Multnomah County TMDL Implementation Plan
for the Lower Willamette and Sandy River Basins

Annual Report 2012

November 2012

Water Quality Program
Land Use and Transportation Division
Department of Community Services
Multnomah County

Organization of this Report

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

1) Temperature
2) Bacteria
3) Sediment (Mercury, DDT and Dieldrin surrogate)

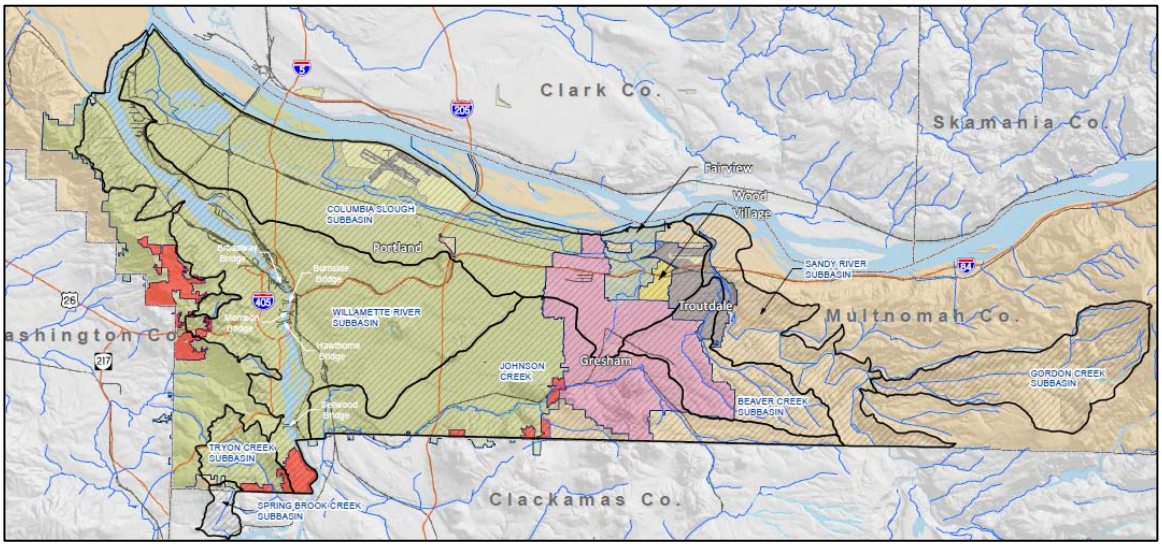
A summary of monitoring activities and adaptive management strategies and a matrix of implementation actions is included at the end of the report.

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 establishes a Total Maximum Daily Load (TMDL) for those impaired waterbodies.

In 2005 and 2006, the Oregon Department of Environmental Quality (DEQ) established TMDLs in the mainstem and tributaries of the Lower Willamette River and Sandy River, respectively (figure 1). The TMDL pollutants in the Multnomah County jurisdiction include bacteria, temperature, mercury, and the legacy pesticides, DDT and dieldrin (table 1).

Figure 1. 2005 and 2006 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. 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	Reduction	*TMDL*
Temperature	Sandy River	Riparian shade	*Sandy*
	Gordon Creek	Riparian shade	*Sandy*
	Beaver/Kelly Creek	Riparian shade	*Sandy*
	Lower Willamette River	n/a[1]	*L. Willamette*
	Johnson Creek	Riparian shade	*L. Willamette*
	Tryon Creek	n/a	*L. Willamette*
	Columbia Slough	n/a	*L. Willamette*
Bacteria	Beaver /Kelly Creek	86% load reduction	*Sandy*
	Johnson Creek	78% load reduction	*L. Willamette*
	Springbrook Creek	n/a	*L. Willamette*
Mercury	Lower Willamette River	27% load reduction*	*L. Willamette*
DDT, Dieldrin	Johnson Creek	78% urban stormwater 94% nonpoint sources	*L. Willamette*

[1]*n/a: not applicable. See details in plan regarding the particular conditions for each pollutant.*
**phased TMDL. This is a guidance value, not a WLA*

Temperature implementation action summary

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 Oregon Department of Agriculture (ODA) for enforcement of agricultural rules on agricultural lands and the Oregon Department of Forestry (ODF) for forest practices.

Three permits were issued by the County during the reporting period regarding stream buffers (Significant Environmental Concern Permit). Also, no violations of forest or agricultural rules were observed by the County.

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.

Bacteria

Failing onsite septic systems and illegal dumping are concerns for the County regarding the bacteria loading in Beaver and Johnson Creeks. The County Road Maintenance crews work regularly in the basins maintaining the road surface, vegetation and drainage infrastructure in the right-of-way, and provide the Water Quality Program with visual observation of potential problems. Water Quality staff coordinate with the appropriate regulatory authorities.

During the past year, no bacteria incidences were reported in Johnson or Beaver Creek.

Education efforts through the Regional Coalition of Clean Rivers and Streams is ongoing.

The County participated in the planning for an intensive bacteria monitoring study on Johnson Creek through the Interjurisdictional Committee. Bacteria sampling and analysis occurred in FY2013, and will be reported in the next annual report.

Sediment – Mercury, DDT and Dieldrin surrogate

Sediment erosion best management practices are implemented through two primary mechanisms, the County Road Maintenance & Operations Manual (RMOM) and the 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 ESA listing of salmon in the area, and was submitted in May 2010 to NOAA Fisheries for a programmatic exemption to the 4(d) rules for take related to road practices. Although the manual is still under review by NOAA Fisheries, the County is implementing the practices to minimize and avoid sediment erosion in drainage and right-of-way areas.

Erosion problems from one agricultural area were reported to ODA and a suspicious in-line pond excavation (no erosion control) was reported to Clackamas County.

Monitoring and Adaptive Management

Water quality monitoring in the County TMDL watersheds is a shared activity between the County, the City of Gresham, and the EMSWCD. Monitoring is conducted in Beaver Creek and the upper Johnson Creek for the following: continuous temperature and periodic monitoring for field, conventional parameters, metals, and E. coli bacteria. The County conducts monitoring in lower Beaver Creek in conjunction with NPDES Phase I responsibilities. This ambient monitoring occurs four times per year, during wet and dry weather. Follow up to the upper Johnson Creek monitoring by DEQ during 2007-2008 will be conducted by the EMSWCD, and will provide reach scale data for temperature, field parameters, and E. coli bacteria.

The County plans to continue TMDL implementation and monitoring through a coordinated effort of both rural and urban jurisdictions. Ambient monitoring will provide long term trends which may inform the RMOM and NPDES Stormwater Plan effectiveness, while the EMSWCD reach scale monitoring may help inform future site level investigations.

Biological monitoring is also conducted in Beaver and upper Johnson Creek. The County concluded a grant-funded fish survey on both streams during 2010-2012. Juvenile coho salmon, rainbow trout (steelhead), and cutthroat were found throughout the watershed, among other native fishes. The final reports are posted online at the Multnomah County Water Quality Program website (https://multco.us/roads/fish-surveys).

Macroinvertebrate monitoring occurs annually in both watersheds. Three years of watershed-wide macroinvertebrate data has been collected on Johnson Creek through the Interjurisdictional Committee of Johnson Creek (IJC), a multi-jurisdictional committee to discuss and coordinate watershed scale issues and activities.

Multnomah County TMDL Implementation 2011			
Source	**Strategy**	**How**	**2012**
Temperature: Sandy River, Gordon Creek, Beaver Creek, Kelly Creek, Johnson Creek			
1. Lack of stream shading	a. Ensure stream buffers requirements are met through plan review	Continue plan review for new development and redevelopment	Three permits were issued, reviewed and approved for stream buffer protection
	b. Enforce County stream buffer requirement for new development	Continue County code enforcement	No activity to report
	c. Address riparian vegetation in agricultural areas through Agricultural Water Quality Plans	Notify local Soil & Water Conservation Districts of runoff issues and ODA for enforcement on agricultural	No activity to report
	e. Educate landowners and encourage riparian vegetation maintenance and restoration	Work with East Multnomah Soil & Water Conservation Districts to provide technical assistance and disseminate grant opportunities	EMSWCD Stream Care planting in County right-of-way intersection of Division st with Beaver Creek
2. Improper implementation of timber harvest practices	a. Ensure permit violations are enforced	Notify Oregon Department of Forestry about suspected permit violations and other negative impacts from	No activity to report
Bacteria: Beaver Creek, Kelly Creek, Johnson Creek			
1. Failing septic systems	a. Conduct reach scale investigations in Johnson Creek	Follow the Agricultural Water Quality Plan baseline sampling (2007-2008) with analysis and additional	EMSWCD conducts monitoring in upper Johnson Creek and Beaver Creek
	b. Conduct reach scale investigation in Beaver and Kelly Creek	Partner with City of Gresham to collect data	County mointoring program data collected by City of Gresham under IGA at mouth and Division St. New monitoring by EMSWCD anticipated soon.
	b. Inspect OSS systems suspected of failure	County contracts with City of Portland sanitarian to provide inspection services	No reports made to City of Portland for suspected activity. City of Portland does not have incidents with water quality concerns.
	c. Educate homeowners about septic system maintenance	Partner with East Multnomah Soil & Water Conservation District (EMSWCD) to develop and	Partnered wth EMSWCD on Beaver Creek State of Watershed Report
2. Non-point source from agricultural lands	a. Conduct reach scale investigations based on TMDL study	Follow the Agricultural Water Quality Plan baseline sampling (2007-2008) with analysis and additional	EMSWCD conducts monitoring in upper Johnson Creek; County conducts monitoring on lower Beaver Creek.
	b. Address runoff issues via Agricultural Water Quality Plans	Notify local Soil & Water Conservation Districts when problems are identified, or notify ODA for enforcement	No activity to report
3. Pet wastes	a. Educate pet owners	Partner with local Soil & Water Conservation Districts to develop and disseminate educational materials	County is a partner in the Regional Coalition for Clean Rivers and Streams to conduct clean water campaigns vis web, radio, billboards, TV, bus signs.
4. Illegal dumping	a. Enforce Solid Waste Nuisance ordinance	Report all illegal dumping to County nuisance code enforcement (See Stormwater Program components	No water quality risks or concerns to report
TSS surrogate (Mercury, DDT and Dieldrin): Lower Willamette, Johnson Creek			
1. Non-point source of sediment from agricultural lands	a. Address agricultural runoff issues via Agricultural Water Quality Plans	Notify East Multnomah Soil & Water Conservation Districts of runoff issues and ODA for enforcement on agricultural land	Erosion reoprt to ODA: Winters Farm road erosion - SE 322nd (1/11 - Beaver Creek); .
	b. Educate landowners and encourage riparian vegetation maintenance and restoration	Work with East Multnomah Soil & Water Conservation Districts to provide technical assistance and	Unpermitted in-line pond excavation report to Clackamas County (9/11); .
2. Soil erosion and sediment transport from urban area	a. Continue implementing the County Stormwater Management Plan in NPDES areas and RMOM county wide	Implement BMPs according to plan	NPDES Annual report submitted to DEQ (11/1/12)
3. Mercury-containing products used in County practices	a. Reduce use and disposal of products containing mercury	Light bulbs, batteries, e-waste	County Sustainability Program works with Purchasing and other departments for these products