

Introduction to the Clean Water Act Section 303(d) Program and Vision


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Presentation Overview

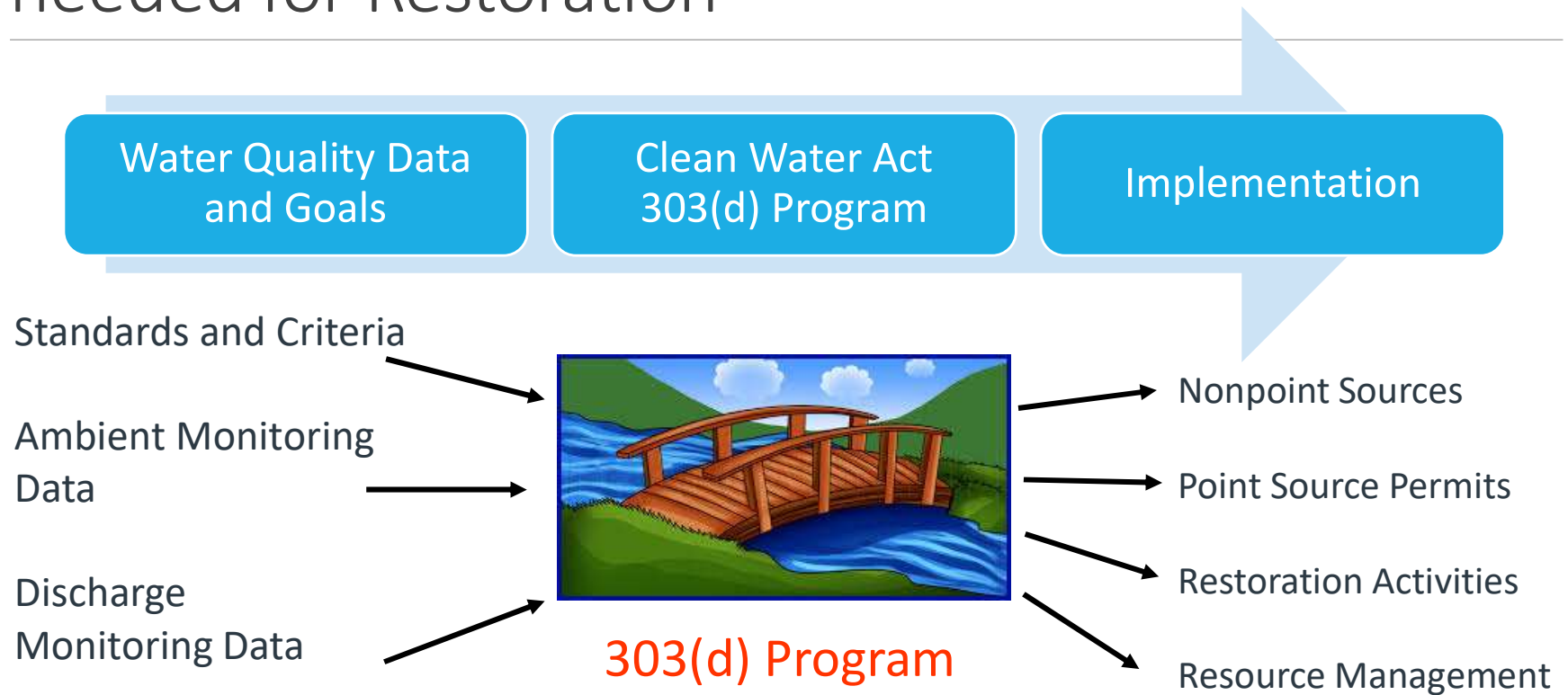
This session provides a brief introduction to the Clean Water Act (CWA) 303(d) Program and the CWA 303(d) Program Vision

Topics discussed include:

- Requirements for the 303(d) program
 - 303(d) Program Vision
 - 303(d) List and Integrated Report
 - Priorities
 - TMDLs and other restoration and protection plans
 - Program Metrics
- 

Background

Bridging Water Quality Goals and the Actions needed for Restoration





Working Towards CWA Goals – It's a Hierarchy

Statute

- Sets out general requirements and objectives
- State: Passed by legislature and signed by Governor
- Federal: Passed by Congress and signed by President

Regulations

- Provides substance and detailed requirements to implement statute
- Developed by responsible agency
- Public review and comment process

Guidance and Policy

- Provides supplemental information to assist in program implementation
- Is not legally binding

Section 303(d) of the Clean Water Act

Identify waters that are impaired and develop a priority ranking

Establish the Total Maximum Daily Load for these waters for pollutants, as needed to implement Water Quality Standards

Contemplates that the state will identify TMDL loads for other waters to assure protection of designated uses

Federal Regulations Regarding TMDLs (40 CFR 130.7)

Identify waters that are impaired and develop a priority ranking

- Focus on waters where technology-based effluent limits, other effluent limitations or other pollution control measures are not sufficient to protect water quality, including thermal discharges
- Establish a priority ranking to develop the total maximum daily load for pollutants to support water quality attainment, including identification of water targeted for TMDL development within the next 2 years
- Submit to EPA for review and action

Establish the Total Maximum Daily Load for these waters for pollutants, as needed to implement Water Quality Standards

- Consider seasonal variations, margin of safety and relationship between effluent limitations and water quality
- Submit TMDLs to EPA for review and action

Contemplates that the state will identify TMDL loads for other waters to assure protection of designated uses

303(d) Program Areas

Impaired Water List

Priority Ranking

TMDL Development

Protection Plans

Policy and Memos

Section 303(d) List and Integrated Reports

Since 1992, EPA has issued program guidance on the 303(d) listing and reporting process to help states prepare and submit to CWA section 303(d) reports. In 2002 the Agency encouraged states to merge the 305(b) report and the 303(d) report.

<https://www.epa.gov/tmdl/identifying-and-listing-impaired-waters-under-clean-water-act>

TMDL Development – Topic-specific TMDL resources and Tools

<https://www.epa.gov/tmdl/developing-total-maximum-daily-loads-tmdls>

2022-2032 CWA 303(d) Program Vision

The CWA Section 303(d) Program strives to strategically plan and prioritize activities, engage partners, and analyze and utilize data to develop water quality assessments, plans, and implementation approaches to restore and protect the Nation's aquatic resources



<https://www.epa.gov/tmdl/Vision>

Planning & Prioritization Goal

States, territories, and tribes develop a holistic strategy for implementation of Vision Goals, systematically prioritize waters or watersheds for TMDL and other plan development (restoration and/or protection), and report on the progress towards development of plans for priority waters.

Prioritization Frameworks

1. Describe long-term Vision priorities and a rationale for selecting those Vision priorities
2. Outline a general strategy for implementing the Goals of the 2022 Vision

Vision 1 Prioritization Framework Documents: <https://www.eli.org/freshwater-ocean/state-and-territorial-prioritization-frameworks>

2024 IR Memo: https://www.epa.gov/system/files/documents/2023-03/2024IRmemo_032923.pdf

Important Dates

- Frameworks to be completed and shared with EPA by **April 1, 2024** and should plan until 2032, or longer if desired.
- Frameworks **may be updated** during the FY25-FY32 period if needed.

EPA's Role

- States, territories, and authorized tribes are **encouraged to work with their EPA regions** in developing the frameworks.

Coordination

- Coordination of CWA 303(d) Program activities with other programs can aid in strategically focusing limited resources to address broader water quality objectives most effectively.

Engaging the Public

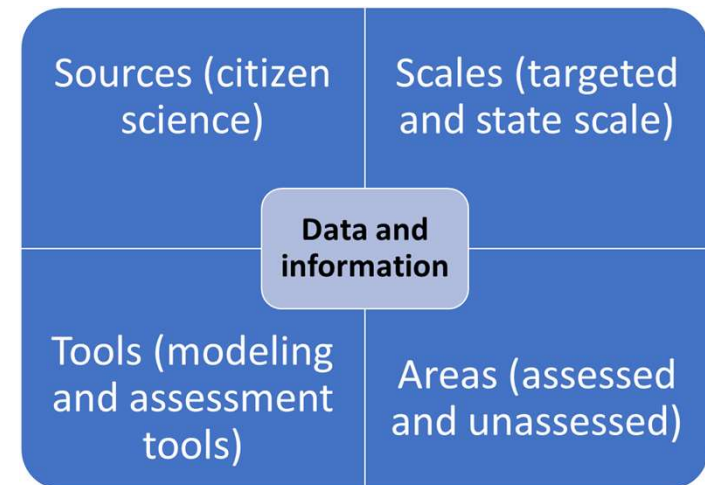
- States and territories are encouraged to utilize the 2024 IR public participation process to develop and share (either by incorporation or reference) their frameworks or use an independent public process (i.e., separate from the IR process).

2022 Vision:

https://www.epa.gov/system/files/documents/2022-09/CWA%20Section%20303d%20Vision_September%202022.pdf

Data & Analysis Goal

The CWA Section 303(d) program coordinates with other government and non-governmental stakeholders to facilitate data production and sharing, and effectively analyzes data and information necessary to fulfill its multiple functions.



Restoration Goal

States, territories, and tribes design TMDLs and other restoration plans to attain and maintain water quality standards, facilitate effective implementation, and drive restoration of impaired waters.

- TMDLs remain the foundational approach for water quality planning under 303(d)
- Other restoration approaches, such as Advance Restoration Plans can be used

Protection Goal

In addition to recognizing the protection benefits that TMDLs and other restoration plans can provide, states, territories, and tribes may develop protection plans to prevent impairments and improve water quality, as part of a holistic watershed approach.

For more information:

<https://www.epa.gov/tmdl/protection-approaches>

Partnerships Goal

The CWA Section 303(d) program meaningfully communicates and collaborates with other government programs and non-governmental stakeholders to restore and protect water quality effectively and sustainably.

- Programmatic Coordination
- Stakeholder Involvement and Engagement

- Partners can include:
 - Programs in State Environmental Agency
 - Other federal and state partners
 - Public
 - Stakeholders
 - Regulated Community

303(d) Program Focus Areas

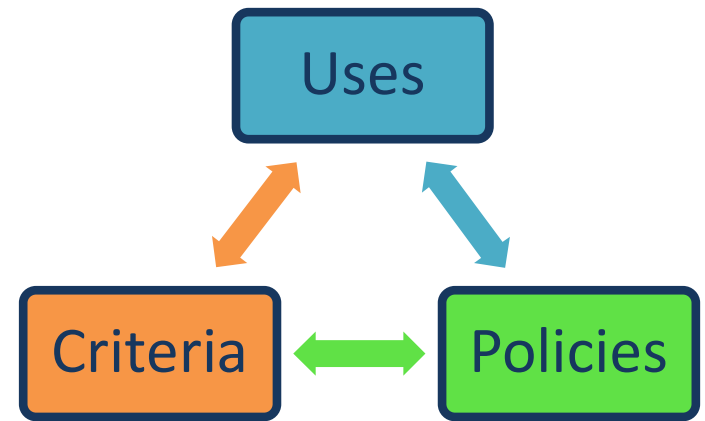
Provide four cross-cutting themes of national, regional, and local importance, consistent with national EPA priorities, to consider in CWA Section 303(d) program implementation:

- Environmental Justice
- Climate Change
- Tribal Water Quality and Program Development
- Program Capacity Building

Water Quality Standards Foundation for 303(d) Program Implementation

Water Quality Standards Foundation

Plans are developed under the 303(d) program to support implementation of Water Quality Standards including numeric & narrative criteria, waterbody uses and antidegradation requirements



Core Components of WQS

Designated Uses

Designated uses are those uses specified in water quality standards regulations for each water body or segment, whether or not they are being attained.

They describe the water quality goals or desired condition for a specific water body, and the functions and/or activities that are supported by a level of water quality.

They also serve as tools to communicate water quality goals to the public.

Examples Designated Uses:

- Recreation
- Protection & Propagation of Fish, Shellfish & Wildlife
- Drinking Water
- Use of water for Agricultural or Industrial Purposes

Criteria

Criteria are the water quality levels that will protect the designated use.

Definition (40 CFR 131.3(b)):
“Elements of State water quality standards, expressed as constituent concentrations, levels or narrative statements, representing water quality that supports a particular designated use. When criteria are met, water quality will generally protect the designated use.”

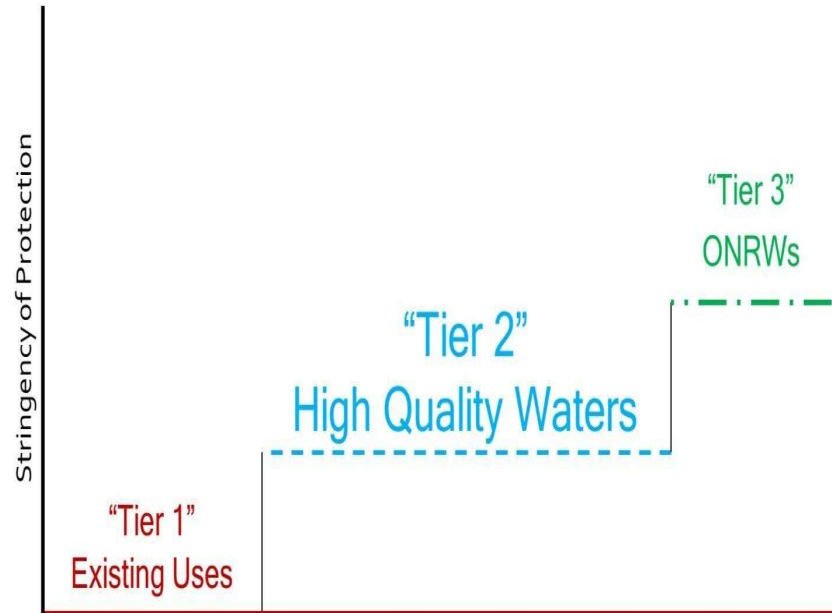
Examples:

- **Numeric**
 - To protect Aquatic Life Uses, dissolved Cadmium shall not exceed 1.8 ug/l as a 1 hour average more than once every 3 years and applied at a total hardness of 100 mg/l
- **Narrative**
 - The loading of nutrients, principally phosphorus and nitrogen, to any surface water body shall not exceed that which supports maintenance or attainment of designated uses.

Antidegradation Policy Basics

40 CFR 131.12 (a): The State shall develop and adopt a statewide antidegradation policy.

Antidegradation adds additional protections for waters of the U.S. above and beyond designated uses and criteria. The antidegradation policy provides the goals and framework of protection.

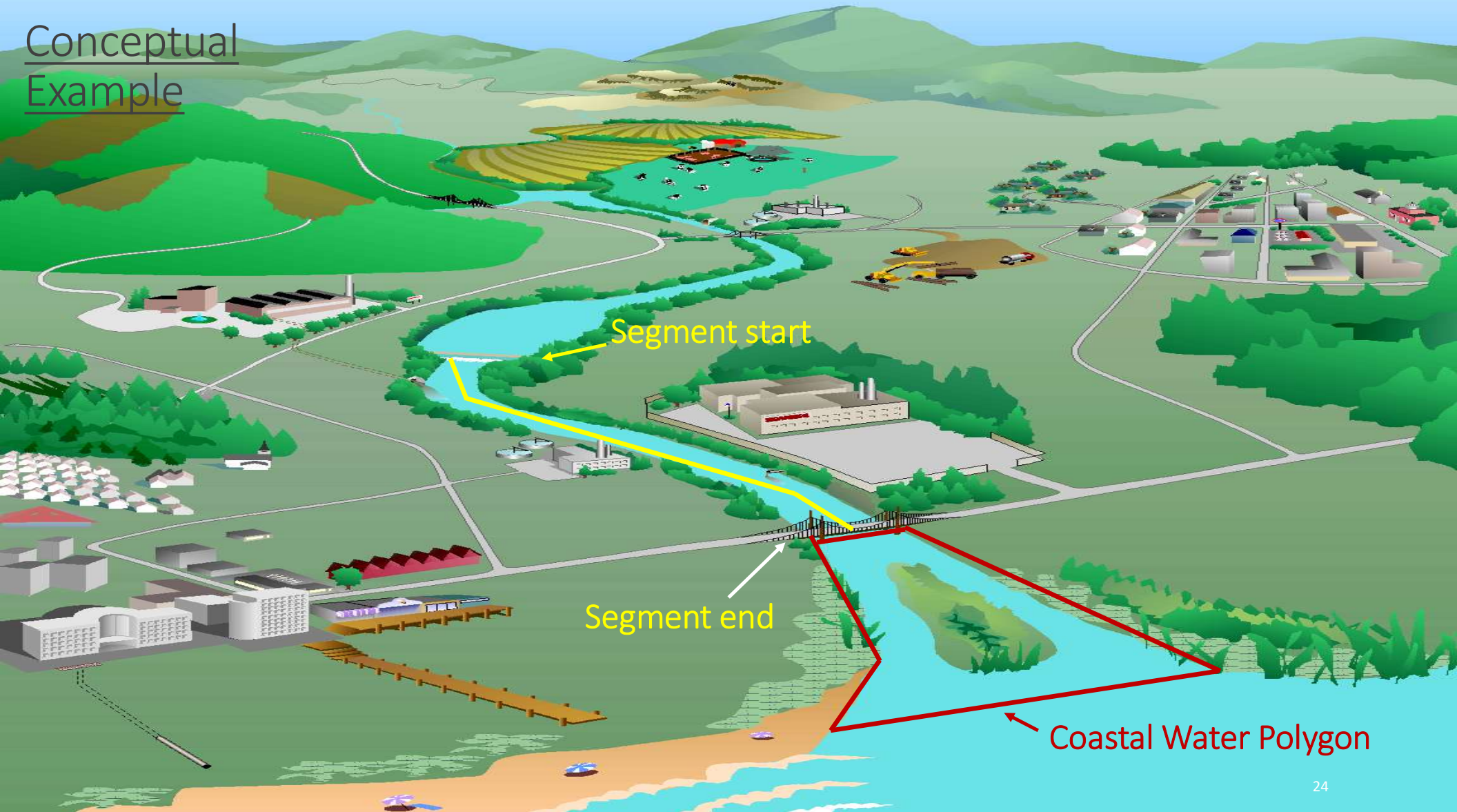


303(d) List and Integrated Report

Identifying Waterbodies

- Waters are segmented into smaller units for analysis and management
 - Linear Segments are commonly used to represent rivers and streams
 - Polygons are often used for lakes or coastal areas
- Provides a system for consistent identification and naming of waterbodies
- Allows for associating assessment and planning information with specific waterbody
- Can use National Hydrography Dataset or state-specific watershed delineation

Conceptual Example



What is the 303(d) List?

The 303(d) list consists of waters that:

- Do not meet water quality standards even after the implementation of technology-based limitations or other pollution control requirements, often referred to as “impaired waters.”
- Are not expected to attain water quality standards in the next listing cycle (2 years), referred to as “threatened waters.”

Applicable Regulations: 40 CFR 130.7

What are the 303(d) Listing Roles?

States, authorized tribes and territories:

- **Identify waters** not meeting WQS based on “all existing and readily available information”
- **Establish priorities** for TMDL development
- **Identify** waters targeted for TMDL development in the next two years
- **Request and Respond** to public comments on their draft 303(d) list
- **Submit** the final 303(d) to EPA on April 1st of each even year for review and action

EPA has 30 days to approve or disapprove a submitted 303(d) list

- If EPA disapproves a list, EPA has 30 days to develop list for the state, tribe, or territory

How are waters placed on a 303(d) List?

Monitoring

- Collect and evaluate monitoring data to determine condition of the waterbody.
- Assemble all readily available data and information.

Assessment

- Use assessment methodologies and procedures, consistent with their WQS, to determine whether waters are impaired.

Listing

- Develop a list of those impaired waters every two years with public participation and submit to EPA.

How is the 303(d) List Submitted to EPA?

303(d) list* (impaired/threatened waters)

305(b) report (overall health of waters)

+ **314 report** (health of lakes/reservoirs)

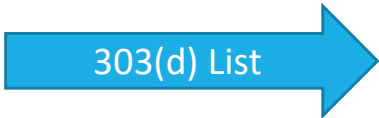
= Integrated Report (IR)

The 303(d) list and 305(b) report are both due April 1 of every even-numbered year. EPA has recommended an Integrated Report since the 2002 reporting cycle

*Requires EPA approval

Integrated Reporting List Categories

Category	Description
1	Designated Uses are met
2	Some, but not all, Designated Uses met
3	Insufficient information to determine if Designated Uses are met
4	Water Quality is Impaired or Threatened but a TMDL is not needed
4a	TMDL completed
4b	Other management requirements are expected to address impairment
4c	Non-pollutant causes for impairment
5	Water Quality is Impaired or Threatened by a Pollutant & TMDL is needed



State-Specific Listing Categories & Methodologies

- States can create state-specific listing categories
- Can be tracked through ATTAINS, currently using the comment fields
- Detail can be provided through the Consolidated Assessment and Listing Methodology included in the state Integrated Water Quality Report

Example from CT:

Subcategories Under Federal Listing Category 2, to be able to track plans associated with waters that now meet WQS

- 2TMDL: Standards met, TMDL in place
- 2R: Standards met, Restoration Plan in place
- 2P: Standards met, Protection Plan in place

Example – Suggestions from EPA:

Subcategories used by States for Advance Restoration Plans

- 5R

Integrated Report

Components of the Integrated Report include (but are not limited to):

- Categorization of all waters based on readily available data and information
- Description of assessment and listing methodologies
- Water Quality Standards attainment status
- A schedule for establishment of TMDLs
- Public participation process

Access Reports and Data

Refer to state/territory/tribe website for Integrated Reports and information on comment periods.

Go to Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS) site to access reported data at different scales.

- <https://www.epa.gov/waterdata/attains>

“How’s My Waterway” provides access to data for multiple water programs in a user-friendly format at the national, state and local level.

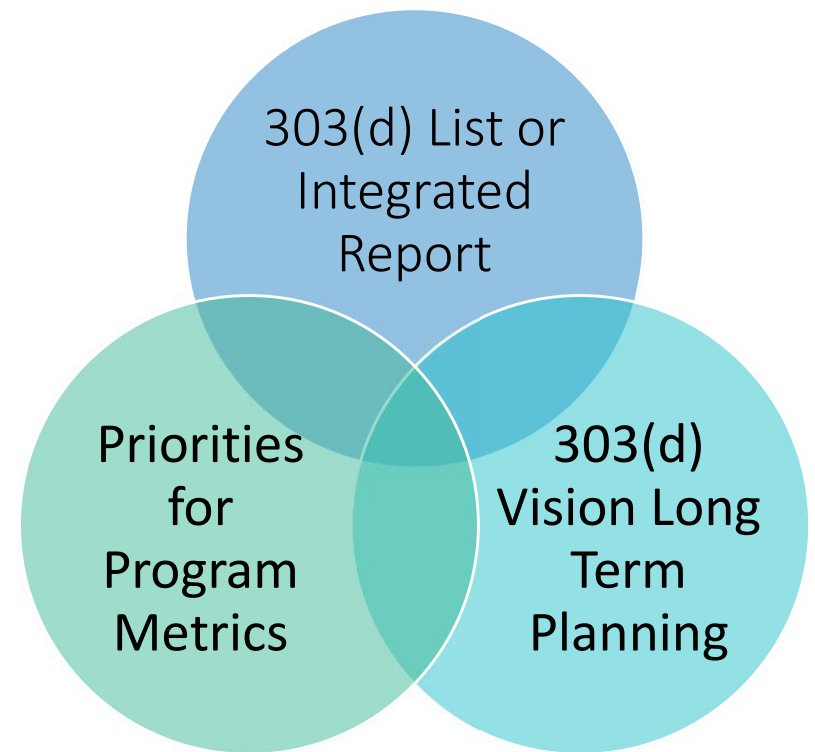
- <https://www.epa.gov/waterdata/how-s-my-waterway>

Setting Priorities

Setting Priorities

There are three 303(d) program components that involve setting priorities

Priorities set under each process relate to each other but may not be exactly the same



Setting Priorities within 303(d) List or IR

Required as part of a CWA 303(d) list (due April 1 each even numbered year).

Must include all listed water quality-limited segments still requiring TMDLs.

Must identify the impaired waters targeted for TMDL development in the next two years

Must consider severity of pollution, designated uses for waterbody and pollutants causing or contributing to water quality impairment

Practical Considerations:

- Priorities identified as high, medium and low
- This information is entered into ATTAINS database
- Programs develop their own approach to determining how to identify waters as high, medium or low priorities
- Identify TMDLs for development within a 2-year period
- Suggestion: If an Advance Restoration Plan will be used to address the impairment, development of a TMDL can be given a lower priority
- Suggestion: A higher priority designation may be appropriate for waters identified as program priorities under the Program Metric Commitments

Long-term Planning for 303(d) Vision

Covers FY25-FY32, and may be updated periodically as needed

Long-term planning is documented in the **Prioritization Framework**

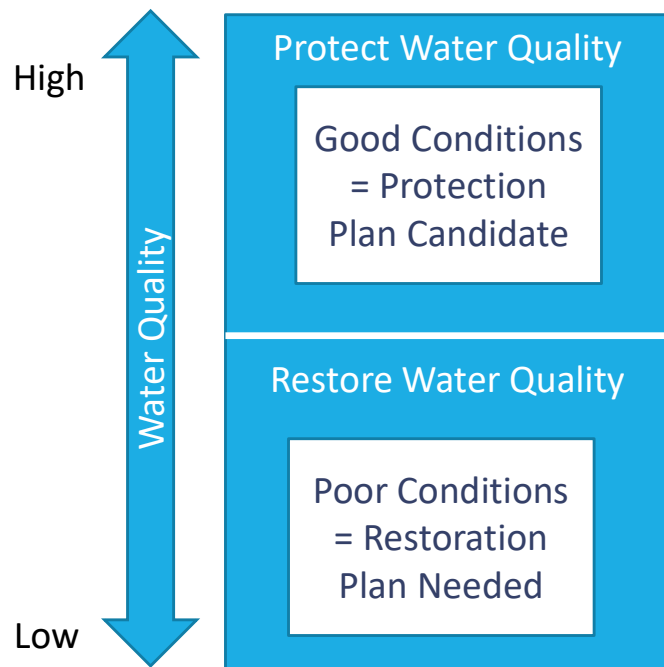
- Development of Prioritization Framework provides a process for programs to identify objectives for water quality planning (e.g., beaches, bacteria, important waterbodies, etc.)
- Objectives then inform which waters to select for plan development.
- Specific waters prioritized for plan development do not need to be included in the Framework, but they can be included.
- Framework should discuss a general strategy for implementing the 303(d) Program Vision
- Recommended to collaborate with partners and the public to develop priorities
- Framework to be completed and shared with EPA by **April 1, 2024**
- The document is not for EPA approval
- Priorities may be changed if needed by revising the Program's Prioritization Framework
- Recommended to use the Integrated Report or other processes to keep public informed about priorities and progress

Identifying Priorities for Program Metric

- States, territories, and authorized tribes identify priority plans every two years for purposes of the EPA metric (by September 30 in 2024, 2026, 2028, 2030).
- States, territories, and authorized tribes would identify whether a plan will be in progress or completed for each two-year increment.
- Priority plans include TMDLs, other restoration plans, and protection plans.
- Tracked based on EPA fiscal year

Water Quality Plans: TMDLs, Advance Restoration Plans and Protection Plans

Water Quality Management Plans



Protection Plans

Restoration Plans

- Total Maximum Daily Load-based Plans (TMDLs)
- Advance Restoration Plans
- Category 4b and 4c Plans

What is a TMDL?

A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

The TMDL provides
the math and the path
for waterbody restoration



TMDL Calculation

$$\text{TMDL} = \sum \text{WLA}_i + \sum \text{LA}_i + \text{MOS}$$

$\sum \text{WLA}_i$: Sum of waste load allocations (point sources)

$\sum \text{LA}_i$: Sum of load allocations (nonpoint sources and natural background)

MOS: Margin of Safety

This calculation is completed for each waterbody/pollutant combination

Waste Load Allocations for Point Sources



Pipe



Concentrated Animal Feeding Operation (CAFO)



Stormwater

Load Allocations for Nonpoint Sources



Agricultural lands



Livestock

Nonpoint sources are diffuse sources that do not need NPDES permits.

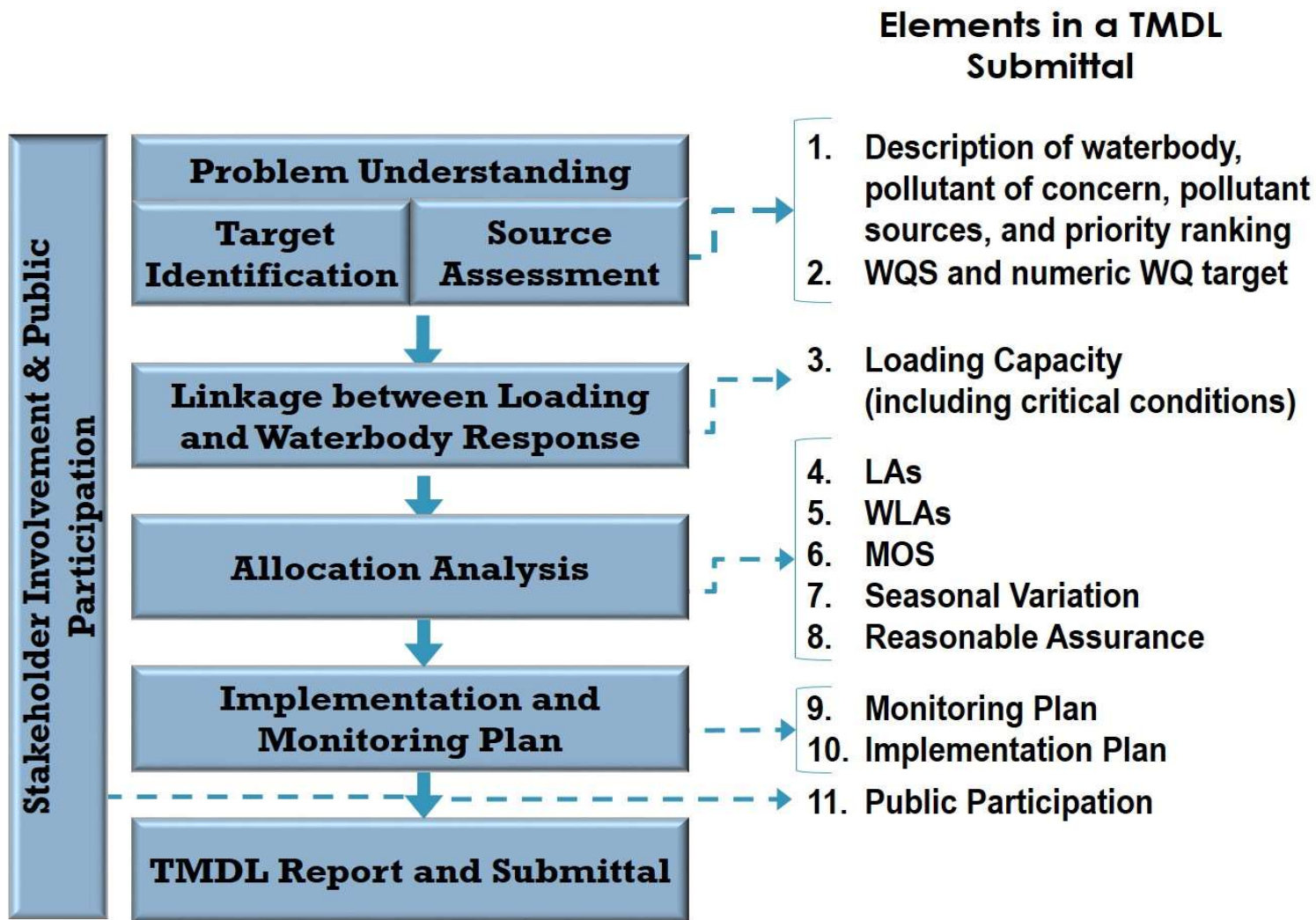


Forest land

Margin of Safety

The margin of safety:

- Takes into account **lack of knowledge** concerning the relationship between effluent limitations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1))
- Can be **explicit** (e.g., 10%) or **implicit** (conservative assumptions in modeling, etc.)



TMDL Process

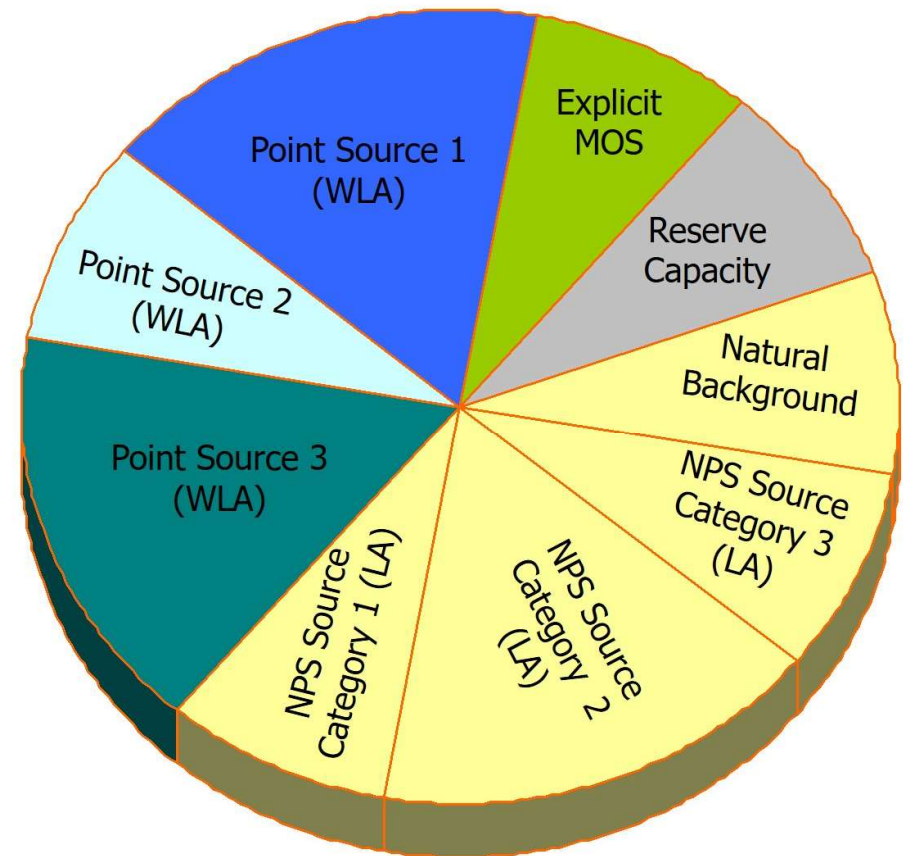
From *Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992* (May 20, 2002)
 [see Student Manual for website]

TMDL Allocations

TMDLs are expressed as

- Mass (e.g., pounds per day)
- Toxicity (e.g., toxic units)
- Energy (e.g., heat in temperature TMDLs)
- Or “other appropriate measure” (CFR130.7)

There is an emphasis on TMDLs to be expressed as daily loads



Public Participation

Public/stakeholders can engage at different stages of the listing and TMDL process

- Provide data and information to the states
- Review and comment on draft 303(d) list
- Review and comment on draft TMDLs
- Assist in the development of 3rd party TMDLs

Building in time and attention to public participation can help in creating more comprehensive, robust, and defensible TMDLs

Advance Restoration Plans

Water quality planning approach that can be used prior to development of a TMDL

Focus on improving achieving WQ goals more efficiently

Development of a TMDL typically given a lower priority while the advance restoration approach is implemented

Should be periodically evaluated to determine if such plans are still expected to be more immediately beneficial or practicable in achieving WQS than a TMDL approach in the near term. If not, the state, territory, or authorized tribe should re-evaluate whether a higher priority for TMDL development should be assigned in the next IR.

Examples:

Watershed-based plans that are designed to achieve water quality

Direct to implementation without a TMDL

Cooperative agreements: Pollutant Types or Watershed

Regulatory control: Regulations, Bans or Restrictions

Contaminated Site Remediation Plans

<https://www.epa.gov/tmdl/alternative-restoration-plans>

Protection Plans

Water Quality Planning Approach to Maintain and Protect Waters where Quality is Better than Needed to Support Designated Uses

- Could be developed as a TMDL or use other approaches

For more information:

<https://www.epa.gov/tmdl/protection-approaches>

Examples:

- Programmatic Protection: TMDL or Advance Restoration Plan can be developed specifically for the purpose of protecting existing water quality.
- Legacy Protection: TMDL or Advance Restoration Plan stays in effect once water quality objectives are achieved. Provides protection against future degradation.

Implementing Plans Developed Under 303(d)

TMDLs and Other Water Quality Plans are not self-implementing under 303(d)

Point Sources:

- Permit limits consistent with WLA are required and enforceable under CWA through National Pollutant Discharge Elimination System (NPDES)
- Issued by EPA or states with delegated authority

Nonpoint Sources:

- No federal regulatory enforcement program
- Primarily implemented through state/tribal/local NPS management programs (few with regulatory enforcement)

CWA Section 303(d) Program Metrics

Vision Metric: Key Points

Beginning in FY25 and through FY32, states, territories, and authorized tribes will identify plan priorities under a new Vision metric. Similar to the approach used under the FY23 and FY24 “bridge” metric, states, territories, and authorized tribes will identify plan priorities in individual two-year increments. States, territories, and authorized tribes should identify their two-year priorities under this Vision metric considering the long-term planning documented in the Prioritization Framework. States, territories, and authorized tribes will identify priority plans every two years for purposes of the EPA Vision metric by September 30 in 2024, 2026, 2028, and 2030. -2024 IR Memo

- From FY25 - FY32, states, territories, and authorized tribes will identify commitments in **two-year increments**.
- The period of the Vision Metric (FY25 - FY32) is made up of **four 2-year metric reporting periods**.
- States, territories, and authorized tribes will identify AU/parameter combinations (priorities) and estimated plan progress during each 2-year metric reporting period, the same as the approach used for the bridge metric.
 - *The priority and the associated plan progress are referred to as commitments.*
- Plans may include TMDLs, other restoration plans, or protection plans.

(continued on next slide)

Vision Metric: Key Points *continued*

- States, territories, and authorized tribes have the flexibility to commit to plans in development or plans to be completed over the course of each two-year metric reporting period.
 - *Examples of “in development” may include, as appropriate, review of existing information, data evaluation, data collection, data analysis, model development, draft of plan, proposal of a TMDL for public comment, and public outreach. The state, territory, or authorized tribe should work with its EPA region to determine instances of “in development.”*
- Each 2-year period will be **tracked separately** from other 2-year periods. However, states, territories, and authorized tribes can plan for multiple metric reporting periods and continue with plans from previous periods. (They will need to re-enter commitments every 2 years in ATTAINS).
- States, territories, and authorized tribes should identify their two-year commitments under this Vision metric considering the long-term planning documented in the **Prioritization Framework**.

Identification of priority plans as part of this Vision metric is distinct from the requirement that each CWA 303(d) list include a priority ranking for listed waters still requiring TMDLs under CWA Section 303(d)(1)(A) and 40 C.F.R. § 130.7(b)(4).

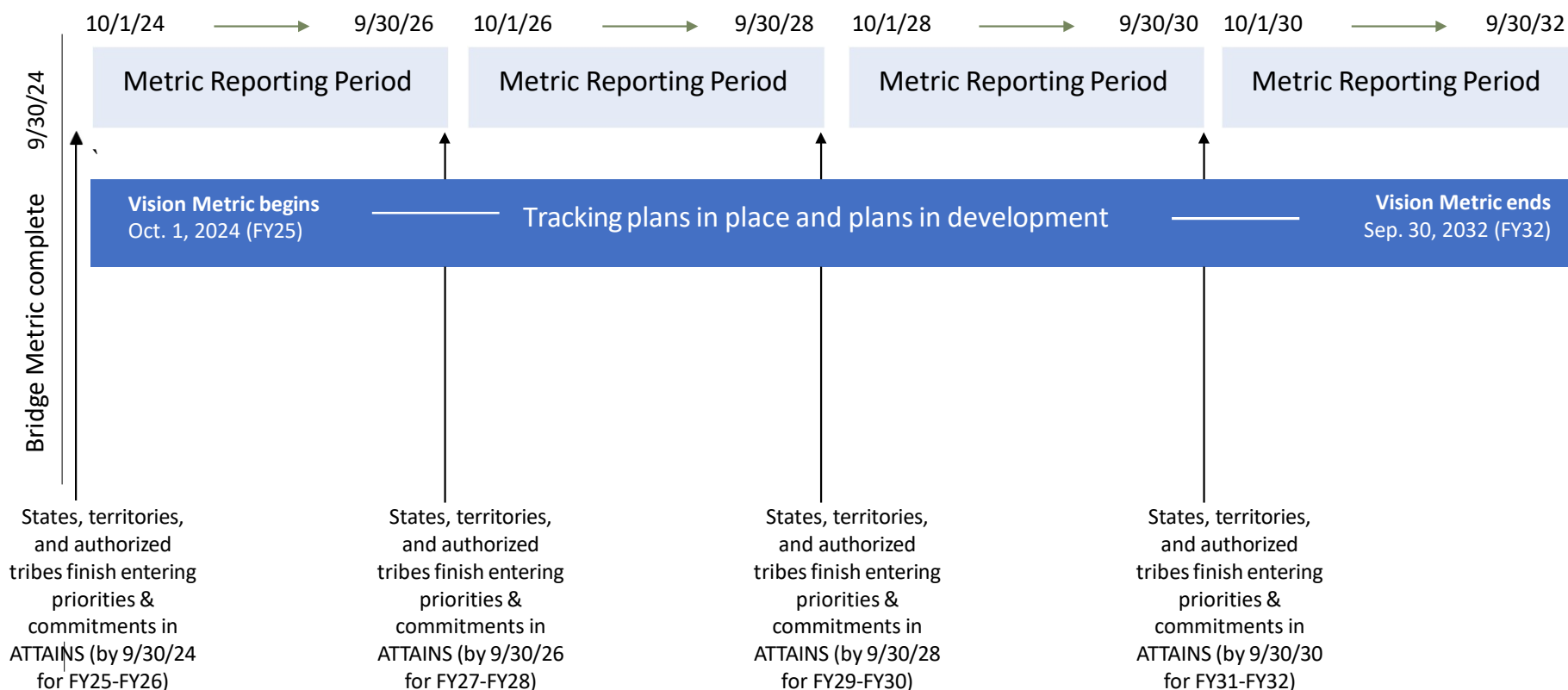
Prioritization Framework and Vision Metric Timeline

Prioritization Framework

Covers FY25-FY32, and may be updated periodically as needed

Frameworks due to EPA

4/1/24



2013 Vision Prioritization Frameworks

- [2013 Vision state and territory prioritization frameworks: https://www.eli.org/freshwater- ocean/state-and-territorial-prioritization-frameworks](https://www.eli.org/freshwater-ocean/state-and-territorial-prioritization-frameworks)
- Summary of 2013 Vision state and territory prioritization frameworks (developed by ELI): https://www.eli.org/sites/default/files/docs/overview_of_state_vision_prioritization_frameworks.pdf

Other Resources

- 2022 - 2032 Vision for the Clean Water Act Section 303(d) Program: <https://www.epa.gov/tmdl/Vision>
- 2024 Integrated Reporting Memo: https://www.epa.gov/system/files/documents/2023-03/2024IRmemo_032923.pdf
- For more information on factors to consider in the prioritization process view the 2016 IR memo: <https://www.epa.gov/sites/default/files/2015-10/documents/2016-ir-memo-and-cover-memo-8-13-2015.pdf>
- Recovery Potential Screening Tool: <https://www.epa.gov/rps>
 - RPS was used by several states to help determine 2013 Vision Priorities

Closing Thoughts

303(d)
Program



303(d) Program Vision: Implementation Perspective



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303(d) Program Vision efforts developed using a team-based approach

Collaboration: Not a top-down effort

Opportunities: Be creative. Embrace new or renewed approaches to support water quality goals

Success: Based on full engagement from the Programs at all levels

Time to Think and Plan Before You Act



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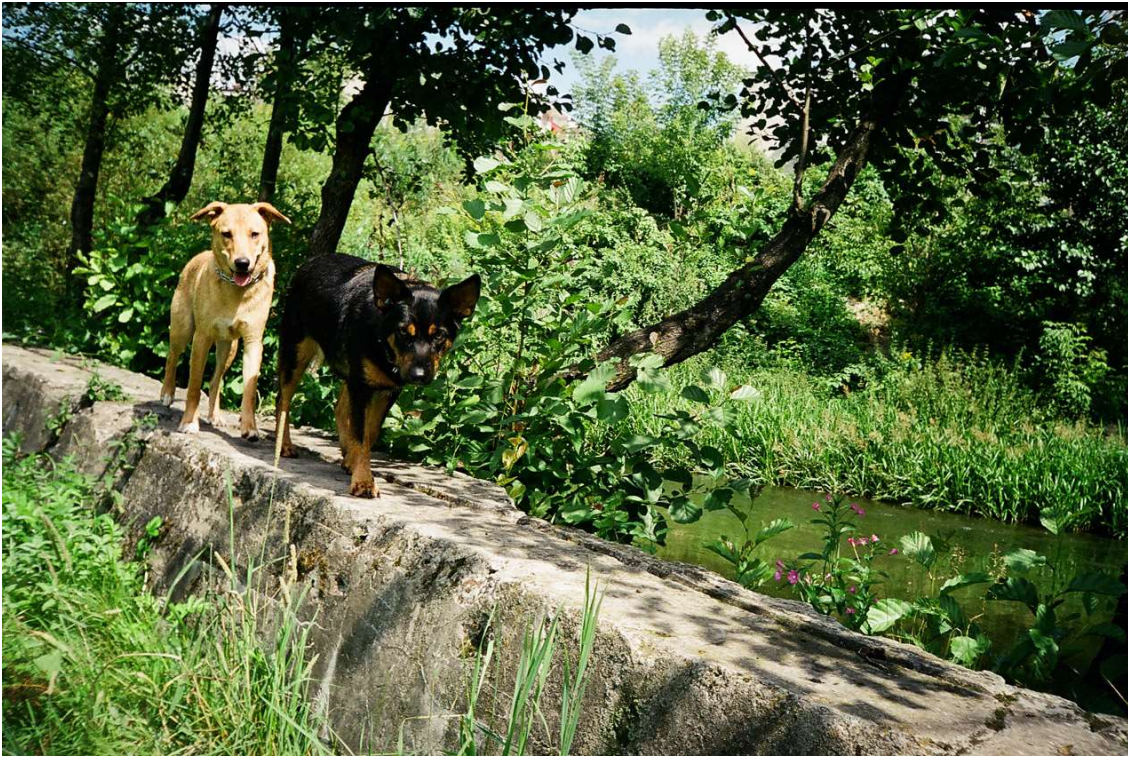
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Vision recognizes the power and importance of planning, both in short- and long-term increments

- Learn from Vision 1.0 Efforts in your program and from others
- Think big and longer term, even if you set project goals over a shorter time period

A goal without a plan is just a wish.
~Antoine de Saint-Exupery

Make your own path to success



TMDLs are the Math and the Path

- Vision lets each program plot the route and path to achieve water quality goals
- Be creative. Be adaptive.

Seek Creative Solutions



Vision provides flexibility and tools to allow for programs to develop new solutions and approaches

Consider something new

Explore the use of Advance Restoration Plans or Protection Plans

Don't underestimate the power of the pack



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Collaboration is foundational to successful water quality restoration and protection

- Seek partnerships and collaboration within your agency, with EPA or other agencies, with local partners and businesses
- Implementation is more likely to occur when you have willing and engaged partners

This Week: Engage, Share, Learn



Take time to listen. Learn from others to take back to your program

Pass the ball. Share your knowledge with others.



This Week: Engage, Share, Learn



Dive In!!!!



Questions

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