

AGENDA PACKAGE FOR:

Council Meeting
Wednesday September 9th 2020 | 10:00 AM - 12:30 PM
Columbia Shuswap Regional District Boardroom
555 Harbourfront Drive NE, Salmon Arm

VIRTUAL MEETING via ZOOM

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Item No.	Agenda item	Time
1.	June 17 th 2020 meeting summary for approval	10:05

Council Meeting
June 17th 2020 | 9:00 AM – 12:30 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. Receive update on nutrient research with UBC-Okanagan (Mara Lake Paleolimnology Study)
2. Receive recommendations for Water Quality Grants; select successful applicants
3. Receive update on SWC Communications Plan for 2020

Present

Paul Demenok, Chair – Columbia Shuswap Regional District, Area C
Tim Lavery, Vice Chair - City of Salmon Arm (*via Zoom*)
Rene Talbot – Columbia Shuswap Regional District, Area D
Rhona Martin – Columbia Shuswap Regional District, Area E
Jay Simpson – Columbia Shuswap Regional District, Area F (*via Zoom*)
Ken Christian – Thompson-Nicola Regional District, City of Kamloops (*via Zoom*)
Rod Crowe – Thompson-Nicola Regional District, Village of Chase (*via Zoom*)
Steven Teed - Adams Lake Indian Band, Secwepemc Nation (*via Zoom, until 10:50 AM*)
Dave Nordquist - Adams Lake Indian Band, Secwepemc Nation (*via Zoom*)
Denis Delisle – Regional District of North Okanagan, Area F (*via Zoom*)
Lily Kotzeva - BC Ministry of Environment and Climate Change (*via Zoom*)
Lorne Hunter – Community representative (*via Zoom*)
Natalya Melnychuk - Community representative (*via Zoom, from 9:40 AM*)
Sharon Bennett - Community representative (*via Zoom*)

Erin Vieira and Mike Simpson – Fraser Basin Council

Observers

John Irvine

Regrets

Colleen Anderson
Randy Wood
Chris Zabek
Rick Fairbairn

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Call to Order The meeting was called to order at 9:00 AM by Chair Paul Demenok.

Adoption of meeting summaries **Moved/seconded** by Director Talbot/Director Martin that:
The summary of the March 11th 2020 meeting of the SWC be adopted.

CARRIED

Correspondence **Moved/seconded** by Director Martin/Director Talbot that:

The correspondence be received for information.

Discussion:

Chair Demenok commented that there have been several conference calls between himself, the Vice Chair, Director Simpson, staff, and others regarding a response to the letter referred to the SWC by the Columbia Shuswap Regional District. Mike Simpson recommended that the item of correspondence be deferred to later in the meeting.

CARRIED

Old business **Moved/seconded** by Director Martin/Director Talbot that:

The summary of the May 14th 2020 Water Protection Advisory Committee meeting be received for information,

And that:

The draft summary of the June 3rd 2020 Water Protection Advisory Committee meeting be received for information.

CARRIED

Report from Chair Chair Demenok remarked that a letter was sent to Minister Robinson in late May, and there has not been a response yet. He also explained that the CSRD Board is meeting on June 18th, and there will be a motion on the table regarding a voter assent process in CSRD Areas C, D, E, F and the District of Sicamous for the Shuswap Watershed Council Service Establishment Bylaw.

Report from Program Managers: Annual Highlights Report for 2019-20 Erin Vieira gave an overview of the SWC Annual Highlights Report for 2019-20, including the activities and achievements for water quality monitoring, water quality protection, water quality reporting, Zebra/Quagga Mussel prevention, and awareness campaigns for safe boating and water-based recreation. An overview of the annual revenues, expenditures and variances to year-end, March 31st 2020, was provided:

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Revenue for 2019-20	(\$)
Surplus (from March 31 st , 2019)	186,896
CSRD (C, D, E, F and District of Sicamous)	160,000
TNRD	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
Grant funding: Transport Canada <i>Boating Safety Contribution Program</i>	19,538
Total revenue	461,334

Expenses for 2019-20 (April 1 st 2019 - March 31 st 2020)	Budget (\$)	Expenses (\$)	Variance (\$)
Water Quality Monitoring	51,150	41,964	9186
Water Quality Protection	79,500	39,759	39,742
Zebra & Quagga Mussel Prevention	30,825	31,087	-262
Safe Recreation	26,050	25,810	240
Communications & Advocacy	42,200	39,967	2233
Management & Administration	43,150	40,753	2397
Sub-total Operational Program Expenses	272,875	219,339	53,536
Operating Reserve	188,459	0	188,459
Total expenses	461,334	219,339	241,995

Erin explained that the surplus in the Water Quality Protection Program was due to not administering a water quality grant program in 2019-20, as was originally budgeted. This, in turn, was a decision made due to not having the final reports from UBC-Okanagan, as well as some uncertainty about what measures for water quality protection would be imposed by the new provincial Agricultural Environmental Management Code of Practice.

The Annual Highlights Summary Report can be viewed or downloaded from the SWC website, www.shuswapwater.ca.

**Report from
Program Managers:
Revised budget for
2020-21**

Erin Vieira gave an overview of program activities since the last Council meeting in March:

- Staff promoted the Water Quality Grant Program, and received applications by the deadline of April 30th
- There have been two Water Protection Advisory Committee meetings; the outcomes of the meetings were the development the committee's procedures to review water quality grant applications, and the review and development of grant recommendations.
- Staff received final research report from Dr. Jeff Curtis and associates. The reports have been shared with SWC members, and posted on the SWC website.

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- Zebra and Quagga Mussel prevention measures are being promoted throughout the region; early detection monitoring for mussels is underway in the watershed at 13 sites
- Staff received notice of a successful grant application to Transport Canada's Boating Safety Contribution Program; the SWC is receiving a grant in the amount of \$20,550 to support its Safe Recreation program
- Boating safety campaigns are underway for the spring and summer seasons
- Staff have procured a communications and social media professional to help with the development and delivery of a communications strategy in 2020. Staff posted an RFP in April, received 17 proposals by the closing date, and evaluated them; the successful applicant is Louise Wallace Richmond of Mediability Inc.

Erin presented a revised budget for 2020-21, accounting for two changes since the March 11th Council meeting (highlighting indicates changes):

Revenue for 2020-21	Budget presented 11Mar2020 (\$)	Revised budget (\$)
Operational surplus (from March 31 st , 2020)	40,000	53,536
Operating Reserve	188,459	188,459
CSRD (C, D, E, F and District of Sicamous)	160,000	160,000
Deduct cost of CSRD voter assent process	-25,000	-25,000
TNRD	53,600	53,600
City of Salmon Arm	40,000	40,000
Adams Lake Indian Band	1300	1300
Grant funding: Transport Canada <i>Boating Safety Contribution Program</i>	20,550	20,550
Grant funding: Environment Canada <i>Eco-Action Program</i>	100,000	0
Total revenue	578,909	492,445

Work plan and expenses 2020-21	WP presented 11Mar2020 (\$)	Revised work plan (\$)
Water Quality Monitoring	35,200	35,200
Water Quality Protection	213,600	113,600
Zebra & Quagga Mussel Prevention	35,400	35,400
Safe Recreation	27,400	27,400
Communications & Advocacy	48,700	68,700
Management & Administration	43,150	43,150
Sub-total Operational Expenses	403,450	323,450
Operating Reserve (includes \$20K Contingency Fund)	175,459	168,995
Total expenses	578,909	492,445

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**Late agenda item:
budget for 2021**

Chair Demenok commented on the year-end surplus of \$241,995 (i.e., the operational surplus plus the Operating Reserve). He remarked that there is value in carrying a surplus, as there are some items in the new strategic plan that will incur expenses. He suggested that some of the reserve be allocated toward program operations next year to draw it down somewhat, which would result in each funding organization requisitioning smaller amounts. Director Martin inquired if drawing down the reserve would impart delays in new projects, which would be funded by the reserve.

Mayor Christian remarked that drawing down the reserve is a good idea: it would signal fiscal responsibility in times of Covid-19.

Vice Chair Lavery inquired how this would align with the timing of potential Alternate Approval process within the CSRD's service area, and the next SWC meeting scheduled for September. He further remarked that clear messaging explaining a partial reduction of the reserve would be important.

Chair Demenok remarked that reducing the tax requisition in 2021 could be a measure that the SWC may wish to use.

Moved/seconded by Chair Demenok/Director Martin that:

The Chair and Vice Chair would be authorized to request tax requisitions be reduced in 2021 proportionately for all funders, so as to reduce the SWC financial surplus by \$100,000.

CARRIED

Guest presentation

Mike Simpson introduced Nick Hebda. Nick explained that paleolimnology is a science of studying historical landscape events and their effects on water quality. Nick explained some of the methods of the paleolimnological study on Mara Lake, including the collection and analysis of diatoms, which are microscopic algae and useful as indicators of environmental change. Diatoms are very sensitive aquatic organisms that respond to changes in environmental factors, such as nutrients and temperature. The research team collected a sample of lake bottom sediment from Mara Lake. The sediment was analysed to determine the date range of its deposition. Nick analysed the sediments to determine various diatom species and abundance at different dates in the past, up to 250 years ago. Concurrent to diatom analysis, the sediment was analysed for phosphorus levels using chemical methods.

Statistical analysis of the diatom communities indicated a shift in species abundance starting in the 1980s and into the early 2000s, with a significant shift around 1995. The changes in diatom species and abundance relate to changes in historical phosphorus levels.

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The results of the study indicate that total phosphorus levels in Mara Lake in the past were elevated, then they declined steadily over time from 1760 (the earliest sample in the study) until about 1980 when they started to increase again. Both methods - biological analysis of diatoms and chemical analysis of sediments - yielded these results.

Nick also observed increasing levels of Chrysophyte diatoms in the sediments over time. Chrysophytes are an algal group associated with recent algal blooms in Mara Lake.

Nick summarized the conclusions of the Mara Lake paleolimnology study:

- Total Phosphorus levels in Mara Lake today are probably not unprecedented in its long-term history
- Total Phosphorus levels in Mara Lake at the onset of major land use changes in the 20th century were very likely lower than they are today, and they have increased since the 1980s
- Paleolimnological inferences of increasing Phosphorus loading and increasing abundance of bloom-forming algae are consistent with other work that's been done in the watershed recently (i.e., the research by Dr. Jeff Curtis and Megan Ludwig).

Nick took questions from the Council members. When asked about why historical levels of phosphorus (i.e., in the 1700's and 1800's) in Mara Lake were higher than he would've expected, he speculated that it is a function of discharge (i.e., the volume of water flowing into the lake by the rivers). Higher discharge = higher amounts of Phosphorus even if P concentrations are very low. On the other hand, in Mara Lake's modern history (i.e., since the 1980s) the discharge into the lake has been consistent therefore the observed increasing levels of Phosphorus since that time can be attributed to yield off the landscape.

Nick explained that the increase in levels of Phosphorus in Mara Lake since the 1980s is consistent with what's been observed in other watersheds around the world. The effects of land use on water quality and rising levels of nutrients is known as "cultural eutrophication".

Chair Demenok thanked Nick Hebda for the presentation, and for his research on this subject.

**New business:
Water Quality
Grant Program**

Mike provided some historical context for the water quality grant program. In 2014, when the SWC was developing its programs the SWC received public input to not just monitor water quality, but to take action to protect and enhance it. More recently, at the February workshop, the SWC approved the water quality grant program and staff subsequently promoted the availability of grant funds for water quality improvement projects.

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The purpose of the program is to protect water quality, guided by the recent science provided by UBC-Okanagan, to reduce nutrient inputs from land to surface waters in the Shuswap watershed.

Mike explained that staff received seven applications by the April 30th application deadline, with a total ask of \$148,000 SWC funds. Staff performed an initial, subjective screening of the applications and forwarded all seven applications to the Water Protection Advisory Committee for review and evaluation. The WPAC then played an important role in developing review procedures, and then assessing the applications according to those procedures.

Mike presented an overview of the applications one by one, anonymously identified as A - G, and explained the Committee's recommendation to fund or not fund them.

Discussion:

Director Talbot commented that administering water quality grants is getting away from the primary purpose of the SWC; he remarked that these proponents should seek funds from other sources.

Lorne Hunter commented that reviewing the applications was a learning curve for the WPAC, and that if the SWC proceeds in subsequent years the committee has identified new criteria for the grant program.

Vice Chair Lavery remarked that the SWC is a take-action group and that the overall intention is to partner with landowners to improve water quality. He commented on the value of the projects as demonstrations.

Chair Demenok commented on the importance of being able to assess the impact of the water quality improvement projects over time. Vice Chair Lavery suggested the SWC consider existing methods or models for this.

Moved/seconded by Director Martin/Councillor Lavery that:

The Shuswap Watershed Council accept the recommendations of the WPAC with respect to the water quality grant applications for funding, and award funding as recommended, contingent on site visits.

Opposed: Director Talbot

CARRIED

**New business:
Communications
strategy for 2020**

Louise Wallace Richmond of Mediability Communications presented an overview of the SWC communications strategy for 2020.

Louise began by explaining the roles of the SWC and the CSRD with regards to communications. Each will have a part to play in the communication process.

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She explained various elements of a communications strategy, including the overarching themes; the message 'sources'; the roles of the message sources including that of the SWC members, SWC staff, and SWC contractor; and the tactics. Communiques will be developed including FAQs, facts and figures, success stories, research and best practices, story-telling, and photos.

Discussion:

Chair Demenok suggested the SWC deliver virtual presentations or community meetings.

**Communications:
correspondence**

Mike presented some key points to include in reply to anonymous correspondence that was referred to the SWC by the Columbia Shuswap Regional District. A brief discussion took place.

Action item: staff will prepare a reply letter to the correspondent.

Director Martin left the meeting at 12:30

Roundtable updates

Dave Nordquist explained a new project underway in Adams Lake, being done by Adams Lake Indian Band in partnership with the Okanagan Nation Alliance. They are collecting base-line data, and considering fertilizing the lake to enhance the salmon fishery. He also remarked that ALIB is also working with the BC Ministry of Environment to develop Water Quality Objectives for Shuswap Lake.

Director Simpson commented that Little Shuswap Lake Indian Band is working on Scotch Creek, and considering management objectives for water quality and fish habitat.

Adjourn

The June 17th 2020 meeting of the Shuswap Watershed Council adjourned at 12:40 PM.

Item No.	Agenda item	Time
2-a	Correspondence: response letter to anonymous CSRD resident re: Shuswap Watershed Council Service Bylaw	10:10



c/o Fraser Basin Council
200A – 1383 McGill Road
Kamloops, BC V2C 6K7
250.314.9660
www.shuswapwater.ca
f e t



Sent by e-mail to __

26 June 2020

Dear 

Thank you for your letter dated May 18th, 2020. Although your letter was addressed to Mr. Charles Hamilton, the Columbia Shuswap Regional District referred your letter to the Shuswap Watershed Council for a response. The SWC received your letter at their meeting on June 17th.

We very much agree with your sentiment that water management is complex. There are 23 pieces of legislation pertaining to water, and in British Columbia there are 14 provincial government agencies that have responsibilities relating to drinking water and source protection; these legislated powers are complicated as there is some overlapping jurisdictions and some delegation by federal and provincial government agencies. Local governments also have responsibilities related to water, not the least of which is water and watershed planning, and the protection of drinking water sources.

The capacity of federal and provincial government bodies is limited, and we don't believe their programs for managing various aspects of the Shuswap watershed are enough. In short, nobody cares more about the Shuswap than the people of the Shuswap. The amount of intervention by provincial and federal government bodies on Zebra and Quagga Mussels (ZQM) is just one example of a shortfall; in spite of a strong economic and environmental case for tighter regulations pertaining to ZQM, these government bodies haven't made significant changes to their programs.

This, coupled with the complexity of water management, forms the basis for why we believe the Shuswap Watershed Council needs to exist. The role of the SWC is three-fold: (1) to facilitate collaboration, information-sharing, and planning amongst various parties with roles in water management; this collaborative model of watershed governance is touted as the best model that is emerging throughout BC, and the SWC and its predecessors are regarded as pioneers in this regard, (2) to advocate to senior orders of government and push for more resources and oversight over issues of concern; we are a 'local voice for local issues', and (3) where we perceive there to be a shortfall, to carry out strategic projects such as research, education and outreach, monitoring, and reporting.

Thank you again for your letter. We agree that the watershed is important for everyone, and we've compiled a list of materials for more information about water management and governance (see next page). Please reach out to us again if you have additional comments or questions.

Sincerely,

Erin Vieira
Program Manager
Shuswap Watershed Council
evieira@fraserbasin.bc.ca

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2-a	Correspondence: response letter to anonymous CSRD resident re: Shuswap Watershed Council Service Bylaw	10:10



About the Shuswap Watershed Council

The [Shuswap Watershed Council](#) (SWC) was established in 2014 as a watershed-based partnership that enhances water quality and safe recreation in the Shuswap. There are 18 SWC members that represent three regional districts, two municipalities, the Secwepemc Nation, two provincial government agencies, and Shuswap communities. The SWC is a collaborative, non-regulatory group. It works alongside organizations that have regulatory roles in managing the Shuswap watershed, complimenting their work and carefully avoiding duplication. Its primary mandate is to enhance, protect, and advocate for water quality in the Shuswap watershed.

For more information

For a more in-depth explanation of the role of local governments and the importance of collaborative watershed organizations such as the SWC, please see the following reports:

- Considerations for Local Government Elected Officials: Primer on Drinking Water Management in British Columbia. Auditor General for Local Government. December 2018. Available online [here](#).
- Considerations for Local Government Administrators: Integrated Drinking Water Management. Auditor General for Local Government. March 2019. Available online [here](#).
- Strengthening Decision-Making and Collaboration for Healthy Watersheds. POLIS Project on Ecological Governance. Available online [here](#).
- Municipal Water Champions. An op-ed published in Municipal World Magazine, August 2019. Available online [here](#).
- Rethinking Our Water Ways. Fraser Basin Council. October 2011. Available online here: <https://www.rethinkingwater.ca>.

For more information and a strong case for inadequate actions by provincial and federal governments, please see the following report:

- The Protection of Drinking Water. Office of the Auditor General of British Columbia. July 2019. Available online [here](#).

SWC MEMBERS:

Paul Demenok – Chair
CSRD Area 'C'

Tim Lavery – Vice Chair
City of Salmon Arm

Rene Talbot
CSRD Area 'D'

Rhona Martin
CSRD Area 'E'

Jay Simpson
CSRD Area 'F'

Rod Crowe
TNRD, Village of Chase

Ken Christian
TNRD, City of Kamloops

Colleen Anderson
District of Sicamous

Dave Nordquist
Secwepemc Nation,
Adams Lake Indian Band

Steven Teed
Secwepemc Nation,
Adams Lake Indian Band

Rick Fairbairn
RDNO Area 'D'

Denis Delisle
RDNO Area 'F'

Dennis Einarson
BC Ministry of Environment
& Climate Change Strategy

Chris Zabek
BC Ministry of Agriculture

Lorne Hunter
Community Representative

Randy Wood
Community representative

Sharon Bennett
Community Representative

Natalya Melnychuk
Community Representative

Item No.	Agenda item	Time
2-b	Correspondence: response from Minister Robinson re: Shuswap Watershed Council Service Bylaw	9:10



August 4, 2020

Ref: 255022

Paul Demenok, Chair
Shuswap Watershed Council
and Co-signers
200A-1383 McGill Rd
Kamloops BC V2C 6K7

Dear Paul Demenok and Co-signers:

Thank you for your letter requesting the Ministry of Municipal Affairs and Housing take actions to enable a process regarding the continuation of the Shuswap Watershed Council (SWC) service beyond its set term. I apologize for the delay in responding.

I am pleased that members of the SWC continue to collaborate and strive to protect water quality in the Shuswap watershed. I am aware that the SWC service was established by bylaw through an alternate approval process (AAP) as a temporary service for a five-year time period and that the service is scheduled to conclude on December 31, 2020.

I understand that Ministry of Municipal Affairs and Housing staff and Columbia Shuswap Regional District staff have discussed the issue and are currently working together on options that exist within the current legislative framework. I also understand that there has been some agreement on a possible way forward on the continuance of the SWC service. Furthermore, the ministry recently released [guidelines](#) for holding by-elections and assent votes during COVID-19, developed in collaboration with WorkSafe BC, Elections BC and the Provincial Health Officer. Andrew Johnston, Planning Analyst, Governance and Structure, Local Government Division, is available for further conversation by telephone at: 236 478-1607 or by email at: Andrew.Johnston@gov.bc.ca.

Thank you again for writing.

Sincerely,


Selina Robinson
Minister

Ministry of Municipal Affairs
and Housing

Office of the Minister

Mailing Address:
PO Box 9056 Stn Prov Govt
Victoria BC V8W 9E2
Phone: 250 387-2283
Fax: 250 387-4312

Location:
Room 310
Parliament Buildings
Victoria BC V8V 1X4

<http://www.gov.bc.ca/mah>

Item No.	Agenda item	Time
3	Old business: 2019/20 year-end financial report	10:20

Financial Report for 2019/2020

Revenue for 2019-20	(\$)
Surplus (from March 31 st , 2019)	186,896
CSRD (C, D, E, F and District of Sicamous)	160,000
TNRD	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
Grant funding: Transport Canada <i>Boating Safety Contribution Program</i>	19,538
Total revenue	461,334

Expenses for 2019-20 (April 1 st 2019 - March 31 st 2020)	Budget (\$)	Expenses (\$)	Variance (\$)
Water Quality Monitoring	51,150	41,964	9186
Water Quality Protection	79,500	39,759	39,742
Zebra & Quagga Mussel Prevention	30,825	31,087	-262
Safe Recreation	26,050	25,810	240
Communications & Advocacy	42,200	39,967	2233
Management & Administration	43,150	40,753	2397
Sub-total Operational Program Expenses	272,875	219,339	53,536
Operating Reserve	188,459	0	188,459
Total expenses	461,334	219,339	241,995

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4-a	Report from Program Managers: Financial update	10:45

Report from Program Managers

REVENUE

Source	(\$)
Surplus (from March 31 st , 2020)	241,995
CSRD (C, D, E, F and District of Sicamous) *	160,000
TNRD	53,600
City of Salmon Arm	40,000
Adams Lake Indian Band	1300
Grant funding: <i>Boating Safety Contribution Program</i> (Transport Canada)	20,550
Total revenue	517,445

* The 2020-21 budget that was approved on March 11th 2020 initially had a \$25,000 deduction from the CSRD's contribution to account for the cost of a voter assent process. A voter assent process is not taking place in this fiscal year therefore the deduction has been removed from the SWC's revenue.

EXPENSES

Program (per 2020-21 work plan) (April 1 st - June 30 th 2020)	Budget (\$)	Expenses (\$)
Water Quality Monitoring	35,200	1129
Water Quality Protection	113,600	9662
Zebra & Quagga Mussel Prevention	35,400	21,736
Safe Recreation	27,400	7142
Communications & Advocacy	68,700	23,318
Management & Administration	43,150	12,045
Sub-total Operational Program Expenses	323,450	75,033
Operating Reserve	193,995	0
Total expenses	517,445	75,033

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4-b	Report from Program Managers: 2019 Water Quality Summary Report	10:45

2019 Shuswap Water Quality Summary Report

The 2019 summary report was completed in July. The 16-page report is available on the SWC website, www.shuswapwater.ca. The report was emailed to SWC members on August 7th. Print copies of the report are available for pick-up from municipal, First Nations, and regional government offices, Okanagan Regional Library branches, the health clinic in Salmon Arm, and Ministry of Environment offices in Kamloops and Vernon. The report has been publicized through newspaper advertising and social media.

View the report through this direct link [here](#).

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4-c	Provincial Invasive Mussel Defence Program summer status report	10:45

Provincial Invasive Mussel Defence Program

The Provincial Invasive Mussel Defence Program (IMDP) [website](#) states that the IMDP was piloted in 2015 and consists of three main components:

- A watercraft inspection program to detect and respond to high-risk watercraft potentially transporting invasive mussels into BC from infested waterways
- Lake monitoring to assess for the continued absence of invasive mussels in BC waters
- Outreach and education to change behavior and promote the message of clean, drain, dry to the boating community, in collaboration with partners.

The IMDP summer status report for 2020 is on the following two pages, for information. It summarizes watercraft inspection and lake monitoring, to-date.

Invasive Zebra and Quagga Mussels continue to pose a significant threat to BC waters. The SWC has responded to this threat by working with the Columbia Shuswap Invasive Species Society and the BC Ministry of Environment and Conservation Officer Service to support monitoring the Shuswap watershed for invasive mussels, and conducting outreach and education.

Highlights of the IMDP to-date are summarized below:

	2015	2016	2017	2018	2019
Inspection Stations	Roving	8	10	12	12 + 1 roving
Auxiliary Conservation Officers	12	32	65	64	64

	2015	2016	2017	2018	2019	2020*
Total watercraft inspected	4350	~ 24,500	35,500	40,700	52,000	12,800
Number of people interacted with	~ 10,000	~ 50,000	72,300	78,600	95,000	23,500
High-risk inspections	70	685	2071	1652	1290	74
Mussel-fouled watercraft	15	17	25	25	22	10

** as of July 23rd, 2020*

Conclusions:

The provincial IMDP's reach continues to increase, as demonstrated by the increase to their program operations and the increasing numbers of watercraft inspected and number of people interacted with. In spite of this, the results of the IMDP aren't improving significantly, as the percentages of high-risk inspections and mussel-fouled watercraft are not showing a decreasing trend (e.g., 0.06% fouled watercraft in 2018; 0.04% in 2019; 0.07% in 2020 to-date).

Therefore, the SWC's work on supporting lake monitoring and on outreach and education is still an important part of the collective effort to protect BC from invasive mussels.

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4-c	Provincial Invasive Mussel Defence Program summer status report	10:45



Invasive Mussel Defence Program Summer 2020 Status Report



Welcome to the first status report for the 2020 season of the BC Invasive Mussel Defence Program (IMDP) for the period of May 11 to July 23, 2020. The IMDP is a shared delivery between staff from the B.C. Conservation Office Service (COS) and the Environmental Sustainability & Strategic Policy Division (ESSPD) within the Ministry of Environment and Climate Change Strategy (ENV). The Program would like to recognize the ongoing funding provided by BC Hydro, Fortis BC, Columbia Power Corporation, and Columbia Basin Trust to support the delivery of the program. For more information about the Program please visit www.gov.bc.ca/invasivemussels. Suspected invasive mussels should be reported immediately to the Conservation Officer Services Report All Poachers and Polluters: 1-877-952-7277 (RAPP).

Program Operations

COVID-19 Adjustments

The 2020 IMDP season was met with some significant impacts to program delivery resulting from COVID 19. Due to public health restrictions implemented to mitigate the spread of COVID 19, the program start-up was delayed to May 11, 2020. The program was able to safely on-board 38 returning staff who were fully trained in previous years.

As a result of the continued US border closure staffing at the southern inspection stations have been reduced due to the limited number of watercraft crossing into B.C.. The program continues to work with Canada Border Services Agency (CBSA) to receive and follow up on notifications of watercraft coming through any of the southern border crossings.

AIS Inspectors were also utilized from April 13, 2020 to June 20, 2020 to perform COVID 19 screening at various US/Canada border ports of entry as part of the Province's strategy to educate the public and ensure compliance with the Federal Quarantine Act, ensuring that travelers were completing their self-isolation compliance forms. AIS staff were instrumental assisting in this capacity and enjoyed the opportunity to work with full time Conservation Officers at the borders.

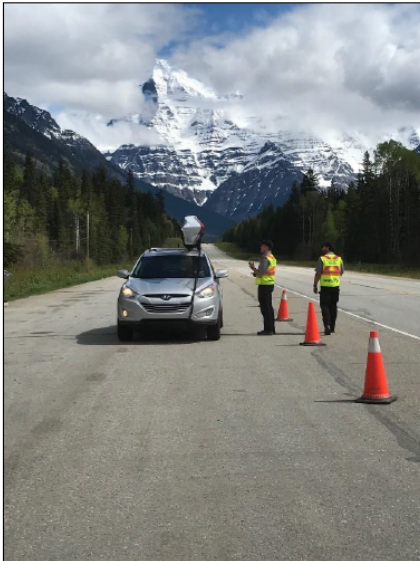


AIS inspector conducting COVID-19 screening at the Boundary border crossing (above) and (left) conducting watercraft inspection at the Olsen (Fernie) station on Hwy 3.

Item No.	Agenda item	Time
4-c	Provincial Invasive Mussel Defence Program summer status report	10:45



2020 SUMMER STATUS REPORT



Spectacular views from the Mt. Robson inspection station on Hwy 16 (above) and below is a comparison of watercraft inspection totals as of late July for the 2019 and 2020 seasons.

	July 31 2019	July 23 2020
Total Inspections	31,000	12,800
People Interacted with	57,000	23,500
High Risk Watercraft	810	74
Decontamination Orders Issued	52	6
Quarantine Periods Issued	52	6
Mussel fouled watercraft	14	10

Watercraft Inspection Stations

Watercraft inspection stations opened on May 15, 2020 and auxiliary conservation officers are now operational across seven inspection stations and two roving crews. Stations started in mid-May; three stations operating from dawn to dusk and the remaining stations are operating at 10hrs/day.

As of July 23, ~12,800 inspections have been completed and crews have interacted with approximately 23,500 people to promote Clean, Drain, Dry. Of the total, 74 were identified as high risk, 6 Decontamination Orders have been issued, and 6 watercraft were issued quarantine periods to meet the required 30-day drying time.

Of ~12,800 inspections, 10 have been confirmed to have adult invasive mussels. These came from Ontario (6), Arkansas (2), Wisconsin (1) and Manitoba (1) and were destined for the Okanagan (5), Vancouver Island (3), Lower Mainland (1), and the Thompson (1). The Program received advanced notification on 7 of the 10 mussel fouled boats either from another jurisdiction (e.g., AB, MT, Idaho, WA) or by Canada Border Services Agency (CBSA) agents.

As the summer is progressing the program is seeing the majority of watercraft being transported from within BC and from Alberta. Travelers can still expect to see K9's Kilo and Major at our watercraft inspection sites throughout the season inspecting various watercraft.

Lake Monitoring

In 2020 a total of 12 grants are being administered by the Habitat Conservation Trust Foundation with funding provided by the Ministry of Environment and Climate Change Strategy and Fisheries and Oceans Canada for the collection of water samples and deployment of substrate samplers. The purpose of the lake monitoring is to sample priority lakes across the province for invasive mussels. All sampling is conducted following the [British Columbia Dreissenid Mussel Lake Monitoring Field Protocol](#) which outlines provincial standards for the collection and preservation of water samples. All samples are analyzed by a designated lab for the presence of invasive mussel larvae. In addition, artificial substrate samplers are deployed and checked regularly for adult invasive mussels.

For the 2020 season, sampling started in early June and to date 227 plankton samples have been collected, and all samples have tested negative for the presence of invasive mussels.