

Mercury Pollutant Minimization Plan

Madison Metropolitan Sewerage District



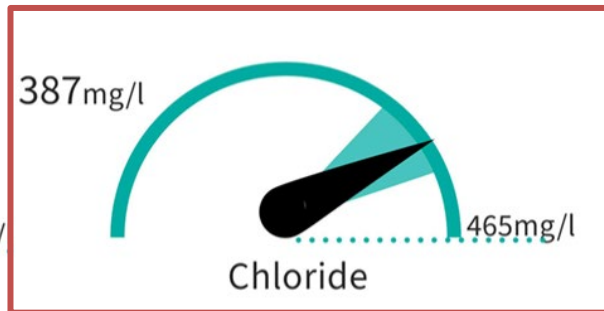
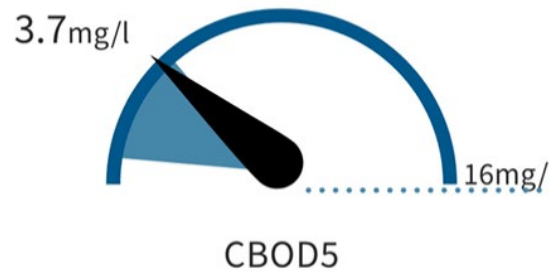
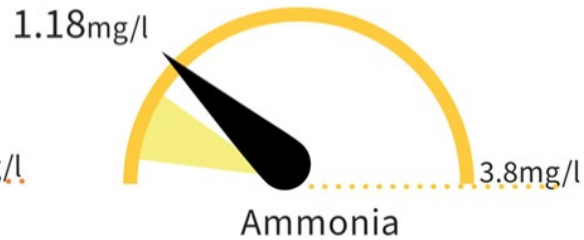
Nothing truly goes “away”



Madison Metropolitan Sewerage District



Treatment doesn't remove everything

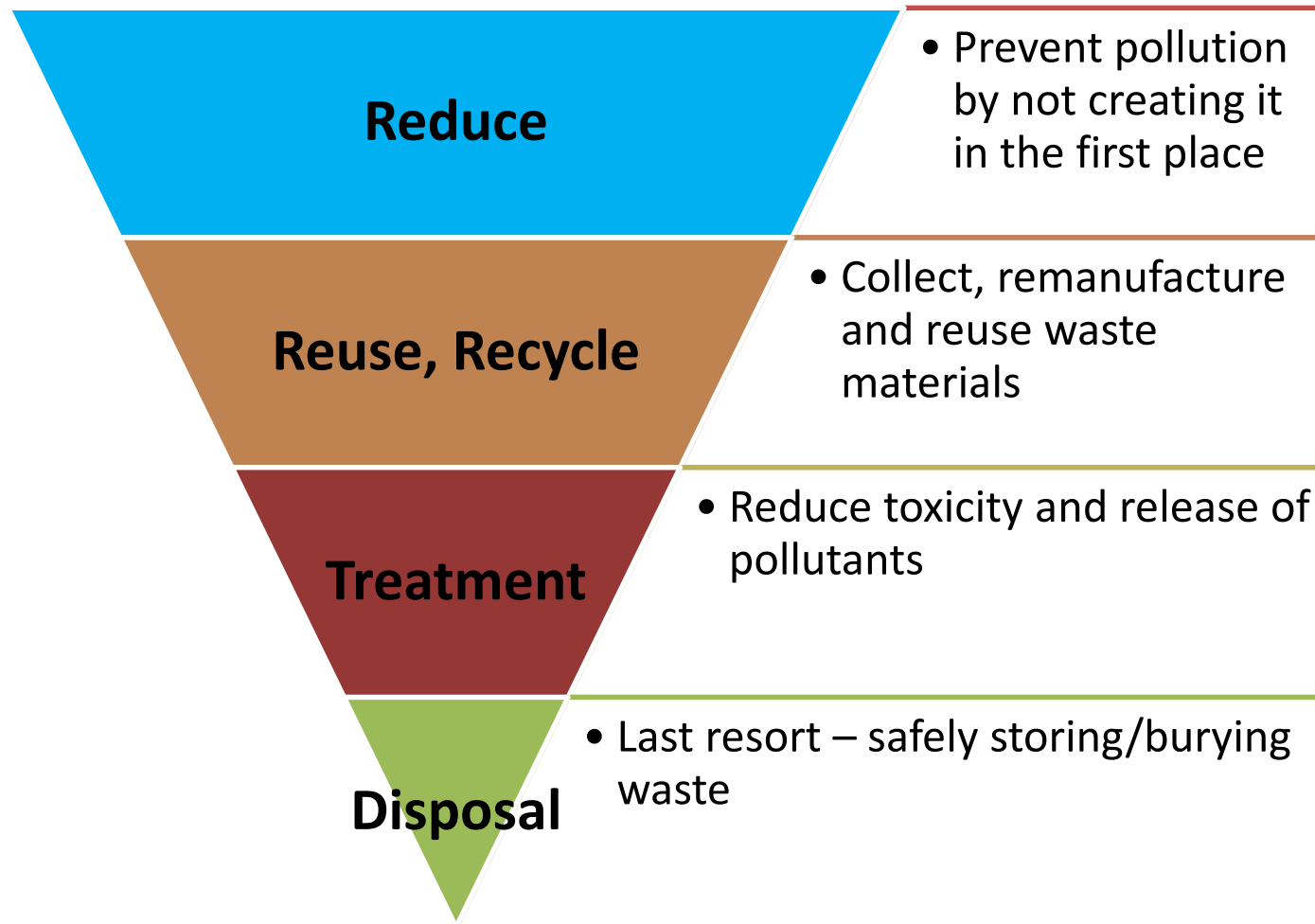


Pollutants the plant is not designed to remove include:

- Chloride
- Mercury
- Pharmaceuticals/personal care products
- PFAS



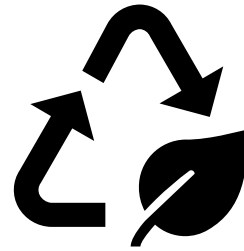
Pollution prevention as a waste management strategy



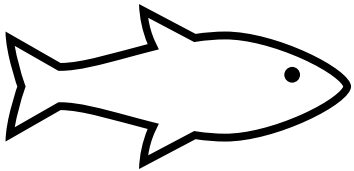
Why the District uses pollution prevention



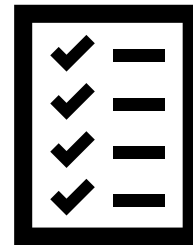
Prevent increased costs for the District



Maintain our ability to recover high-quality resources



Protect the environment from pollutants of concern



Comply with our discharge permit



Pollution prevention at the District

What we do:

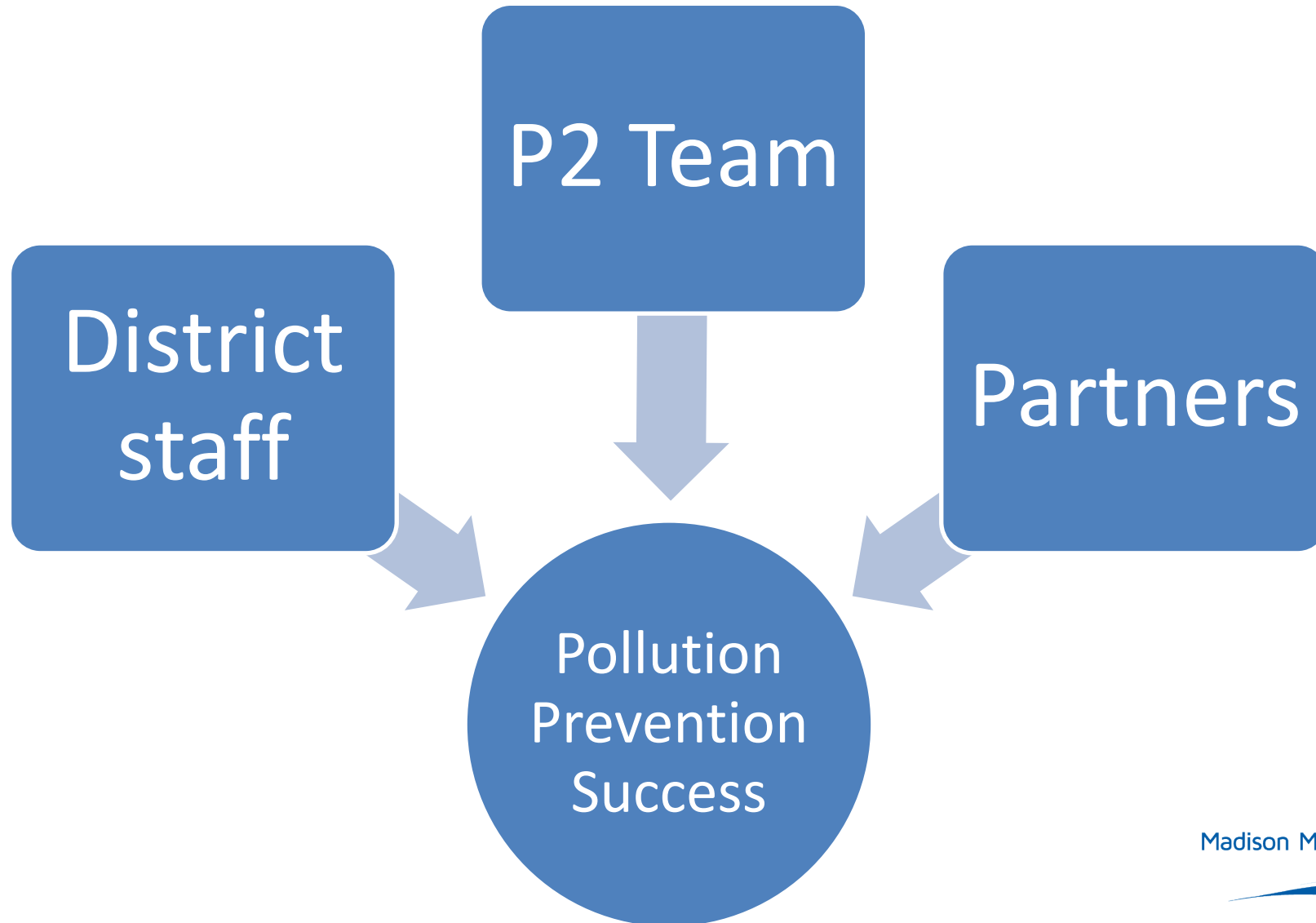
- Achieve regulatory compliance
- Avoid cost increases
- Protect our infrastructure
- Connect with our community

How we do it:

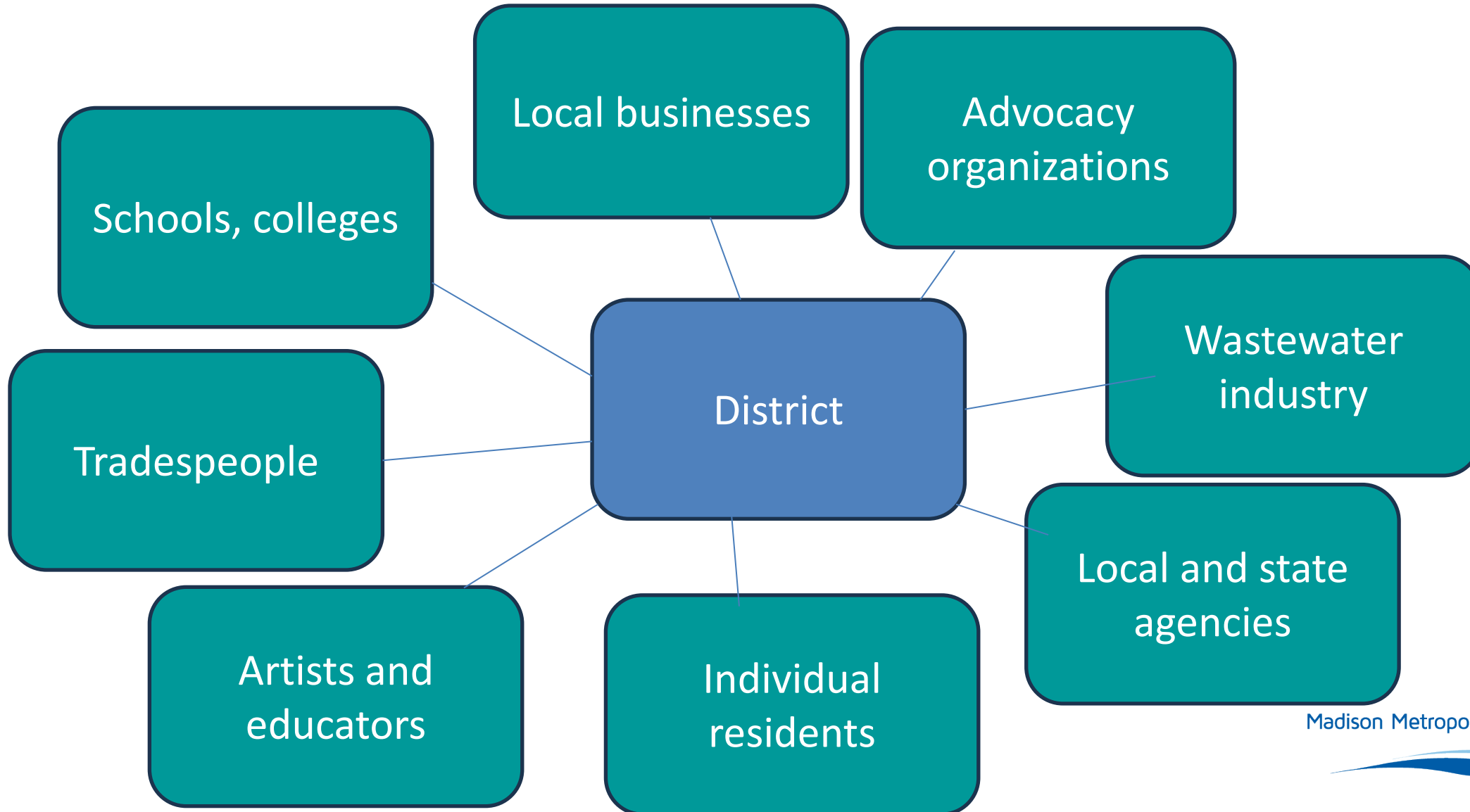
- Finding incentives for behaviors that prevent pollution
- Community outreach and education
- Research and monitoring
- Training



Pollution prevention relies on collaboration



Pollution prevention takes community



Pollutants we focus on

Mercury

Chloride

Phosphorus

Medicines,
personal care
products

Non-
flushables,
FOG

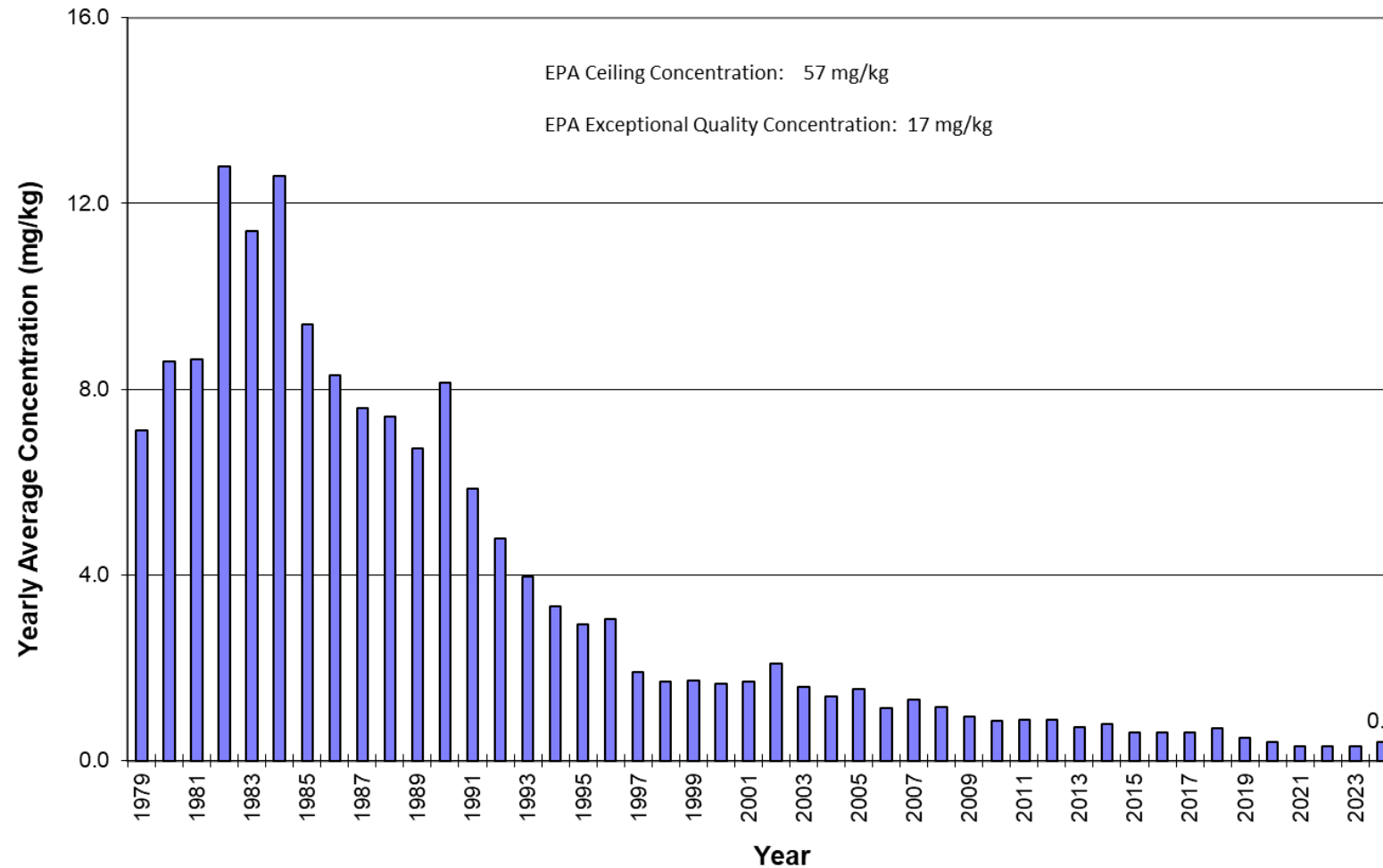
Have a current permit limit

Have a permit variance and
Pollutant Minimization Plan
(PMP)

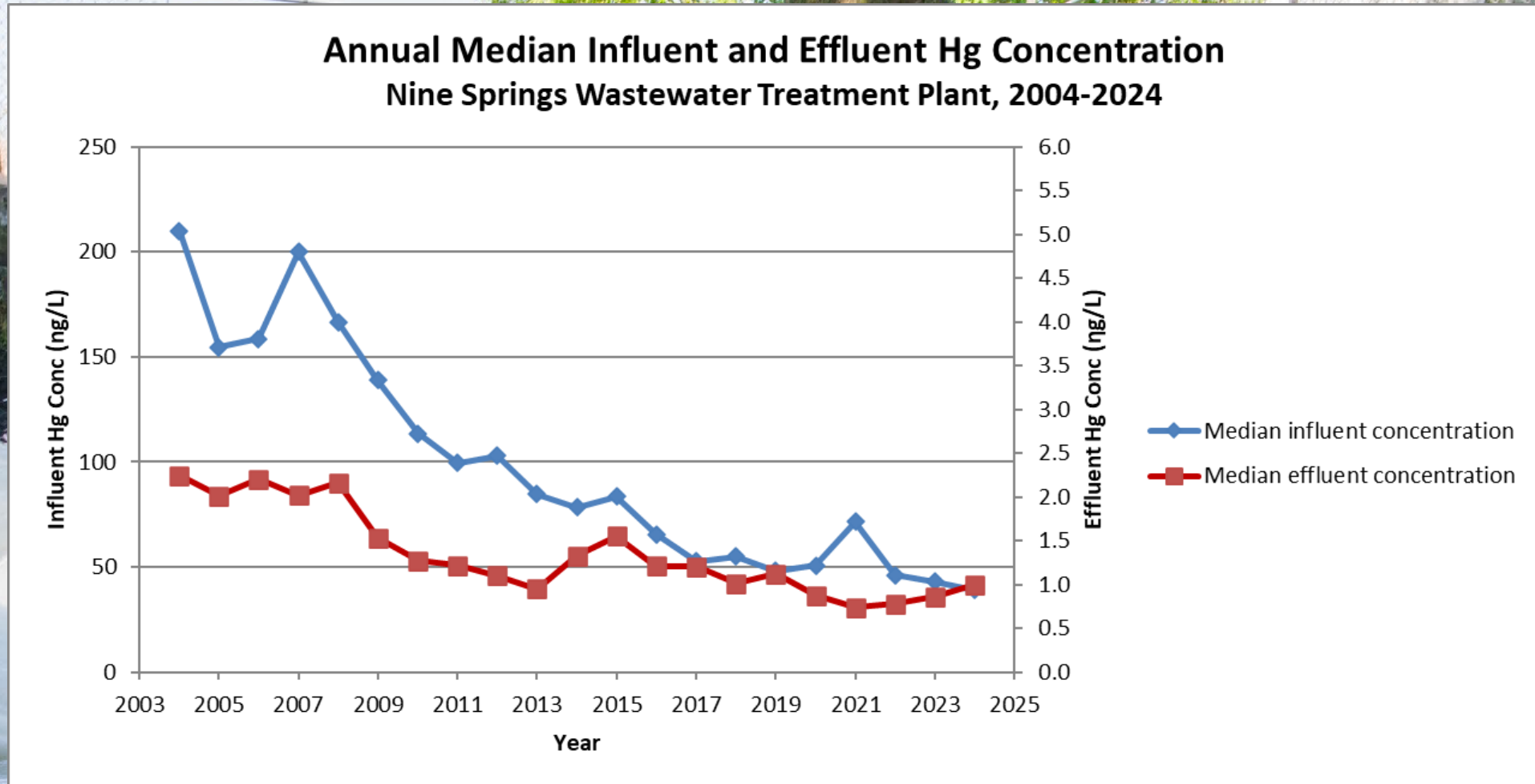


Pollution prevention works

**Historical Digested Biosolids Quality - Madison MSD
(Mercury, dry wt. annual average)**



Pollution prevention works



PMP Overview: Mercury



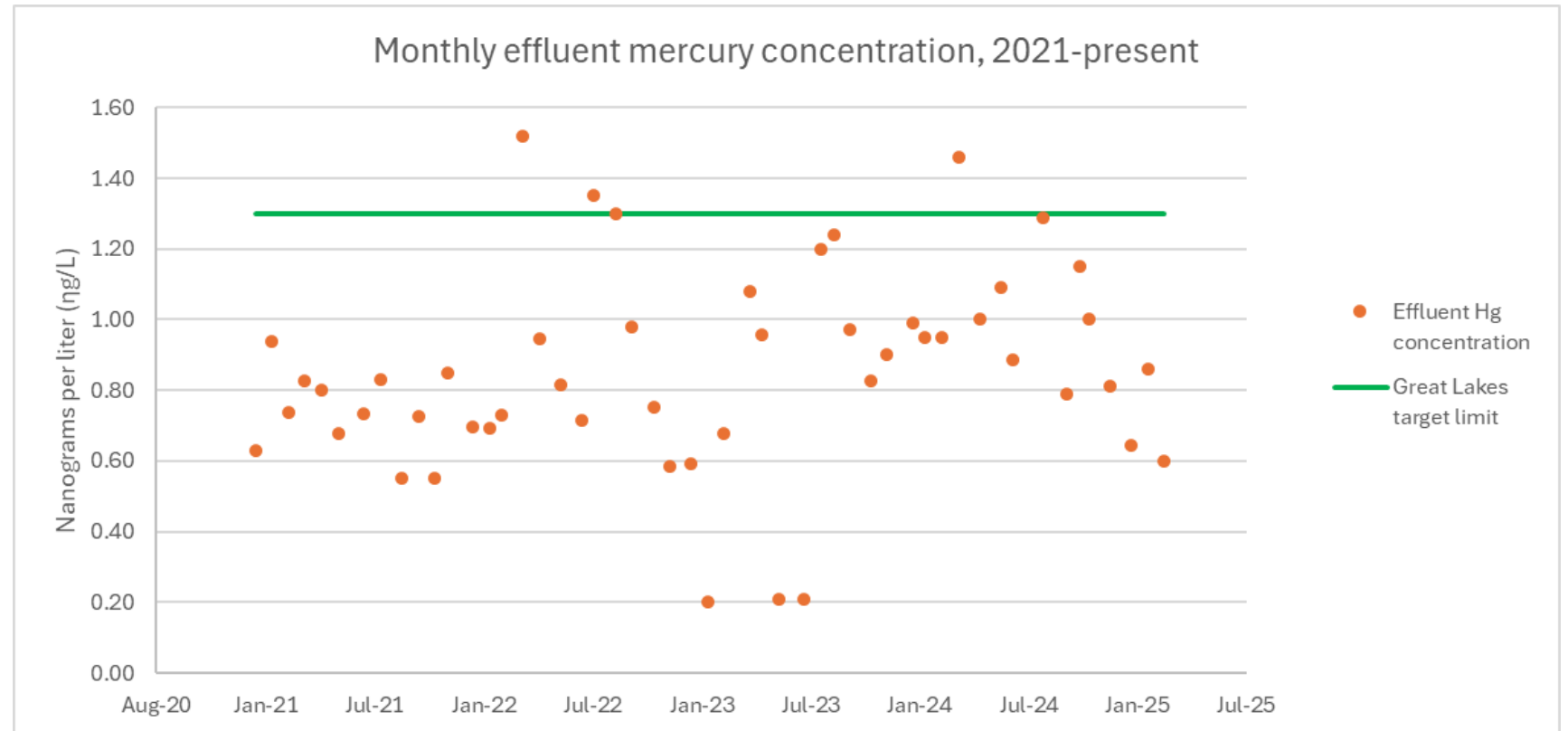
- Ongoing since 2006
- Driver: Mercury variance in permit



Mercury values at the District

Generally, effluent mercury values are very low (around 1 part per trillion)

However, some values exceed the Great Lakes region mercury target of 1.3 parts per trillion



Variations

- Provision of the Clean Water Act for when facilities are unable to meet the water quality standard for a given pollutant
- A temporary modification to water quality standards to allow time for a discharger to come into compliance
- The District has had a variance for mercury since 2006 because it was unable to consistently meet the Great Lakes criterion. As a condition of the variance, we are required to have a Pollutant Minimization Plan (PMP).

→ **Pollution prevention keeps us in compliance with our permit**



Elements of a PMP

- **Source identification**
 - Monitoring and research to identify sources of the pollutant to the plant
- **Source reduction**
 - Activities that reduce pollutant loadings to the plant
- **Maintenance of reduction**
 - Activities that sustain reductions that have already been accomplished



PMP reporting

2023 PMP REPORT

Review the District's
Pollution Mitigation Plan
(PMP) and Source Reduction
Report for Mercury.

[Mercury PMP](#)

- Annual reports to DNR describe our progress on the PMP
- Approved PMP report = permit compliance



The background of the slide is a solid blue color with a pattern of water droplets of various sizes scattered across it. The text is centered and reads:

**Mercury PMP
initiatives and
successes**

Reducing dental mercury



- Requirements established in 2008 for dental clinics to minimize amalgam discharges to sewer
- ~120 clinics regulated
- Certification collected annually to verify maintenance of practices

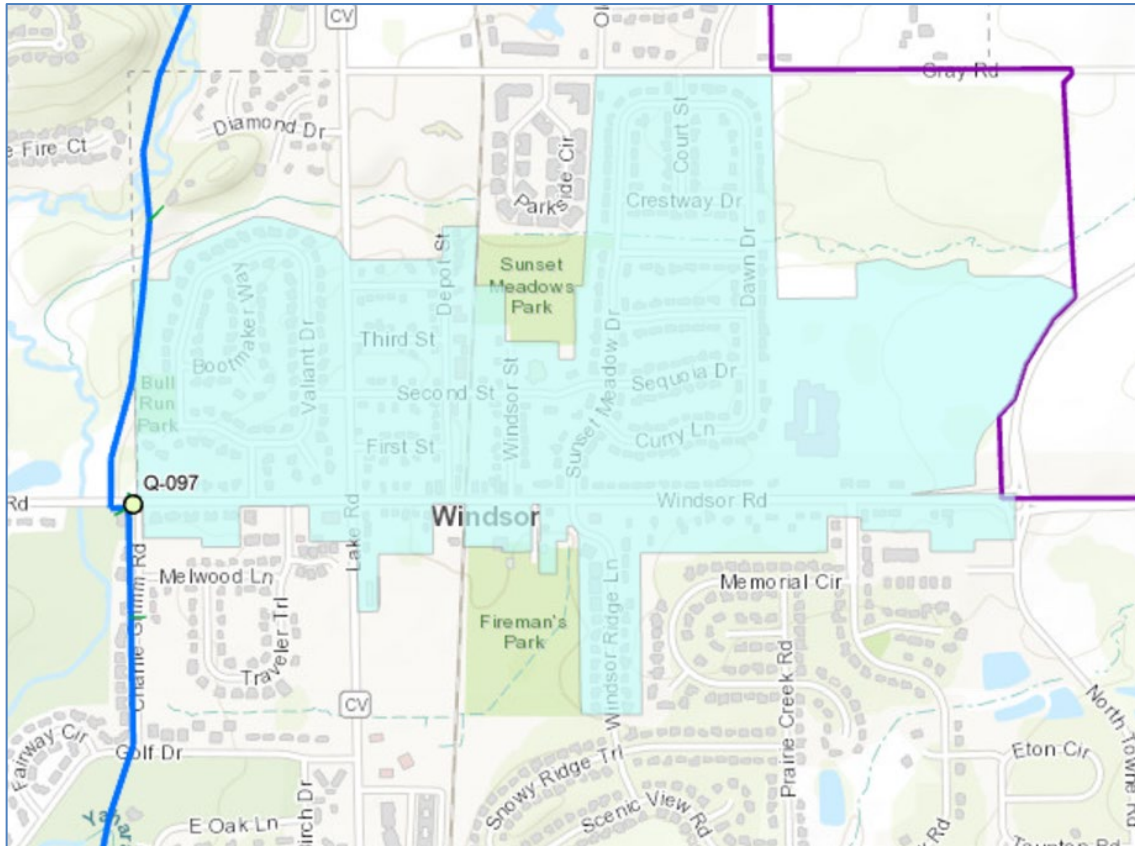


Leading on amalgam education



- District resources like this poster shared with WDNR for sharing statewide
- Partnership with Madison College dental instructors to train assistant and hygienist students on proper amalgam handling

Identifying upstream sources of mercury



- District Lab and Collection System Services staff are helping monitor sites throughout the collection system to compare mercury values
- Partnered with USGS on novel sampling of mercury isotopes in wastewater to narrow down sources



Educating the community about mercury



Water Steward

Fresh water is Earth's most precious resource. We all use it every day and can all have an impact on the supply of clean water now and for future generations. Become a steward of our local waters with the Water Steward course.

Water Steward is developed in partnership with Sustain Dane, the Madison Metropolitan Sewerage District, the Madison Area Municipal Storm Water Partnership, the Madison Water Utility, and the Dane

Madison Metropolitan Sewerage District July 16, 2023 · 🌐

What is Eric Dundee, director of operations and reliability, holding? An electrical ballast for hazardous waste storage area.

Things like ballasts, computers, electronics, batteries, paints, oil, pesticides, household chemicals and other hazardous waste should not go in the regular garbage. Instead, these items should be disposed of at Clean Sweep!

Clean Sweep is open year round at the landfill -or- Waunakee is hosting a special event on Saturday, August 12. <https://www.vil.waunakee.wi.us/1098/Clean-Sweep-Event>

Fun fact: One of Eric's first jobs out of high school was working at a Wisconsin company that manufactured ballasts just like these!



Madison Metropolitan Sewerage District



Present this voucher at Dane County Clean Sweep through Sept. 29, 2018
**Special Pollution Prevention Week Offer;
Free Disposal of Hazardous Household Items**

- solvents (such as paint thinner, photographic fixer, pastes, polishes and caulks that are combustible or flammable. Check the label for: mineral spirits; petroleum distillates; phenol, carbon tetrachloride; benzene; diethyl or dimethyl phthalate; methylene chloride; toluene; xylene and chlorinated solvents.)
- gas and fuel blends;
- liquid mercury, mercury thermometers, switches, ballasts and thermostats;
- pesticides, herbicides and fertilizers;
- poisons including cyanide;
- stump remover; pool chemical;
- PCB containing ballasts.

Clean Sweep is at: Dane County Rodefild #2 Landfill, 7102 U.S. Highway 12-18, Madison, WI 53718
open Monday through Friday from 7 a.m. to 2:45 p.m. and Saturday from 8 to 10:45 a.m.

Madison Metropolitan Sewerage District



Leading by example at the plant



- Staff training on mercury identification
- Contracted a consultant to evaluate our waste management and ensure we're properly handling mercury waste at the plant



Upstream actions protect downstream waters



Madison Metropolitan Sewerage District

