

MERCURY TMDL IMPLEMENTATION

For The Willamette River Watershed

Mouhamad Zaher, Public Works Director
Sharon Darroux, Engineering Manager

Presentation Outline

TMDL OVERVIEW

- TMDL requirement
- Impacted Waterbodies
- City Responsibilities
- Mercury Pollutant

IMPLEMENTATION MEASURES

- Six Stormwater Measures
- Monitoring and Reporting
- Management Strategies

NEXT STEPS

- Implementation Timeline
- Finding Resources and Funding Sources

1.

TMDL REQUIREMENT

What is a TMDL?

Total Maximum Daily Load

A TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant.



TMDL Pollutant of Concern: Mercury



The TMDL for mercury is designed to restore the beneficial use of fishing to the Willamette River and its tributaries and to prevent risks to public health. DHS specifically advises against consuming large amounts of fish from the Willamette River due to the high levels of mercury. Nonpoint sources of mercury can include stormwater runoff which may suspend mercury molecules and carry them to waterways. Stormwater can carry polluted runoff from streets, rooftops, parking lots, industrial facilities and construction sites into waterbodies.

The Willamette River Basin TMDL

WILLAMETTE RIVER

The Willamette River is 187 miles long and is a major tributary of the Columbia River. In the 1990s, the river was listed on the EPA's 303(d) list for impaired waterbodies.



TMDL REQUIREMENTS

The first TMDL for mercury was developed for the Willamette River in 2006. In 2021 the TMDL was updated and now covers all intermittent streams in the Willamette Basin



St. Helens falls within the northernmost boundary of the Lower Willamette Subbasin. Milton Creek and McNulty Creek are considered major tributaries to this subbasin.

LOWER WILLAMETTE SUBBASIN



Oregon DEQ identifies and requires DMAs with legal authority over a source contributing pollutants to a waterbody to develop and implement water quality strategies.

DESIGNATED MANAGEMENT AGENCIES



Designated Mangement Agency

The City was notified by Oregon DEQ of its responsibility for implementing strategies to reduce mercury according to requirements identified in the Willamette Basin Water Quality Management Plan (WQMP) in March 2021. As a DMA, the City of St. Helens is required under OAR 340-42-080 to prepare a TMDL implementation plan to incorporate implementation requirements in the WQMP based on several criteria. The TMDL implementation plan must be submitted to DEQ for review and approval by Sept. 3, 2022.



2.

IMPLEMENTATION MEASURES

SIX STORMWATER MEASURES



Pollution Prevention & Good Housekeeping for Municipal Operations



Public Education & Outreach



Public Involvement and Participation



Illicit Discharge Detection & Elimination



Construction Site Runoff Control



Post-Construction Site Runoff for New Developments and Redevelopments

1.) POLLUTION PREVENTION & GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

Facilities

Operate and maintain city facilities to reduce discharge of mercury-related pollutants (sediment) through stormwater system.

NPDES 1200-Z Permit

Ensure city owned or operated facilities with industrial activity are 1200-Z permitted.

Reporting

Include in annual TMDL report to DEQ a record and summary of activities which have met the requirements of the measure.



2.) PUBLIC EDUCATION AND OUTREACH

Education & Outreach Program

Inform the public about impacts of stormwater discharges on waterbodies and steps they can take to reduce mercury-related pollutants in stormwater runoff.

Tracking & Reporting

Track implementation and progress of the program, include evaluation of at least one education or outreach activity. Include results in annual TMDL report.



3.) PUBLIC INVOLVEMENT & PARTICIPATION

Implement a public involvement and participation program that provides opportunities for the public to effectively participate in the development of stormwater control measures. Maintain and promote at least one publicly accessible website with information on the city's stormwater control implementation, contact information and educational materials



4.) ILLICIT DISCHARGE DETECTION & ELIMINATION

Implement and enforce a program to detect and eliminate illicit discharges into the stormwater conveyance system.

Develop and maintain a current map of City stormwater conveyance system, map and digital inventory of location of outfalls, an outfall inventory, and conveyance system and stormwater control locations.



Prohibit non-stormwater discharges into the stormwater conveyance system through enforcement of an ordinance or other legal mechanism, including appropriate enforcement procedures and actions to ensure compliance.

Maintain a procedure or system to document all complaints or reports of illicit discharges into and from the stormwater conveyance system. Track implementation of the IDDE program requirements. In each TMDL Annual Report progress of the program.

5.) CONSTRUCTION SITE RUNOFF CONTROL

Refer construction projects that disturb one or more acres to DEQ to obtain NPDES 1200-C Construction Stormwater Permit.



Require construction project sites that disturb less than 1 acre but more than half an acre to complete and implement an Erosion and Sediment Control Plan for the site.



Require erosion controls, sediment controls, and waste materials management controls to be used and maintained at all qualifying construction projects to reduce pollutant discharges from sites through regulatory mechanism



Develop, implement and maintain escalating enforcement and response procedure for all qualifying construction sites. Track implementation of program and required activities and include summary in TMDL annual report



6.) POST-CONSTRUCTION SITE RUNOFF FOR NEW DEVELOPMENT AND REDEVELOPMENT

Program

Develop, implement, and enforce a program to reduce discharge of pollutants and control post-construction stormwater runoff from new development and redevelopment project sites.



Ordinance

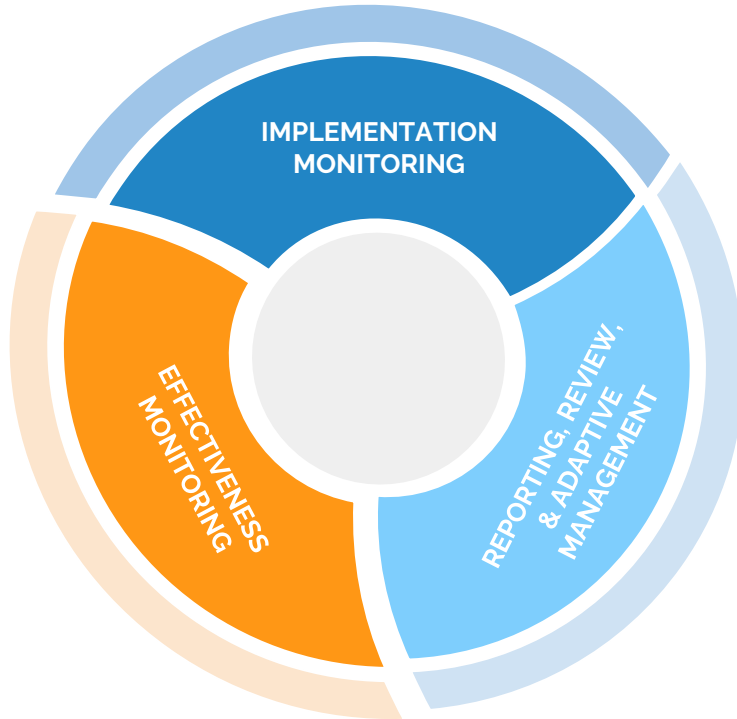
Require for project sites discharging stormwater to the stormwater conveyance system that create or replace one quarter of an acre or more of new impervious surface area the use of stormwater controls at site, site-specific stormwater management approach that targets natural surface or predevelopment flows, and long-term operation and maintenance of stormwater controls at site that are under the ownership of a private entity.

Reporting

Include in annual TMDL report to DEQ a record and summary of activities which have met the requirements of the post construction site runoff program control measures.



MONITORING & REPORTING



The Mercury TMDL program must be monitored for compliance. Implementation monitoring will track BMP implementation and evaluating whether BMPs goals and tracking measures are being met. Effectiveness monitoring will measure the progress of BMP implementation by review of existing water quality data, identifying recommendations or activities that worked, which activities achieved the most success, and evaluating how much more effort is required to achieve success. Monitoring the success and effectiveness of the strategies includes monitoring and keeping track of data, photo documentation, volume of sediment captured, and percent survival of planted vegetation.

MANAGEMENT STRATEGIES

City is required by DEQ to start using management strategies to reduce the TMDL pollutant from nonpoint sources in the Willamette Basin and to begin implementing these strategies by September 3, 2022 for each of the Six Stormwater Measures, including identifying the management strategies that will be used to achieve load allocations and reduce pollutant loading; providing a timeline for implementing management strategies and a schedule for completing measurable milestones; monitoring plan performance for periodic review; and providing evidence of compliance with applicable statewide land use requirements.



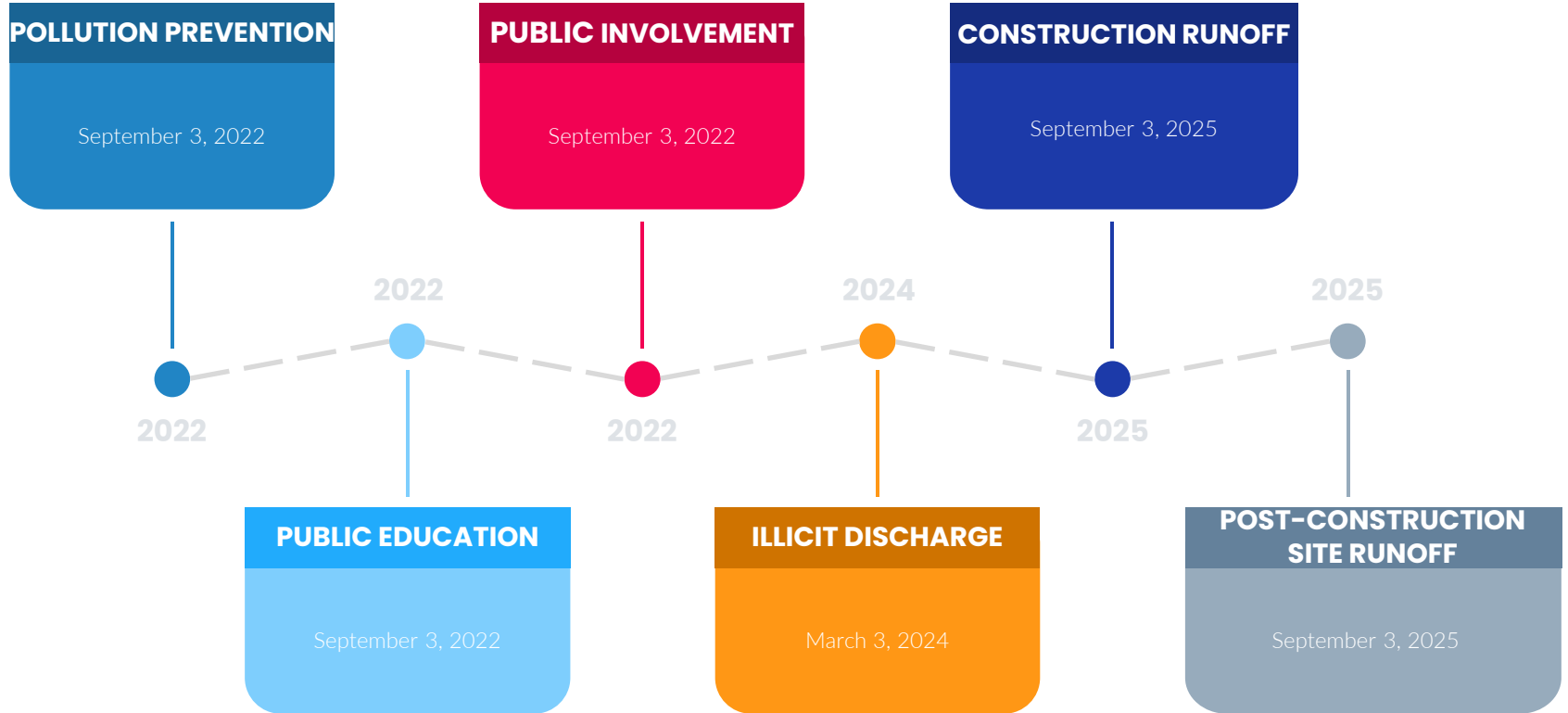
TMDL Implementation Planned Strategies

City Street Runoff Implement an annual street sweeping program to prevent or remove sediment and associated pollutants. Track the miles of street swept on an annual basis.	Stormwater O&M Implement an annual catch basin and stormwater system cleaning and maintenance program to prevent or remove sediment and associated pollutants. Track number of catch basins and miles of storm drain cleaned on an annual basis.	Public Education & Outreach Educate the public on the impacts of how stormwater discharges affect waterbodies and the steps they can take to reduce mercury-related pollutants in stormwater runoff by providing (brochure, website, bill insert) stormwater pollution prevention awareness information.	Public Participation & Involvement Provide for public review and comment on the on the City's draft Mercury TMDL Implementation Plan.	Construction Site Runoff Control Provide site runoff documentation to contractors as part of Building or Public Improvement Permitting process. Refer project sites that disturb over 1 acre to DEQ for 1200-C permit. Require a City Erosion and Sediment Control permit and plans for sites that disturb at least a ½-acre and are not covered by a 1200-C Permit. Update City Code and ordinances, with the appropriate enforcement procedures and actions to require erosion controls, sediment controls, and waste materials management controls on qualifying sites.
	Soil & Erosion Control Training Decrease sedimentation and erosion from City staff operations. Provide City staff with one training (handout, in-person, virtual) on best industry standards on erosion and sedimentation controls.			
Illicit Discharge Detection and Elimination Promote public awareness of recycling and hazardous waste by developing and promoting a web page and email contact dedicated to educating City staff and citizens.			Post-Construction Site Runoff for New and ReDevelopment Implement a post-construction BMP inspection program to ensure maintenance of water quality facilities at private sites. Inspect sites annually to ensure proper maintenance of private water quality facilities and require owners of BMPs to maintain them. Update City Code and ordinances, with the appropriate enforcement procedures and actions to require the reduction of pollutant discharges and control post-construction stormwater runoff from new development and redevelopment project sites.	

3.

NEXT STEPS

IMPLEMENTATION TIMELINE



 Additional PW Operations

 TMDL Program Coordination

 Public Programs, Training



Thanks!
Any questions?