

VIRTUAL WQS Academy

Clean Water Act Section 303(d) Listings and Total Maximum Daily Loads (TMDLs)

Teagan Rostock and Rebecca Christopher
Office of Wetlands, Oceans, and Watersheds
US EPA

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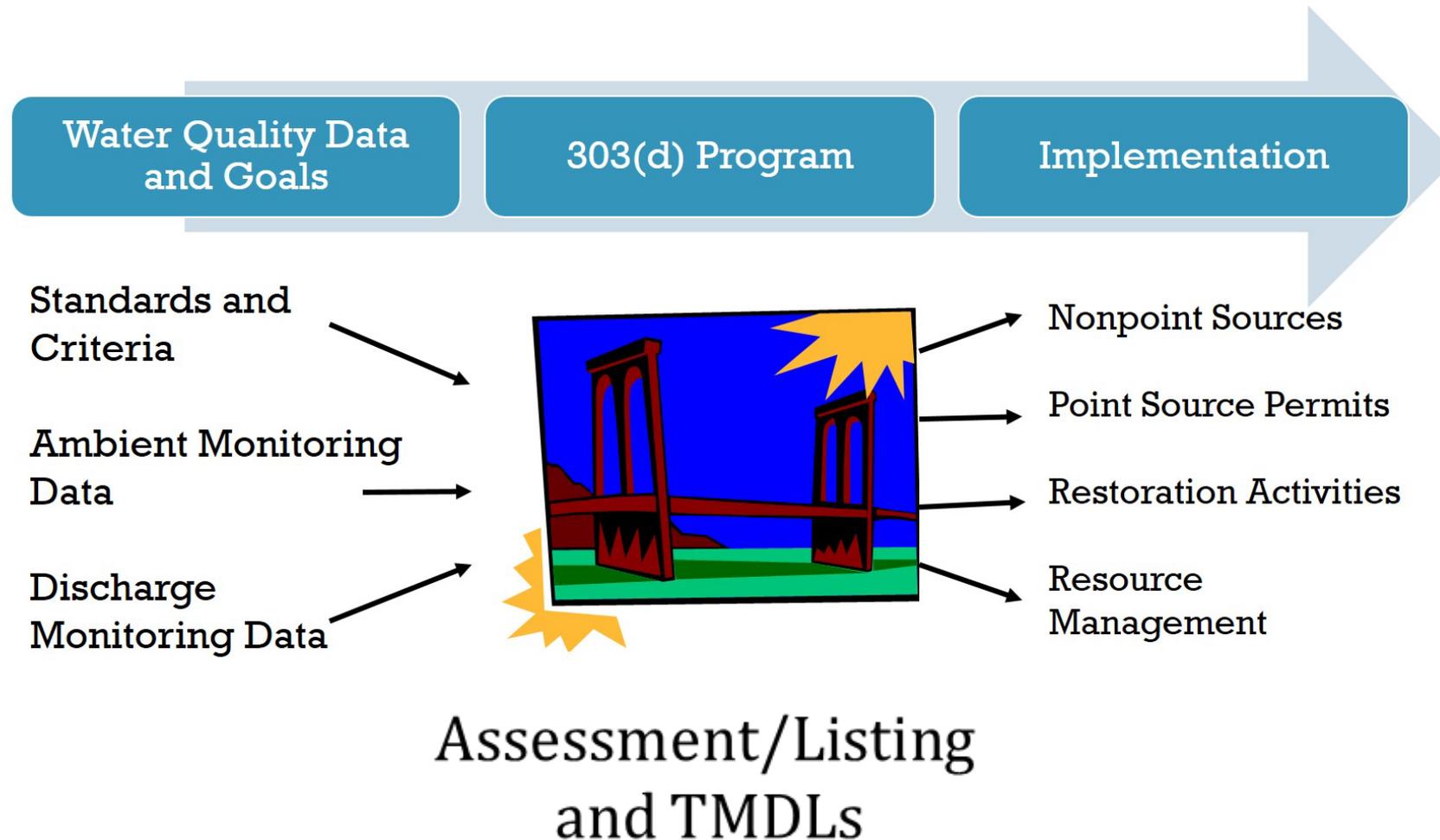
Session Overview

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

Participants will learn about:

- Where the program fits in the CWA implementation framework.
- What the regulatory background and requirements are for the program.
- The process to developing Impaired Waters Lists & TMDLs.
- Where to find reports and submissions.

Bridging Water Quality Goals and the Actions Needed for Restoration



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, territories, and authorized Tribes:

Identify waters not meeting WQS based on “all existing and readily available information.”

Establish priorities for TMDL development for all listed waters.

Specifically include identification of waters targeted for TMDL development in the next 2 years.

Identify pollutants causing or expected to cause impairments (when known).

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, territory, or authorized Tribe.

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

Monitoring

- Assemble and evaluate all readily available water quality related data and information.

Assessment

- Use assessment methodologies and procedures, consistent with the WQS and sound science, to determine whether waters are impaired or threatened.

Listing

- Develop a list of those impaired or threatened 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 1st of every even-numbered year. EPA has recommended an Integrated Report since the 2002 reporting cycle.

**Requires EPA approval/disapproval*

Integrated Reporting Categories

Impaired, but does not require a TMDL:

Category 4A: A TMDL to address a specific segment/pollutant combination has been approved or established.

Category 4B: A use impairment caused by a pollutant is being addressed by the state through other pollution control requirements.

Impaired, a TMDL may be needed:

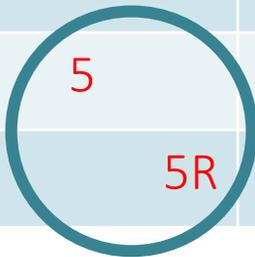
Category 4C: A use is impaired, but the impairment is caused by “non-pollutant pollution.” Impaired waters would also be in category 5 unless it can be shown that a pollutant is not causing or contributing to the impairment.

Impaired, requires a TMDL (this is the 303(d) list)

Category 5/303(d) Listed Waters: Available data and/or information indicate that at least one designated use is not being supported or is threatened, **and a TMDL is needed.**

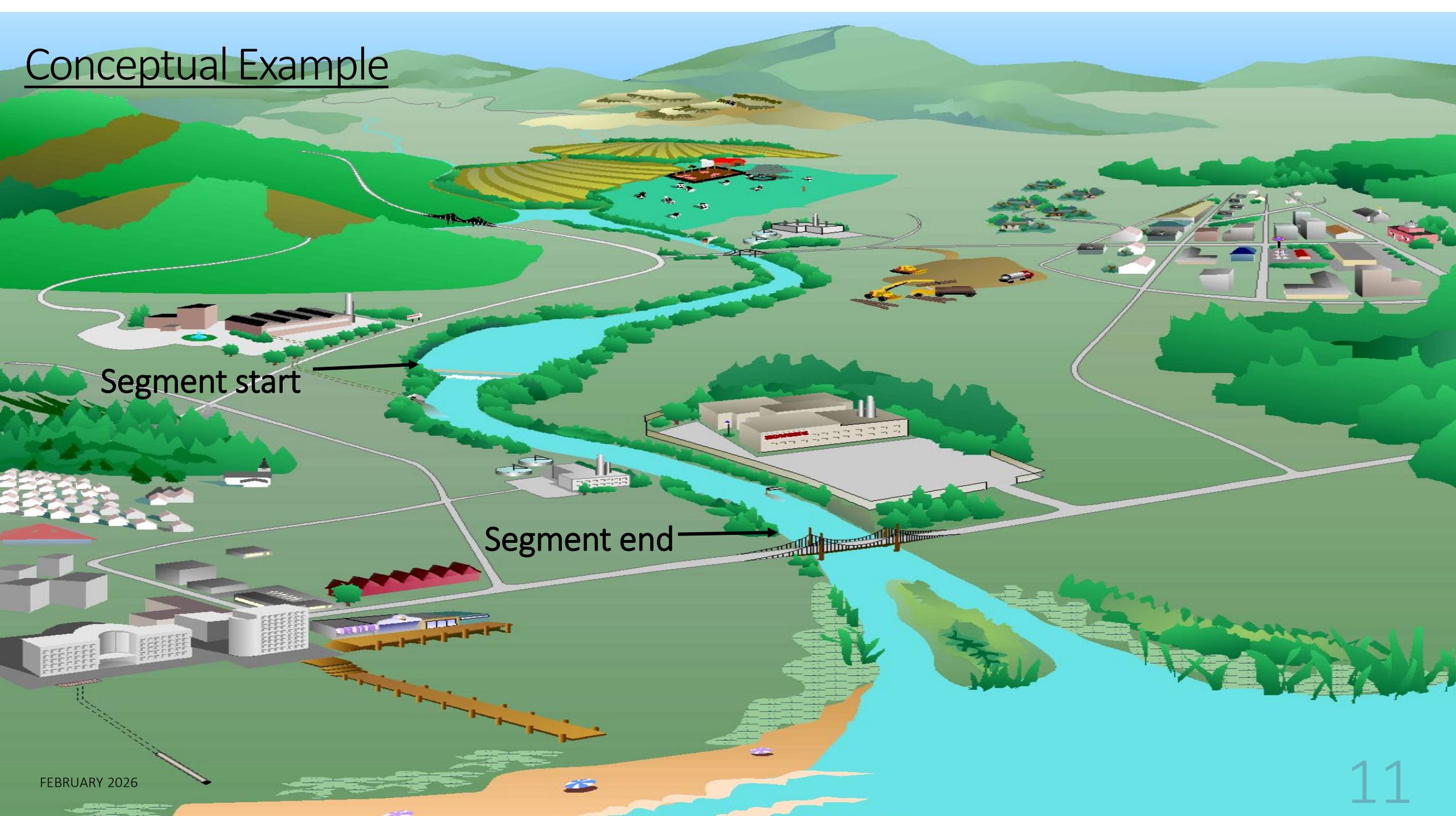
Five Integrated Report Categories

Category	Description
1	All designated uses (DU) met
2	Some, but not all, DU met
3	Can not determine if DU are being met
4	Impaired/Threatened – TMDL not needed
4A	TMDL established
4B	Addressed through other pollution control requirements
4C	Non-pollutant cause of impairment
5	Impaired/Threatened– TMDL required
5R	TMDL required but lower priority assigned while restoration plan is pursued



Section 303(d) list / impaired waters list

Conceptual Example



Segment start

Segment end

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>

What happens to Waters on the 303(d) List?

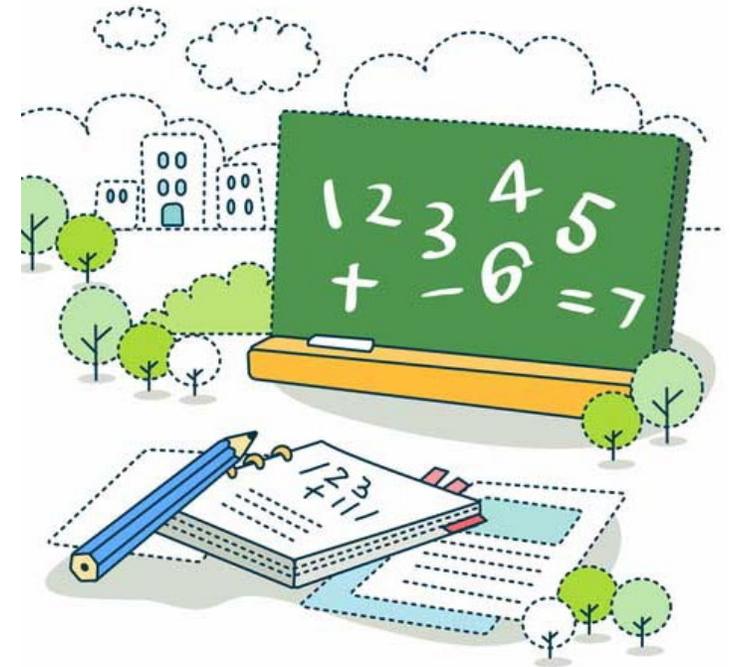
For waters identified on the 303(d) list:

- The regulations at 40 CFR 130.7(c)(1) state that “Each State shall establish TMDLs for the water quality limited segments identified” on the 303(d) list and:
 - *TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS [130.7(c)(1)(i)].*
 - *TMDLs shall be established for all pollutants preventing or expected to prevent attainment of water quality standards [40 CFR 130.7(c)(1)(ii)].*

What is a Total Maximum Daily Load (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 individual 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

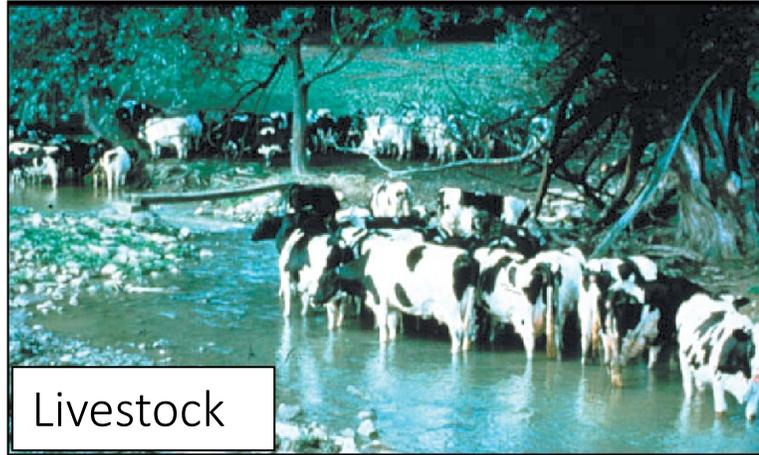


Publicly Owned Treatment Works



Stormwater

Load Allocations for Nonpoint Sources



Nonpoint sources are diffuse sources that do not need NPDES permits but may be regulated under state programs.

Margin of Safety

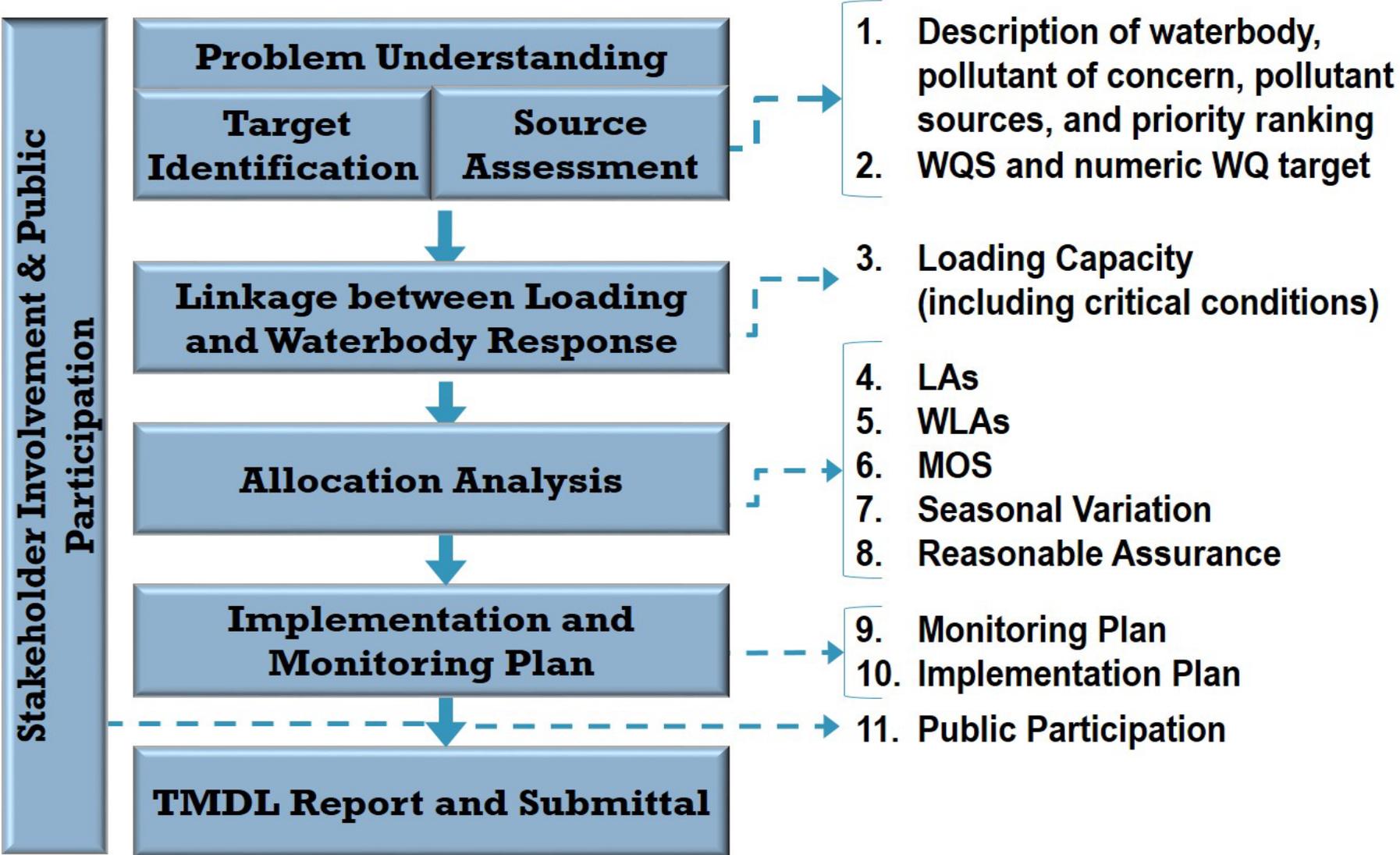
The margin of safety:

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)).

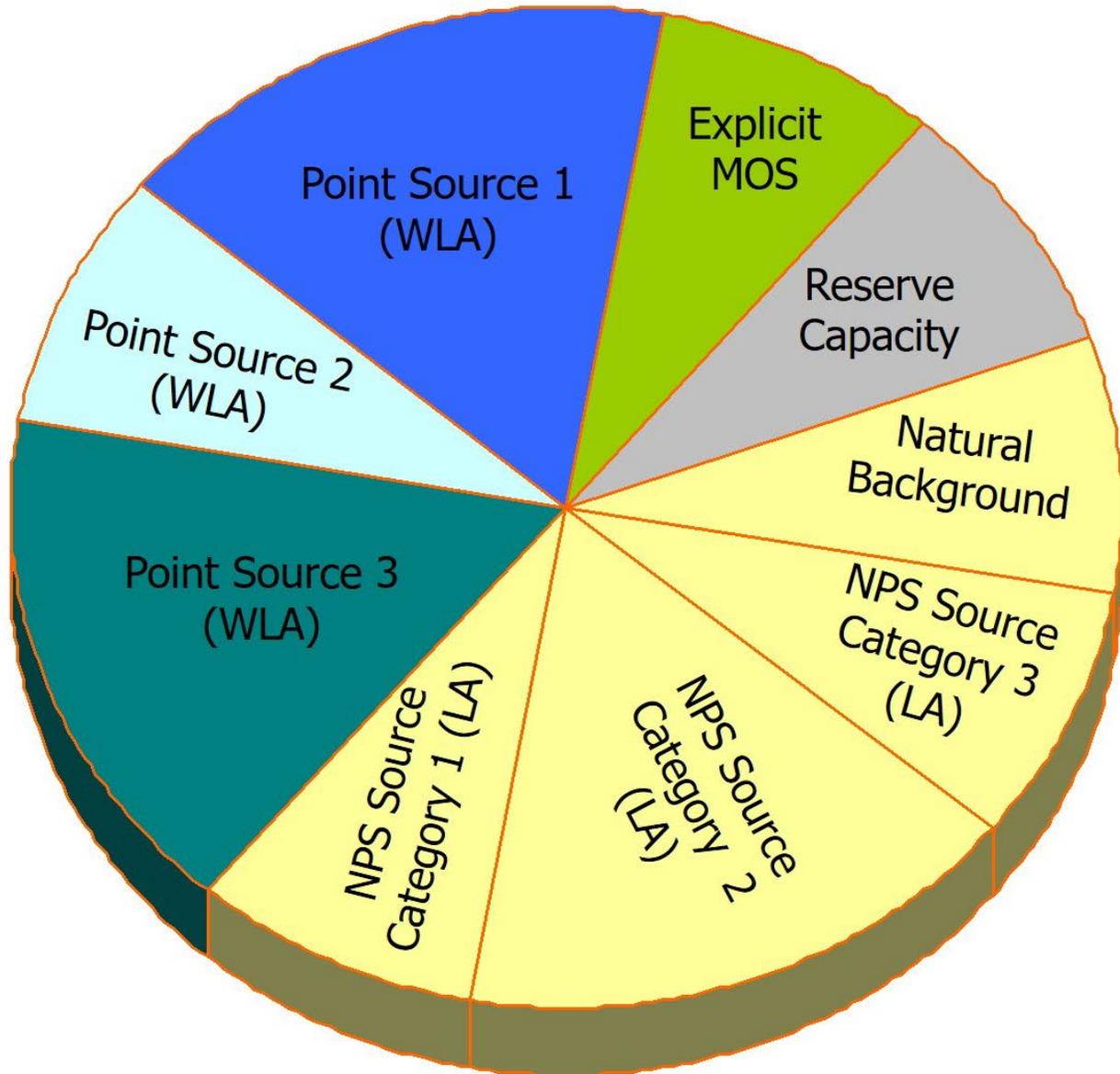
Can be **explicit** (e.g., 10%) or **implicit** (conservative assumptions in modeling, etc.) or both.

Elements in a TMDL Submittal

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.

What happens after a TMDL is Done?

TMDLs are not self-implementing under 303(d)

Point Sources:

Permit limits consistent with WLA are enforceable under CWA through National Pollutant Discharge Elimination System (NPDES).

Issued by EPA or states with approved authority.

Nonpoint Sources:

No federal regulatory enforcement program.

Primarily implemented through state/Tribal/local NPS management programs (some with regulatory enforcement).

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.

The CWA 303(d) Program Today

Program Vision

In September 2022, EPA announced an update to its collaborative framework for implementing the Clean Water Act (CWA) Section 303(d) program with states — 2022-2032 Vision for the Clean Water Act Section 303(d) Program.

The Vision discusses several 303(d) program goals, including Planning & Prioritization, Data & Analysis, Protection, Restoration, and Partnerships.

Treatment of Indian Tribes in a Similar Manner as States (TAS) Rule

On September 26, 2016, EPA published a final rule to establish a process for Tribes to apply to EPA for authority to establish lists of impaired waters and TMDLs pursuant to section 303(d) of the CWA. See 81 FR 2791.

Questions

Teagan Rostock

rostock.teagan@epa.gov

Rebecca Christopher

christopher.Rebecca@epa.gov