

Revised Willamette Basin Mercury Total Maximum Daily Load

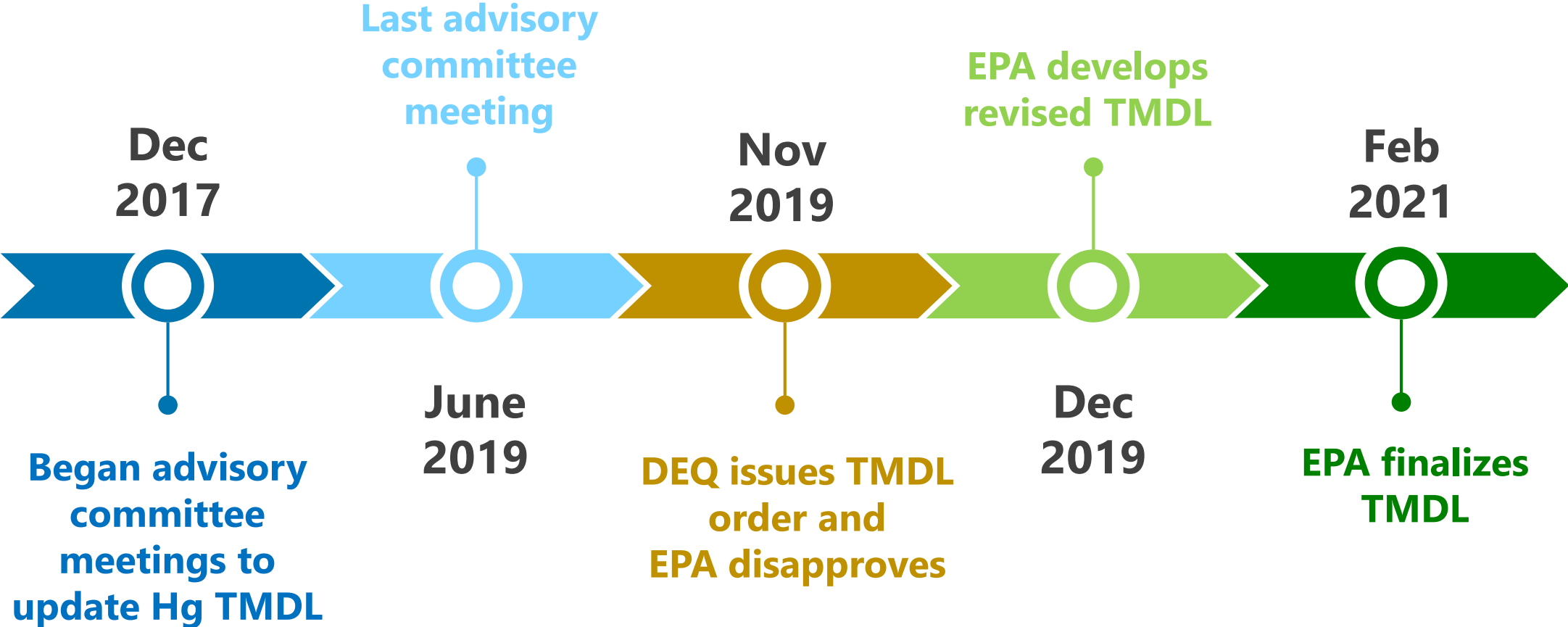
TMDL Planning and Implementation for Water Conveyance Entities (Irrigation and Drainage Districts)
Water Quality, TMDL Program

Learning Objectives

- Summary of revised mercury TMDL
- Percent mercury reductions applicable to water conveyance entities
- Actions related to TMDL tracking and reporting
- Overview of BMPs and strategies



Mercury TMDL Timeline



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.



Why Are Greater Reductions of Mercury Necessary?

- Oregon's standard limits the concentration of methyl mercury in fish and shellfish, so that Oregonians can safely consume 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 (first TMDL for mercury).
- The TMDL also meets a total mercury water quality standard to protect aquatic life.
- To meet these standards, large reductions of mercury will be needed across the Willamette Basin.

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**

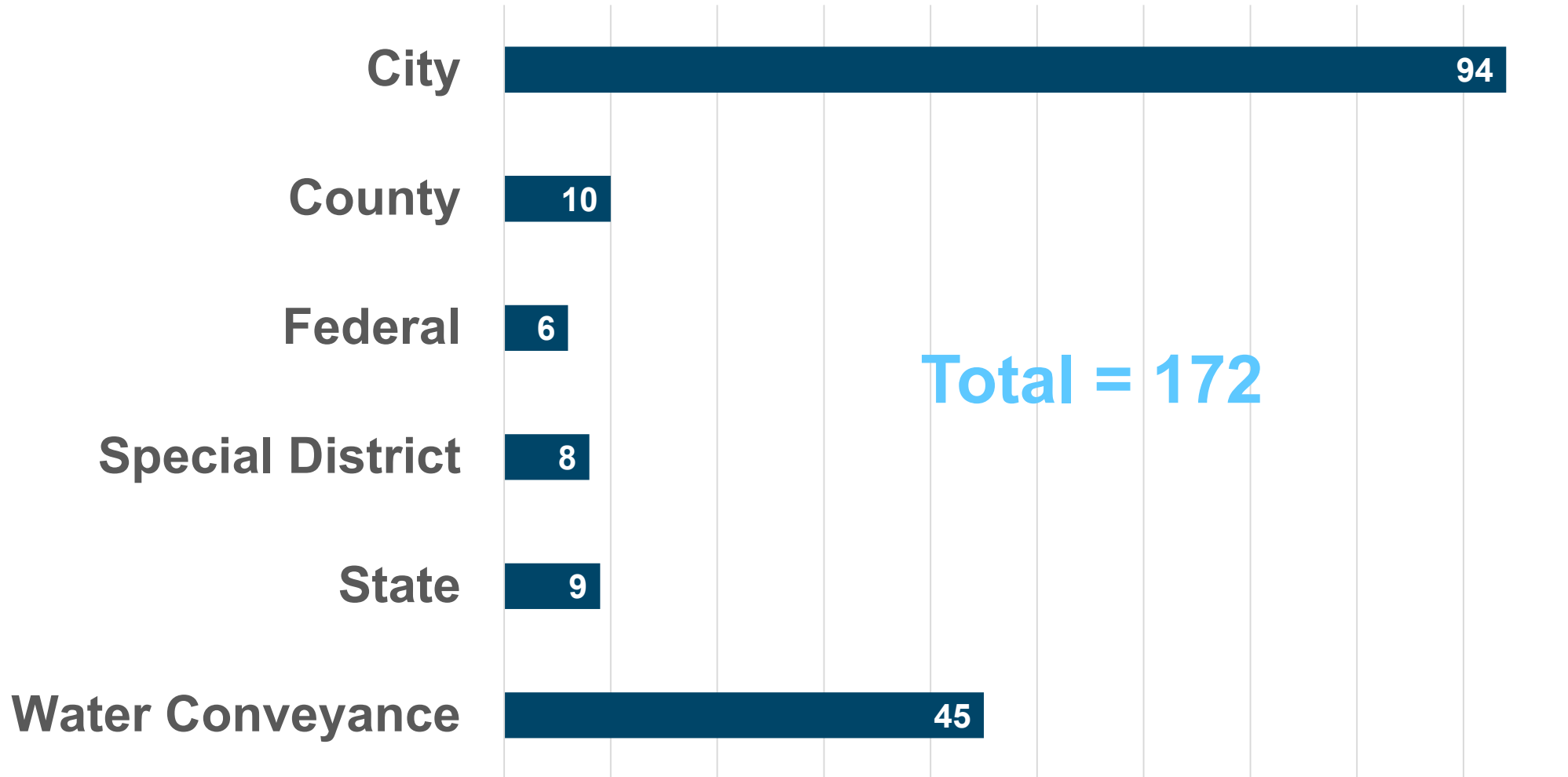


**reduce erosion and
runoff to waterbodies**

State Mercury Reduction Efforts

- Last coal-fired power plant in Oregon near Boardman closed in 2020
- In 2019, the state of Oregon joined 20 other states in a lawsuit against EPA's decision to ease restrictions on coal-fired power plants
- State bans, restrictions and management related to:
 - Lighting fixtures
 - Novelty items
 - Thermostats, and
 - Vehicle switches
- The 2007 legislature required dental offices to install dental amalgam separators
- Other voluntary efforts, such as household hazardous waste collection days.

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



ODA vs Water Conveyance Entity Roles

- The **Agricultural Water Quality Management Act** gives authority to ODA to adopt and enforce rules that protect water quality from farm practices (e.g. livestock grazing, tilling soil, chemical application, etc.)
 - ➡ Does not include management of water conveyance systems
 - ➡ Water conveyance systems are responsible for quality of water through O&M of canals, and return flows to waterbodies
- WQ protection from farm practices are accomplished through Ag. Water Quality Management Plans and Rules and in consultation with DEQ
- Soil and Water Conservation Districts play a critical role in providing technical assistance and resources to landowners


EPA Disapproval of DEQ's TMDL

- EPA's TMDL developed nonpoint source and point source pollutant allocations by subbasin—need to look at EPA's TMDL to find them
- EPA's TMDL states that reasonable assurance for their TMDL relies on DEQ's Water Quality Management Plan (WQMP)

Effective Allocations = EPA's TMDL

Effective Management Measures = DEQ's WQMP

EPA Load Allocations for Water Conveyance Entities

Sources	Responsible DMAs/RPs	Total Mercury Reductions 
Runoff sediment from ag., forest, shrub, grassland, pasture/hay	ODA, ODF, BLM, USFS, USACE, BOR, irrigation/drainage districts, etc.	88 – 97% (by subbasin)

“aggregated” allocations—i.e. DMAs/RPs managing these sources together must meet the allocations in each subbasin



Break for Questions

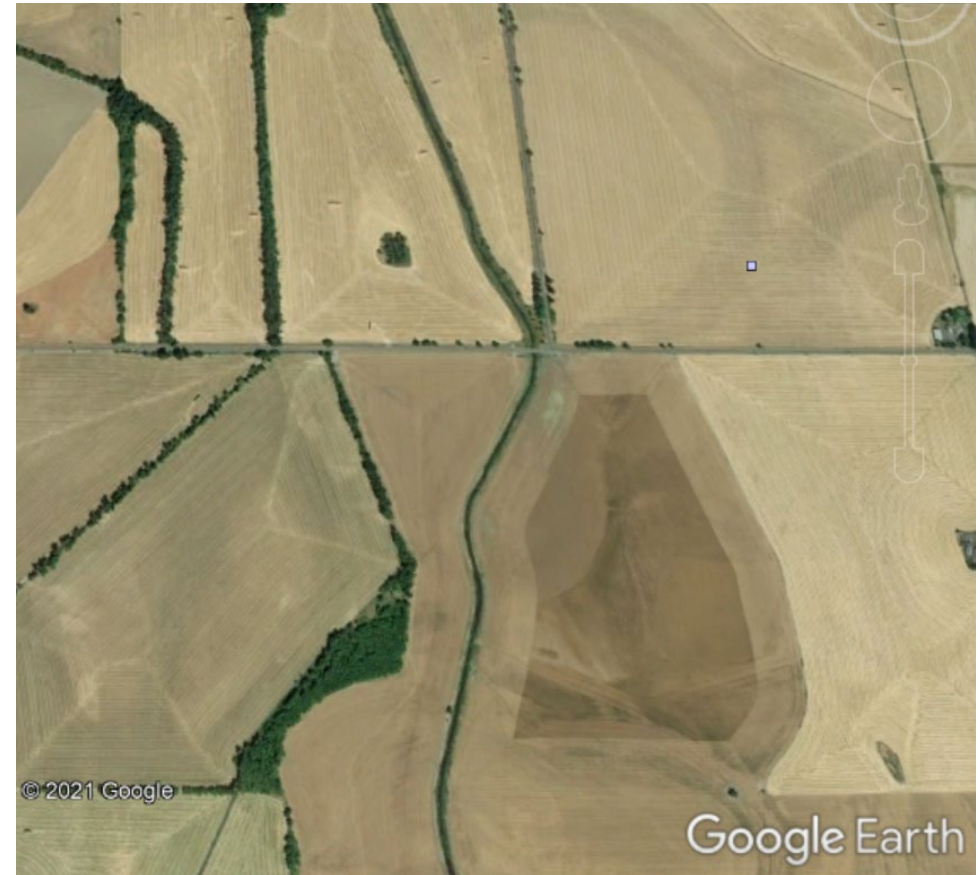
How Does the Mercury TMDL Affect Water Conveyance Systems?

- You were identified as a responsible person and are required to implement the Mercury TMDL.
- All responsible persons that manage or operate a system will implement the TMDL where applicable.



What is TMDL Implementation?

- You are responsible **ONLY** for your system, e.g. ditches, canals, laterals, and diversions that you own and operate.
- Use best management practices to operate and perform maintenance on your system.
- Follow all State and Local requirements



What is TMDL Implementation?

- All responsible persons that manage or operate a system will submit a map and primary point of contact information.
- Use Best Management Practices
 - Manage flow/ drainage to reduce erosion and sediment
 - Use canal/ streambank stabilization practices
 - Maintain a current map of the system



Implement Best Management Practices



Before

Lower potential for erosion
and sediment movement



After

Higher potential for erosion
and sediment movement

What is Implementation Tracking and Reporting?

- Developing an implementation plan and reporting to DEQ about implementation activities may or may not be required.
- DEQ will use a questionnaire, information provided by responsible persons, and potential site visits to make a determination about tracking and reporting requirements



Tracking and Reporting: Questionnaire

- Does the system discharge or have return flows to waters of the state?
 - Consider whether the system is fully piped from the point of diversion



Tracking and Reporting: Questionnaire

- Is the system registered with OR Secretary of State, special district, non-profit?
 - System managed by governing board
 - System supported by water users



Tracking and Reporting: Questionnaire

- Do you actively operate and maintain the system?
 - Manage vegetation
 - Dredging
 - Maintenance on infrastructure
 - Other



Tracking and Reporting: Questionnaire

- Is the system maintained and managed according to an operations and maintenance manual/ guidance document?



Management Strategies

- Turbidity/sediment BMPs
- Know which activities require state/ federal permits, ODFW approval
- Streambank/ canal stabilization practices, including non-structural BMPs
- Manage upland infrastructure like roads, pumps



Management Strategies

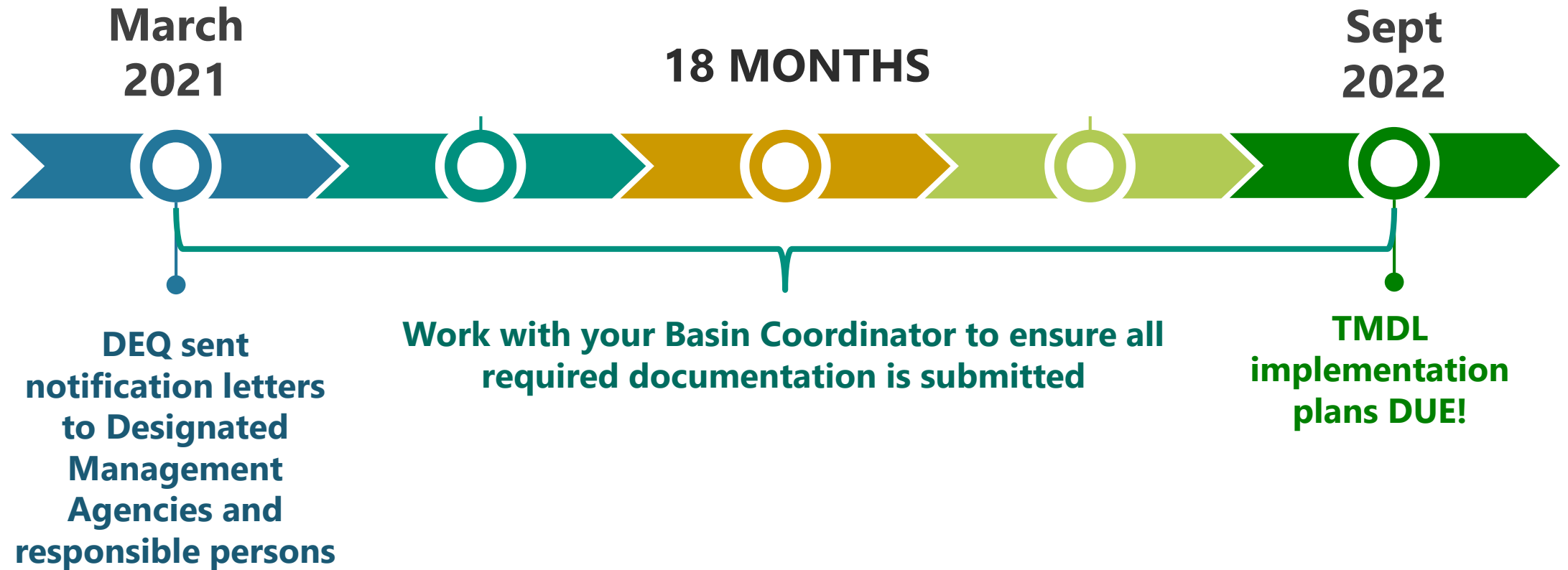
- Conduct education/ outreach to water users
- Monitor/ evaluate BMPs
- Manage flow/ drainage to reduce runoff, erosion, sediment
- Maintain schedule for operation/ maintenance activities.
- Maintain current map of system



Implementation Plan

PARAMETERS	SOURCE	MANAGEMENT ACTIVITY	ACTIONS	TRACKING MEASURES
Mercury Sediment	Water control basin maintenance	Continue to limit sediment clean out to low water level months (summer and early fall)	Clean ditches when water is the lowest. Work with ODA, DSL and/ or ODFW to provide notice or get permit when required	Track and document when ditches are cleaned; document impacts of activities

The Willamette Basin Mercury TMDL



Annual Reports

- You may also be required to submit annual reports to report on actions and best management practices contained in your TMDL implementation plan
- Your annual report will be submitted to and reviewed by your basin coordinator to confirm implementation progress

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**

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QUESTIONS?



Photo Source: Andrea Matzke, DEQ