Department of Community Services

Multnomah County

Transportation Division

November 1, 2018

Mark Riedel
Oregon Department of Environmental Quality
700 NE Multnomah St, Suite 600
Portland, OR 97232-4100

SUBJECT: NPDES MS4 Permit Annual Report 2018

Dear Mr. Riedel:

I am pleased to submit the enclosed National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System (NPDES MS4) Phase I Permit – Annual Report 2018. This report fulfills reporting requirements for the NPDES MS4 Phase I Permit #103004.

The report demonstrates the County's progress toward meeting the permit requirements and stormwater program goals for the past year. The report details the activities implemented, and program status.

Electronic downloads can be found at multco.us/water-quality-program/reports-and-plans. If you have any questions concerning this report, please contact Roy Iwai, Water Resources Specialist at (503) 988-0195, or by email at roy.iwai@multco.us.

Sincerely,

Ian B. Cannon, P.E.
Transportation Director

Multnomah County NPDES MS4 Phase I Permit
Stormwater Management Program

Annual Report 2018
Permit year 23

Submitted to:
Oregon Department of Environmental Quality
November 2018

Submitted in Accordance with the Requirements
of the National Pollutant Discharge Elimination System
(NPDES) Permit Number 103004, File Number 120542

Submitted by:
Water Quality Program
Department of Community Services
Multnomah County

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Table of Contents

1. Introduction

Multnomah County implements a comprehensive stormwater management program with the goal of reducing pollutants into the municipal stormwater system to the maximum extent practicable. This program is maintained and prioritized in response to the federal Clean Water Act and the County's responsibility to protect the health and welfare of its citizens and natural environment. The Stormwater Management Plan is the main component of the stormwater management program. This plan is submitted to and approved by the Oregon Department of Environmental Quality (DEQ) under the National Pollutant Discharge and Elimination System Municipal Separate Storm Sewer Phase I (NPDES MS4 Phase I) permit. The County's roles and responsibilities for complying with the permit term falls under seven categories of Best Management Practices (BMPs) with a focus on operating and maintaining the County bridges and roads.

This Annual Report summarizes the implementation activities of Multnomah County's Stormwater Management Plan in the County's permit area for the Permit Year 23 (Fiscal year 2017: July 1, 2017 – June 30, 2018).

2. Program Overview

History

From 1995 to 2010, the Oregon Department of Environmental Quality (DEQ) regulated stormwater from Multnomah County through two separate NPDES MS4 Phase I Discharge permits: Permit #101314 for the areas within the City of Portland permit boundary and Permit #108013 for the areas within the Gresham permit boundary. Multnomah County was a co-permittee on both Portland and Gresham's MS4 Permit.

The County had a limited amount of regulatory area under each permit under the two separate MS4 permits. To reduce the administrative burdens for program management and reporting, Multnomah County requested to DEQ that the permit areas be combined under a single individual permit for the 2010 permit renewal. DEQ granted this request and issued the new individual Phase I permit on December 30, 2010.

Permit area description

Multnomah County is a unique jurisdiction with NPDES permit areas composed of several discrete urban pockets, and approximately twenty-eight miles of road and bridge right-of-ways. The terms "Portland Area" and "Gresham Area" are used in this report to provide clarity in the area descriptions, and to provide continuity from the previous reporting areas.

Within the Portland Area, Multnomah County is responsible for five Willamette River bridges (see Figure 2-1). A few small unincorporated pocket areas within the Portland Urban Services boundary are under Portland's stormwater management through an Intergovernmental Agreement with the City of Portland. These areas are also under the City of Portland's land use authority.

Within the Gresham Area, Multnomah County is responsible for approximately twenty-eight miles of arterial roadways in the Cities of Fairview, Troutdale, and Wood Village, and the unincorporated residential area known as "Interlachen" that is located between Fairview Lake and Blue Lake (see Figure 2-2). In 2007, Troutdale and Wood Village came under NPDES Phase II coverage, and the County roads in those communities also came into permit coverage. Some road segments shown in the following maps are served by Underground Injection Controls or lack curb/gutter systems and do not discharge to surface waters.

More specific details regarding the County's jurisdiction are provided in the Stormwater Management Plan (updated April 2011).

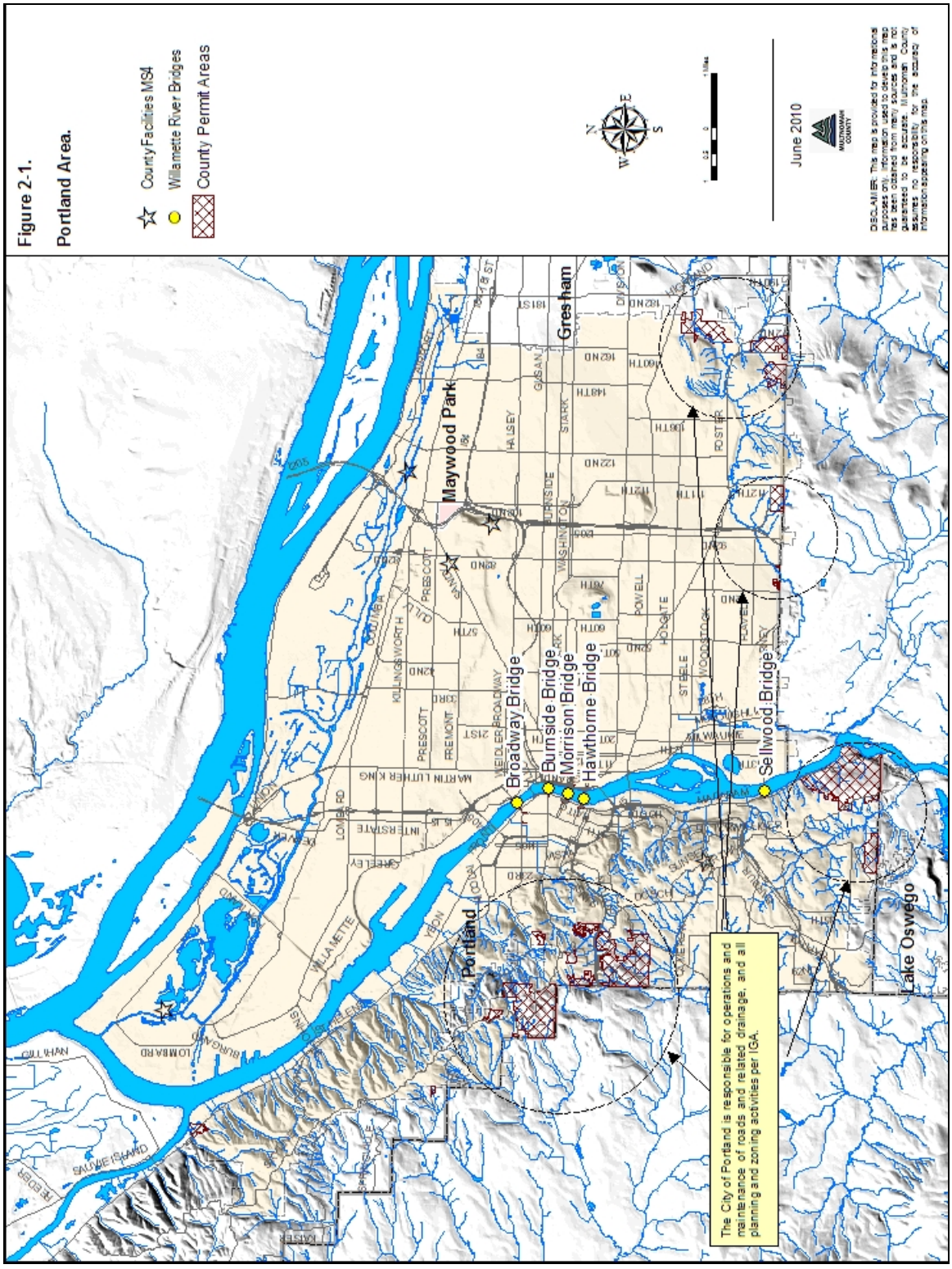


Figure 2-1.
Portland Area.
County Facilities MS4
Willamette River Bridges
County Permit Areas
June 2010
Maywood Park
Gresham
Portland
Lake Oswego
Broadway Bridge
Burnside Bridge
Morrison Bridge
Hawthorne Bridge
Sellwood Bridge
The City of Portland is responsible for operations and maintenance of roads and related drainage, and all planning and zoning activities per IGA.

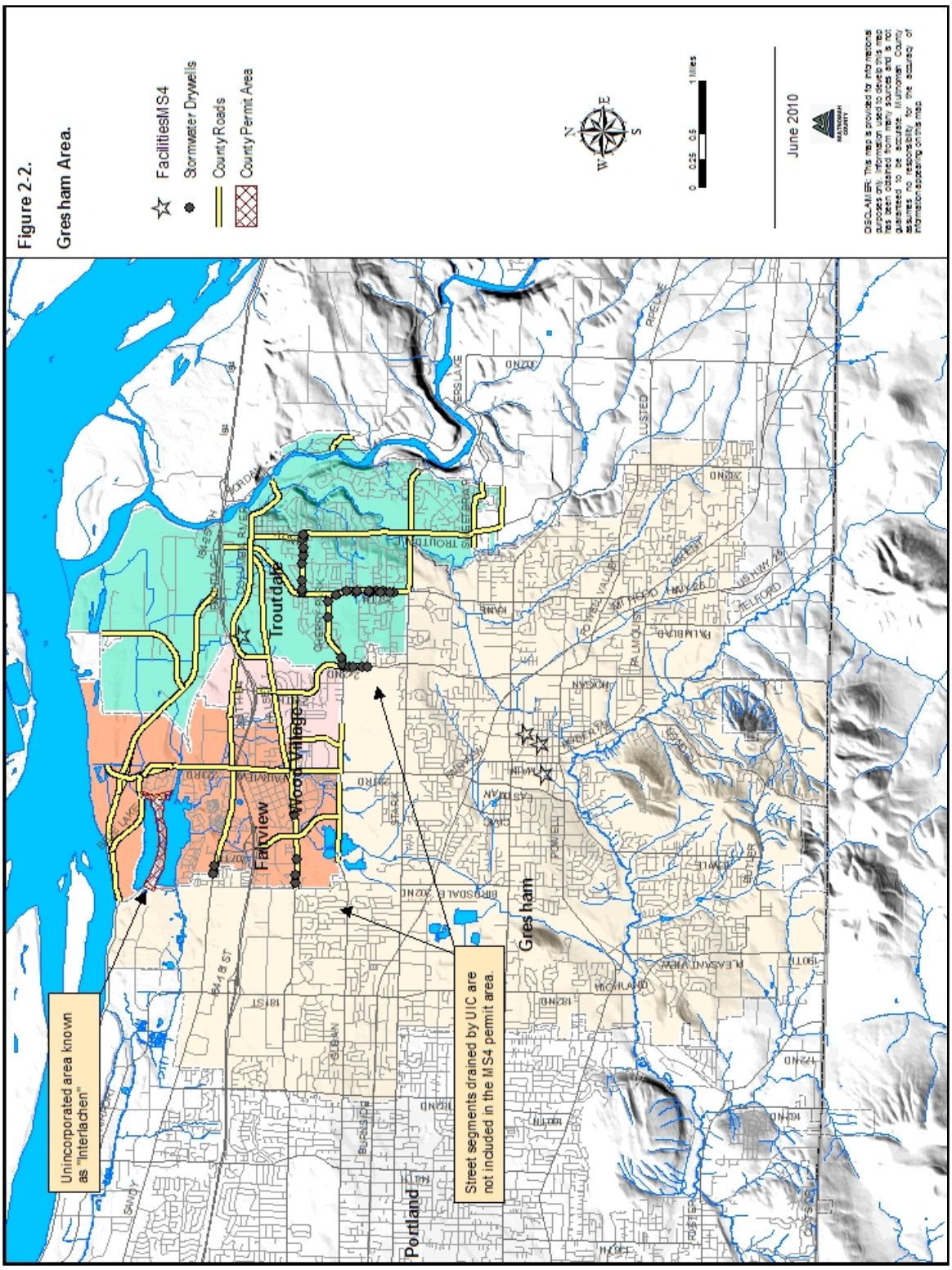


Figure 2-2.
Gresham Area.
FacilitiesMS4
Stormwater Drywells
CountyRoads
CountyPermitArea
June 2010
Unincorporated area known as "Interlachen"
Street segments drained by UIC are not included in the MS4 permit area.
Troutdale
Fairview
Wood Village
Gresham
Portland

Reporting requirements

The following table summarizes the requirements for the annual report as described in Schedule B.5 of the permit:

Permit reporting requirement	*Annual report section*
a. Status of each SWMP program element and progress in meeting measurable goals	BMP summary - status
b. Status or results of any public education program effectiveness evaluation conducted during the reporting year and summary of how the results were or will be used for adaptive management	BMP summary PI-1
c. Summary of the adaptive management process implementation during reporting year, including proposed changes or additions to BMPs	BMP summary – adaptive management
d. Proposed changes to SWMP elements designed to reduce TMDL pollutants	BMP summary
e. Summary of total stormwater program expenditures and funding sources over the reporting year and those anticipated in the next reporting year	Stormwater program budget
f. Summary of monitoring program results, including monitoring data and analyses	Environmental monitoring; also see Gresham and Portland permit annual reports
g. Proposed modifications to the monitoring plan	Environmental monitoring
h. Summary of the enforcement actions, inspections, public education programs, and illicit discharge screening and investigations	BMP summary
i. Overview of land use changes, concept planning and new development activities in the reporting year, including number of new post-construction permits issued and an estimate of the total new or replaced impervious surface area related to new development and redevelopment projects	Permit area description; BMP summary (ND, STR)
j. Results of ongoing field screening and follow up related to illicit discharges.	BMP summary (ILL-5)

Environmental monitoring

The City of Gresham and City of Portland have historically collected, managed, and analyzed stormwater and instream data on behalf of the County as the lead Permittee for the respective NPDES permits when the County was a co-permittee on both permits. Because the County's jurisdiction is part of the fabric of both permit areas, the data for each permit represented the overall quality of stormwater and instream health. This environmental monitoring was a component of the Intergovernmental Agreements (IGA) with both the City of Portland and City of Gresham.

Beginning December 2010, the County managed its stormwater program under a single individual permit. The monitoring requirements are met through a new IGA with the City of Gresham, and the monitoring plan is available online through the City of Gresham website.

The environmental data and analysis presented in the Annual Reports for City of Gresham independent of this report fulfill the monitoring requirement for the County's Annual Report, per the respective IGA. A monitoring summary is provided at the end of this report.

The data includes monitoring requirements from the County permit: two instream monitoring sites, two macroinvertebrate monitoring sites, and one mercury monitoring site. These are fulfilled by data from Fairview and Beaver Creeks, and the Columbia Slough Water Quality Facility.

Mercury monitoring

The mercury monitoring requirement is part of a special study to further the development of the Mercury TMDL. Two full years of Hg monitoring were completed during 2011-2013, which fulfills the mercury monitoring requirement as described in Table B-1 of the NPDES permit. To date, the Hg monitoring conducted by Multnomah County (and other MS4 Phase I permittees) has contributed to the characterization of urban stormwater runoff, a stormwater monitoring program objective. DEQ will review the monitoring data once all of the results from the MS4 permittees have been submitted. DEQ anticipates that additional Hg monitoring will not be required for the remainder of Multnomah County's permit term (Benjamin Benninghoff, personal communication 2013). Written request that the monitoring be eliminated was submitted to DEQ on November 1, 2013.

The mercury monitoring data analysis by the City of Gresham was included as an appendix to the 2013 Annual Report.

Adaptive management process

The assessment of BMPs occurs annually during preparation of the County NDPES annual report, to be submitted to DEQ by November 1 of each permit year. Among other reporting requirements, the MS4 annual report must contain (Schedule B.5) the following:

> *The status of implementing the stormwater management program and each SWMP program element, including progress in meeting the measurable goals identified in the SWMP.*

By providing a summary in the NPDES annual report of progress toward attaining BMP measurable goals (through data collection and tracking measures), the County both: 1) meets the aforementioned reporting requirement, and 2) facilitates a critical step in adaptively managing its stormwater program by assessing each BMP.

While preparing this MS4 annual report, the County collected data and feedback from staff responsible for implementing/reporting on each BMP to facilitate the BMP assessment process. Key factors considered in the annual evaluation include but are not limited to:

- *Was the BMP measurable goal attained? If not, describe circumstances why, and how progress will be made toward future attainment.*
- *For multi-year BMPs, were milestones or timelines met?*
- *Can we feasibly refine or improve the BMP to gain efficiency or effectiveness in removing stormwater pollutants?*
- *Are staffing/financial resources available to support such a BMP improvement or refinement?*

3. BMP Summary

The Multnomah County Stormwater Management Plan is a set of Best Management Practices (BMPs) designed to reduce stormwater pollutants to the maximum extent practicable. The County's stormwater management plan is made up of thirty-two BMPs grouped into seven categories as shown below. The following table summarizes the task, measurable goals, status, and changes for each BMP.

PI	Public Involvement and Education
OM	Operations and Maintenance
ILL	Illicit Discharges Control
ND	New Development Standards
STR	Structural Controls
NS	Natural Systems
PM	Program Management

Managers and staff in several Multnomah County workgroups implement the Stormwater Management Program. The functional groups are:

Public Affairs	Public Affairs Office
Bridge Engineering	Department of Community Services
Bridge Maintenance	Department of Community Services
Land Use Planning	Department of Community Services
Transportation Planning	Department of Community Services
Code Compliance	Department of Community Services
Facilities	Department of County Assets
Emergency Response	Department of Community Services
Right-of Way Permits	Department of Community Services
Road Maintenance	Department of Community Services
Road Engineering	Department of Community Services
Asset Management	Department of Community Services
Nuisance Code	Health Department, Community Health Services
Program Management	Department of Community Services

PI – Public Involvement and Education

Overall goal: *To inform and educate the public about the causes of stormwater pollution, the effects on local streams and rivers, and the need for stormwater management, and to encourage active participation in pollution reduction efforts.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
PI-1 Participate in Regional Public Education Efforts	Provide County representative to attend the *Regional Coalition for Clean Rivers and Streams* (RCCRS) meetings. Plan and Implement public education campaign promoting behaviors that improve water quality.	Help develop and implement RCCRS annual strategy to promote behavior change through the RCCRS website, television, radio and social media. Evaluate education campaign effectiveness by November 1, 2014.	RCCRS continued to manage the River Starts Here outreach campaign for 2017-2018. The River Starts Here annual report is attached as an appendix to this report. County staff led the formation of the Clean Rivers Coalition (CRC), a new statewide outreach collaboration. We planned and held a forum in November 2017 that attracted 80 attendees. The CRC was awarded a $100,000 grant from Meyer Memorial Trust to develop a strategic communications plan in November 2017.	The Clean Rivers Coalition continues preparing for a strategic plan to develop a statewide clean water outreach platform and campaign. DEQ is participating in this effort along with many partners across the state.
PI-2 Participate in Public Meetings	Attend public meetings related to water quality.	Track participation in watershed council and ad hoc committee meetings.	Water Quality (WQ) staff shared monitoring and project updates at regular monthly meetings of the Johnson Creek Watershed Council and Sandy River Watershed Council. WQ Staff participates in the Interjurisdictional Committee for Johnson Creek, a technical workgroup that coordinates stream monitoring and analysis for Johnson Creek watershed. WQ staff facilitates a similar group, known informally as the Beaver Creek Conservation Partnership. All meetings are held approximately once a month.	No change
PI-3 Distribute Public Education Information Regarding Stormwater	Make brochures and other educational materials from Soil & Water Conservation Districts and Watershed Councils available at the planning office. Ensure that public education materials are current and cover relevant topics.	Track the number of materials distributed at meetings, front counters and online.	Although the landowners who visit the planning office are largely rural property owners not included in the NPDES permit area, this public education outlet is maintained for the TMDL pollutant reduction. 176 brochures on various topics from septic maintenance, riparian	Because there are not stormwater specific brochures available, this BMP will likely be modified at permit renewal

			management and livestock care were taken from the office.	
PI-4 Conduct Training and Education for County Personnel	Send a representative(s) to water quality conferences when feasible. Share information learned in training with other staff. Train volunteers, maintenance and operations crews, as well as inspectors on impacts of activities on water quality and MS4 in addition to new approaches to water quality protection and proper reporting procedures.	Conduct a minimum of one staff training session a year.	WQ staff attended the regional Urban Ecology symposium (2/2018), and ACWA Stormwater Summit (5/2018). Vegetation staff continued to participate in regular meetings of the Cooperative Weed Management Areas group and applicator training. Eleven Road Maintenance staff attended the Skills Demo that featured water quality seminars (9/2017)	No change
PI-5 Implement the Adopt-a-Road Program	Develop a strategy to promote the adopt-a-road program. Track road segments where volunteer roadside litter removal and clean-up is performed through participation in County Adopt-A-Road programs.	Continue to advertise and support the adopt-a-road program as interest exists.	Adopt-a-road program is promoted though a County webpage. Thirty-two groups are active in Multnomah County. Clean ups range from once a month to once a year depending on the group. Adopt a Road is a trash pickup, but additional eyes on the road for illegal dumping is a benefit to the Roads program, as well as increasing the stewardship ethic in the community.	No change
PI-6 Maintain Signage to Protect Water Quality	Determine whether any areas need to be marked or re-marked and provide staff and materials to carry this out. Maintain signs in right-of-way promoting watershed awareness, as requested by watershed councils.	Inspect drain markers and signage once per permit term at all catch basins and stream crossings in the permit area.	Drain marker inspection was completed during the catch basin cleaning in Fall 2012	No change
PI-7 Provide Opportunities for Public Involvement During the CIP Process	Involve the public in the process of updating the Capital Improvement Plan and Program (every two years) and in evaluating the stormwater quality impacts and issues associated with the program.	Ensure opportunities for public participation in the CIP update process through public meetings. Ensure that public comment period is established for permit renewal.	The Capital Improvement Plan and Program (CIPP) is reviewed annually and updated biennially to ensure that limited resources for projects are efficiently and equitably allocated to the most critical capital needs, including where equity can be improved, as well as to leverage County funds. The CIPP is readily available for review online where feedback can be submitted to the County. The County is currently updating the Plan (long range list) and the Program (5 year list) of needs. This process, which will be complete at the end of FY 2019, includes robust public outreach with two rounds of 3 open houses (east and west county), several presentations at seven neighborhood	No change

			associations and committees, stakeholder interviews, and online open houses. The update also includes an extensive data collection and inventory program to better understand the County's assets and ensure that critical projects are identified and added to the Capital Improvement Plan and Program. This project also expands the existing CIP to include signalized intersections, non-Willamette river bridges, rural road reconstruction, and other projects not previously included in the Road Capital Improvement Plan and Program.	
PI-8 Facilitate Public Reporting of Illicit Discharges	Determine where signs need to be posted regarding illegal dumping and place them.	Install and maintain signage in all known areas that are problematic in terms of dumping.	No activity in permit area.	No change

OM – Operations and Maintenance

Overall goal: *To implement operations and maintenance practices for public streets, bridges, storm sewers, and other facilities to reduce pollutants in discharges from the municipal separate storm sewer system.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
OM-1 Review the RMOM for Potential Updates to Address Water Quality	Review the Road Maintenance Operations Manual annually. When manual revisions are made, conduct refresher staff training as provided for under BMP PI-4.	Annually review of the RMOM to ensure current practices are incorporated respect to water quality.	Discussions with Asset management staff to add RMOM into Cartegraph asset management and work order system. New version of software will have expanded capability.	No change
OM-2 Inspect and Maintain the Storm Drainage System	Inspect the entire stormwater conveyance system on an annual basis. Utilize the record keeping system and database to record findings and follow-up work completed by field crews.	Establish criteria used to determine catch basin (CB) cleaning frequency to maintain effective pollutant removal by July 1, 2011. Clean all roadway catch basins (CB) a minimum of 2 times per year, unless catch basin cleaning records indicates less frequent or more frequent cleaning is appropriate.	Criteria for roadway CB and sweeping frequency were submitted to DEQ on June 22, 2011. The program uses Cartegraph software and iPads in the field. Catch basin fullness analysis using two years of cleaning showed that effective cleaning could be optimized with cleaning intervals between 1-3 times a year, depending on the catch basin type. Catch basin cleaning timing was challenging as a result of major emergency repairs. Parking lot CBs maintained by County Facilities were inspected and cleaned on annual basis by Road Maintenance.	Catch basin cleaning timing will be adjusted to avoid conflicts with other work.
OM-3 Conduct Street Sweeping	Track street sweeping efforts to record the sweeping frequency.	Use catch basin cleaning records or inspections to inform the necessary sweeping frequency. Establish criteria used to determine street sweeping frequencies to maintain effective pollutant removal, and identify high priority street sweeping areas by July 1, 2011	(See OM-2 and PM-3) Sweeping routes were driven approximately twice a month for County arterial roads. Sweeping routes and frequency is adjusted for heavy leaf areas in fall.	See OM-2
OM-4 Properly Dispose of Road Waste Material	Identify alternatives for a new decant facility to be used for the	Annually review disposal options that protect water quality.	Vactor waste and sweepings are disposed at a private transfer facility. Vactor liquid is field decanted into public sewer trunk with approval from Fairview.	No change

	dewatering of road wastes, or upgrades to the existing facility.		Ditching spoils from the urban area will continue to be disposed at a waste facility.	
OM-5 Minimize Impacts from Anti-icing Operations	Continue to follow the County RMOM procedures for the application, collection, and washing of sanding materials applied to roadways. Continue to research alternative anti-icing methods.	Conduct street sweeping to recover sanding materials within two weeks after the Road Maintenance Manager determines that the roads are free from the threat of an ice or snow event.	Sanding materials were used very sparingly on steep hills and freeway ramps during ten freezing events in FY18 and were removed within two weeks after the threat of ice was gone. 576 tons of sanding material was used, and 2400 gal of MgCl was applied during the winter. The effectiveness of MgCl has come into question with the storms from 2015-2016	We are following new studies by ODOT on the use of conventional road salt (NaCl). Portland has also included NaCl into their plan with monitoring.
OM-6 Minimize Impacts from County Truck Hauling Practices	Follow the RMOM procedures for conducting equipment checks when hauling materials.	See OM-1	No activity in permit area.	See OM-1
OM-7 Minimize Impacts From Right-of-Way and Road Shoulder Maintenance	Conduct maintenance according to RMOM	See OM-1	No activity in permit area.	See OM-1
OM-8 Minimize Impacts from Ditch Maintenance	Conduct maintenance according to RMOM	See OM-1	No activity in permit area.	See OM-1
OM-9 Maintain County-owned stormwater facilities	Inventory facilities by January 1, 2013	Annual inspection of treatment facility	Road Maintenance contracted Bravo Environmental to inpsect Contech Stormfilters in two vaults. The vaults were visually inspected in FY18. Stormfilters on County bridges were inspected and replaced in FY18. Vegetated facilities were maintained by Road Maintenance staff and the inmate work crew labor. County Facilities maintains several Vortex units which were cleaned.	No change

ILL – Illicit Discharge

Overall goal: *To prevent, identify, investigate, and if appropriate, control/eliminate any non-stormwater discharges into the municipal separate storm sewer system.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
ILL-1 Implement the Spill Response Program	Continue to follow and implement the Multnomah County Spill Response Plan. Track and record spills and information regarding spills as they occur.	Conduct spill response procedures when spills are reported.	County crews inspect the Spill Response Truck monthly to ensure proper spill control materials are stocked. Spill response was initiated on one event (10/20/17): A diesel spill near the Marine Drive and NE 223rd. Five 50-gal drums were dumped alongside the road. NRC proceeded to clean up after Troutdale police notified Troutdale Public Works and the County. NRC contacted OERS.	No change
ILL-2 Address Spills from Private Truck Haulers	Report to the appropriate agency of the private truck hauling practices impacting the County right-of-way and the stormwater conveyance system.	Contact all private haulers when spills are observed to ensure proper clean up	See incident response from spills above.	No change
ILL-3 Require Erosion and Pollution Controls for Public Projects (formerly ILL-4 and ILL-5)	Execute formal contracting practices including pre-construction meetings, bonding, construction permit review, and erosion control inspections.	Inspect 100% of County project sites	FY 18 projects were all inspected for proper erosion control: • Sandy Blvd, Ararta Rd, Military Rd, Woodard Rd, and Discovery Block projects all had erosion control inspection during construction.	No change
ILL-4 Investigate Illegal Dumping	Continue to implement the existing field inspection program during routine maintenance activities. Record and report any noticeable illegal discharge and dumping in the right-of-way.	Clean up all reported discharge or debris dumped in the right-of-way	No threats to water quality were reported from illegal dumping activity in the permit area.	No change
ILL-5 Detect and Eliminate Illicit Discharges to the Storm Sewer	Continue to maintain the bridge restroom facility holding tanks quarterly. Document enforcement response plan for illicit discharges by November 1, 2011 Develop pollutant parameter actions levels and identify priority outfall locations by July 1, 2012.	Conduct quarterly maintenance of bridge facilities. Conduct tasks by date above, and annual inspection of dry weather flows at major outfalls.	Bridge facilities maintained quarterly without incident. Dry weather outfall inspection of four outfalls occurred in August 2017. No visible signs or other indications of illicit discharge were observed.	No change

ND – New Development

Overall goal: *New Development Standards (ND) BMPs are designed to mitigate pollutant discharges and other water quality impacts associated with new development and redevelopment during and after construction.*

BMP Description	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
ND-1 Require Erosion Control for Private Development	Review and provide comments on applications for grading permits and hillside development permits. Perform Erosion and Sediment Control Inspections for all approved construction projects.	Inspect 100% of sites once during the permit review, and a second time during active construction.	No activity in Interlachen area during permit year.	No change
ND-2 Regulate Stormwater Discharge	Continue to review new development permit applications to ensure proper connection to the storm sewer system and application of design standards. Inspect stormwater facilities during and after construction to ensure that the site is compliant with design standards.	Conduct plan reviews and inspections for 100% of permitted projects.	No activity in Interlachen area during permit year.	No change

STR – Structural Controls

Overall goal: *To implement structural modifications (constructed facilities) to existing systems/development to reduce pollutants in discharges from the municipal separate storm sewer system.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
STR-1 Address Water Quality with New Capital or Roadway Improvement Projects	Develop criteria and strategy for when stormwater treatment will be incorporated into public projects. Conduct plan checks of stormwater quality treatment facilities that are included in capital improvement or roadway improvement projects to assure they follow standard design criteria that include stormwater quality considerations, and that the appropriate facility is selected for the intended purpose.	Identify strategy or criteria used to determine when stormwater quality treatment will be incorporated into Capital Improvement Projects by November 1, 2013.	The County submitted criteria for when stormwater treatment is incorporated into public projects to DEQ in 2013. Phase II of the Wood Village Blvd project is incorporated into the Arata Rd capital project. Stormwater treatment for existing impervious area on Arata Rd will include bioretention areas. Off-site stormwater treatment will be constructed for Sandy Blvd project: upgrade stormfilter vault on 223rd ave. SE 238th Drive will incorporate stormwater swales in the design.	No change
STR-2 Retrofit Existing Facilities for Water Quality Benefit	Include consideration of stormwater treatment for water quality purposes in capital projects to reduce pollutants to the maximum extent practicable. Conduct a hydromodification assessment and develop a strategy to identify and prioritize potential retrofit projects by November 1, 2014.	Identify one retrofit project by November 1, 2013. Develop hydromodification and retrofit strategy by November 1, 2014.	Halsey St project was completed in 2016. Hydromodification Assessment and Stormwater Retrofit Strategy was submitted to DEQ on November 1, 2014.	No change
STR-3 Inventory and Map the County Storm Sewer System	Continue to update the County GIS storm sewer system map.	Complete GIS drainage system maps of the NPDES permit area by 2014, including catch basins, culverts, manholes, ditches and pipes systems.	Since 2015, the County has coordinated and maintained an online stormwater map with the cities of Troutdale, Gresham, Wood Village and Fairview.	No change

NS – Natural Systems

Overall goal: *to help preserve and restore the natural environment/functions to reduce pollutants in discharges from the municipal separate storm sewer system.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
NS-1 Conduct Vegetation Management Activities	Follow RMOM and IVM procedures. Maintain current Oregon Department of Agriculture (ODA) certifications for chemical applicators. Review and update integrated vegetation management practices (IVM) annually.	Review RMOM vegetation activities and the Integrated Vegetation Management Program (IVM) annually.	The County has partnered with the Portland Water Bureau (PWB) to test a new BMP to use grass seed mix and broadleaf herbicide in the area adjacent to the road edge on roads adjacent to the Bull Run watershed. This study will ultimately reduce the spread of shiny geranium and help reduce herbicide use. This has implications for other areas in the County.	The grass seeding study will take a couple years to see full results. The County will mow, and the PWB will monitor.
NS-2 Specify Native Vegetation in ROW and Permitted Projects	Review the current contract specifications for landscaping in the right-of-way, and update as needed. Promote the use of native vegetation and develop contract specifications for landscaping. Condition plan approvals with invasive plants removal, if needed. Ensure contract specifications are followed which require certain landscaping materials and placement.	Inspect 100% of project sites for landscaping specifications.	No activity in the permit area	No change

PM – Program Management

Overall goal: *Program Management BMPs ensure effective program management, coordination, and reporting.*

BMP	*Tasks*	*Measurable Goal*	*Status*	*Adaptive Management*
PM-1 Stormwater Program Management	Continue to participate in the NPDES MS4 coordination meetings and any DEQ meetings. Continue to work with other NPDES MS4 permittees and DEQ to implement the stormwater management program. Review each BMP file annually. Prepare an annual report to demonstrate the County's compliance with requirements. Submit to DEQ.	Annually review BMP implementation data and submit annual report by November 1 each year.	Annual report submitted to DEQ.	No change
PM-2 Assess and Evaluate the Stormwater BMP Program	Evaluate progress of BMPs for annual report using adaptive management approach.	Develop an adaptive management approach by November 1, 2011.	The adaptive management approach was discussed mainly in the context of our catch basin and sweeping efficiency program.	No change
PM-3 Maintain Environmental Management Database	Pilot new GPS and onboard computer technology by July 2011. Develop GIS or other mapping technology to sync with GPS system by July 2012. Develop SAP work orders and tracking to integrate with GIS by July 2013.	Ensure tasks are completed by dates shown.	Work orders for Road Maintenance are captured in Cartegraph operations management system. Cartegraph uses GIS to capture catch basin cleaning and sweeping data.	No change

4. Stormwater Management Program Budget

Program activity within the County's NPDES permit area is divided between areas that were previously managed under the Portland area and Gresham area NDPES permits. The Water Quality program, consisting of one staff manages the County stormwater program, and portions of two Asset Management staff provide mapping and database services across the entire permit area. Services specific to the two areas are described below.

Gresham area stormwater related services:

- Road Maintenance expenditures and anticipated budget allocations within the Fairview and Interlachen incorporate items including drainage maintenance, right-of-way, surface management, vegetation management, general administration, emergency road hazard response and training.

- Road Engineering expenditures and anticipated budget allocations within Fairview and Interlachen incorporate drainage studies and reviews, environmental compliance review, as-built plan drafting and inventory, GIS database entry, and training.

- Land Use and Transportation Planning expenditures and anticipated budget for design review of capital improvements and right-of-way impacts to the County roads in Fairview, Troutdale, and Wood Village, and for design review and permits for development within the Interlachen Area.

Portland area stormwater related services:

- Bridge Maintenance expenditures and anticipated budget allocations within the Portland Permit area incorporate items including, drainage maintenance, right-of-way, surface management, vegetation management, general administration, emergency road hazard response and training.

- Bridge Engineering expenditures and anticipated budget allocations within the Portland Permit area incorporate drainage studies and reviews, environmental compliance review, as-built plan drafting and inventory, GIS database entry, and training.

- Multnomah County Road Maintenance, contracts the City of Portland and Clean Water Services to maintain and operate County owned roads to their respective standards in the urban unincorporated pocket areas through Intergovernmental Agreements.

- Road Engineering continues to retain authority to review access and impacts to the right-of-way including stormwater discharge when such discharges cannot be retained on site.

- Transportation Planning within the Portland Permit area includes development review in the unincorporated pockets where such development has the potential to access or impact the county right-of-way.

Funding for stormwater program expenditures are derived from two sources. The Land Use Planning receives funding from County's General Fund. The Transportation Division (Road and Bridge Services and

Transportation Planning) receive funding from the State Highway Trust Fund, which includes the State gasoline tax, weight/mile tax on trucks, and vehicle registration fees. Highway Trust Funds are constitutionally dedicated to road related issues. The County has no revenue from dedicated stormwater fees. This is a result of the County roads and unincorporated pockets being nested within other city jurisdiction's service areas.

The table below outlines program expenditures for Fiscal Year 2018 and provides the anticipated budget for Fiscal Year 2019.

Program Area	*FY 2018 actual*	*FY 2019 budget*
Water Quality Program[1]	$18,007	$267,946
Asset Management[2]	$11,970	$11,970
Gresham area		
• Road Maintenance[3]	$120,898	$120,900
• Road Engineering[3]	$31,432	$34,632
Portland Area		
• Bridge Maintenance/Operations	$18,327	$19,588
• Bridge Engineering[4]	$12,191,681	$11,229,441
• Road Maintenance IGA	$0[5]	$100,000
• Road Engineering[6]	$12,565	$16,072

[1]*Figure includes entire Water Quality program includes one staff, monitoring budget for UIC, TMDL and NPDES programs, and additional program costs. Decrease from previous year is the result of the hire of a limited duration GIS technician for stormwater mapping.*
[2]*Estimate is based on a portion of time from two Asset Management staff.*
[3]*Budget estimate is based on actual spending from the previous year for time spent on water quality work plus a budget for training.*
[4] *The amount shown represents the entire Bridge Engineering program. The entire program is included because Bridge Services do not budget or collect charges for water quality tasks. Water quality best practices are integral in all aspects of design and construction and hence we are not able to be segregated from the other work. Increase in budget reflects Sellwood Bridge funding.*
[5]*Portland Road Maintenance IGA funds were used for non-water quality related maintenance, thus not reported here.*
[6]*Estimate of the amount of time spent on water quality issues in Portland area right-of-way.*

5. Monitoring Summary

Environmental monitoring for the NPDES MS4 Phase I permit includes instream monitoring, macroinvertebrate monitoring, stormwater sampling for mercury, and pesticide monitoring. This summary describes the instream and macroinvertebrate monitoring. In previous permit terms, the mercury monitoring was completed. Pesticide monitoring is slated to be done in conjunction with the County's underground injection control (UIC) Water Pollution Control Facility (WPCF) permit requirements. The County received the UIC WPCF permit in March 2014, and stormwater sampling began in fall of 2014.

Instream Data

Instream monitoring is required at two sites in the permit area for a range of pollutant parameters shown in the table below. Monitoring is coordinated with the City of Gresham; the County maintains an intergovernmental agreement with Gresham to contract monitoring services, including monitoring scope, and sampling methods. Fairview Creek and Beaver Creek are the two priority watersheds in the Gresham area. Fairview Creek results are summarized in the Gresham NPDES Annual Report.

Monitoring location	*Sampling frequency*	*Parameters*
Lower Beaver Creek (BCI1) Upper Beaver Creek (BCI2)	4 events/year	Biological Oxygen Demand (BOD5) Total suspended sediment (TSS) Hardness Temperature Dissolved Oxygen (DO) Conductivity pH Nitrate (NO3) Ammonia nitrogen (NH3-N) Total phosphorus (TP) Ortho-phosphorus (O-PO4) Copper, total and dissolved Lead, total and dissolved Zinc, total and dissolved E.coli bacteria
Lower Beaver Creek (BCI1) Upper Beaver Creek (BCI2)	1 event/year	Macroinvertebrate

Two sites in Beaver Creek are monitored by the County, one site at the boundary of the urban and agricultural land uses, and one near the mouth of the stream, where the stream joins the Sandy River. Instream monitoring results are generally within expected ranges, with exceedances in temperature and E.coli. Macroinvertebrate scores are low, which is consistent with previous sampling results.

Sample ID	Site ID	Date	Time	24-hr rainfall	Field DO	Field pH	Field Temp	Conductivity	Turbidity	BOD5	DOC	TSS	NH3-N	Chloro-phyll-a	NO3-N	O-PO4
W17G185-10	BCI1	7/25/2017	13:20	0.00	5.03	6.99	21.4	204.8	1.72	**2**	1.89	3	**20**	**2**	1600	75
W17J225-10	BCI1	10/30/2017	13:13	0.00	8.58	7.09	10.7	121.2	4.38	**2**	2.86	**3**	**20**	**2**	3000	44
W18A243-10	BCI1	1/30/2018	12:07	0.58	6.21	7.14	8.7	47.7	48.3	**2**	1.99	23	20		2200	20
W18D217-10	BCI1	4/24/2018	13:16	0.00	7.25	7.55	13.8	71.1	5.13	**2**	2.28	3	**20**		1500	28
W17G185-11	BCI2	7/25/2017	11:15	0.00	5.67	6.6	17.8	131.2	4.67	**2**	4.7	8	70	**2**	670	52
W17J225-11	BCI2	10/30/2017	11:45	0.00	8.04	6.73	9.3	88.8	6.5	**2**	4.18	**3**	59	**2**	3900	34
W18A243-11	BCI2	1/30/2018	10:54	0.58	6.46	6.95	8.2	45.8	56.2	**2**	1.57	27	24		2900	**20**
W18D217-11	BCI2	4/24/2018	11:54	0.00	10.13	7.3	12.3	45.8	6.92	**2**	1.9	4	**20**		2100	**20**

Sample ID	Site ID	Date	Time	24-hr rainfall	TKN	Total-P	Hardness	Hg-Total	Cu-Total	Pb-Total	Zn-Total	Cu-Diss	Pb-Diss	Zn-Diss	E. coli
W17G185-10	BCI1	7/25/2017	13:20	0.00	210	64	81.7	0.00242	1.35	0.321	6.9	0.661	**0.102**	0.966	20
W17J225-10	BCI1	10/30/2017	13:13	0.00	380	40	59.8	0.00116	9.41	**0.1**	3.8	8.76	**0.102**	3.41	**10**
W18A243-10	BCI1	1/30/2018	12:07	0.58	340	104	31.3	0.00465	2.12	0.711	13.2	1	**0.102**	4.21	84
W18D217-10	BCI1	4/24/2018	13:16	0.00	320	35	43.7	0.00111	1.01	0.2	4.1	0.733	**0.105**	1.8	10
W17G185-11	BCI2	7/25/2017	11:15	0.00	530	85	51.2	0.00199	2.02	0.1	1.4	1.71	**0.102**	1.28	84
W17J225-11	BCI2	10/30/2017	11:45	0.00	740	37	41.8	0.00170	21.3	**0.1**	5.2	20.3	**0.102**	4.66	85
W18A243-11	BCI2	1/30/2018	10:54	0.58	450	96	28	0.00461	2.11	0.739	7.1	0.798	**0.102**	1.3	97
W18D217-11	BCI2	4/24/2018	11:54	0.00	330	37	26.8	0.00213	1.08	0.2	4.3	0.684	**0.105**	0.875	130

Macroinvertebrate Site	B-IBI score
BCI1	20
BCI2	12

*Bold indicates values below detection limits
*Shaded cells indicate values above water quality standards

Pesticide monitoring data

Pesticide data was collected through the County's Underground Injection Control (UIC) Program, as described in the letter to DEQ, April 25, 2011. Details of the pesticide selection process are found in the County's UIC Monitoring Plan (2014), which can be downloaded from the County's Water Quality Program website (https://multco.us/water-quality-program/reports-and-plans).

The objective of this pesticide sampling is to fill data gaps about pesticides that may be commonly used along County's urban roadways and at County facilities. 179 different pesticides were screened using two methods to provide a baseline of pesticide information: Multi-residue Pesticide Screen (EPA 8141, 8270D, 8081B, 8321B) and the Chlorinated Acid Herbicide Profile (EPA 8151). Data were collected from two UICs and three facilities.

Pesticide detections are given below. For lab reports, contact Multnomah County Water Quality Program at waterquality@multco.us.

Sample date	*Analyte*	*Result*	*QL*	*Unit*	*Method*	*Site*
2/28/2018	Diphenylamine	0.062	0.06	ug/L	Modified EPA 8270D	SW Cherry Park
2/28/2018	2,4-D	0.26	0.08	ug/L	Modified EPA 8151A	SW 257th Ave
11/15/2017	2,4-D	0.32	0.08	ug/L	Modified EPA 8151A	SW Cherry Park
11/15/2017	Triclopyr	0.19	0.08	ug/L	Modified EPA 8151A	SW Cherry Park
11/15/2017	2,4-D	0.025	0.08	ug/L	Modified EPA 8151A	SW 257th Ave

APPENDIX A. Regional Coalition for Clean Rivers and Streams Annual Report 2018

Regional Coalition for Clean Rivers and Streams

Fiscal Year 2017-2018 Annual Report

September 28, 2018

Prepared by:

enviroissues

THE RIVER STARTS HERE

FY 2017-18 Overview

The Regional Coalition for Clean Rivers and Streams (Coalition) continued its work in FY 2017-18 – initiated in the mid-1990s – of delivering coordinated messages to target behaviors linked to stormwater pollution from residential sources. The Coalition used print and digital advertising, social media and direct outreach at community events to promote stormwater messaging. The Coalition also included continued participation in the Clean Rivers and Streams Forum to develop collaborative relationships among agencies within and beyond the Portland metropolitan region.

Coalition participants are based in the Portland metropolitan region and include:

- Clackamas County Water Environment Services on behalf of members of the Clackamas co-permittee group
    - Clackamas County Service District No. 1
    - City of Gladstone
    - City of Lake Oswego
    - City of Milwaukie
    - City of Oregon City
    - City of West Linn
    - City of Wilsonville
    - Oak Lodge Sanitary District
    - Surface Water Management Agency of Clackamas County
- Clean Water Services (serving cities and other urban areas in Washington County)
- Multnomah County
- City of Gresham

This report covers July 1, 2017 - June 30, 2018. Supporting materials are included in an appendix.

Background

As identified in the 2013 Strategic Plan, the mission of the Coalition is to collaborate across the Portland metropolitan region to improve watershed health by changing household behaviors, curbing polluted runoff and better connecting people with the environments in which they live and play. Coalition members leverage their collective resources to conduct community outreach. Coalition activities complement individual agency efforts to raise awareness of stormwater runoff and affect behavior change to prevent pollution and protect regional surface water quality. Coalition activities support commitments relative to state permits under the federal Clean Water Act (administered by the Oregon Department of Environmental Quality), including Total Maximum Daily Load and Municipal Separated Storm Sewer System (MS4) programs, as well as compliance with the federal Endangered Species Act.

Participants in the Coalition have diverse roles in conducting stormwater education and outreach. Clean Water Services, City of Gresham and Clackamas County Water Environment Services each have developed specific outreach programs for their jurisdictions. The Clackamas co-permittee group has used the creative materials developed by the Coalition to varying degrees. Multnomah County has permit requirements related to its roads and bridges.

The most recent cost sharing agreement among Coalition members was executed in December 2016. As of July 2017, Coalition members will develop a scope of work and cost sharing agreement and work under the Managing Oregon Resources Efficiently Intergovernmental Agreement (MORE-IGA) for FY 2017-18 activities.

REGIONAL AUDIENCE

The Coalition targets behaviors from residential sources linked to stormwater pollution prevention. Information and messages used by the Coalition are intended to reach those making purchasing and management decisions about yard care, pets and auto maintenance activities – some of the most likely sources of stormwater pollution from residents. Coalition activities address a range of surface water contaminants, including nutrients and toxics from fast-releasing synthetic fertilizers and chemical pesticides applied to yards and lawns, nutrient loads from car washing soaps, metals and other toxics from vehicle maintenance (and unmaintained vehicles), *E. coli* from pet waste, turbidity from eroded soils and other contaminants from illicit discharges.

KEY MESSAGES

The Coalition's key messages focus on raising awareness about pollution from stormwater runoff and motivating actions to protect surface water quality through action at the household level. The key messages are:

- Stormwater runoff is now our number one source of water pollution. When it rains, pollutants from your home, car, and garden wash into our rivers and streams.
- Bacteria from uncollected dog waste washes into our rivers and streams. You can protect our water by picking up after your pets.
- Yard and garden products wash into our rivers and streams. You can protect our water by using compost and slow-release fertilizer.
- Motor oil, solvents and soaps wash into our rivers and streams. You can protect our water by keeping car-care chemicals out of storm drains.

FY 2017-18 ACTIVITIES AND RESULTS

Activities during the reporting period focused on continuing to implement the Coalition's existing strategic plan with messaging and outreach using *The River Starts Here* marketing slogan.

STRATEGIC PLAN IMPLEMENTATION

The Coalition acted on strategic plan goals as summarized below:

Goal 1: Maintain a functioning Coalition

The Coalition maintained the approach and activities conducted in previous years of social media posts, advertising and community events. The Coalition meets several times a year for coordination and

collaboration. The Coalition continued efforts to expand its membership to increase the impact of its public education campaign.

Goal 2: Develop and adapt creative products to fulfill the Coalition's mission

The Coalition continued to use collateral materials developed with *The River Starts Here* creative concept through newspaper and web advertising. Coalition representatives also continued to use temporary tattoos and branded T-shirts and banners to help promote clean water messages at individual outreach events held throughout the year. Clackamas Water Environment Services continues to provide a raindrop costume/prop inspired by *The River Starts Here* logo which is used to bring awareness in a light-hearted way at community events.

Figure 1: Raindrop costume at The Big Float 2017 photobooth

Goal 3: Practice adaptive management

The Coalition is committed to leveraging available resources to maximize impact while setting the stage for future collaboration among agencies. The Coalition continues to conduct interactive outreach at community events and uses social media to broaden the Coalition's reach and determine any changes in messaging.

Messaging and Outreach

Advertising

Backyard Habitat Certification event boosted post

The Coalition boosted a post promoting an upcoming event hosted by the City of Gresham. The event showcased backyard habitats for pollinators with a focus on native plants.

The boosted post targeted men and women who are at least 30 years old, live in Gresham and are identified by Facebook as having two interests related to the event.

Metrics summary	
Cost	$13
Reach	1,018
CPM*	$12.77
Engagements	108
Link Clicks	12
CTR†	0.012%

Figure 2: The boosted post on Facebook

* CPM is cost per 1,000 impressions.
† CTR is click-through-rate.

Display ads in Pamplin Community Newspapers

Print ads were placed in Pamplin Community Newspapers in the Coalition area to promote The River Starts Here messaging. A summary of publications the print ads appeared in is shown in Table 3.

Table 1: Print advertisement placements by month

Pamplin Community Newspapers	Circulation	Readership
June 2017		
Forest Grove News-Times	5,000	12,000
Beaverton Valley Times	7,000	16,800
Hillsboro Tribune	10,000	24,000
July 2017		
Wilsonville Spokesman	3,500	8,400
Tigard/Tualatin Times	5,250	12,600
Clackamas Review	17,000	40,800
August 2017		
West Linn Tidings	3,900	9,360
Clackamas Review	17,000	40,800
September 2017		
Molalla Pioneer	3,500	8,400
Clackamas Review	17,000	40,800

Figure 3: Pamplin print ad

Digital ads on the Clackamas Reviews' website

A digital ad was placed on the Clackamas Review's website via Pamplin Media from June to September 2017 to promote The River Starts Here messaging.

Figure 4: Pamplin web ad

Campaign Summary

Overall, the 2017-18 campaign focused on reaching as many of the Coalition's defined regional audience as possible and promoting in-person events that allow high-quality, interactive outreach.

Table 2: 2017-18 Coalition digital and print ad placement and investment

Media	Outlet	Investment
Digital	Facebook	$13
Digital	Pamplin website	$1,180
Print	Pamplin newspapers	$3,180
	TOTAL	$4,373

Community Events and Agency Collaboration

Representatives of member agencies promoted Coalition messages throughout the fiscal year and produced collateral materials emphasizing *The River Starts Here* brand and messages to support community events.

Big Float 2017

Four members of the Coalition partnered with the Human Access Project to help put on The Big Float on July 15, 2017. Hundreds of participants attended the festivities.

The Coalition and the Human Access Project partnered to host a photobooth. "The River Starts Here" temporary tattoos and the water drop costume drove traffic to the photobooth. The Watershed Council held a table at the event as well.

The Coalition also partnered with Verde, an environmental justice nonprofit that serves low-income communities in Portland. Tickets for free admission was offered to Verde's network as part of the Coalition's clean water advocacy efforts.

Figure 5: The Big Float 2017

The City of Gresham, a Coalition member, developed a participant survey for the event and tabulated the results. The survey included demographic and geographic questions. The Coalition and its partners gathered this information to understand where Big Float participants live.

Clean Rivers and Streams Forum

The Clean River and Streams Forum was conceived as part of a series of workshops with goals to create a vision for a more geographically-broad (statewide) collaboration, create a formal organizational structure and operational model, and begin planning and developing creative campaigns across a larger geographic area.

The Clean Rivers Coalition hosted the FY 2016-17 Forums to create a statewide partnership for stormwater jurisdictions and water-related nonprofits in Oregon. Its mission is, "Building the bridge between clean water and healthy communities through education and engagement." The group's steering committee consists of representatives from the cities of Keizer, Gresham, Salem, and Eugene, along with Multnomah County, Marion County, the Oregon Environmental Council and Clean Water Services. Two Regional Coalition members are on this steering committee.

Clean River Forums were held in FY 2017-18. The forums were attended by 50 participants in the fall and 80 participants in the spring to discuss goals for a statewide outreach campaign and priority pollutants. The November forum provided more focused direction in developing a strategic plan for the statewide outreach campaign. The campaign will be designed to encourage people to take action to reduce water pollution.

The Clean Rivers Coalition developed, submitted and won a grant in 2017 from the Meyer Memorial Trust's Willamette River Initiative for a statewide outreach campaign for clean water. The $100,000, two-year grant is helping fund a strategic plan and develop a brand and campaign materials. The funds will be used in three phases:

- Grant Phase I: Strategic Plan Development, February 2018 – September 2018
- Grant Phase II: Branding and Outreach Campaign Development, September 2018 – May 2019
- Campaign Launch: June 2019

Additional community events

The River Starts Here messaging was also disseminated at the following community events during FY 2017-18:

- Clackamas County Water Education Team Teacher Workshop, Aug. 2017
- Clackamas Down the River Cleanup, Sept. 2017
- Discover Rock Creek, Nov. 2017
- Children's Clean Water Festival, March 2018
- Clackamas Celebrating Water, March 2018
- WES & SOLVE Summer Waterway Cleanups Kickoff, May 2018

Figure 6: Discover Rock Creek

WEBSITE: THERIVERSTARTSHERE.ORG

TheRiverStartsHere.org launched in June 2015. Web content includes an image slider with Coalition messages, links to member websites, the Coalition's latest posts on Facebook and Twitter, and additional web resources.

Total traffic on the website decreased substantially from the previous year which had a larger digital advertising effort. FY 2017-18's web traffic trends are most similar to those of FY 2015-16.

Top visitor locations include Portland, Oregon City, Vancouver and Hillsboro.

Web analytics show the website is of value to some visitors, but the high bounce rate suggests others did not find the information they expected. A little over 200 visits to the events indicates visitors are looking for event information.

Returning visitors accounted for about 10 percent of all visits during the fiscal year and spent about 45-seconds on the site, on average, compared to just 22 seconds for new visitors. Many website visitors return within two months.

Table 3: TheRiverStartsHere.org analytics overview

	2015-16	2016-17	2017-18
Total sessions	1,194	7,558	963
Bounce rate, all traffic	89%	92%	89%
Bounce rate, search (organic) traffic	87%	72%	79%
Time on site	35 seconds	20 seconds	27 seconds
Traffic type			
Direct	36%	78%	40%
Organic (search engine)	19%	3%	23%
Referral	45%	18%	37%
Sessions by device			
Mobile	16%	71%	19%
Tablet	9%	17%	6%
Desktop	74%	12%	75%

Figure 7: TheRiverStartsHere.org website graphic

SOCIAL MEDIA

The Coalition continued posting to its previously established social media channels. Social media messages build on existing conversations and connect with organizations around the region. The Coalition delivers its messages following its seasonal messaging calendar.

Facebook page, Clean Rivers and Streams

The Coalition continued increasing the number of Facebook posts. While slightly fewer people were reached in FY2017-18 than FY2016-17, the number of people who are engaged with the Coalition almost doubled as seen by the information on daily engaged users. This was likely caused by nearly doubling the number of posts compared to the previous fiscal year. A summary of Coalition Facebook account use is as follows:

Table 4: Facebook page overview

	2015-16	2016-17	2017-18
Reach	1,171	391,433	336,145
Daily engaged users	92	2,673	5,168
New likes	37	158	255
Posts	7	45	82

Lifetime total likes: **1,169**

Twitter (@riverstartshere)

The Coalition increased its Twitter posts compared to the previous fiscal year and increased the number of followers by 99. While the Coalition tweeted less, it retained a similar number of followers. A summary of use during the fiscal year is as follows:

Table 5: Twitter account overview

	2015-16	2016-17	2017-18
Followers	1,343	1,442	1,447
Following	1,325	1,544	1,704
Coalition tweets	11	54	9

FY 2017-18 BUDGET

Table 6: FY 2017-18 expenditures

	Services	Cost
Ads		
Pamplin Community News	Print and digital ad placements in local newspapers and news websites	$ 4,360.00
Facebook	Sponsored post promoting an event	$ 13.00
Subtotal		**$ 4,373.00**
Event sponsorships		
The Big Float	Sponsorship including event table, watershed council table and event admissions shared with community groups serving traditionally underserved communities	$ 12,653.00
Coordination support		
EnviroIssues	Annual report preparation, social media authoring	$ 2,974.00
	TOTAL	**$ 20,000.00**

OBSERVATIONS

The following observations are based on results of FY 2017-18 activities and suggest ways that the Coalition could adapt its outreach to continue reaching more people.

Statewide collaboration: The Coalition was deeply dedicated to the establishment and convening of the Clean Rivers Coalition, which was formed in the previous fiscal year. Therefore, the Regional Coalition for Clean Rivers and Streams maintained a small but strong outreach effort this fiscal year. The current Coalition members may consider consolidating strategy and messaging or working in tandem with this new group. In either case, accessing additional funding will allow for increased reach of clean water messages through new strategic opportunities.

Social media: The Coalition expanded its social media presence in FY 2016-17 compared to the previous year by placing more posts throughout the year and helping raise awareness of community events. There is opportunity to further maximize the impact of social media activity by creating and following a strategic approach that links Coalition messages with current events where appropriate; finesses the tone, taking a strategic approach to post timing, and content of posts; and links messages with partners and topics of public interest to encourage greater online interaction and organic reach.

Website: The Coalition website serves multiple purposes and audiences. For members of the public it shares messages promoting river-friendly actions. For potential funding partners it describes the Coalition's membership and mission. There is opportunity to reevaluate the purpose and approach to the Coalition's web presence to best meet the goals for both audiences.

Community events: The Coalition continued to expand its activities promoting and participating in community events. In the future, Coalition members may consider encouraging further individual use of

its messages and creative collateral by member agencies. There is also an opportunity to evaluate the Coalition's activities as a whole and identify which tactics were most effective at connecting with target audiences and continue to use standardized tracking metrics for future evaluation and decision-making.

Events were publicized via the website events page. Several partner and Coalition member events were promoted on the Coalition's Facebook events calendar for greater visibility.

Digital advertising: This year, the Coalition chose to pursue Pamplin newspaper and website ads, and a boosted post on Facebook. Strategically placed digital ads have a high return on investment in reach and impressions. These statistics can be tracked and reported, unlike print ads. Digital advertising as a whole is an effective tool to continue under a strategic approach.

CONCLUSION

Based on campaign results, important points to consider for the 2018-19 campaign can further optimize the Coalition's investment in outreach and advertising and increase measurable outcomes.

- Develop and follow a holistic, cross-platform campaign strategy that integrates multiple goals of promoting behavior change with Coalition messages, online engagement and community outreach events. Align existing and potentially new tools with this strategy and champion its maintenance.
- Further optimize advertising by focusing on low-cost digital advertising that also encourages engagement that can be tracked and reported through analytics.
- Evaluate and focus the Coalition's social media strategy to promote meaningful engagement with followers and relay key messages to the public.
- Take a strategic look at the website to best determine its purpose and identify its target audience.
- Consider creating a partner toolkit for easy Coalition member and third-party access to materials that promote the Coalition's key messages.
- Continue to collect standardized metrics at in-person outreach events to enable assessment, reporting and identification of the most successful tactics.

REGIONAL COALITION FOR CLEAN RIVERS AND STREAMS

FISCAL YEAR 2017-2018 ANNUAL REPORT
APPENDIX

SEPTEMBER 28, 2018

PREPARED BY:

enviroissues

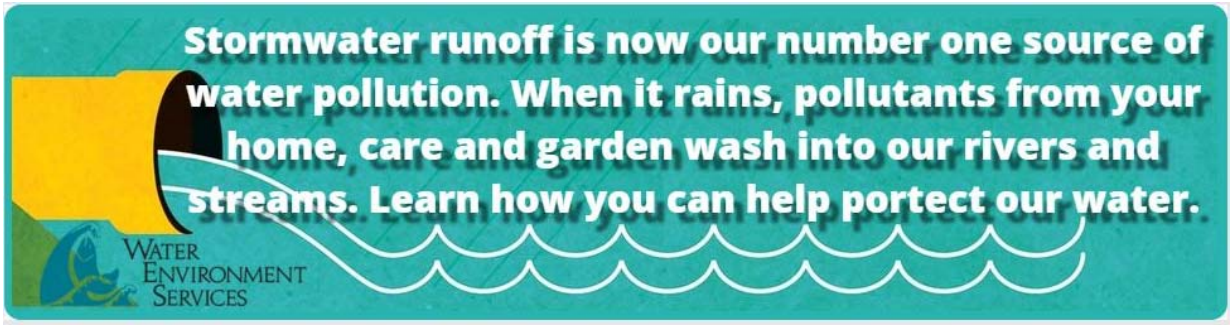
THE RIVER STARTS HERE

TABLE OF CONTENTS

ADVERTISING – FACEBOOK

ADVERTISING – PAMPLIN, PRINT

ADVERTISING – PAMPLIN, DIGITAL




Summer River Events
THE RIVER STARTS HERE
Tualatin River Discovery Day, June 24
Human Access Project: The Big Float, July 15
Clackamas Down the River Clean Up, Sept 10
Lower Sandy River Floating Clean Up, Sept 23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Summer River Events
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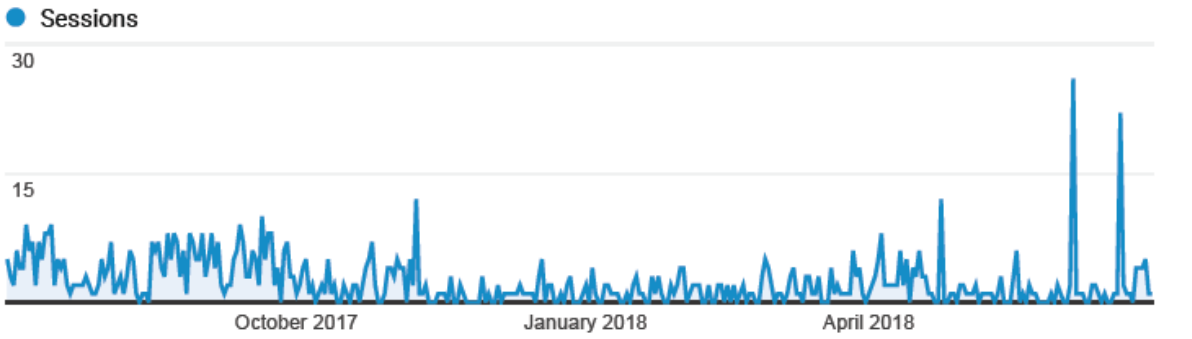
Lower Sandy River Floating Clean Up, Sept 23

TheRiverStartsHere.org Website Analytics

Visits



Sessions by City

City	Sessions
Portland	243
Clifton	49
Paris	40
(not set)	38
Beijing	35
Boston	31
Oregon City	31
Hillsboro	18
Vancouver	17
Gresham	16

Sessions by Device Category

Device Category	Sessions
desktop	629
mobile	188
tablet	51

Bounce Rate

RCCRS - Anti-Spam Filter

87.90%

Avg for View: **88.99%** (-1.22%)

Avg. Session Duration and Session...

Traffic Type	Avg. Session Duration	Sessions
organic	00:01:05	242
referral	00:00:24	261
direct	00:00:09	363

Avg. Page Load Time (sec)

RCCRS - Anti-Spam Filter

9.72

Avg for View: **9.72 (0.00%)**

Avg. Session Duration

RCCRS - Anti-Spam Filter

00:00:29

Avg for View: **00:00:27** (8.89%)

@RiverStartsHere Twitter Archive

20. **TheRiverStartsHere@RiverStartsHere** Jul 5

Visit **@Metro**'s guide to pesticide alternatives and learn how to identify and remove invasive species from your hard-earned garden. bit.ly/2tXfZUy

0 replies 0 retweets 0 likes

21. **TheRiverStartsHere@RiverStartsHere** Jul 3

#FourthofJuly Be safe, have fun, clean up! Fireworks have harmful chemicals that pollute our water! Sweep them up and don't let them into drains.

0 replies 0 retweets 1 like

22. **TheRiverStartsHere@RiverStartsHere** Jul 3

Gresham Open Garden visit and learn-FREE--certified as Backyard Habitat. Sunday July 8, 11am to 3pm. Register for the address. bit.ly/2tRBs0P

0 replies 0 retweets 0 likes

23. **TheRiverStartsHere@RiverStartsHere** Jun 28

A snowmelt slows, summer streams stagnate and mosquitos flourish. But what do you do? Build a bat box! Here are your weekend DIY plans from the **@NWF**:

0 replies 0 retweets 1 like

24. **TheRiverStartsHere@RiverStartsHere** Jun 22

No plans for the weekend? Say no more! Our friends at the Watershed Alliance of SW Washington are hosting a Beach Clean-Up at Frenchman's Bar tomorrow, 6/23. If you've never been to this beautiful regional park, take this opportunity. Register online:
emailmeform.com/builder/form/3 …

0 replies 0 retweets 1 like

25. **TheRiverStartsHere@RiverStartsHere** May 29

Treat water like it's the most precious resource in the world. We're all connected by water and made of water. **#TuesdayThoughts**

0 replies 0 retweets 1 like

26. **TheRiverStartsHere@RiverStartsHere** May 22

Columbia River is higher than usual, plan trips carefully to avoid I5 congestion from bridge lifts. **#TuesdayThoughts**

0 replies 0 retweets 1 like

27. **TheRiverStartsHere@RiverStartsHere** May 22

We recently attended the MHCC Sustainability & Fix It Fair. Fun Day! See you Next Year.

0 replies 0 retweets 1 like

28. **TheRiverStartsHere@RiverStartsHere** May 21

TheRiverStartsHere Retweeted Depave

You came out and conquered the pavement for salmon. Thank you! **#theriverstartshere**

TheRiverStartsHere added,

29. **You** Retweeted

StormSensor@stormsensorinc Apr 6

0 replies 3 retweets 8 likes

30. **You** Retweeted

Portland Parks & Rec@PDXParksandRec Apr 6

POSTPONED DUE TO WEATHER: The Whitaker Ponds Nature Park celebration and dedication has unfortunately been postponed due to the expected rain and heavy winds forecast for tomorrow (Saturday, April 7, 2018). A new date has yet to be determined, but we will let you know!

0 replies 2 retweets 2 likes

31. **TheRiverStartsHere@RiverStartsHere** 9 Aug 2017

TheRiverStartsHere Retweeted CRBC

The Down the River Clean Up on the Clackamas is less than a month away! Bring your craft and have a great time on 9/10 **#theriverstartshere**

TheRiverStartsHere added,

CRBC@ClackamasRiver

Remember to pack out what you pack in, and save the date for our 15th Annual Down the River Clean Up on 9/10/17! bit.ly/1nSijPW

0 replies 0 retweets 1 like

32. **TheRiverStartsHere@RiverStartsHere**, 4 Aug 2017

0 replies 0 retweets 2 likes

THE RIVER STARTS HERE FACEBOOK ARCHIVE

[Export begins on the next page.]