

AGENDA PACKAGE FOR:

Council Meeting
Wednesday June 14th 2023 • 9:30 – 11:30 AM
Columbia Shuswap Regional District Boardroom
555 Harbourfront Drive NE, Salmon Arm

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1.	March 8 th 2023 meeting summary for approval	9:40

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

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

Meeting objectives

1. Elect Chair and Vice Chair for 2023
2. Receive update from program managers
3. Approve Water Quality Grant Program applications for 2023-24
4. Approve SWC work plan and budget for 2023-24
5. Receive guest presentation on Shuswap Lake Water Quality Objectives

Present

Jay Simpson, Chair – Columbia Shuswap Regional District, Area F
Natalya Melnychuk, Vice Chair – Columbia Shuswap Regional District, Area G (*to 2:00 pm*)
Marty Gibbons – Columbia Shuswap Regional District, Area C
Dean Trumbley – Columbia Shuswap Regional District, Area D
Rhona Martin – Columbia Shuswap Regional District, Area E
Debbie Cannon – City of Salmon Arm
Pam Beech – District of Sicamous (*to 12:30 pm*)
Reid Hamer-Jackson – Thompson-Nicola Regional District, City of Kamloops
David Lepsoe – Thompson-Nicola Regional District, Village of Chase
Howard Nordquist – Secwepemc Nation, Adams Lake Indian Band (*via Zoom – to 12:30 pm*)
Robyn Laubman – Splatstine Secwepemc
Jim Johnson – Regional District of North Okanagan, Area E (*via Zoom - to 2:00 pm*)
Allysa Hopkins – Regional District of North Okanagan, Area F (*to 2:00 pm*)
Carly Foster – BC Ministry of Environment & Climate Change Strategy
Lindsay Benbow – BC Ministry of Agriculture, Food & Fisheries
Kelly Chiatto – BC Ministry of Forests (*via Zoom*)
Erik Kok – Community representative
Phil Owen – Community representative
Dennis Einarson – Senior Scientific Advisor (*via Zoom – to 12:30 pm*)

Erin Vieira and Alex de Chantal – Fraser Basin Council

Observers and guests

Linda Franklin	Greg Tamblyn
Rob Solinger	Heather Thompson
E. Moore	Lita Gomez
Barb Fairclough	Kym Keogh

Regrets

Kimm Magill-Hofmann

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Call to Order

Alex de Chantal called the meeting to order at 10:05 AM. He acknowledged the meeting taking place on the traditional unceded territory of the Secwepemc Peoples.

Election of Chair and Vice Chair for 2023

Alex de Chantal presided over the elections of Chair and Vice Chair.

ELECTION of Chair for 2023 is Jay Simpson by acclamation.

ELECTION of Vice Chair for 2023 is Natalya Melnychuk by acclamation.

Chair Simpson thanked the Council for the nomination and commented that he looks forward to working with Vice Chair Melnychuk.

Adoption of meeting agenda

Moved/seconded by Vice Chair Melnychuk/Director Hopkins that:

The March 8th 2023 Shuswap Watershed Council agenda be adopted.

CARRIED

Adoption of meeting summary

Moved/seconded by Director Trumbley/Councillor Cannon that:

The December 14th 2022 Shuswap Watershed Council meeting summary be adopted.

CARRIED

Correspondence

Moved/seconded by Director Martin/Director Hopkins that:

The following items of correspondence be received for information:

- i. Letter from Jim Standen, Assistant Deputy Minister, BC Parks, Recreation Sites and Trails Division, dated January 5th 2023 in response to Chair Jay Simpson's letter of October 11th 2022 regarding need for wastewater pump-out facilities for watercraft on Shuswap Lake.
- ii. Letter jointly signed by Chair Jay Simpson, Salmon Arm Mayor Alan Harrison, CSRD Board Chair Kevin Flynn, and Sicamous Mayor Colleen Anderson to Ms. Courtney Zimmerman, Interior Health, regarding the 2022 algal bloom in Salmon Arm Bay, dated January 17th 2023.
- iii. Letter from Lori Halls, Deputy Minister, Ministry of Water, Land and Resource Stewardship, dated February 15th 2023 in response to Chair Jay Simpson's letter of November 15th 2022 regarding Zebra & Quagga Mussel prevention.
- iv. Letter from Minister George Heyman, Ministry of Environment & Climate Change Strategy, dated March 2nd 2023 in response to Chair Jay Simpson's letter of October 12th 2022.

Discussion:

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Director Martin remarked that the reply correspondence from Provincial government was disheartening and that the SWC deserves stronger responses from government.

Chair Simpson commented that the SWC is looking forward to a reply from Interior Health (re: the joint letter sent on January 17th 2023), and that he hopes a meeting with Interior Health can take place before summer to further discuss the SWC's concerns with algal bloom response.

Mr. Erik Kok and Director Gibbons both commented that they would like further explanation of the "risk-based approach to enforcement of the Agricultural Environmental Management Code", as referenced in the letter from the Minister of Environment. Mr. Phil Owen commented that the Code and the regulations contained within are being phased in over a period of years.

CARRIED

Moved/seconded by Erik Kok/Councillor Cannon that:

The SWC request information about compliance and enforcement activities to-date in the Shuswap watershed by the BC Ministry of Environment & Climate Change Strategy, and again a year from now to understand the change.

CARRIED

Action item:

Staff will follow up with the Ministry of Environment and Climate Change Strategy to get more information on: a.) the risk-based approach to enforcement, and b.) compliance and enforcement reports.

Old business

Moved/seconded by Director Hopkins/Councillor Cannon that:

The following items be received for information:

- i. 2022 Annual Report from the Royal Canadian Marine Search & Rescue Station 106 Shuswap and the Shuswap Lifeboat Society
- ii. Draft summary of the Shuswap Water Protection Advisory Committee meeting held February 9th 2023
- iii. Draft summary of the Shuswap Water Monitoring Group meeting held February 15th 2023.

CARRIED

Report from Chair

Chair Simpson remarked that the SWC needs to do what it can to address algal blooms and the threat of invasive mussels. The SWC will continue to correspond with Interior Health and regulators to make these issues a priority. He also commented that the Columbia Shuswap Regional District needs to complete an

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assent process to continue its support of the Shuswap Watershed Council. Chair Simpson remarked that SWC staff are preparing for additional communications and outreach this year. The Chair is also attending a meeting of the Water Supply Association of BC later in March to speak about the SWC.

Discussion:

Several directors suggested how to garner a stronger response from the Provincial government to correspondence from the SWC. Director Martin, Vice Chair Melnychuk and Councillor Cannon suggested that the concerns be discussed at upcoming meetings of the Southern Interior Local Government Association (SILGA) and the Union of BC Municipalities Convention (UBCM).

**Report from
Program Managers**

Erin Vieira provided a program operations update since the last SWC meeting held in December:

- The Water Quality Grant program was open for applications December 1st 2022 – January 31st 2023 with a budget of \$63,200; staff received nine applications by the deadline.
- The Water Protection Advisory Committee met on February 9th to review the grant applications and make recommendations for funding
- The Water Monitoring Group met on February 15th to discuss the upcoming field season and water monitoring plans
- Staff presented the Phosphorus Action Plan at a webinar on February 16th with approximately 90 people in attendance
- Staff coordinated the preparation of a jointly signed letter to Interior Health in January regarding concerns about algal bloom testing and response
- Staff developed a draft work plan and budget for 2023-24 and facilitated a workshop with Chair Jay Simpson and Director Natalya Melnychuk in February to refine the budget in preparation for presentation at the March SWC meeting.

Ms. Vieira presented a financial update for the third quarter (April 1st – December 31st 2022):

(tables on next page)

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Revenue for 2022-23 (April 1st 2022 – March 31st 2023):

Source	(\$)
Surplus (from March 31 st 2022)	81,804
Operating Reserve	132,667
Return of SWC grant funding	*8200
<i>Per Contribution Agreement:</i>	
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
<i>Grant funding:</i>	
Transport Canada Boating Safety Contribution Program	22,900
Total revenue	500,471

Expenses – April 1st – December 31st 2022:

Program (per 2022-23 work plan)	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
Sub-total Program Operations Expenses	350,105	182,538
Operating Reserve	150,366	0
Total expenses	500,471	182,538

* denotes change to line item

New business: Water Quality Grant Program

Moved/seconded by Director Martin/Vice Chair Melnychuk that:

The water quality grant applications be approved as recommended by staff and the Water Protection Advisory Committee.

Discussion:

Alex de Chantal presented an overview of the Water Quality Grant Program purpose, objectives, and eligibility criteria. He explained how the SWC Water Quality Protection Advisory Committee reviewed the applications according to a set of defined evaluation criteria. Next, Mr. de Chantal provided a brief overview of each of the grant applications and highlighted whether the advisory committee recommended each funding request or not. In summary, the advisory committee is recommending \$53,004 be granted to five grant applicants.

Councillor Cannon asked some clarifying questions and commented on the importance of improving water quality through the delivery of the grant funding.

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Director Martin commented that she supports the recommendation.

Director Trumbley commented that he would like to see the scoring matrix for the proposals as part of the recommendation package in future meetings.

Vice Chair Melnychuk asked about the two proposals that did not meet the grant program criteria, and if there's a feedback mechanism to improve upon future applications. Mr. de Chantal confirmed that staff are able to provide feedback to applicants.

Mr. Phil Owen asked some clarifying questions. He suggested that the grant program be expanded beyond the current focus on phosphorus sourced from agricultural and urban areas in the Salmon and Shuswap River drainages.

CARRIED

Action item:

Staff will follow up with grant applicants accordingly, schedule site visits and prepare Contribution Agreements with grant recipients.

New Business: Work Plan and Budget for 2023-24

Erin Vieira presented the draft budget for 2023-24 and key work plan items.

Discussion:

Director Gibbons requested that the presentation of the budget be amended to demonstrate project management and administration expenses separate from external expenses.

Councillor Cannon suggested that the SWC do water quality testing to better inform algal response and understanding of nutrient-loading in the lake. Erin Vieira replied that the SWC does not have a field program and cautioned against taking on responsibility for water monitoring. Director Martin and Director Gibbons commented that it isn't SWC's responsibility to collect water samples.

Mr. Phil Owen suggested the SWC research the effects of forest fires on water quality to understand how they might be contributing to water quality concerns and algal blooms. Vice Chair Melnychuk commented that the SWC heard a presentation from Dr. Francois Robinne of the Canadian Forest Service on this subject at a SWC meeting in March 2022. Director Trumbley commented that forest fires are a natural occurrence on the landscape and generally they are known not to contribute significantly to nutrient-loading and algal blooms. Mr. Erik Kok agreed with Director Trumbley's comment.

Councillor Cannon asked if any work is being done on invasive Asian clams. Erin Vieira acknowledged that the clams have been found in a few locations in

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Shuswap Lake, and that the SWC's educational campaigns about aquatic invasive species are intended to help stop their spread around the watershed and into other watersheds. Management and/or eradication of invasive species is the responsibility of the BC Ministry of Water, Land and Resource Stewardship.

Mr. Phil Owen suggested a recently announced Provincial funding commitment for watershed security fund could pay for the wetland strategy referenced in the work plan.

Director Gibbons asked if staff would share the presentation slide deck with SWC members and post it on the SWC website.

Moved/seconded by Director Martin/Vice Chair Melnychuk that:

The draft work plan and budget be approved.

CARRIED

The key work plan deliverables and outcomes are summarized:

- Administer the Water Quality Grant Program (\$53,004 approved March 8th administered in 2023-24, and \$55,000 new budget for 2023-24)
- Begin developing a Wetland Strategy for the Shuswap watershed
- Administer the Zebra & Quagga Mussel Prevention Program (educational campaigns and early detection monitoring partnership with Columbia Shuswap Invasive Species Society)
- Promote safe boating through educational campaigns (target 400,000 impressions) and provision of safety equipment
- Communicate and engage with the public about the SWC's activities (e.g., Annual Highlights Report, media releases as needed, website and social media)
- Educate and inform the public about water quality (e.g., Annual Water Quality Summary Report)
- Advocate for the Shuswap watershed – emphasis on better measures from senior government to stop the spread of invasive mussels and more water quality monitoring and action on nutrient-loading and algal blooms
- Hold four SWC meetings per year
- Track and report expenses.

The budget for 2023-24 is summarized:

(tables on next page)

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Revenue for 2023-24 (April 1st 2023 – March 31st 2024):

Source	(\$)
Water Quality Grant Fund (carried forward from 2022-23)	63,200
Projected operational surplus from March 31 st 2023	34,000
Operating Reserve	150,366
<i>Per Contribution Agreement:</i>	
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
<i>Grant funding:</i>	
Transport Canada Boating Safety Contribution Program (not confirmed)	24,025
Total revenue	526,491

Expenses for 2023-24 (April 1st 2023 – March 31st 2024):

Program	Expense (\$)
Water Quality Monitoring	40,100
Water Quality Protection & Improvement	150,064
Zebra & Quagga Mussel Prevention	39,900
Safe Recreation	30,000
Communications & Advocacy	34,500
Council Meetings & Administration	40,100
Sub-total Program Operations Expenses	334,664
Operating Reserve	191,827
Total expenses	526,491

Action items:

Staff will re-circulate information from Dr. Francois Robinne's presentation in March 2022 about forest fires in watersheds.

Staff will circulate the presentation slide deck to SWC members and post it on the SWC website alongside the draft meeting summary.

New business: Wetland Strategy for the Shuswap watershed

Alex de Chantal introduced the proposed development of a Wetland Strategy for the Shuswap as an item identified in the SWC's Strategic Plan for 2021 – 2026. He reviewed some of the many benefits of wetlands in a watershed, and the benefits of having a Wetland Strategy. He briefly reviewed the components of other organizations' wetland strategies in BC. He explained that staff are looking for direction from the SWC as to the scope of such a strategy for the Shuswap.

Mr. de Chantal presented the following recommendations to develop a Wetland Strategy for the Shuswap:

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- Phase 1 (2023-24) – Develop Wetland Strategy
Hire a consultant for data (inventory and assessment), prioritization, and mapping. Identify partnerships and align with regional conservation and management goals. Develop a set of policies that outline how the SWC (and partners) will protect and restore wetlands.
\$24,000.
- Phase 2 (2024 onward) – wetland project implementation
Seek to collaborate with partners to leverage the Wetland Strategy and seek grant funding to support project implementation, such as wetland restorations.
Fund development opportunity.

Discussion:

Director Trumbley remarked that the budget to develop a strategy should be much higher and he expressed support for conducting an inventory of wetlands as part of developing the strategy. He remarked that Ducks Unlimited has a Canadian Wetland Inventory System already established.

Ms. Robyn Laubman also expressed support for inventorying wetlands. She suggested existing LiDAR collection projects may provide the desired information. She further suggested that the Wetland Strategy include a component of education and public engagement to increase the understanding of wetlands' collective importance.

Director Martin commented that the SWC needs to clarify the purpose of the Wetland Strategy – such as to protect and maintain wetlands, and/or to restore wetlands.

Mr. Erik Kok suggested that the SWC start by focusing on a particular geographical area of the watershed such as the Salmon River drainage.

Director Trumbley commented that the Strategy should include a component of wetland restoration because it will help improve water quality and watershed health. He re-iterated that the Strategy will be a useful tool for securing grant funding for restoration projects.

Councillor Pam Beech, Councillor Howard Nordquist and Dennis Einarson left the meeting at 12:30 pm

The conversation was put on hold to allow for the guest presentations to begin at their scheduled time. The SWC came back to this conversation at 2:00 pm.

Councillor Cannon suggested this item be deferred until the next SWC meeting. Director Trumbley agreed that the item should be deferred, and suggested that an ad hoc committee form to work with staff and bring a recommendation to the next SWC meeting.

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Moved/seconded by Director Martin/Mayor Hamer-Jackson that:

The committee be formed as discussed.

CARRIED

**Guest presentation:
Water Quality
Objectives for
Shuswap Lake**

Heather Thompson, Water Quality Specialist with BC Ministry of Water, Land and Resource Stewardship presented an overview of the recently completed Water Quality Objectives policy report for Shuswap Lake. Water Quality Objectives (WQOs) have been defined for eight parameters based on monitoring data collected from four sites on Shuswap Lake over the past 20 years.

Ms. Thompson described the WQOs for the following: dissolved oxygen, Secchi depth (a measure of water clarity), total phosphorus, total nitrogen, nitrogen:phosphorus ratio, Chlorophyll *a* (a measure of phytoplankton and lake primary productivity), total organic carbon, and *E. coli*. She explained that the WQOs are set at levels that protect the environment and are achievable. She clarified that some objectives are set at different levels in Salmon Arm Bay than in other area of the lake, and that this difference is due to the fact that Salmon Arm Bay is the more impacted area of the lake especially with regard to nutrient-loading.

*Vice Chair Melnychuk, Director Hopkins, and Director Johnson
left the meeting at 2:00 pm*

Kym Keogh, Section Head with the Monitoring, Assessment and Stewardship team, BC Ministry of Environment & Climate Change Strategy, presented a brief summary of studies to understand nutrient-loading in Shuswap Lake. She acknowledged that most of this work has been done by the Ministry and the Shuswap Watershed Council. Next, she presented a set of data from 2022 and illustrated it against the newly set WQOs. Next, she explained that the SWC's letter to Environment Minister George Heyman was reviewed by many provincial staff in order to write a reply letter that included some strong commitments.

Ms. Keogh described some of the Ministry's plans for continued work in the Shuswap watershed including continued water quality monitoring; focused compliance work in the Salmon River watershed 2023; continued work with SWC on nutrient management; investigating sources of nutrients in the Salmon Arm; reviewing permits and effluent discharges; examine runoff sources in Salmon River watershed through bacterial source-tracking or eDNA (methodologies to determine animal sources of contamination, e.g. livestock vs. humans vs. geese, etc.); and study nutrient movement in the water and soils of the upper Salmon River watershed above Westwold aquifer. Ms. Keogh

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emphasized that these plans will be solidified in the coming months and worked on over the next several years.

Ms. Keogh explained that the *Agricultural Environmental Management Code* came into force in 2019 and is being implemented in phases. To-date, enforcement of the Code has been focused in the Fraser Valley. Inspection reports are available online (<https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/reporting/env-compliance-inspection-report>).

Adjourn

Moved/seconded by Director Martin/Councillor Cannon that:

The March 8th Shuswap Watershed Council meeting be adjourned.

CARRIED

The meeting adjourned at 2:30 pm.

CERTIFIED CORRECT:

Chair

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2.	Correspondence	9:45

March 20, 2022

Sent Electronically

Hon George Heymann

Minister of Environment and Climate Change Strategy of [British Columbia](#)

Re: Water Quality of the Shuswap Lake

Dear Sir

I am writing as a concerned resident of Salmon Arm. The past few years have seen the frequency, severity, and impact of algae blooms in the Shuswap Lake that have been concentrated in the bay at the west end of the Salmon Arm. These blooms have several impacts including the effect on tourism, water quality, local recreation and sports, fish and wildlife and the reputation of the lake and area. Also, while the ministry of health has indicated that the blooms do not pose health risks, we have seen "Do Not Swim" notices at various beaches and camping locations in the area and I can attest anecdotally that the water is not healthy, as our dog drank lake water and became very ill.

The phosphorus entering the lake from the Salmon River is 2.5X higher than that from the Tappen test site, the next highest source, and **10X** the approximate average for the rest of the lake at large. In addition, Nitrogen levels in this area are also elevated, but not to the degree of phosphorus. From off the record conversations I have had with agencies and locals, it is clear that the increasing intensity of farming activity and



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a few following very poor farming practices are the cause. While some believe there are other contributing factors such as climate, shoreline residential uses, boating etc., I think everyone has come to the same obvious cause conclusion, that the increasing agriculture activity and practices are the chief cause. This conclusion is reinforced in more detail by the letter that was sent to you from the Shuswap Watershed Council (SWC) on October 12, 2022, and supporting water quality reports.

There are best farming practices guidelines and some regulations, although these are woefully inadequate. However, often the regulations are in opposition to each other. The FARM PRACTICES PROTECTION (RIGHT TO FARM) ACT 2(1)(a) among other things states “the farmer is not liable in nuisance to any person for any odor, noise, dust or other disturbance resulting from the farm operation...”. Phosphorus is regulated in many ways (e.g., laws, regulations, bylaws), directly and indirectly. However, the nature of the regulatory systems—with provincial, federal, and local government laws, often by sector—means that the network of regulations is a patchwork. It is built from the bottom up, sometimes not considering the whole system*.

The Phosphorus Action Plan published by the Shuswap Watershed Council provided a good summation of the situation, albeit purposely written to avoid naming and thereby offending any group. Unfortunately, the action plan itself seems to contain mostly motherhood statements and avoids any enforcement action on the existing inadequate regulations. I understand the SWC has no legislative power and is a government funded information gathering organization and does not want to vilify or alienate any particular sector.

No individual or local organization has the power or mandate to address this critical problem successfully. The government is the steward of our environment, and this includes the beautiful Shuswap Lake. Please don't

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allow the deterioration of our lake, it's water quality and reputation to be eroded further. I for one will support affirmative action, including enforcement in protecting this precious resource. However, in the absence of any real meaningful action on behalf of government, I believe it is incumbent of citizens to take public action in a thoughtful, respectful and effective way to motivate the hands of those with the power to affect the situation. I believe time is of the essence and ask you to gather the necessary resources and implement a plan to combat the situation so 2023 does not see a repeat of previous years.

As the spring and summer season are almost upon us, we can't afford to waste time, accordingly I would appreciate an update on initiatives and request your thoughts on the matter at your earliest convenience.

Regards,

CC:

Greg Kylo, MLA (greg.kylo.MLA@leg.bc.ca)

Jay Simpson, Chair of the Shuswap Watershed Council (jsimpson@csrd.bc.ca)

Kevin Flynn, Chair of the CSRD (kflynn@csrd.bc.ca)

Mel Arnold, MP (mel.arnold@parl.gc.ca)

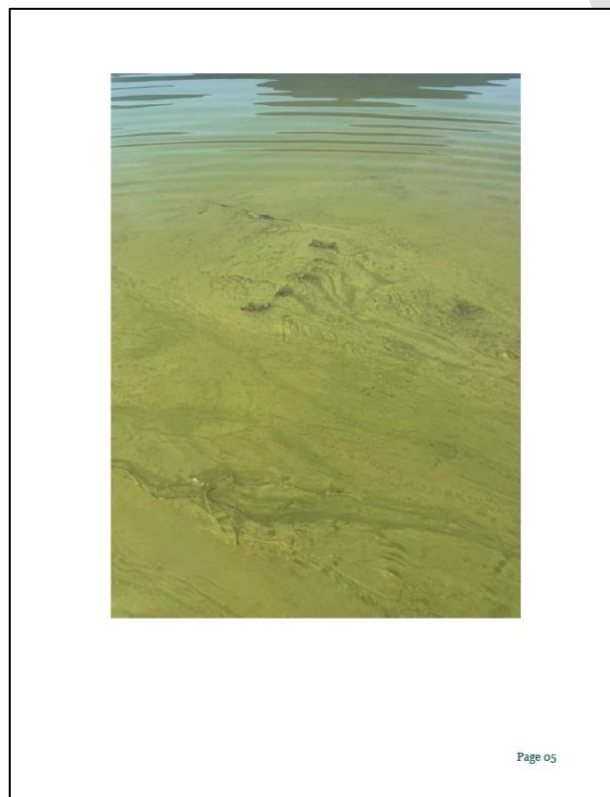
City of Salmon Arm Council (Mayor_and_Council@salmonarm.ca)

Attachments

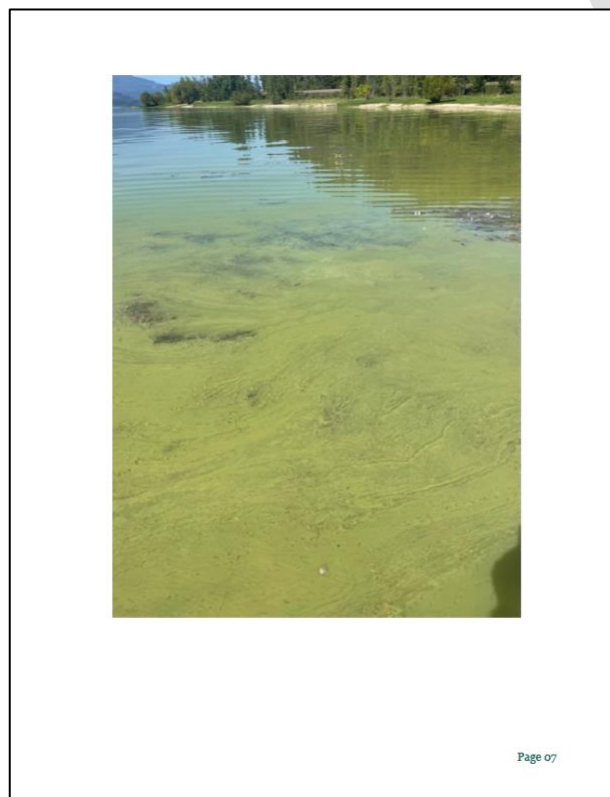
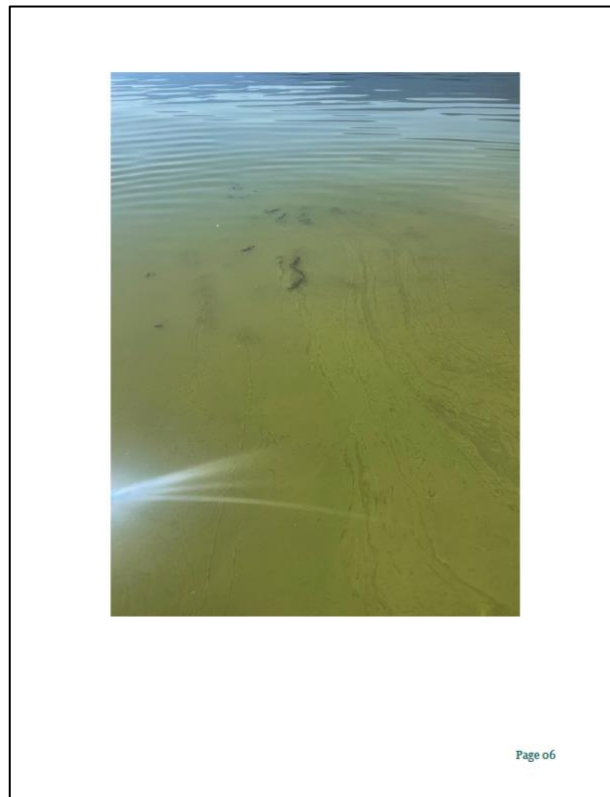
Taken August 30, 2022, Mallard Point Salmon Arm Bay

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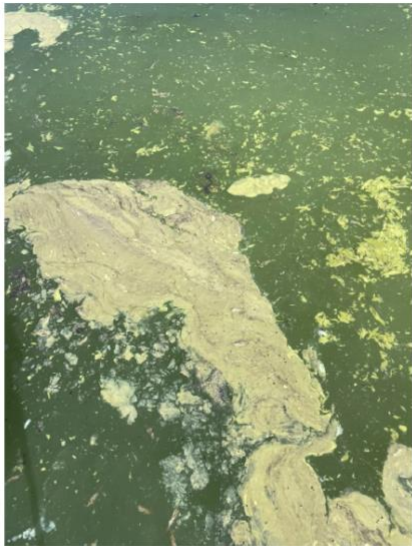
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Okanagan Basin
WATER BOARD

1450 KLO Road, Kelowna, BC V1W 3Z4
P 250.469.6270 F 250.762.7011
www.obwb.ca

Honourable Nathan Cullen
Minister of Water, Land and Resource Stewardship
PO Box 9012 Stn Prov. Govt.
Victoria, BC V8M 9L6
WLRS.Minister@gov.bc.ca

June 8, 2023

Honourable George Heyman
Minister of Environment and Climate Change Strategy
PO Box 9047 Stn Prov Gov
Victoria, BC V8W 9E2
ENV.Minister@gov.bc.ca

Re: Report on the Potential Economic Impact of Zebra and Quagga Mussels in B.C.

Dear Ministers,

The Okanagan Basin Water Board (OBWB) is a partnership of the three regional districts of the Okanagan Basin, with external board directors from the Okanagan Nation Alliance, the Water Supply Association of B.C., and the Okanagan Water Stewardship Council. Directors appointed by the regional districts include mayors and other elected officials from Armstrong in the north to Osoyoos in the south. Our mandate is to protect and enhance the quality of life in the Okanagan through sustainable water management.

For more than 10 years, one of the board's gravest concerns has been a potential infestation of invasive zebra and quagga mussels establishing in B.C. waterways. Your latest report brings even more urgency to this matter, especially in the Okanagan. Mussels are most often spread via infested watercraft and provincial stats show a large proportion of mussel-fouled watercraft from out-of-province are headed to the Okanagan Valley. This, plus our warm, calcium-rich waters put us at high risk for an infestation and all the costs and impacts associated with them.

The OBWB recently received the B.C. Ministry of Water, Land and Resource Stewardship's report titled: *Potential Economic Impact of Zebra and Quagga Mussels in B.C.* We appreciate the level of detail given by your report, looking at the potential financial impacts of invasive mussels on hydro facilities, irrigation infrastructure, municipal water treatment facilities, domestic water intakes, losses in property values and property taxes, tourism, boats and marinas. However, the report does not, and probably could not calculate the terrible impacts these mussels would cause to our natural systems.

While the board had been waiting to see this updated report for a few years and had anticipated bad news, the research results were deeply troubling. Even more so, we recognize that the estimated costs, ranging from \$69 to \$129 million a year, do not include many of the priceless aspects to our environment and quality of life that would be lost if these mussels become established in B.C.

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Okanagan Basin
WATER BOARD

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www.obwb.ca

An economic study cannot quantify the impacts to our children and grandchildren who would grow up missing the experience of playing along the beaches and swimming in the lakes free from piles of razor-sharp mussel shells. It cannot quantify the harm the mussels will cause to the populations of sockeye and Chinook salmon, that are being restored back from the brink of extinction by the efforts of the Okanagan Nation Alliance and their partners. It cannot quantify the losses to the health and environmental quality of our beautiful lake system – also a critical source of drinking water to a growing population.

What is more, the report cannot qualify the disruption of life caused by the inevitable need to quarantine lakes, the required inspections of all watercraft (not just ones from out of province), or the delays and trouble to the general public – whether boat owners or not. Our international reputation for clean lakes with excellent water quality will be lost. For all these reasons, even given the extremely high financial costs of an invasion to the public and private sectors that your report notes, the true costs will be far higher.

The only way a mussel invasion will be prevented is through vigilant action by your ministries. The OBWB has provided many specific calls to action in the past. We are grateful for those you have acted upon, and we encourage you to go further and make this a top priority for both your ministries. We will be providing updated calls for action later this year, but felt it was appropriate to address the results of this study.

Yours truly,

Anna Warwick Sears, Ph.D. — Executive Director
Okanagan Basin Water Board
1450 KLO Road, Kelowna, B.C. V1W 3Z4
Email : anna.warwick.sears@obwb.ca
Office: 250.469.6251

CC:

- Okanagan MLAs: Harwinder Sandhu, Norm Letnick, Renee Merrifield, Ben Stewart, Dan Ashton, Roly Russell
- Okanagan Nation Alliance, Chiefs Executive Council
- Okanagan Local Government Chairs and Mayors
- Okanagan MPs: Mel Arnold, Tracy Gray, Dan Albas, Richard Cannings
- Pacific NorthWest Economic Region: Matt Morrison, Chief Executive Officer
- Invasive Species Council of B.C.: Gail Wallin, Executive Director
- Okanagan Chambers of Commerce
- Thompson Okanagan Tourism Association
- Union of BC Municipalities
- Shuswap Watershed Council
- Okanagan and Similkameen Invasive Species Society

Item No.	Agenda item	Time
3.i.	Report from Program Managers	10:00

Program Managers' Report: Year-end Financial Report, for the period April 1st 2022 – March 31st 2023

REVENUE

Source	\$
2021-22 surplus (carried forward from March 31 st , 2022)	81,804 ¹
Return of grant funding	8200
<i>Per Contribution Agreement:</i>	
Columbia Shuswap Regional District (Areas C, D, E, F, G and District of Sicamous)	160,000
Thompson-Nicola Regional District	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
<i>Federal grant funding:</i>	
Transport Canada – Boating Safety Contribution Program	22,900
Revenue for 2022-23	367,804

EXPENSES

Program	Budgeted (\$)	Expenses (\$)	Variance (\$)
Water Quality Monitoring	28,850	23,644	5206
Water Quality Protection & Improvement	158,930	86,895	72,035 ²
Zebra & Quagga Mussel Prevention	35,875	33,988	1887
Safe Recreation	27,600	24,839	2761
Communications & Advocacy	55,100	42,990	12,110
Management & Administration	43,750	37,090	6660
Sub-total operational expenses	350,105	249,445	100,660
2023 contribution to Operating Reserve	17,699	0	17,699
Summary of expenses for 2022-23	367,804	249,445	118,359

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

¹. The Water Quality Protection & Improvement budget often ends the year with a surplus due to funds that have been approved for spending but not carried out until the following year. Of the \$81,804 surplus at the start of April 2022, \$71,430 was allocated to projects that were completed in 2022-23. Also see note #2.

². Of the \$72,035 surplus in the Water Quality & Improvement budget as of March 31st 2023, \$53,004 is allocated to projects that will be completed in 2023-24.

³. The Operating Reserve has been growing since 2016 as a result of annual surpluses.

Item No.	Agenda item	Time
3.ii.	Report from Program Managers	10:00

Program Managers' Report: Revised budget for 2023-24

REVENUE

Source	\$
2022-23 operational surplus (carried forward from March 31 st , 2023)	47,676
2022-23 funds allocated and carried forward to 2023-24 projects (Water Quality Grants)	53,004
<i>Per Contribution Agreement:</i>	
Columbia Shuswap Regional District (Areas C, D, E, F, G and District of Sicamous)	160,000
Thompson-Nicola Regional District	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
<i>Federal grant funding:</i>	
Transport Canada – Boating Safety Contribution Program	24,025
Summary of revenue for 2023-24	379,585

EXPENSES

		Breakdown of expenses (\$)		Total (\$)
		Ext. expenses	Program mgmt.	
Water Quality Monitoring Program				
	Facilitate the Shuswap Water Monitoring Group	0	7200	7200
	Water monitoring expenses	17,700	2200	19,900
	Annual Water Quality Report	7200	5800	13,000
Water Quality Protection Program				
	Water Protection Advisory Committee	0	4200	4200
	Water Quality Grant Program	108,464	9800	118,264
	Wetland Strategy	20,000	4000	24,000
	Climate change impact study	3000	600	3600
Zebra & Quagga Mussel Prevention Program				
	Education, outreach, and engagement	33,300	6600	39,900
Safe Recreation Program				
	Safety campaigns	20,000	10,000	30,000
Communications, Public Engagement, & Advocacy				
	Communications collateral	3250	6100	9350
	Public and media engagement	7150	13,800	20,950
	Advocacy	0	4200	4200
Administration				
	Council meetings, work planning, liaise with Chair and Vice Chair between meetings	2600	20,800	23,400
	Financial management and fund development	0	16,700	16,700
Sub-total expenses		222,664	112,000	334,664
Contribution to Operating Reserve				44,921
Total expenses for 2023-24		222,664	112,000	379,585

Operating Reserve	\$
Balance as at April 1 st 2023 (carried forward from March 31 st , 2023)	150,366
Projected 2023-24 contribution	44,921
Projected balance as at March 31 st 2024	195,287

Item No.	Agenda item	Time
4.ii	New business: Request from White Lake Residents' Association	10:55



May 26, 2023.

To the Shuswap Watershed Council Board,

As you may be aware the WLRA is now in the third year of the Ministry of Environment Level 3 deep site testing at White Lake, an upper level water source contained in the Shuswap Watershed. We have completed 2 years of testing conducted by resident volunteers of our Water Quality Committee. The Level 3 Study measures Dissolved Oxygen and temperature levels at each meter to a depth of approximately 40 meters. In addition we measure water turbidity and collect water samples at surface, mid and bottom levels that are put on ice and shipped the same day to a lower mainland laboratory for analysis. The WLRA also participates in the Shuswap Watershed Council Water Monitoring Group to share this and other pertinent White Lake water quality information.

We have worked with the BC Lake Stewardship Society for some years and have historic data dating back to 2011. We are currently one of a handful of freshwater lakes in the province that conducts the Level 3 Study. Our goal a few years ago when we started this testing was to proceed to the Ministry of Environment's next level as outlined here.

Level 4 Study

Monitoring activities combine Level 1, 2, or 3 studies plus:

A watershed study providing detailed information on lake health as well as impacts of different land uses to the lake.

Provides great value in prioritizing short and long-term management strategies for rehabilitation and protection of aquatic systems.

Level 4 studies are required to be led by the community and can involve multiple levels of government (i.e., municipal, regional, and provincial).

With the creation of the Ministry of Water, Land and Resource Stewardship the current program may change with the Watershed Security Strategy launch this winter 2023/24. We have listed our request for Water Sampling Equipment (current WS equipment on loan from MoE) and Water Sampling Costs for the 2023 season. Our own equipment will allow us to continue with the program seamlessly next year without the uncertainty of the new ministry policy. We will continue to advocate at the Provincial Level for a Level 4 Study or equivalent. On behalf of the White Lake Residents Association board we would like to thank the Shuswap Watershed Council and supporting members for your consideration in this most important matter of watershed management. The amount we are requesting is \$4200 to continue this work.

Sincerely,

Patrick Frank,

president@wlra.ca

Item No.	Agenda item	Time
4.ii	New business: Request from White Lake Residents' Association	10:55



2023 WLRA Water Quality Committee Monitoring Program

PROGRAM INCOME

\$5,000 Ministry of Environment (MoE)
 \$4,200 Shuswap Watershed Council (SWC)
 \$5,750 White Lake Residents Association (WLRA)
 \$14,950 Total

PROGRAM EXPENSES

\$5,000 MoE (biologist staff, biologist admin, sample shipping, lab analysis)
 \$4,200 SWC (equipment, sampling)
 \$5,750 WLRA (program management, volunteer training, sample collection, data reporting)
 \$14,950 Total

SWC EQUIPMENT BREAKDOWN

\$2,004 Van dorn
 \$300 secchi disk
 \$200 portable cable spool for YSI digital meter cable and sensor array
 \$165 rope, fasteners, weights, bungee cords, misc maintenance/repair
 \$95 storage bins, towels, tape, misc maintenance/repair
 \$300 volunteer training day and appreciation lunch (2 events)
 \$1136 sampling/testing

SAMPLING/TESTING breakdown

\$41 fuel/travel at CRA rate \$0.68 /km x 60 km return (White Lake to SA purolator)
 \$30 at \$10/hr for boat operating costs and boat delivery to from lake x 3 hrs
 \$71 total per test
 X 16 tests = \$1,136 sampling cost for 2023
\$4,200 TOTAL for 2023 SWC contribution

WLRA IN-KIND BREAKDOWN

160 hrs water sampling/testing
 30 hrs training/development
 10 hrs maintenance/repair
 30hrs program coordination/management/data entry/reporting
 230 hrs volunteer hours by WLRA to run and operate this program/season
 230 hrs x \$25/hr value = \$5,750 WLRA contribution to the program

White Lake Residents Association 3617 Parri Road Sorrento, B.C. V0E 2W1