Multnomah County NPDES MS4 Phase I Permit
Stormwater Management Program

Annual Report 2021
Permit year 26

Submit to:
Oregon Department of Environmental Quality
November 2021

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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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 26 (Fiscal year 2021: July 1, 2020 – June 30, 2021).

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).

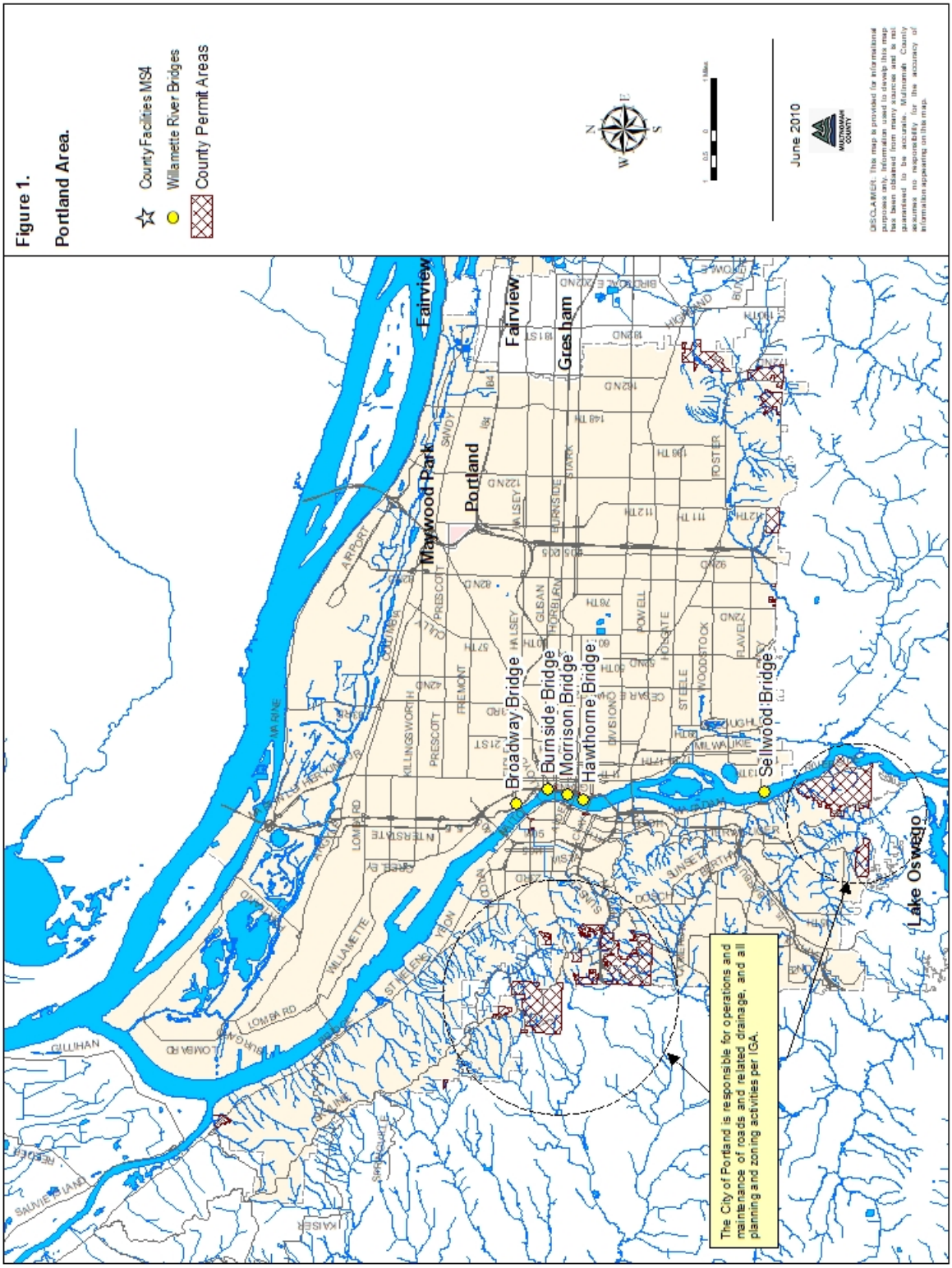
Figure 1.
Portland Area.
County Facilities MS4
Willamette River Bridges
County Permit Areas
June 2010
Fairview
Fairview
Gresham
Maywood Park
Portland
Broadway Bridge
Burnside Bridge
Morrison Bridge
Hawthorne Bridge
Sellwood Bridge
Lake Oswego
The City of Portland is responsible for operations and maintenance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

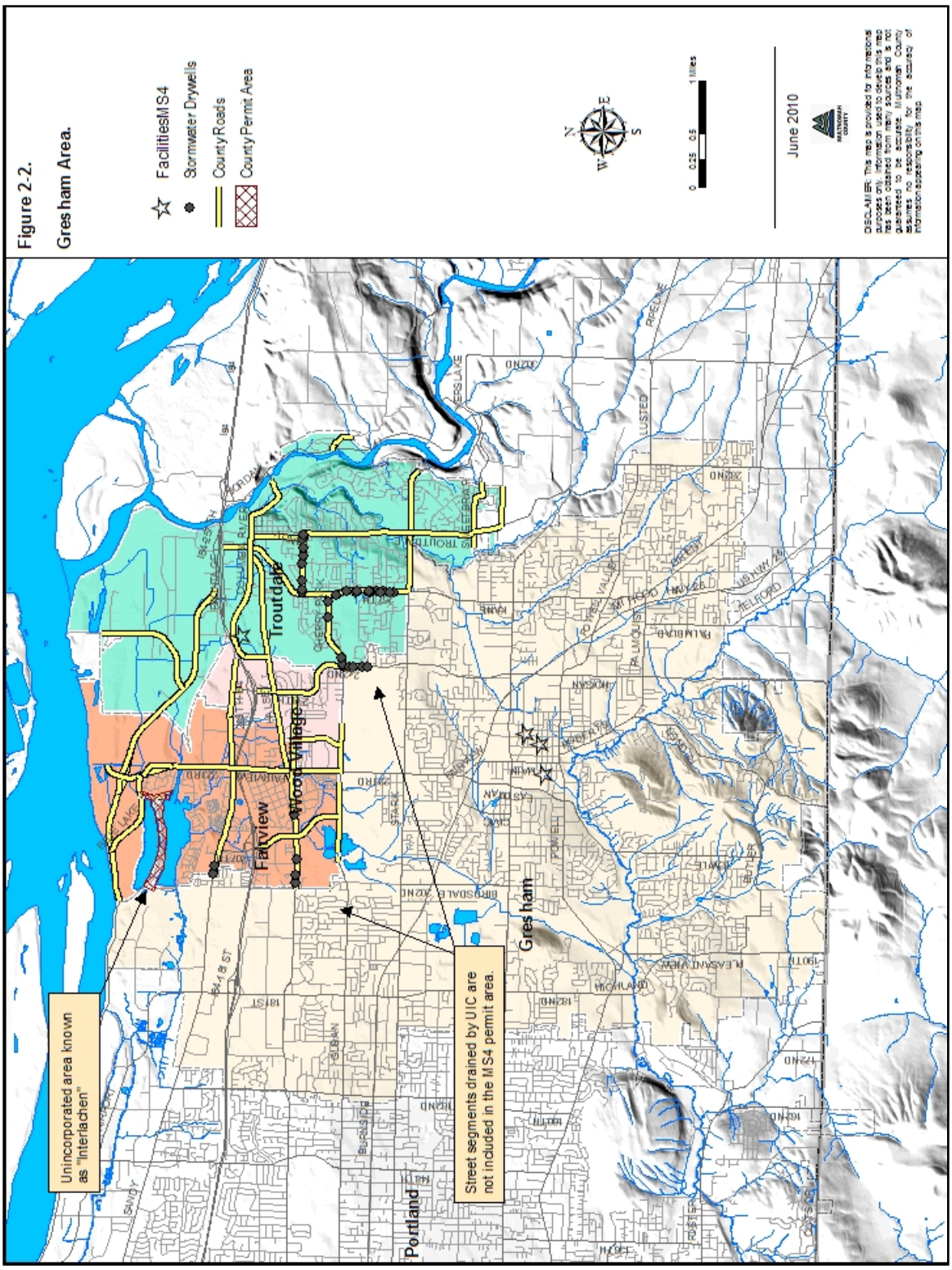
Figure 2-2.
Gresham Area.
FacilitiesMS4
Stormwater Drywells
CountyRoads
CountyPermitArea
June 2010
Troutdale
Fairview
Wood Village
Gresham
Portland
Unincorporated area known as "Interlachen"
Street segments drained by UIC are not included in the MS4 permit area.

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.

Mercury monitoring

The mercury monitoring requirement is part of a special study to further the development of the Mercury TMDL. Two full years of mercury monitoring were completed during 2011-2013, which fulfilled the mercury monitoring requirement as described in Table B-1 of the NPDES permit. The mercury monitoring data has contributed to the characterization of urban stormwater runoff, a stormwater monitoring program objective. DEQ is expected to review the monitoring data once all of the results from the MS4 permittees have been submitted.
The County submitted a permit modification request to eliminate the mercury monitoring after two years of data collection. The request was submitted to DEQ on November 1, 2013. Permit modification was granted on January 8, 2014.

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 2020-2021. 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. The CRC developed a strategic communications plan to develop a statewide clean water outreach platform and campaign in 2020. The CRC was awarded a $232,000 grant from the EPA Columbia River Basin grant in September 2020 to help implement the strategic communication plan.	DEQ is participating in the Clean Rivers Coalition effort along with 60 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 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.	The Land Use Planning counter where brochures are shared has been closed during Covid and the brochure count is not available at this time. As this is a passive BMP, and new work on social media through the Rivers Starts Here campaign supplements this outreach opportunity.	Because there are not stormwater specific brochures available, this BMP will likely be modified at permit renewal

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 (3/2021) Training of new Vactor and sweeper for new staff occurred throughout the permit year. Water Quality staff gave short 10 min presentations on water quality related topics each month at virtual All Staff meetings for the Transportation Division.	Staffing reductions due to Covid budget cuts present a new challenge for continued work, primarily for rural areas.
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 was rebuilt and currently awaiting legal approval. Twenty one 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.	
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. Since FY21, all drain markers are inspected at time of cleaning.	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. There was not CIP update in FY21.	No change
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 DUMPING sign orders were placed for Division St upstream of the NPDES permit area on Beaver Creek where household rubbish had been dumped on the right of way repeatedly in spring 2021	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 Road Maintenance integrate the environmental elements of the RMOM into a new standard operating procedure manual. Work is on hold during Covid-19	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 cleaning was completed according to existing cleaning frequency regimen. Parking lot CBs maintained by County Facilities were inspected and cleaned on annual basis by Road Maintenance and private contractor.	Analysis of cleaning data is ongoing.
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 are included in the Cartegraph work order system. Multnomah County Route 1 and 2 (NPDES area in Troutdale, Fairview and Wood Village 254 miles per year. District 1 and 2 (NPDES permit area adjacent to Portland) 72 miles per year. Spot sweeping and miscellaneous sweeping for spills accidents and turn pockets approximately 20 miles per year.	See OM-2
OM-4 Properly Dispose of Road Waste Material	Identify alternatives for a new decant facility to be used for the dewatering of road wastes, or upgrades to the existing facility.	Annually review disposal options that protect water quality.	Vactor waste and sweepings are disposed at a private transfer facility (PPV Inc). Vactor liquid is field decanted into public sewer trunk with approval from Fairview. Ditching spoils from the urban area will continue to be disposed at a waste facility.	No change

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 are used very sparingly on steep hills and freeway ramps during freezing events. In FY21, no MgCl deicer was used in the permit area.	No new updates on conventional road salt use from ODOT. Despite challenges of MgCl, it is still used conservatively when the need arises.
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	Two stormfilter vaults exist in the permit area. Update to the previous report, cartridges were replaced 10/2019. Inspections were pushed back to fall 2021, and no inspection occurred during the permit year Stormfilters on County bridges were inspected and replaced in FY20. Vegetated facilities were maintained by Road Maintenance staff. County Facilities maintains several Vortex units which were cleaned.	Covid restrictions limited or delayed activities. Reduced staffing also a factor.

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. No spills of significance during permit term.	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 21 projects were all inspected for proper erosion control: • Arata Rd • SE 238th	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	One illegal dump incident (8/19/20 SE Barbara Welch Rd) had liquids (automotive fluids). The containers were collected without issue.	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 2020. 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 permit year in Interlachen	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 permit year in Interlachen	

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. SE 238th Drive project incorporates stormwater swales and a bioretention pond in the design. Sandy Blvd project features off site UICs planned for FY23.	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. In 2018, data from the City of Portland, Port of Portland, and Multnomah County Drainage District were added to the map.	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 with the Portland Water Bureau (PWB) in 2019 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 to reduce overall pesticide use in the right of way. Challenges to attaining the density of fescue remains the largest hurdle. The study is ongoing.	Further pilot studies are planned for areas outside the NPDES permit area in Owner Maintained areas to reduce overall pesticide use.
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 2021 and provides the anticipated budget for Fiscal Year 2022.

Program Area	*FY 2021 actual*	*FY 2022 budget*
Water Quality Program[1]	$240,846	$246,666
Asset Management[2]	$8,998	$8,860
Gresham area		
• Road Maintenance[3]	$130,301	$130,000
• Road Engineering[3]	$40,436	$3,500
Portland Area		
• Bridge Maintenance/Operations	$12,984	$22,669
• Bridge Engineering[4]	$3,197,712	$26,203,496
• Road Maintenance IGA	$23,229[5]	$100,000
• Road Engineering[6]	$18,786	$17,320

[1]*Figure includes entire Water Quality program includes one staff, monitoring budget for UIC, TMDL and NPDES programs, and additional program costs.*
[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 used for non-water quality related maintenance are 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.

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.

Sample ID	Site ID	Date	Time	24-hr rain (in)	Field DO (mg/L)	Field pH	Field Temp (°C)	Conductivity (uS/cm)	Turbidity (ntu)	BOD5 (mg/L)	TSS (mg/L)	NH3-N (ug/L)	Chloro-phyll-a (mg/m3)	NO3-N (ug/L)	O-PO4 (ug/L)	TKN (ug/L)	Total-P (ug/L)	Hardness (mg CaCO3/L)
W19G165-1	BCI1	7/28/2020	12:40	0.00	6.72	7.85	21.4	213	4.8	**2**	**3**	24	**2**	1160	73	306	77	80.8
W19J255-1	BCI1	10/27/2020	12:22	0.00	NA	7.69	8	95.9	3.08	**2**	4	**20**	2.4	1420	66	**200**	68	73.6
W20A237-1	BCI1	1/25/2021	11:59	0.01	NA	7.72	6.1	86	NA	**2**	5	22		2230	22	**310**	66	36.1
W20D165-1	BCI1	4/27/2021	12:42	0.00	NA	8.13	13.3	81.2	3.17	**2**	**3**	**20**		2400	26	612	40	65.6
W19G165-1	BCI2	7/28/2020	11:25	0.00	5.87	7.49	18.8	154.7	11	**2**	6	60	19	100	51	670	151	53.7
W19J255-1	BCI2	10/27/2020	10:48	0.00	NA	7.51	3.6	69	4.89	**2**	**3**	21	**2**	2400	60	355	83	47.4
W20A237-1	BCI2	1/25/2021	11:33	0.01	NA	7.4	5.6	76	NA	**2**	3	29		3180	**20**	354	48	30.2
W20D165-1	BCI2	4/27/2021	11:30	0.00	NA	7.13	11.5	70.2	6.39	**2**	**3**	29		6610	32	1140	69	52.4

Sample ID	Site ID	Date	Time	Hg-Total (ug/L)	Cu-Total (µg/L)	Pb-Total (µg/L)	Zn-Total (µg/L)	Cu-Diss (µg/L)	Pb-Diss (µg/L)	Zn-Diss (µg/L)	E. coli (MPN/100ml)
W19G165-1	BCI1	7/28/2020	12:40	**0.00167**	0.991	**0.111**	3.2	0.803	**0.106**	2.14	20
W19J255-1	BCI1	10/27/2020	12:22	**0.00167**	1.18	**0.111**	4.4	0.778	**0.106**	2.96	31
W20A237-1	BCI1	1/25/2021	11:59	**0.003**	1.77	0.334	10.8	0.926	**0.106**	5.66	98
W20D165-1	BCI1	4/27/2021	12:42	**0.00167**	2.42	**0.111**	5.37	2	**0.106**	2.91	**10**
W19G165-1	BCI2	7/28/2020	11:25	0.00198	2.48	0.222	2.2	2	**0.106**	0.74	140
W19J255-1	BCI2	10/27/2020	10:48	**0.00167**	66.6	0.136	8.0	63.9	**0.106**	5.89	340
W20A237-1	BCI2	1/25/2021	11:33	**0.003**	1.57	**0.2**	2.56	0.728	**0.106**	1.5	31
W20D165-1	BCI2	4/27/2021	11:30	**0.00167**	3.54	**0.111**	3.8	3.26	**0.106**	3.05	260

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

Macroinvertebrate Site	PREDATOR score (Obs/Exp)
BCI1	0.49
BCI2	0.39

APPENDIX A. Regional Coalition for Clean Rivers and Streams Annual Report 2021

Regional Coalition for Clean Rivers and Streams

Fiscal Year 2020-2021 Annual Report

September 20, 2021

Prepared by:

enviroissues

THE RIVER STARTS HERE

FY 2020-21 Overview

The Regional Coalition for Clean Rivers and Streams (Coalition) continued its work – initiated in the mid-1990s – of providing coordinated messaging about behaviors linked to stormwater pollution from residential sources across the Portland metropolitan region in Washington, Multnomah and Clackamas counties. According to 2020 Census data, Washington County has a population of 600,372. Multnomah County has a population of 815, 428 and the Clackamas County population is 421,401. The Coalition continues its brand recognition efforts by consistently using the previously developed *The River Starts Here* creative concept in its various materials. Other Coalition activities in the 2020-21 fiscal year included sponsoring and promoting the Coalition and its messages at community events.

Coalition participants include:

- Clackamas Water Environment Services
- Clean Water Services
- City of Gladstone
- City of Gresham
- City of Lake Oswego
- City of Milwaukie
- City of Oregon City
- City of Portland, Bureau of Environmental Services
- City of Troutdale
- City of West Linn
- City of Wilsonville
- Oak Lodge Water Services
- Multnomah County

This report covers July 1, 2020 - June 30, 2021.

Background

As identified in the 2013 Strategic Plan, the Coalition continues its mission of collaborating across the Portland metropolitan region to improve watershed health by changing household behaviors, reducing polluted runoff and connecting people with their local waterways. Coalition members leverage their collective resources to conduct outreach to communities across the region with common stormwater information and messages. 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 National Pollution Discharge Elimination System Municipal Separate Storm Sewer System (MS4) programs, as well as compliance with the federal Endangered Species Act.

Participants in the Coalition represent agencies that serve diverse population sizes from very small (Troutdale) to very large (Clean Water Services). As such the ability to run programs specific to their community is limited by funding and staffing. The Coalition represents an efficient, effective method to

combine stormwater outreach funds. Coalition members continue to provide funding for the collaborative work each fiscal year based on the size of the respective community. The group shares funds with Multnomah County acting as the fiscal agent to purchase associated consulting services, advertising, materials and event sponsorships. By sharing resources, the group reaches many thousands of people in the region compared to what entities can typically achieve on their own.

The Coalition focuses on changing 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 pesticides applied to yards and lawns, pollutant 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 eliminating these products or 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, diverting wash water onto your landscaping, and going to a car wash.

FY 2020-21 Activities and Results

Activities during the reporting period focused on continuing to implement the Coalition's strategic plan with messaging and outreach using *The River Starts Here* creative concept, developed in FY 2014-15. This concept was informed by the research summary about stormwater behavior (DHM Research, Feb. 2014) used by Coalition members in partial fulfillment of the FY 2014-2015 MS4 permit requirement to evaluate the effectiveness of permittee's education and outreach program.

Strategic Plan Implementation

A strategic plan, adopted in 2013, continued to guide Coalition efforts during the fiscal year. The Coalition acted on strategic plan goals as summarized below:

Goal 1: Maintain a functioning Coalition

Each year, Coalition members prepare an updated cost-sharing approach and budget, which was implemented in 2020-21. Members of the Coalition share their knowledge with the broader regulated communities in Oregon via the Association of Clean Water Agencies (ACWA). Members have presented

on prioritizing public behaviors to maximize pollutant reduction success and on a water pollutant risk assessment database at the past two spring ACWA conferences.

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 social media outreach and digital advertising, including messaging and news for the 2020 and 2021 Student Video Contests. Partners continued to message on individual social media channels as well as the Regional Coalition for Clean Rivers and Streams.

Goal 3: Practice adaptive management

The Coalition is committed to leveraging available resources to maximize impact while setting the stage for a future collaboration among agencies. Total member representation in the Coalition has increased in the past few years, bringing in more regional partners. During the 2020-2021 fiscal year, the Coalition relied more on ongoing social media outreach as most in-person outreach opportunities were cancelled or delayed due to the COVID-19 pandemic.

In spring 2020, the Coalition discussed the importance of acknowledging the intersectionality of the environmental and social justice movements. Independently, partner agencies had been in various stages of educating staff on the topics of diversity, equity and inclusion. Partners committed together to think about practices that could be implemented that would result in more inclusivity for historically marginalized and underserved populations. The partners agreed to broaden the content of their messages to include environmentally related social justice information, as well as to utilize its platform to amplify the voices of the Black, Indigenous, and People of Color (BIPOC) communities. Further, this resulted in the partners adding a specific category to the Student Video contest that recognized BIPOC filmmakers and ensure their voices are represented and heard.

Figure 1: Screenshot from Facebook post promoting donations for the Water for Warm Springs Fund.

The River Starts Here Messaging and Outreach

Community Events and Agency Collaboration

Representatives of member agencies promoted Coalition messages throughout the fiscal year using Facebook, Instagram, YouTube and Twitter. The Coalition continued to adapt to in-person event restrictions caused by COVID-19 by increasing social media posts and digital events. The primary focus of digital outreach was for the first and second annual Student Video Contests.

Student Video Contest

Students were honored at the fall 2020 Ecofilm Festival held at the Hollywood Theatre in Portland via a RSH sponsorship of the festival. The Ecofilm festival director launched a special day-of programming that focused solely on films made by young artists.

The contest videos were featured as part of the day's programming and the River Starts Here Partners created a segment interviewing the students about how they made their videos, got story ideas, etc., for the audience to virtually "meet and greet" the students after the show. As part of the sponsorship, the RSH social media links were included in the film festival e-newsletters that went out to 73,000 subscribers. The contest winners were also highlighted in social media posts from KPTV FOX 12 Oregon that reached 26,000 people.

2020 Student Video Contest Winners:

- **25-second Video Award:** Water Pollution From Cars by Ava Behunin, Art and Communication Magnet Academy, Beaverton
- **55-second Video Award:** Everyday Water Pollution Prevention by Liza Wadell and Serena Rothman, Lake Oswego High School, Lake Oswego
- **People's Choice Award:** Hazardous Materials and Recycling by Ekansh Gupta, ACCESS Academy, Portland

Figure 2: Screenshot from 2020 Student Video Contest winner in the 55-second video category

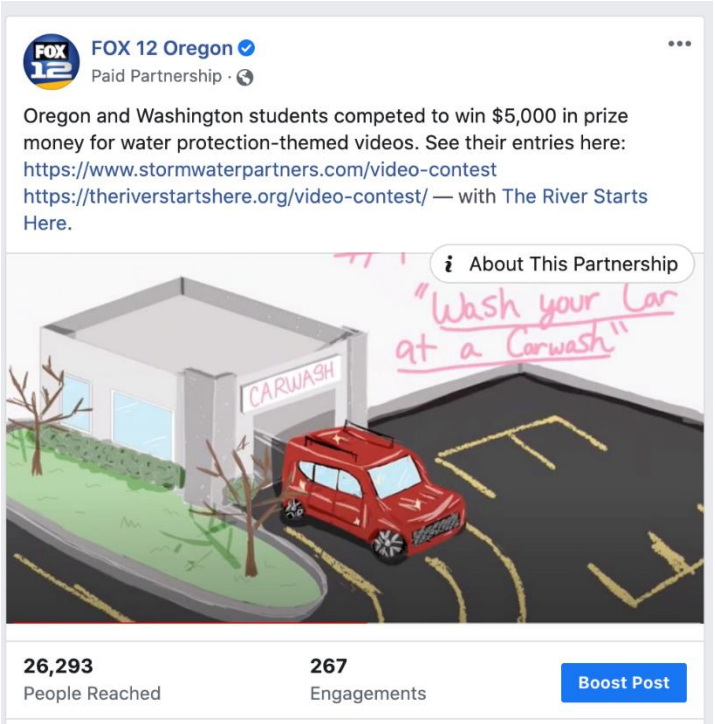

Figure 3: Screenshot of social media post by KPTV Fox 12 Oregon that reached 26,000 people.

Honorable Mentions:

- Stormwater Pollution Stop-motion by Charlie Johnson, Alliance Charter School, Oregon City
- Fishy by Jaden Winn, Wilson High School, Portland
- Walking with Trash by Charlie Abrams, Cleveland High School, Portland

Figure 4: Screenshot of 2020 Portland Ecofilm Festival Twitter posts

The second annual Student Video Contest was launched in Spring of 2021 with a deadline for video submission of June 6, 2021. 2021 Student Video Contest categories included people's choice, best BIPOC filmmaker, best community storytelling video and best clean water action in the following topics: Leave no Trace, Climate Change, Rivers are Also Drinking Water and Active Transportation. The team created factsheets to support student learning and video content accuracy on each topic.

The community storytelling topic area was new for 2021. The category was intended to highlight the work of community organizations – including watershed councils, Environmental Justice organizations, and environmental organizations – working for clean rivers and streams. Also new for 2021 was the best BIPOC filmmaker category. This prize category is intended to recognize the crucial perspectives and contributions of our Black, Indigenous, and People of Color (BIPOC) students in creating a more equitable and sustainable future. The Coalition also worked in fall and winter of 2020 to broaden the student video contest to include the Vancouver-Clark County area by sharing the model and materials with the SW Washington Stormwater Partners.

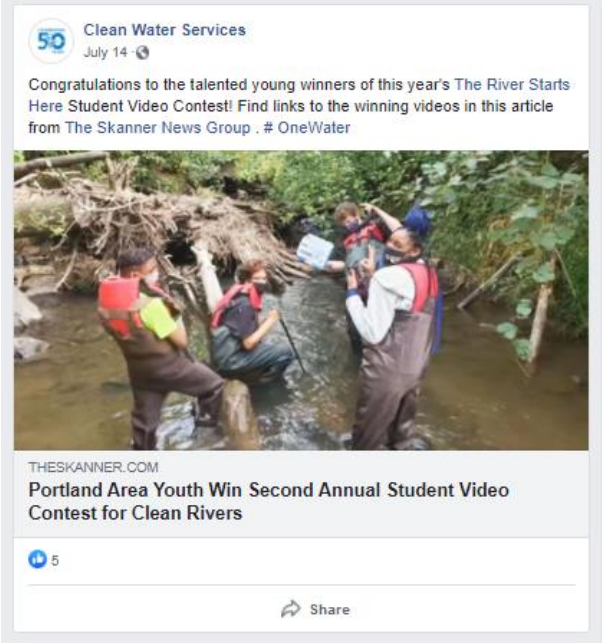

Figure 5: Screenshot of Clean Water Services Facebook post congratulating 2021 Student Video Contest winners

Changes to online learning in 2021 presented a challenge for spreading the word of the video contest. Overall, the Coalition received five entries in 2021, all entries were uploaded to the Coalition's YouTube site. Coalition partners such as Clean Water Services shared on their individual social media accounts and The Skanner picked up the press release announcing the winners. Over 1,754 community members watched student videos, which were viewed over 1,553 times. Viewers submitted over 254 likes and added hundreds of comments. Commenters shared their enthusiasm for these creative videos, and winners were announced in July 2021.

"Excellent video and program! Hoping this video inspires others across the globe as it has me; to help save our planet." – Anya Berube

"What a nice way to remind us of a way to easily make a difference. Good job!" – Anne MacDonald

2021 winners of the Student Video Contest will be reported in the 2021-2022 annual report.

WEBSITE: THERIVERSTARTSHERE.ORG

TheRiverStartsHere.org launched in June 2015 featuring *The River Starts Here* creative assets. It features

an image slider highlighting Coalition messages and includes links to member websites and additional web resources.

Summary website analytics for the fiscal year are shown below. Statistics in parenthesis are the difference between last year's and this year's data. Positive changes are shown in green, negative changes are shown in red, and inconsequential changes are shown in lavender. New data points are presented in black.

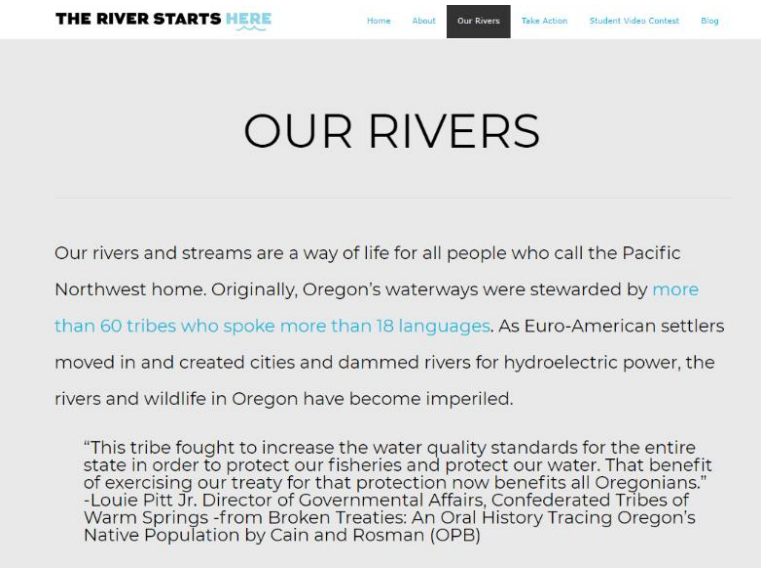

Figure 6: Screenshot from The River Starts Here website

Total sessions: 7,856 (▲214 %)

- **Users:** 5,855 (▲244%)
- **Traffic type**
  - Direct: 41% (▼21%)
  - Social: 20% (▼39%)
  - Organic (search engine): 25% (▲78%)
  - Referral: 13% (▲1200%)
- **Bounce rate:** 57% (▼25%)
- **Time on site:** 1:42 (▲2%)

During this fiscal year, web traffic has increased rapidly. In particular, total sessions and the number of users both increased by over 200%. This change is due in part to the hosting Student Video Contest content on the website.

The River Starts Here Blog

In May 2020, the Coalition began refreshing the website and added a blog. The blog created new opportunities for agency collaboration, event cross-promotion and driving traffic to partner resources.

During the fiscal year blog posts announced the winners of the 2020 Student Video contest and provided information on potential 2021 video topics. Blog posts also covered how to remove roof moss without harming rivers and streams, and announced the 2019-2020 annual report.

SOCIAL MEDIA

The Coalition continued posting to its social media channels with an increase in frequency compared to previous years. As in past years, the Coalition concentrated social media activity in spring and summer when residents have an increased interest in yard and garden activities relevant to surface water quality. Social media messages build on existing conversations and connect with organizations around the region. While spring and summer are also times for promoting events, this year presented a different challenge with the COVID-19 pandemic which resulted in no public events. The Coalition focused on promoting educational webinars and online events as opposed to in person events such as restorations and river cleanups. The Partners also collaborated with all regional watershed councils on how to encourage people to get outside and stay healthy, sane, and away from crowds using nature to find respite and joy. This group of watershed councils decided to create a Facebook group called "Together for Watersheds" where partners would take turns creating content, especially videos, to begin teaching the public about a variety of nature arts and crafts, scavenger hunt hikes with kids, creating a wildlife friendly outdoor space, identifying, and removing aggressive weeds and much more. The Coalition amplified these messages and also included some on the YouTube page.

Statistics in parenthesis are the difference between last year's and this year's data. Positive changes are shown in green, negative changes are shown in red, and inconsequential changes are shown in lavender.

Facebook page, The River Starts Here

A summary of Coalition Facebook account use during the fiscal and as of July 1, 2021, is as follows:

- **Followers ("likes"):** 1,676 (▲2)
- **Weekly organic reach:** 140 (▼153)
- **Posts:** 123 (▲34)

Facebook follower demographics breakdown:

Age	Female	Male	Total by Age
18-24	1%	1%	2%
25-34	10%	6%	16%
35-44	19%	8%	27%
45-54	17%	9%	26%
55-64	10%	4%	14%
65+	9%	4%	13%

Total by Gender	66%	32%	-

Table 1: Facebook followers by age range and gender. A large portion of the Coalition's Facebook audience is made up of women from age 35-54.

The Coalition's social media following is dominated by women. In particular, the Coalition Facebook mostly reaches women who are 35-54. The Coalition's Facebook following has also increased its reach to older people while reaching fewer young people.

Facebook ads, The River Starts Here

The Coalition continued to use low-cost social media advertising as part of its campaign in FY 2020-21. Continuing to focus on defined target audiences for messages (male v. female, age level for behavior, etc.) as well as targeting by ZIP code is a primary strategy. Most advertising was on Facebook.

A summary of Facebook ad engagement during the fiscal year is as follows:

- **Advertisements and boosted posts:** 10
- **Reach:** 141,189
- **Post engagements**: 2,477

Ads or Boosts during FY 20-21

Topic	Engagement	Reach
EPA Columbia River Basin Restoration Program	389	14,044
Gresham Tree Team	238	10,088
Website Visitors	N/A	14,376
Student Video Contest	501	2,938
Student Video Contest	308	3,739
Student Video Contest	0	63,013
Student Video Contest	287	1,882
The Chuush Fund: Water for Warm Springs	277	3,886
Backyard Habitat Certification Program	38	17,376
Car Washing Tips	439	9,847

Engagement is an interaction such as a like, comment, or click thru. **Reach** is the number of individuals who saw or interacted with the post.

*Some ads also ran on Instagram.

Twitter, @riverstartshere

A summary of use during the fiscal year is as follows:

- **Followers:** 1,441 (▲3)
- **Tweets:** 61 (▲8)

Instagram, @theriverstartshere

A summary of Coalition Instagram account use during the fiscal year is as follows:

- **Followers:** 364 (▲200)
- **Posts:** 31 (▲5)

Instagram follower demographics breakdown:

Age	Female	Male	Total by Age
13-17	0%	3%	3%
18-24	7%	6%	13%
25-34	30%	25%	55%
35-44	32%	31%	63%
45-54	24%	19%	43%
55-64	5%	5%	10%
65+	3%	12%	15%
Total by Gender	61%	40%	-

The Coalition's move in 2020-2021 to consolidate Instagram handles and grow its audience has had noticeable effects on the diversity of people reached. The Instagram audience is dominated by people ages 35-44. The Coalition can continue to build a following from youth by promoting YouTube and Instagram content while reaching older people through Facebook.

YouTube, The River Starts Here

A summary of the Coalition YouTube account during the fiscal year is as follows:

- **Subscribers:** 168 (▲159)
- **Videos added:** 42 (▲37)
- **Watch time (hours):** 132 (▲124)
- **Views:** 16.8K (▲+15K)

In 2019, the River Starts Here created a YouTube account for the Student Video Contest. The 2020-2021 annual report captures the large increase in viewers from the Student Video Contests.

Figure 7: Screenshot of YouTube video from The River Starts Here channel

FY 2020-21 EXPENDITURES

Category	Services	Investment
2020 Student Video Contest		
Participant awards		$1,650
Hollywood Theater	Honored Student Videos placement in the Portland EcoFilm Festival	$500
Hollywood Theater	Discounted tickets (15) for the EcoKids Film Showcase Show for student film-makers	$135
Advertisements		
Facebook	Facebook digital advertisements	$3,189.20
Coordination support		
EnviroIssues	Meeting support and member coordination, website maintenance, social media authoring	$18,000
	TOTAL	**$23,474.20**

OBSERVATIONS

The following observations are based on the results of FY 2020-21 activities and suggest future direction the Coalition may take in its mission of educating the public about the impact of stormwater runoff pollution on the health of our rivers and streams.

The FY 2020-21 efforts consisted of the Coalition continuing to use digital advertising, contracting with EnviroIssues to assist with continued social media posts, meeting coordination and data analytics, and maintaining a YouTube page and blog.

While the Coalition's online audience and its engagement continued to grow during the fiscal year due to the strategic investments into those types of content, the Student Video Contest outreach through schools continued to be challenging. The community capacity of schools, teachers and students to become involved during the ongoing COVID-19 pandemic, with disruption and uncertainty for our education system, was severely impacted.

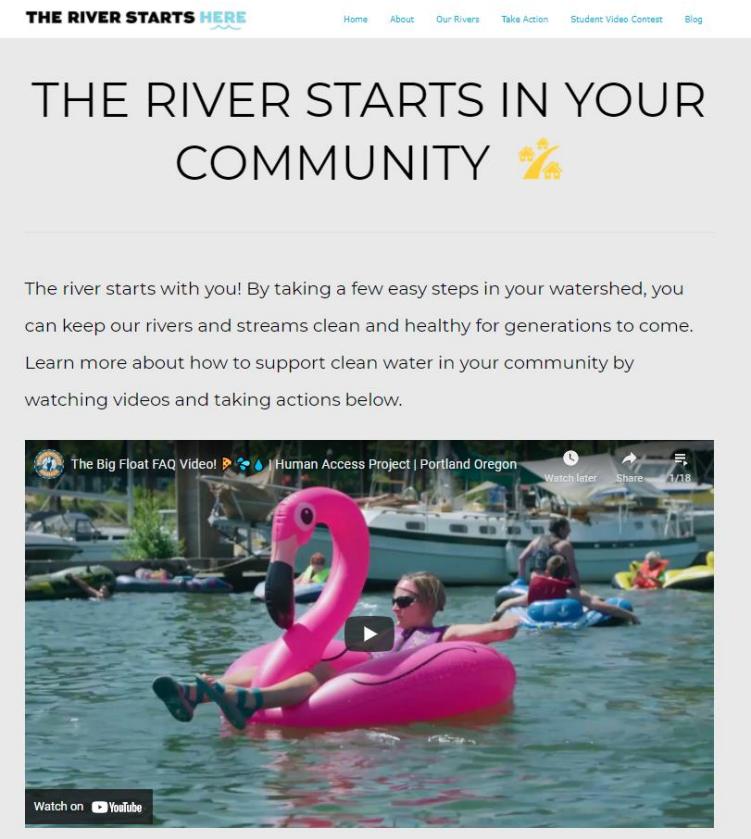

Figure 8: Screenshot from the River Starts Here website

As the 2021-22 school year begins with students in Oregon largely back in classrooms, the Coalition will again attempt an outreach strategy through school mailers, social media ads and through other community-based organizations, especially those serving marginalized populations and BIPOC youth, in an effort to achieve more diversity, equity and inclusion.

The Coalition plans to consult with new staff at Clean Water Services and Oak Lodge Sanitary District who have more specialized social media backgrounds for ideas on social media innovations in posting or purchased ads. The Coalition will also edit the student videos with applicable calls to action and branding and begin running them as advertising with a strategy to build culture and followers across the platforms.