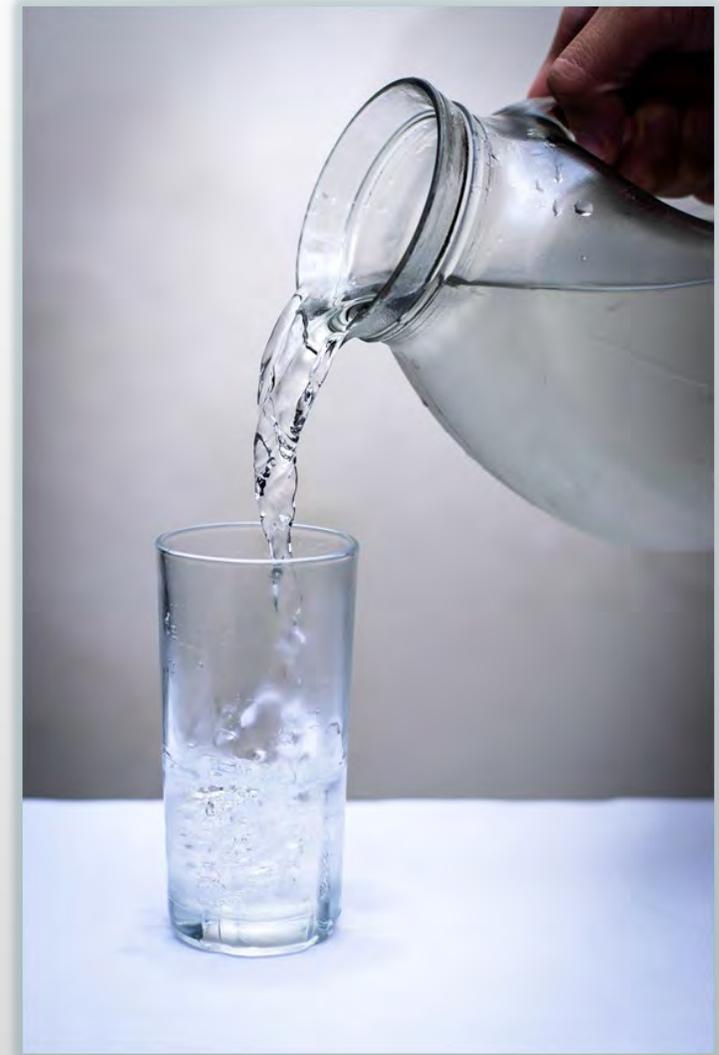
DRINKING WATER & SITE INVESTIGATION



FTC: DRINKING WATER

LONG-TERM WATER DNR'S ROLE

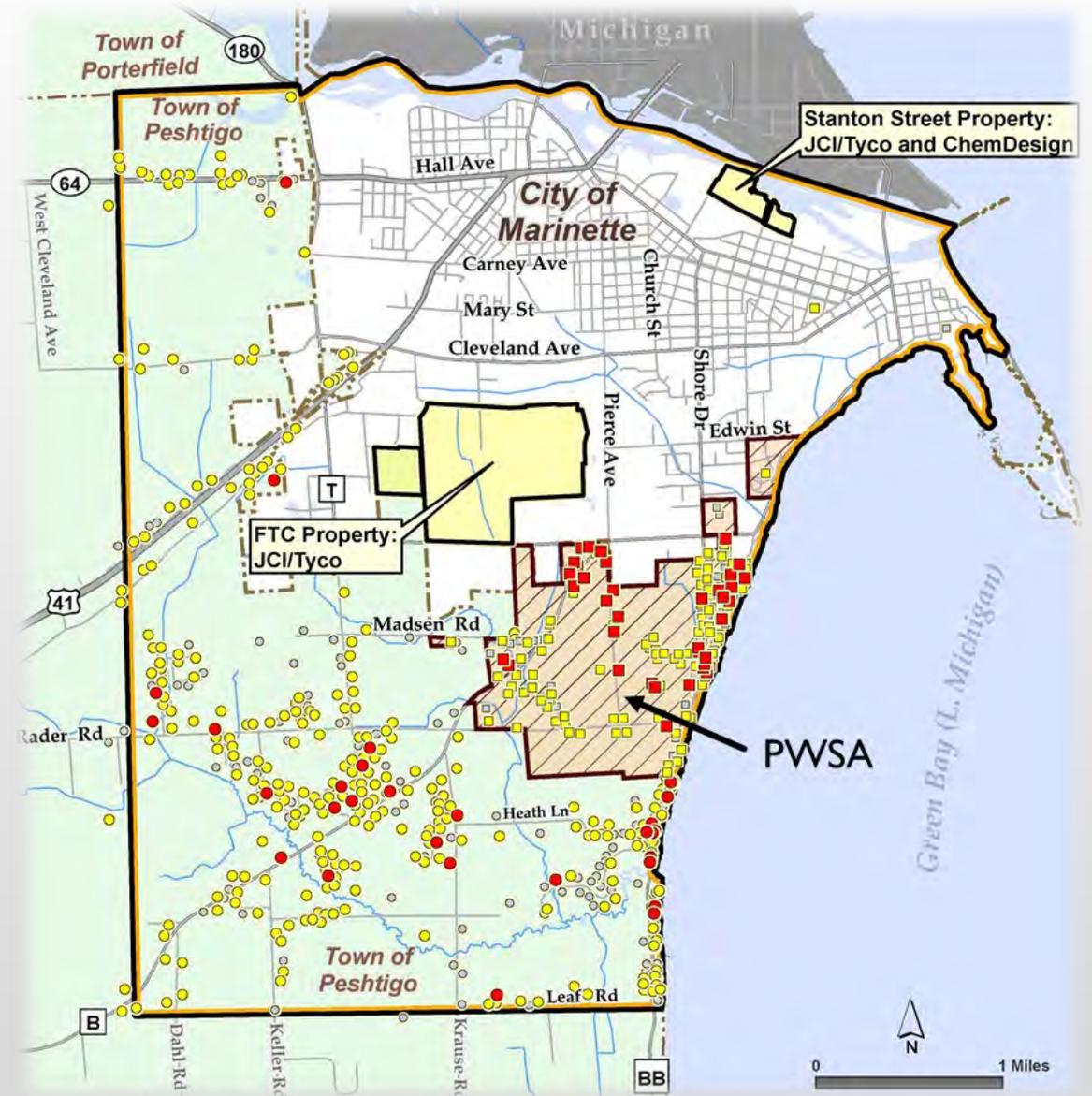
- Make sure JCI/Tyco's investigation is sufficient
 - Where is the contamination from the Site
 - Where may contamination from Site move in the future
- Make sure JCI/Tyco looks for viable options
- Make sure JCI/Tyco conducts outreach
- Make sure JCI/Tyco follows through on implementation



FTC: DRINKING WATER

LONG-TERM WATER JCI/TYCO'S RECENT OUTREACH

- Calls to Potable Well Sampling Area (PSWA)
- Info Sheets to PWSA Residents
 - Municipal Options
 - Who Supplies? *Local Process* and *PSC Approval*
 - Who Receives? *Feasibility and Investigation Results*
 - Deep Well Option
 - Groundwater Quality (aesthetic and radium)
 - Long-term protection from PFAS





STAYING CONNECTED

- DNR Website (*Search “PFAS Marinette”*)
 - Subscription list (*receive updates on recent actions*)
 - Project reports/records (*search BRRTS database*)
 - Progress/Milestones (*click on actions tab*)
- Contact DNR
 - Email (DNRJCIPFAS@wisconsin.gov)
 - Hotline ([888-626-3244](tel:888-626-3244))
- DNR Listening Sessions

Next Listening Session
October 26, 2022

PUBLIC COMMENTS AND QUESTIONS

HOST: TREVOR NOBILE, DNR FIELD OPERATIONS DIRECTOR

HOW TO ASK A QUESTION

- By **Zoom**
 - Use **'chat'** to type question (*goes a private note to host*)
 - Use **'raise hand'** to speak (*host will unmute you*)
- By **Phone**
 - *9 raise hand
 - *6 mute/unmute

GROUND RULES

- 3 min/person → everyone has opportunity to speak
- Comments & Questions
 - Keep comments constructive
 - Attack the problem not the person
 - Limit comments to project

