

# Bull Run Watershed

## Program Description & Goals

The Bull Run Watershed Program encompasses the efforts of the Water Bureau to protect and maintain the natural resources and infrastructure that enable Portland to use the federally designated Bull Run Watershed Management Unit (BRWMU) as the region’s primary drinking water source.

The BRWMU is 147 square miles of densely forested land within the Mount Hood National Forest, closed to public entry, that contains the water supply infrastructure necessary to provide water to nearly one million Oregonians. Federal, state, and City laws regulate activity in the watershed; watershed protection dates from 1892.

Measure Name	2017 PM Actuals	2018 PM Actuals	PM Goal	PM Target	PM Total AP
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## Explanation of Services

Program efforts are focused on the capital infrastructure planning, design, construction, operations, maintenance, repair, and rehabilitation of the water supply facilities and road system in the BRWMU, as well as collaboration with the U.S. Forest Service to protect the natural conditions that support drinking water supply and quality. Activities include:

- Collaboration with the U.S. Forest Service: 95% of the BRWMU is National Forest land. The City of Portland and the Forest Service work together to manage the watershed.
- Monitoring of water supply and weather conditions: Weather conditions affect water quality and supply. The Water Bureau closely monitors and responds to relevant conditions.
- Compliance with requirements: The Water Bureau complies with federal land management, historic properties, and cultural resources requirements.
- Providing appropriate public access: The Water Bureau leads supervised tours of the watershed for members of the public and other stakeholders.

## Equity Impacts

The Bull Run Watershed program has equity impacts in three main areas:

- Protecting water quality: The Water Bureau recognizes that water quality problems could disproportionately affect communities of color and people with medical disabilities. Robust protection of water sources protects public health.
- Protecting cultural resources: The Bull Run Watershed program contains the bureau’s cultural resource protection, a program that is still in development but may include working more with tribal nations.
- Education program: The bureau’s education program offers free programs to qualifying groups. The education program meets accommodation requests, from wheelchair-accessible transit to translated materials. Staff offer programming in Spanish.

Of the changes to this year's budget, the one most likely to have equity impacts is the funding of the Historic Properties Management Plan, which could increase the bureau’s work with tribal nations.

## Changes to Program

The program budget will increase by \$355,000:

- \$170,000 to perform scour analysis at Dam 1 and upgrade reporting tools used at Dam 1.
- \$150,000 for right of way maintenance around power lines, focused on fire prevention, near the watershed dams.
- \$35,000 for a multi-year effort to prepare a Historic Properties Management Plan related to the City's exchange of land with the Forest Service.

## Program Budget

This section should describe the program budget and key fiscal constraints according to the following areas:

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
<b>Bureau Expense</b>				
Capital Outlay	\$2,029,511	\$833,832	\$2,470,600	\$3,635,000
External Materials and Services	\$725,792	\$627,198	\$1,121,569	\$1,354,535
Internal Materials and Services	\$1,155,918	\$1,236,484	\$502,402	\$515,114
Personnel	\$2,493,563	\$2,543,012	\$2,582,226	\$2,706,041
<b>Sum:</b>	<b>\$6,404,784</b>	<b>\$5,240,526</b>	<b>\$6,676,797</b>	<b>\$8,210,690</b>

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
NA	\$0	\$0	\$18	\$3
<b>Sum:</b>	<b>\$0</b>	<b>\$0</b>	<b>\$18</b>	<b>\$3</b>

**Resources:** Resources come from ratepayer charges for water and water-related services. Capital investments in water system infrastructure may also be funded with proceeds from issuance of Water Revenue Bonds and capital revenues. Capital revenues include sales of assets and System Development Charges from installations of new mains and services.

**Expenses:** The operating budget totals \$3.8 million and the capital budget totals \$4.4 million. The operating budget's main expenses are staffing, repair and maintenance of Bull Run facilities, and water supply monitoring conducted by the Water Bureau and the U.S. Geological Survey. Major capital projects include road maintenance and Dam 1 valve replacement.

**Staffing:** 19 full-time equivalent (FTE) positions support this program. These positions include engineers, planners, and watershed maintenance staff.

**Assets and Liabilities:** Major assets include two dams and reservoirs, a smaller dam and dike at Bull Run Lake, 164 miles of paved and gravel roads, water monitoring systems, and communication systems. The two major reservoirs store 16.9 billion gallons of water. The replacement value of Bull Run Watershed infrastructure totals \$865 million. 88% of the assets are in very good, good, or fair condition. The roads tend to be the assets that are in poor or very poor condition.

## Program Information

**Bureau:** Portland Water Bureau

**Program Contact:** Felicia Heaton

**Website:**

**Contact Phone** 971-940-8933

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# Groundwater

## Program Description & Goals

The Groundwater Program contains the Water Bureau's efforts to protect and maintain the infrastructure and natural resources that enable Portland to reliably draw water from the Columbia South Shore Well Field (CSSWF) as a supplemental and emergency backup supply source. The City has supplied drinking water from the CSSWF since 1984. The well field is used as a supplemental supply during dry periods and as an emergency backup supply when the Bull Run supply is temporarily unavailable (due to major storms, wildfire, or landslides, for example).

Wells in the CSSWF draw from three regional aquifers along the south shore of the Columbia River in Portland, Fairview, and Gresham. The City has an Oregon Department of Environmental Quality-certified Wellhead Protection Program for the groundwater resource to prevent chemical spills that could seep into the ground and adversely affect groundwater quality. The program also includes Water Bureau-owned wells in the Powell Butte area and in the Bull Run Watershed.

Measure Name	2017 PM Actuals	2018 PM Actuals	PM Goal	PM Target	PM Total AP
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## Explanation of Services

Program efforts are focused on the capital infrastructure planning, design, construction, operation, maintenance, repair, and rehabilitation of the water supply facilities within the CSSWF, including the system's production wells, monitoring wells, pumps and motors, well sites, collection mains, and groundwater pump station. Activities include:

- Maintenance of wells, pipes, pump station, and monitoring wells.
- Avoiding or minimizing groundwater contamination from human activities; identifying and managing naturally occurring groundwater contaminants.
- Monitoring aquifer resources and water quality conditions; performing spatial analysis of groundwater conditions and risks.
- Collaboration with area businesses to protect water quality and prevent contamination of groundwater resources.
- Administration of City code that regulates and requires inspections of chemical storage and drainage systems on public and private property. The Water Bureau works with Portland Fire & Rescue inspectors to make sure businesses comply with groundwater protection rules.
- Providing technical help for regulated businesses and educational events for the community.

## Equity Impacts

Water quality problems can disproportionately affect communities of color and people with medical disabilities, and a major goal of the Groundwater program is to protect water quality. This program also includes a significant education component for business owners and residents in or near the well field. In recent years, program staff have worked to expand education outreach in communities of color.

The program's education events increasingly draw more diverse participants. Staff have created translated event materials and employ event staff who speak Spanish, Russian, and Vietnamese.

This year's budget changes are unlikely to have equity impacts.

## Changes to Program

The budget will increase by \$150,000 for repair and maintenance of groundwater equipment.

## Program Budget

This section should describe the program budget and key fiscal constraints according to the following areas:

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
<b>Bureau Expense</b>				
Capital Outlay	\$478,605	\$837,430	\$1,075,600	\$350,000
External Materials and Services	\$1,383,727	\$852,559	\$999,384	\$1,269,650
Internal Materials and Services	\$426,531	\$558,024	\$151,017	\$157,558
Personnel	\$929,649	\$1,220,985	\$1,058,035	\$1,107,439
<b>Sum:</b>	<b>\$3,218,512</b>	<b>\$3,468,998</b>	<b>\$3,284,036</b>	<b>\$2,884,647</b>
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
NA	\$0	\$0	\$3	\$0
<b>Sum:</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3</b>	<b>\$0</b>

**Resources:** Resources come from ratepayer charges for water and water-related services. Capital investments in water system infrastructure may also be funded with proceeds from issuance of Water Revenue Bonds and capital revenues. Capital revenues include sales of assets and System Development Charges from installations of new mains and services.

**Expenses:** The operating budget totals \$2.2 million and the capital budget totals \$0.7 million. Main operating costs include staffing, electricity for groundwater pumping, and repair and maintenance of infrastructure. Capital improvements also include the rehabilitation of well field infrastructure.

**Staffing:** 7 full-time equivalent (FTE) positions support this program. These positions include engineers, operating engineers (employees who operate the water system in the field), program managers, and outreach staff.

**Assets and Liabilities:** Facilities include 25 production wells; groundwater collection and transmission pipes; 106 non-supply wells, including exploratory, pilot, test, and monitoring wells; a 2-million-gallon storage tank; a 100-million-gallon per day (mgd) pumping facility; and associated monitoring systems. The total replacement value of the groundwater system is \$218 million. (More information on groundwater asset condition is to come.)

## Program Information

**Bureau:** Portland Water Bureau

**Program Contact:** Felicia Heaton

**Website:**

**Contact Phone** 971-940-8933

# Water Program Treatment

## Program Description & Goals

The Treatment Program encompasses the bureau’s efforts to make sure drinking water is potable for nearly one million Oregonians. Water treatment facilities for the Bull Run supply are currently located at Headworks (in the Bull Run Watershed) and Lusted Hill (between the watershed and the city). The Headworks facility adds chlorine for primary disinfection. The Lusted Hill facility adds sodium hydroxide for pH adjustment and ammonia for secondary disinfection. For the groundwater supply, treatment with sodium hypochlorite, ammonia, and sodium hydroxide occur at the groundwater pump station.

Measure Name	2017 PM Actuals	2018 PM Actuals	PM Goal	PM Target	PM Total AP
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## Explanation of Services

This program provides the resources to treat water from Portland’s sources in the Bull Run Watershed and Columbia South Shore Well Field to meet or exceed all state and federal regulations for drinking water. This includes continuous monitoring and optimization of treatment processes. This program also includes capital infrastructure planning, design and construction, operation, maintenance, and repair of treatment facility systems, and associated regulatory and process control monitoring.

This program will include operating and maintaining the new facilities and infrastructure constructed as part of the Corrosion Control Improvement and Bull Run Filtration Treatment Projects (to be operational by 2022 and 2027, respectively).

## Equity Impacts

The goal of water treatment is to keep water safe to drink. Drinking water quality problems can have a greater impact on communities of color and people with medical disabilities (those with compromised immune systems). This program is also responsible for reducing the potential for lead to leach into water; nationally, lead poisoning disproportionately affects children of color.

Staff in this program do not work directly with the public and do not receive requests for accommodations.

This year’s budget changes are unlikely to have equity impacts. As this program grows to include new water treatment processes, the bureau will have the opportunity to explore how equity can be brought into construction and hiring processes.

## Changes to Program

The budget will increase by \$85,000 for chemical supplies. Because permanent positions were added in the 2018–2019 budget, two limited-term Treatment Operator positions are no longer necessary and will be eliminated in this budget.

## Program Budget

This section should describe the program budget and key fiscal constraints according to the following areas:

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
<b>Bureau Expense</b>				
Capital Outlay	\$458,919	\$199,212	\$599,682	\$9,920,000
External Materials and Services	\$1,054,413	\$1,775,274	\$6,349,214	\$3,861,797
Internal Materials and Services	\$327,822	\$689,772	\$110,139	\$161,405
Personnel	\$1,425,724	\$1,877,316	\$3,111,719	\$3,377,127
<b>Sum:</b>	<b>\$3,266,878</b>	<b>\$4,541,574</b>	<b>\$10,170,754</b>	<b>\$17,320,329</b>

**Resources:** Resources come from ratepayer charges for water and water-related services. Capital investments in water system infrastructure may also be funded with proceeds from issuance of Water Revenue Bonds and capital revenues. Capital revenues include sales of assets and System Development Charges from installations of new mains and services.

**Expenses:** The operating budget totals \$2.9 million and the capital budget totals \$14.5 million. Main expenses in the operating budget include staffing, utilities, chemicals, supplies, and vehicle fleet. Major capital projects include Filtration and Corrosion Control Improvement treatment facilities.

**Staffing:** 22 full-time equivalent (FTE) positions support this program. These positions include water treatment operators, laboratory staff, and engineers.

**Assets and Liabilities:** Assets include the treatment facilities at Headworks and Lusted Hill. The replacement value of the facilities and equipment is \$58 million. 90% of the infrastructure is in very good, good, or fair condition.

### Program Information

**Bureau:** Portland Water Bureau

**Program Contact:** Felicia Heaton

**Website:**

**Contact Phone** 971-940-8933

# Hydrants

## Program Description & Goals

The Water Bureau maintains 14,375 hydrants, some installed in the early 1900s, to provide fire suppression, flushing points for water quality, system maintenance, and alternative customer water sources. The Hydrant Program ensures the constant availability of fire suppression supply throughout the city, providing essential support for life safety and minimizing damage caused by fire to property.

The provision of fire hydrants every 250 to 500 feet (depending on zoning) within the right of way, alongside redundant fire hydrant availability near key facilities such as hospitals and schools, ensures constant support of Portland Fire & Rescue's fire suppression efforts.

Hydrants enable crews and customers to access alternative sources of water, which may mitigate service outages or provide needed water supplies for functions like street sweeping, landscaping, and construction projects. In addition, hydrants provide key points for flushing the water system following the completion of maintenance tasks, and for maintaining water quality in areas of the system prone to water quality issues.

Measure Name	2017 PM Actuals	2018 PM Actuals	PM Goal	PM Target	PM Total AP
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## Explanation of Services

The activities of this program include installation, inspection, maintenance, repair, and replacement of hydrants, and maintaining the inventory of hydrants in CADD (Computer-Aided Design and Drafting) and records management systems.

## Equity Impacts

City code regulates hydrant placement. The Water Bureau does not yet analyze data to see whether hydrant condition varies geographically.

Some staff in this program work in the field and occasionally talk with community members. They have access to interpretation services as necessary.

There are no likely equity impacts to the increase in this program's budget.

## Changes to Program

The program budget has increased to reflect actual costs of hydrant replacement.

## Program Budget

This section should describe the program budget and key fiscal constraints according to the following areas:

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
<b>Bureau Expense</b>				
Capital Outlay	\$1,102	\$191	\$0	\$0
External Materials and Services	\$784,399	\$872,407	\$821,830	\$804,200
Internal Materials and Services	\$1,281,354	\$1,353,061	\$365,035	\$420,427
Personnel	\$1,263,110	\$1,192,136	\$1,397,953	\$1,894,091
<b>Sum:</b>	<b>\$3,329,964</b>	<b>\$3,417,795</b>	<b>\$2,584,818</b>	<b>\$3,118,718</b>

- Resources:** Resources come from ratepayer charges for water and water-related services. Capital investments in water system infrastructure may also be funded with proceeds from issuance of Water Revenue Bonds and capital revenues. Capital revenues include sales of assets and System Development Charges from installations of new mains and services.
- Expenses:** The operating budget totals \$1.3 million and the capital budget totals \$1.8 million. The operating budget's main expenses are staffing, hydrant parts, supplies, and vehicle fleet. The capital budget covers hydrant replacement.
- Staffing:** 14 full-time equivalent (FTE) positions support this program. These positions include utility workers, automotive equipment operators, and water operations mechanics.
- Assets and Liabilities:** The 14,375 hydrants have a replacement value of \$216 million. 80% of the hydrants are in very good, good, or fair condition.

### Program Information

**Bureau:** Portland Water Bureau      **Program Contact:** Felicia Heaton  
**Website:**      **Contact Phone** 971-940-8933

# Customer Service

## Program Description & Goals

This program is responsible for sales operations from the meter to the collection of cash for the Water Bureau and Bureau of Environmental Services (BES). This includes meter reading, managing account and customer data, and billing, collection, and payment processing of 192,000 water, sewer, and stormwater accounts billed monthly, bi-monthly, or quarterly. This program includes providing financial assistance to qualifying low-income customers.

This program also supports development by performing reviews of water-related building permit application intakes, reviews, and purchases. All developments are reviewed and checked to ensure that they comply with standards for water service.

Measure Name	2017 PM Actuals	2018 PM Actuals	PM Goal	PM Target	PM Total AP
% of calls answered w/in 60 seconds	0.51	0.83	0.8	0.8	0

## Explanation of Services

Each working day, Customer Service staff answer more than 750 customer calls and field 75 online inquiries about customer accounts and other bureau work. The program also assists 75 walk-in customers each day with their payments and/or water service, and administers the Financial Assistance Program, including a bill discount for 6,750 enrolled participants.

This program includes the team that manages the Customer Information System, which is the system used by employees in the program to bill for sewer, stormwater, and water services, collect from customers, and assist them with their account inquiries.

The Customer Service Program processes about 2,280 water permits annually related to commercial and residential developments. The activities cover land use reviews, development reviews, sale of new domestic services, fire services, and petition mains needed to support new construction by private parties seeking water service.

## Equity Impacts

Staff in the Customer Service program work directly with community members and have made major changes in recent years to do this work more equitably.

The bureau's Financial Assistance Program has recently expanded and now offers more help to more people. Staff members working in this program have studied participant demographics and are working to increase program representation among traditionally underserved communities.

Staff in this program regularly use interpretation services, and program managers aim to increase the number of staff who fluently speak multiple languages. Some phone services and brochures are available in multiple languages. For people with disabilities, staff in this program can enlarge bills, convert bills to braille, and communicate via writing.

This year's budget changes are unlikely to have equity impacts.

## Changes to Program

The Water Bureau installed a Customer Self-Service (CSS) portal that allows customers to request move-ins and move-outs, payment arrangements, and address changes online. This has helped reduce call volume, allowing for two Customer Services Representative positions to be reallocated to the Meters Program. In addition, two limited-term Customer Services Representative positions will be eliminated.

## Program Budget

This section should describe the program budget and key fiscal constraints according to the following areas:

	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
<b>Bureau Expense</b>				
Capital Outlay	\$569	\$324,628	\$0	\$0
External Materials and Services	\$2,071,046	\$2,306,703	\$4,328,673	\$4,553,015
Internal Materials and Services	\$4,954,512	\$6,064,797	\$4,234,097	\$4,569,208
Personnel	\$8,351,187	\$8,412,252	\$10,873,547	\$11,655,435
<b>Sum:</b>	<b>\$15,377,315</b>	<b>\$17,108,380</b>	<b>\$19,436,317</b>	<b>\$20,777,658</b>
	2016-17 Actuals	2017-18 Actuals	2019 Revised Budget	2019-20 Request - V52 -No DP
NA	\$0	\$0	\$104	\$32
<b>Sum:</b>	<b>\$0</b>	<b>\$0</b>	<b>\$104</b>	<b>\$32</b>

**Resources:** Resources come from ratepayer charges for water and water-related services. Capital investments in water system infrastructure may also be funded with proceeds from issuance of Water Revenue Bonds and capital revenues. Capital revenues include sales of assets and System Development Charges from installations of new mains and services.

**Expenses:** The operating budget totals \$20.8 million. This includes staffing, bank fees, billing system support, printing and mailing of bills, fleet vehicles, facilities, communications, and technology support.

**Staffing:** 104 full-time equivalent (FTE) positions support this program. These positions include customer accounts specialists, business analysts (who support the billing system), meter readers, water service inspectors, and engineering technicians.

**Assets and Liabilities:** The major asset of the Customer Service group is the Cayenta billing system.

## Program Information

**Bureau:** Portland Water Bureau

**Program Contact:** Felicia Heaton

**Website:**

**Contact Phone** 971-940-8933