

Protecting Water Quality in the Willamette Basin

Water Quality, TMDL Program

May 4, 2021

An introduction to the Total Maximum Daily Load Program for new Designated Management Agencies and responsible persons

POLL

Overview

Protecting Water Quality in Oregon

- Regulatory framework for protecting water quality in Oregon
- What is a Total Maximum Daily Load?
- What are your responsibilities under the TMDL?

Federal Clean Water Act

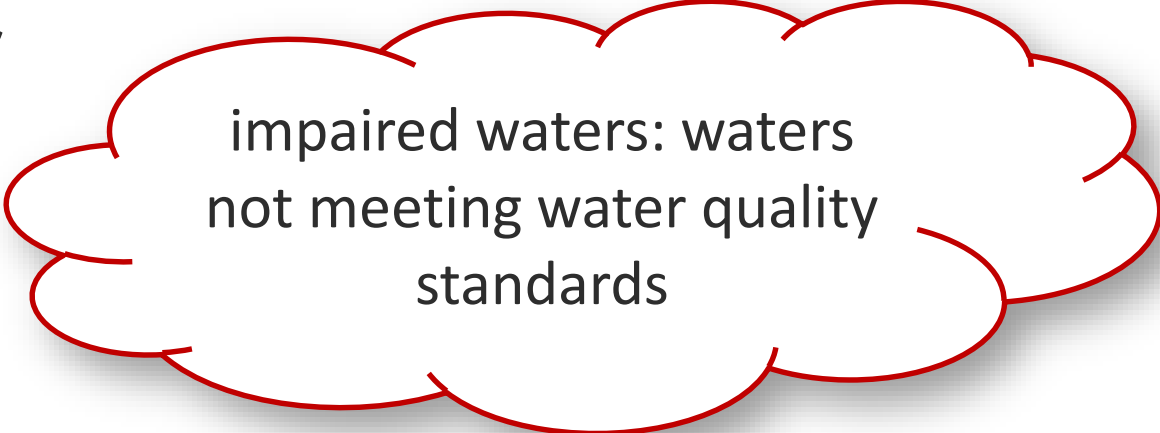
- The Federal Clean Water Act (1972) establishes basic framework for regulating discharges of pollutants to surface waters and regulates water quality standards.
- States must adopt water quality standards and prioritize waters that do not meet standards.
- Total Maximum Daily Loads must be developed for impaired waterbodies that do not meet standards.

Where do TMDLs come from?

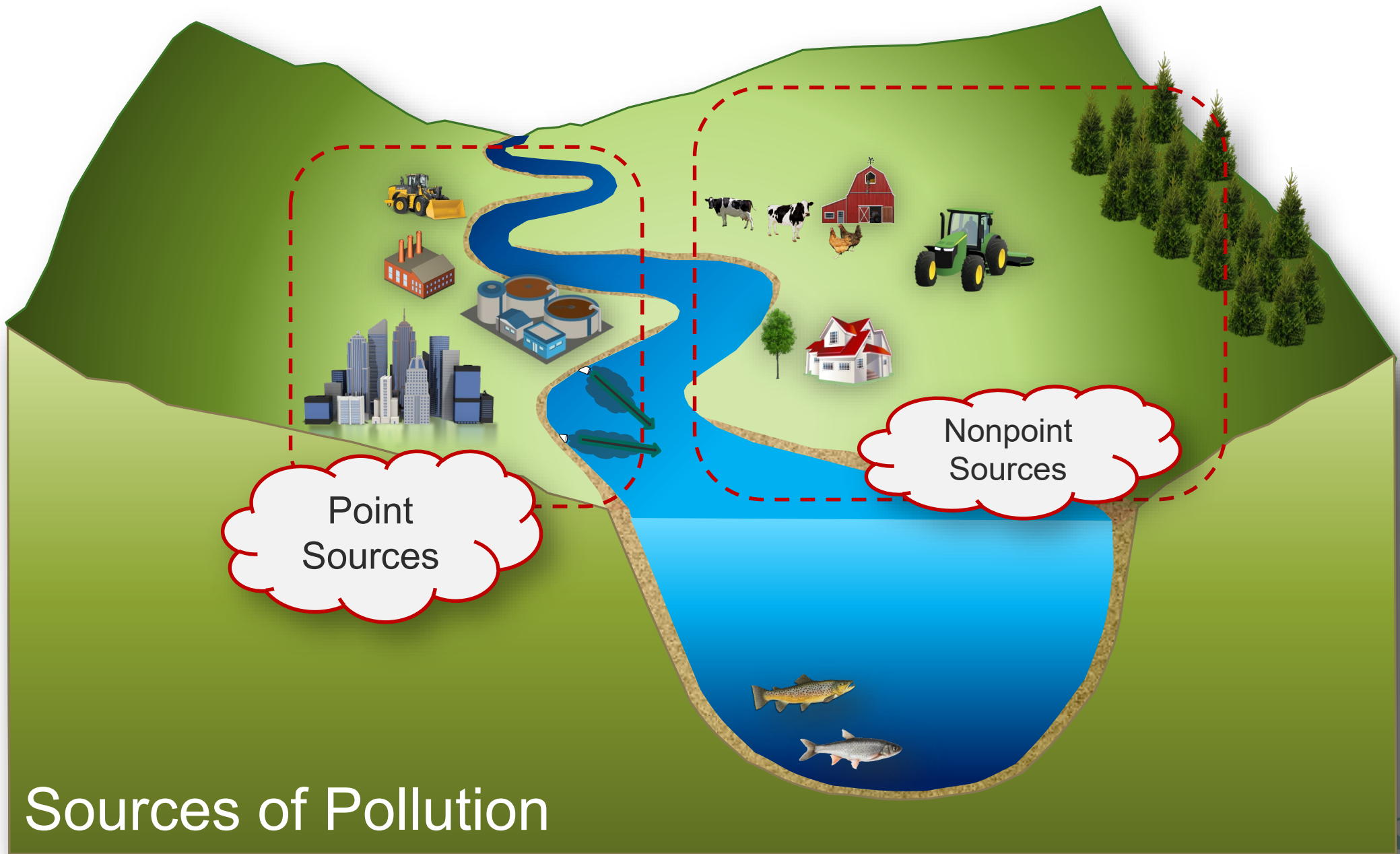


What is a TMDL?

- A TMDL is the maximum amount of a pollutant allowed in a waterbody. A TMDL serves as the starting point and planning tool for restoring water quality
- Oregon must develop TMDLs for impaired water bodies
- Impaired waterbodies can be impacted by nonpoint source and point source pollution



impaired waters: waters not meeting water quality standards



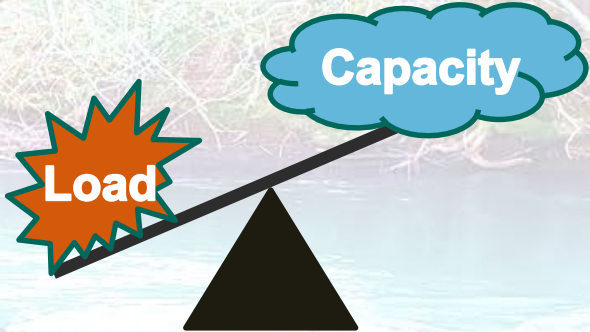
Sources of Pollution

Developing a TMDL

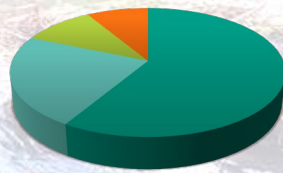
- **Pollutant Sources**



- **Loading capacity is the pollutant amount a stream can assimilate**

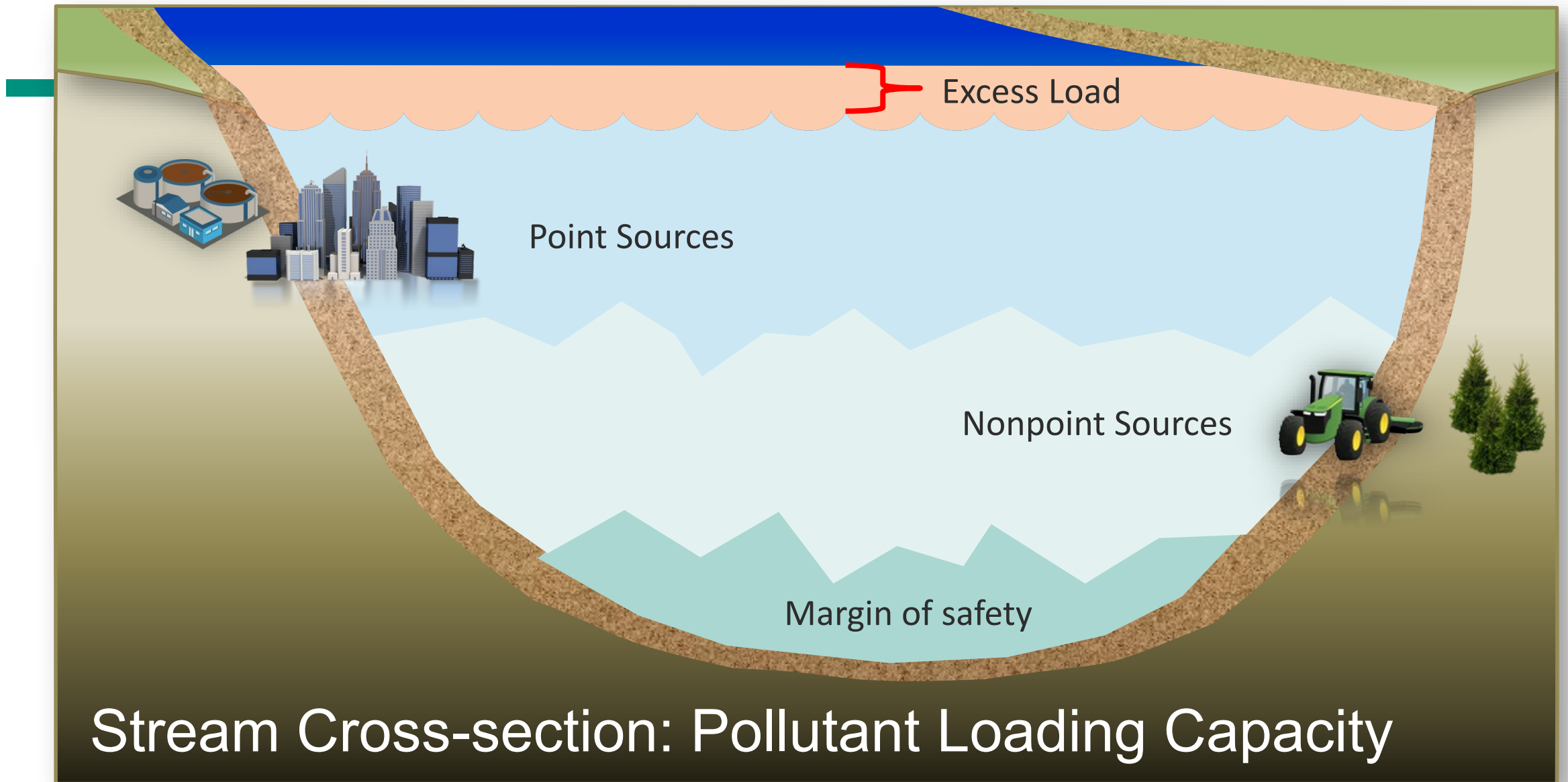


- **Allocations for sources of pollutant**



- **Water Quality Management Plan**



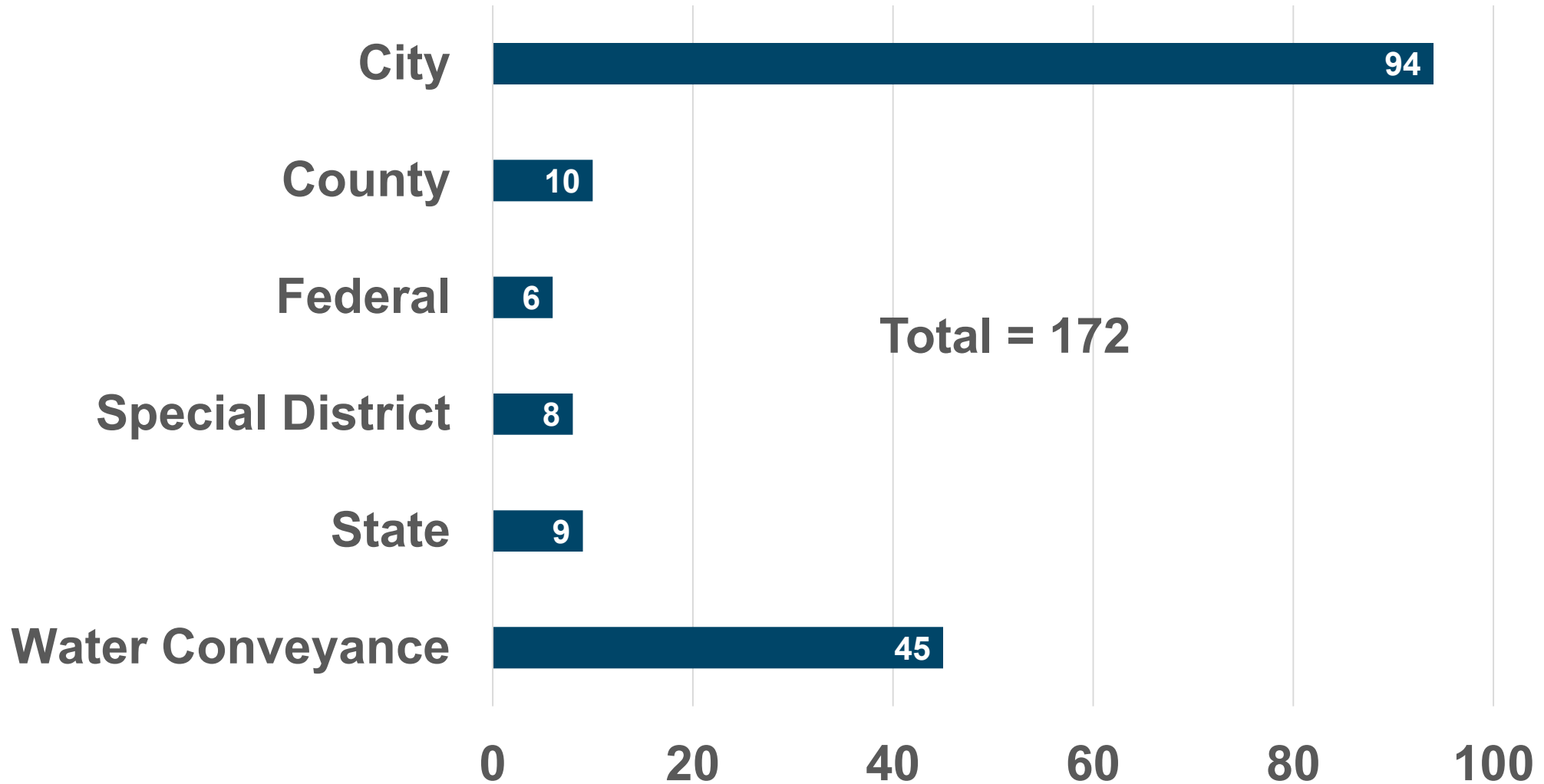


What is a TMDL Water Quality Management Plan?

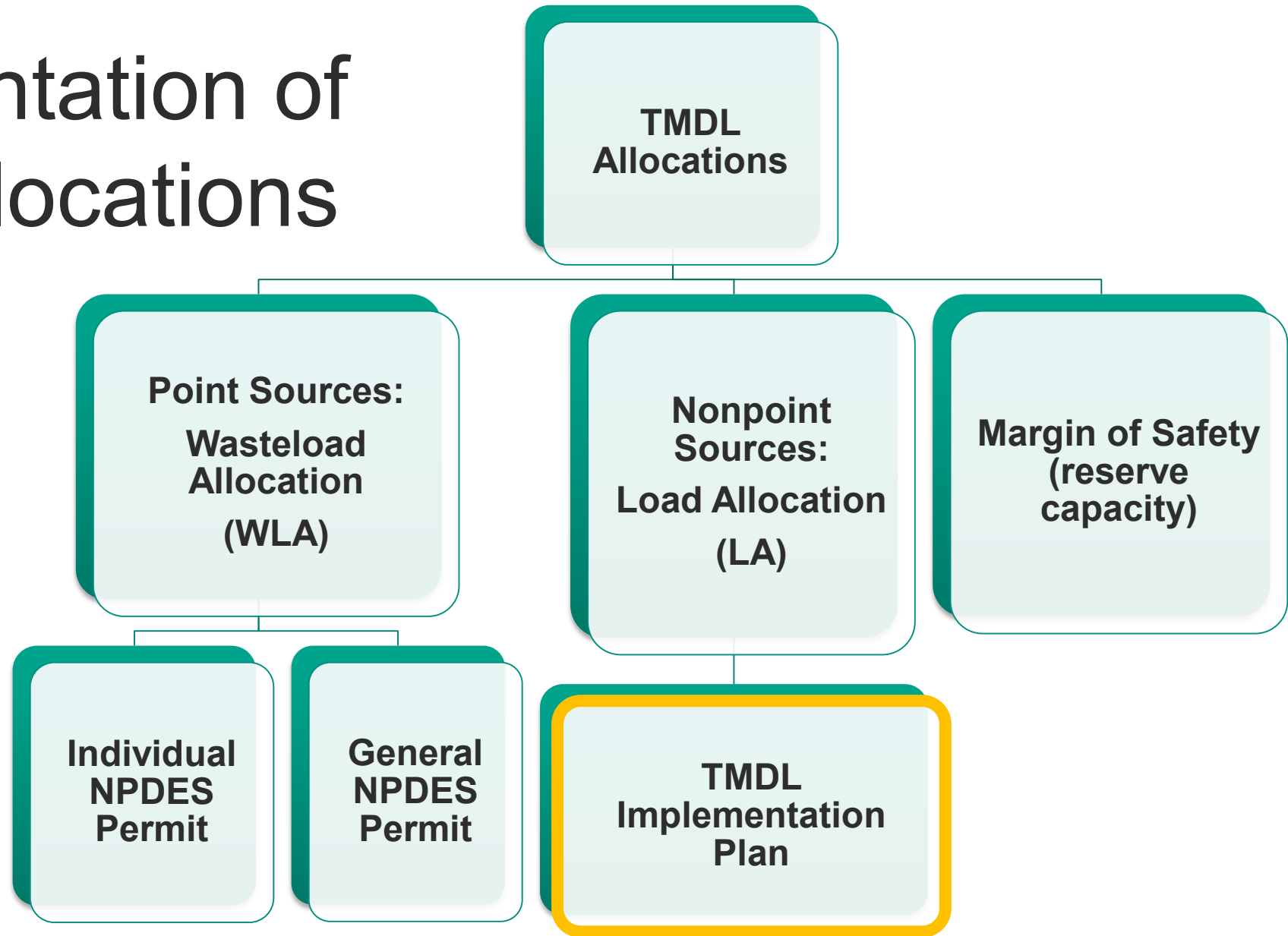
Oregon Administrative Rule 340-042-0040(4)(I)

- The WQMP is part of the TMDL document - it's the “Game Plan” for implementing the TMDL pollutant allocations.
- The WQMP includes specific implementation information, including:
 - Identify designated management agencies and responsible persons that must implement strategies to meet TMDL allocations.
 - Propose management strategies designed to meet the TMDL allocations.
 - Describe reasonable assurance that management strategies and sector-specific or source-specific implementation plans will be carried out through regulatory or voluntary actions.

The Mercury TMDL WQMP identifies **172** Designated Management Agencies and responsible persons that must implement the nonpoint source allocation for mercury.



Implementation of TMDL Allocations



TMDL Implementation Plan Development

Oregon Administrative Rule: 340-042-0080(4)

- Requirement to develop, revise and implement a TMDL implementation plan
- Timeline to develop plan based on WQMP—typically 18 months from TMDL issuance date
- Plan must be approved by DEQ
- Implement and revise plan (update plan every five years)

TMDL Implementation Plan Components

1. Identify management strategies to meet nonpoint source load allocations
2. Provide a timeline for implementing management strategies and a schedule for completing measurable milestones
3. Performance monitoring, periodic review and revision of the implementation plan
4. Provide evidence of compliance with applicable statewide land use requirements
5. Provide any other analyses or information specified in the WQMP

Example: TMDL Implementation Plan Matrix/ Table

POLLUTANT	SOURCE	STRATEGY	MEASURE	TIMELINE	COST ANALYSIS
Bacteria, mercury and mercury- related Pollutants	Streets, sidewalks and other impervious surfaces	Regularly sweep streets, sidewalks and parking lots	Fund and document regular street sweeping schedule	All primary roads are swept once/ month Side streets are swept quarterly and as-needed	Operate and maintain street sweeper is about \$8,000 per year
Bacteria, mercury and mercury- related Pollutants	Cross connections	Eliminate cross connections	Develop and implement five year plan for eliminating known cross connections	2021: Include schedule for repairs in Capital Improvement Plan 2022-2025: Repairs completed per CIP	Estimated cost for all repairs is \$65,000

Estimating Costs

Implementation plans must include cost estimates to implement actions contained in plan:



Generally, use a 5-yr timeframe to coincide with implementation plan duration

- **Staff salaries, supplies, volunteer coordination, regulatory fees**
- **Installation, operation, and maintenance of management measures**
- **Monitoring, data analysis and management**
- **Education and outreach efforts**
- **Ordinance development**

Implementation Guidance Documents

Please check out the TMDL implementation webpage!!

<https://www.oregon.gov/deq/wq/tmdls/Pages/TMDLs-Implementation.aspx>

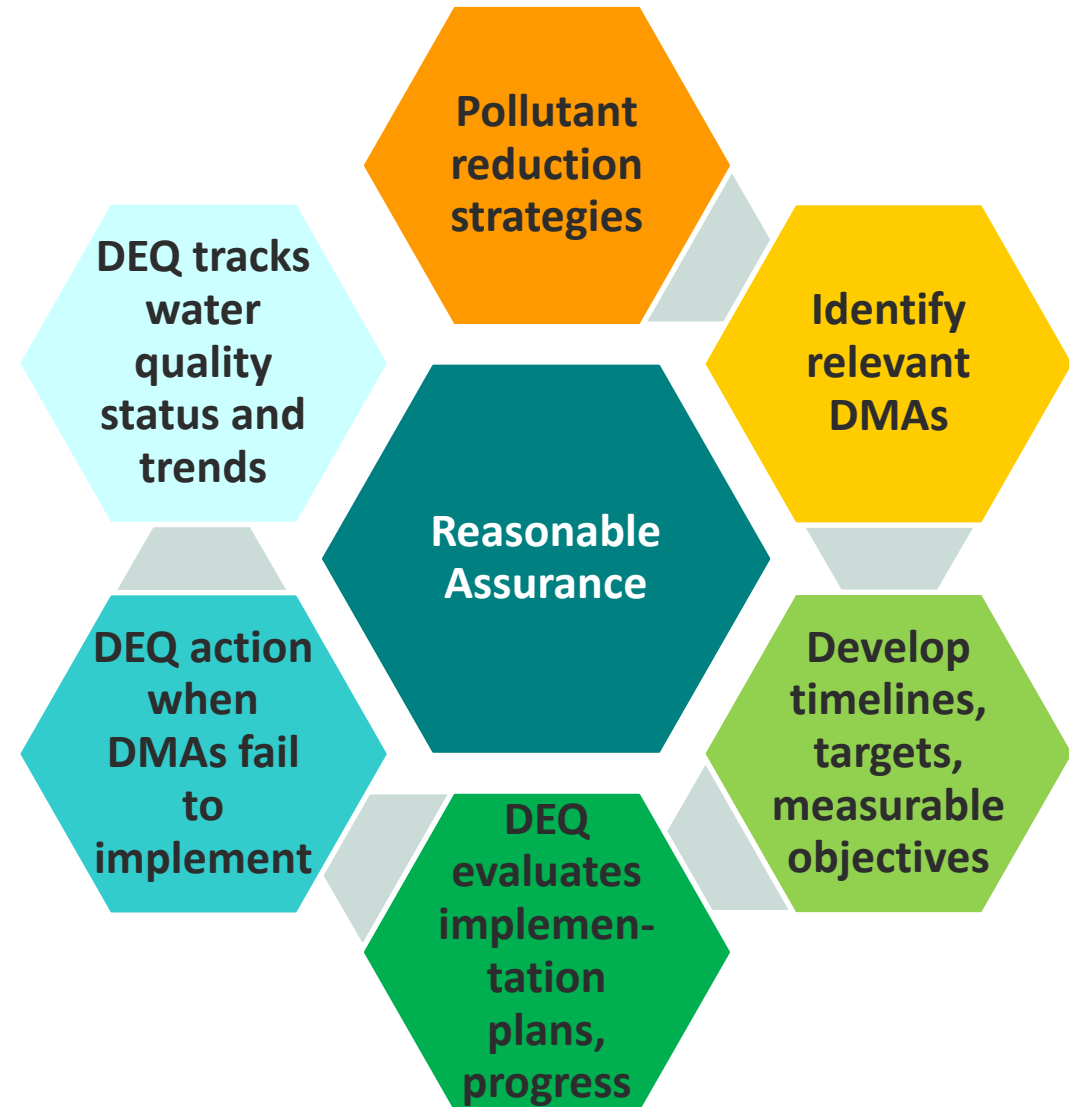
- Guidance for implementing a TMDL
- Example TMDL implementation tracking matrix
- Implementation plan checklist
- **AND MORE!!**

Pause for Questions

Reasonable Assurance

TMDLs must include:

“ a demonstration that a TMDL will be implemented by federal, state or local governments or individuals through regulatory or voluntary actions including management strategies or other controls. ”



Annual Reports

- DMAs must submit annual reports to report on actions contained in TMDL implementation plans for TMDL pollutants (e.g. mercury).
- If you do not know when your reporting date is, please contact your basin coordinator
- DMAs must post annual reports and TMDL implementation plans to city websites (unless city does not have a website)

Five-Year Reviews

- Every fifth year, DMAs must review implementation efforts over the previous four years. DEQ assesses whether progress is sufficient.
- The next 5-yr review for the Willamette Basin is in **2023** for most DMAs.

Exceptions: Molalla-Pudding and some Upper Willamette DMAs will report prior to or after 2023.

- DEQ will likely use a Survey Monkey to gather implementation efforts from each DMA.

Enforcement

OAR 340-012-0055(2)(e)

Failing to timely submit or implement a Total Maximum Daily Load (TMDL) Implementation Plan, by a Designated Management Agency (DMA), as required by department order.

DEQ may send **warning letters** to DMAs that do not submit implementation plans or annual reports on time or documents are unsatisfactory. Warning letters may lead to **penalties** if not fixed.

NOTICE

**THANK YOU FOR
NOTICING THIS NEW
NOTICE**

**YOUR NOTICING IT HAS
BEEN NOTED**



Willamette Basin Mercury TMDL

Why Are Greater Reductions Necessary?

- Oregon's standard to protect fish consumers limits the concentration of methyl mercury in fish and shellfish to 0.040 mg/kg (i.e. allows safe consumption of up to 23 8-oz servings of fish/month)
- This safe consumption level is about 8 times more stringent than what it was in 2006.
- The TMDL also meets a total mercury water quality standard of 0.012 ug/L to protect aquatic life.
- To meet this standard, large reductions of mercury will be needed across the Willamette Basin.

Mercury in the Environment

- Mercury is a naturally occurring element that persists in the environment.
- It becomes highly toxic to humans when converted to organic forms or methylmercury through microbial processes in the water column, or in waterbody sediments.
- Methylmercury becomes more concentrated up the ecological food chain where it can be found in high concentrations in fish tissues.



Most mercury comes from air deposition from sources outside Oregon then moves from land to waterbodies through erosion and runoff

**88 – 96% reduction
of total mercury
needed**

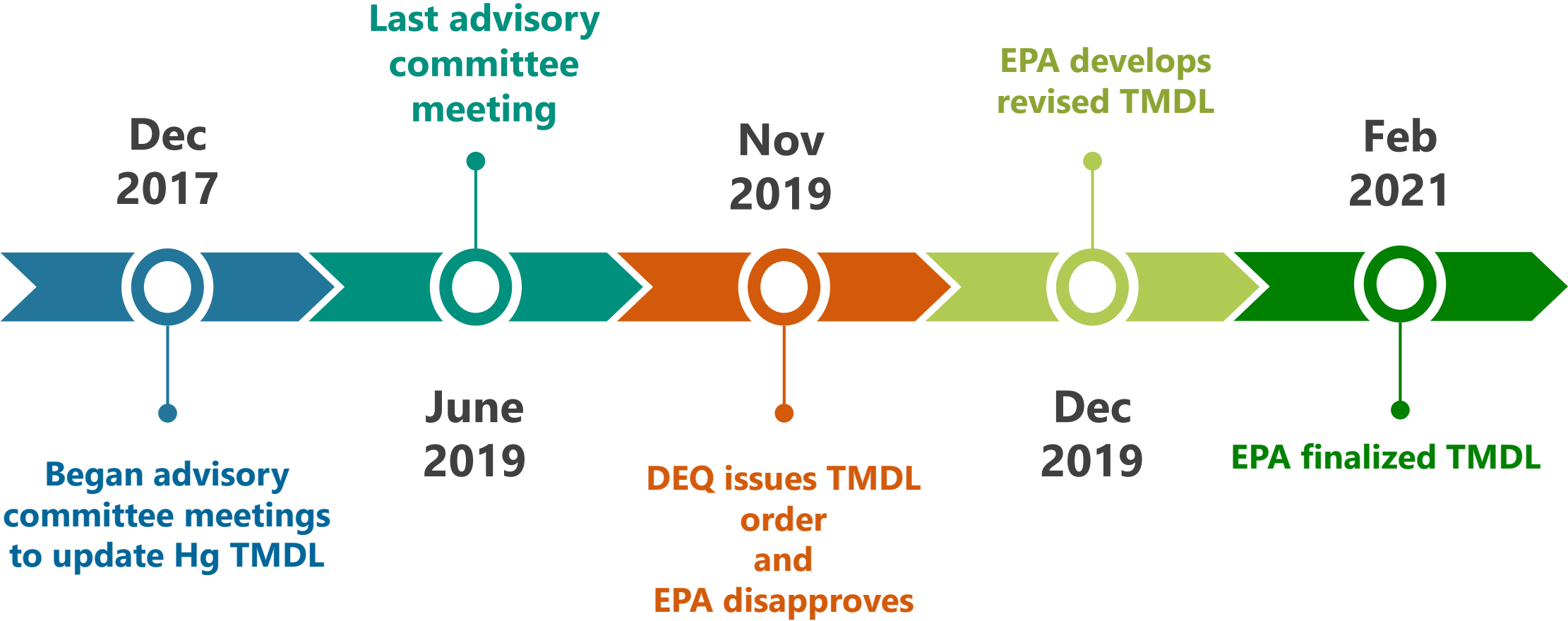


**Primary TMDL
Implementation
Strategy**

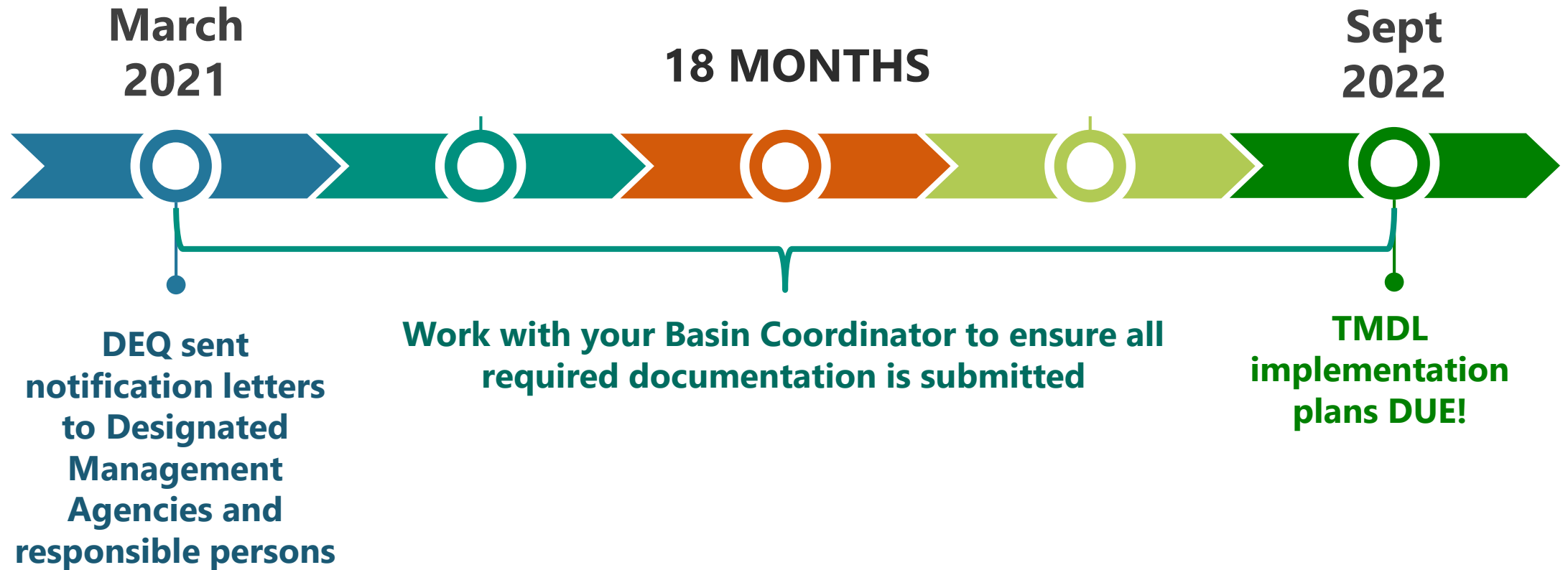


**reduce erosion and
runoff to waterbodies**

The Willamette Basin Mercury TMDL



The Willamette Basin Mercury TMDL



Learn More at Upcoming Workshops!

- May 11** TMDL Planning and Implementation for Non-permitted Stormwater Management
- May 25** TMDL Planning and Implementation for Permitted MS4s
- June 1** TMDL Planning and Implementation for Counties
- June 8** TMDL Planning and Implementation for Responsible Persons, Water Conveyance Entities

Basin Coordinator Contacts

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QUESTIONS?