

## AGENDA PACKAGE FOR:

**Council meeting**  
**Wednesday March 13<sup>th</sup> 2019 | 10:30 AM – 2:30 PM**  
**Columbia Shuswap Regional District Boardroom**  
**555 Harbourfront Drive NE, Salmon Arm**

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**Council Meeting**  
**December 12<sup>th</sup> 2018 | 10:30 AM – 2:30 PM**  
**Columbia Shuswap Regional District Boardroom**  
**555 Harbourfront Drive NE, Salmon Arm**

Draft Record of Decisions and Action Items

This record is subject to correction when adopted at the next SWC meeting

**Meeting objectives**

1. Receive program operations update from Program Managers
2. Receive updates from partner organizations on Zebra and Quagga Mussel prevention
3. Receive research proposal from UBC – Okanagan
4. Set meeting schedule for 2019

**Present**

Paul Demenok, Chair – Columbia Shuswap Regional District, Area C  
Rene Talbot – Columbia Shuswap Regional District, Area D  
Rhona Martin – Columbia Shuswap Regional District, Area E  
Jay Simpson – Columbia Shuswap Regional District, Area F  
Ken Christian – Thompson-Nicola Regional District, City of Kamloops  
Rod Crowe – Thompson-Nicola Regional District, Village of Chase  
Tim Lavery – City of Salmon Arm  
Colleen Anderson – District of Sicamous  
Lorne Hunter – Community representative  
Laura Code – BC Ministry of Agriculture  
Dennis Einarson – BC Ministry of Environment and Climate Change

Erin Vieira and Mike Simpson – Fraser Basin Council

**Observers**

None

**Regrets**

Steven Teed  
Dave Nordquist  
Tundra Baird  
Randy Wood  
Ray Nadeau

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## Call to Order

Chair Paul Demenok called the meeting to order at 10:35 AM

## Adoption of meeting summary

**Moved/seconded** by Mayor Christian/Director Talbot that:  
The summary of the September 19<sup>th</sup> 2018 meeting of the SWC be adopted.

**CARRIED**

## Correspondence

**Moved/seconded** by Mayor Christian/Councillor Lavery that:  
The correspondence be received for information.

**CARRIED**

## Old business: draft meeting summary for information

**Moved/seconded** by Mayor Crowe/Lorne Hunter that:  
The draft summary of the Shuswap Water Quality Monitoring Group meeting held on November 1<sup>st</sup> be received for information.

**CARRIED**

## Old business: SWC Terms of Reference

Erin Vieira briefly reviewed the Terms of Reference, including SWC membership and representation, appointments and terms, decision-making, voting, and community representation. She also explained the structure of two committees, the Water Monitoring Group and the Water Protection Advisory Committee, that provide input and support to the SWC on issues of water quality.

## Report from Chair

Chair Demenok reported that he has been in touch with the Shuswap Waterfront Owners Association (SWOA), and they have agreed in principle to improve communications between SWC and SWOA. SWOA would like additional support on foreshore issues including docks and buoys, however Chair Demenok has indicated that those issues are outside the SWC's mandate.

Chair Demenok has corresponded with the Regional District of North Okanagan recently regarding formalizing their partnership and ensuring appointed representation from RDNO on the SWC.

### Discussion:

Mayor Christian and Director Martin indicated their agreement that foreshore issues such as docks and buoys are best addressed by agencies with land-use planning mandates, and not the SWC.

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**New business: draft meeting schedule for 2019**

**Moved/seconded** by Councillor Lavery/Mayor Christian that:  
The Shuswap Watershed Council meeting schedule for 2019 be approved.

**CARRIED**

The meeting schedule will be as follows:

Wednesday March 13<sup>th</sup> 2019

Wednesday June 12<sup>th</sup> 2019

Wednesday September 11<sup>th</sup> 2019

Wednesday December 11<sup>th</sup> 2019

**New business: community representatives**

Erin Vieira explained that the community representative positions on the SWC (there are three of them) will reach the end of their three-year term in March 2019. She explained a proposed process to renew those positions, allowing for new applicants or the renewal of the current representatives.

**Moved/seconded** by Director Simpson/Director Talbot that:

Staff be directed to renew the community representative positions on the Shuswap Watershed Council.

Discussion:

A brief discussion took place about the community representative terms. Chair Demenok suggested that applicants' previous experience be considered; Mayor Christian suggested a maximum number of terms for community representatives.

**CARRIED**

Action item: staff will post the community representative positions and invite applications. Candidates will be invited to the next SWC meeting in March.

**Guest presentation: draft nutrient research proposal**

Mike Simpson provided an overview of Dr. Jeff Curtis draft research proposal for collecting and analyzing a sediment core from the bottom of Mara Lake. He introduced it as a concept that the Water Protection Advisory Committee is in support of, and he explained that this proposal is in addition to the three-year nutrient research project on Shuswap River and Salmon River.

The objective of the proposed project is to gain an understanding in the change in nutrient loading to Mara Lake over several decades or centuries. The timeframe for the project is approximately January –

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September 2019, for a cost of \$19,320.

Discussion:

Chair Demenok asked Dennis Einarson to provide his opinion on the project; Dennis indicated that this research would be complementary to work that the Ministry of Environment has done in other areas of the watershed. Director Martin and Mayor Christian indicated their support of the project, noting it's a worthwhile investment that would provide useful information and demonstrate the SWC's commitment to learning about the Shuswap watershed. Lorne Hunter inquired if the methodology and results would be comparable to the work the Ministry of Environment has done in Salmon Arm Bay; Dennis Einarson replied that they would. Chair Demenok pointed out that the SWC ought not to undertake this purely for curiosity, and that the results need to affect management decisions; Dennis Einarson explained that the useful results from this study will be the provision of natural (un-altered by land use) nutrient loading. He cautioned that the data would be at approximately 10-year resolution.

**Moved/seconded** by Director Martin/Mayor Christian that:  
The SWC support the draft research proposal.

**CARRIED**

Action item: staff will work with Dr. Jeff Curtis and his associates at UBC-Okanagan to finalize the research proposal and commence it in 2019.

**Report from Program Managers**

Erin Vieira and Mike Simpson presented an update on program operations since the last SWC meeting:

- A wetland has been constructed near Gardom Lake, by the Gardom Lake Stewardship Society with financial support from the SWC. The wetland is on a Ministry of Highways right-of-way; it will improve water quality flowing into Gardom Lake.
- The Water Monitoring Group met in November to review various water monitoring programs of 2018, and discuss the provincial framework for cyanobacteria (blue-green algae) monitoring and reporting
- The Water Protection Advisory Committee met in early December and received a detailed presentation on Megan Ludwig's and Dr. Jeff Curtis' nutrient research; they also received Dr. Curtis' new research proposal for a lake bottom sediment core
- The Zebra and Quagga Mussel Prevention Program and the Safe Recreation Program wound down in the fall. Staff are preparing

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articles about each subject for regional magazines, to be published in spring 2019.

- Staff worked with Chair Demenok to write to Minister Wilkinson, Department of Fisheries and Oceans, regarding a recent funding announcement for Zebra and Quagga Mussel prevention in BC.

Expenses to the end of the second quarter (April 1<sup>st</sup> – September 30<sup>th</sup> 2018) were as reported:

	Annual budget (\$)	Expenses (\$)
Water Monitoring Initiative	66,400	12,283
Water Protection Initiative	76,300	51,599
Zebra & Quagga Mussel Prevention Program	26,850	21,981
Safe Recreation Program	12,200	9763
Communications	37,850	21,581
Management and Administration	40,750	17,722
Operating Reserve	131,528	0
<b>Total expenses to September 30<sup>th</sup> 2018</b>	<b>391,878</b>	<b>134,929</b>

#### Discussion:

Councillor Anderson commented on the urgency of the Zebra and Quagga Mussel threat, and encouraged the other SWC members to put a notice on their organizations' websites. She also noted the opportunity to engage regional tourism organizations in the issue.

Staff specifically inquired if the completion of Megan Ludwig's Master's Thesis, and the summary of nutrient research results that are now available, should be communicated. It was suggested to wait until the spring when the full results from Dr. Curtis are available. Chair Demenok commented on the opportunity to consider 'Alternative Land Use Systems' as a model for incorporating the results of the nutrient research and undertaking water quality improvement projects. Laura Code reminded the group of the concurrent review of Agricultural Waste Control Regulations, and the delay that process is experiencing.

#### **Break**

SWC members took a lunch break from 12:20 – 1:15

*Councillor Anderson and Mayor Christian left the meeting at 12:30*

#### **Roundtable updates**

Chair Demenok reiterated the need to identify local water groups that the SWC can partner with; Dennis Einarson remarked that there is a group at White Lake; Councillor Lavery commented that there is a watershed class at Salmon Arm high school.

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Director Simpson inquired about mosquito treatment at Shuswap Lake Provincial Park, and if there is a risk to water quality. Director Martin commented that BC Parks doesn't spray for mosquitoes.

**Guest presentation:  
Columbia Shuswap  
Invasive Species  
Society**

Robyn Hooper and Sue Davies of the Columbia Shuswap Invasive Species Society presented an overview of the work their organization has undertaken in 2018. The partnership and funding support from the Shuswap Watershed Council has enabled CSISS to expand its programs for Zebra and Quagga Mussel outreach, education and monitoring including:

- 28 locations in 14 lakes in the Shuswap watershed were monitored for ZQM
- Outreach, working with staff at SWC, was greater than ever including articles, media releases, paid advertising, events, face-to-face surveys and research, signage, and distribution of collateral (rack cards, stickers, etc.)

Ms. Davies relayed the results of the monitoring in the Shuswap did not indicate the presence of any zebra or quagga mussels. Ms. Hooper thanked the SWC for their support in 2018.

*Director Martin left the meeting at 1:40*

Discussion:

Mayor Crowe suggested sampling the west side of Little Shuswap Lake for ZQM, within the CSRD's jurisdiction. He also inquired about signage at boat launches in Chase.

Erin Vieira inquired if providing boat wash stations would help to instill the importance of Clean-Drain-Dry and enable these steps with boaters. Ms. Davies replied that the best location would be a public boat launch, which sees more in-and-out boat traffic and has less oversight than a marina. She also commented that some carwashes are safe for washing boats (i.e. wash water goes to treatment centre, not to storm drains).

**Adjourn**

**Moved/seconded** by Lorne Hunter/Mayor Crowe that:

The December 12<sup>th</sup> 2018 meeting of the Shuswap Watershed Council be adjourned.

**CARRIED**

Meeting adjourned at 2:00 pm.

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2.	Correspondence	10:25



Mr. Paul Demenok  
Chair  
Shuswap Watershed Council  
<pdemenok@csrd.bc.ca >

Dear Mr. Demenok:

Thank you for your correspondence of September 25, 2018, regarding zebra and quagga mussels in the Shuswap watershed.

Preventing the introduction and spread of invasive mussels into western Canada is a high priority shared by federal, provincial and territorial governments. Fisheries and Oceans Canada (DFO) takes this matter seriously and funds response efforts to address this issue.

For example, earlier this year, the Okanagan Basin Water Board brought to our attention the importance of research, coordination, education and outreach as essential tools for invasive species management in British Columbia. In response, the Department is disbursing \$500,000 in funding not previously dedicated to mussels in the Okanagan region over four years. This announcement was made in consultation with the Government of BC, which has substantial, ongoing programs to manage invasive mussels.

The work funded by DFO will be complementary to BC's efforts, as DFO recognizes the Province's formal authority for management of freshwater fisheries in the province. The BC Ministry of Environment and Climate Change Strategy is responsible for the provincial watercraft inspection program, including contributions of approximately 3 million dollars towards monitoring, enforcement, research and outreach.

DFO's Aquatic Invasive Species (AIS) National Program is mandated to implement the *AIS Regulations* through several strategies, including education and outreach. The Canadian Council on Invasive Species (CCIS) will be leading education and outreach in the Okanagan region by advancing a Clean Drain Dry campaign in cooperation with BC as the lead authority for freshwater AIS management. With the intention of encouraging national consistency, messaging and materials piloted by CCIS will be beneficial, applicable and accessible to all in Canada. Meetings with the Provinces of New Brunswick, Ontario and BC to extend the Clean Drain Dry message have begun. Alberta has well-established Clean Drain Dry practices and CCIS will engage with the Province to leverage existing resources and avoid duplication.

.../2

Canada



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2.	Correspondence	10:25

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DFO's Conservation and Protection authorities will be increasing their AIS monitoring efforts in Ontario and Quebec in 2019 and 2020 through the AIS National Program. This will help contain invasive mussels in eastern and central Canada. This escalation of monitoring activities is expected to help prevent expansion of AIS to the western provinces.

DFO Science will continue to allocate resources to AIS research and monitoring. DFO Science supports BC's invasive mussel management by providing scientific advice and conducting risk assessments. It is also funding a three-year project developing environmental DNA surveillance tools for AIS that are used for zebra and quagga mussels in BC. These results, in addition to the early detection research being conducted in the Okanagan Basin, will benefit the province of BC and Canada as a whole.

Finally, the Canada Border Services Agency (CBSA) is responsible for aircraft and floatplane AIS monitoring. I encourage you to contact the CBSA directly to learn more about the agency's AIS prevention activities. I recommend reaching out to Helen Gerson, Senior Program Advisor at CBSA's Food, Plant and Animal Program, by email at <[helen.gerson@cbsa-asfc.gc.ca](mailto:helen.gerson@cbsa-asfc.gc.ca)> or by telephone at 613-957-9539.

Thank you for providing me with your thoughts on this matter. Again, DFO takes the threat of invasive mussels in Western Canada seriously. I hope my response has addressed your concerns.

Yours sincerely,



Jonathan Wilkinson, P.C., M.P.  
Minister of Fisheries, Oceans and the Canadian Coast Guard

Item No.	Name	Time
3.a	Old business: Draft summary of Water Protection Advisory Committee meeting, December 5 <sup>th</sup> 2018	10:30



**Water Protection Advisory Committee Meeting  
Wednesday December 5, 2018 | 12:30 PM – 3:00 PM  
Splatins Development Corporation Boardroom  
5655 Hwy 97A, Enderby, BC**

Draft meeting summary as at December 12, 2018

**Meeting objectives**

1. Receive nutrient research update
2. Provide update on restoration project at Gardom/Mallory Creek
3. Explore opportunities for nutrient management education

**Attendance (committee members)**

Laura Code, Ministry of Agriculture  
 Jeff Curtis, UBC Okanagan  
 John Dedood, Agriculture – dairy  
 Dennis Einarson, Ministry of Environment and Climate Change Strategy  
 Lorne Hunter, Agriculture – dairy  
 Hamish Kassa, Columbia Shuswap Regional District  
 Dennis Lapierre, Agriculture – other  
 Robyn Laubman, Splatins Development Corporation  
 Megan Ludwig, UBC Okanagan  
 Ralph Vandalfsen, Agriculture – dairy  
 Ben van Nostrand, Columbia Shuswap Regional District

Erin Vieira, Shuswap Watershed Council c/o Fraser Basin Council  
 Mike Simpson, Shuswap Watershed Council c/o Fraser Basin Council

**Meeting Outcomes**

1. Committee members informed about current results of nutrient research and next steps
2. Updates provided for restoration projects underway.

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

**Welcome, Introductions, Agenda and Objectives**

Mike Simpson welcomed everyone and thanked them for their time, and thanked Robyn Laubman hosting and for coordinating meeting space. Secwepemc territory was acknowledged. Introductions were made around the room. The agenda was reviewed and accepted as presented.

**Meeting Summary from April 30, 2018**

The meeting summary from April 30, 2018, was approved. Old action items were reviewed.

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3.a	Old business: Draft summary of Water Protection Advisory Committee meeting, December 5 <sup>th</sup> 2018	10:30

### Nutrient Research Update

Megan presented her master's degree thesis findings, through a report named Dec 2018 Project Summary.pdf and a presentation named Nutrient Research Dec 2018.pdf (both distributed with this meeting summary). The main conclusions, or take-aways were as follows:

- Anthropogenic activities are the main contributors of P to the rivers, via incremental flows of surface water (i.e., ditches, seasonal streams). On a per-hectare basis, these sources contribute the highest proportion of P.
- Anthropogenic contribution of P is not abnormally high for the types of land uses that are prevalent in the Shuswap River and Salmon River watersheds
- Background P (P coming from natural forested/undisturbed landscape) in the watershed is very low
- The Shuswap and Salmon Rivers are sensitive systems, and therefore small additions of P can have significant impacts on water quality.

Over the course of two hours, committee members had the opportunity to ask questions and clarifications. Discussion focused on the use of the term sensitive, the unique groundwater interactions in the Salmon River watershed, the need to determine what a reasonable degradation of P in the Shuswap watershed is, the impacts of salmon populations and last year's dominant return, legacy P in the soil, the existence of water quality objectives for the Salmon River (against which the BC Ministry of Environment is doing an attainment monitoring program), the draft status of water quality objectives for Shuswap Lake, and the draft status of Agricultural Waste Control Regulations.

It was agreed that the results of the research should be communicated to a lay-person audience, and that Erin would take the lead on developing various formats including but not limited to a two-page printed summary, a media release and inclusion in the next water quality summary report. Including comparisons to other watersheds in Canada was encouraged.

Jeff suggested that before any management decisions are made about how to reduce the anthropogenic loading of P, a modelling exercise would be wise to understand what activities would be most effective. For instance, it's already been confirmed that upgrade of the Enderby waste water treatment plant would be ineffective, since it already has secondary treatment and relatively few houses are connected to the plant, compared to septic systems. Jeff urged committee members to consider this as a next step, and think about what a reasonable objective would be; his rationale is that in order to pursue a model, one must have a clearly defined objective (or end-point).

A proposal for UBC Okanagan to take a core sample of the bottom of Mara Lake, as previously supported by this committee, will be presented to the Shuswap Watershed Council next week for consideration. Jeff spoke to the highlights of the methodology and timelines. Robyn suggested to consult with Splatstin before selecting the location, as cultural values exist underwater; Jeff confirmed that the \$19 320 budget could be matched by funding applications from MITACS or other sources, but not UBC.

### ACTION ITEMS:

- Committee members to share the nutrient research *Phosphorus Budget for the Shuswap and Salmon Rivers, December 2018* and/or the presentation from today's meeting (circulated with this meeting summary) with their members/colleagues

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3.a	Old business: Draft summary of Water Protection Advisory Committee meeting, December 5 <sup>th</sup> 2018	10:30

- Committee members to consider how to balance the contrary results of the nutrient research – the fact that the Shuswap and Salmon River watersheds are sensitive ecosystems, but that nutrient-loading is currently within the normal range for agriculture and urban development – and generate some draft objectives

#### Project C – Support Remediation & Phosphorus Mitigation Projects

Mike informed participants that the Shuswap Watershed Council did not support any further proposals at their June 13, 2018 meeting. There are no “Project C restoration” projects funded in 2018.

An update on the Mallory Creek wetland creation/stream restoration project at the southwest end of Gardom Lake was provided. The groundbreaking commenced on November 21, as the first phase of the project. Photos from the Gardom Lake Stewardship Society were shown on screen.

#### Project D - Support nutrient management education (\$6000)

Committee members were reminded that the annual work plan enables up to \$6000 in funding for nutrient management education opportunities in agriculture as follows:

- Guest speakers could include anybody who is a topic expert on nutrient management who doesn't have their salary or expenses covered to come and present to a group for education purposes

This committee doesn't have to seek specific approval for each specific event from SWC.

No funds were spent in this category for the year ending March 31, 2018, and to date, there are no requests to spend any of these funds in this current fiscal year.

#### ACTION ITEMS:

- If any committee member wants to access these funds for a guest speaker or topic expert, follow up with Mike by email to confirm budget availability in advance.

#### Project E – Promote nutrient management and pollution reduction from other sources (\$1000)

There is no current known messaging for Septic Smart in the RDNO. Mike suggested that one option to raise awareness would be to communicate the messaging of how to maintain your septic system in the Shuswap portion of RDNO.

#### ACTION ITEMS:

- Mike to follow up with Ben about utilizing wording for SepticSmart campaign from the CSRD in the Shuswap portion of RDNO; and whether RDNO would welcome this



Item No.	Name	Time
3.a	Old business: Draft summary of Water Protection Advisory Committee meeting, December 5 <sup>th</sup> 2018	10:30

### Next Meeting, Draft Agenda

A half-day in late April or May 2019, possibly followed by a field trip to see the work underway at the Mallory Creek/Gardom Lake wetland and stream restoration project. Mike to seek a date through a doodle scheduling poll a few weeks in advance. Draft agenda:

- Nutrient management research update
  - New results – UBC O monitoring to May 2018; MOE's attainment monitoring of Salmon River compared to established water quality objectives
  - Next steps – consider modelling
  - Context – water quality objectives, ag waste management regulations
- Possible education opportunities:
  - ALUS (Alternate Land Use Systems) – what is it, how does it work, are there opportunities for the Shuswap
  - Christina Lake or Okanagan Falls constructed wetland and effluent treatment

Item No.	Name	Time
3.b	Old business: Draft summary of Water Monitoring Group meeting, February 27 <sup>th</sup> 2019	10:30

**Shuswap Water Quality Monitoring Group  
February 27<sup>th</sup> 2019 | 10:30 AM – 2:30 PM  
Fraser Basin Council Office  
200A – 1383 McGill Road, Kamloops**

Draft meeting summary as at 6 March 2019

This summary is subject to correction at the next Monitoring Group meeting

## **Attendance**

Sue Davies – Columbia Shuswap Invasive Species Society  
Wes Dearmond – BC Parks  
Dennis Dodd – Columbia Shuswap Regional District  
Jessy Bhatti – Interior Health Authority  
Clint Wright – Village of Chase  
Beckie Rozander – Yucwmenlucwu Splatstsin First Nation  
Rob Niewenhuizen – City of Salmon Arm  
Connie Hewitt – Regional District of North Okanagan  
Dennis Einarson – BC Ministry of Environment & Climate Change Strategy  
Erin Vieira – Fraser Basin Council (SWC program manager)  
Mike Simpson – Fraser Basin Council (SWC program manager)

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## **Summary of discussions and action items**

Erin welcomed all present and acknowledged Secwepemc Territory. A round of introductions took place.

The agenda and the draft summary of the last meeting (November 1<sup>st</sup> 2018) were approved.

### 1. Group discussion: 2019 water quality monitoring

Group members discussed their respective organizations' water quality monitoring plans for 2019 and input was captured in a table. Dennis Einarson reported that MOE's plans for 2019 includes enhanced sampling on Shuswap Lake to monitor the effects of the 2018 dominant salmon run on water quality; MOE will request SWC cost-share this program in the amount of approximately \$20,000. Additionally, MOE is completing the Salmon River attainment monitoring program in March. In 2019, MOE will prepare an attainment monitoring report. Erin asked that the attainment monitoring report be shared with the SWC so that it can be summarized and reported publicly.

Sue Davies explained CSISS' desired work plan for ZQM monitoring in 2019, which includes monitoring 12 water bodies at 24 sites, for a total of 144 samples. CSISS is requesting financial support from SWC in the amount of \$15,000.

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3.b	Old business: Draft summary of Water Monitoring Group meeting, February 27 <sup>th</sup> 2019	10:30

**Action item:** DE to send EV a budget and funding request for MOE's enhanced monitoring in 2019

**Update:** *completed*

**Action item:** CH will find out about Shuswap River and tributary sampling for 2019, and if any samples were collected in 2018

**Action item:** DE will find out if Shuswap River data from 2018 – if collected – was entered into EMS

**Action item:** DE to send EV invoice for attainment monitoring

**Action item:** EV to confirm Drinking water systems @ Sicamous. DE thinks Cook Ave has been de-commissioned.

**Action item:** CH will follow up re: drinking water systems monitoring in RDNO

Erin gave the Monitoring Group the opportunity to address any potential gaps in watershed monitoring, or request support to bolster existing monitoring programs if it benefits the watershed. Some discussion of ideas took place but no additional requests were made.

**Request for funding from the SWC:** the Monitoring Group recommends the SWC supports two requests for financial support:

1. \$15,000 for Zebra and Quagga Mussel monitoring in the Shuswap watershed, to be done by CSISS
2. \$22,000 for enhanced monitoring on Shuswap Lake to monitor the effects of the 2018 dominant salmon return, to be done by BC Ministry of Environment and Climate Change Strategy

**Action item:** EV will forward this request from the Water Monitoring Group to the SWC at their next meeting on March 13<sup>th</sup>.

## 2. 2018 Shuswap Watershed Water Quality Summary

Erin reviewed input on the 2017 Water Quality Summary that was gathered at the November Monitoring Group meeting, which included a suggestion to write an article about cyanobacteria testing and reporting protocol. Dennis E. further commented that an explanation of cyanobacteria and their range of toxicity levels be included.

Erin also suggested that the 2018 summary include a brief article about recent waste water treatment upgrades in the watershed, and the benefits to water quality. She also indicated that there would be an article summarizing the results of the nutrient research carried out by UBC-Okanagan researchers on the Shuswap River and Salmon River.

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3.b	Old business: Draft summary of Water Monitoring Group meeting, February 27 <sup>th</sup> 2019	10:30

Erin inquired if the Salmon River attainment monitoring results from MOE would be ready to include in the 2018 Summary; Dennis E. replied that the data won't be ready in time but that a project description could be included.

Erin also inquired if the forthcoming Water Quality Objectives being developed by MOE could be included in the Summary; she remarked that they might provide a useful 'comparison' for people to understand the data. Dennis E. replied that the WQOs won't be ready for publishing in time.

Dennis E. inquired if the Summary would include trends in water quality data; Erin indicated that it would be a duplication of the Water Quality Objectives effort by the Province and therefore the SWC has decided not to.

Erin suggested reporting calcium as an additional parameter in the 2018 Summary as a way to demonstrate the 'ripe' water quality conditions for Zebra and Quagga Mussels.

Jessy inquired if the Monitoring Group would be able to review the draft Summary. Erin indicated that she will share a draft, but would expect replies and input within a fairly short period. She will also work with individual Group members to prepare articles pertaining to their information.

**Action item:** DE to share provincial TP guideline with EV

**Action item:** SD to share Calcium data with EV

### 3. Roundtable Updates

Jessy reported that IHA staff assisted several hundred water systems last year.

Rob reported that the Salmon Arm WWTP upgrade is complete with UV treatment. He reported that 'unflushables' are still not a problem in the treatment system. Rob also reported that the City is doing some preliminary work to consider other secondary domestic water sources, in addition to Metford.

Sue explained that in the event that ZQM were discovered in a lake, the Province would take over and implement their Response Plan. The Canadian Council on Invasive Species is piloting a new outreach program in BC this year, it will include some new educational resources and signage.

Wes reported that BC Parks will continue with beach monitoring program and keep a watchful eye on other parts of the watershed; they have a strong presence in the watershed and are mobile.

Dennis E. announced a new provincial website has been published, the "BC Water Monitoring Portal" and a special page about the Okanagan Collaborative Monitoring Program. He will inquire with his colleagues at MOE about the possibility of creating an analogous page for the Shuswap watershed.



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3.b	Old business: Draft summary of Water Monitoring Group meeting, February 27 <sup>th</sup> 2019	10:30

#### 4. Canada Water Week (March 18 – 24)

Erin relayed that Canada Water Week takes place March 18 – 24; this is an opportunity for the SWC to highlight water quality information and projects in the media. She asked the group for input on this. Rob indicated that there is also a BC Water Week, May 5 – 11. Jessy suggested profiling IHA's webpage, "Water for Everyone"; Erin indicated a cautious approach on drinking water information to avoid the perception that the SWC has a responsibility for drinking water. Sue suggested sharing CSISS' posts about aquatic invasive species.

#### 5. Late agenda item

Erin raised the idea of establishing a boat-wash station at Shuswap Lake to enable watercraft users to Clean-Drain-Dry. Sue commented that she is very much in favour of the idea, and that it would need to serve in-coming and out-going boat traffic. She stressed that Clean-Drain-Dry is not the same as decontamination and is not sufficient for preventing the spread of Zebra and Quagga Mussels – this difference would need to be made clear. She said she has seen lake-side boat-wash stations that cost approximately \$22,000.

#### 6. Next meeting

The group agreed to have their next meeting in late October or early November. Erin will seek a date that accommodates the most people.

The meeting adjourned at 2:45 pm.

Item No.	Name	Time
4.	Report from Program Managers	10:40

## Program Managers' Report

Financial summary to the end of the third quarter (April 1<sup>st</sup> 2018 – December 31<sup>st</sup> 2018):

### INCOME (same as previously reported)

Source	Amount received (\$)
Surplus SWC funds (from March 31 <sup>st</sup> 2018)	136,978
TNRD	53,600
CSRD (C, D, E, F and District of Sicamous)	160,000
City of Salmon Arm	40,000
Adams Lake Indian Band	1,300
<b>Total</b>	<b>391,878</b>

### EXPENSES

Activity (per 2018-19 work plan)	Budget (\$)	Expenses (\$) Apr 1 <sup>st</sup> – Dec 31 <sup>st</sup> 2018
Water Quality Monitoring: Water Monitoring Group	8750	4647
Water Quality Monitoring: Water Monitoring Plan	57,650	15,000
Water Quality Protection: Advisory Committee	6200	5202
Water Quality Protection: Nutrient research	47,800	46,160
Water Quality Protection: improvement projects	12,400	2168
Water Quality Protection: nutrient management education initiatives	7900	1642
Water Quality Protection: other education initiatives and pollution reduction	2000	47
Zebra and Quagga Mussel Prevention: education, outreach and advocacy	26,850	26,241
Recreation Safety: campaigns and equipment	12,200	11,083
Communications: collateral	4450	2485
Communications: public engagement	14,400	4986
Communications: annual water quality report	19,000	15,583
Administration	27,050	17,775
Financial management and fund development	13,700	8427
Sub-total (Operating Expenses)	260,350	161,446
Operating Reserve	131,528	0
<b>Total for 2018-19</b>	<b>391,878</b>	<b>161,446</b>

Item No.	Name	Time
5.a	New business: 2019-2020 proposed work plan and budget	11:00

### Proposed work plan and budget for April 1<sup>st</sup> 2019 – March 31<sup>st</sup> 2020

Revenue	\$
<b><i>2018-19 surplus (carry forward from March 31<sup>st</sup> 2018)</i></b>	
Projected operational surplus	20,000
Operating Reserve (including \$20K Contingency Fund)	126,528
<b><i>Per Contribution Agreement:</i></b>	
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
<b><i>External grant applications:</i></b>	
Boating Safety Contribution Program	19,538
MITACS	15,000
<b>Total Revenue</b>	<b>435,966</b>

(see next page for work plan and expenses)

Item No.	Name	Time
5.a	New business: 2019-2020 proposed work plan and budget	11:00

Work plan and expenses		\$
<b>Water Quality Program</b>		
	Water Monitoring Initiative	
	Facilitate the Shuswap Water Monitoring Group	10,250
	Implement the watershed water quality monitoring plan	40,900
	<i>Sub-total Water Monitoring Initiative</i>	51,150
	Water Protection Initiative	
	Facilitate the Water Protection Advisory Committee	7000
	Nutrient research project with UBC-O (phase 2: sediment)	22,500 <sup>1</sup>
	Water quality improvement	50,000
	Nutrient management education	0
	Promote nutrient management and pollution reduction	0
	<i>Sub-total Water Protection Initiative</i>	79,500
<b>Zebra and Quagga Mussel Prevention Program</b>		
	Education, outreach and advocacy	30,825
<b>Recreation Safety Program</b>		
	Safety campaigns	21,950
	Safety equipment	4100
	<i>Sub-total Recreation Safety Program</i>	26,050 <sup>2</sup>
<b>Communications</b>		
	Collateral	5000
	Public engagement	18,000
	Annual water quality summary	17,200
	<i>Sub-total Communications</i>	40,200
<b>Administration</b>		
	Council administration	27,350
	Financial management and fund development	15,800
	<i>Sub-total Administration</i>	43,150
<b>Sub-total operational expenses</b>		<b>270,875</b>
Operating Reserve (includes \$20K Contingency Fund)		165,091
<b>Total Expenses</b>		<b>435,966</b>

<sup>1</sup> Staff have applied for an external grant from MITACS in the amount of \$15,000

<sup>2</sup> Staff have applied for an external grant from the Boating Safety Contribution Program in the amount of \$19,538

Item No.	Name	Time
5.b	New business: Memo from Water Monitoring Group	11:00

## MEMORANDUM

To: Shuswap Watershed Council

From: Erin Vieira, SWC Program Manager, on behalf of Shuswap Water Quality Monitoring Group

Date: March 13<sup>th</sup> 2019 SWC meeting

Re: Request for funding to support water quality monitoring in 2019

### Background

The Shuswap Water Quality Monitoring Group consists of representatives from various organizations that monitor water quality in the Shuswap watershed. The primary roles of the Monitoring Group are to discuss and share information about their respective water quality monitoring activities, and consider the coverage of monitoring activities at the watershed scale.

### Request for funding

The Monitoring Group met on February 27<sup>th</sup> 2019 and shared their organizations' water quality monitoring plans for 2019. Two ideas for additional water quality monitoring were discussed, and the the Monitoring Group supported them unanimously as requests to be brought to the SWC for funding in 2019:

1. \$22,000 for enhanced monitoring to measure impacts of the 2018 dominant salmon return

The BC Ministry of Environment and Climate Change Strategy (MOE) routinely monitors water quality at 8 long-term stations on Shuswap and Mara Lakes, on a bi-annual basis. 2018 was a peak salmon return year in the Shuswap, with significant returns of salmon to the Adams, Shuswap, and Eagle Rivers, and others. MOE will increase the frequency of monitoring to measure the impact of last year's salmon run on water quality. The total value of this enhanced monitoring is \$60,000 (funding and in-kind from MOE). This enhanced monitoring program took place in 2015, to measure impacts of the 2014 salmon return; the 2019 program was anticipated and accounted for in the SWC's five-year Water Quality Program.

2. \$15,000 for Zebra and Quagga Mussel (ZQM) monitoring in the Shuswap watershed

This work would be carried out by the Columbia Shuswap Invasive Species Society. The total value of their ZQM monitoring program in 2019 is approximately \$75,000 (other funding sources include the Habitat Conservation Trust Foundation and Mustang Survival, pending, as well as in-kind contributions). The monitoring will take place at 24 sites on 12 water bodies within the Shuswap watershed, for a total of 144 samples. The monitoring program tests the water for both larvae and adult monitors, and monitors water quality parameters including pH and calcium according to a risk assessment. The contribution from SWC would cover CSISS expenses including staff time, equipment and supplies, travel, and administration.

Item No.	Name	Time
6.	Guest presentation	12:45

## Code of Practice for Agricultural Environmental Management

Guest presenters: Josie Beruldsen, Policy Specialist, and Margaret Crowley, Senior Environmental Management Officer; BC Ministry of Environment and Climate Change Strategy

There are changes to the way agricultural operations and the government work together to protect the environment. The Agricultural Waste Control Regulation has been replaced with a new Minister's Regulation called the Agricultural Environmental Management Code of Practice, or AEMCoP. The new regulation came into effect February 28<sup>th</sup>, 2019, with some requirements being gradually phased in over the next 10 years.

AEMCoP includes provisions that aim to:

- Ensure watercourses and groundwater are protected through proper storage and use of manure, other nutrient sources, and other materials;
- Prevent water quality impacts from contaminated run-off;
- Prohibit direct discharges;
- Require nutrient management planning in some cases;
- Allow for increased monitoring in high-risk areas;
- Provide clear compliance expectations for agricultural operations for setbacks, storage, and nutrient applications; and
- Require record-keeping.

AEMCoP applies to agricultural operations in British Columbia, from small hobby farms to large commercial operations. It has been built with the understanding that not all agricultural operations are the same, and not all regions of the province are the same. Various rules will apply to different agricultural operations depending on their location, size and type of activity.

During our presentation, we will cover:

- Key requirements of the new regulation
- How AEMCoP is different from the old Agricultural Waste Control Regulation
- New measures to protect water quality
- Regulatory requirements that are relevant for the Shuswap watershed

For more information on AEMCoP see: [gov.bc.ca/Agricultural-Environmental-Management](http://gov.bc.ca/Agricultural-Environmental-Management)