

# ANNUAL HIGHLIGHTS REPORT

Including Overview of Achievements since 2016

Photo Credit: Megan Ludwig

APRIL  
2019  
—  
MARCH  
2020

shuswapwater.ca

## Who We Are

### About the Shuswap Watershed Council

The SWC was established in 2014 as a watershed-based partnership of several organizations to enhance water quality and safe recreation in the Shuswap. There are 18 members that represent three regional districts, two municipalities, the Secwepemc Nation, two provincial government agencies, and Shuswap communities. The SWC is a collaborative, non-regulatory group. It works alongside organizations that have regulatory roles in managing the Shuswap watershed, complementing their work and carefully avoiding duplication.

### Staff

The Fraser Basin Council, a provincial non-government organization, provides contract staff services to the Shuswap Watershed Council.

### Our Vision

Enhanced water quality that supports human and ecosystem health and the local economy in the Shuswap watershed.

## What We Do

### Our Objectives

The SWC's primary objective is to maintain and enhance water quality in the Shuswap watershed by working with water quality monitors and advocating for good practices to prevent water quality degradation. Its other objectives are to coordinate and report on water quality in the Shuswap; to inform residents and visitors about water quality, and to encourage and promote safe boating and water-based recreation.

### The Work

The SWC's work is guided by its five-year plan for 2016–2021.

2019 was the fourth year of program operations for the SWC. In this Annual Report you'll find the highlights of the SWC's work on water quality monitoring and research, invasive mussel prevention, safe recreation, and a summary of expenditures. This report also includes an overview of the SWC's achievements since 2016, as it nears completion of its first five-year plan.



**Paul Demenok**  
Columbia Shuswap  
Regional District Area C  
—South Shuswap

## Message from the Chair

As residents and visitors, we are very fortunate to be able to enjoy and use the clean, pristine waters of the Shuswap watershed. The Shuswap Watershed Council is proud to serve as a steward of this remarkable natural resource; our goal is to maintain and enhance its water quality for generations to come. Over the past four years, we have invested in important research to identify sources of nutrient inputs,

and we now look forward to reducing these impacts, guided by this science.

I am honoured to be part of this Council, and I would like to sincerely thank the Fraser Basin Council, all members of our Water Protection Advisory Committee and Water Quality Monitoring Group, and all members of the Council for their dedication and contributions to the Shuswap watershed.

## Highlights for 2019



Staff prepare to lower a Secchi disk to take a water quality reading. The Secchi disk gives an indication of water clarity.

## Water Quality Monitoring

The Shuswap Watershed Council serves as a convenor and facilitator for the **Shuswap Water Quality Monitoring Group**, which is made up of several organizations in the watershed that are responsible for monitoring. Regular meetings of the Monitoring Group enable dialogue, information sharing, and planning to ensure that the entire watershed—large lakes, small lakes, and rivers—is adequately and efficiently monitored.

16

different organizations  
involved in water  
quality monitoring

1000+

water samples  
collected and  
analyzed in 2019

The SWC provided **over \$15,000 in support of an expanded monitoring program on Shuswap Lake** to determine the effects of the 2018 dominant salmon return. Shuswap Lake and its many rivers and creeks provide important migration and spawning habitat for Pacific salmon. Salmon are a natural source of nutrients and organic matter. Decaying salmon carcasses release nutrients along shorelines and directly into creeks and rivers; this is especially impactful to water quality in the months following a dominant salmon return. The monitoring program is a partnership between the SWC and the BC Ministry of Environment and Climate Change Strategy.

## Water Quality Research

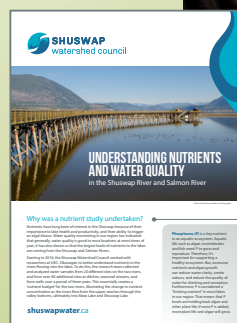
The SWC completed a **three-year research project with UBC–Okanagan** to better understand where and how nutrients are getting into the Shuswap River and Salmon River, and ultimately into Mara and Shuswap Lakes.

Nutrients have long been of interest in the Shuswap because of their importance to lake health and productivity, but also their ability to trigger an algae bloom. The SWC initiated this research project to gain answers the following questions:

- Are there excess nutrients in the rivers that are not from the natural environment?
- If so, where are they coming from and how are they getting into the rivers?

A member of the research team takes a gauge measurement on Fall Creek, a tributary to the Shuswap River.

Photo credit:  
Megan Ludwig.



Research results are summarized in a new report, *Understanding Nutrients and Water Quality in the Shuswap River and Salmon River*. A full report from the research team will be ready later this year.





This water sample was collected from White Lake. It was tested for Zebra and Quagga mussel larvae, called veligers. Veligers are microscopic and free-swimming.

Photo credit: Kim Kaiser.

#DONTMOVEAMUSSEL

## Invasive Zebra and Quagga Mussel Prevention

The SWC partnered with the **Columbia Shuswap Invasive Species Society** to monitor the Shuswap watershed for invasive Zebra and Quagga Mussels (ZQM) throughout boating season, and to conduct education and outreach with residents and visitors to the Shuswap about preventing the spread of ZQM. The SWC promoted **watercraft inspection** and **Clean-Drain-Dry** through news articles and print media, social media, and signage. Additionally, staff presented at the *International Conference on Aquatic Invasive Species* about prevention work underway in the Shuswap.

Zebra and Quagga mussels would have negative effects on water quality, beaches, and fish populations; they would also cause nuisance clogging in water utilities and irrigation systems. **Fortunately, the Shuswap—and all of British Columbia—remains invasive mussel-free. The SWC is helping to keep it that way!**

24

24 sites on 14 waterbodies were monitored for Zebra and Quagga Mussels

8

8 new signs were installed at boat launches describing Clean-Drain-Dry practices

Media messaging reached up to

55,000

NEWS SUBSCRIBERS

&

15,000

SOCIAL MEDIA USERS

&

775,000

TRAVELLERS

through advertising, billboards and travel magazines

In 2019, **invasive Asian clams** were found on the shores of Shuswap Lake. At this time, only dead specimens have been found. Nevertheless, this new detection of an invasive species underscores the importance of practicing several prevention measures such as:

- cleaning, draining, and drying watercraft when moving from one waterbody to another
- stopping for watercraft inspection when travelling
- avoiding using invasive species as fishing bait,
- never releasing aquarium plants or animals.

Monitoring will continue in 2020 to determine if there is a living population of the clams in Shuswap Lake.



Report suspected sightings of invasive species via the Report Invasives BC app.

## Safe Recreation

The SWC is committed to helping keep the Shuswap safe for boaters and recreationists through raising awareness for unsafe practices, and **promoting safe practices** such as lifejacket use, cold water safety, drowning prevention, and sober boating. The SWC promoted “7 top tips” through a combination of articles, social media, signage, and advertising. The SWC is also pleased to work with the **Royal Canadian Marine Search & Rescue** to promote free lifejacket loans for children at several locations throughout the Shuswap.

The SWC’s safety messaging had over

**50,000**

IMPRESSIONS ON  
SOCIAL MEDIA

**215,000**

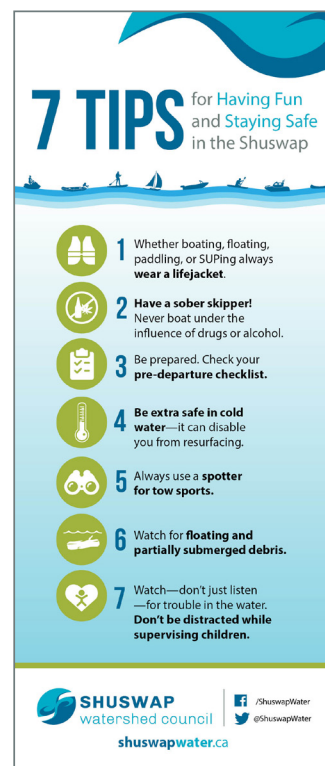
IMPRESSIONS IN THE  
NEWS & IN PRINT

**300,000**

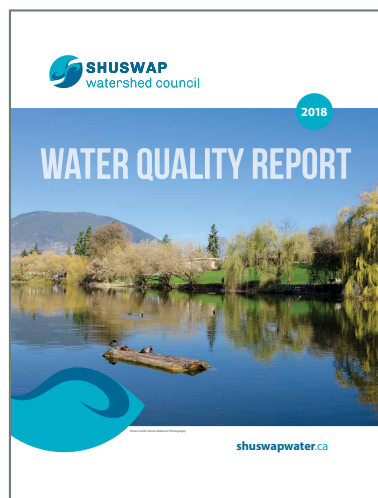
IMPRESSIONS  
ON THE RADIO

Grant funding from Transport Canada enabled the SWC to deliver more safety campaigns than ever before!

Rack cards and posters describing 7 top tips for safety were distributed throughout the Shuswap



## Communications and Advocacy



The SWC is open and transparent about its program operations, expenditures, achievements and decisions. Some of its key communiqués include:

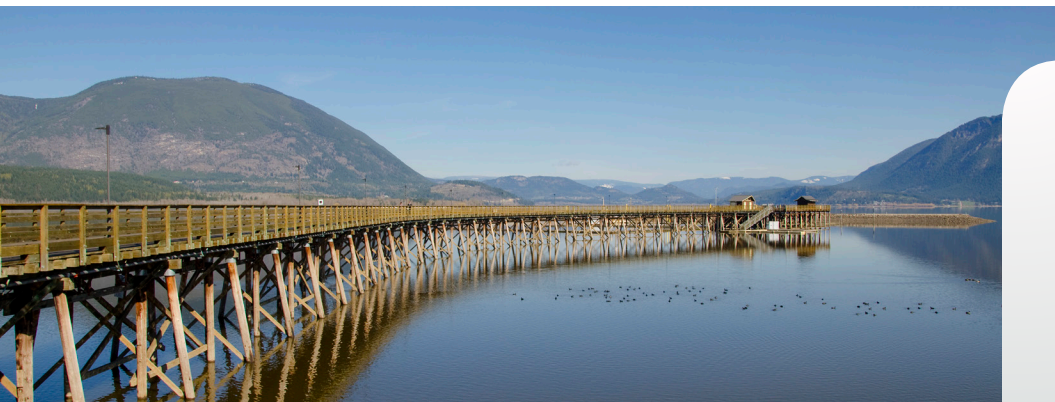
- SWC Meeting Highlights Summaries (4 times per year)
- Completion and distribution of the third annual water quality report, the **2018 Shuswap Water Quality Summary**
- Maintaining an **up-to-date website** and an active presence on **social media**
- Making all meeting summaries and financial reports available online

The SWC focused its advocacy work in 2019 on preventing the spread of Zebra and Quagga Mussels to British Columbia. Early in 2019, the SWC presented to the *House of Commons Standing Committee on Fisheries and Oceans* during the committee’s review of the national Aquatic Invasive Species Program. The SWC also corresponded with the provincial and federal governments regarding its concern for the risk of an invasion, and called for additional measures to protect BC from such an invasion.

Photo credit: Darren Robinson Photography.

- /ShuswapWater
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- @shuswap.water

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## Administration and Governance

Four Council meetings were held throughout the year to approve projects and work plans, receive operational updates from staff, hear informative presentations from other groups, and discuss arising issues. The SWC also had a strategic planning workshop early in 2020 to draft a new Strategic Plan for 2021–2026, to immediately follow the completion of its current five-year plan for 2016–2021. Council meetings are open to the public.

### 2019–20 Budget and Operational Expenses (April 1, 2019–March 31, 2020)

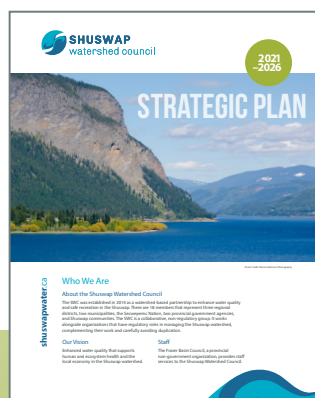
The SWC's work is supported by contributions from the following governments:

Contributor	Amount (\$)
2018–19 surplus (carried forward from March 31st, 2019)	186,896
Columbia Shuswap Regional District (Areas C, D, E, F and the District of Sicamous)	160,000
Thompson-Nicola Regional District	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1,300
Grant Funding: Transport Canada, Boating Safety Contribution Program	19,538
<b>Revenue for 2019–20</b>	<b>461,334</b>

### Operational Expenses

Program	Budgeted (\$)	Expenses (\$)	Variance (\$)
Water Quality Program: Monitoring Initiative	51,150	41,964	9186
Water Quality Program: Protection Initiative	79,500	39,759	39,742
Zebra & Quagga Mussel Prevention Program	30,825	31,087	-262
Safe Recreation Program	26,050	25,810	240
Communications and Advocacy	42,200	39,967	2233
Administration and Governance	43,150	40,753	2397
<b>Sub-total Operational Expenses</b>	<b>272,875</b>	<b>219,339</b>	<b>53,536</b>
Operating Reserve*	188,459	0	188,459
<b>Summary of Expenses</b>	<b>461,334</b>	<b>219,339</b>	<b>241,995</b>

\* The Operating Reserve has been growing each year since 2016, as a result of annual surpluses. Within the reserve the SWC holds a \$20,000 water quality contingency fund that can be drawn from in case of arising water quality issues that require additional, unplanned monitoring or response. The fund has not been drawn from to-date.



The SWC recently published its Strategic Plan for 2021–2026. Find it on their website.

[shuswapwater.ca](https://shuswapwater.ca)



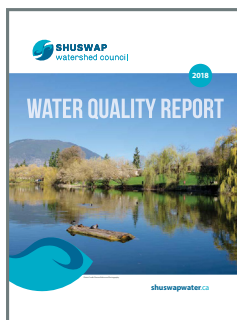
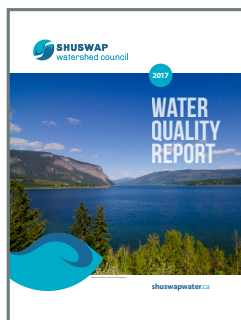
shuswapwater.ca



- The SWC convenes the Shuswap Water Quality Monitoring Group twice per year for dialogue, information sharing, planning, and to identify and reduce potential redundancies or duplication with respect to water quality monitoring. This collaboration is one of the most important roles fulfilled by the SWC.

- The SWC serves as a 'tracker' of monitoring activities across the watershed, with input from water quality monitoring organizations
- The SWC published a user guide for the provincial Environmental Monitoring System to enable easier use of the water quality database by the general public

- The SWC partnered with the BC Ministry of Environment and Climate Change Strategy to do attainment monitoring (a more in-depth monitoring program) on the Salmon River from 2016–19. Funding from the SWC enabled this work to be done.
- The SWC coordinated a special monitoring project in Shuswap Lake in 2017 to test for a group of synthetic compounds called nonylphenols. These are known to be harmful to aquatic life if they're present in high enough concentrations, and they are not routinely monitored by regulatory agencies.

[illegible]

- The SWC has published three annual Shuswap Water Quality Summary Reports, to-date. Some monitoring organizations share their data and expertise with the SWC for including in these reports. Publicly reporting on water quality data is a unique role fulfilled by the SWC.

## WATER QUALITY RESEARCH

- The SWC has been working with researchers at UBC–Okanagan since 2016 to learn about nutrients in the Shuswap watershed, with a focus on the Shuswap River and Salmon River. The SWC has invested \$150,000 over three years in this research. It is the first research of its kind in the Shuswap watershed. The first phase of research involved the collection and analysis of water samples from over 100 different sites over a three year period to essentially create a ‘nutrient budget’ illustrating how different regions of the watershed contribute more—or less—nutrients to the rivers. A second phase of research in 2019 involved the collection and analysis of a sediment core from the bottom of Mara Lake to learn how nutrient-loading in the watershed has changed over the past century. Analysis and results to-date have shown us which regions of the watershed and which land use types contribute the most significant amounts of nutrients to the rivers, on a kg/hectare/year basis. Full reports from the research team will be ready later this year.

## WATER QUALITY IMPROVEMENT

- In 2016 and 2017, the SWC offered grant funding for water quality improvement projects.
  - In 2016 a \$10,000 grant was provided to Yucwmenlucwu, a resource management company owned and operated by Splatshin First Nation, to restore a section of Alderson Creek (a tributary to Fortune Creek and ultimately to the Shuswap River). Livestock exclusion fencing was installed along the creek and the riparian area was restored with new plants.
  - In 2017 a \$10,000 grant was provided to Gardom Lake Stewardship Society to restore a wetland along Gardom Creek, the in-flow to Gardom Lake. Wetlands are very good at improving water quality because they capture sediments and nutrients; they also provide valuable habitat.
- Early in 2020, the SWC launched a new water quality grant program: up to \$100,000 is available to help land-owners and agriculturalists in the Shuswap River and Salmon River valleys with projects to protect water quality.

## SAFE RECREATION

- The SWC has delivered safe boating and safe water-based recreation campaigns every year during the summer months, focusing on lifejackets, sober boating, cold water awareness, drowning prevention, and boating preparedness. These safe practices are promoted through various media, and have had over 750,000 impressions on residents and visitors since 2016.
- The SWC has been pleased to partner with the Royal Canadian Marine Search & Rescue (Station 106 Shuswap, based in Sicamous) to make the Shuswap a safer place for all recreationists. The SWC has supported the RCM-SAR’s *Kids Don’t Float* initiative—which provides free lifejacket loans for children—by providing funding to build and equip some of the lifejacket kiosks and also by promoting the network of kiosks across the Shuswap.

## COMMUNICATIONS AND ADVOCACY

- The SWC has been open and transparent about its program operations, expenditures, decisions, and key activities. It has made all of this information available through a variety of media including its website, social media, editorials, council meeting summaries, and annual reports.
- The SWC has focused its advocacy efforts on the two issues which, if they are not managed well into the future, are perceived to pose the greatest threat to our water quality and lake ecosystems: invasive Zebra and Quagga mussels, and nutrient inputs via the Shuswap River and Salmon River. The SWC has corresponded with the provincial and federal governments about invasive mussels on several occasions, relaying its concerns and asking for more funding and resources to prevent the spread to British Columbia. Additionally, the SWC provided input to the provincial review of the *Agricultural Waste Control Regulation*, calling for enhanced measures to protect our watershed from excessive phosphorus run-off.

## Activities and Achievements since 2016, *continued*

### ZEBRA & QUAGGA MUSSEL PREVENTION

- The SWC has partnered with the Columbia Shuswap Invasive Species Society (CSISS) to monitor the Shuswap watershed for aquatic invasive Zebra and Quagga mussels (ZQM) since 2018. The SWC has provided financial support to CSISS, which has enabled them to expand their monitoring program in the Shuswap watershed significantly.
- The SWC promotes invasive mussel prevention practices extensively through the spring and summer boating and tourism season. Messages of 'Clean–Drain–Dry' and promoting the Province's watercraft inspection stations have reached over 650,000 people per year, in the last two years.

The SWC is concerned about the threat posed by invasive Zebra and Quagga mussels to British Columbia. Education and outreach to residents and visitors, and early detection monitoring for mussels, are high priority items.

### GOVERNANCE AND REPRESENTATION

- The SWC established a Council of 18 representatives from several governments and communities within the Shuswap watershed —Council membership includes one representative from each of the BC Ministry of Environment and Climate Change Strategy and the BC Ministry of Agriculture who provide in-kind expertise to the SWC; additionally, four community representatives provide valuable input on a voluntary basis.
- The SWC established and abides by a governing Terms of Reference
- The SWC established two supporting technical committees: a Water Quality Monitoring Group, and a Water Protection Advisory Committee

The SWC performed an interim review of its programs in 2018. A review committee considered the SWC's program performance and achievements, financial management, and staff services. The results of the review were positive, and the committee recommended the SWC stay the course and continue their work on water quality and safe recreation.

### Looking ahead

The SWC will complete the work in its current five-year plan at the end of 2020. A new strategic plan for 2021–2026 will guide the SWC's work in the future.



### SWC Members

as at March 31, 2020

**Paul Demenok—Chair**  
CSRD Area 'C'

**Tim Lavery—Vice Chair**  
City of Salmon Arm

**Rene Talbot**  
CSRD Area 'D'

**Rhona Martin**  
CSRD Area 'E'

**Jay Simpson**  
CSRD Area 'F'

**Rod Crowe**  
TNRD, Village of Chase

**Ken Christian**  
TNRD, City of Kamloops

**Colleen Anderson**  
District of Sicamous

**Dave Nordquist**  
Secwepemc Nation,  
Adams Lake Indian Band

**Steven Teed**  
Secwepemc Nation,  
Adams Lake Indian Band

**Rick Fairbairn**  
RDNO, Area 'D'

**Denis Delisle**  
RDNO, Area 'F'

**Dennis Einarson**  
BC Ministry of Environment  
& Climate Change Strategy

**Chris Zabek**  
BC Ministry of Agriculture

**Lorne Hunter**  
Community Representative

**Randy Wood**  
Community Representative

**Sharon Bennett**  
Community Representative

**Natalya Melnychuk**  
Community Representative