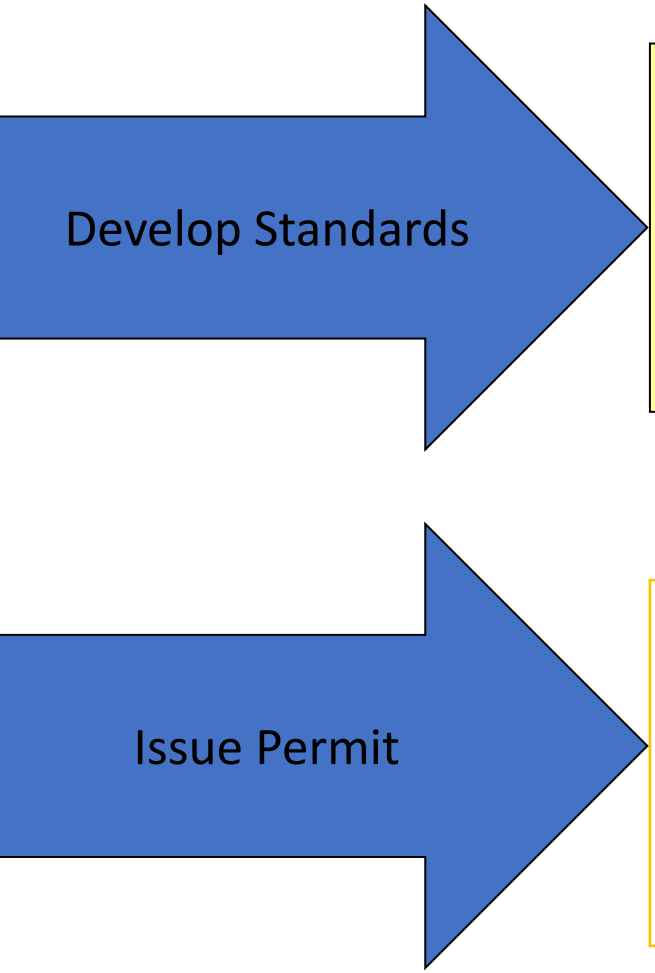
EPA's ELG Program & CWA Analytical Methods Program Updates

Association of Clean Water Administrators
2023 Mid–Year Meeting
March 15th, 2023

Outline

- **Overview of ELG Program & Planning Process**
- Effluent Limitation Guidelines (ELG) Program Plan 15
- Clean Water Act (CWA) Analytical Methods Program Updates
- Questions

Regulation of Point Source Discharges



Technology-Based Approach

- Effluent Limitation Guidelines (ELG) (national standards)
- Best Professional Judgment (BPJ) (site specific)

Water Quality-Based Approach

- Water quality criteria and standards
- Local limits

- Issue individual permit for a **single discharger** or a **general permit** for a broad group of similar facilities across a geographic area.
- Permits **must include the most stringent requirements** based on water quality and/or technology-based approach.

What are Effluent Limitation Guidelines and Standards?

- *Effluent Limitations Guidelines and Pretreatment Standards (ELGs)* are national wastewater discharge standards set on an industry-by-industry basis.
  - They are technology-based and are intended to represent the greatest pollutant reductions that are economically achievable for an industry.
  - For sources discharging directly to surface waters and indirectly to publicly owned treatment works (POTWs).
  - EPA has promulgated ELGs for 59 industrial point source categories.

What are Effluent Limitation Guidelines and Standards?

- The Clean Water Act requires EPA to annually review existing effluent guidelines and pretreatment standards to determine if revisions are warranted.
- The Clean Water Act does not describe what activities must be included in the review and EPA's current process has evolved over the years, incorporating feedback from the public on how best to conduct these reviews.
- EPA publishes the results of these reviews in the

Effluent Guidelines Program Plan

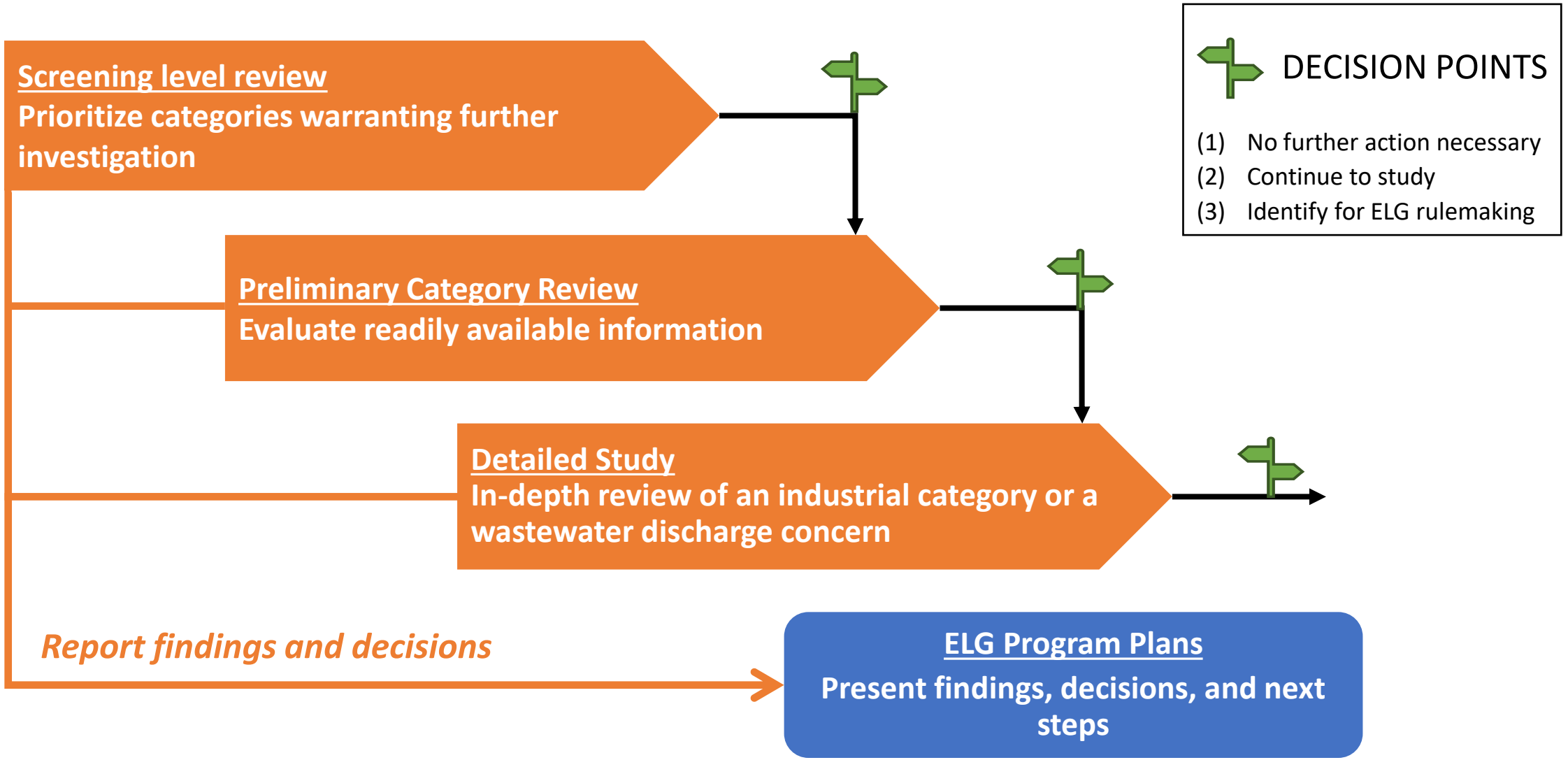
What is an Effluent Guidelines Program Plan?

- The Effluent Guidelines Program Plan is a communication tool that EPA uses to relay the results of our annual review and decisions on new rulemakings to the public.
- The Clean Water Act directs EPA to publish a plan every two years to share the results of our reviews with the public.
  - Establish a schedule for any effluent guidelines revisions that have been identified.
  - Identify any industries not currently subject to effluent guidelines that discharge nontrivial amounts of toxics and establishes a schedule to take final action.

What is an Effluent Guidelines Program Plan?

- To fulfill this requirement, EPA has implemented a two-year publication cycle for the ELG Program Plan:
  - Year 1: EPA publishes a *Preliminary ELG Program Plan* which includes: the results of the most recent annual review, announcements on new studies or rulemakings, and updates on existing studies and rulemaking. EPA solicits public comment on the contents of this plan.
  - Year 2: EPA publishes the *ELG Program Plan*, which includes: feedback received on the preliminary plan, the results of the most recent annual review, announcements on new studies or rulemakings, and updates on existing studies and rulemaking.

Overview of ELG Planning Process & Review



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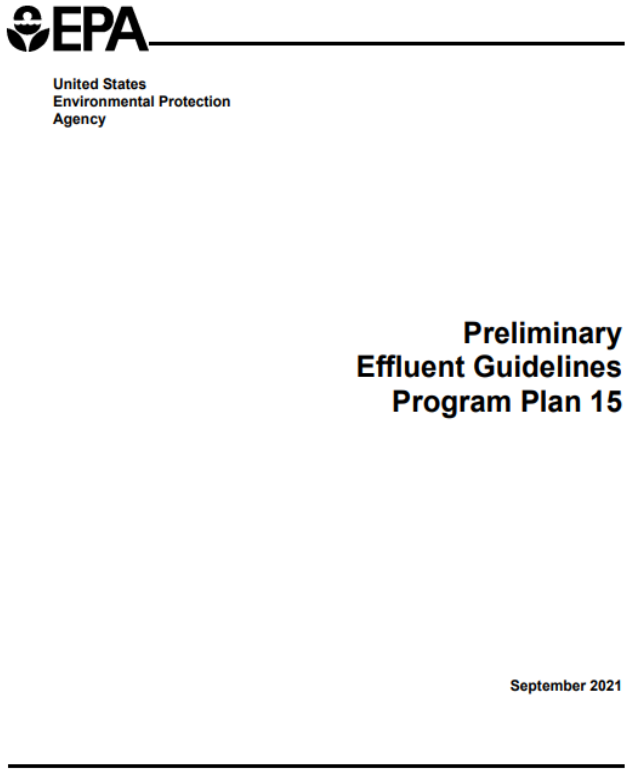
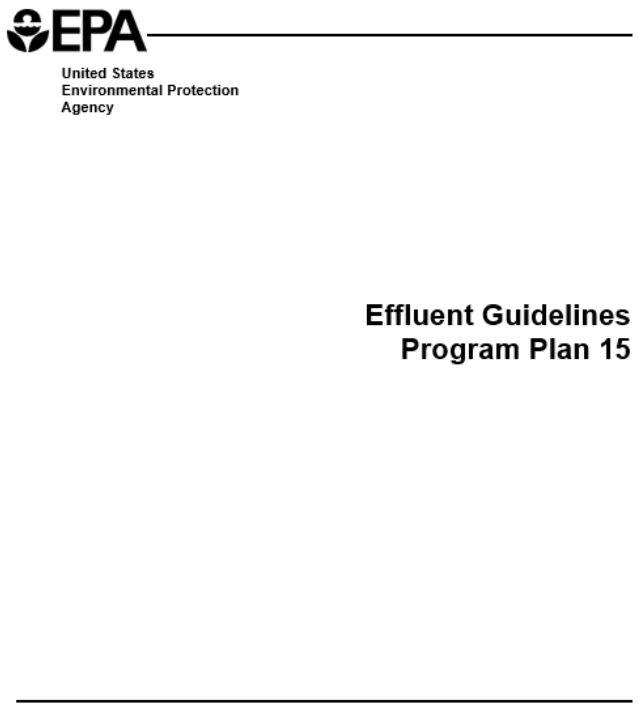
Preliminary ELG Program Plan 15



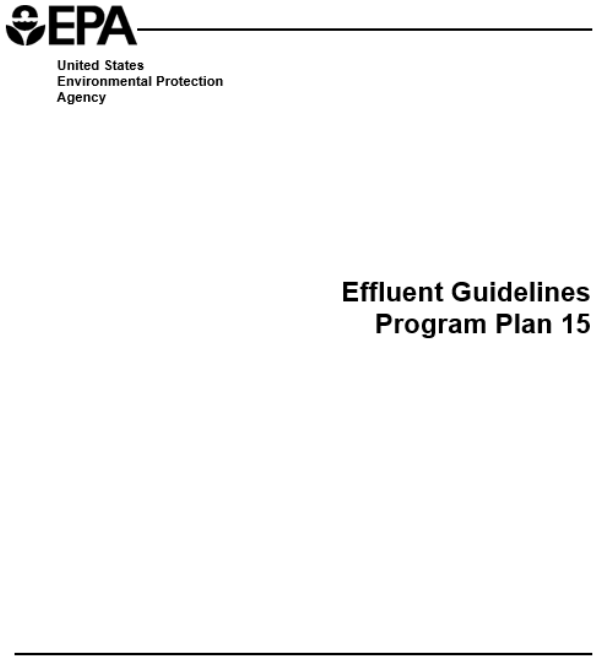
- On September 2021, EPA published Preliminary Plan 15 for a 30-day public comment period.
- The Preliminary Plan 15 discusses:
  - Results of 2020 annual and preliminary category reviews, concluding, continuing and new detailed studies, announces new rulemakings, studies and other initiative, while also providing updates on existing rulemakings and studies.
- **Multi-Industry PFAS Study – 2021 Preliminary Report**
  - Based on the results of the study, EPA initiated several actions to study and address PFAS discharge from numerous industries.

ELG Program Plan 15



- Published in January 2023.
- ELG Program Plan 15 presents new findings of our 2021 annual review, summary of public comments we received, announces new rulemakings and studies while also providing updates on existing rulemakings and studies.
- 2021 Annual Review Activities
  - Pollutant Ranking Analysis: Using publicly available discharge monitoring report (DMR) data, EPA ranked all 59 industrial categories with existing ELGs based on pollutant loadings.
  - Based on a combination of the results of the pollutant ranking analysis, input from the public, and as announced in the EPA's PFAS Strategic Roadmap, EPA conducted category reviews for three industrial categories: Plastics Molding and Forming (40 CFR 463), Paint Formulating (40 CFR 446) & Leather Tanning (40 CFR 425).

ELG Program Plan 15



- Annual Review Findings
  - Based on the limited data in the three category reviews, in particular data pertaining to PFAS discharges which was a primary factor in choosing these three categories for review, EPA has elected to:
  - Initiate a ***new study of POTW Influents***, where EPA will focus on collecting data from POTWs and their industrial customers in order to better understand the potential for PFAS discharges from categories recently reviewed and categories identified but for which insufficient PFAS monitoring data exists.

ELG Program Plan 15: New announcements

- New Rulemaking:
  - **Revisions to the existing Landfill ELG (40 CFR Part 445)**
    - Preliminary ELG Plan 15 announced the initiation of a detailed study of landfills, primarily focused on discharges of PFAS.
    - The results of this study demonstrate that landfills across the US are discharging PFAS in significant quantities and technologies are available to use as a technology basis for an ELG.
    - Once a schedule is developed for this rulemaking, it will be published in EPA's Regulatory Agenda.

ELG Program Plan 15: New announcements

- New Studies:
  - **Detailed Textile Study (40 CFR Part 410)**
    - Preliminary ELG Plan 15 announced a limited study of textile manufacturing, primarily focused on discharges of PFAS.
    - The results of this limited study demonstrated the lack of available data on PFAS discharges from textile mills and EPA intends to expand the scope of the study to conduct a mandatory survey of this industry.
  - **Detailed Concentrated Animal Feeding Operations (CAFOs) Study (40 CFR Part 412)**
    - The existing CAFOs ELG impose substantial and detailed requirements on both the production area and land application area; however, EPA needs to better understand discharges from CAFOs and implementation of the existing CAFOs ELG to make an informed decision on whether revisions to the existing CAFOs ELG are warranted.

ELG Program Plan 15: Update on existing rulemakings

- **Steam Electric ELG (40 CFR Part 423)**
  - In 2021, EPA announced it was initiating a new supplementary rulemaking to strengthen certain wastewater pollution from coal fired power plants.
    - Since the publication of Plan 15, EPA has proposed this supplementary rulemaking, and also published a direct final rule on a related matter regarding the early retirement provision.
- **Meat and Poultry Processing (MPP) ELG (40 CFR Part 432)**
  - In Preliminary ELG Plan 15, EPA stated it would be initiating a rulemaking to revise the existing MPP ELGs to address nutrient discharge from this industry. This plan provides an update on the progress of the rulemaking as well as stating EPA's intent propose this regulation in December 2023.

ELG Program Plan 15: Update on existing rulemakings

- **PFAS Manufacturers (40 CFR part 414)**
  - EPA announced in its PFAS Strategic Roadmap that it will revise the ELGs for the Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) Point Source Categories to address wastewater discharges of PFAS from PFAS manufacturing facilities. In this plan EPA provides a status update on the activities for this rulemaking as well as it's intent to publish a proposal for this rule in the Spring of 2024.
- **Metal Finishing and Electroplating (40 CFR Part 433 & Part 413)**
  - EPA announced in its PFAS Strategic Roadmap that it will revise the ELGs for the Metal Finishing and Electroplating Point Source Categories to address discharges of PFAS from metal finishing and electroplating operations. EPA provided a status update on the activities for this rulemaking as well as it's intent to publish a proposal for this rule by the end of 2024.

ELG Program Plan 15: Update on existing studies

- **Electronic and Electronical Component (E&EC) Manufacturing (40 CFR Part 469)**
  - In 2015, EPA initiated this study based on stakeholder input, after initiating the study concerns surrounding PFAS discharges were raised with regards to this industry.
  - Based on the data collected, EPA has determined that for the most part, this industry has been effective in limiting the discharge of pollutants and EPA is concluding the study and published the study report alongside this plan.
    - Additionally, there are extremely limited data on PFAS discharges from these facilities and the previously described POTW Influent Study will help identify any PFAS related issues with this industry.

ELG Program Plan 15: Update on existing studies

- **PFAS Phase-outs**
  - In Preliminary ELG Plan 15, EPA identified two industries, airports and pulp & paper manufacturing (40 CFR Part 430), not warranting further action due to self-imposed PFAS phase-outs.
  - EPA also indicated that the Agency would continue to monitor those anticipated phase-outs to ensure additional actions do not become warranted it the future.
  - This plan present the current status of the PFAS phase-out in these two industries, both of which appear to be on pace as initially described in Preliminary ELG Program Plan 15.
  - EPA will continue to monitor and report on these phase-outs until they are complete.

Summary of actions and discussion in ELG Program Plan 15

- EPA is initiating is a new rulemaking to revise the existing ELG for landfills, primarily to address PFAS in landfill leachate.
- EPA is initiating a new study to gather data on industrial PFAS discharges to POTWs.
- EPA is initiating a new study to gather data on Concentrated Animal Feeding Operations (CAFOs) to better understand the potential discharges and current implementation of the existing rule.
- EPA is expanding the scope of the existing Textile Mills detailed study to include collecting data on PFAS use and discharge though a mandatory survey from this industry.
- Updates to existing rulemakings and studies, including Steam Electric ELG, Meat and Poultry ELG, PFAS Manufacturers ELG, Metal Finishing & Electroplating ELG, the E&EC detailed study, and the PFAS phase-outs for airports and pulp & paper manufacturers.

The commencement and pace for these activities will be a function of funding in FY23 and beyond.

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CWA PFAS Analytical Methods

- Currently multi-laboratory validating 2 draft methods
  - Draft Method 1633: 40 PFAS, 8 matrices
  - Draft Method 1621: Adsorbable Organic Fluorine, wastewater
- Methods are finalized after multi-laboratory validation
- A method is approved for Clean Water Act NPDES compliance monitoring after it is finalized through rulemaking

https://www.epa.gov/cwa-methods/frequent-questions-about-pfas-methods-npdes-permits

Method 1633

- DoD-EPA collaboration
  - DoD is managing the validation effort with EPA oversight from multiple offices: OW, OLEM, and ORD
  - EPA/OW is drafting and revising the method
- Validation matrices include: wastewater, surface water, groundwater, landfill leachate, soil, sediment, biosolids, and marine tissue
- Multi-laboratory data received
- Currently reviewing data, performing statistical analysis, and writing the multi-laboratory report

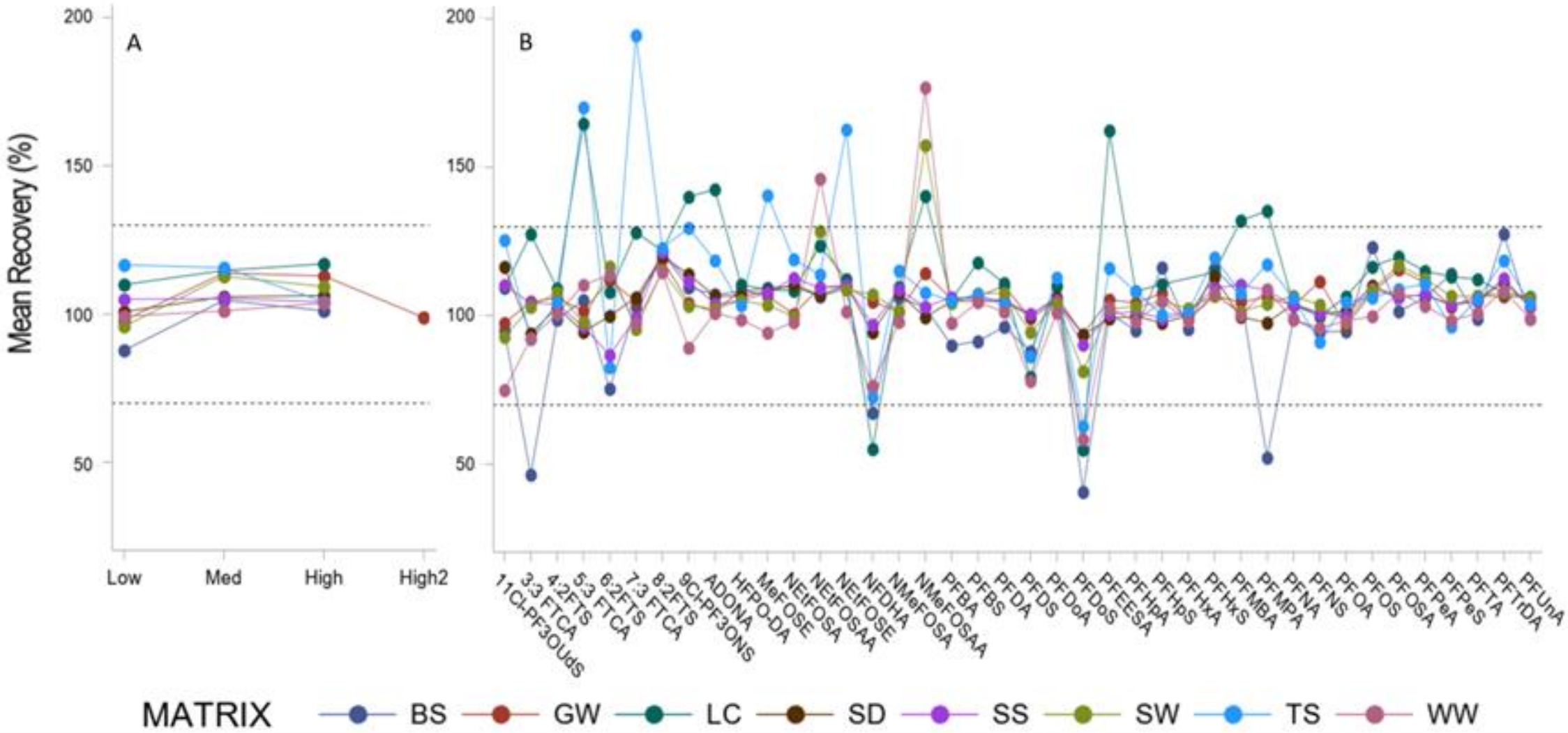
Method 1633 Single Laboratory Validation

- Completed in January 2022

https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

- The reported Method Detection Limits (MDLs) from the single-laboratory study varied by analyte and matrix, as summarized below:
  - Aqueous sample MDLs ranged from about 0.12 to 5.94 ng/L, with all but 4 of the 40 analytes having MDLs between 0.12 and 1.5 ng/L
  - Soil/sediment sample MDLs ranged from about 0.014 to 0.348 ng/g (dry weight)
  - Tissue sample MDLs ranged from about 0.032 to 9.98 ng/g (wet weight) with all but 1 of the 40 analytes having MDLs between 0.032 and 1.5 ng/g
- The MDLs for the 40 analytes were often MDLb values, driven by background levels of those analytes in the laboratory and in various supplies and reagents used in the procedure

Method 1633 Single Laboratory Validation MS Recovery



Method 1621 Adsorbable Organic Fluorine (AOF)

- Measures organic fluorine that adsorbs to activated carbon and then is analyzed by combustion ion chromatography
- Does not identify the type of AOF (e.g., PFAS or non-PFAS)
- Does not measure fluoride that exists in surface water and drinking water at part per million levels
- Advantage of aggregate methods like AOF
  - Thousands of PFAS exist
  - Naturally occurring organic fluorine is rare in nature

Method 1621 Single Laboratory Validation

Single-Laboratory Validation Included:

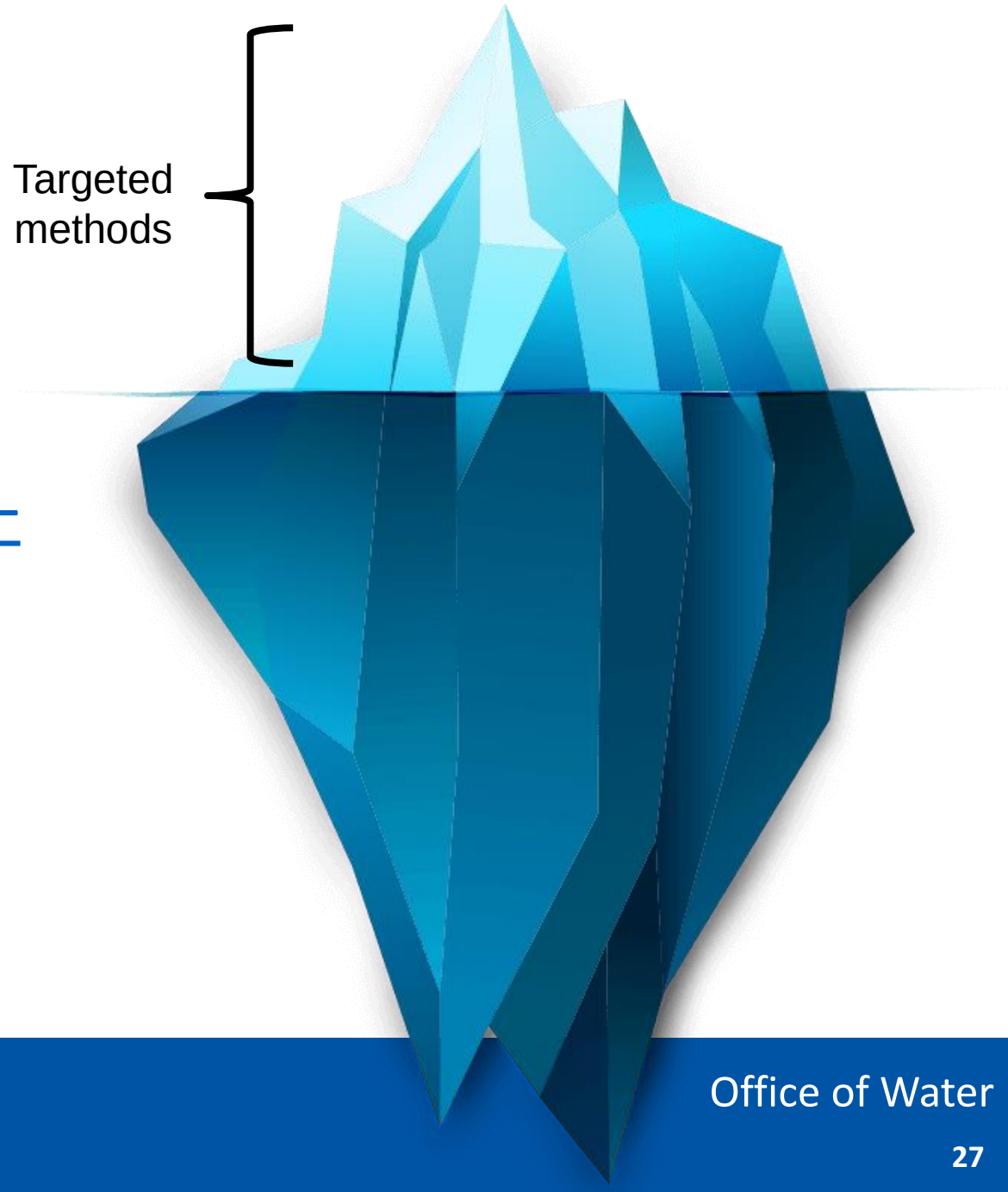
- Calibration and sorbent testing
- Recovery ranged from about 40-200% for analytes tested:
  - 36 individual PFAS
  - 3 different mixed PFAS standards
  - 3 fluorinated pharmaceuticals
  - 3 fluorinated pesticides
- Method detection limit of 3 ppb
- Ten wastewater and surface water matrices were tested at two spike concentrations

Method 1621 Status

- The draft method and single laboratory validation report are available at:

https://www.epa.gov/cwa-methods/cwa-analytical-methods-and-polyfluorinated-alkyl-substances-pfas

- Laboratories are currently analyzing samples for the multi-laboratory validation



Questions?

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