Multnomah County TMDL Implementation Plan For the Tualatin, Lower Willamette, Columbia Slough and Sandy River Basins

TMDL Report

April 2020

Water Quality Program
Transportation Division
Department of Community Services
Multnomah County

Organization of this Report

This report is organized into three principle sections based on the management strategies developed to reduce the TMDL pollutants:

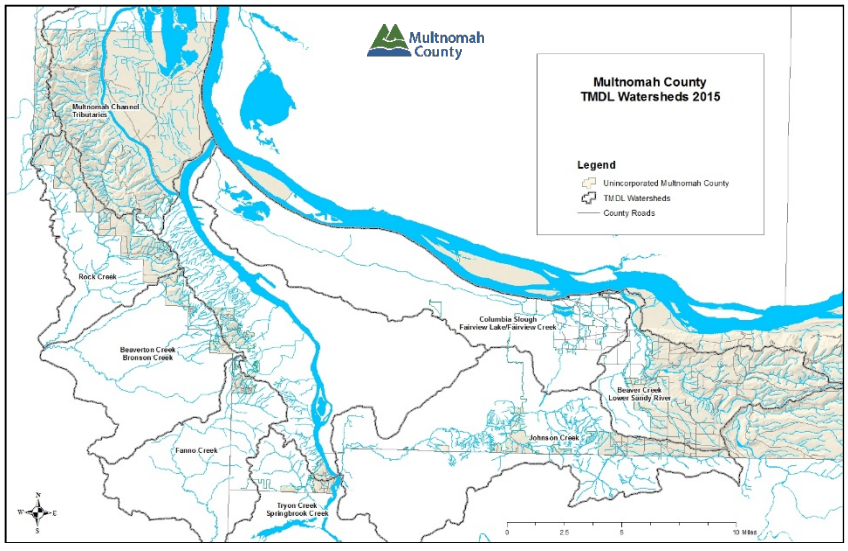
1) Temperature
2) Bacteria
3) Sediment (Mercury, organic toxins, metals, and nutrients)

Introduction

Several waterbodies in Multnomah County fail to meet State standards for water quality. These standards assure that beneficial uses of the waterbody, such as swimming, fish consumption, and aquatic life, are protected. When water quality standards are not met, the beneficial uses are *impaired*. The Oregon Department of Environmental Quality (DEQ) establishes a Total Maximum Daily Load (TMDL) for those impaired waterbodies.

Multnomah County is a Designated Management Agency (DMA) in TMDL plans including the Columbia Slough (1998), the Tualatin River (2001), the Lower Willamette River (2005), and the Sandy River (2006). DMAs are required to develop plans to reduce pollutantse identified in the TMDL plans, including bacteria, temperature, metals, dissolved oxygen, and several organic toxins.

Figure 1. TMDL waterbodies in Multnomah County.



The overall goal of Multnomah County's TMDL Implementation Plan is to prevent, reduce, and eliminate, wherever practicable, sources of pollution to protect and restore impaired waterbodies within the County's jurisdiction and authority to meet the pollutant load allocations set by the TMDLs. The County's strategy includes land use planning, monitoring, interagency coordination, public education, and road maintenance operations. The following report summarizes the County's actions and evaluations of progress in achieving this goal.

Table 1. Water quality pollutants and TMDL reduction targets for streams within Multnomah County jurisdiction.

Pollutant	Waterbody	WLA/LA	*TMDL*
Temperature	Sandy River	5.9% reduction	*Sandy*
	Gordon Creek	n/d[1]	*Sandy*
	Beaver Creek	n/d	*Sandy*
	Lower Willamette River	n/a[2]	*L. Willamette*
	Johnson Creek	51% reduction	*L. Willamette*
	Tryon Creek	n/a	*L. Willamette*
	Fairveiw Creek	n/a	*L. Willamette*
	Beaverton Creek	60% reduction	*Tualatin*
	Bronson Creek	n/d	*Tualatin*
	Rock Creek	51% reduction	*Tualatin*
	Fanno Creek	69% reduction	*Tualatin*
Bacteria	Beaver Creek	86% reduction	*Sandy*
	Johnson Creek	78% reduction	*L. Willamette*
	Springbrook Creek	n/a	*L. Willamette*
	Fairview Creek	n/d	*L.Willamette*
	Beaverton Creek	n/d	*Tualatin*
	Bronson Creek	n/d	*Tualatin*
	Rock Creek	3000org/100ml runoff	*Tualatin*
	Fanno Creek	n/d	*Tualatin*
Mercury	Lower Willamette River	27% reduction*	*L. Willamette*
DDT (and Dieldrin)	Johnson Creek	77% urban stormwater 94% nonpoint sources	*L. Willamette*
	Columbia Slough	$3.24x10^{-6}$kg/d	*L. Willamette*
PCB	Columbia Slough	$5.3x10^{-6}$ kg/d	*L. Willamette*
Lead	Columbia Slough	Varies with flow	*L. Willamette*
2,3,7,8 TCDD	Columbia Slough	$1.31x10^{-9}$ kg/d	*L. Willamette*
Dissolved Oxygen, pH, chlorophyll a	Columbia Slough	Total P, BOD varies with flow	*L. Willamette*
	Beaverton Creek	30% reduction SVS	*Tualatin*
	Bronson Creek	30% reduction SVS 0.13 mg/l Total P	*Tualatin*
	Fanno Creek	50% reduction SVS 0.13 mg/l Total P	*Tualatin*
	Rock Creek	30% reduction SVS 0.19 mg/l Total P	*Tualatin*

[1]n/d: not defined. No data analysis was conducted for small tributaries.
[2]n/a: not applicable. See details in plan regarding the particular conditions for each pollutant.
*This is guidance not a WLA

Implementation action summary

Temperature

The actions in the County's TMDL Implementation Plan for the Sandy and Lower Willamette TMDLs include land use plan review, education, and coordination with the East Multnomah Soil & Water Conservation District (EMSWCD).

The County issued six land use permits during the reporting period regarding stream buffers (Significant Environmental Concern Permit). Two permits were issued for culvert projects to restore fish passage. Three permits were related to septic system and sewer infrastructure project that did not impact riparian vegetation. One development permit was granted for development within the 200' buffer of Johnson Creek. This project required mitigation at 1.5 times the impact area for a total of 10,625 sq ft.

The EMSWCD Stream Care program works in the rural residential areas of unincorporated Multnomah County to restore riparian areas impacted by invasive weeds. The EMSWCD assisted the County to install native plants in the County right-of-way area on Beaver Creek at the intersection of Division St and Troutdale Rd where a short section of stream was exposed between two culverts. They managed the vegetation through 2016 and the site is now managed by the County Road Maintenance section.

Copies of the EMSWCD Rural Living Handbook are made available to the public at the Land Use Planning counter.

Bacteria

Failing onsite septic systems and illegal dumping are concerns for the County regarding the bacteria loading in the County jurisdiction. The County Road Maintenance crews work regularly in the basins maintaining the road surface, vegetation and drainage infrastructure in the right-of-way. Crews did not report suspicious activity or evidence of failing septic systems during the reporting period.

The County Nuisance Code Enforcement database is currently not accessible due to the County COVID-19 telework policy. The Water Quality Program will submit an addendum to this report with an update on illegal dumping within TMDL watersheds when normal County operations resume.

Ongoing education efforts include participation in the Regional Coalition of Clean Rivers and Streams, and the supply of education materials at the County Land Use Planning Counter.

Sediment – Mercury, Organic Pollutants, DDT and Dieldrin surrogate

Sediment erosion best management practices are implemented through two primary mechanisms, the County Road Maintenance & Operations Manual (RMOM) and the National Pollutant Discharge Elimination System (NPDES) stormwater permit. The NPDES annual report covers land used planning activities, road maintenance practices, vegetation maintenance, and public education efforts during the past fiscal year. The RMOM is a guidance document created in response to the Endangered Species Act listing of salmon in the area, and was submitted in May 2010 to National Oceanic and Atmospheric Administration (NOAA) Fisheries for a programmatic exemption to the 4(d) rules for take related to road practices.

No sediment related concerns were reported to the Oregon Department of Agriculture Water Quality Complaint Program during the reporting period.

Monitoring and Adaptive Management

Water quality monitoring in the County TMDL watersheds is a shared activity between the County and other jurisdictions in these watersheds, including state, local and municipal entities, SWCDs, and watershed councils. The County conducts monitoring in lower Beaver Creek and Fairview Creek as part of regulatory obligation of the NPDES Phase I permit. Ambient water quality monitoring occurs four times per year, during wet and dry weather at four sites. Water quality parameters include continuous temperature and periodic monitoring for field, conventional parameters, metals, and E. coli bacteria. Macroinvertebrate monitoring occurs annually in both watersheds.

Data collection and analysis is coordinated voluntarily in watersheds where there are multiple entities. The most significant of these are the Beaver Creek Conservation Partnership, and the Johnson Creek Inter-jurisdictional Committee, and a new group of McCarthy Creek entities. Discussions among jurisdictions lead to investigative follow up data collection, outreach, or regulatory action.

APPENDIX A. Table of Multnomah County TMDL Management Strategies

Temperature (Shade)

Lower Willamette River Watershed – Johnson Creek, Fairview Creek
Tualatin River Watershed - Beaverton Creek, Bronson Creek, Rock Creek
Sandy River Watershed - Sandy River, Gordon Creek, Beaver Creek

Source	Strategy	How	Fiscal Analysis	Measure	Timeline	Milestone	Status
Preserve and restore stream shading	Ensure vegetated buffers are maintained	Continue plan review for new development and redevelopment	No additional resources needed	Ongoing program	None	None	Six permits were issued by Land Use Planning. One project had impacts within the 200' buffer of Johnson Creek, which required mitigation at 1.5 times the impacted area.
	Enforce stream buffer protection	Continue County code enforcement	No additional resources needed	Ongoing program	None	None	No code enforcement violations occurred in the reporting period
	Educate landowners about the benefits of vegetated stream buffers	Work with local Soil & Water Conservation Districts to disseminate outreach materials	No additional resources needed	Ongoing program	None	None	Brochures are stocked by the Planning Counter front desk staff.
	Maintain shade in County right of way where appropriate	Partner with EMSWCD on Division St planting at Beaver Creek	No additional resources needed	Planting is managed through EMSWCD StreamCare	EMSWCD management will go through 2016	Evaluation in 2016	Plants are providing shade for the stream in this section and is now under regular maintenance through the County program.

Bacteria

Lower Willamette River watersheds – Lower Willamette, Johnson Creek, Fairview Creek

Tualatin River watersheds – Beaverton Creek, Bronson Creek, Rock Creek
Sandy River watersheds – Beaver Creek

Source	Strategy	How	Fiscal Analysis	Measure	Timeline	Milestone	Status
Failing septic systems	Inspect County drainage system for septage	Identify areas with suspicious contaminants or septage in ditches and catch basins during road maintenance activities	No additional resources needed	Ongoing program	None	None	No suspected activity in permit year.
		Inspect outfalls for illicit discharge (See NPDES Stormwater Management Plan)	No additional resources needed	4 outfalls inspected annually during dry weather (as described in NPDES program)	Annual inspection	None	No suspected illicit discharge during NPDES permit term.
	Educate homeowners about septic system maintenance	Work with local Soil & Water Conservation Districts to disseminate outreach materials	No additional resources needed	Ongoing program	None	None	Brochures are stocked by the Planning Counter front desk staff.
Livestock manure	Address runoff issues through ODA Water Quality Program	Submit Water Quality Complaint Form to ODA	No additional resources needed	Report as needed	None	None	No livestock related complaints filed during reporting period.

Source	Strategy	How	Fiscal Analysis	Measure	Timeline	Milestone	Status
Pet wastes	Educate pet owners	Develop and disseminate materials through the Regional Coalition of Clean Rivers and Streams (see NPDES Stormwater Management Plan)	No additional resources needed	Ongoing program	None	None	Variety of clean water messaging through web, radio, and television. Refer to NPDES Annual Report for the RCCRS Annual Report.
Illegal dumping	Enforce Nuisance Code	Report illegal dumping to County Nuisance Code Enforcement (See NPDES Stormwater Management Plan)	No additional resources needed	Ongoing program	None	None	An update on Nuisance code enforcement issues will be submitted in an addendum when the County resumes normal operations.
Instream monitoring	Identify stream reaches with high E.coli concentrations	Review instream E.coli data from collaborative monitoring efforts	No additional resources needed	Coordinate with Johnson Creek Interjurisdictional Committee and Beaver Creek Conservation Partnership	Quarterly data collection through IGA with City of Gresham for Beaver Creek and Fairview Creek. Ad hoc sampling with IJC	Annual review	See NPDES Annual Report.

Sediment (Nitrogen, Phosphorus, Lead, Mercury, Organic toxins)

Tualatin River watershed: Beaverton Creek, Bronson Creek, Rock Creek
Lower Willamette River watershed: Johnson Creek, Columbia Slough

Source	Strategy	How	Fiscal Analysis	Measure	Timeline	Milestone	Status
Non-point source sediment from agricultural lands	Address runoff issues through ODA Water Quality Program	Submit Water Quality Complaint Form to ODA	No additional resources needed	Ongoing program	None	None	No Water Quality complaints were submitted to ODA during the reporting period.
	Educate landowners about erosion impacts to streams	Work with local Soil & Water Conservation Districts to disseminate outreach materials	No additional resources needed	Ongoing program	None	None	Brochures are stocked by the Planning Counter front desk staff.
Soil erosion and sediment transport from roads in urban and rural areas	Avoid and minimize stormwater and pollutant runoff from County drainage network	Implement and update the NPDES Stormwater Management Plan	See NPDES reports for work in the NPDES permit area.	Performance measures are included in the NPDES SWMP	See NDPES SWMP	See NDPES SWMP	See NPDES Annual Report
		Implement and update the Road Maintenance and Operations Manual	No additional resources needed	Ongoing program	None	None	Review of the RMOM is included as a BMP in the NPDES Stormwater Management Plan. See NPDES Annual Report.
Mercury-containing products used in County facilities	Reduce use of products containing mercury	Purchase alternative products that contain less or no mercury.	No additional resources needed	Ongoing program	None	None	This is a County purchasing policy developed under the County Toxics Reduction Plan.
	Ensure proper disposal of products containing mercury	Recycle products containing mercury	No additional resources needed	Ongoing program	None	None	This is a County purchasing policy developed under the County Toxics Reduction Plan.

Multnomah County TMDL Implementation Plan For the Tualatin, Lower Willamette, Columbia Slough and Sandy River Basins

TMDL Report
Addendum 1

May 2020

Water Quality Program
Transportation Division
Department of Community Services
Multnomah County

Background

This Addendum to the 2020 TMDL Annual Report provides details of the County activities from the TMDL Implementation Plan, which occurred during fiscal year 2018-2019. The County had not previously reported on the activities during this time period because the reporting deadline for the Annual Report overlapped with the TMDL 5-year report submitted in 2019. The 5-year report included a summary analysis of activities covering a period from fiscal years 2014-2018. DEQ provided clarification of the reporting requirement in 2020, the County is now providing these details for fiscal year 2018-2019 in this addendum.

Summary of activities for Fiscal Year 2018 - 2019

Temperature

The County tracks development permits that fall within environmental buffers of area streams. In 2018-2019, the County Land Use Planning Office approved eight permits along the Sandy River and Johnson Creek. Six of these permits were stream restoration projects by Metro and the State of Oregon. One permit for a single family dwelling on the Sandy River had no impacts to riparian vegetation. One permit to replace a culvert had site restoration after construction.

There were not code violations in vegetated stream buffers in the reporting period.

Outreach activities in partnership with watershed councils and soil & water conservation districts continued for temperature, bacteria and sediment erosion concerns.

Bacteria

Inspection activities for septic systems, illicit discharge from the stormwater system continued without incident. No reports of livestock issues were reported by the County to Oregon Department of Agriculture.

Because of the coronavirus outbreak, there is no access to the County database for illegal dumping. Thus, no report for incidents that may have water quality impacts is available at this time.

Sediment

National Pollutant Discharge Elimination System (NPDES) Stormwater Plan activities are reported through the NDPES Annual Report.

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Preserve and restore stream shading	Ensure vegetated buffers are maintained	Continue plan review for new development and redevelopment	No additional resources needed	Ongoing program	None	None	Land Use Planning issued eight permits. Six of these permits were in stream and riparian restoration projects by Metro and the State of Oregon on the Sandy River. One permit associated with a dwelling had no vegetation impacts. One permit for culvert replacement included site restoration.
	Enforce stream buffer protection	Continue County code enforcement	No additional resources needed	Ongoing program	None	None	No code enforcement violations occurred in the reporting period
	Educate landowners about the benefits of vegetated stream buffers	Work with local Soil & Water Conservation Districts to disseminate outreach materials	No additional resources needed	Ongoing program	None	None	Brochures are stocked by the Planning Counter front desk staff.
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