MWRD Updates
IWWSG November 20, 2024

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Tonight's Topics

- MWRD Industrial Waste Division Updates
- PFAS Study
- Lake Michigan Discretionary Diversion Allocation

User Charge Updates

- UC Ordinance updates were submitted for review at the December 5 Board Meeting
- 2025 User Charge Rates proposed
- There were no other substantive updates.

Charge	2023	2024	2025 (proposed)
Volume ($/MG)	282.47	287.56	292.73
BOD ($/1000 lbs)	184.33	187.65	191.03
SS ($/1000 lbs)	124.16	125.28	126.40
OM&R Factor	40.1%	30.6%	47.4%

Pretreatment Program Updates

MWRD proposed to the USEPA several substantive updates to Sewage and Waste Control Ordinance:

- Formalize and clarify the appeal process
- Create a Non-discharging Categorical Industrial User (NDCIU) category with annual certification requirements
- Streamline the process of serving notices under the Ordinance, including service on and by the MWRD.
- Add Notice of Noncompliance option in Enforcement Response Procedure for flow noncompliance.

Chemical Toilet Waste Ordinance Updates

- The application fee was reduced from $1,500 to $250, in line with the Resource Recovery Ordinance.
- Discharge limits are revised to a concentration-based limit instead of a mass-based limit.
- Charges for disposal are now invoiced rather than prepaid via coupons.
- Disposal of wastes costs 4¢ per gallon rather than a tiered billing structure.

New Industrial Stakeholder Group

- New stakeholder group has been formed to advise MWRD on its industrial waste policies. This replaces the Blue Ribbon Panel, formed in 2012.
- Members are large organizations that represent the regulated community.
- The first meeting was held November 12 to establish expectations and discuss pending updates.

New Industrial Stakeholder Group

- Chemical Industry Council of Illinois
- Chicagoland Chamber of Commerce
- Illinois Manufacturers Association
- Chicagoland Metropolitan Agency for Planning
- Illinois Health and Hospital Association

Phosphorus Updates

- The Calumet WRP monthly limit of 1 mg/L went into effect on January 1, 2024.
- The limit will decrease to an annual geomean of 0.5 mg/L on January 1, 2030.
- Stickney, O'Brien, and Kirie all have similar limits in their current NPDES permits
- Chicago Area Waterway System Phosphorus Assessment and Reduction Plan Study completed December 2023.

Phosphorus Updates

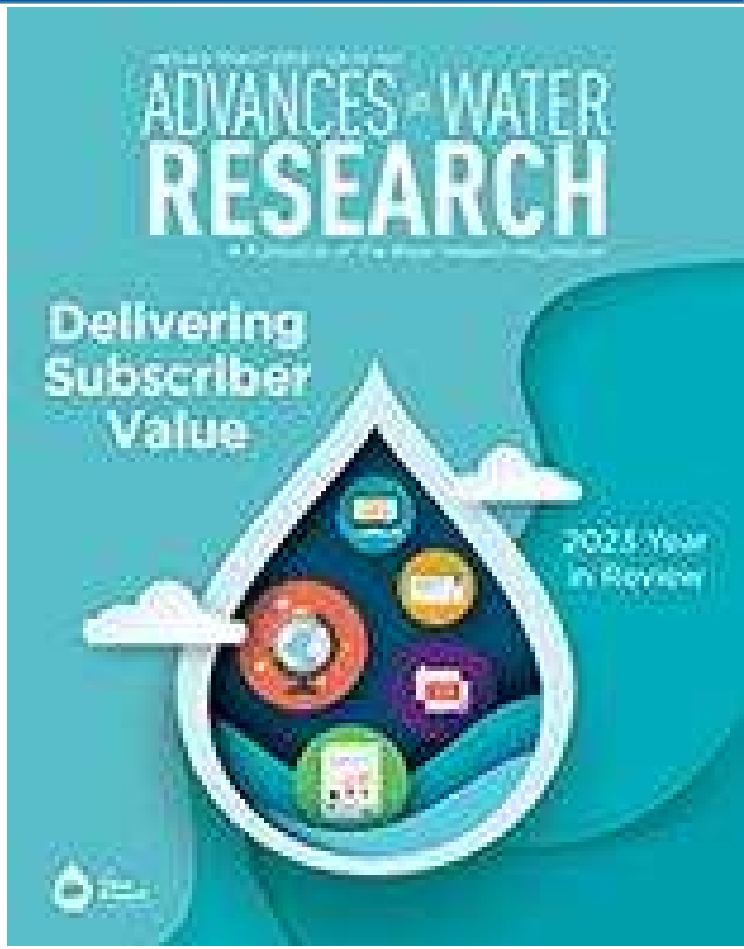
- In the Calumet service area, industrial sources of excess phosphorus have been identified.
- MWRD is considering a surcharge to recover the cost of treatment and is making a proposal to the EPA.
- EPA has recommended imposing a limit on these sources.
- Additional WRPs are under review to determine how widespread the phosphorus program will need to be, or whether it can be isolated to Calumet.

Per- and Polyfluoroalkyl Substances (PFAS)

- District Activities and Results
- Next Steps
- Illinois EPA Permit Requirements
- USEPA Activities Related to Pretreatment

PFAS – Support for WRF and USEPA Studies

- Provided support and sampling for Water Research Foundation national studies
  - WRF 5082 investigating management strategies to prevent PFAS from entering water supplies
  - WRF 5031 looking at occurrence of PFAS in US wastewater treatment plants.
  - WRF 5171 for cost effective control of Constituents of Emerging Concern



PFAS Inspections

- Conducted 431 PFAS-focused inspections of industries most likely to use/discharge PFAS during 2023-2024
  - Significant Industrial Users
  - Other users in categories with high potential to discharge PFAS.
- Goal to prioritize industrial user effluent sampling for PFAS and basis for inventory that will be required by regulators.

PFAS Inspections

- Collected information about:
  - Evidence of current or historical use of PFAS
  - Name of chemicals being used or produced
  - Any plans for reducing use
  - Category-specific questions to find out more about processes or chemicals that might introduce PFAS

PFAS – Interceptor/Influent Sampling

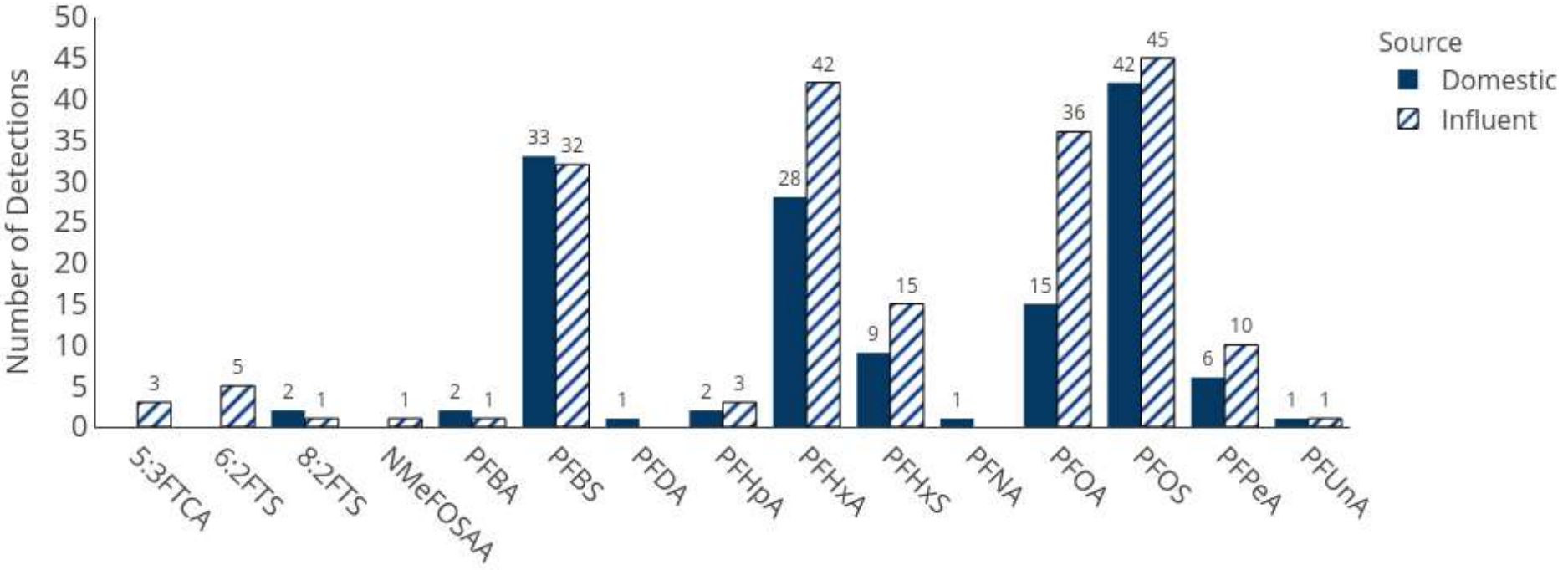
- Sampled MWRD intercepting sewers and influent to each WRP in 2023 and again in 2024 to establish domestic and industrial baseline and inform future targeted sampling.
- 7 WRPs Influent and Domestic Interceptor
- 7 days of grab samples in October, 2023 and repeated in September, 2024
- Normal operations and dry weather

PFAS – Interceptor/Influent Sampling

- Consider funds for Quality Control samples. Trip blank cost was covered by our consulting lab.
- Look at duplicates and field blanks to determine any contamination.
- Lab will provide SOP.
- Avoid certain products that may cause contamination.
- Consistency in sampling procedures between personnel.

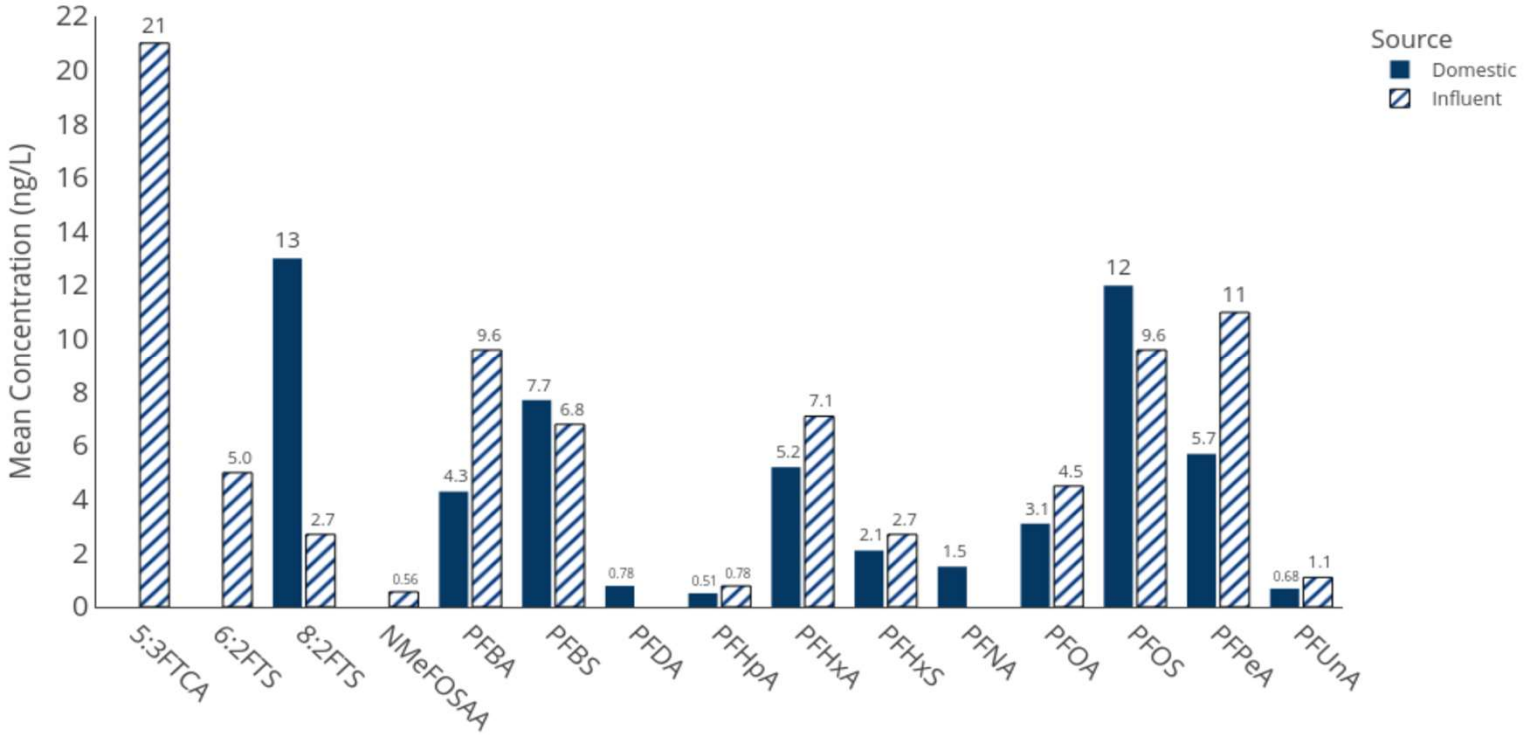
2023 Interceptor/Influent Sampling Results

Detection Frequency



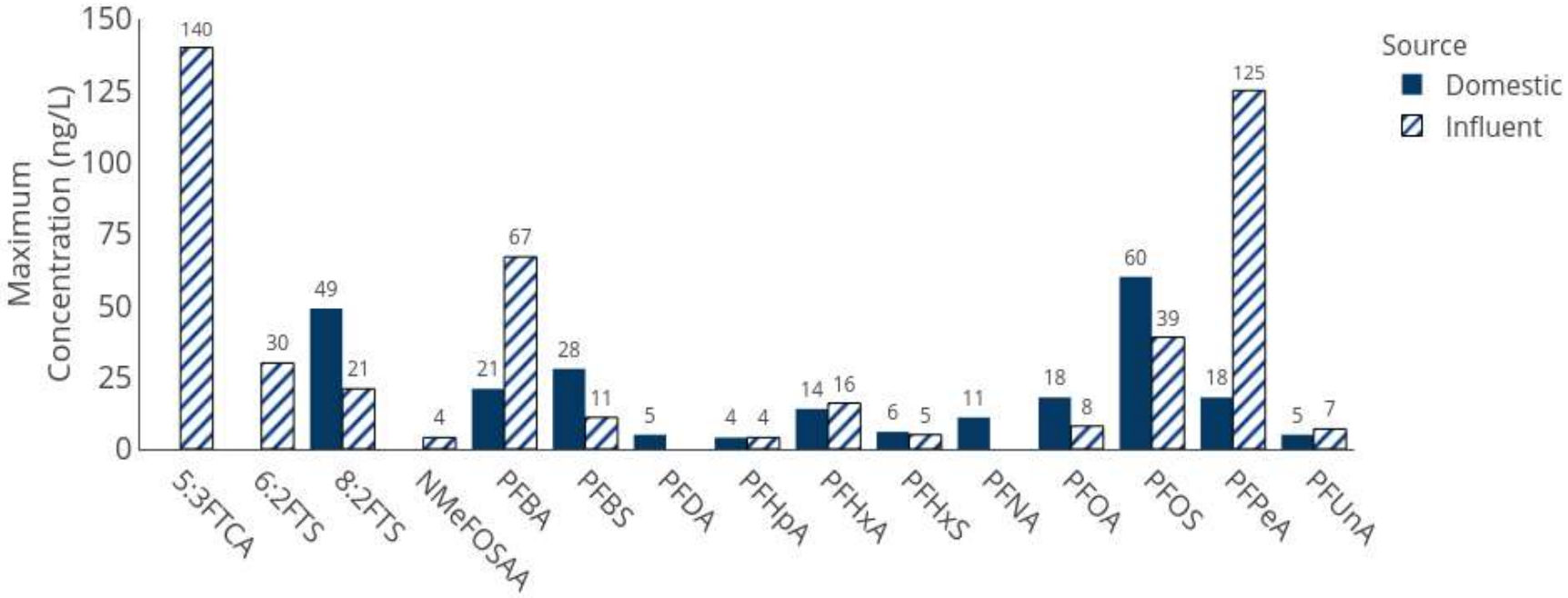
2023 Interceptor/Influent Sampling Results

Mean Concentrations of Analytes for Samples with Concentrations >Reporting Limit



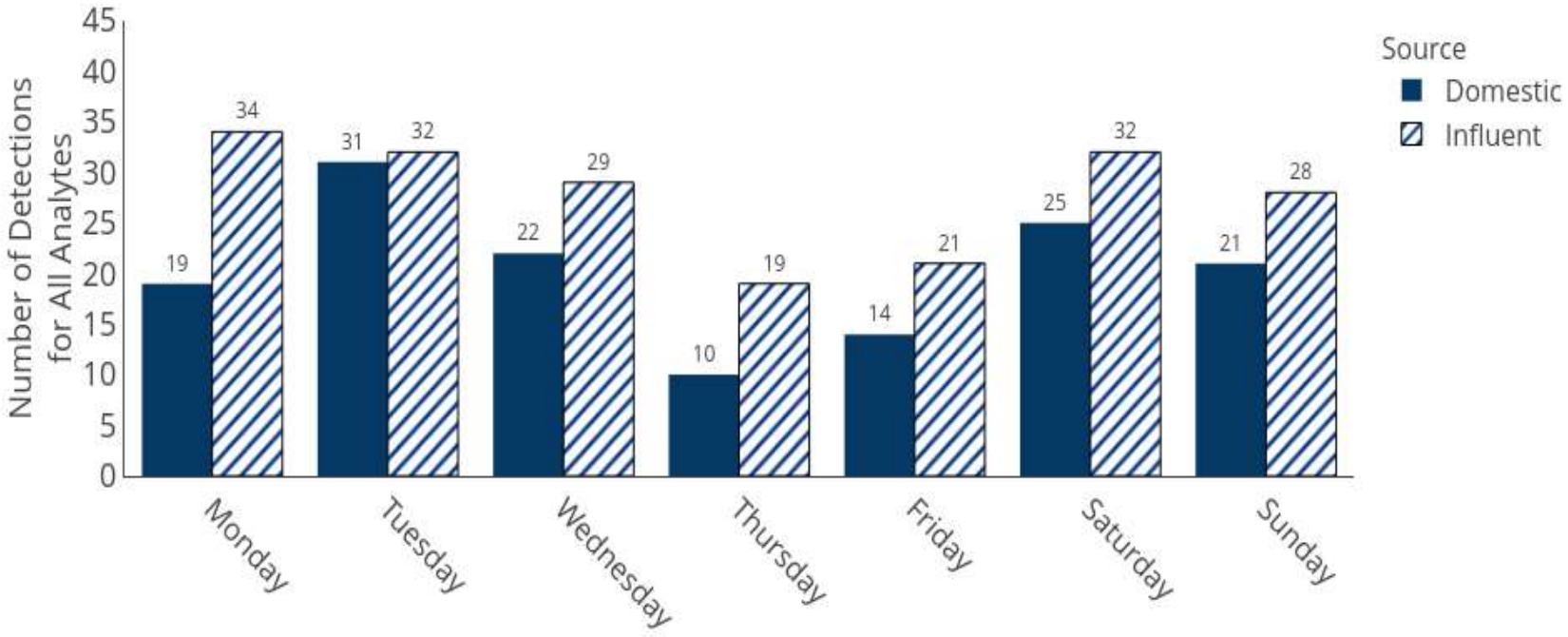
2023 Interceptor/Influent Sampling Results

Maximum Concentrations



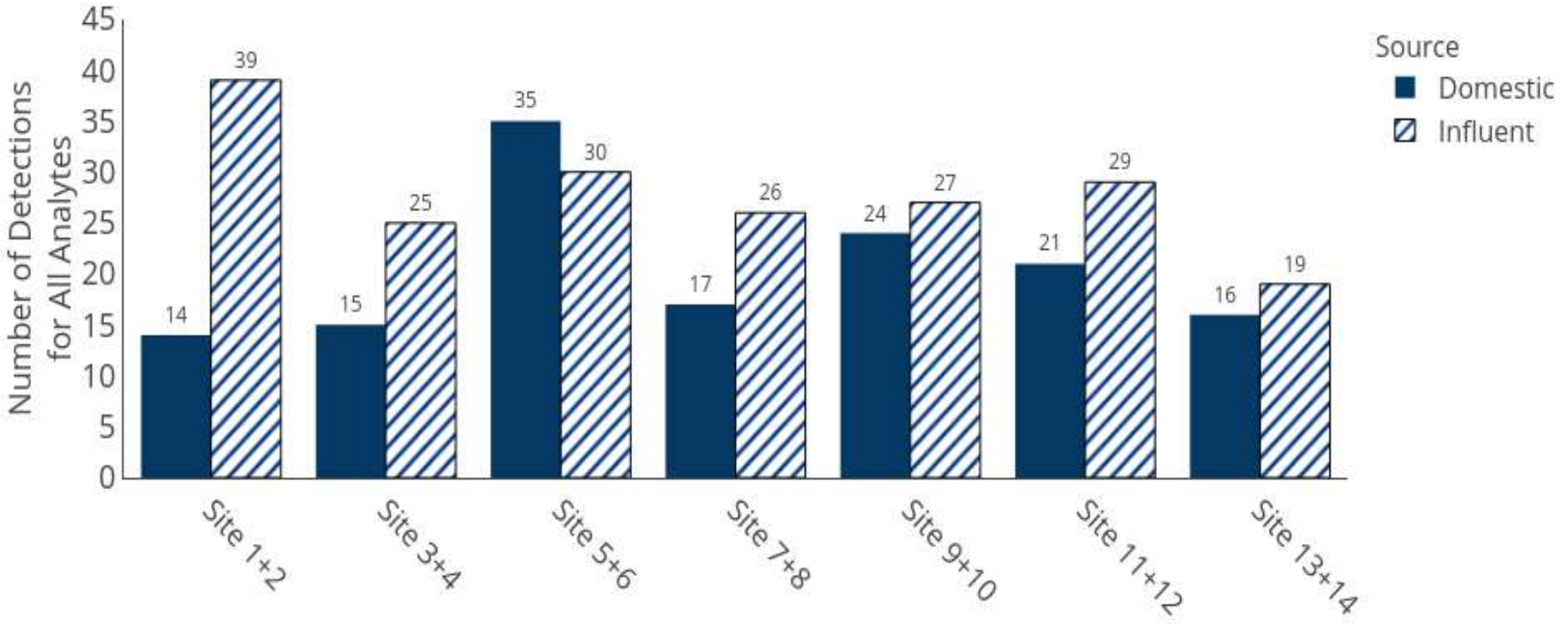
2023 Interceptor/Influent Sampling Results

Daily Frequency



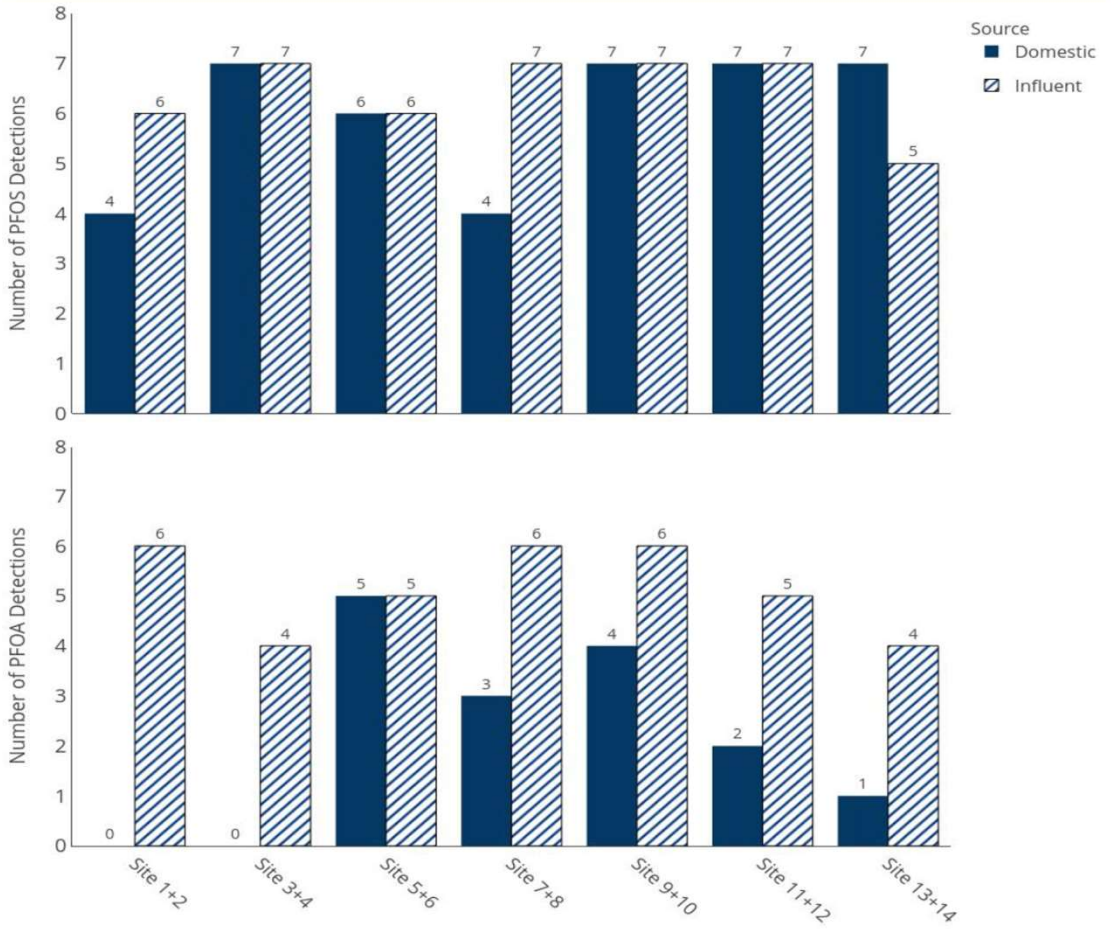
2023 Interceptor/Influent Sampling Results

By Site



2023 Interceptor/Influent Sampling Results

PFOS and PFOA



2023 Data Summary

- Standard deviations tend to be high relative to the means
- Out of 40 compounds analyzed across 7 plants and 7 days…
  - 112 samples total (including duplicates)
  - 25/40 analytes never detected above the Reporting Limit
  - 9/40 detected >RL very rarely at 1-3 sites.
  - 6/40 detected >RL at 4-10 sites
- For 3 of 7 site-pairs, influent site had more detected analytes than domestic site
- For 6 of 7 site-pairs, influent site had more overall detections than domestic site

2023 Data Summary

- Most frequently detected PFAS > Reporting limit (% samples)
  - PFOS (87%)
  - PFHxA (70%)
  - PFBS (66%)
  - PFOA (52%)
  - PFHxS (24%)
- Gen-X (HFPO_DA) was not detected in the study (not even >MDL)
- PFNA only detected above the RL in one sample, but almost all PFNA results were >MDL

PFAS – Industrial User Effluent Sampling

- Completed 3-day PFAS studies at industrial users identified as most likely to discharge PFAS.
  - Considered locations in various services areas, capturing variety of industry types, ability to sample according to 1633 method, and domestic interceptor/influent data.

PFAS – Outreach to Industrial Users

Act now to better understand and characterize potential PFAS in your waste streams

- Inventory your products
- Ask your suppliers about alternatives
- Properly dispose of PFAS-containing products no longer being used
- Minimize chances of accidental discharge of PFAS
- If your processes use PFAS and discharge to sewer is necessary, consider sampling to determine if pretreatment may be needed.
- Equipment decontamination or replacement where PFAS used historically.
- Develop in-house training program to educate your employees on managing PFAS from your industrial activities at the source

PFAS – IL PFAS Reduction Act

- Passed in 2021
- Banned PFAS AFFF for training purposes as of January 1, 2022
- Release of PFAS AFFF must be reported to the state within 48 hours of the release; must report proposed containment, treatment and disposal steps needed to minimize contamination.
- Bans manufacture, sale and distribution of PFAS AFFF by January 1, 2025
- Requires manufacturers of AFFF to provide warnings to fire departments prior to sale about hazards to health or environment.

PFAS – Polluter Pays Legislation

- Illinois Association of Wastewater Agencies proposed the PFAS Wastewater Citizen Protection Act during 2024 legislative season.
  - Collaboration with MWRD
  - Findings bill
  - Formation of legislative committee to craft “Polluter Pays” legislation to establish funding mechanism so that burden of PFAS not shouldered by tax-payers via POTWs/passive receivers.
  - No action taken
  - Will reintroduce in 2025 legislative session.

PFAS – IEPA Permit Language

IEPA Special Conditions in NPDES Permits

- Quarterly influent, effluent and semiannual sludge monitoring
- Within 1 year submit inventory report of facilities in service area with potential to contribute or discharge PFAS into sewer system.
- Within 2 years, develop and implement a PFAS reduction initiative that *must include PFAS loading reduction plans for facilities identified in the inventory.*
- Within 3 years and then annually, submit a PFAS reduction report to IEPA, including all industrial facility loading reduction plans.

PFAS – IEPA Permit Language

Facility PFAS Loading Reduction Plans

- Evaluation of the potential for facility to use or discharge PFAS
- Pollution Prevention and Source Reduction opportunities
- Identification of measures being taken to reduce PFAS loading from facility and any available testing data and/or loading reduction achieved.
- PFAS loading reduction plans must be reevaluated and updated annually, identifying any changes made since previous plan.

PFAS – USEPA Approach

EPA Recommended Review of Following Industries:

- Organic chemicals, plastics & synthetic fibers (OCPSF) 40 CFR 414
- Metal Finishing and Electroplating – 40 CFR 433 and 413
- Landfills – 40 CFR 445
- Textile mills – 40 CFR 410
- Electric and electronic components – 40 CFR 469
- Pulp, paper & paper board – 40 CFR 430
- Airport – 40 CFR 449
- Leather tanning & finishing – 40 CFR 425
- Plastics molding & forming – 40 CFR 463
- Paint Formulating – 40 CFR 446

PFAS – USEPA Approach

EPA Influent Study

- Clean Water Act Section 308. 2nd Notice CFR October 10.
- 400 major POTWs >10 MGD were identified for inclusion. Questionnaire will be sent to POTWs.
- EPA determined 200-300 will be chosen for sampling.
- Phase 1 – 1633 (40 PFAS compounds) and 1621 (AOF) measured one time in influent, effluent, domestic collection system and up to 10 Industrial User dischargers. Altogether no more than 2000 IUs will be sampled.
- Phase 2 – Sludge sampling at select POTWs. These data will help feed National Sewage Sludge Survey.
- Voluntary submittal of data already collected. EPA will open data portal.

PFAS – USEPA Approach

Toxics Release Inventory

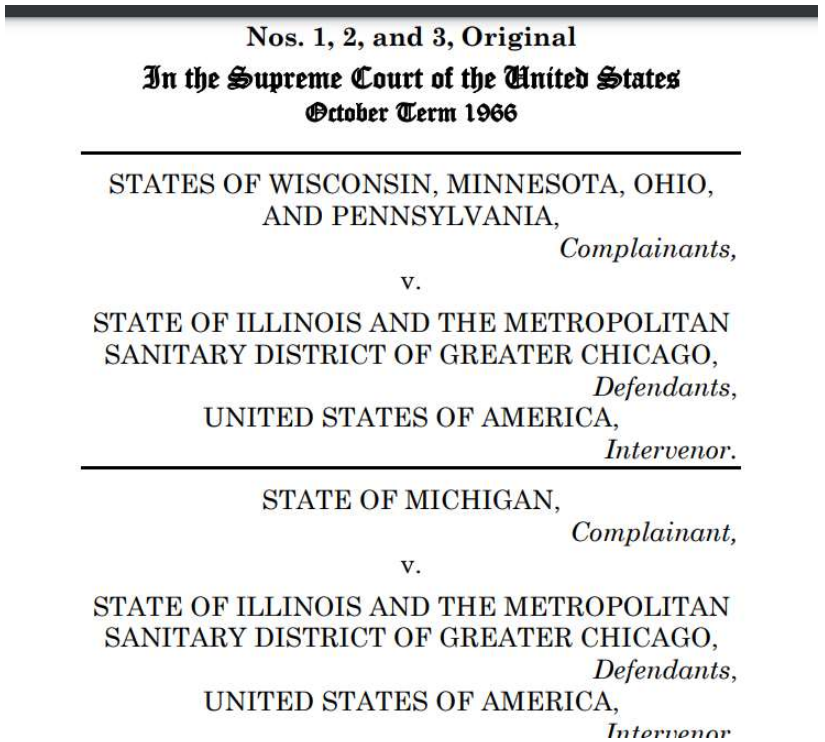
- USEPA issued proposed rule October 8, 2024, to add 16 PFAS chemicals and 15 PFAS categories to TRI.
- Inclusion would require chemicals be reported in accordance with Emergency Planning and Community Right to Know Act and Pollution Prevention Act.
- 9 PFAS were added for reporting year 2023; 7 for reporting year 2024
- https://edap.epa.gov/public/extensions/TRIToxicsTracker/TRIToxicsTracker.html#continue

Lake Michigan Discretionary Diversion

Brief History and Current MWRD Activities

Lake Michigan Discretionary Diversion

- Illinois diverts water from Lake Michigan based on Supreme Court Consent Decree from 1967
  - *WI v IL, 388 US 426*
  - 3,200 cfs
- CAWS diversion “to maintain it in a reasonably satisfactory sanitary condition.”
  - Artificial manmade channels with little gradient or natural flow.



Nos. 1, 2, and 3, Original

In the Supreme Court of the United States

October Term 1966

STATES OF WISCONSIN, MINNESOTA, OHIO, AND PENNSYLVANIA,
Complainants,

v.

STATE OF ILLINOIS AND THE METROPOLITAN SANITARY DISTRICT OF GREATER CHICAGO,
Defendants,
UNITED STATES OF AMERICA,
Intervenor.

STATE OF MICHIGAN,
Complainant,

v.

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Intervenor

Lake Michigan Discretionary Diversion

1967
US Supreme Court Consent Decree

1981
IDNR grants District 40 year diversion permit tied to TARP schedule

2014
District files petition to delay reduction LMO 14-5

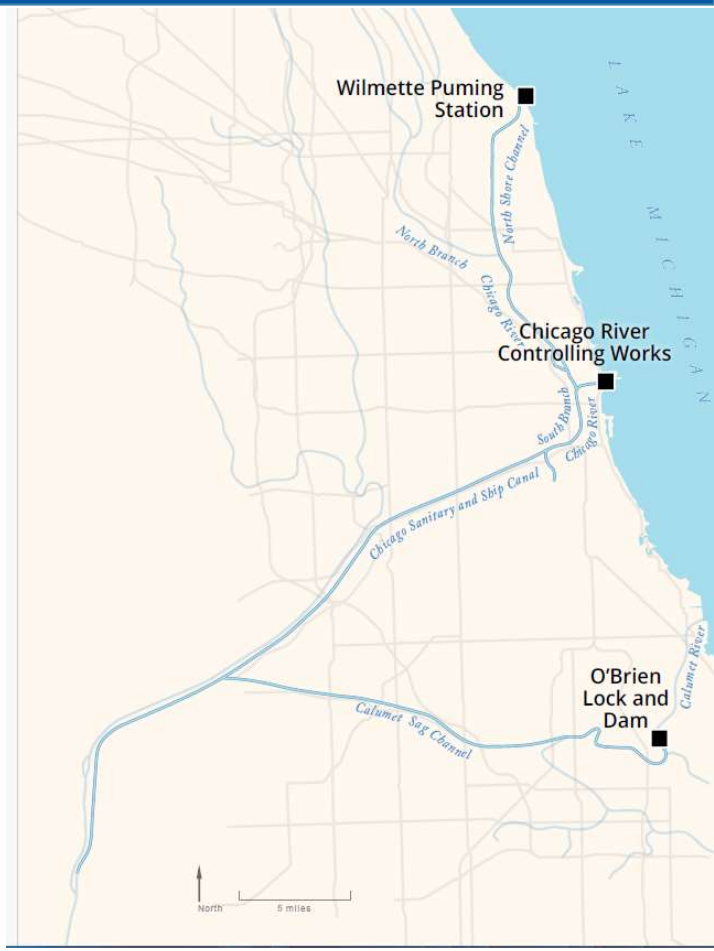
2016
IDNR issues final administrative decision granting petition

2016
NGOs Appeal Decision

2020
IL Appellate Court upholds decision

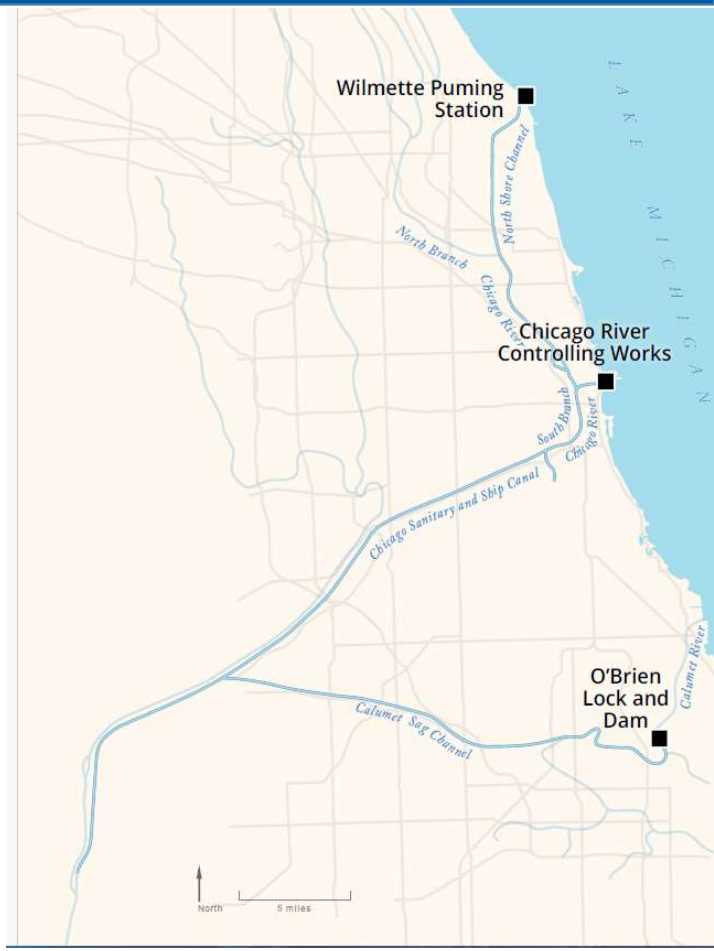
Lake Michigan Discretionary Diversion

- IDNR Decision
  - Modified District allocation to annual average 220 cfs from 2018-2030
  - 101 cfs 2031-2035
  - Various requirements
    - Including completion and implementation of Optimization Modeling and Plan referenced in proceedings.



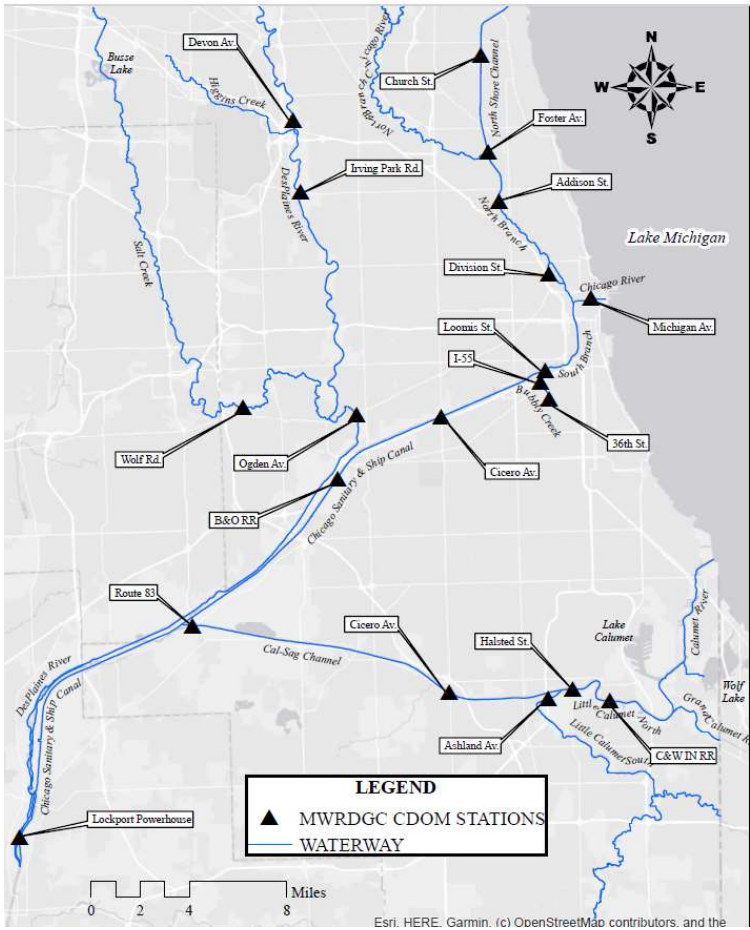
Lake Michigan Discretionary Diversion

- District modeling study and operational plan
  - Optimized use of new approved diversion allocations at the 3 locations
  - Aeration station operation
  - Continuous dissolved oxygen monitoring.
  - Submitted January 2018 and approved by IDNR.



Lake Michigan Discretionary Diversion

- Update Water Quality Modeling Study
  - Thornton and McCook Stage 1 now online. Continuous dissolved oxygen monitoring has continued in the CAWS
  - 2020 and 2021 will be modeled
  - Use TARP system models simulating post McCook conditions and plug into DUFLOW model



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