

**AGENDA PACKAGE FOR:**

**Council Meeting**  
**March 8<sup>th</sup> 2023 • 10:00 AM – 2:00 PM**  
**Columbia Shuswap Regional District Boardroom**  
**555 Harbourfront Drive NE, Salmon Arm**

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1.	December 14 <sup>th</sup> 2022 draft meeting summary for approval and signature from Chair	10:20

**Council Meeting**  
**December 14<sup>th</sup> 2022 • 9:30 – 12:00 PM**  
**Virtual meeting via Zoom**

Draft Record of Decisions and Action Items  
This record is subject to correction at the next Council meeting

**Meeting objectives**

1. Receive update from Program Managers
2. Receive update on Salmon Arm Water Pollution Centre upgrade from City of Salmon Arm
3. Receive presentation on Salmon River Water Quality Assessment Report from Ministry of Environment
4. Receive presentation and request for partnership support from Thompson Rivers University

**Present**

Jay Simpson, Chair – Columbia Shuswap Regional District, Area F  
Marty Gibbons – Columbia Shuswap Regional District, Area C  
Dean Trumbley – Columbia Shuswap Regional District, Area D  
Rhona Martin – Columbia Shuswap Regional District, Area E (*from 9:40 am*)  
Natalya Melnychuk – Columbia Shuswap Regional District, Area G  
Debbie Cannon – City of Salmon Arm  
Robyn Laubman – Splatstn te Secwepemc  
Kym Keogh – BC Ministry of Environment & Climate Change (*from 9:40 – 11:00 am*)  
Kelly Chiatto – BC Ministry of Forests (*to 11:35 am*)  
Kimm Magill-Hofmann – Community representative  
Phil Owen – Community representative (*from 9:40 am*)  
Dennis Einarson – Senior Scientific Advisor (*from 10:00 am*)

Erin Vieira and Alex de Chantal – Fraser Basin Council

**Guests and observers**

Lily Kotzeva  
Tay Powrie  
Tom Pypker  
Rob Solinger  
Carly Foster  
Ian Rogalski

**Regrets**

Erik Kok  
Pam Beech  
Lindsay Benbow  
Howard Nordquist  
Rick Fairbairn

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### Call to Order

Chair Jay Simpson called the meeting to order at 9:32 AM. The Chair introduced Director Marty Gibbons and Director Dean Trumbley as new members on the SWC representing the Columbia Shuswap Regional District Areas C and D, respectively. A round of introductions took place. The Chair acknowledged the meeting taking place on the traditional, unceded territory of the Secwepemc Peoples.

### Adoption of meeting summaries

**Moved/seconded** by Councillor Cannon/Director Trumbley that:

The December 14<sup>th</sup> 2022 Shuswap Watershed Council meeting agenda be adopted.

#### Discussion:

The Chair amended the agenda such that the program managers provide an update on the current water quality projects receiving funding from the SWC.

**Carried**

**Moved/seconded** by Robyn Laubman/Director Trumbley that:

The draft meeting summary of the September 21<sup>st</sup> SWC meeting be approved

#### Discussion:

Robyn Laubman requested that the meeting summary be corrected such that her representation on behalf of Splatsin be noted as “Splatsin te Secwepemc”.

**Carried**

*Rhona Martin and Kym Keogh entered the meeting at 9:40 am*

### Correspondence

**Moved/seconded** by Director Gibbons/Director Melnychuk that:

The correspondence be received for information.

#### Discussion:

Director Gibbons inquired if the SWC has taken other steps to contact the Ministry of Environment & Climate Change Strategy regarding the algal bloom that took place in August-September. He suggested contacting the Ministry’s Assistant Deputy Minister to discuss it. Erin Vieira confirmed that the SWC has not received a reply from the Ministry, to-date.

Phil Owen inquired about the process to send correspondence, and where the direction to do so comes from. Director Gibbons suggested that SWC members be given the opportunity to see draft correspondence before it is sent. Chair Simpson agreed this would be a good change to the SWC’s process of sending correspondence and that SWC members can be given one day to review draft correspondence (via email).

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Kelly Chiatto commented that she can assist in prompting a reply to the recent correspondence from the Ministry of Forests.

**Carried**

Action items:

Staff will follow up with the BC Ministry of Environment & Climate Change Strategy regarding the letter sent in October.

Staff will follow up with Kelly regarding the letter that was sent to Minister Heyman and forwarded to the Minister of Forests for a reply.

**Old business**

**Moved/seconded** by Councillor Cannon/Director Melnychuk that:

The draft meeting summaries be received for information.

Discussion:

None

**Carried**

**Report from Chair**

Chair Simpson reported that he attended a meeting with MP Mel Arnold to share information and discuss potential new measures to protect BC from invasive mussels. The meeting was also attended by staff from the Okanagan Basin Water Board (OBWB), Columbia Shuswap Invasive Species Society, and the Columbia Shuswap Regional District. He relayed that OBWB is working on a vulnerability assessment toolkit for Okanagan-area local governments.

**Report from Program Managers**

Erin Vieira and Alex de Chantal provided a program operations update, since the last Council meeting held in September:

- The Shuswap Water Monitoring Group (technical committee of the SWC) had it's regular bi-annual meeting on November 7<sup>th</sup> via Zoom. Participants discussed water monitoring activities in the Shuswap watershed in 2020 and discussed the collective response to the algal bloom in Salmon Arm Bay (Aug-Sept 2022).
- The Shuswap Water Protection Advisory Committee (the other technical committee of the SWC) met on November 23<sup>rd</sup> via Zoom to hear updates on the current SWC-funded water quality improvement projects, and discuss and provide input to the 2022/23 SWC Water Quality Grant Program Guide.
- Three water quality improvement projects receiving funds from the SWC are well underway: one is complete, has submitted a final report and has received full payment of funds from the SWC; two others are progressing well, nearly complete, and have received 50% payments from the SWC with the remainder of funds to be issued upon receipt of final project reports.

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- The Water Quality Grant Program opened for new applications on December 1<sup>st</sup>. Up to \$55,000 is available in the current intake. A program guide describing eligibility criteria, and including application templates, is available online. Staff are promoting the grant program through various media.
- Staff have been researching other like-minded organizations' wetland strategies, in preparation for developing a wetland strategy for the Shuswap watershed.
- Staff have developed a communications/outreach strategy for the recently published Phosphorus Action Plan; an overview of the strategy was presented
- Staff worked with the Chair to prepare letters to Minister George Heyman (Ministry of Environment & Climate Change Strategy), Minister Josie Osborne (Ministry of Land, Water & Resource Stewardship), and Jim Standen (BC Parks and Conservation Officer Services) regarding various water quality issues affecting the Shuswap watershed. No responses to any of the correspondence have been received at this time.
- The Chair and staff met with MLA Greg Kylo and MP Mel Arnold in November and December, respectively, to discuss invasive Zebra and Quagga Mussels and additional measures from the provincial and federal governments to better protect BC from an invasion
- Staff submitted an application for grant funding to Transport Canada in October. The application requests \$24,025; if successful, the funds will support the SWC's Safe Recreation Program in 2023.

*Lily Kotzeva entered the meeting at 10:07 am*

Erin provided a financial update for the second quarter (April 1<sup>st</sup> – September 30<sup>th</sup> 2022):

Revenue for 2022-23 (April 1<sup>st</sup> 2022 – March 31<sup>st</sup> 2023):

Source	(\$)
Surplus (from March 31 <sup>st</sup> 2022)	81,804
Operating Reserve	132,667
<i>Per Contribution Agreement:</i>	
CSRD Areas C, D, E, F and District of Sicamous	160,000
TNRD	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
<i>Grant funding:</i>	
Transport Canada Boating Safety Contribution Program	22,900
<b>Total revenue</b>	<b>492,271</b>

*(Financial report continues on next page)*

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Expenses (April 1<sup>st</sup> – September 30<sup>th</sup> 2022):

Program (per 2022-23 work plan)	Budget (\$)	Expense (\$)
Water Quality Monitoring	28,850	14,987
Water Quality Protection & Improvement*	150,730	31,926
Zebra & Quagga Mussel Prevention	35,875	29,179
Safe Recreation	27,600	23,289
Communications, Engagement, & Advocacy	55,100	26,933
Management & Administration	43,750	14,304
<b>Sub-total Program Operations Expenses</b>	<b>341,905</b>	<b>140,618</b>
Operating Reserve	150,366	0
<b>Total expenses</b>	<b>492,271</b>	<b>140,618</b>

\* Of the \$150,730 budget for Water Quality Protection, \$71,430 is carried forward from last fiscal year's workplan and budget.

Discussion:

Director Trumbley and Ian Rogalski suggested that staff reach out to Ducks Unlimited and the Okanagan Basin Water Board, respectively, in the development of a wetland strategy for the Shuswap. Robyn Laubman encouraged staff to engage with Splatsin on this.

Director Gibbons inquired about the SWC's operating reserve. Erin Vieira explained that it has been growing each year as a result of annual surpluses. Chair Simpson remarked that the SWC requisitioned fewer funds last year, as a way to draw down the reserve and incur savings for the four funders.

Director Gibbons commented that he would like to see the SWC develop educational/campaign material encouraging care of the Shuswap watershed because of its value as a drinking water source.

Director Trumbley commented on the contributions of nutrients to the watershed from livestock on rangeland, in the upper reaches of the watersheds. Phil Owen encouraged staff to get in touch with BC Cattlemen's Association about this issue, and promote the SWC's Phosphorus Action Plan.

Action item:

Staff will ensure the BC Cattlemen's Association receives a copy of the Phosphorus Action Plan.

**New business: SWC meeting schedule for 2023**

**Moved/seconded** by Director Martin/Director Trumbley that:

The proposed meeting schedule for 2023 be adopted.

**Carried**

*(meeting schedule on next page)*

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The meeting schedule for 2023 will be as follows:

March 8<sup>th</sup>, approx. 10:00 AM – 2:00 PM – at the CSRD Boardroom  
June 14<sup>th</sup>, approx. 10:00 AM – 2:00 PM – at the CSRD Boardroom  
September 13<sup>th</sup>, approx. 10:00 AM – 2:00 PM – at the CSRD Boardroom  
December 13<sup>th</sup>, approx. 9:30 AM – 12:00 PM – via Zoom

**Guest presentation:  
Update on Salmon  
Arm Water  
Pollution Control  
Centre Upgrade**

Rob Niewenhuizen, Director of Engineering and Public Works with the City of Salmon Arm, provided an update on the City's wastewater treatment plant. The initial treatment plant was commissioned in 1977 and over the years there have been several plant upgrades. The plant uses biological nutrient removal technology. It has primary, secondary and tertiary treatment. The plant is authorized by a Provincial Operational Certificate (OC), under the provision of the *Environmental Management Act*. The OC has several criteria for the plant's effluent, including for phosphorus; the City has consistently achieved lower concentrations of phosphorus than are specified in the criteria. The OC also requires environmental monitoring.

The plant is currently at about 90% of its 15,000 service population loading capacity. Upgrades to the plant will increase capacity. Preparing for plant upgrades included a site selection study and several opportunities for collecting public input. Additionally, the City conducted a pilot study in 2021 to test different treatment technologies. Concurrent to the plant upgrades, the City's Liquid Waste Management Plan is also being updated. Mr. Niewenhuizen reported that the upgrades are anticipated to be complete and operational in 2027.

A question & answer period took place after the presentation.

The City can offer tours of the plant to interested groups or citizens.

*Kym Keogh left the meeting at 11:00 am*

*Tom Pypker and Tay Powrie entered the meeting at 11:10 am*

**Guest presentation:  
Overview of Salmon  
River Water Quality  
Assessment and  
Report**

Lily Kotzeva, a biologist with the BC Ministry of Environment & Climate Change Strategy (MOE), presented an overview of the Ministry's recently published Salmon River Water Quality Assessment Report.

Ms. Kotzeva summarized the objectives of the report: (a) to determine how water quality in the river has changed over time, and (b) to determine if Water Quality Objectives (WQOs) for the Salmon River, which were established by the MOE in 1998, have been met. She explained that two rigorous monitoring programs were done, leading up the report, in 2005 – 2010 and 2016 – 2019.

Ms. Kotzeva presented an overview of how the Salmon River water quality measured against the WQOs for the two monitoring periods 2005 – 2010 and

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2016 – 2019. She highlighted that for most parameters, water quality measurements met the WQOs most of the time, but that over time (i.e., from the first monitoring period to the second period) there were more exceedances observed meaning that water quality in the Salmon River is deteriorating. She also highlighted that total phosphorus concentrations were higher at downstream sites than at upstream sites during turbid flows, indicating that particular matter is contributing to these measurements.

A question & answer period took place after the presentation.

The Salmon River Water Quality Assessment Reports authored by the BC Ministry of Environment & Climate Change Strategy are available online:

Full report (November 2022):

[https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/monitoring-water-quality/thompson-okanagan-wq-docs/salmon\\_river\\_water\\_quality\\_assessment\\_nov\\_2022.pdf](https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/monitoring-water-quality/thompson-okanagan-wq-docs/salmon_river_water_quality_assessment_nov_2022.pdf)

Summary report (September 2022):

[https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/monitoring-water-quality/thompson-okanagan-wq-docs/salmon\\_river\\_water\\_quality\\_assessment\\_summary\\_sept\\_2022.pdf](https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/monitoring-water-quality/thompson-okanagan-wq-docs/salmon_river_water_quality_assessment_summary_sept_2022.pdf)

*Kelly Chiatto left the meeting at 11:35 am*

**Guest presentation:  
Update on Adams  
River watershed  
glacier study**

Tay Powrie, graduate student at Thompson Rivers University, presented an overview of the Adams Watershed Glacier Research project. He explained that the extent of glaciers in the Adams River watershed is not well understood. He also remarked that glaciers in Western Canada are shrinking at an increasing rate. Furthermore, the timing and quantities of discharge from glaciers is changing. These hydrological changes could cause impacts to salmon spawning habitat, domestic water use and water security, and water quality.

The research outcomes from his research project will include the local impacts of climate change in the Adams River watershed, the future of hydrological processes, and management implications within and beyond the Adams watershed.

Tay provided an overview of his research work plan and budget for 2022 – 2024. The budget includes a request for funding from the SWC in 2023 (\$3000) and 2024 (\$5000), which are in addition to other sources of cash and in-kind contributions supporting the research project.

A question & answer period took place after the presentation.

**Roundtable updates** Omitted from the agenda.



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**Convene In Camera**     **Moved/seconded** by Director Trumbley/Councillor Cannon that:

Pursuant to Sections 90(1)(a) – *personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the Regional District or another position appointed by the Regional District* – and Sections 90(1)(c) – *labour relations or other employee relations* – of the Community Charter, the SWC move In Camera

**Carried**

The regular meeting of the Shuswap Watershed Council re-convened at 12:22 pm.

**Adjourn**     **Moved/seconded** by Robyn Laubman/Councillor Cannon that:

The December 14<sup>th</sup> 2022 meeting of the Shuswap Watershed Council be adjourned.

**Carried**

The meeting adjourned at 12:22 pm.

CERTIFIED CORRECT:

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Chair

Item No.	Agenda item	Time
2.i.	Correspondence: Letter from Jim Standen, ADM, BC Parks, Recreation Sites and Trails	10:25



Reference: 393647

*January 5, 2023*

Jay Simpson, Chair  
Shuswap Watershed Council  
c/o Fraser Basin Council  
200A – 1383 McGill Road  
Kamloops, BC V2C 6K7

Dear Jay Simpson:

Thank you for your letter of October 11, 2022 regarding wastewater pump-out and disposal facilities around Shuswap and Mara Lake.

While BC Parks is a significant provider of camping and day use opportunities on both Shuswap Lake and Mara Lake, the provision of wastewater pump-out and disposal facilities, outside of vehicle accessible campgrounds, is not a service that BC Parks typically provides. Please also note that most of Shuswap Lake and Mara Lake is not managed by BC Parks as these lakes are mostly located outside Provincial Park land.

Many of the vessels on Shuswap Lake and Mara Lake which require wastewater pump-out originate from Houseboat rental agencies who provide these services as part of their operations. For privately owned vessels, pump out services are provided by at least one of the commercial houseboat services, Three Buoys Marine, on a fee for service basis.

In consideration of these factors, the supply of wastewater pump-out facilities to support camping and day use on Shuswap Lake and Mara Lake is not currently a priority for capital investment within BC Parks. I would encourage you to explore avenues with the private sector to provide this service within your region. Attached is the link to the application process for any interested parties:

<https://alpha.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/apply>.

..2

Ministry of Environment and  
Climate Change Strategy

Office of the Assistant Deputy Minister  
BC Parks, Recreation Sites and Trails  
Division

Mailing Address:  
PO Box 9339  
Stn Prov Govt  
Victoria BC V8W 9M1

Telephone: 250 387-1288  
Facsimile: 250 387-6003  
Website: [www.gov.bc.ca/env](http://www.gov.bc.ca/env)

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2.i.	Correspondence: Letter from Jim Standen, ADM, BC Parks, Recreation Sites and Trails	10:25

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In terms of enforcement of marine discharge on the lakes that responsibility is regulated by Transport Canada under the Canada Shipping Act 2001, Section A1, The Vessel Pollution and Dangerous Chemical Regulations, Division <https://laws-lois.justice.gc.ca/eng/regulations/sor-2012-69/page-8.html#h-790759>. Enforcement follows the Policy on Compliance and Enforcement under the Canada Shipping Act, 2001.

In the event that discharges are occurring then individuals are encouraged to contact Transport Canada regarding this matter at [marinesafety-securitemaritime@tc.gc.ca](mailto:marinesafety-securitemaritime@tc.gc.ca) or call 1-855-859-3123.

Thank you again for taking the time to write.

Sincerely,



Jim Standen  
Assistant Deputy Minister  
BC Parks, Recreation Sites and Trails Division

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2.ii.	Correspondence: Letter from Chair Jay Simpson, Mayor Alan Harrison, Board Chair Kevin Flynn, and Mayor Anderson to Interior Health re: algal bloom	10:25



c/o Fraser Basin Council  
200A – 1383 McGill Road  
Kamloops, BC V2C 6K7  
250.314.9660

[www.shuswapwater.ca](http://www.shuswapwater.ca)



Courtney Zimmerman  
Corporate Director, Environmental Public Health  
Interior Health  
Sent by e-mail to [courtney.zimmerman@interiorhealth.ca](mailto:courtney.zimmerman@interiorhealth.ca)

17 January 2023

**Re: Interior Health process for Cautionary Advisory notices during algal blooms**

Dear Ms. Zimmerman,

We are writing to you on behalf of the Shuswap Watershed Council (SWC), the City of Salmon Arm, the Columbia Shuswap Regional District (CSRD), and the District of Sicamous to make you aware of the frustration that we, along with residents of Salmon Arm, experienced last summer during a prolonged algal bloom that impacted the Salmon Arm Bay area of Shuswap Lake.

A suspected algal bloom first appeared in the bay in June. Interior Health responded by requesting that water samples be collected for microcystin analysis, and requesting that City of Salmon Arm staff and CSRD staff post Cautionary Advisory Notices at the Salmon Arm wharf and at Sunnybrae Community Park, respectively. While the response from Interior Health was swift, we are concerned that the advisory was recommended without first receiving results from the water samples. Furthermore, the advisory was posted just before the Canada Day long weekend, and IH staff were not available to respond to inquiries from the public about the advisory.

An algal bloom appeared in Salmon Arm Bay in early August, and a similar response from IH and local governments followed with IH recommending that Cautionary Advisory notices be posted at affected sites and that water samples continue to be collected on a regular basis. Thankfully, all water samples collected throughout the algal bloom were clear of microcystin. However, the advisory caused some confusion among residents and visitors recreating on the lake. Queries about the location of the algal bloom and the safety of the water for drinking and recreation were addressed to SWC, City of Salmon Arm, and CSRD staff who in turn re-directed the questions to IH. Unfortunately, IH staff were not available outside of regular working hours to respond to queries from either the general public or local governments who receive the majority of queries from the public.

We have the following suggestions for monitoring and communicating to the public about algal blooms:

- ☐ Interior Health should be the lead agency for monitoring algal blooms if there is a potential health risk. This includes the collection and analysis of water samples from affected sites, and posting advisories based on the results of water tests.

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2.ii.	Correspondence: Letter from Chair Jay Simpson, Mayor Alan Harrison, Board Chair Kevin Flynn, and Mayor Anderson to Interior Health re: algal bloom	10:25



- IH should be the lead agency for communicating to the public about algal blooms. There is a great demand for this information, and several platforms should be considered including websites, social media, and news media. The SWC, the City of Salmon Arm, the CSRD and the District of Sicamous can amplify these communiques through their social media platforms to help increase the reach.
- Advisory notices should state the location of the algal bloom as precisely as possible, and be updated regularly to reflect changing conditions.
- IH staff should be available to respond to inquiries about algal bloom advisories. Having a staff person on-call on weekends would be very beneficial for providing clarifying information about advisories.

We are very appreciative of the partnership we have with Interior Health. Thank you for your consideration of these suggestions.

Sincerely,

Jay Simpson  
Chair, Shuswap Watershed Council  
250 517-9578 | [jsimpson@csrd.bc.ca](mailto:jsimpson@csrd.bc.ca)

Alan Harrison  
Mayor, City of Salmon Arm  
250 803-4034 | [aharrison@salmonarm.ca](mailto:aharrison@salmonarm.ca)

Kevin Flynn  
Chair, Columbia Shuswap Regional District  
250 804-8342 | [boardchair@csrd.bc.ca](mailto:boardchair@csrd.bc.ca)

Colleen Anderson  
Mayor, District of Sicamous  
250 517-7820 | [canderson@sicamous.ca](mailto:canderson@sicamous.ca)

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2.iii.	Correspondence: Letter from Lori Halls, Deputy Minister, Ministry of Water, Land & Resource Stewardship	10:25



Reference: 28952

February 15, 2023

VIA EMAIL: [jsimpson@csrd.bc.ca](mailto:jsimpson@csrd.bc.ca)

Jay Simpson, Chair  
Shuswap Watershed Council  
200A – 1383 McGill Road  
Kamloops, B.C. V2C 6K7

Dear Mr. Simpson

Thank you for your letter of November 15, 2022, regarding prevention of zebra and quagga mussels in British Columbia (B.C.). I am pleased to respond on behalf of Minister Cullen and apologize for the delay.

The Government of B.C.'s Invasive Mussel Defence Program (the program) is key to keeping B.C. free of the destructive effects of these invasive mussels. Coordinated through the Ministry of Water, Land and Resource Stewardship (WLRS), funding for the program is provided through a partnership that includes B.C. Hydro, Fortis B.C., Fisheries and Oceans Canada (DFO), the Columbia Basin Trust, Columbia Power, and three B.C. ministries. The annual workplan incorporates ongoing feedback from partners, the public, and jurisdictions across western Canada and the United States (US) to ensure funding allocations maximize program effectiveness. The program is scalable, and as you noted your support for additional funding, the program leads continue to seek additional partners on an annual basis.

As mentioned in your letter, legislative and planning tools are also important to mitigate the risk of invasive mussels. We have initiated an update of the Zebra and Quagga Mussel Early Detection, Rapid Response (EDRR) Plan which will review and provide recommendations for the range of tools that support invasive mussel response and control. You also advocated for containment measures for watercraft coming from infested waters in Ontario and Manitoba. As B.C.'s perimeter defence is the foundation to the program, implementation includes collaboration with Alberta, Yukon, Saskatchewan, and Manitoba. Supporting Manitoba in their containment efforts also remains a priority for B.C.

I want to thank the Shuswap Watershed Council for your continued support for this program and for your advice. I also specifically want to extend my appreciation for your ongoing efforts to educate British Columbians and advocate for Clean, Drain, Dry.

Ministry of Water, Land and  
Resource Stewardship

Office of the Deputy Minister

Mailing Address:  
PO Box 9012 Stn Prov Govt  
Victoria, BC V8W 9L6

Tel: 778 974-5507  
Website: [www.gov.bc.ca/WLRS](http://www.gov.bc.ca/WLRS)

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2.iii.	Correspondence: Letter from Lori Halls, Deputy Minister, Ministry of Water, Land & Resource Stewardship	10:25

Sincerely,



Lori Halls  
Deputy Minister

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3.i.	Old business: 2022 Annual Report from RCMSAR	10:30



## Shuswap Lifeboat Society

PO Box 661 Sicamous, B.C. V0E 2V0  
Supporting Station 106 Shuswap

# 2022 – Our Accomplishments ...

## RCMSAR Station 106 Shuswap

In May we celebrated our 10<sup>th</sup> Year of Service to Shuswap and Mara Lake communities. In these years we have saved 385 lives, assisted 237 others and contributed 35,142 volunteer hours to make our lakes a safer place to live and play.

Our 28 volunteers responded to 20 missions helping BCEHS save 5 lives and assisted 9 others.

7 more Life Ring Stations were installed – 17 in total

Stn 106 with 4447 volunteer hours was the busiest Station in RCMSAR's Southern area.

103 'on water' exercise sessions totalled 299 hours in addition to the 58 class lectures.

One member was certified as a Coxswain Leadership Instructor for the RCMSAR Training HQ in Sooke. He is one of only ten instructors in BC.

Both Rescue Vessels now equipped with same high tech navigation system.

918 hours were logged for preventative activities such as Boating Safety Displays, maintenance, Kids Don't Float kiosk programs and Life Ring Station programs.

9 members were re-qualified in First-Aid/ CPR with a Transportation Endorsement.

9 members completed the Canadian Coast Guard's "Introduction to Oil Spills" course.

Familiarized BCEHS paramedics to assist in evacuating casualties from houseboats.

Our members participated in the Royal Canadian Legion's Remembrance to the Queen in Sept. and to our Canadian Armed Forces Veterans in November.

## Shuswap Lifeboat Society

Boathouse Construction Underway

- Rescue Base Construction Agreement Signed with Twin Anchors Structures
- Ground-Breaking Ceremony held May 19<sup>th</sup> with representatives of the different levels of government and other community agencies
- \$180,000 Loan with SASCU approved in Dec.
- Basic Construction with TA Structures is expected to be complete late spring. The Station/Society have taken on the responsibility for the finishing.

Our Grant Submission to CP Rail for \$10,000 to provide AEDs for both rescue vessels was successful.

BC Community Gaming Grant successful— noteworthy items including the \$24,000 to correct a deficiency with the exhaust system of Tolonen to provide better performance and efficiencies and support for our Kids Don't Float and Life Ring Station programs.

GPS/ Chart Plotter/ Radar upgrades for Rescue 1 were completed. Both vessels now have the same latest navigation equipment.

An Affiliation Agreement has been developed with RCMSAR HQ which outlines the working relationship between our Society and HQ

An application has been submitted to the Federal Government for the hiring 2 summer students. A Boating Safety Contribution Program application has been submitted to Transport Canada. If successful, it will support programs for the summer students, school water safety program, water safety publication ads, LRS maintenance and life jackets and maintenance for the KDF kiosks. Facebook followers have greatly increased to 1100+

Watch for a new and improved website coming soon!

**Rob Sutherland**, Station Leader

**Bruce Weicker**, Shuswap Lifeboat Society

**SAVING LIVES ON THE WATER**



Item No.	Agenda item	Time
3.ii.	Old business: Draft summary of the WPAC meeting held February 9 <sup>th</sup> 2023	10:30



**Water Protection Advisory Committee Meeting  
Thursday February 9<sup>th</sup>, 2023 | 1:30PM – 3:00PM  
Online Meeting**

Draft meeting summary as at February 10, 2023

**Meeting objectives**

1. Review applications from the Water Quality Grant Program and make recommendations to the SWC for funding
2. Share information

**Attendance (committee members)**

Carolyn Farris, Horse Council BC  
 Robyn Laubman, Splatsin te Secwepemc  
 Carly Foster, Ministry of Environment & Climate Change Strategy  
 Ralph Van Dalfsen, Agriculture - dairy  
 Dennis Einarson, SWC Senior Scientific Advisor

**Staff**

Alex de Chantal, Shuswap Watershed Council c/o Fraser Basin Council  
 Erin Vieira, Shuswap Watershed Council c/o Fraser Basin Council

**Meeting Outcomes**

1. Consensus was reached on which applications to recommend for funding
2. Ideas for future changes to the Water Quality Grant Program were identified

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**Summary of discussions, decisions and action items**

**1. Welcome, Introductions, Agenda and Objectives**

Alex de Chantal welcomed everyone to the meeting and a round of introductions took place. Secwepemc territory was acknowledged. Alex reviewed the agenda and objectives for the meeting.

**2. Previous Meeting Summary**

Alex reviewed the meeting summary from November 23, 2023. He highlighted that \$8200 in funding that was granted to a proponent (FRISP) in 2020 was returned in December. The returned funds were re-allocated into the current year's available funding, bringing the total available to \$63,200.

**3. Application Evaluations**

Before commencing the review of the applications a few questions were asked about evaluation criteria. Alex reviewed the evaluation procedures document and explained the criteria was established by the Committee and the Shuswap Watershed Council a few years ago. Staff complete some of the scoring criteria objectively during the initial staff screening of the applications; the remainder of the evaluation criteria are reviewed by the committee.

Item No.	Agenda item	Time
3.ii.	Old business: Draft summary of the WPAC meeting held February 9 <sup>th</sup> 2023	10:30



- Alex explained that staff did a preliminary screen of the applications to ensure that they met the criteria outlined in the program guide
- Alex reminded committee members that if they have a conflict of interest with an application, to “leave the room” when it is being discussed
- Alex went through each application, briefly, in turn. It was expected that committee members have already reviewed all the applications on their own time.

It was agreed to qualitatively discuss the applications, reach consensus on scoring each application and whether to recommend applications for funding.

Carly Foster identified a conflict of interest with the Shuswap Food Action application. She left the meeting when it was evaluated.

The following table summarizes the applications received, lists the grant funding requested and the project goals, and summarizes the committee’s deliberations on whether to recommend applications for SWC funding and provides the application’s score out of 100 assigned by the committee:

Application	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
Rivershore Nursery	Fertilizer and irrigation reduction  Main project goals are to implement improved nursery practices in order to: 1. Reduce fertilizer use on the nursery by improving soil health and enhancing the ability of trees to access phosphorus in the soil, and 2. Reduce runoff of irrigation water to reduce the likelihood of fertilizer, particularly phosphorus, leaching into groundwater.	\$6,235	Recommended for funding	79.80
Werner and Jody Stump (Crystal Lake Ranch)	Livestock control fencing along Eagle River  The goal is to connect the livestock fences from earlier work done on the ranch through the construction of 500-metres of new fencing to control cattle access into the riparian area of Eagle River and into the river itself. After the completion of the project, the entire length of Eagle River on the property will have livestock control. All disturbed areas will be stabilized and seeded with an appropriate forage mixture upon completion of works to control erosion and ensure sediment does not enter the river.	\$14,325	Recommended for funding	76.90
Shuswap Organics	Cover crops and no-till to build soil health  Main goal is to ensure mixed vegetable farm develops farming practices that improve soil health to benefit water quality in the Shuswap River.	\$6,000	Recommended for funding	76.32

Water Protection Advisory Committee – draft meeting summary for February 9, 2023

Item No.	Agenda item	Time
3.ii.	Old business: Draft summary of the WPAC meeting held February 9 <sup>th</sup> 2023	10:30



Application	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
	<p>1. Decrease nutrient loss from soil into the nearby Shuswap River by building soil health using regenerative agriculture practices (specifically cover cropping, and introduction of no-till practices).</p> <p>2. Increase the soil ability to store and cycle water and nutrients by increasing organic matter.</p>			
Fresh Valley Farms	<p>Automated pastured-livestock management</p> <p>Introduced automated management of pasture-raised livestock (including chickens (broilers and layers), turkeys, and pigs). This fully enclosed, solar-powered housing option would enable livestock to be moved strategically across pasture for maximum nutrient management and retention, while avoiding areas with higher ground water content to benefit the livestock, soil health, and water quality through reduced leaching and runoff. This project aligns with both goals to improve water quality as well as soil health (nutrient and moisture retention) within the Shuswap Watershed.</p>	\$20,400	Recommended for funding	52.05
	<b>Total funding request for the above recommended projects</b>	<b>\$46,960</b>		
Iron Horse Ranch	<p>Farm land revitalization (4 projects included)</p> <p>Primary goal is to regenerate health into the soil through changing old and out-dated farming practices. First, stop soil erosion; create a healthier hay field that can absorb more nutrients and slow surface water through no till seeding and a cover crop. The second is to properly fence off riparian and drainage ditch waterways so livestock cannot contaminate water. Third, to create a few more cross fence lines to allow for rotational grazing and a spot to keep livestock during wet season and runoff. Fourth, to put in 2 auto waters allowing livestock to be fenced off of water ways for drinking and general contamination.</p>	\$6044	<p>Mixed recommendations as follows:</p> <p>The fencing and livestock watering projects are recommended for funding (\$6044).</p> <p>There was less committee support for the no-till seeding and cover crop project (\$13,980).</p>	50.01
	<b>Total funding request for all the above recommended projects</b>	<b>\$53,004</b>		

Water Protection Advisory Committee – draft meeting summary for February 9, 2023

Item No.	Agenda item	Time
3.ii.	Old business: Draft summary of the WPAC meeting held February 9 <sup>th</sup> 2023	10:30



Application	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
BV Agro Inc.	Fall cover cropping  Primary goal is to retain nutrients, especially phosphorus, during the shoulder seasons due to water flow through soil profile from off-season moisture accumulation.	\$1,080	Not recommended for funding	49.90
Turtle Valley Donkey Refuge	Tree and Shrub Planting  The main goal of the project is to plant trees and shrubs to improve soil capacity and to store and cycle water and nutrients and reduce runoff. This is part of a long-term environmental strategy for the farm.	\$4575	Not recommended for funding	46.00
Crosby Farm	Salmon River and Gordon Creek Restoration	\$38,600	Did not meet grant program criteria	
Shuswap Food Action	Hedgerow, soil building and effective irrigation project	\$5,000	Did not meet grant program criteria	
Total funding requested from all 9 applications		\$116,239		

In summary, it is recommended SWC provide funding in the amount of \$53,004 to five applicants for a total project value of \$109,629.

#### 4. Other Items, Next Steps

##### *a) Update on previous and current-year SWC funded projects*

Project	Project type	SWC \$ funding	Status
FRISP/Splatsin Development Corporation (2020)	Fencing	\$18,200	Initial payment of \$8,200 has been returned to SWC.
Crystal Lake Ranch (Werner and Jody Stump)	Eagle River Bank Stabilization & Riparian Habitat Restoration & Protection	\$40,190	Final report received, staff also received photos of the completed work. Project is complete.
Gardom Lake Stewardship Society	Wetland restoration Upper Gardom Creek – Phase 2	\$11,820	Final Report received, photos to be received come spring freshet. Project is complete.

Item No.	Agenda item	Time
3.ii.	Old business: Draft summary of the WPAC meeting held February 9 <sup>th</sup> 2023	10:30



#### Next Meeting

TBD – mid to late November 2023. Main agenda items will be as follows:

- Updates to application and grant program guidelines
- Updates on existing funded projects
- Information sharing on anything water quality and nutrient related

Meeting Adjourned at 4:00pm.

DRAFT

Water Protection Advisory Committee – draft meeting summary for February 9, 2023

Item No.	Agenda item	Time
3.iii.	Old business: Draft summary of the WMG meeting held February 15 <sup>th</sup> 2023	10:30



**Shuswap Water Quality Monitoring Group**  
**February 15<sup>th</sup> 2023 • 1:00 - 3:00 PM**  
**Virtual meeting held via Zoom**

DRAFT meeting summary as at February 15<sup>th</sup> 2023

**Attendance**

Ben Van Nostrand – Columbia Shuswap Regional District  
 Carly Foster – BC Ministry of Environment & Climate Change Strategy  
 Carmen Massey – Skw’lax te Secwepemc’ulecw (*from 1:10 pm*)  
 Colan Morrow – District of Sicamous  
 Connie Hewitt – Regional District of North Okanagan (*to 2:05 pm*)  
 Cory Barker – Shuswap Lake Estates  
 Diana Tesic-Nagalingham – Interior Health  
 Daniel Selbie – Department of Fisheries & Oceans  
 Gary Winram – White Lake Residents Association  
 Kelsey Desilets – Columbia Shuswap Invasive Species Society  
 Kevin Skrepnek – Thompson-Nicola Regional District (*from 1:10 pm*)  
 Laura Gaster – Columbia Shuswap Invasive Species Society  
 Lucie Thomson – BC Ministry of Environment & Climate Change Strategy (*to 2:00 pm*)  
 Marge Sidney – Gardom Lake Stewardship Society  
 Priscilla Cheung – First Nations Health Authority (*from 1:10 pm*)  
 Robyn Laubman – Splatins te Secwepemc (*to 2:25 pm*)  
 Rob Fleming – First Nations Health Authority (*to 2:00 pm*)  
 Rob Niewenhuizen – City of Salmon Arm (*to 2:00 pm*)  
 Scott Bepple – Columbia Shuswap Regional District

Alex de Chantal – SWC staff c/o Fraser Basin Council  
 Erin Vieira – SWC staff c/o Fraser Basin Council

Alex welcomed all present and acknowledged Secwepemc Territory. A round of introductions took place. Alex reviewed the meeting agenda. He briefly reviewed the draft meeting summary from November 7<sup>th</sup>, 2022; the summary was approved by consensus.

**1. 2023 Shuswap Water Quality Monitoring**

Alex reviewed the watershed water monitoring spreadsheet on-screen and collected input from everyone in the meeting. Notable updates included:

- Lucie spoke to the White Lake volunteer lake monitoring program. They are entering year 3 out of 3. Residents collect the water quality data. MOE uploads data into the provincial database and will do a write-up of the monitoring program.
- Alex asked about the MOE’s special lake monitoring that follows a dominant salmon return year. Lucie flagged that for Kym/Carly to follow up on this.
- Connie noted that RDNO has a new staff person running the monitoring programs.
- No monitoring at Lee Creek or Scotch Creek currently. Have funding applications in to support foreshore monitoring at Indigo Bay for 2024.

Shuswap Water Monitoring Group meeting – draft summary for February 15<sup>th</sup> 2023

Item No.	Agenda item	Time
3.iii.	Old business: Draft summary of the WMG meeting held February 15 <sup>th</sup> 2023	10:30



- The committee supported keeping the drinking water system monitoring in the spreadsheet.
- CSISS has submitted a funding application to Habitat Conservation Trust Foundation to support early detection ZQM monitoring. CSISS is looking to extend their monitoring season to include the entire time of year when the water temperature is viable for mussel larvae. The monitoring sites will remain the same, but with more samples collected from each. They are asking for 15% more funding from SWC to support this; the request from CSISS is for \$17,250 which is an increase from previous years when SWC provided \$15,000. No committee members were opposed.

**Action:** Follow up with Kym/Carly for an update.

Any changes to water quality monitoring activities were noted in the spreadsheet. Alex opened the floor for comments on the watershed monitoring activities. No duplication of monitoring was noted, nor were any water quality concerns noted. There were no further requested for water monitoring support.

## 2. 2022 Shuswap Water Quality Summary Report

Erin explained that the SWC will produce a 2022 Shuswap Water Quality Summary Report later this year. She inquired if any Monitoring Group members have ideas for narrative, data, or other content for the report. Some monitoring group members provided suggestions:

- Would be interesting to look at the effects post dominant salmon run. Would be good for people to understand that Shuswap is salmon habitat. What do salmon need to be healthy and happy, what water quality do they need? What can homeowners do to have salmon-friendly foreshores?
- Daniel Selbie works on sockeye in freshwater and would be happy to contribute to the salmon article.
- Watershed security strategy was also suggested as a possible topic. Timing may not work out with release of the WQ report. Would be a way to increase awareness that this is underway by the Province and indigenous communities.

## 3. Roundtable updates

- Gary Winram – Inquired if White Lake receives any other monitoring besides the program by White Lake Residents Association and the Province. Lucie Thomson explained that White Lake used to be part of the provincial monitoring network but it was dropped due to cutbacks a few years ago. WLRA would like to test a few additional parameters in future. Ben Van Nostrand reported that CSRD collects samples from wells as part of LWMP monitoring.
- Robyn Laubman – Splatsin is conducting climate community-based monitoring on the Eagle River, Shuswap River, and Salmon River. Additional monitoring sites coming on board in the future. She is also awaiting confirmation of funding to support water quality monitoring on Fortune Creek. Working on developing a 'state of the watershed' report for Hullcar. Also working on Interior Water Stewardship Forum, looking to re-engage and re-activate an annual gathering.
- Kevin Skrepnek – TNRD involved in monitoring downstream of Shuswap Lake (e.g., South Thompson River).
- Kelsey Desilets – CSISS planning outreach schedule for the year to raise public awareness of aquatic invasive species.
- Rob Niewenhuizen – In 2021 CSRD updated water conservation policy; 2022 implemented 4-stage watering restriction program to educate residents about conservation (currently no water

Shuswap Water Monitoring Group meeting – draft summary for February 15<sup>th</sup> 2023



Item No.	Agenda item	Time
3.iii.	Old business: Draft summary of the WMG meeting held February 15 <sup>th</sup> 2023	10:30



metering in Salmon Arm). Finishing source protection plan for water treatment plant. Also working on amending/updating Liquid Waste Management Plan and planning upgrades to the Wastewater Treatment Plant (looking at using new tech, aerobic granular sludge technology). Start upgrade in 3-5 years.

- Diana Tesic-Nagalingham – Interior Health website has a lot of information about algal blooms and has test results for domestic water systems. The website contains water quality samples taken over the last 120 days:  
<https://services.interiorhealth.ca/publichealthprotection/watersamples.aspx>. There is also information on public beaches: <https://www.interiorhealth.ca/health-and-wellness/environmental-health-and-hazards/public-beaches>.
- Marge Sidney – on board of BC Lake Stewardship Society and the Gardom Lake Stewardship Society. Will be monitoring water quality above and below new wetland at Gardom Lake.
- Carmen Massey – working on building capacity to take on a role with water quality monitoring and assessment. Setting up water quality monitoring stations at Indigo Bay and Little River (long-term).
- Ben Van Nostrand – CSRD would like to incentivize residents to do better septic maintenance and inspections.

#### 4. Guest presentation from Al Housego, Mountainside Environmental

Al Housego, Sales Manager, Mountainside Environmental. Raising awareness of the impacts of road salt to water quality. Various chloride salts are used for road maintenance (e.g., MgCl, NaCl, CaCl). Chloride components not biodegradable and not used in biological processes. Road maintenance is essential for public safety and economy. However, cost benefit analysis has demonstrated significant costs to ecosystems and infrastructure imposed by the use of salts. Salts have been used on roads since the 1950s, and use has increased over that time despite knowledge that chloride salts are deleterious. Alternatives include non-chloride de-icing products. Mountainside Environmental has talked with Ministry of Transportation and Infrastructure to raise awareness re: negative effects of chlorides, however it is difficult to change the status quo. There are environmentally friendly non-chloride products available and that are being used across BC and Canada (e.g., Winnipeg).

#### Q&A

- What's keeping the status quo? Why aren't non-chloride de-icers being used more?
  - AH – cost is the biggest thing. Also need awareness of the problem to make a change, this is lacking. SMJV uses Mountainside's dust suppressants and they have saved 3M liters of water for this purpose on Trans Mountain segment.
- Could you provide more info about cost of environmentally friendly de-icers?
  - AH – 2-3x expensive as chlorides. However, the unit cost is less because you use less of it than more conventional chloride salts.
- Who makes the decision about what to use?
  - AH – private roads can be use whatever they want. Public roads need to use 'approved' products. Would be helpful to know what the salt / chloride levels are in the Shuswap Lake and how they're changing – inc. vs decreasing.

Action: Add a discussion about salt the next Water Monitoring Group meeting agenda.

For more information:

Shuswap Water Monitoring Group meeting – draft summary for February 15<sup>th</sup> 2023



Item No.	Agenda item	Time
3.iii.	Old business: Draft summary of the WMG meeting held February 15 <sup>th</sup> 2023	10:30



Al Housego  
Mountain Side Environmental Solutions  
p: 250.832.7760 | c: 250.517.9835  
[www.ms-enviro.com](http://www.ms-enviro.com)  
al@ms-enviro.com

#### **5. Updates from the Shuswap Watershed Council**

Alex provided an update on the Water Quality Grant Program which is to protect water quality in the Shuswap by minimizing nutrient loading from land to surface waters, with an emphasis on supporting projects in the valley bottoms of the Shuswap River and Salmon River, and to a lesser extent the Eagle River and other tributaries to the Shuswap Lakes.

[Shuswap Watershed Council's Water Quality Grant Program.](#)

Alex reminded group members that the SWC published a Phosphorus Action Plan late last fall, it's available online at [www.shuswapwater.ca](http://www.shuswapwater.ca). All monitoring group members are encouraged to read through it.

#### **6. Next Meeting**

The next Monitoring Group meeting will take place in November 2023. Alex will seek a date a few weeks in advance.

**Meeting adjourned at 2:35.**

Item No.	Agenda item	Time
4.i.	Report from Program Managers	10:45

### Financial report to the end of the third quarter (April 1<sup>st</sup> – December 31<sup>st</sup> 2022)

#### REVENUE for 2022-23

Source	(\$)
Surplus (from March 31 <sup>st</sup> 2022)	81,804
Operating Reserve	132,667
Return of SWC grant funding (BC Cattlemen's Association)	*8200
<i>Per Contribution Agreement:</i>	
CSRD Areas C, D, E, F and District of Sicamous	160,000
TNRD	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
<i>Grant funding:</i>	
Transport Canada Boating Safety Contribution Program	22,900
<b>Total revenue</b>	<b>500,471</b>

#### EXPENSES

Program (per 2022-23 work plan) (April 1 <sup>st</sup> – December 31 <sup>st</sup> 2022)	Budget (\$)	Expense (\$)
Water Quality Monitoring	28,850	21,150
Water Quality Protection & Improvement	*158,930	46,186
Zebra & Quagga Mussel Prevention	35,875	32,828
Safe Recreation	27,600	23,814
Communications, Engagement, & Advocacy	55,100	36,268
Management & Administration	43,750	22,291
<b>Sub-total Program Operations Expenses</b>	<b>350,105</b>	<b>182,538</b>
Operating Reserve	150,366	0
<b>Total expenses</b>	<b>500,471</b>	<b>182,538</b>

\* denotes change to the line item from the second-quarter financial report.

Item No.	Agenda item	Time
5.i.	New business: Water Quality Grant Program – Memo from staff on behalf of WPAC	11:05

## Background

The purpose of the Water Quality Grant Program is to protect water quality in the Shuswap by minimizing nutrient loading from land to surface waters, with an emphasis on supporting projects in the valley bottoms of the Shuswap River and Salmon River, and to a lesser extent the Eagle River and other tributaries to the Shuswap Lakes.

The current intake of water quality grant applications is the fourth of its kind for the SWC. Up to \$63,200 is available in the Water Quality Grant Program budget. Staff promoted the grant fund across the region through advertising, e-mails, and social media and invited applications by the deadline of January 31st, 2023. A grant program guide, detailing eligibility criteria, an application template, and evaluation procedures, were posted publicly on the [SWC website](#) while the grant program was open for applications.

Staff received applications from 9 proponents (a record for the grant program), with a total ask of \$116,239. Staff performed an initial screen of the applications to ensure they met the eligibility criteria. The applications were then reviewed by members of the SWC Water Protection Advisory Committee (WPAC).

## Recommendations

The Water Protection Advisory Committee makes the following recommendations, with comments, for funding. The table is colour-coded accordingly (green = project is recommended for funding; yellow – project is partially recommended for funding; red = project is not recommended for funding):

Applicant	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
Rivershore Nursery	Fertilizer and irrigation reduction  Main project goals are to implement improved nursery practices in order to: 1. Reduce fertilizer use on the nursery by improving soil health and enhancing the ability of trees to access phosphorus in the soil, and 2. Reduce runoff of irrigation water to reduce the likelihood of fertilizer, particularly phosphorus, leaching into groundwater.	\$6,235	Recommended for funding	79.80
Werner and Jody Stump  (Crystal Lake Ranch)	Livestock control fencing along Eagle River  The goal is to connect the livestock fences from earlier work done on the ranch through the construction of 500-metres of new fencing to control cattle access into the riparian area of Eagle River and into the river itself. After the completion of the project, the entire length of Eagle River on the property will have livestock	\$14,325	Recommended for funding	76.90

Item No.	Agenda item	Time
5.i.	New business: Water Quality Grant Program – Memo from staff on behalf of WPAC	11:05

Applicant	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
	control. All disturbed areas will be stabilized and seeded with an appropriate forage mixture upon completion of works to control erosion and ensure sediment does not enter the river.			
Shuswap Organics	Cover crops and no-till to build soil health  Main goal is to ensure mixed vegetable farm develops farming practices that improve soil health to benefit water quality in the Shuswap River. 1. Decrease nutrient loss from soil into the nearby Shuswap River by building soil health using regenerative agriculture practices (specifically cover cropping, and introduction of no-till practices). 2. Increase the soil ability to store and cycle water and nutrients by increasing organic matter.	\$6,000	Recommended for funding	76.32
Fresh Valley Farms	Automated pastured-livestock management  Introduced automated management of pasture-raised livestock (including chickens (broilers and layers), turkeys, and pigs). This fully enclosed, solar-powered housing option would enable livestock to be moved strategically across pasture for maximum nutrient management and retention, while avoiding areas with higher ground water content to benefit the livestock, soil health, and water quality through reduced leaching and runoff. This project aligns with both goals to improve water quality as well as soil health (nutrient and moisture retention) within the Shuswap Watershed.	\$20,400	Recommended for funding	52.05
	<b>Total funding request for the above recommended projects</b>	<b>\$46,960</b>		
Iron Horse Ranch	Farm land revitalization (4 projects included)  Primary goal is to regenerate health into the soil through changing old and outdated farming practices. First, stop soil erosion; create a healthier hay field that can absorb more nutrients and slow surface water through no till seeding and a cover crop. The second is to properly fence off riparian and drainage ditch waterways so livestock cannot contaminate water. Third, to create a few more cross fence lines to allow for rotational grazing and a spot to keep livestock during wet season and runoff. Fourth, to put in 2 auto waters allowing livestock to be fenced off of	\$20,024  \$6044 recommended  \$13,980 not recommended	Mixed recommendations as follows:  The fencing and livestock watering projects are recommended for funding (\$6044).  There was less committee support for the no-till seeding and	50.01

Item No.	Agenda item	Time
5.i.	New business: Water Quality Grant Program – Memo from staff on behalf of WPAC	11:05

Applicant	Application description	SWC \$ ask	WPAC recommendation to SWC	Score (max is 100)
	water ways for drinking and general contamination.		cover crop project (\$13,980).	
	<b>Total funding request for all the above recommended projects</b>	<b>\$66,984</b>		
BV Agro Inc.	Fall cover cropping.  Primary goal is to retain nutrients, especially phosphorus, during the shoulder seasons due to water flow through soil profile from off-season moisture accumulation.	\$1080	Not recommended for funding	<b>49.90</b>
Turtle Valley Donkey Refuge	Tree and Shrub Planting  The main goal of the project is to plant trees and shrubs to improve soil capacity and to store and cycle water and nutrients and reduce runoff. This is part of a long-term environmental strategy for the farm.	\$4575	Not recommended for funding	<b>46.00</b>
Crosby Farm	Salmon River and Gordon Creek Restoration	\$38,600	Did not meet grant program criteria	
Shuswap Food Action	Hedgerow, soil building and effective irrigation project	\$5000	Did not meet grant program criteria	
	<b>Total funding requested from all 9 applications</b>	<b>\$116,239</b>		

In summary, it is recommended SWC provide funding in the amount of \$53,004 to five applicants for a total project value of \$109,629.

Item No.	Agenda item	Time
5.ii.	New business: Work plan and budget for 2023-24	11:25

## 2023-24 Proposed work plan and budget

### Summary of key achievements and deliverables for 2023-24:

- Administer the **Water Quality Grant Program** with approximately \$53,000 grant funds distributed in 2023 and \$55,000 budgeted for 2024. Grants are available to farms and landowners to protect and improve water quality.
- Begin developing a **Wetland Strategy** for the Shuswap watershed
- Administer the **Zebra & Quagga Mussel Prevention Program**
  - Deliver educational campaigns about best practices – target 2 million impressions
  - Partner with CSISS to monitor the Shuswap watershed for invasive Zebra & Quagga mussels
- **Promote safe boating** and water-based recreation in the Shuswap through educational campaigns – target 400,000 impressions
- **Communicate and engage** with the public about the SWC's activities and achievements
  - Annual Highlights Report
  - Media releases as needed (~ 12)
  - Maintain a website and social media
- **Educate and inform** the public about water quality
  - Annual Water Quality Summary Report
  - Update the UBC-O Nutrient Research summary document (published 2019)
- **Advocate** for the Shuswap watershed
  - Better measures from the provincial and federal governments to stop the spread of invasive ZQM
  - More monitoring by the Province re: nutrients in the watershed
- **Hold four Council meetings** per year
- **Track and report** financial expenditures
- **Apply for federal grant funding** to Transport Canada to support the SWC Safe Recreation Program by 75%.

### Budget

<b>REVENUE for 2023-24 (April 1<sup>st</sup> 2023 – March 31<sup>st</sup> 2024)</b>		<b>\$</b>
2022-23 projected surplus:		
Water Quality Grant Fund – earmarked for 2023-24		63,200
Operational surplus (from March 31 <sup>st</sup> 2023)		34,000
Operating Reserve (from March 31 <sup>st</sup> 2023)		150,366
Per Contribution Agreement:		
CSRD (Areas C, D, E, F, G and District of Sicamous)		160,000
TNRD		53,600
City of Salmon Arm		40,000
Adams Lake Indian Band		1300
Grant funding:		
Transport Canada Boating Safety Contribution Program (not confirmed)		24,025
<b>Total revenue</b>		<b>526,491</b>

Item No.	Agenda item	Time
5.ii.	New business: Work plan and budget for 2023-24	11:25

<b>WORK PLAN and BUDGET (April 1<sup>st</sup> 2023 – March 31<sup>st</sup> 2024)</b>		<b>\$</b>
Water Quality Monitoring Program		
	Facilitate the Shuswap Water Monitoring Group (TH645)	7200
	Watershed and water quality monitoring (TH646)	19,900
	Annual Water Quality Report (TH657)	13,000
Water Quality Protection Program		
	Facilitate the Water Protection Advisory Committee (TH650)	4200
	Water Quality Grant Program (TH652)*	118,264
	Wetland Strategy (TH708)	24,000
	Climate change impact studies (TH709)	3600
Zebra & Quagga Mussel Prevention Program		
	Education, outreach and engagement (TH677)	39,900
Safe Recreation Program		
	Safety campaigns and safety equipment (TH654)	30,000
Communications, Community Engagement, and Advocacy		
	Communications collateral (TH655)	9350
	Public engagement (TH656)	20,950
	Advocacy (TH705)	4200
Administration		
	Council administration (TH658)	23,400
	Financial management and fund development (TH659)	16,700
<b>Sub-total work plan expenses</b>		<b>334,664</b>
Operating Reserve for 2023-24		191,827
<b>Total work plan expenses</b>		<b>526,491</b>

\* This includes grant funds spanning two fiscal years as follows: \$53,004 grant funds recommended in March 2023 and distributed in April 2023; \$55,000 new funds budgeted in March 2024 but not distributed until April 2024.

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## Background

In 2022, the Shuswap Watershed Council endorsed and published the [Phosphorus Action Plan](#). There were numerous actions listed that the SWC could undertake to reduce the amount of phosphorus being released into the Shuswap watershed. Those recommendations included:

- *Take a lead role and/or seek partnership opportunities for wetland restoration*
  - *Develop a wetland restoration strategy, using maps and LiDAR data to identify locations of past wetlands that have been degraded, starting with Shuswap and Salmon River watersheds.*
  - *Overlay these areas with areas within flood maps, cultivated fields with slopes <5%*
  - *Seek external funding.*
  - *Seek willing landowners to participate.*
- *Provide (or fund/coordinate) technical support for riparian area enhancement projects which serve as phosphorus sinks, whether wetlands or riparian restoration.*

## Introduction

The importance of wetlands in the interior of BC cannot be overstated. They play a crucial role in maintaining the health of the region's ecosystems and the well-being of local communities. By protecting and restoring wetlands, we can help to conserve biodiversity, improve water quality, and enhance the resilience of local communities to the impacts of climate change.

Developing a wetland strategy can help the Shuswap Watershed Council protect and enhance these valuable ecosystems. This briefing note will outline the benefits of a wetland strategy, provide a situational analysis, suggest a budget, and identify potential outcomes and deliverables for the 2023/2024 fiscal year.

## The Importance of Wetlands

Wetlands in the interior of British Columbia (BC) play a crucial role in maintaining the health of the region's ecosystems and the well-being of local communities. They provide a range of important ecological services, including water purification, flood control, carbon sequestration, habitat for wildlife, and recreational opportunities.

Wetlands serve as a vital component of the hydrological cycle, helping to regulate the water balance in the region. They act as a filter, removing pollutants and excess nutrients from the water before it flows into rivers and streams, thereby improving water quality. They also help to control floods by retaining water during heavy rainfall events, reducing the risk of downstream flooding and damage to property and infrastructure.

In addition, wetlands provide important habitat for a variety of wildlife species, including birds, fish, mammals, and reptiles. They are also important for recreation, providing opportunities for activities such as fishing, birdwatching, and hiking. This can bring economic benefits to local communities through tourism and recreation-related activities.



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Despite their importance, many wetlands in BC have been degraded or destroyed due to human activities such as urbanization, agriculture, highway and other linear developments, and resource extraction. This has resulted in the loss of valuable ecological services and has had a negative impact on local biodiversity.

To address these issues, wetland creation and restoration initiatives should be undertaken. This can be achieved through various methods, including hydrological manipulation, soil modification, planting, and dam removal. However, it is important to ensure that these initiatives are guided by sound science and are carried out in a manner that is consistent with local ecological conditions and the needs of local communities.

Wetland creation and restoration can be achieved through several methods, including:

1. Hydrological manipulation: This involves creating new wetlands by altering the water flow patterns in an area to increase water retention.
2. Soil modification: This involves adding organic matter or altering the soil structure to create conditions suitable for wetland vegetation to grow.
3. Planting: This involves selecting and planting appropriate wetland vegetation to establish a new wetland.
4. Dam removal: This involves removing man-made structures such as dams that obstruct the natural flow of water and prevent the formation of wetlands.

### **Benefits of a Wetland Strategy**

In addition to ecological benefits of wetlands, a Wetland Strategy will provide a range of benefits for the Shuswap Watershed Council, including:

- Improved wetland management: A wetland strategy can provide guidance and policies for wetland conservation and management, ensuring that these ecosystems are protected and enhanced for future generations.
- Compliance with regulations: Many organizations are subject to federal, provincial, or local regulations related to wetlands. Developing a wetland strategy can help ensure compliance with these regulations and avoid potential legal or financial penalties.
- Enhanced public image: Organizations that prioritize environmental stewardship, including wetland conservation, can enhance their reputation with stakeholders and the public.
- Increased funding opportunities: There are numerous funding opportunities available for organizations that undertake wetland conservation projects. Developing a wetland strategy can help organizations identify and pursue these opportunities.
- New partnership opportunities: The Shuswap Watershed Council could look to partner on wetland restoration projects with Indigenous communities, private landowners, local governments, Regional District of North Okanagan and Columbia Shuswap Regional District, Province of BC, DFO, BC Wildlife Federation, Wetland Stewardship Partnership, Ducks Unlimited, Nature Trust BC, academia, stakeholders, and many others.

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## Situational Analysis

There are several wetland strategies and plans developed for various regions and organizations in British Columbia, demonstrating the importance and benefits of such strategies. The following situational analysis is based on the information found during a desktop research exercise:

### [Okanagan Wetlands Action Plan – A Resource for Local Government and Communities \(PDF\)](#)

The document is a report on the state of wetlands in the Okanagan Basin. It starts by defining wetlands and their importance for ecological and human systems, including providing habitat for wildlife, regulating water flow, and storing carbon.

The report then presents data on the extent and distribution of wetlands in the Okanagan Basin, including their current and historical conditions. It also identifies the main threats to wetlands, such as urbanization, agriculture, and climate change, and their impacts on wetland health and function.

The report provides an overview of existing policies and regulations for wetland conservation and management at different levels of government, as well as examples of successful wetland restoration projects in the region.

Finally, the report concludes with recommendations for improving wetland conservation and management, including developing a regional wetland strategy, strengthening wetland regulations, enhancing public education and awareness, and increasing funding for wetland restoration and monitoring.

### [Columbia Wetlands Conservation Action Framework](#)

The Columbia Wetlands Conservation Action Framework 2020-2025 is a document that outlines a strategic plan for conserving the wetlands in the Columbia River Basin in British Columbia. The framework was developed by the Columbia Wetlands Stewardship Partners, a coalition of organizations committed to the conservation of the wetlands.

The document provides background information on the wetlands, including their ecological significance and the threats they face. The framework also outlines the goals and objectives of the conservation effort, which include protecting and restoring wetland habitats, promoting sustainable land use practices, and engaging local communities in conservation efforts.

To achieve these goals, the framework proposes a variety of actions, such as conducting research and monitoring to better understand the wetlands and the species that depend on them, developing land use plans that incorporate wetland conservation, and working with local stakeholders to raise awareness of the importance of the wetlands.

The framework also emphasizes the importance of collaboration between government agencies, Indigenous communities, and other stakeholders to ensure that conservation efforts are effective and sustainable. The document concludes with a discussion of the potential benefits of wetland conservation, including improved water quality, increased biodiversity, and enhanced recreational opportunities.

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### Province wide

Here are some examples of wetland strategies developed by organizations in British Columbia:

- Ducks Unlimited Canada's British Columbia Wetland Conservation Plan: This plan was developed by Ducks Unlimited Canada, a non-profit organization focused on wetland conservation, to guide the conservation and restoration of wetlands throughout British Columbia. The plan includes a comprehensive inventory and assessment of wetlands in the province, policies and guidelines for wetland conservation and management, and a monitoring and evaluation program. The plan was developed with a budget of approximately \$600,000.
- Coastal Wetlands Conservation Initiative: This initiative was developed by the Nature Trust of British Columbia, a non-profit organization focused on land conservation, to conserve and restore coastal wetlands in British Columbia. The initiative includes an inventory and assessment of coastal wetlands, policies and guidelines for wetland conservation and management, and a public outreach and education program. The total cost of the initiative was approximately \$3 million.
- Comox Valley Conservation Strategy: This strategy was developed by the Comox Valley Conservation Partnership, a collaborative group of organizations and agencies focused on conservation in the Comox Valley region of British Columbia. The strategy includes a focus on wetland conservation and restoration, with policies and guidelines developed to protect and enhance wetlands in the region. The strategy was developed with a budget of approximately \$150,000.

These examples demonstrate that wetland strategies can be developed by a variety of organizations, including non-profit groups and collaborative partnerships, and with a range of budgets depending on the scope and objectives of the strategy.

### **Budget**

The budget needed to develop a wetland strategy will depend on several factors, such as the size and complexity of the area of interest, the extent and condition of wetlands within that area, the level of stakeholder engagement required, and the scope of the policies and guidelines to be developed. Here are some potential cost categories that could be involved in developing a wetland strategy:

- Consultant services: It will be necessary to hire external consultants to conduct specialized surveys or analyses, provide technical expertise, or facilitate stakeholder engagement. The cost of consultant services will depend on the scope and complexity of the work required.
- Outreach and education: Developing an effective communication and education plan may involve costs such as developing educational materials, hosting public events or workshops, and purchasing advertising or outreach materials.
- Monitoring and evaluation: Establishing a monitoring and evaluation program will likely involve ongoing costs such as staff time, equipment, and supplies.

It's difficult to estimate a specific budget without more information about what the Shuswap Watershed Council's priorities are for the scope and objectives of the desired wetland strategy. However, depending on the size and complexity of the area of interest and the level of engagement required, a budget of several tens of thousands of dollars to several hundred thousand dollars may be needed to develop a comprehensive and detailed wetland strategy.

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### Potential Outcomes and Deliverables

The following are some potential outcomes and deliverables that could be achieved through the development and implementation of a wetland strategy for the Shuswap watershed:

- Increased funding opportunities for wetland conservation projects.
- Improved wetland management practices that protect and enhance these critical ecosystems.
- Enhanced reputation as an organization that prioritizes environmental stewardship and conservation.
- Engaged stakeholders and public through outreach and education.
- New partnerships and opportunities for collaboration

### Next Steps and Considerations

Based on the desktop research conducted, best practices around the province for developing a wetland strategy have always started with hiring a consultant to:

1. Define the scope and objectives of the wetland strategy: This could include SWC identifying the area that the wetland strategy should cover (e.g., the entire Shuswap watershed, or a smaller area(s) of concern) types of wetlands to be focused on (e.g. marshes, bogs, fens), setting specific conservation and restoration targets, and outlining the timeframe for achieving these goals.
2. Conduct a wetland inventory and assessment: Gather data on the extent and distribution of wetlands within the Shuswap watershed, as well as their ecological condition, function, and value. This information can help prioritize wetlands for conservation or restoration and inform the development of appropriate management strategies.
3. Identify key stakeholders and partners: Identify organizations and individuals who have an interest in wetland conservation and management, such as other environmental organizations, local governments, and indigenous communities. Engage with these stakeholders to build partnerships and ensure that the wetland strategy aligns with broader regional conservation and management goals.
4. Develop a set of policies and guidelines for wetland conservation and management: Based on the inventory and assessment, as well as input from stakeholders, develop a set of policies and guidelines that outline how Shuswap Watershed Council will protect, manage, and restore wetlands. This could include policies related to wetland restoration, land use planning, and development permits.
5. Develop a monitoring and evaluation plan: Establish a system for monitoring and evaluating the success of the wetland strategy over time. This could involve setting up monitoring programs to track changes in wetland conditions and functions, as well as regular evaluations of the effectiveness of wetland management and restoration activities.
6. Establish a communication and education plan: Develop a plan to communicate the importance of wetlands to stakeholders, partners, and the public, as well as to educate them on the role they can play in wetland conservation and management. This could include public outreach campaigns, workshops, and educational materials.

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## Recommendations

Staff recommend that the SWC budget \$24,000 for the 2023/2024 fiscal year to hire a consultant to work with staff and the SWC to develop a Wetland Strategy that addresses the six considerations identified above. Staff are recommending the following approach:

1. Phase 1 - 2023/2024 - Develop Wetlands Strategy  
Consultant to focus on data collection (inventory and assessment), prioritization, and mapping. Identify key stakeholders to build partnerships and ensure that the wetland strategy aligns with broader regional conservation and management goals. Develop a set of policies and guidelines that outline how Shuswap Watershed Council will protect, manage, and restore wetlands.  
Budget: \$24,000
2. Phase 2 - 2024/2025 - Wetland Project Implementation  
SWC to work with partners to leverage the Wetlands Strategy and seek grant funding to identify and establish on-the-ground wetlands projects. There are numerous funding opportunities available for organizations that undertake wetland conservation projects. Developing a Wetland Strategy is a key first step to help organizations identify and pursue these opportunities.  
Budget: Fund development opportunity

## References:

1. British Columbia Ministry of Environment and Climate Change Strategy. (2020). Wetlands in BC. Retrieved from <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resources-planning/land-use-planning/policy-tools/land-use-objectives/wetlands>
2. Wetlands for the Future. (2020). What are wetlands and why are they important? Retrieved from <https://wetlandsforthefuture.ca/what-are-wetlands-and-why-are-they-important/>
3. Environmental Defence. (n.d.). The importance of wetlands. Retrieved from <https://environmentaldefence.ca/issues/importance-of-wetlands/>
4. The Wetlands Initiative. (2020). The benefits of wetlands. Retrieved from <https://www.wetlandsinitiative.org/what-are-wetlands/the-benefits-of-wetlands>

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2. iv.	<b>LATE ITEM:</b> Letter from Minister George Heyman	10:25

Reference: 393157

*March 2, 2023*

Jay Simpson, Chair  
Shuswap Watershed Council  
Email: [jsimpson@csrd.bc.ca](mailto:jsimpson@csrd.bc.ca)

Dear Chair Simpson:

Thank you for your letter of October 12, 2022 and January 12, 2023, regarding the water quality in the Salmon Arm of Shuswap Lake. I appreciate your concerns regarding the occurrence of recent algal blooms in this lake that is used for drinking water and has important recreational and tourism values. I apologize for the very lengthy delay in responding.

I appreciate the leadership that the Shuswap Watershed Council plays in promoting water quality improvement and the Ministry of Environment and Climate Change Strategy will continue to work in partnership with the council. I understand that staff from the ministry have recently reached out to you and that ministry staff will be attending the upcoming quarterly meeting of the Shuswap Watershed Council. It is my expectation that we will continue to prioritise monitoring and regulatory actions to address the issues raised in your letter.

With your support and in partnership with the Adams Lake Indian Band, Splatnin and Little Shuswap Lake Band, the province established water quality objectives last fall for Shuswap Lake. These objectives will now be used to evaluate water quality monitoring data. The ministry will continue to investigate causes where water quality in the lake is not meeting these objectives. The Ministry will also continue to monitor two locations in Shuswap Lake as part of a long-term water quality trend program.

I understand the concerns you raised about the increased frequency of algal blooms and its impact on the local community. The monitoring, conducted in the spring and late summer each year, will help us understand how the nutrients in the lake are changing over time in relation to both land-based activities and climate change and how water quality influences the occurrence of algal blooms in Shuswap Lake. We expect that climate change will make algal blooms more likely in areas that have warmer climates and are prone to flood events in the spring.

The Province will also continue to work with local health authorities and citizens through the [Algae Watch](#) program to provide information and report observations about algal blooms. We understand the need to improve communications on beach conditions and the ministry hopes to work with the Shuswap Watershed Council and others to improve on messaging about algal blooms.

As mentioned in your letter, the Ministry has recently assessed the water quality of the Salmon River. As a result of this work, the Ministry will be further investigating the sources of nutrients within the Salmon River Watershed and Salmon Arm basin. Additional monitoring and assessment may be part of this work. Once the specific sources have been more clearly identified, the Ministry will work to reduce nutrient inputs where possible.

The Ministry takes a risk-based approach to enforcement of the Agricultural Environmental Management (AEM) Code when responding to complaints and assessing compliance. The province has undertaken education and promotion through the Ministry of Agriculture and Food who

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continues to work with the agricultural industry, local agriculture industry associations and with the Ministry of Environment to support the regulation of and communications with producers. The Compliance and Enforcement Division is aware of the concerns in the Salmon River watershed and is planning focused compliance work in the watershed in 2023.

I appreciate the work the Shuswap Watershed Council has done to educate citizens in the watershed about the protection of water quality in Shuswap Lake, including best practices in your recent Phosphorus Action Plan. The Ministry will continue to work with the Shuswap Watershed Council to support changes to land use activities that influence nutrient inputs to the Salmon River.

Thank you again for taking the time to write and I look forward to our continued collaboration on protecting this valuable resource in British Columbia. If you have additional questions, please contact Kym Keogh, Section Head, Regional Operations Division, Environmental Protection Division at 250 302-3589 or [Kym.Keogh@gov.bc.ca](mailto:Kym.Keogh@gov.bc.ca).

Sincerely,

George Heyman  
Minister

cc: Honourable Nathan Cullen, Minister of Water, Land and Resource Stewardship  
Kym Keogh, Section Head, Regional Operations Division, Environmental Protection  
Division, Ministry of Environment and Climate Change Strategy  
Erin Vieira, Program Manager, Shuswap Watershed Council