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lakewhatcom.whatcomcounty.org

Cover: Lake Whatcom | Photo by T. Ward, 2018
Back Cover: View from Bloedel Donovan | Photo by T. Ward, 2018
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Program Overview

Introduction


This report, in keeping with the established format for these annual reports, is organized around 10 program areas. For each program area the report includes an update on performance measures and summaries of 2018 activities, accomplishments, and expenditures. Continued implementation of tasks in a few key program areas—Land Preservation, Stormwater, and Aquatic Invasive Species—account for many of the accomplishments in this report.

The jurisdictions that comprise the Lake Whatcom Management Program, the City of Bellingham, Whatcom County, and the Lake Whatcom Water and Sewer District, each assign staff to the Interjurisdictional Coordinating Team. Team members strive to implement the annual work plan, recommend changes or additional tasks, and provide contributions for the annual report.

As with previous work plans, tasks included in the five-year plan continue to reflect the strategies and goals of the original Lake Whatcom Management Program adopted in 1998. The series of work plans developed since then provide the framework and means for meeting community expectations for the protection of Lake Whatcom’s water quality. Notable 2018 achievements are highlighted on Page 2.

Phosphorus and Lake Whatcom

Excess phosphorus generated from residential and other land use practices is conveyed to Lake Whatcom by streams, public infrastructure, and direct runoff. Over the past 50 years the decline in the lake’s water quality has caused a significant decrease in dissolved oxygen levels deep in the water column as well as seasonal algal blooms on the surface. These impacts affect the lake’s ecology and the City of Bellingham’s water treatment process.

Since the early 1990s, the City of Bellingham and Whatcom County have been working together to reduce phosphorus loading to the lake by:
- Adopting stormwater and land use regulations to reduce phosphorus loading
- Constructing, operating, and maintaining stormwater treatment facilities
- Piloting residential retrofit programs to reduce phosphorus loading from developed lots
- Preserving land in the watershed that might otherwise be susceptible to development or other land disturbance activities

In April 2016, the Environmental Protection Agency finalized the Lake Whatcom Total Maximum Daily Load study, which has set in motion a 50-year cleanup effort focused on reducing phosphorus inputs to Lake Whatcom.

To date, efforts to reduce the phosphorus entering the lake have resulted in an annual reduction of approximately 436 pounds of phosphorus entering Lake Whatcom.
Whatcom County completed Phase I of the Agate Bay stormwater improvement project. The project included ditch stabilization and the installation of check dams and three filter vaults, as well as upgrades to existing stormwater infrastructure. Photo: Installation of filter vault.

Whatcom County Parks and Recreation constructed five miles of new hike and bike trail at Lookout Mountain Forest Preserve, including the Rufus Creek and Cougar Ridge Trails. Community volunteers supported 2018 trail construction by donating more than 3,000 hours of service. Photo: 2018 Volunteers.

The City of Bellingham acquired two new properties in 2018 bringing the total area of land protected in the watershed to 10,991 acres. Photo: Washington Conservation Corps members assist with bridge installment.

Aquatic invasive species (AIS) inspectors conducted 12,444 watercraft inspections to prevent the spread of AIS to Lake Whatcom and Lake Samish. Photo: Boats line up at Bloedel Donovan Check Station to be inspected for aquatic invasive species.

48 households attended a Do-It-Yourself Native Landscaping workshop as part of the Homeowner Incentive Program. Attendees learned about native landscape design and implementation. Photo: Native landscaping project completed in 2018.
## PROGRAM OVERVIEW

### Program Areas and Objectives

<table>
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<th>Area</th>
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<td>1. Land Preservation</td>
<td>Preserve and restore land that might otherwise be susceptible to development or other land disturbance to protect water quality and fish and wildlife habitat.</td>
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<td>2. Stormwater</td>
<td>Prevent water quality and quantity impacts associated with stormwater runoff by implementing best management practices, pollutant source control, construction and maintenance of stormwater facilities, inspections, and compliance.</td>
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<tr>
<td>3. Land Use</td>
<td>Prevent water quality and quantity impacts from new residential development and redevelopment, and from forest practices.</td>
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<tr>
<td>4. Monitoring &amp; Data</td>
<td>Collect and manage data to increase our understanding of water quality and pollution sources, and to guide management decisions.</td>
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<td>6. Recreation</td>
<td>Promote recreational opportunities that are consistent with water quality goals, and improve ways to reduce impacts of existing activities.</td>
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<td>7. Aquatic Invasive Species</td>
<td>Prevent new aquatic invasive species (AIS) introductions to Lake Whatcom and other waterbodies and minimize impacts associated with established invasive species.</td>
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<tr>
<td>8. Utilities &amp; Transportation</td>
<td>Prevent water quality and quantity impacts from water, sewer, and transportation systems.</td>
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<tr>
<td>9. Education &amp; Engagement</td>
<td>Protect water quality by educating and engaging watershed residents and visitors.</td>
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<td>10. Administration</td>
<td>Coordinate and support implementation of the Lake Whatcom Management Program Work Plan.</td>
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PROGRAM AREA

Land Preservation

**OBJECTIVE:** Preserve and restore land that might otherwise be susceptible to development or other land disturbance to protect water quality and fish and wildlife habitat.

Land Preservation actions that have been implemented in the Lake Whatcom watershed to protect water quality include: land acquisition, conservation easements, transfer and purchase of development rights, and other incentive programs. Over 10,000 acres have been protected in the Lake Whatcom watershed to date, including approximately 7,800 acres that were reconveyed to Whatcom County in 2014.

The City of Bellingham purchased two new properties in 2018, protecting an additional 16 acres of forested land adjacent to other protected land in the watershed. An additional 1,023 acres were protected from development with conservation easements on Galbraith Mountain as a result of a purchase and sale agreement between the City, the Whatcom Land Trust, and Galbraith Tree Farm LLC.

In 2018, management activities completed on City acquisition properties included regular property inspections, removal of invasive species and planting of native species, one house and one vehicle removal, three bridge replacements, and two encroachments mitigated through the use of letters, gates, and/or signage. In 2018, 108 acres were actively managed for invasive species and restoration, six acres were actively managed using silviculture practices to improve forest health, and 6,000 native plants were installed.

**HIGHLIGHTED PROGRESS MEASURES**

- **10,991** Acres protected (to date)
- **1,039** Acres added to protected total (2018)
- **$5,719,280** 2018 Expenditures

**ALL PROTECTED LAKE WHATCOM WATERSHED PROPERTIES**

- 10,991 ACRES

(Galbraith not mapped)

Map by L. Rexroat, 2018

**2018 PROGRESS REPORT**
PROGRAM AREA

Stormwater

**OBJECTIVE:** Prevent water quality and quantity impacts associated with stormwater runoff by implementing best management practices, pollutant source control, construction and maintenance of stormwater facilities, inspections, and compliance.

In 2018, the City of Bellingham completed the engineering design work for three new stormwater water quality treatment facilities queued for construction in 2019. These three projects address the last three sub-areas of the city portion of the watershed where runoff can be collected and directed to a facility for treatment. Together, these three projects will address runoff from over 23 acres and reduce phosphorus discharges to the lake by at least 11 pounds per year. Construction is scheduled to begin in June 2019.

In 2018, the City completed the Pullman Street Vault retrofit. The project included the installation of a Phosphorus-Optimized Stormwater Treatment (POST) technology being developed by the City, in partnership with the Department of Ecology. The POST system shows great promise toward increasing phosphorus treatment compared to the best existing technology. In 2018, the POST system was granted Pilot Use Level Designation (PULD) approval by the Department of Ecology and will be monitored for at least the next 18 months to confirm its pollutant removal capabilities.

In 2018, Whatcom County completed Phase I of the Agate Bay stormwater improvement project which aims to reduce the amount of phosphorus and fecal coliform bacteria entering Lake Whatcom from Agate Bay. This project included ditch stabilization and the installation of check dams and three filter vaults. Upgrades were also made to existing storm drainage infrastructure to help address stormwater conveyance and safety issues. These facilities are estimated to treat 41 acres and reduce 14 pounds of phosphorus per year.

The City and County continue to assess the performance of stormwater facilities to ensure that the water quality benefits achieved match with design expectations and predictions. Frequently, improvements can be made to increase pollutant-removal capabilities of a system after it has been constructed. System upgrades, reconfigurations, and adaptations sometimes require the facilities to be taken off-line, resulting in a temporary discounting of overall phosphorus reductions tracked in this report.

**HIGHLIGHTED PROGRESS MEASURES**

- **436** Lbs. of phosphorus reduced per year (to date) (Including Residential Projects & Street Sweeping)
- **41** Acres added in 2018 to area treated by capital facilities
- **15** Lbs. of phosphorus reduced per year by new/retrofitted capital facilities (2018)
The Homeowner Incentive Program (HIP) provides technical assistance and financial incentives to property owners in the Lake Whatcom watershed who voluntarily install stormwater Best Management Practices (BMPs) that reduce phosphorus runoff into the lake. These BMPs include native landscaping, infiltration trenches, specially-designed rain gardens, dispersion, media filter drains, and other accessory BMPs that reduce the impact from residential properties to the lake.

Since its launch in 2011, the HIP has facilitated the completion of over 200 water quality improvement projects in the Lake Whatcom watershed.

2018 was the first full year implementing a revised HIP following a five-year pilot. Highlights included:

- Conducting an advertising campaign utilizing mailers and social media
- Offering additional training opportunities to become a HIP approved professional
- Hosting three Do-It-Yourself Native Landscaping workshops
- Conducting individual site visits to help homeowners plan and install HIP projects

Residential Projects

Includes all residential re-development and new development projects inside city limits as well as projects completed as part of the Homeowner Incentive Program (city and county)

- 177 Properties completed residential stormwater projects (since 2011)
- 34 Acres treated (since 2011)
- 28 Lbs. of phosphorus reduced per year (since 2011)

2018 Expenditures: $1,062,000 (Including Capital Projects)
**PROGRAM AREA**

**Land Use**

**OBJECTIVE:** Prevent water quality and quantity impacts from new residential development and redevelopment, and from forest practices.

In 2018, the City of Bellingham and Whatcom County continued to implement the development regulations aimed at preventing water quality and quantity impacts to Lake Whatcom.

Each new and redeveloped home in the city portion of the watershed is required to provide a forested condition on 30 percent of the lot. These are the “Native Vegetation Protection Areas” (NVPA) that now total 6.78 acres of phosphorus neutral-forested landscape (since the 2009 ordinance adoption). The NVPAs are protected by a conservation easement, and the City ensures that each NVPA is well established by overseeing monitoring requirements. No new homes were built in the city portion of the watershed in 2018.

In February 2018, the City released the Lake Whatcom Watershed Annual Build-out Analysis Report updating the number of existing dwelling units (7,060) and the number of potential units on vacant lands (1,600) in the Lake Whatcom watershed.

The County issued a total of 101 permits in the Lake Whatcom watershed in 2018 for: accessory structures (26), land disturbance activities (9), shoreline exemptions (46), and single-family residences (66). Phosphorus neutral development regulations were applied through these permits.

Both the City and County are actively responding to concerns about short-term rentals in the Lake Whatcom watershed. The County has developed both a zoning code amendment and a Shoreline Management Program (SMP) amendment to respond to this issue. The County Council has tentatively approved the zoning code amendments and the Department of Ecology has approved the SMP amendments. County staff anticipates bringing both sets of amendments to the Council in early 2019 for final consideration.

In November, the City adopted regulations for short-term rentals (STRs), defined as a booked stay of 29 consecutive nights or fewer. Under the new ordinance, STRs are prohibited in the city portion of the Lake Whatcom watershed. The newly adopted regulations are to be re-evaluated in two years. Similarly, STRs are not a permitted use in the City’s SMP. The issue will be further evaluated with the update to the SMP in 2020.

In 2018, the Lake Whatcom Management Program continued to assess forestry activities to verify that adverse water quality impacts were minimized. Approximately 317 acres were approved for timber harvest in the Lake Whatcom watershed, an estimated 13,000 feet of road was approved for construction, over 6,000 feet of road was approved for abandonment, and 117 acres were approved to be treated with herbicides based on Forest Practice Applications (FPAs) effective as of 2018.

**LAKE WHATCOM MANAGEMENT PROGRAM**

**HIGHLIGHTED PROGRESS MEASURES**

- **6.78** Acres of phosphorus-neutral forest established in new and redevelopment—Since 2009
- **13,000** Feet of forest road construction approved
- **317** Acres of timber harvest approved

**2018 Expenditures:** $15,000

Native Vegetation Protection Area | Photo by COB, 2018
PROGRAM AREA

Monitoring and Data

**OBJECTIVE:** Collect and manage data to increase our understanding of water quality and pollution sources, and to guide management decisions.

The Data Management Team continued to meet on a monthly basis in 2018. The team reviewed a study commissioned by the Lake Whatcom Water and Sewer District on onsite septic system pollutant contributions to the lake, and received regular updates on the TMDL, stormwater activities, fecal coliform monitoring, aquatic invasive species monitoring, tributary monitoring, and the Lake Whatcom monitoring contract with the Institute for Watershed Studies (IWS).

The City of Bellingham continues to support the IWS in the routine monitoring of Lake Whatcom and its tributaries. Long-term water quality data have been collected at established locations for such parameters as temperature, pH, dissolved oxygen, chlorophyll, nutrients, algae and fecal coliform. These data are used to identify water quality trends in Lake Whatcom and serve as an indicator of the effectiveness of our water quality improvement efforts.

Whatcom County administers a contract with Brown and Caldwell, with funding provided by the County, City, and the District, to monitor eight tributaries to Lake Whatcom during storm events. Along with the IWS data, this information is input into a hydrological simulation computer model to determine the phosphorus loading to the lake. This loading data will then be incorporated into the lake response model to refine the phosphorus loading reduction targets needed to improve Lake Whatcom water quality. As part of the City and County’s response to the TMDL, the loading model was updated to incorporate new data and an independent peer review was completed in 2018.

The City and County continued to maintain contracts to conduct stormwater sampling to assess both the effectiveness of constructed stormwater treatment systems and to determine the contributions of contaminants from major tributaries to Lake Whatcom.

The Data Team also received updates on the recent discovery of invasive New Zealand mussels at Lake Padden and the initial response to the infestation.
PROGRAM AREA

Hazardous Materials

**OBJECTIVE:** Prevent water quality impacts associated with improper storage and handling of hazardous materials, and ensure that spill prevention and response programs adequately protect water quality.

Whatcom County and City of Bellingham field staff continued to receive training on pollution prevention, illicit discharge identification, investigation, and response. Trained staff are responsible for responding to spills city- and county-wide.

The City’s Pollution Prevention Assistance Program continued to partner with Watershed LLC to provide trainings to retail garden stores on safer pesticide products. 13 representatives from seven stores participated in two workshops in 2018. Trainings included information on pesticide safety, safer pest control, and how to use pesticides more effectively. Additional outreach materials were provided on preventing pests and alternative methods for pest control without using chemical pesticides.

The City continued their Wash Right campaign in 2018 with an annual letter sent to pressure washing contractors operating within the city. The Wash Right campaign aims to increase awareness about pressure washing techniques that minimize impacts to water quality. Contractors can check out kits that include a drain insert, vacuum, and pump to collect and divert washing wastewater into the sanitary sewer.

County and City staff received and responded to seven reports of illicit discharge incidents within the Lake Whatcom watershed in 2018.

In 2018, the City raised awareness about stormwater pollution and the importance of reporting spills via advertising campaigns in print, online, on buses, and in movie theaters.

HIGHLIGHTED PROGRESS MEASURES

| 43 | New staff trained in spill prevention and response |
| 7  | Spills/Incidents reported |
| 2018 Expenditures: $10,000 |

Spills happen. Help us find them.
If you see oil, paint, suds, or sewage in drains, ditches, or waterways, please let us know:
www.cob.org/SpillHotline
SpillHotline@cob.org
(360) 778-7979

Spills Happen Pickford Theater Ad | Photo by COB, 2018
PROGRAM AREA

Recreation

OBJECTIVE: Promote recreational opportunities that are consistent with water quality goals, and improve ways to reduce impacts of existing activities.

Whatcom County Parks and Recreation manages more than 9,500 acres of land in the Lake Whatcom watershed. 8,844 acres of that land was reconveyed to Whatcom County for park use from the State Department of Natural Resources in 2014. For the second consecutive summer, new trail was constructed on the reconveyed lands in 2018. Five miles of new hike and bike trail, including the Rufus Creek and Cougar Ridge Trails, were constructed while existing user-built sections were improved, rerouted, or decommissioned to mitigate potential water quality impacts.

The Rufus Creek Trail leads from the existing trailhead at Lookout Mountain Forest Preserve to an improved overlook providing views of Lake Whatcom and the summit of Mount Baker. The Rufus Creek Trail then continues to its terminus at the mountain bike-only Cougar Ridge Trail. These trails were designed to be moderately difficult and were constructed to sustainable standards using Best Management Practices outlined in the Lookout Mountain Forest Preserve and Lake Whatcom Park Recreational Trail Plan. The trails were designed in cooperation with local recreational stakeholders and the corridor was surveyed by specialists for sensitive cultural, biological, and geologic resources. Along with the work completed by staff, a Washington Conservation Corps crew, and contractors, community volunteers supported 2018 trail construction by donating more than 3,000 hours of service.

In addition to new trail construction, work activities in 2018 included ongoing maintenance of existing trails and forest roads, replacement of one trail bridge and one culvert, as well as invasive plant management.

<table>
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<th>HIGHLIGHTED PROGRESS MEASURES</th>
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<td>192,000 Annual park visits</td>
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<td>*Visitation data from Whatcom County Parks with trail counters only</td>
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<td>15.6 Miles of trails maintained</td>
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<td>9.6 Miles of forest roads maintained</td>
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<tr>
<td>5.0 Miles of new trail constructed</td>
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<tr>
<td>0.5 Miles of trail decommissioned</td>
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<td>2018 Expenditures: $299,567</td>
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Washington Trails Association (WTA) Volunteers | Photo by WTA, 2018
Rufus Creek Trail | Photo by Whatcom County, 2018
PROGRAM AREA

Aquatic Invasive Species

**OBJECTIVE:** Prevent new aquatic invasive species (AIS) introductions to Lake Whatcom and other waterbodies and minimize impacts associated with established invasive species.

In 2018, 16 inspectors conducted 12,444 watercraft inspections and sold 2,922 annual permits, 402 day passes, and 3,149 non-motorized permits to help facilitate the continuation of the program. Total revenue from fees in 2018 was approximately $139,000.

9,284 watercraft inspections were conducted at Lake Whatcom with the remaining inspections occurring at Lake Samish. Watercraft had last visited 267 different waterbodies in 29 different states/provinces prior to launching at Lake Whatcom or Lake Samish, including 14 waterbodies infested with invasive mussels. 2018 inspection survey results and boater zip codes can be viewed at: [www.whatcomboatinspections.com/2018-story-map](http://www.whatcomboatinspections.com/2018-story-map).

Aquatic invasive species staff continued to monitor Whatcom County lakes to detect the presence/absence of new aquatic invasive species infestations as well as to monitor the spread of existing aquatic invasive species. As a result of shoreline surveys, invasive New Zealand mudsnails were discovered at Lake Padden. This is the first sighting of this species in Whatcom County. No new aquatic invasive species infestations were discovered at other Whatcom County lakes in 2018.

**HIGHLIGHTED PROGRESS MEASURES**

- 12,444 Boats inspected
- 193 Boats carried standing water that had to be drained
- 150 Boats carried aquatic plants that had to be removed
- 20 Boats had last launched in a mussel infested waterbody
Aquatic Invasive Species

In 2018, AIS inspectors continued to increase awareness about AIS through additional outreach opportunities including at paddling events and bass tournaments scheduled at both Lake Whatcom and Lake Samish. The Whatcom AIS Program met with several rowing clubs from the Seattle area who were hosting training events at Lake Samish. Rowing club members learned about the threat that aquatic invasive species pose to Washington lakes and ways to prevent their spread.

In May, the Whatcom AIS Program was invited to participate in a Safety Fair organized by the Sudden Valley Emergency Preparedness Committee. Visitors to the Whatcom AIS Program booth learned how to prevent the spread of AIS to Whatcom County waters.

In 2018, the Washington Department of Fish and Wildlife continued to contract with the Whatcom AIS Program to conduct aquatic invasive species outreach and education activities at Lake Terrell to increase awareness about the Eurasian watermilfoil infestation at the lake. AIS inspectors conducted 52 voluntary exit watercraft inspections during two bass tournaments at Lake Terrell in 2018.

Over 6,900 people visited the Whatcom Boat Inspections website in 2018 for program updates, fee information, inspection location details, AIS prevention tips, 2017 inspection results, and to access the AIS Awareness Course.

Over 2,500 people passed the online AIS Awareness Course in 2018. The course takes approximately 30 minutes to complete and aims to educate the participants about AIS prevention and boat inspection practices to help stop the spread of AIS to Whatcom County waters.

HIGHLIGHTED PROGRESS MEASURES

- **6,955** People visited Whatcom Boat Inspections website
- **2,551** People completed online AIS Awareness Course
- **1,738** Visitors at check stations
- **2018 Expenditures: $494,133**
OBJECTIVE: Prevent water quality and quantity impacts from water, sewer, and transportation systems.

Lake Whatcom is the drinking water supply for over 100,000 people in Bellingham and Whatcom County. The City of Bellingham and the Lake Whatcom Water and Sewer District work hard to meet the water demands of their customers, but that can be challenging as the population grows. By encouraging their customers to conserve water, these utilities are ensuring Lake Whatcom meets water supply needs today and into the future.

In 2018, the City’s Water Use Efficiency Program continued to leverage existing partnerships to promote indoor and outdoor water conservation. The strong partnership with the Community Energy Challenge allows single-family and multi-family residences, as well as commercial and institutional water customers, to receive direct recommendations for increased water efficiency with water and energy assessments for participants.

The City also offers free indoor and outdoor water saving supplies, such as low-flow faucet aerators, shower heads and hose timers.

Additionally, in 2018 the City and County continued to support the free Gardening Green workshop series that focuses on landscape practices that reduce the need for outdoor watering as well as other sustainable practices.

Over 800 students participated in the City supported water conservation program in 2018. The water conservation education program teaches youth, grades K-12, about the importance of conserving water and engages them in action projects to reduce water use in the community.

What is the Average Peak Day Demand?

Being able to supply water to customers during times of high demand can be challenging for a water utility, especially as the population grows. By reducing our peak water use, we can help our water utility to meet our water needs today and into the future. Between 2014–2019, the City aims to maintain its average peak day demand (PDD) below 14 million gallons per day between June 1–August 31.

13.84 Million Gallons Per Day (2018)

HIGHLIGHTED PROGRESS MEASURES

| Gallons saved through Multi-Family Residential Rebate Projects | 390,000 |
| Gallons saved through Single-Family Residential Rebate Projects | 135,000 |
| Students participated in the Water Conservation Education Program | 830 |
| 2018 Expenditures: $245,000 |  |

Installation of Low-Flow Fixture at a Business | Photo by COB, 2018
OBJECTIVE: Prevent water quality and quantity impacts from water, sewer, and transportation systems.

The Lake Whatcom Water and Sewer District was originally formed in 1968 to provide sewer service to many homes on septic systems around Lake Whatcom that were believed to be impacting the water quality of the lake. The District now provides water and sewer service to residences surrounding Lake Whatcom that are not in the City of Bellingham’s service area.

The District has employed water conservation efforts for numerous years that are based upon voluntary compliance and continued efforts to identify leaks and repair them. The District encourages water conservation via notices through its website, billings, and outdoor signage during the summer months.

The District continues to maintain and replace older sanitary sewer infrastructure in the watershed, following its ongoing six-year capital improvement plan, with the intent of reducing the potential of sewer overflows and finding and fixing leaks within sewer lines. The District also aggressively seeks out and repairs water system leaks throughout the year.

The day with the highest water use in 2018 occurred on August 6 with 874,000 gallons being used by District customers during a 24 hour period. This is compared to a maximum day demand of 920,600 gallons on July 26 in 2017.

Significant projects in 2018 included replacement of Par Sewer Pump Station in Sudden Valley, originally installed in 1974, and an update to the District’s Water System Comprehensive Plan. The District operates and maintains 29 sewer pump stations and has been systematically replacing and/or renewing one to two sewer pump stations every year.

Also in 2018, the District continued to fund a study to assess the pollution potential to Lake Whatcom of phosphorus and fecal coliform from over 90 septic systems at the south end of North Shore Road. 29 new connections were made within 200 feet of the sewer line in 2018, including conversion of three existing homes that were previously on septic systems.

2018 PROGRESS REPORT

HIGHLIGHTED PROGRESS MEASURES

874,000 Gallons per day (2018) Maximum Day Demand (District)

29 New connections made within 200 feet of sewer line

2018 Expenditures: $900,000 (District Capital Expenditures Only)
PROGRAM AREA

Education and Engagement

**OBJECTIVE:** Protect water quality by educating and engaging watershed residents and visitors.

The Lake Whatcom Management Program continues to engage members of the community in lake protection and pollution prevention activities by providing informational resources, offering motivational incentives, and removing barriers that make it difficult for people to take action. Education and engagement activities can be found in this section and are also included in other program areas.

2018 highlights from multiple program areas include:

- 596 surveys were completed for the Lake Whatcom watershed resident survey administered in fall 2018. The survey will be repeated every five years to track resident behaviors, knowledge, and attitudes related to the health of Lake Whatcom over time. Survey results will be used to craft outreach programs that provide appropriate information, messaging, and tools to help residents adopt beneficial behaviors that result in improved lake health.

- The Lake Whatcom Management Program website was visited by over 5,100 unique users in 2018 with several visitors returning to the site on more than one occasion to learn about Lake Whatcom watershed news, information, and resources.

- 2,700 postcards were mailed to eligible Homeowner Incentive Program (HIP) property owners in 2018 to increase awareness about the program. Additional outreach included the use of Facebook ads, Nextdoor announcements, and street signs posted throughout the HIP-eligible portion of the watershed. 13 “This property is HIP” yard signs were also distributed to HIP participants.

- Three Do-It-Yourself Native Landscaping workshops were attended by 48 Lake Whatcom households. These HIP workshops provided information to homeowners about native landscape design and implementation and how to participate in the program. 14 site visits were conducted to help homeowners design native landscaping projects.

- Dog owners were encouraged to scoop the poop every time, at home and on walks, and put it in the trash through the We Scoop campaign. The campaign includes a pledge promoted via an annual dog photo contest. 94 dog owners in the city pledged to scoop and 52 of those requested and received scooping toolkits.
Additional 2018 highlights from multiple program areas include:

- 850 5th grade students and 108 adult volunteers learned about Lake Whatcom water quality issues, water and wastewater treatment, water conservation, and stormwater pollution prevention through the City’s Bellingham Water School program.
- 658 middle/high school students participated in stormwater workshops through the City’s Bellingham Water School program.
- 100 college students learned about the wastewater treatment process through tours of the wastewater treatment plant.
- 33 residents completed the Gardening Green Sustainable Landscaping Course, five of whom were Lake Whatcom residents.

- Whatcom County Public Works and Health Departments conducted targeted outreach to septic system owners promoting benefits of routine system inspection and preventative care through surveys, radio ads, Facebook posts, and free trainings.
- The Lake Whatcom Water and Sewer District distributed over 20,000 mutt mitts at seven locations around Lake Whatcom, as well as to the Sudden Valley Community Association for use in their community.
- 2,551 boaters completed the online AIS Awareness Course.
- 830 students participated in water use efficiency workshops and completed Water Use Efficiency Action Projects.
- The City raised awareness about causes and impacts of stormwater pollution via advertising campaigns in print, online, on buses, and in movie theaters.
- 272 people participated in intercept surveys at seven community events, which assessed car washing behaviors throughout the city. 250 survey participants received car wash coupons.

Additional education and engagement accomplishments can be found under their respective program areas.
PROGRAM AREA

Administration

**OBJECTIVE:** Coordinate and support implementation of the Lake Whatcom Management Program Work Plan.

In 2018, Lake Whatcom Management Program administrators continued to coordinate the Interjurisdictional Coordinating Team (ICT) and Program Area Committee activities to support the successful implementation of the 2015-2019 Lake Whatcom Management Program Work Plan.

A joint meeting of the City and County Councils and the Lake Whatcom Water and Sewer District Commission was held on March 28 to discuss program accomplishments from the Lake Whatcom Management Program 2017 Progress Report and planned activities for 2018.

The Interjurisdictional Coordinating Team (ICT) met on an as-needed basis to prepare topics for meetings of the Lake Whatcom Policy Group, compile reports, and discuss program updates.

Lake Whatcom Policy Group meetings were held quarterly to discuss updates from Lake Whatcom Program Areas. Topics included: a proposal to use aeration for phosphorus mitigation, an update on the North Shore fecal coliform study administered by the Lake Whatcom Water and Sewer District, the TMDL Detailed Implementation Plan and enforcement process, stormwater capital projects, tributary and lake monitoring and model updates, the land acquisition program, forestry management, recreation trends and challenges in the watershed, the aquatic invasive species prevention program, and updates regarding Whatcom County’s Lake Whatcom Stormwater Utility Service Area Funding Study.

Whatcom County Council established a new Lake Whatcom Stormwater Utility Service Area in December 2017 to provide additional funding for efforts to clean up and protect Lake Whatcom. In 2018, the County initiated a funding study to evaluate stormwater fee rate structure options. Work completed as part of the study in 2018 included:

- Hosting a public meeting to explain the funding study process and provide information on the new utility, and
- Establishing a citizen advisory committee to provide recommendations on the proposed rate structure and hosting seven advisory committee meetings.

Over 100 watershed residents attended public meetings and/or committee meetings in 2018 to learn more about the funding study.

In 2018, the County spent $90,000 in professional services for the Lake Whatcom Stormwater Utility Funding Study including: project coordination, meeting facilitation, policy analysis, and rate design.

2018 Expenditures: $230,000

Sudden Valley | Photo by T. Ward, 2018
## 2018 Work Plan Cost Estimates

<table>
<thead>
<tr>
<th>Program Area</th>
<th>Staff Costs</th>
<th>Capital Costs</th>
<th>Other Costs*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land Preservation</td>
<td>$162,000</td>
<td>$3,738,746</td>
<td>$1,818,534</td>
<td>$5,719,280</td>
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<tr>
<td>2. Stormwater</td>
<td>$250,000</td>
<td>$617,000</td>
<td>$195,000</td>
<td>$1,062,000</td>
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<tr>
<td>3. Land Use</td>
<td>$15,000</td>
<td>–</td>
<td>–</td>
<td>$15,000</td>
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<tr>
<td>4. Monitoring &amp; Data</td>
<td>$20,000</td>
<td>–</td>
<td>$417,849</td>
<td>$437,849</td>
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<tr>
<td>5. Hazardous Materials</td>
<td>$10,000</td>
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<td>–</td>
<td>$10,000</td>
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<tr>
<td>6. Recreation</td>
<td>$148,087</td>
<td>$125,507</td>
<td>$25,973</td>
<td>$299,567</td>
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<tr>
<td>7. Aquatic Invasive Species</td>
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<td>$38,263</td>
<td>$494,133</td>
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<tr>
<td>8. Utilities &amp; Transportation</td>
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<tr>
<td>9. Education &amp; Engagement</td>
<td>$50,000</td>
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<td>$39,840</td>
<td>$89,840</td>
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<tr>
<td>10. Administration</td>
<td>$140,000</td>
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<td>$90,000</td>
<td>$230,000</td>
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<tr>
<td>LWMP Work Plan Total</td>
<td>$1,400,957</td>
<td>$5,381,253</td>
<td>$2,720,459</td>
<td>$9,502,669</td>
</tr>
</tbody>
</table>

* Other Costs include supplies, materials, equipment, consultant fees, interfund charges, taxes, bank charges, and procedural costs.
Resources

Land Preservation
Lake Whatcom Property Acquisition Program
cob.org/services/environment/lake-whatcom/pages/lw-property-acquisition-program.aspx
Whatcom County Parks & Recreation—Reconveyance
whatcomcounty.us/625/Lake-Whatcom-Reconveyance
Protected Property in the Lake Whatcom Watershed Map
cob.org/documents/pw/lw/acquisition-land-map.pdf

Stormwater
Lake Whatcom Management Program Capital Improvement Projects
lakewhatcom.whatcomcounty.org/our-programs/capital-projects
Capital Projects Update: Presentation (12/01/2014)
lakewhatcom.whatcomcounty.org/resources
City of Bellingham 2007 Comprehensive Stormwater Plan
Whatcom County 2008 Lake Whatcom Comprehensive Stormwater Plan
whatcomcounty.us/1022/Lake-Whatcom-Comprehensive-Stormwater-Plan
Whatcom County Lake Whatcom Capital Project Plan Update
whatcomcounty.us/DocumentCenter/View/30912
Homeowner Incentive Program
lakewhatcomHIP.org

Land Use
Bellingham Municipal Code (BMC) 16.80 (Lake Whatcom Reservoir Regulatory Chapter), 15.42 (Stormwater Regulations), 16.55 (Critical Areas Ordinance), Title 22 (Shoreline Master Program) codepublishing.com/wa/bellingham/
Whatcom County Code (WCC) 20.51 (Lake Whatcom Watershed Overlay District & Stormwater Regulations), 16.16 (Critical Areas Ordinance), Title 23 (Shoreline Management Program) codepublishing.com/wa/whatcomcounty/
Lake Whatcom Watershed Annual Build-Out Analysis Report
lakewhatcom.whatcomcounty.org/resources
Short-Term Rental Regulations: City of Bellingham
cob.org/services/planning/development/Pages/short-term-rentals.aspx

Monitoring and Data
Lake Whatcom Monitoring Reports
cedar.wwu.edu/lakewhat_annualreps/
Lake Whatcom Data Catalog
Copies of documents are available at the Whatcom County Public Works Water Resources Library and the Bellingham Public Library

Hazardous Materials
Whatcom County Emergency Management Plan
Toxic-Free Future
toxicfreefuture.org
Whatcom County Disposal of Toxics
whatcomcounty.us/833/Disposal-of-Toxics-Facility
Thurston County: Grow Smart, Grow Safe®
https://www.growsmartgrowsafe.org/
Don’t Drip and Drive
fixcarleaks.org
Stormwater Hotline: (360) 778-7979

Recreation
Whatcom County Parks and Recreation—Reconveyance
whatcomcounty.us/625/Lake-Whatcom-Reconveyance
Lookout Mountain Forest Preserve and Lake Whatcom Park Recreational Trail Plan
whatcomcounty.us/DocumentCenter/View/23920
Whatcom County Comprehensive Parks, Recreation and Open Space Plan
whatcomcounty.us/DocumentCenter/View/14547
City of Bellingham Comprehensive Parks, Recreation and Open Space Plan
cob.org/documents/parks/development/pro-plan/pro-plan-full.pdf
**Resources**

**Aquatic Invasive Species**
Lake Whatcom Aquatic Invasive Species Program Annual Reports and Documents
[link]
Whatcom Boat Inspections
[link]
Aquatic Invasive Species Awareness Course
[link]
2018 Inspection Results Story Map
[link]
Whatcom Boat Inspections Hotline: (360) 778-7975

**Utilities and Transportation**
City of Bellingham Drinking Water Quality Reports
[link]
Lake Whatcom Water and Sewer District Consumer Confidence Reports
[link]
City of Bellingham Water Conservation Resources
[link]
Whatcom County On-Site Sewage System Program, WCC 24.05
[link]
Lake Whatcom Water and Sewer District 2018 Water System Comprehensive Plan
[link]
Lake Whatcom Water and Sewer District 2014 Sewer Comprehensive Plan
[link]
Whatcom Smart Trips
[link]
Community Energy Challenge
[link]

**Education and Engagement**
Lake Whatcom Management Program
[link]
City of Bellingham Lake Whatcom Stewardship
[link]
WSU Whatcom County Extension Sustainable Landscaping
[link]
Homeowner Incentive Program
[link]
Lake Whatcom Watershed Baseline Survey 2018
[link]

**Administration**
1992 Lake Whatcom Joint Resolution
[link]
Lake Whatcom Management Program Work Plans and Progress Reports
[link]
Lake Whatcom Meetings and Agendas
[link]
Lake Whatcom Management Program Contacts
[link]
Lake Whatcom Management Program Contacts:

City of Bellingham Public Works—Natural Resources
Clare Fogelsong, (360) 778-7900, cfogelsong@cob.org

Whatcom County Public Works
Gary Stoyka, (360) 778-6230, gstoyka@co.whatcom.wa.us

Lake Whatcom Water and Sewer District
Justin Clary, (360) 734-9224, justin.clary@lwwsd.org

www.lakewhatcom.whatcomcounty.org