

AGENDA PACKAGE FOR:

Council Meeting
Wednesday September 21st 2022 • 10:00 – 11:30 AM

Columbia Shuswap Regional District Boardroom
555 Harbourfront Drive NE, Salmon Arm

Contents

1. June 8 th 2022 Shuswap Watershed Council meeting summary for approval, and signature from Chair	p. 2
2. Report from Program Managers:	
i. Financial update to end of first quarter (April 1 st - June 30 th 2022)	p. 10
ii. Phosphorus Action Plan	p. 11
3. Discussion points: Shuswap Lake algal bloom (background information is provided)	p. 12

Item No.	Agenda item	Time
1.	June 8 th 2022 meeting summary for approval	10:05

Council Meeting
June 8th 2022 • 9:00 – 11:55 AM

Draft Record of Decisions and Action Items
This summary is subject to revision and approval at the next Council meeting

Meeting objectives

1. Receive update from program managers
2. Receive presentation from Mike Simpson on Phosphorus Action Plan for the Shuswap Watershed
3. Receive guest presentation from Don Holmes on Upper Adams Salmon Restoration Program

Present

Jay Simpson, Chair – Columbia Shuswap Regional District, Area F
 Paul Demenok, Vice Chair – Columbia Shuswap Regional District, Area C
 Rene Talbot – Columbia Shuswap Regional District, Area D
 Rhona Martin – Columbia Shuswap Regional District, Area E
 Ken Christian – Thompson-Nicola Regional District, City of Kamloops
 Rod Crowe – Thompson-Nicola Regional District, Village of Chase
 Debbie Cannon – City of Salmon Arm (*to 11:30 am*)
 Colleen Anderson – District of Sicamous (*to 11:45 am*)
 Howard Nordquist – Secwepemc Nation, Adams Lake Indian Band
 Robyn Laubman – Secwepemc Nation, Splatshin
 Rick Fairbairn – Regional District of North Okanagan, Area D
 Denis Delisle – Regional District of North Okanagan, Area F (*from 9:50 am*)
 Kym Keogh – BC Ministry of Environment & Climate Change Strategy
 Lyndsay Benbow – BC Ministry of Agriculture, Food & Fisheries
 Kelly Chiatto – BC Ministry of Forests (*to 11:30 am*)
 Natalya Melnychuk – Community representative (*from 9:30 am*)
 Kimm Magill-Hofmann – Community representative
 Phil Owen – Community representative (*to 9:30 am*)
 Dennis Einarson – Senior Scientific Advisor

Erin Vieira and Alex de Chantal – Fraser Basin Council

Guests and observers

Mike Simpson
 Andrea Shaw
 Barbra Fairclough
 Rob Solinger
 Ian Rogalski

Regrets

Erik Kok
 Dave Nordquist

Call to Order

Chair Jay Simpson called the meeting to order at 9:03 AM. He acknowledged the meeting taking place on Secwepemc Territory.

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

A round of introductions took place. Chair Simpson introduced new Community Representatives: Erik Kok (not present at the meeting), Kimm Magill-Hofmann, and Phil Owen. He also introduced Robyn Laubman, representing Splatsin, and Kelly Chiatto, representing BC Ministry of Forests. Chair Simpson also introduced Alex de Chantal, new staff person with Fraser Basin Council.

Adoption of meeting summaries

Moved/seconded by Vice Chair Demenok/Director Talbot that:

The draft meeting summary of the March 9th SWC meeting be approved.

Carried

Correspondence

Moved/seconded by Mayor Christian/Director Talbot that:

The correspondence be received for information.

Discussion:

Chair Simpson commented on the importance of the SWC continuing to push senior orders of government regarding invasive Zebra and Quagga Mussels.

Councillor Anderson agreed and remarked that businesses in BC should have a link on their website to ‘Don’t Move a Mussel’.

Carried

Old business

None

Report from Chair

Chair Simpson reported that he met with Sue McKortoff, Chair of the Okanagan Basin Water Board, at the Southern Interior Local Government Association (SILGA) Convention in April regarding mutual interests and concerns about invasive Zebra and Quagga Mussels. Chair Simpson suggested SWC partner with OBWB and other like-minded organizations in BC to send correspondence to senior government advocating for better protection against invasive mussels.

Chair Simpson also reported that the Shuswap Lake Watch website, a site run by a citizen volunteer that has been a useful resource since the 1990s is currently not operational. It has been offline since April. The Chair posed the question about the SWC reaching out to the webmaster to find out more about the website and possibly providing support to ensure its continuity.

Chair Simpson also reported that the Anglemont Marina has been very useful to houseboats and cabin cruisers by providing a commercial pump-out service for black and grey water. However, the marina has discontinued this service. There is some concern about the possibility that the lack of this service could lead to illegal discharge of black and grey water into the lake.

Discussion:

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

Chair Demenok commented that SWC should determine its specific request to senior government regarding Zebra and Quagga Mussels.

Mayor Christian cautioned against the SWC taking over the responsibility for reporting hydrometrics that is held by other agencies, such as the River Forecast Centre and Environment Canada Water Office; he suggested the SWC post the relevant weblinks on its website.

Councillor Anderson commented that waste-water pump-out from vessels is not a viable commercial service, and that other companies offering this service also struggle with the business case for it. Vice Chair Demenok suggested SWC write to BC Parks requesting a feasibility study.

Moved/seconded by Vice Chair Demenok/Mayor Christian that:

The SWC write to BC Parks explaining that black- and grey-water pump-out from watercrafts is an important service to maintain the health of Shuswap and Mara Lakes but that it isn't a viable commercial service, and requesting that BC Parks undertake a feasibility study for providing this service at various access points to the lakes.

Carried

Natalya Melnychuk entered the meeting at 9:30 am

Phil Owen left the meeting at 9:30 am

Action items:

- Staff will update the SWC website with links to hydro-metric data from Environment Canada and the BC River Forecast Centre.

Completed

- Staff will prepare a letter to BC Parks as described above.

**Report from
Program Managers**

Erin Vieira provided a year-end financial update (April 1st 2021 – March 31st 2022) and revised budget for 2022-23:
(continued on next page...)

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

REVENUE - Source	\$
For the fiscal year April 1 st 2021 - March 30 th 2022	
Surplus (from March 31 st 2021)	69,072
Operating Reserve	198,995
<i>Per Contribution Agreement *</i>	
CSRD (Areas C, D, E, F and District of Sicamous)	97,200
TNRD	32,590
City of Salmon Arm	24,320
Adams Lake Indian Band	790
<i>Contribution from partner: Shuswap Lifeboat Society</i>	3200
RDNO (Area F)	5000
Total revenue	431,167

EXPENSES	Budgeted (\$)	Expense (\$)	Variance (\$)
April 1 st – March 31 st 2022			
Water Quality Monitoring	32,950	25,274	7676
Water Quality Protection	111,650	46,751	64,899
Zebra & Quagga Mussel Prevention	42,750	44,354	-1604
Safe Recreation	21,550	24,090	-2540
Communications & advocacy	48,100	36,033	12,067
Management & administration	41,500	40,193	1307
Sub-total Program Operations	298,500	216,696	81,804*
Operating Reserve	132,667	0	132,667
Total expenses	431,167	216,696	214,471

* Of the \$81,804 surplus, \$71,430 is allocated toward projects carried forward into the new fiscal year (April 1st 2022 - March 31st 2023).

Revised budget for 2022-23:

REVENUE - Source	\$
For the fiscal year April 1 st 2022 – March 31 st 2023	
Surplus (from March 31 st 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>	3200
Transport Canada – Boating Safety Contribution Program	22,900
Total revenue	492,271

(continued on next page...)

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

EXPENSES	Budgeted (\$)
April 1 st 2022 – March 31 st 2023	
Water Quality Monitoring	28,850
Water Quality Protection*	150,730
Zebra & Quagga Mussel Prevention	35,875
Safe Recreation	27,600
Communications & advocacy	55,100
Management & administration	43,750
Sub-total Program Operations	341,905
Operating Reserve	150,366
Total expenses	492,271

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

** The Safe Recreation Program is funded by \$22,900 grant funds from Transport Canada.

Director Delisle entered the meeting at 9:50 am

Erin Vieira provided an update on program operations since the last Council meeting in March:

- Field season for water quality monitoring by partners is underway; Shuswap Regional Algal Bloom Response Plan is ready to implement if needed
- Contribution Agreements are now in place with two recipients receiving grant funds through the SWC's Water Quality Grant Program; next round of intakes will open in November
- Final draft of Phosphorus Action Plan for the Shuswap Watershed is complete
- Education and outreach campaigns re: best practices to stop the spread of invasive mussels are underway; use of travel literature, billboards, radio, newspaper ads and editorial, social media to spread the message
- Safe boating and recreation campaigns are underway using same media as described above
- SWC Annual Highlights Report for 2021-22 was completed in April, circulated and posted online (www.shuswapwater.ca)
- Staff submitted comments to the Province in response to the *Watershed Security Strategy and Discussion Paper*; anticipate a reply in the fall
- Staff currently working on Annual Shuswap Water Quality Summary Report

**Presentation:
Phosphorus Action
Plan**

Mike Simpson, former Fraser Basin Council staff who is now under contract to assist in the completion of the Phosphorus (P) Action Plan, presented an overview of the plan which is now in the final draft stage:

- Mike explained that the development of a P Action Plan is referenced in the SWC's current Strategic Plan; he further explained the importance of phosphorus in aquatic environments and in an agricultural context

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

- Shuswap and Mara Lakes receive over 100,000 kg/year of phosphorus via the Shuswap River and Salmon River; agricultural lands contribute the highest proportion of this, with urban and forested lands contributing substantially less on a proportional basis
- Mike provided an overview of legislation currently in place by provincial government, federal government, local/regional governments, and First Nations that manage or regulate phosphorus
- He then provided an overview of strategic initiatives and opportunities that can be taken by other, non-regulatory groups to better manage phosphorus in the Shuswap watershed such as by the SWC, farms and agriculture sector, forest industry, homeowners and waterfront property owners, boaters, local governments, and provincial and federal governments
- Next steps for the P Action Plan will be to finalize the content (minor edits and additions still to come), graphic design, and publication and circulation. The P Action Plan will be a living document.

Discussion:

SWC members had some suggestions for additions to the P Action Plan.

Natalya Melnychuk inquired if the P Action Plan considers the draft Water Quality Objectives for Shuswap Lake prepared by the BC Ministry of Environment. Mike replied that at the time of writing the P Action Plan, the draft Objectives were not available; they can now be added. Natalya suggested that the SWC write a letter to the new Ministry of Land, Water & Resource Stewardship introducing the Council and the Phosphorus Action Plan, and requesting a meeting to review some of the items in the plan.

Vice Chair Demenok commented that he is in support of the SWC developing a wetland strategy and leading wetland restoration/construction. Mike replied that the SWC has applied for external funding for the past two years to support the development of a wetland strategy, but grant applications have not been successful to-date; a wetland strategy is identified in the SWC's Strategic Plan. In the interim, the SWC's Water Quality Grant Program provides support to other groups working on wetland restoration.

Chair Simpson inquired if Mike will make a final round of edits and additions to the Phosphorus Action Plan; Mike clarified that the Plan can be updated and then it will be ready for graphic design. The Plan will remain a living document.

Action items:

- Staff will bring a request for additional budget to complete the P Action Plan as described above, if necessary, to the September Council meeting.
- Staff will prepare an introductory letter to the new Ministry of Land, Water & Resource Stewardship as described above.

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

**Guest presentation:
Upper Adams
Salmon Restoration
Program**

Don Holmes, R.P.Bio, Lakeshore Environmental, attended the meeting and presented an update on the salmon restoration program underway in Adams Lake to restore the native salmon population. He explained that Adams Lake is very low in nutrients and subsequently has a minimal plankton community (which is important to juvenile salmon as a food source). A four-year program was created in 2019 to fertilize Adams Lake which in turn would create better habitat and survival for juvenile salmon. In 2021, fertilizer was applied to the lake on a twice-monthly basis; water quality was monitored regularly and the program was achieving the desired results. Juvenile salmon that were captured were observed to be twice their usual size. The restoration program is now in the third year, and fertilizer is once again being applied to Adams Lake on a prescribed schedule. A technical committee supporting this program is considering how to bring more spawning salmon back to the Upper Adams River.

Discussion:

Mayor Christian inquired about the public feedback in response to the restoration program and the lake fertilization. Mr. Holmes replied that initially some residents were concerned about the possibility of deleterious effects to water quality; he has since spoken directly with those residents to answer questions and the program is now receiving positive feedback. There have been no algal blooms.

Chair Simpson invited Mr. Holmes to attend a future Council to provide another update.

**Roundtable
discussion: draft
Water Quality
Objectives for
Shuswap Lake**

Chair Simpson invited Dennis Einarson to provide comments on the draft Water Quality Objectives (WQOs) developed for Shuswap Lake by the BC Ministry of Environment and Climate Change Strategy. Dennis remarked that, overall, the ambient conditions in Shuswap Lake are excellent. The area of concern is Salmon Arm Bay and Tappen Bay, due to inputs via Salmon River.

Chair Simpson asked how the recommendations for water quality monitoring prescribed in the Objectives document will be carried out. Kym Keogh explained that staff within the BC Ministry of Environment are responsible for monitoring, and the City of Salmon Arm also does some monitoring in the lake. Dennis added that some of the proposed monitoring sites are existing, long-term monitoring sites on the lakes which creates the highest quality data; additional monitoring sites may be needed.

Chair Simpson suggested that the SWC submit brief satisfactory comments to the Ministry in response to the draft Water Quality Objectives.

Councillor Debbie Cannon left the meeting at 11:30 am

Kelly Chiatto left the meeting at 11:30 am

Item No.	Agenda item	Time
1.	June 8 th 2022 draft meeting summary for approval	10:05

Guest presentation: Andrea Shaw introduced herself as an agro-ecologist with the BC Ministry of Agriculture, Food & Fisheries. She explained that the Ministry has recently embarked on new project, “Stewarding Agricultural Waterways”, in response to concerns about riparian management within the agriculture sector. The Ministry would like to create better solutions for the farming community to address several issues and complications with riparian management. As a starting point, the MAFF has released an online survey – meant for farmers and ranchers in BC. Future stages of this project will include interviews, the production of a discussion paper in the fall, followed by an action plan to address challenges facing the farming community early next year (March). Next year (April) move to implementation phase. Consultant Ione Smith / Upland Consulting.

Councillor Anderson left the meeting at 11:45 am

Roundtable updates None

Adjourn **Moved/seconded** by Vice Chair Demenok/Mayor Christian that:

The June 8th meeting of the Shuswap Watershed Council be adjourned.

Carried

The meeting adjourned at 11:55 am.

CERTIFIED CORRECT:

Chair

Item No.	Agenda item	Time
2(i)	Program Managers' report: financial update to end of first quarter	10:15

Financial report for the first quarter, April 1st – June 30th 2022

REVENUE for 2022-2023 (April 1st 2022 – March 31st 2023)

Source	(\$)
Surplus (from March 31 st 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
Total revenue	492,271

EXPENSES

Program (per 2022-23 work plan) (April 1 st - June 30 th 2022)	Budget (\$)	Expense (\$)
Water Quality Monitoring	28,850	12,890
Water Quality Protection & Improvement*	150,730	9938
Zebra & Quagga Mussel Prevention	35,875	28,179
Safe Recreation	27,600	14,333
Communications, Engagement, & Advocacy	55,100	13,860
Management & Administration	43,750	7387
Sub-total Program Operations Expenses	341,905	86,587
Operating Reserve	150,366	0
Total expenses	492,271	86,587

* Of the \$150,730 budget for Water Quality Protection, \$71,430 is carried forward from last fiscal year (from within the \$81,804 surplus).

Item No.	Agenda item	Time
2(ii)	Program Manager's Report	10:15

New publications from the Shuswap Watershed Council

Annual Water Quality Report

The Shuswap Watershed Council published the 2021 Annual Water Quality Report for the Shuswap Watershed in July. It is the sixth annual report by the SWC. The report is posted on www.shuswapwater.ca, and was circulated by email to members of the SWC, the SWC's Water Monitoring Group, and interested members of the community. Print copies of the report were distributed to local government offices, band offices, and libraries.

Phosphorus Action Plan for the Shuswap Watershed

The Shuswap Watershed Council published the Phosphorus Action Plan for the Shuswap Watershed in September. It will be posted on the SWC website in the near future, and broadly distributed by email. Staff will seek additional opportunities (e.g., presentations) to increase awareness of the Plan and implement the actions described within.

Item No.	Agenda item	Time
3.	Shuswap Lake algal bloom	11:05

Background information regarding Shuswap Lake algal bloom

Summary of algal bloom development and monitoring response

A large algal bloom has impacted Shuswap Lake in the Salmon Arm portion of the lake including the Salmon Arm Wharf, Salmon Arm Bay area, Tappen Bay, Canoe Beach, and Herald Provincial Park. The current algal bloom was first reported in early August.

Interior Health (IH) responded by requesting that the City of Salmon Arm and the Columbia Shuswap Regional District collect water samples for analysis (from beach/recreational sites that the City and CSRD manage). Later, staff at Herald Provincial Park were also engaged in regular monitoring. Throughout the month of August and into September, water monitoring continued. Analysis of water samples did not indicate any presence of microcystin, the toxin that can be associated with cyanobacteria blooms (aka, blue-green algae blooms).

Shortly after the bloom was reported in August, IH recommended that Cautionary Advisories be posted at the Salmon Arm Wharf and Tappen Bay, and later at Herald Provincial Park. This recommendation was carried out by staff accordingly. CSRD staff also created a map indicating the impacted areas of the lake and the extent of the Cautionary Advisory.

How the SWC responded to the algal bloom

The SWC forwarded IH's Cautionary Advisory to the media and posted it to the SWC social media (which was then shared by several other organizations) to increase public awareness of the advisory.

Staff at the Shuswap Watershed Council requested that the BC Ministry of Environment & Climate Change Strategy (MOE) collect water samples from impacted sites for taxonomic analysis, to support the toxicity analysis being carried out on a weekly basis. While staff at MOE were unavailable for this, staff at FNHA, the City and CSRD were able to collect additional samples for taxonomic analysis. The results showed that the algal bloom consisted of cyanobacteria (blue-green algae) and green algae, including species of cyanobacteria capable of producing microcystin. It's important to note, however, that no microcystin has been detected in any water samples.¹

The SWC fielded many inquiries throughout August and into September from area residents and visitors about the algal bloom, including questions about whether the water is safe to recreate in, what areas of the lake are impacted, what is causing the algal bloom, and what can be done to stop algal blooms from occurring. Some residents expressed sadness and frustration over two large algal blooms in three years (2020 and 2022).

The SWC posted general information about algal blooms to their social media in response to the public interest in the algal bloom. Staff also posted regular updates about the status of the algal bloom and the Cautionary Advisory to social media. These posts were well received and shared several times.

¹ Several species of cyanobacteria can produce microcystin, but do not always produce microcystin.

Item No.	Agenda item	Time
3.	Shuswap Lake algal bloom	11:05

IH level of notification of algal blooms

IH has two levels of notifications of algal blooms:

Cautionary: Algae is present. No testing has been conducted OR testing has not identified toxins.

- Avoid any contact with water / recreational use is not advised
- Consider an alternative drinking water source(s)

Do Not Use / Beach Closure: Testing has identified toxins

- Beaches are closed: stay out of the water
- Do NOT use the water: use an alternative source.

IH has had a Cautionary Advisory in place for impacted areas of Shuswap Lake since early August. At no point was a Do Not Use / Beach Closure notification posted. Typically, IH posts Cautionary Advisories to the Public Beaches website (<https://www.interiorhealth.ca/health-and-wellness/environmental-health-and-hazards/public-beaches#level-of-notification-of-algae-blooms->) but no further distribution of the advisory is done.

Additional points for consideration

- The current algal bloom is the second bloom in three years (2020, and 2022).
- The BC Ministry of Environment & Climate Change has some relatively new resources and policies related to Shuswap watershed water quality:
 - New draft Water Quality Objectives have recently been published for Shuswap Lake by the BC Ministry of Environment & Climate Change Strategy and Pespesellkwe te Secwepemc. The objectives are developed to “Promote the full protection and improvement of water quality” of the lake, and the document states that “Phosphorus and nitrogen concentrations are the primary water quality concern...”.
 - The BC Ministry of Environment & Climate Change Strategy recently released a detailed report about water quality in the Salmon River (tributary to Shuswap Lake at Salmon Arm Bay). The report summarizes declining water quality in the river, including poorer results for phosphorus concentrations.
 - The provincial *Agricultural Environmental Management Code of Practice* was introduced in 2018 to ensure agricultural practices are consistent with the protection of water and air quality.
- The Shuswap Watershed Council has a forthcoming Phosphorus Action Plan for the Shuswap watershed that identifies several (non-regulatory) steps for all residents and sectors to take to better manage their ‘phosphorus footprint’. Actions for the SWC include, but not limited to:
 - Offer an incentive program, focused on the delivery of grant funding, to farms and other land holdings and stewardship groups for projects that improve nutrient management on the landscape and protect water quality (i.e., the SWC Water Quality Grant Program, established in 2020)
 - Develop a Wetland Strategy for the Shuswap watershed, and lead or seek partnership opportunities for wetland restoration (as a method of improving and protecting water quality flowing into Shuswap and Mara Lakes)
 - Advocacy:
 - For upgrades to provincial/federal water monitoring program, such as the installation of nutrient monitoring instrumentation in the watershed

Item No.	Agenda item	Time
3.	Shuswap Lake algal bloom	11:05

- For more monitoring and implementation of provincial regulations such as the *Agricultural Environmental Management Code of Practice* and the *Organic Matter Recycling Regulation*
- For funding for upgrades to wastewater treatment plants
- For more research and crop trials related to nutrient management.