



Clean Lakes Alliance

workshop 101 – Aug 14, 2024

“ PFAS in the Yahara Lakes”

presented by

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DNR Bureau of Water Quality

(surface water, not drinking water)

Review of notes taken by Becky Dakin

What's the Concern?

- A lot of organizations are studying PFAS to find out what it does to humans.
- Primary Concern: Cancer and hormonal issues when ingested in high rates

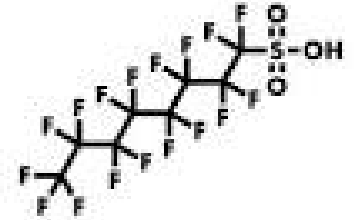


What is PFAS?

- PFAS = per- and poly-fluoroalkyl substances
 - a group of human-made chemicals that are used in many consumer products and industrial processes.
- PFAS - used in many products, including non-stick cookware, stain-resistant fabrics, paints, fire-fighting foams, smother foams (liquid blankets).
- PFAS - resistant to heat, water, oil, and grease. They are also very stable and don't break down easily in the environment.
- PFAS contaminates air, water, and soil.



What is PFOS?



PFOS

- Perfluorooctane sulfonate (PFOS) is a synthetic chemical that is part of the PFAS group of chemicals.
- PFOS is known for its water, oil, soil, and grease repellant properties.

Things to Consider



- When sampling . . .

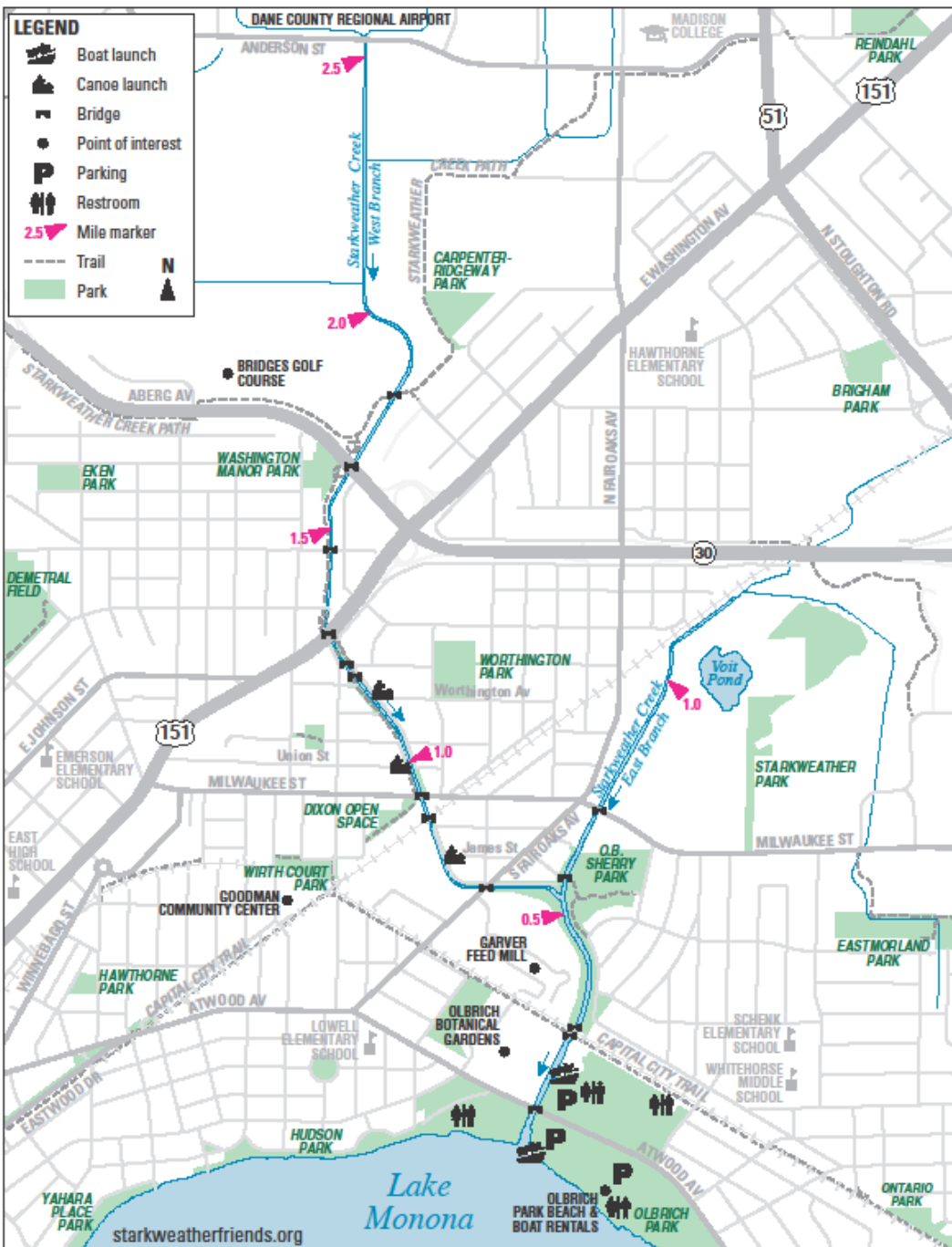
detection \neq contamination

- “PFAS has been detected”
 - Which PFAS?
 - What concentration?
 - Determine risk
- (Boiling does not eliminate PFAS)

DNR Sampling

- Over 300 sites (approx \$300-500ea)
- Background monitoring: when they find high numbers, sample again, spread out sample area
- Highest levels: Starkweather Creek (by airport)
- Starkweather Creek flows into the Yahara





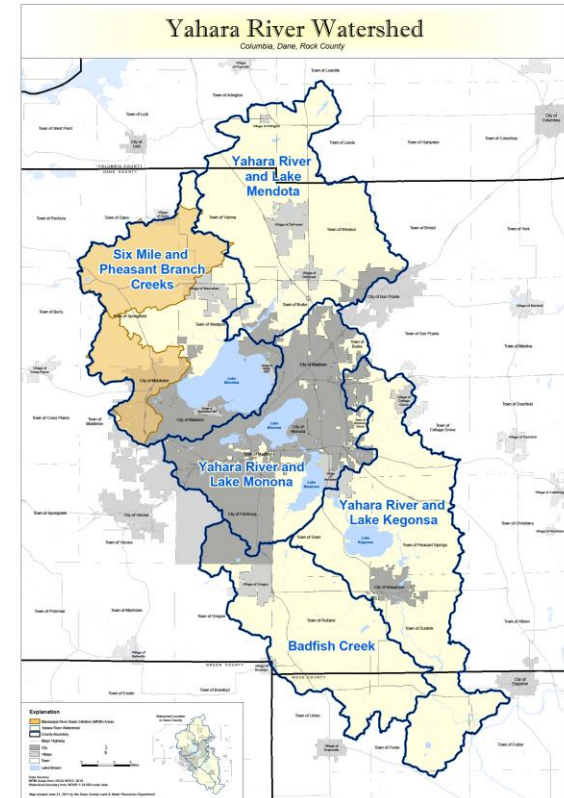
DNR Monitoring for PFAS

- Background monitoring
- Long term monitoring in river sites
- We expect these samples to be low
- You have to be by the source for the samples to be high
- Highest PFOA – Stella Area
- Highest PFOS – Starkwater Area

Madison Lakes & Yahara River

Monitor these sites:

- Badfish Creek
- Stoughton Dam
- Dunkirk Dam
- Stebensville
- South 59
- Badfish Schneider Rd
- Badfish Casey Rd

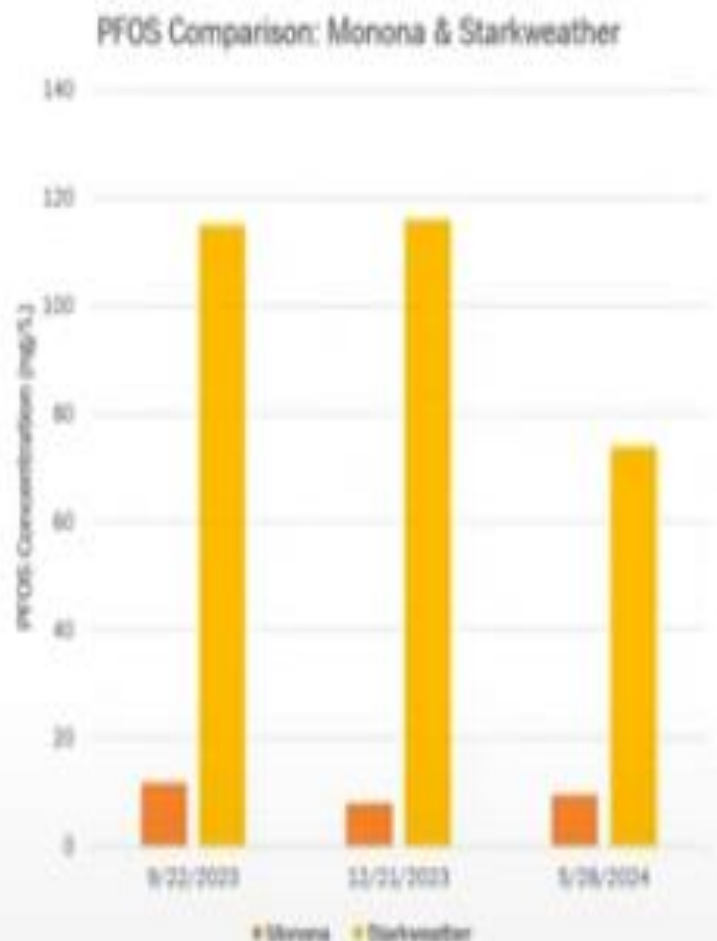


PFOS Levels



- PFOS standard is 8
- PFOS is high in the Yahara Chain – you can infer the sources by where it comes from
- Near the airport is high
- PFAS increases in September. A lot of PFAS contamination comes from ground water.

- Starkweather Cr continues to delivery high-PFAS water to Lake Monona.
 - Note: Starkweather Cr is not gauged, so we cannot estimate loading at this point
- Lake Monona continues to have PFOS concentrations above the WI PFOS surface water standard (8 ng/L).
- The Yaraha Chain, Monona and downstream, continues to have a fish consumption advisory regarding PFAS.





Fish



- PFOS accumulation in fish species is often unpredictable
- Top predators often have high concentrations – yet, in WI, we don't see this.
- Muskies and Walleyes don't really have highest concentrations – need to study this more
- *After the workshop someone asked how much fish they can eat out of the river. One big one per week. Maybe two smaller ones per week.*



Plants

- DNR sampled aquatic plants in Monona and Mendota
- All levels were fairly low
- Plankton, macro-inverts, small fish – did have PFOS
- There were differences between the two lakes

Lake Monona

- Water replenishes 1.5X per year.
- If most of PFAs are dissolved, it should flush out – it's not settling down
- Can we stop it from entering Monona? YES
 - Stark Creek is the point source – granular filtration, foam fractionation



FOAM

- PFOS/PFAS gets concentrated in the foam
- It acts like soap that creates bubbles



Questions

at the end of the Workshop

- Has use of PFAS been eliminated at the airport/Stark Creek
 - Yes, most has been eliminated. This is historical contamination in the ground from fire extinguishment training.
 - There is a fair amount of residual.
 - Mitchell Field also has high levels



Questions

at the end of the Workshop

- How can our lakes be clear eventually?
 - Sediment – sucking the muck out
 - Identify if we have a problem, agree to talk together – It's complicated (Dr. Gorski is not involved in the solution)
- Federal funds available for PFAS filtration – some towns are doing this



Questions at the end of the Workshop

Can we play in the river?

What about the foam?

- PFAS does not go through your skin. The “forever chemical” is not forever in your body. It takes awhile but it will come out of your body.
- You can recreate in the river. “I would rinse off afterward.”
- Stay away from the foam. Not all foam is PFAS but the concentrations are very high in PFAS foam.

Resources

- patrick.gorski@wisconsin.gov
- 608-219-4331
- YouTube: Christy Remucal, PFAS and Foam
- <https://dnr.wisconsin.gov/topic/PFAS>