

**Council Meeting**  
**Wednesday October 25<sup>th</sup> 2017 | 10:00 AM – 3:00 PM**  
**Salmon Arm Municipal Hall – Room #100**  
**500 2<sup>nd</sup> Avenue NE, Salmon Arm, BC**

Draft agenda as at 18 October 2017

**Meeting objectives**

1. Presentation on 2016 water quality summary report
2. Discuss and approve Water Quality Contingency Fund Framework
3. Receive presentation on nutrient research
4. Receive presentations/updates on aquatic invasive mussels

**Agenda**

10:00	Call to Order	
10:05	Welcoming comments and introductions	
10:15	Adoption of meeting summary <b>MOTION</b> to adopt the May 10 <sup>th</sup> 2017 SWC meeting summary	
10:20	Correspondence: <ul style="list-style-type: none"> <li>• Referral from Columbia Shuswap Regional District Re: Adams River Salmon Society (ARSS) Initiatives, dated July 26 2017</li> </ul> <b>MOTION</b> to receive correspondence as information	
10:25	Report from Chair	
10:35	Report from Program Managers Presentation of 2016 Water Quality Summary Report	
11:20	New business: SWC Contingency Fund Framework <b>FOR FINANCIAL VOTE</b>	
11:40	Roundtable updates (each SWC member may provide a 1-2 minute verbal update – optional)	
12:00	Lunch break (lunch provided for SWC members)	
12:45	Guest presentation: Dr. Jeff Curtis and Megan Ludwig, UBC – Okanagan Update on nutrient research project in the Shuswap watershed Question & Answer period	<u>Note:</u> Water Protection Advisory Committee (WPAC) members are invited to participate in this session
1:45	Guest presentations: Martina Beck, Acting Aquatic Invasive Species Coordinator, BC Ministry of Environment and Climate Change Strategy Robyn Hooper, Executive Director, Columbia Shuswap Invasive Species Society	
2:45	Roundtable discussion: aquatic invasive mussels	
3:00	Next steps, adjourn <b>MOTION</b> to adjourn the October 25 <sup>th</sup> 2017 Council meeting	

**AGENDA PACKAGE FOR:**

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**Wednesday October 25<sup>th</sup> 2017 | 10:00 AM – 3:00 PM**  
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1	May 10 <sup>th</sup> 2017 SWC meeting summary for approval and signature	10:15

**Council Meeting**  
**May 10<sup>th</sup> 2017 | 10:00 AM – 12:00 PM**  
**Columbia Shuswap Regional District Boardroom**  
**555 Harbourfront Drive, Salmon Arm**

**Draft Record of Decisions and Action Items**

Note: this record is subject to correction when adopted at the next SWC meeting

**Meeting objectives**

1. Presentation of Annual Report for 2016-17
2. Receive recommendations from Water Protection Advisory Committee re: activities and funding support in 2017
3. Receive presentation on nutrients and algae blooms

**Present**

Paul Demenok, Chair – Columbia Shuswap Regional District, Area C  
Larry Morgan, Vice Chair – Columbia Shuswap Regional District, Area F  
Rhona Martin – Columbia Shuswap Regional District, Area E  
Rene Talbot – Columbia Shuswap Regional District, Area D  
Ken Christian – Thompson-Nicola Regional District, City of Kamloops  
Nancy Cooper – City of Salmon Arm  
Greg Witzky – Secwepemc Nation, Adams Lake Indian Band  
Herman Halvorson – Regional District of North Okanagan, Area F  
Lorne Hunter – Community representative  
Randy Wood – Community representative  
Ray Nadeau – Community representative  
Laura Code – BC Ministry of Agriculture  
Dennis Einarson – BC Ministry of Environment

Erin Vieira and Mike Simpson – Fraser Basin Council

**Observers**

Bo Wilson

**Regrets**

Rick Berrigan  
Todd Kylo  
Dave Nordquist  
Tundra Baird

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1	May 10 <sup>th</sup> 2017 SWC meeting summary for approval and signature	10:15

**Call to Order** The meeting was called to order at 10:00 AM by Chair Paul Demenok.

**Adoption of meeting summary** Moved/Seconded by Directors Christian/Morgan that:  
The meeting summary of the March 8<sup>th</sup> 2017 meeting of the SWC be adopted.

**CARRIED**

**Correspondence** SWC Chair Paul Demenok’s response letter to Minister Polak, April 11<sup>th</sup> 2017: The letter thanks the Province for new efforts to prevent an accidental introduction of aquatic invasive mussels, and requests that road-side inspection be implemented in such a way that all watercraft entering BC would be intercepted.

**Report from the Chair** Chair Demenok has had discussions with local governments in the Shuswap regarding upcoming annual report delegations; the Chair will complete this in June. As a cost-saving measure, the program managers will not participate in annual report delegations.

*Dennis Einarson entered the meeting at 10:05 AM*

The Chair commended Lorne Hunter for his recent receipt of the Excellence in Agriculture Leadership Award from the BC Agriculture Council.

The Chair raised the issue of recent high water and flood events, and suggested that the Shuswap Watershed Council raise awareness for water quality issues that accompany floods such as turbidity and septic seepage. Several SWC members agreed on the importance of this, and the need to share information as soon as possible. It was decided that the appropriate role for the SWC is to complement the communications efforts of local governments, Shuswap Emergency Program and Interior Health Authority; the SWC will post or re-post materials from those organizations to increase its reach.

**Action item:** staff will circulate existing information about turbidity and safe drinking water

**Annual Report 2016-17** Erin Vieira presented the Annual Highlights Report. The report can be viewed online at [www.shuswapwater.ca](http://www.shuswapwater.ca).

**Program Managers’ Report** Mike Simpson presented the program managers’ activities since the last SWC meeting:

- Year-end reporting completed
- Water Quality Monitoring Group meeting was held on March 16<sup>th</sup> 2017 to discuss water monitoring plans; regular season monitoring is underway by all partners
- Nonylphenols monitoring project is scheduled to begin later in May
- Water Quality Report for 2016 is underway, ready later this

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spring/summer

- User-guide for retrieving water quality data from the Environmental Management System (provincial database) is nearly complete, will be online soon
- Restoration project on Alderson Creek complete; this was a partnership project with Splitsin First Nation and BC Cattlemen’s Association; field tour of the site may be arranged
- Water Protection Advisory Committee met on May 2<sup>nd</sup> to prepare a restoration project recommendation and request for funding support
- First year of nutrient research by UBC – Okanagan is complete, second year is underway. Dr. Jeff Curtis and Megan Ludwig will attend and present at the next SWC meeting, scheduled for September.
- May long weekend is the kick-off for safe boating/recreation campaigns
- Provided \$1200 to RCM-SAR for a PFD loaner station at Sunnybrae (installed on May 4<sup>th</sup>)

The year-end expenses (April 2016 – March 2017) are as follows:

	Budget (\$)	Expenses (\$)
Water Monitoring Initiative	77,800	37,716
Water Protection Initiative	72,500	75,691
Recreation Safety Education Program	9500	12,760
Communications	27,500	15,587
Management and Administration	29,000	35,672
Operating Reserve	42,440	0
<b>Total expenses to March 31<sup>st</sup> 2017</b>	<b>258,740</b>	<b>177,426</b>

**Discussion:**

Director Martin inquired if there is a requirement with the land-owners at the Alderson Creek project to maintain the fence that was built. Laura Code replied on behalf of the Water Protection Advisory Committee that the project included an education and stewardship component, and that typically land-owners assume ownership and maintenance for new infrastructure such as fencing.

**Recommendation from  
Water Protection  
Advisory Committee**

The Water Protection Advisory Committee recommends to the Shuswap Watershed Council to provide up to \$10,000 to the Gardom Lake Stewardship Society for the Mallory Creek restoration project.

In the event that the Mallory Creek project doesn’t require the full \$10,000 funds committed, the balance of funds will be allocated to Splitsin Development Corporation for the Lower Gardom Creek restoration project.

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### Discussion

Director Martin requested that the Gardom Lake Stewardship Society and the Area D Parks Commission stay in touch during this project.

Moved by Director Martin/Mayor Cooper that the recommendation be approved.

### CARRIED

#### Guest Presentation

Dennis Einarson gave an informative presentation on lakes, nutrients, and algae blooms. His presentation covered several subjects:

- Lake stratification
- Oligotrophic vs. eutrophic lake systems
- The 2010 Shuswap Lake algae bloom was caused by *Ochromonas*, golden-brown algae (this is atypical)
- Other characteristics of algae and algae blooms
  - Algae are naturally occurring and are always present in the lake, at some level and some state
  - Chrysophytes (i.e., *Ochromonas*) may be autotrophic via engulfing or absorbing food, or they may be photosynthetic
  - Cyanobacteria ('blue-green' algae) may be toxic
  - Shuswap Lake is oligotrophic (naturally low in nutrients) and in good shape – the critical thing is to keep it that way
- An excellent resource is the book, *The Algal Bowl* by John R. Vallentyne

#### Roundtable updates

Herman Halvorson reported that the RDNO-led process on proposed boating regulations for the Shuswap River is progressing, with meetings planned for May 17<sup>th</sup> and 18<sup>th</sup>; a recommendation is anticipated by mid-June. Chair Demenok commented that the SWC will review the report when it's available.

Dennis Einarson relayed that as of April 30<sup>th</sup>, the Province's Invasive Mussel Prevention Program has intercepted 717 watercrafts; 65 were identified as coming from a 'high risk province or state'; 15 were issued de-contamination orders and 10 were issued quarantine periods (30 days drying time). 1 watercraft was confirmed to have adult invasive mussels. The contaminated watercraft was from Ontario, intercepted at the Golden inspection station, and bound for Vernon.

#### Adjourn

Moved/Seconded by Director Morgan and Mayor Cooper that:  
The May 10<sup>th</sup> 2017 meeting of the SWC be adjourned.

### CARRIED

The meeting adjourned at 12:50 PM.

Item. No.	Name	Time
2-1	Correspondence	10:20



## COLUMBIA SHUSWAP REGIONAL DISTRICT

PO Box 978, 555 Harbourfront Drive NE, Salmon Arm, BC V1E 4P1  
 T: 250.832.8194 | F: 250.832.3375 | TF: 1.888.248.2773 | www.csrdd.bc.ca

July 26, 2017

File: 0540-30-02

Transmitted via Email: [erviera@fraserbasin.bc.ca](mailto:erviera@fraserbasin.bc.ca)

Shuswap Watershed Council  
 200A – 1383 McGill Road  
 Kamloops, BC  
 V2C 6K7

Dear Sirs:

**RE: Adams River Salmon Society (ARSS) Initiatives – Referral to Shuswap Watershed Council**

At the July 20, 2017 regular meeting of the Columbia Shuswap Regional District (CSRD) Board, the Adams River Salmon Society presented as a delegation to share information about watershed activities, the area's Wild Pacific Salmon populations, volunteer involvement in salmon enhancement activities, and to ask for the CSRD and the Shuswap Watershed Council's assistance and partnership, particularly related to a Symposium in 2018.

Upon hearing from the Society's representatives, Dave Smith and Bill Taylor, the Board passed the following resolution:

*"THAT: the letter from the Adams River Salmon Society dated June 26, 2017 and the delegation submission dated July 20, 2017 presented during the Society's delegation to the CSRD Board, be referred to the Shuswap Watershed Council."*

We trust that the Council will be open to collaborating with the Adams River Salmon Society on both the Symposium 2018 planning and partnership, and in considering how the Council and the Society could work best together to combine any education, information sharing and volunteerism activities that relate to both watershed protection and to the preservation and enhancement of salmon populations.

A copy of the above referenced documents are attached to this letter, for your consideration.

Kind regards,

**COLUMBIA SHUSWAP REGIONAL DISTRICT**

Per:

Rhona Martin, Chair

Enclosures

cc: The Adams River Salmon Society

**ELECTORAL AREAS**

A. GOLDEN-COLUMBIA  
 B. REVELSTOKE-COLUMBIA

C. SOUTH SHUSWAP  
 D. FALKLAND-SALMON VALLEY

E. SICAMOUS-MALAKWA  
 F. NORTH SHUSWAP-SEYMOUR ARM

**MUNICIPALITIES**

GOLDEN  
 REVELSTOKE

SALMON ARM  
 SICAMOUS

Item. No.	Name	Time
2-2	Correspondence	10:20



**The Adams River Salmon Society**  
 PO Box 24034  
 Scotch Creek, BC V0E 3L0

Thurs. July 20, 2017

**To The Columbia Shuswap Regional District Board of Directors.**

The Adams River Salmon Society appreciates this opportunity to share information about some watershed activities and about our area Wild Pacific Salmon populations and the volunteer communities that are involved in Salmon Enhancement.

We are asking the CSRD for your help and assistance; we believe that by expanding your existing water quality program, water monitoring activities, collecting of water samples, creation of area database, the water recreation and safety program, you will be helping our communities through educational, advocacy opportunities, connecting and working with more new community partners and groups.

And to that end we wanted to come and ask for the CSRD's help. With the broad geographic area of the CSRD, your network of contacts, your Regional perspective and resources base, the CSRD and the Shuswap Watershed Council would make natural partners for the Symposium 2018 - through education sessions, hands on workshops, roundtable community discussions about the area Water Quality Program, sharing the data and information about ongoing Shuswap Watershed Council activities and your public education - outreach programs.

The CSRD could also assist community watershed groups through their promotional educational materials, maybe profile a community stewardship / watershed group and the local individual volunteers.

Would the CSRD consider expanding your existing water quality program, the water monitoring activities, broadening the water quality database resource, expanding the CSRD Education partnership with UBC - Okanagan, more nutrient source water sampling and testing of groundwater and also expand the Safe Recreation program??

We would ask the CSRD to help us at the local grassroots level to educate, inform and share Advocacy and Communication opportunities and literature. Community groups always need help and volunteers for seasonal watershed activities and events - could CSRD help recruit, promote, help orient and train watershed volunteers??

Could CSRD assist in engaging School Boards, Teachers, Schools, in hands on watershed experiences???



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2-2	Correspondence	10:20

**Salute to the Sockeye**



**The Adams River Salmon Society**

PO Box 24034  
Scotch Creek, BC V0E 3L0

Thurs. July 20, 2017

Topics could include Agricultural uses, Nutrient Management, Water Protection, Watershed and Environmental Education programs, local Streamkeeper training, helping to find funding for local watershed projects, assisting with a larger collective watershed Voice??.

Working with area First Nations; Little Shuswap Lake Indian Band, Adams River Indian Band, Neskonlith Indian Band and provide training and education opportunities to First Nations youth.

We think that the CSRD and the Shuswap Watershed Council are a natural fit for leading or hosting or chairing Symposium 2018 workshop sessions. So to that end we are asking for your help in creating the working session topics for Symposium 2018. We hope to talk more about this with you folks here at CSRD.

Thank you for your time and attention and please we would love to work with the CSRD towards a local area community Symposium / Workshop on our watersheds and the salmon populations. We look forward to more discussions about the Symposium 2018.

Thank you for your commitment, stewardship and advocacy for our area Watershed Resources.

Sincerely Yours, Dave Smith

Adams River Salmon Society

please join us on our Facebook page for new updates:  
<http://www.facebook.com/AdamsRiverSalmonSociety>

**Salute to the Sockeye**



Item. No.	Name	Time
3	Report from Program Managers	10:35

### Program Managers' report: finances to the end of the second quarter (September 30<sup>th</sup>, 2017)

#### INCOME

Source	Amount received (\$)
Surplus SWC funds (from March 31 <sup>st</sup> , 2017)	81,314
TNRD	53,600
CSRD (C, D, E, F and District of Sicamous)	155,000
City of Salmon Arm	40,000
<b>Total</b>	<b>329,914</b>

#### EXPENSES

Activity (per 5-yr plan)	Budget (\$)	Expenses Apr 1 <sup>st</sup> – Sept 30 <sup>th</sup>	Variance
Water Quality Monitoring – team/annual work planning	7500	2131	5369
Water Quality Monitoring – Monitoring expenses	39,500	733	37,767
Water Quality Monitoring – database/access to data	5000	1920	3080
Water Quality Monitoring – investigate historical data	0	0	0
Water Quality Monitoring – exploratory monitoring	14,250	767	13,483
Water Quality Monitoring – contingency	0	0	20,000
Water Quality Protection – advisory committee	6550	3094	3456
Water Quality Protection – Phosphorus research	47,800	46,020	1780
Water Quality Protection – water quality improvement projects/remediation	11,400	7940	3460
Water Quality Protection – education initiatives	7900	847	7053
Water Quality Protection – other education initiatives	2000	0	2000
Recreation Safety Education campaigns	12,800	9478	3322
Communications – SWC brand	0	0	0
Communications – collateral	4000	1744	2256
Communications – public engagement	11,700	5452	6248
Communications – annual water quality report	18,900	17,772	1128
Management and facilitation	27,400	9105	18,295
Administration and fund development	14,200	7243	6957
Operating Reserve	99,014	0	99,014
<b>Total for 2016-2017</b>	<b>329,914</b>	<b>114,246</b>	<b>215,668</b>

Item. No.	Name	Time
4	Draft Contingency Fund Framework for discussion and approval	11:20

## Water Quality Contingency Fund Framework

### 1.0 Purpose

The purposes of this Framework are to describe what the SWC Contingency Fund is for and to outline the process for drawing funds from it.

The SWC's five-year plan<sup>1</sup> states:

*"A contingency fund of \$20,000 will be established in the first year of the program. The purpose of the fund is to pay for any immediate unforeseen costs associated with the water monitoring initiative (a possibility due to the variability of natural events and water monitoring results)."*

Building upon what's stated in the plan, the Contingency Fund may go toward one or all of the following expenses:

- a.) water quality monitoring that's beyond business-as-usual:
  - i.) in response to a water quality event (e.g., algae bloom)
  - ii.) as follow-up to new water quality concerns detected through routine monitoring
- b.) water quality remediation efforts that are in response to a water quality event or emergency
- c.) provision of environmental emergency response/prevention equipment and/or supplies

The \$20,000 Contingency Fund not been drawn against to-date.

### 2.0 Principles

Roles and responsibilities for water quality are shared amongst several government agencies and non-government organizations. Statutory authority and responsibilities for water monitoring are summarized as follows (not a complete list):

- BC Ministry of Environment (MOE) – environmental water quality monitoring; spill response, including assessment and containment
- Interior Health Authority – water quality monitoring at some swimming beaches
- Drinking water purveyors<sup>2</sup> – drinking water quality monitoring and reporting
- Permitted polluters – water quality monitoring, per the requirements of their permit

In the event of a spill or pollution, the polluter is responsible for clean-up and taking appropriate actions to prevent pollution.

The SWC Contingency Fund is intended to be used in circumstances where water quality monitoring or remediation are clearly not the responsibilities of the aforementioned organizations.

<sup>1</sup> Source: *Water Quality Program & Recreation Safety Education Program in the Shuswap watershed for 2016 – 2020*, available [online](#)  
<sup>2</sup> This includes local governments, first nations, and private utilities

Item. No.	Name	Time
4	Draft Contingency Fund Framework for discussion and approval	11:20

### 3.0 Conditions

In accordance with the Principles (Section 2.0) and the role and mandate of the Shuswap Watershed Council<sup>1</sup>, the Contingency Fund may be used when the following conditions are met:

- The water quality issue is related to environmental water quality (i.e., untreated water)
- There are unexpected costs associated with the water quality issue
- The water quality issue requires monitoring or remediation (conditions must be met from one or another category):

Monitoring is needed	Remediation is needed
<ul style="list-style-type: none"> <li><input type="checkbox"/> in response to an arising issue or reports of serious water concerns; or as follow-up to earlier monitoring results</li> <li><input type="checkbox"/> the monitor needs financial support for collecting or analyzing samples</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> to respond to or prepare for a water quality issue or emergency</li> <li><input type="checkbox"/> financial support is needed for timely remediation</li> </ul>






The Contingency Fund is not to be used when either or both of the following conditions are true:

- The water quality issue is long-standing<sup>3</sup>
- The water quality issue is related to drinking water

### 4.0 Eligible Expenses

In accordance with the Conditions (Section 3.0), the Contingency Fund may go toward water monitoring expenses (supplies, reagents, lab analysis, and/or collection) or water remediation expenses (supplies and/or equipment).

Expenses will be paid by the Shuswap Watershed Council, and reported with all other SWC expenses annually.

### 5.0 Requests and Authorizations

Requests or opportunities for work to be funded by the Contingency Fund may be initiated by a member of the Shuswap Water Quality Monitoring Group, any of the SWC partner organizations or representative thereof, a watershed or water quality organization in the Shuswap or member thereof, or a local member of the public. The Program Manager will ensure the request meets the requirements described in Sections 3.0 and 4.0, and will create a project plan with input from any of the aforementioned people as needed.

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<sup>3</sup> The Shuswap Watershed Council's *Water Protection Initiative* is working on researching and remediating long-standing water quality issues

Item. No.	Name	Time
4	Draft Contingency Fund Framework for discussion and approval	11:20

The Program Manager will share the request and project plan with the SWC membership. The request will outline the need for monitoring or remediation, the tasks to be undertaken and/or supplies purchased, roles and responsibilities of the parties involved, and the cost.

The SWC will discuss and make a decision to approve or deny the request at a regularly scheduled Council meeting according to voting rights as described in the SWC Terms of Reference<sup>4</sup>.

### 5.1 Provision for time-sensitive water quality issues

The issue may be urgent or time-sensitive. Therefore, in the absence of a regularly scheduled Council meeting, the program manager may share the request and project plan with the Chair and Vice Chair and they may approve or deny the request by teleconference, e-mail, or a special meeting.

DRAFT

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<sup>4</sup> *Terms of Reference v. 3*, May 3<sup>rd</sup> 2016, available online [here](#)

Item. No.	Name	Time
5	Nutrient research in the Shuswap River and Salmon River watersheds	12:45



**THE UNIVERSITY  
OF BRITISH COLUMBIA**

## Nutrient Status of the Lower Shuswap and Salmon Rivers

Following large scale algae blooms in Shuswap and Mara Lakes in 2008 and 2010, a 2014 report concluded that the Shuswap and Salmon Rivers were the main source of nutrients entering the lake system. Our research aims to identify the point and diffuse sources of phosphorous and nitrogen in the Lower Shuswap and Salmon rivers, and determine how these nutrients are being transported to the river.

In the last year of research, staff gauges and pressure transducers were installed on tributaries along the Lower Shuswap and Lower Salmon river to monitor discharge. Close to 1000 surface water samples have been collected in both river systems at 20 different field sites. Piezometer design for groundwater sampling has been perfected and groundwater has been sampled along the length of the Shuswap. All water samples have been analyzed for total and dissolved phosphorous, nitrogen, and chloride.

With the measurements taken in the last year, inferences have been made regarding nutrient contribution to the Shuswap-Mara lakes systems. Contributions of phosphorous and nitrogen by each individual tributary has been estimated, as well as total contribution by each river into the lake system. The contributions have then been broken down to estimate contribution based on land area. In addition, incremental flow contribution of nutrients has also been estimated using end member mixing analysis.

(Prepared by Megan Ludwig, UBC-O graduate student)