



ANNUAL REPORT

2022
—
2023

Photo credit: Shuswap Adventure Girl

In this Annual Report you'll find the highlights of the SWC's work on:



Water quality monitoring



Safe boating and swimming



Water quality reporting



Communications and advocacy



Water quality protection and improvement



Council administration and governance



Aquatic invasive species prevention



Expenditures

The SWC humbly acknowledges that its work takes place in Secwepemc'ulecw, the traditional unceded territory of the Secwepemc Peoples.



Photo credit: Shuswap Tourism / Darren Robinson Photography

Message from the Chair

Welcome to our 7th Annual Highlights Report. Looking back over the last year, I see that our watershed continues to have some challenges and that our work as a watershed council is as important as ever. An **algal bloom in Salmon Arm Bay** persisted through August and September, posing problems for our local governments, our Council, our residents, visitors, and tourism businesses. Additionally, there is an ongoing concern that an **invasive mussel-fouled boat** may slip through our provincial border without being inspected, potentially starting a new invasion of mussels and costing residents millions of dollars every year to deal with such an invasion. Furthermore, nutrients such as **phosphorus** continually wash into our lakes and streams off the landscape which is directly affecting the lakes' biology. But, all is not doom and gloom. At the Shuswap Watershed Council, our goal is to keep water quality at the forefront of our efforts. This goal directs us to stay in contact with provincial agencies who have authority

and jurisdiction over various aspects of the watershed. Over the past year, we have encouraged the Province to apply more resources to their **watercraft inspection program** to prevent the spread of invasive mussels into BC. We have written to the Province to make them aware of our concerns and about emerging issues. We have helped advance sustainable agriculture practices through our **Water Quality Grant Program for farms** in the Shuswap.

Looking ahead, I am optimistic about the Council members at our table. We have representation from three provincial government agencies; from First Nations, whose history is ingrained with protection of the water and land; from members of the public who represent constituencies such as forestry and agriculture; and from three regional districts and two municipalities. We have biologists, water policy experts, farmers, and politicians—all working together for the betterment of the Shuswap watershed. *It's going to be a busy year!*



JAY SIMPSON
Chair, Shuswap Watershed Council
Director, Columbia Shuswap
Regional District Area F
—North Shuswap



Who We Are

About the Shuswap Watershed Council

The SWC was established in 2014 as a watershed-based partnership of several organizations with an interest or responsibility for protecting water quality. There are up to 22 members that represent three regional districts, two municipalities, the Secwepemc Nation, three provincial government agencies, and Shuswap communities. The SWC is a collaborative, non-regulatory group that focuses on strategic initiatives to protect, maintain, and enhance water quality and promote safe recreation in the Shuswap.

Staff

The Fraser Basin Council, a provincial non-government organization, provides 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.

The Shuswap Watershed

The Shuswap watershed is a very special place.

It is within Secwepemc'ulecw, the traditional unceded territory of the Secwepemc Peoples and the homeland of the Neskonlith, Skw'lax, Adams Lake, and Splatsin te Secwepemc First Nations. The Shuswap watershed—including Shuswap Lake, Mara Lake, Mabel Lake, Adams Lake, and many more lakes and rivers—is about 1.5 million hectares. Shuswap Lake itself is 310 square kilometres, with hundreds of kilometres of shorelines.

It is known for its pristine water and beautiful beaches. These attributes make the Shuswap one of the most popular recreational destinations in BC, and contribute to a desirable lifestyle for residents and a significant tourism economy. The Shuswap is a nursery watershed for four species of Pacific salmon, and provides important habitat for a variety of plants and wildlife. The Shuswap is a vitally important source of water for drinking for many communities and rural residents, and for agriculture.

The watershed is our main priority

While the Shuswap boasts abundant, clean water in many parts of the watershed throughout the year, there are emerging concerns affecting the water quality and health of the ecosystem. Re-occurring algal blooms in Salmon Arm Bay have the potential to impact our enjoyment of the lake, tourism, and the provision of healthy drinking water. The SWC's response to this has been to educate residents about the impact that excessive nutrients such as phosphorus has on water quality through its **Phosphorus Action Plan**. The SWC has also created financial incentives for farms and stewardship groups to improve nutrient management and undertake restoration projects through its **Water Quality Grant Program**. And, the SWC has been an **advocate for the Shuswap** by sharing its concerns about deteriorating water quality in Salmon Arm Bay with the Provincial government—who has the jurisdictional mandate for environmental health and protection—and asking for additional monitoring and action to correct the problems.

Additionally, there is an ongoing threat of invasive Zebra and Quagga mussels being introduced to BC from Eastern Canada or the USA. If the mussels were to arrive in the Shuswap, they would impact water quality, ruin beaches, compete with native species for food and habitat, and colonize on boats, dock pilings, and pipes under water which would require costly regular maintenance to rid these items of their colonies. To help prevent an invasion from occurring, the SWC has delivered an **education and outreach program** to promote best practices, and it has provided financial support for **early detection monitoring** for invasive mussels. Additionally, the SWC has called upon federal and provincial authorities for greater action to stop the spread of invasive mussels to BC.

In the following pages of our 2022–23 Annual Report, you can learn more about what the SWC is doing to address these priority issues, and more, in the Shuswap watershed.



Protecting and improving water quality



Educating and advocating for better protection against invasive mussels



Promoting safe boating and recreation

Working together on water

The management and governance of water is complex, and many different governments and organizations have roles and responsibilities related to water. The Shuswap Watershed Council brings many of these organizations together to work on water quality. While it does not have its own jurisdictional responsibility for water quality, the SWC serves as a facilitator for the **Shuswap Water Quality Monitoring Group** which is made up of staff from several organizations with responsibilities for monitoring. Regular meetings of the Monitoring Group enable dialogue, data and information sharing, and planning water quality monitoring across the watershed—large lakes, small lakes, and rivers.

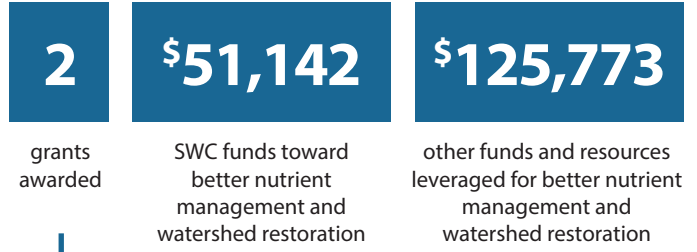
17 different organizations representing municipal, regional, indigenous, provincial, and non-government organizations participate in the **Monitoring Group**.

Water Quality Grant Program

2022 was the third year the SWC offered its **Water Quality Grant Program**. The purpose of the grant program is to provide financial support to farms, stewardship groups, and/or landowners in the Shuswap watershed for projects that improve on-farm nutrient management, build soil health, or restore wetlands and riparian areas. These types of projects help to protect and improve water quality in creeks, rivers, and downstream to Shuswap and Mara Lakes. Two grants were awarded in 2022, worth a total of \$51,142. The grant funding leveraged an additional \$125,773 cash and in-kind contributions from the grant recipients for a total investment of \$176,915 in new water quality protection projects.

“We want to support the adoption of new and improved nutrient management strategies on local farms, and that’s what we’re doing by making these grant funds available.”

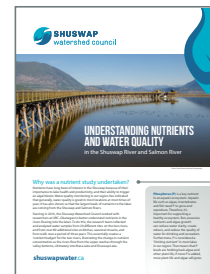
—SWC Chair Jay Simpson



Gardom Lake Stewardship Society received grant funding to construct an expansion on the Gardom Lake wetland. Wetlands are natural water-purifiers: as a creek flows through a wetland, plants take up excess nutrients and sediments settle out. They also help to buffer floods and droughts, and they provide important habitat for wildlife.



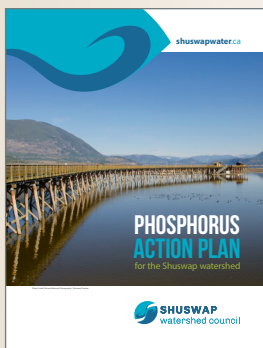
Crystal Lake Ranch in Malakwa received grant funding to install livestock control fencing on the ranch adjacent to the Eagle River and restore sections of the riverbank. Limiting livestock access to the river prevents the riverbank from being trampled and eroding into the river, and prevents manure deposition directly into the river.



Find the research summary report on the SWC website

The Water Quality Grant Program was developed by the SWC in response to the findings of a three-year research project done in partnership with UBC-Okanagan (2016–2019). Research results showed that the greatest proportion of nutrients in Shuswap and Mara Lakes originate from the settled valley bottoms of the Salmon and Shuswap Rivers, where there are farms and homes. These are the areas where better nutrient management and watershed restoration will have the most impact in improving water quality in the lakes.

Phosphorus Action Plan



In the fall, the SWC published a **Phosphorus Action Plan** for the Shuswap watershed. The purpose of the Plan is to provide guidance to everyone in the Shuswap on actions they can take to protect water quality by reducing the amount of phosphorus (P) being released into the watershed. Additionally, the Plan summarizes the regulatory framework for P because the use of phosphorus and the discharge of phosphorus-rich effluents is regulated in many ways by different authorities. The provincial government has the most specific regulations to directly manage P and other nutrients.

We are all stewards of the watershed, and we can all play a part in protecting our water quality whether we are agriculturalists or silviculturists; building or maintaining roads; tending to parks, lawns and gardens; choosing household products and minding what we flush down our drains; properly maintaining septic systems, and more. The Plan is for all of us!



Invasive Zebra and Quagga Mussel Prevention

The SWC partnered with the Columbia Shuswap Invasive Species Society (CSISS) to monitor the Shuswap watershed for invasive Zebra and Quagga Mussels (ZQM) from spring to fall. Additionally, CSISS and the SWC work together to educate and inform boaters, paddlers, and marina staff about preventing the spread of ZQM. The SWC promoted two important prevention measures—**watercraft inspection** and **Clean-Drain-Dry**—through news articles and print media, social media, and signage.

87

samples collected and tested for the presence of Zebra and Quagga Mussels

13

sites on 7 waterbodies were repeatedly monitored in 2022

The SWC's media messaging had:

Over
571,000

Impressions in the news and travel literature

Up to
15,000

Impressions on radio listeners

Over
1.6 million

Impressions on travellers through billboards

Over
70,000

Impressions on social media



Invasive mussels are often introduced to a waterbody by boats and other watercraft. Therefore, where there is a high density of watercraft, there is a higher likelihood of detecting ZQM. SWC Program Manager Erin Vieira is shown here at a monitoring site in Captain's Village Marina (Scotch Creek). Erin is holding a phytoplankton net which would capture microscopic mussel larvae if they were present at this site.

“By monitoring for Zebra and Quagga Mussels, essentially we are looking for something that we hope desperately not to find.”

—Erin Vieira, SWC Program Manager

Zebra and Quagga mussels would have negative effects on water quality, beaches, and native species; they would also cause nuisance clogging in domestic water intakes, hydro-power facilities, and irrigation systems.

Fortunately, lakes in the Shuswap—and all of British Columbia—remain invasive mussel-free. The SWC is helping to keep it that way!



This photo illustrates how Quagga mussels have colonized on pieces of pipe in Lake Mead (Nevada) over different periods of time. This imposes very costly ongoing maintenance to rid pipes and other infrastructure of mussel colonies.

Invasive freshwater clams

Invasive freshwater clams—also known as pygmy clams, golden clams, or Asian clams—were found on the shores of Shuswap Lake in 2019. In 2020 and 2021, the SWC sponsored CSISS to survey beaches on the shores of the Salmon arm and Main arm of Shuswap Lake, and on Mara Lake; these surveys found live clam populations at Sunnybrae and Canoe. Additionally, water samples that are collected in Zebra and Quagga Mussel monitoring are also tested for invasive clam larvae. Invasive clams are a species of concern, and they are the most commonly reported invasive species in the Shuswap.

We all must be diligent to prevent the spread of invasive mussels to BC, and to stop the spread of invasive clams around the Shuswap. Here's what you need to do:

- always **clean, drain, and dry watercraft** when moving from one lake or river to another, or from one area of Shuswap Lake to another area (if you remove your watercraft from the lake)
- stop for **watercraft inspection** when travelling
- avoid using invasive species as fishing bait
- **never release** aquarium plants, animals, or water into the environment
- report sightings of invasive clams and other invasive species using the **Report Invasives BC** app



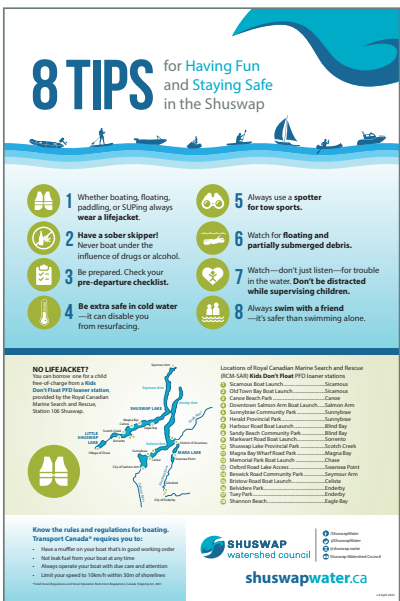
You can help!

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



Photo credit: Viktoria Haack / Shuswap Tourism

Safe Boating and Recreation



The SWC wants everyone in the Shuswap to be safe on and near the water whether boating, paddling, or beach-going. In 2022, the SWC raised awareness for unsafe behaviours and promoted safe practices such as wearing a lifejacket, boating sober, and drowning prevention. The SWC promoted “8 top tips” through a combination of articles, social media, and advertising. The SWC also promoted national campaigns such as Lifejacket Day, Water Safety Week, and Drowning Prevention Week. Additionally, the SWC partners with the Royal Canadian Marine Search & Rescue, Station 106 Shuswap (based in Sicamous) to raise awareness of the availability of lifejacket loaner kiosks for children and life ring stations at several locations throughout the Shuswap.

The SWC's safety messaging had up to...

79,900
Impressions on social media

284,600
Impressions in the news and in print

45,000
Impressions on the radio

6

Rack cards and posters describing 8 top tips for safety were distributed to nearly 60 locations throughout the Shuswap.



19

Did you know there are **19 lifejacket loaner kiosks** around the Shuswap, equipped with child-sized lifejackets to borrow for free on the honour system? The kiosks are provided by the Royal Canadian Marine Search and Rescue, Station 106 Shuswap, with support from several community sponsors. The SWC has proudly sponsored the installation of three kiosks.

Bruce Weicker (RCM-SAR #106) and Erin Vieira (Shuswap Watershed Council) hang up lifejackets for the season at the loaner station at Old Town Bay in Sicamous.

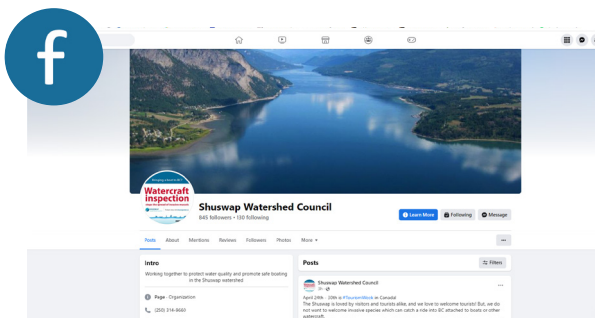


Communications and Advocacy



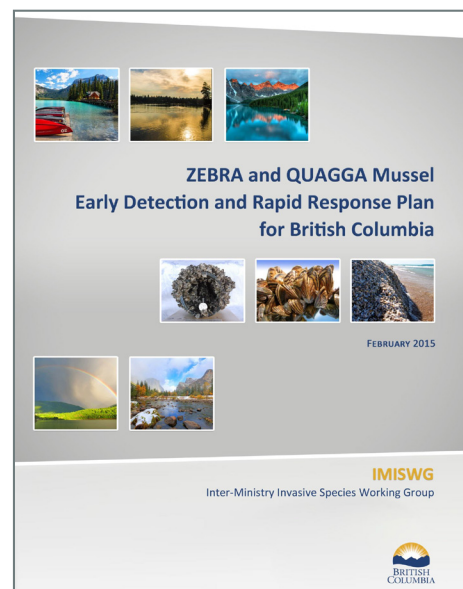
Throughout the year, the SWC publishes various communiqués about its operations, decisions, expenditures, and achievements. It also strives to engage Shuswap residents and visitors in important issues and announcements relevant to the Shuswap watershed. These communiqués include:

- Completion and distribution of the SWC's sixth annual water quality report, the 2021 **Shuswap Water Quality Summary**
- SWC Meeting Highlights Summaries (4 times per year)
- Media releases about the SWC's activities and achievements
- The SWC maintains an informative **website** and an active presence on **social media**



Local voices for local issues

The SWC is an advocate for the Shuswap watershed. Over the past several years, the SWC has called upon provincial and federal authorities to take additional steps and make additional investments to ensure the long-term health of the Shuswap watershed. In 2022, the SWC wrote to the BC Ministry of Water, Land and Resource Stewardship asking for **more resources for the Provincial Invasive Mussel Defence Program** (IMDP) such that all routes into BC from Alberta and Washington have a watercraft inspection and decontamination station to better protect BC from aquatic invasive mussels. The IMDP is BC's first line of defense against invasive mussels; however, the SWC remains concerned that travellers with watercraft can enter BC via an unchecked route or outside of inspection station hours. **The SWC has called for other steps from government to stop the spread of invasive mussels**, including the introduction of new 'pull-the-plug' legislation for watercraft owners; a review and update of the *BC Zebra and Quagga Mussel Early Detection and Rapid Response Plan* by the Province; and better containment of invasive mussels in Manitoba, Ontario and Quebec where the mussels occur.



shuswapwater.ca

Follow us and stay up to date with our work!



Administration and Expenses

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. SWC meetings are open to observers.

2022–23 Budget (April 1st 2022–March 31st 2023)

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

Contributor	Amount (\$)
2021–22 surplus (carried forward from March 31 st , 2022)	81,804 ¹
Return of grant funding	8,200
<i>Per Contribution Agreement:</i>	
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
<i>Federal grant funding:</i>	
Transport Canada—Boating Safety Contribution Program	22,900
Revenue for 2022–23	367,804

Operational Expenses

Program	Budgeted (\$)	Expenses (\$)	Variance (\$)
Water Quality Monitoring	28,850	23,644	5206
Water Quality Protection & Improvement	158,930	86,895	72,035 ²
Zebra & Quagga Mussel Prevention	35,875	33,988	1887
Safe Recreation	27,600	24,839	2761
Communications & Advocacy	55,100	42,990	12,110
Management & Administration	43,750	37,090	6660
Sub-total operational expenses	350,105	249,445	100,660
2023 contribution to Operating Reserve	17,699	0	17,699
Summary of expenses	367,804	249,445	118,359

Operating Reserve ³	(\$)
Balance at April 1 st 2022 (carried forward from March 31 st)	132,667
2022–23 contribution	17,699
Balance as at March 31 st 2023	150,366

- The Water Quality Protection & Improvement budget often ends the year with a surplus due to funds that have been approved for spending but not carried out until the following year. Of the \$81,804 surplus at the start of April 2022, \$71,430 was allocated to projects that were completed in 2022–23. Also see note #2.
- Of the \$72,035 surplus in the Water Quality Protection & Improvement budget as of March 31st 2023, \$53,004 is allocated to projects that will be completed in 2023–24.
- The Operating Reserve has been growing since 2016 as a result of annual surpluses.



SWC Members

March 31, 2023

Chair—Jay Simpson

Columbia Shuswap Regional District, Area F

Vice Chair—Natalya Melnychuk

Columbia Shuswap Regional District, Area G

Director Marty Gibbons

Columbia Shuswap Regional District, Area C

Director Dean Trumbley

Columbia Shuswap Regional District, Area D

Director Rhona Martin

Columbia Shuswap Regional District, Area E

Mayor David Lepsoe

Thompson-Nicola Regional District, Village of Chase

Mayor Reid Hamer-Jackson

Thompson-Nicola Regional District, City of Kamloops

Councillor Debbie Cannon

City of Salmon Arm

Councillor Pam Beech

District of Sicamous

Councillor Howard Nordquist

Adams Lake Indian Band

Robyn Laubman

Splatsin te Secwepemc

Director Jim Johnson

Regional District of North Okanagan, Area E

Director Allysa Hopkins

Regional District of North Okanagan, Area F

Erik Kok

Community Representative

Kimm Magill-Hofmann

Community Representative

Phil Owen

Community Representative

Kym Keogh

BC Ministry of Environment & Climate Change Strategy

Lindsay Benbow

BC Ministry of Agriculture, Food & Fisheries

Kelly Chiatto

BC Ministry of Forests

Dennis Einarson

Senior Scientific Advisor