

## Okanagan Basin Water Board Meeting Agenda



**Okanagan Basin**  
WATER BOARD

**DATE:** Tuesday, December 5, 2023

**TIME:** 10 a.m. – 12:30 p.m.

**PLACE:** Online

1. **CALL MEETING TO ORDER**

1.1 Acknowledgement of First Nations Traditional Territory

*We acknowledge that we are holding this meeting on the unceded territory of the Syilx Okanagan Nation.*

2. **INTRODUCTION OF LATE ITEMS**

3. **APPROVAL OF AGENDA**

4. **ADOPTION OF MINUTES**

4.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of November 7, 2023 held online. (page 1)

5. **DELEGATION**

5.1 Natasha Lukey, Okanagan Nation Alliance Fisheries Dept. on the “nluxwluxw4cwix (Lower Trout Creek) Restoration Project”

6. **STAFF REPORTS**

- 6.1 Executive Director Report (page 6)
- 6.2 Deputy Administrator Report (page 10)
- 6.3 Office and Grants Manager (page 15)
- 6.4 Water Stewardship Director Report (page 17)
- 6.5 Water Science Specialist Report (page 20)
- 6.6 Communications Director Report (page 24)

7. **IN-CAMERA**

7.1 In-camera session (under sec. 90(1)(k) and 90(2)(b) of the Community Charter)

8. **CORRESPONDENCE**

- 8.1 Letters from District of Summerland, Town of Osoyoos, City of Dawson Creek, Penticton and Wine Country Chamber of Commerce re: OBWB's calls to action on invasive mussels (page 28)
- 8.2 Letter from B.C.'s Minister of Water, Land and Resource Stewardship Nathan Cullen and Minister of Environment and Climate Change Strategy George Heyman, regarding the OBWB's calls to action (page 34)

9. **NEXT MEETING**

9.1 The next meeting of the Okanagan Basin Water Board will be Tuesday, Feb. 6 at 10 a.m. ONLINE

10. **ADJOURNMENT**

**\* NOTE:** Meetings of the Okanagan Basin Water Board are open to the public, and only closed for in-camera sessions as set out in the B.C. Community Charter. From time-to-time, the board will be holding its meeting online. If you are interested in attending this online meeting, please contact our Communications Director Corinne Jackson at [corinne.jackson@obwb.ca](mailto:corinne.jackson@obwb.ca) for further details. Thank you for your patience and understanding.



**MINUTES OF A REGULAR MEETING OF THE OKANAGAN BASIN WATER BOARD  
HELD NOVEMBER 7, 2023  
ONLINE**

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**PRESENT**

Chair Sue McKortoff	Regional District Okanagan-Similkameen
Vice-Chair Blair Ireland	Regional District Central Okanagan
Director Victor Cumming	Regional District North Okanagan
Director Rick Fairbairn	Regional District North Okanagan
Director Christine Fraser	Regional District North Okanagan
Director Wayne Carson	Regional District Central Okanagan
Director Charlie Hodge	Regional District Central Okanagan
Director Doug Holmes	Regional District Okanagan-Similkameen
Director Rick Knodel	Regional District Okanagan-Similkameen
Director Bob Hrasko	Water Supply Association of B.C.
Director Jeremy Fyke	Okanagan Water Stewardship Council (OWSC)

**REGRETS**

Director Tim Lezard	Okanagan Nation Alliance (ONA)
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**GUESTS**

Krista Derrickson	Westbank First Nation
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**STAFF**

Anna Warwick Sears	Executive Director
Corinne Jackson	Communications Director
James Littley	Deputy Administrator
Sandra Schira	Water Science Specialist
Amanda Burnett	Communications Coordinator
Carolina Restrepo-Tamayo	Office and Grants Manager

**1. CALL MEETING TO ORDER**

Chair McKortoff called the meeting to order at 10:01 a.m.

Chair McKortoff respectfully acknowledged that the meeting was being held on the traditional and unceded territory of the Syilx Okanagan Nation.

**2. LATE ITEMS**

8.1 Correspondence regarding invasive mussels from RDNO and Shuswap Watershed Council.

**3. APPROVAL OF AGENDA**

***“THAT the agenda of the regular meeting of the Okanagan Basin Water Board of Nov. 7, 2023 be approved as amended.”***

**CARRIED**

**4. ADOPTION OF MINUTES**

4.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of Oct. 3, 2023, held

online.

***“THAT the minutes of the regular meeting of the Okanagan Basin Water Board on Oct. 3, 2023, held online, be approved.”***

**CARRIED**

**5. STAFF REPORTS**

**5.1 Executive Director Report**

Dr. Sears provided an update on a meeting she was invited to attend in Grand Forks on watershed issues with MLA Roly Russell and Premier David Eby. She noted that she used the opportunity to advocate for additional funding in the Watershed Security Fund, the need to address provincial water staffing shortages, increased funding to address invasive mussels and support to replace the Okanagan Lake dam in Penticton. Chair McKortoff added that she also spoke with Premier Eby and MLA Russell and advocated for additional support to address invasive mussels.

11:06 a.m. Dir. Cumming entered the meeting.

The board was updated on the realignment of B.C. ministries, moving most of water policy and management from Ministry of Forests into the new Ministry of Water, Land and Resource Stewardship (WLRS). This is widely considered a positive development, Dr. Sears added, noting that staff are working with the Okanagan Water Stewardship Council on a letter for the board to send, acknowledging the changes and suggesting where additional improvements can be made.

Directors also heard that Okanagan Lake is currently below normal and the province’s dam operator is releasing lower-than-normal flows to slow the lake level fall. This cautious approach is being taken to prepare for the possibility of the current drought continuing into next spring and summer.

***“THAT the Executive Director’s Report, dated Nov. 1, 2023, be received.”***

**CARRIED**

**5.2 Deputy Administrator Report**

Mr. Littley updated the board on recent activities taken in response to the invasive mussels found in Idaho’s Snake River, including letters sent to local governments, chambers and tourism associations in B.C., asking for support for a temporary moratorium on watercraft coming into the province.

Idaho has now completed its treatment of the river with a copper pesticide. Its effectiveness won’t be known until spring, however, officials have removed almost seven tons of dead fish, including hatchery sturgeon that were 35 years old, and eight feet long.

In response to questions, the board was told that additional control methods used elsewhere have included draining reservoirs, but this has not always been successful. The board discussed additional ways to get the word out, including development of a professional video, educational poster for schools and beyond. Mr. Littley added that OBWB is convening a working group that will help inform efforts to prevent the mussels from entering B.C., to limit the spread if they arrive, and to determine how to prepare to live with the mussels. There was also discussion about using the OBWB’s Don’t Move A Mussel campaign to encourage the public to speak out, and for the OBWB to reach out to Alberta to bolster mussel prevention efforts.

***“THAT the Deputy Administrator’s Report, dated Oct. 31, 2023, be received.”***

**CARRIED****5.3 Water Stewardship Director**

Dr. Jatel told the board about presentations at the last council meeting from B.C. Ministry of WLRs Water Policy Advisor Natalya Melnychuk and Shuswap Watershed Council's Erin Viera about shared water concerns and potential efforts to work together. The next meeting will include a presentation from Mr. Littley with an update on invasive mussels in Idaho and the development of a working group to help the Okanagan prepare for a possible infestation. Dir. Fyke provided an update on council committee work, including: a look at water quality and its connection to mussels and algae blooms; the B.C. Water Sustainability Act and how it was applied during this year's drought and possible recommendations for the board to forward to the province; development of a set of resources for settler water planners to incorporate First Nations right and title in their work; and, an updated Water Supply and Demand study.

The board was also updated on plans for a 2024 Environmental Flows conference which will include a look at setting environmental flows in light of climate change and the water needs of larger bodied fish like chinook. In response to questions and concerns about meeting the needs of fish during drought, like this year, Dr. Jatel responded that social and economic considerations, including how to prioritize water for agriculture, will be discussed at the conference.

Directors were told that work on the hydrometric station program is continuing with partners wrapping up their field work and reviewing collected data for quality control and assurance. The data will then be made available to those who need it to make decisions about water flows. Dir. Cumming noted that the City of Vernon is installing monitors in local streams and would like the data to be included.

***"THAT the Water Stewardship Director's Report, dated Oct. 30, 2023, be received."***

**CARRIED****5.4 Water Science Specialist Report**

Ms. Schira provided an update on the climate indicators project, explaining that 30 years of stream data – preferably on unregulated streams – is needed to see what's happening with water flow and if it may be climate related.

As for drought conditions, the Province of B.C. has lowered the Okanagan region to Level 2 based on current water conditions. Some streams, however, are still at Level 5.

The board was briefed on the recent Water Supply Association of B.C. conference held in Nelson which included discussion around upper basin storage, multi-year droughts, water quality standards, and water supplier priorities and concerns.

***"THAT the Water Science Specialist Report, dated Oct. 30, 2023, be received."***

**CARRIED****5.5 Communications Director Report**

Ms. Jackson briefed the board on various communication efforts to address the ongoing drought, including a shift to promoting indoor conservation. She added that the province's Thompson Okanagan Regional Drought Team is holding a debrief meeting to review challenges this year, including communicating water availability and drought response, and potential improvements for next year. Staff will be attending the meeting to provide local insights.

Communications support has also been provided to address the board's invasive mussel concerns, with letters to local governments, chambers and tourism associations requesting support for OBWB's calls to action. A video that outlines the OBWB's concerns now that Idaho has found invasive mussels and includes our calls to action has been produced and posted on our YouTube channel. Staff have been gathering letters of support, responding to media calls, posting about the issue on social media and updating our Don't Move A Mussel website.

***"THAT the Communications Director's Report, dated Nov. 1, 2023, be received."***

**CARRIED**

**6. NEW AND UNFINISHED BUSINESS**

**6.1 2024 Water Conservation & Quality Improvement (WCQI) Grant Program Memo**

Ms. Restrepo-Tamayo presented on the WCQI program, providing a review of the process, scoring criteria, and a recommendation that the board approve "drought resilience" as the 2024 grant theme. The application deadline, she added, will be Feb. 23, 4 p.m.

***"THAT the process and scoring criteria for the grant competition be approved as outlined; AND THAT for the 2024-2025 WCQI grant competition, 10 bonus points will be awarded for projects in any category related to drought planning, management and mitigation."***

**CARRIED**

**6.2 Budget Features Memo – Proposed Budget 2024-25**

Dr. Sears presented the proposed OBWB 2024-25 budget. The overall requisition is up 1.99% mostly due to milfoil expenses with the new harvester, as well as research and permitting costs. However, the requisition for Sewerage Facilities Assistance Grants is down with some grants retiring, and the requisition for the Water Management Program is also slightly down. Directors moved a motion to accept the budget as presented.

***"THAT the OBWB adopts the 2024-2025 budget as presented."***

**CARRIED**

**7. IN-CAMERA**

**7.1 In-Camera session (under sec. 90(1)(k) and 90(2)(b) of the Community Charter**

Come out at 11:33 a.m.

**8. CORRESPONDENCE**

**8.1 Letters to senior governments, cc'd to OBWB, re: invasive mussels from Shuswap Waterfront Owners Assoc, Shuswap Watershed Council, RDNO**

The board reviewed the letters, noting strong support, and the need to continue to work and gather allies. Directors discussed finding new ways to extend the OBWB's reach, including developing a video and creating a public writing campaign. Dir. Ireland noted Lake Country's ability to save costs with a filtration deferral will likely be lost if mussels move in and filtration becomes required.

***"THAT the letters to senior governments, cc'd to OBWB, re: invasive mussels from Shuswap Waterfront Owners Assoc, Shuswap Watershed Council, RDNO, RDCO, District of Peachland and BC Boating Association be received."***

**CARRIED**

9. **NEXT MEETING**

9.1 The next meeting of the Okanagan Basin Water Board will be Tuesday, Dec. 5 from 10 a.m. – 12 p.m., online.

10. **ADJOURNMENT**

***“THAT there being no further business, the regular meeting of the Okanagan Basin Water Board of Nov. 7, 2023 be adjourned at 11:55 a.m.”***

**CARRIED**

Certified Correct:		
Chair		Executive Director

## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
December 5, 2023  
Agenda No: 6.1

To: OBWB Directors  
From: Anna Warwick Sears  
Date: November 29, 2023  
Subject: **Executive Director Report**

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### **Mission Creek Workshop**

I will present a verbal report at our meeting, regarding the Mission Creek workshop we are holding this Friday. Vice-Chair Ireland will be attending, to represent the Board, and Director Hrasko will be attending in his role as Administrator of the Black Mountain Irrigation District (BMID). This is a narrowly focused gathering of individuals and groups working in and around Mission Creek, and will be an opportunity for people to be updated with changes to the creek, share their concerns, and build relationships. We hope it will contribute to future planning processes by the City of Kelowna, BMID, the Okanagan Nation Alliance, and the Mission Creek Restoration Initiative, among others. We also expect that it will highlight gaps in water science and knowledge to inform future OBWB projects.

### **Looking Ahead**

As 2023 draws to a close, OBWB staff are gearing up for the new year. Our five-year strategic plan goes to the end of 2024, so I will be working with the board to review what was accomplished under the current plan, and crafting a future plan for 2025 – 2029. As part of the review, I hope to be able to do a more detailed analysis of the annual tracking measures.

Related to this, we are developing a project to review the state of drought planning, source protection planning, residential and agricultural metering, and water rates (and similar water-related plans and policies TBD) among municipalities and improvement districts in the Okanagan. This will be a gap analysis of sorts, and will help determine water science and planning needs, as well as future priorities for our small grants program.

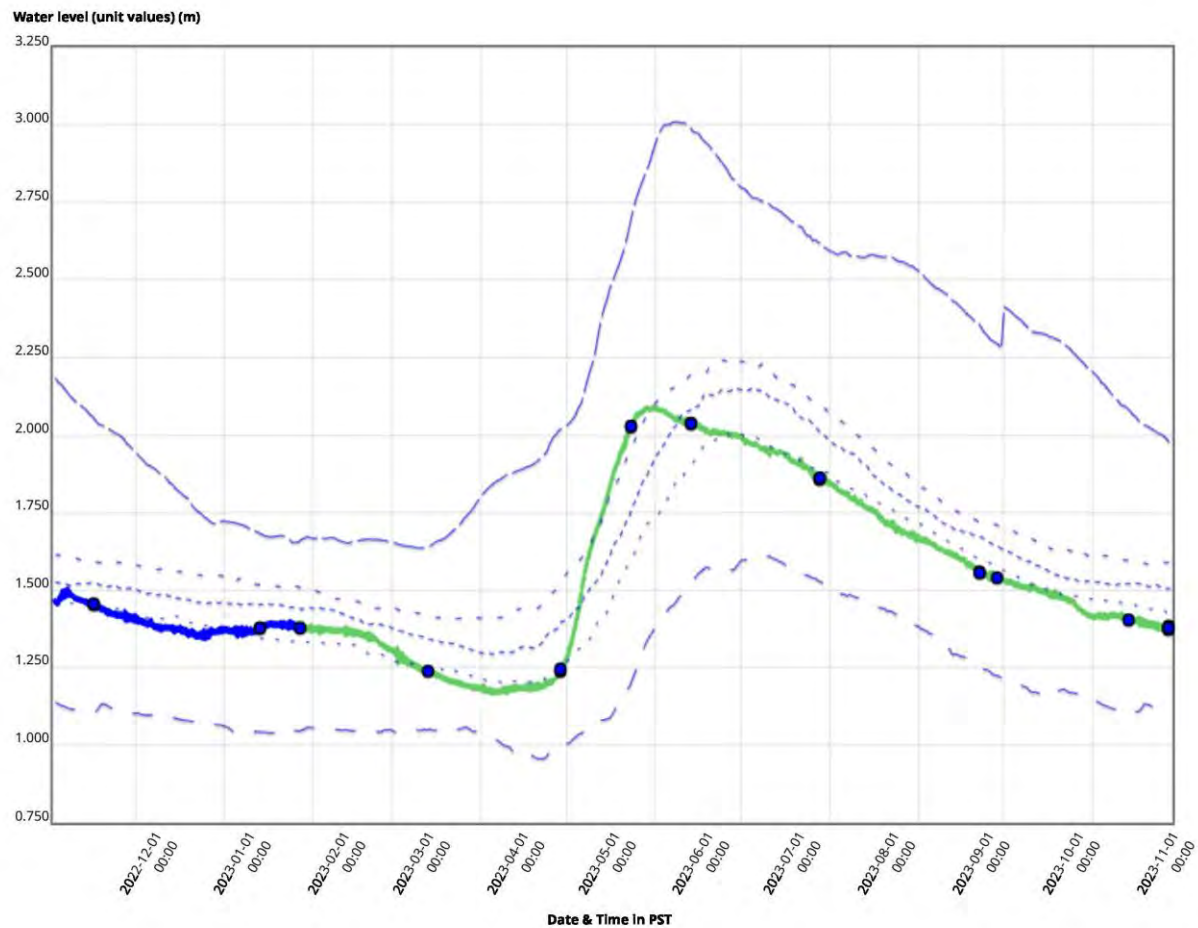
### **Weather Report**

NOAA (U.S. weather agency) continues to forecast a warmer-and-drier-than-normal winter due to El Niño conditions. The areas forecast to have low precipitation become more geographically widespread as the season goes on. High temperatures are also forecast to be persistent through the season. Although this website just forecasts for the U.S., I find it more useful than the Environment Canada forecasts (which are updated less frequently):

[https://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/](https://www.cpc.ncep.noaa.gov/products/predictions/long_range/)



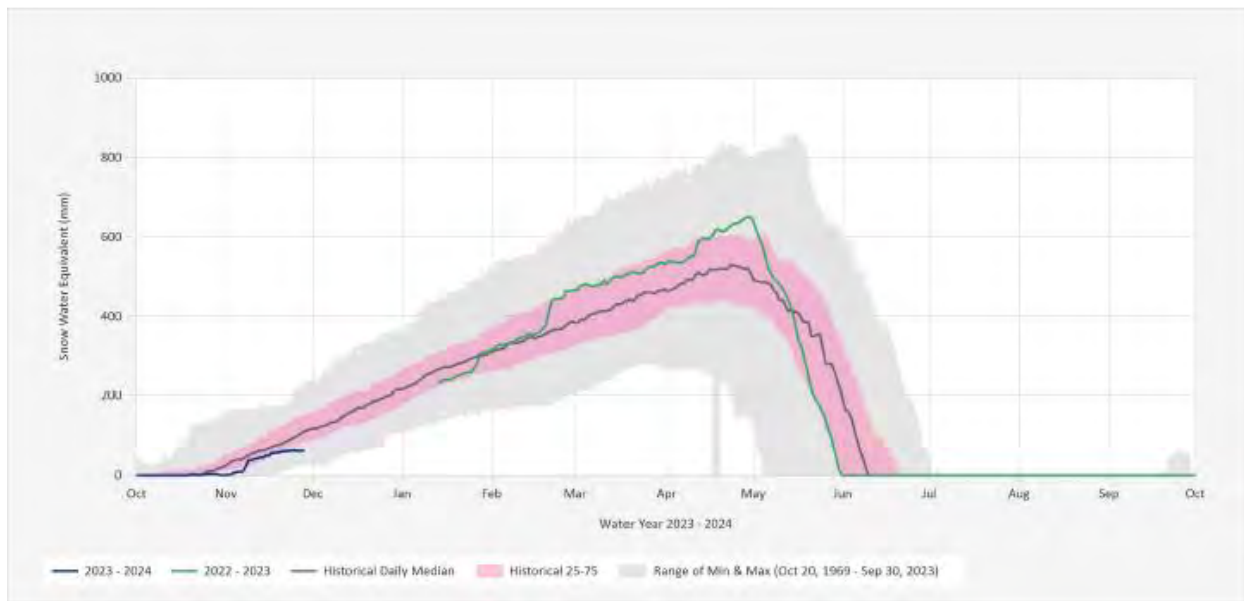
Okanagan Lake is at the 19th percentile for this time of year (only 19 out of 100 years have lake levels been this low at this day of the year).



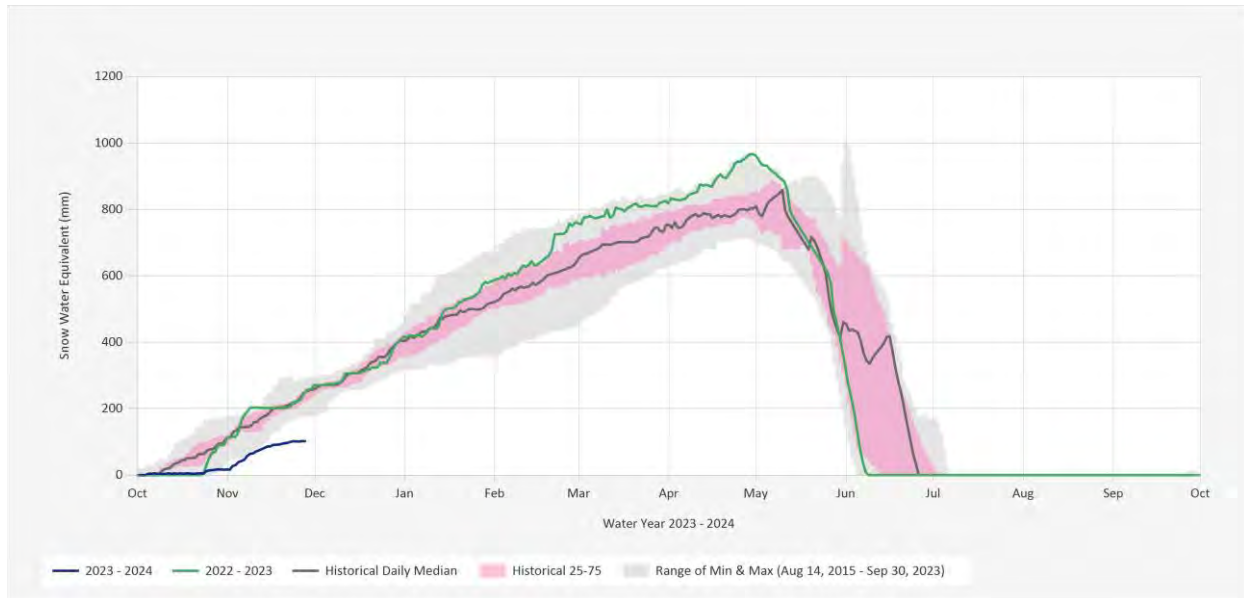
Okanagan snowpillows are also below the 25<sup>th</sup> percentile for their historical records. In general, water managers aren't too concerned by low levels at this time of year, because there is a lot of time left to catch up. However, given the El Niño conditions, there is a real possibility that the drought will continue into 2024.



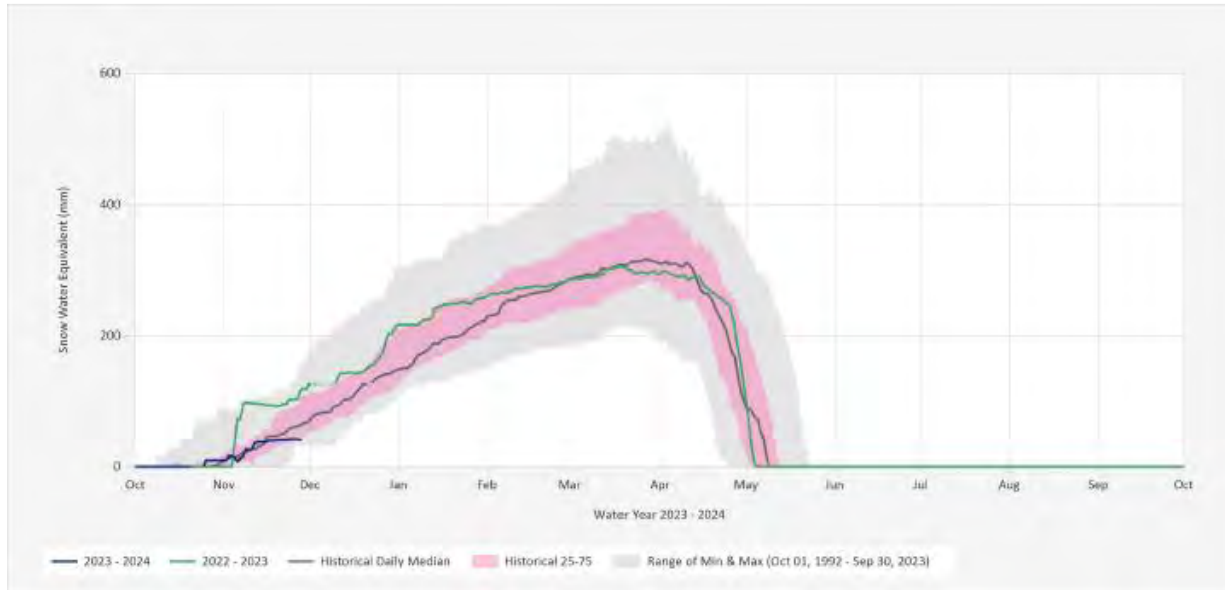
Mission Creek Snow Pillow: 1780 m elevation (records began in 1969)



Silver Star snow pillow: 1840 m elevation (records began in 2015)



Brenda Mines snow pillow: 1460 m elevation (records began in 1992)



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
Dec. 5, 2023  
Agenda No: 6.2

To: OBWB Directors  
From: James Littley  
Date: November 28, 2023  
Subject: Deputy Administrator Report

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### Invasive Mussel Update

In November we received a provincial response (see item 8.2 in Correspondence) to the OBWB's August 16<sup>th</sup> Calls to Action which we sent prior to the discovery of quagga mussels in Idaho. The provincial response addressed each of our calls to action. More recent additional calls for a temporary moratorium on out-of-province watercraft, and call for all watercraft crossing the border from Saskatchewan west to be inspected were not addressed. The board did not call for these actions until October 18, after the Idaho discovery.

Calls to Action provincial response:

1. Commit Invasive Mussel Defence Program (IMDP) funding of \$4 million/year. The province indicated that this program has partly relied on partner funding, some of which has decreased in recent years.
2. Enhance recruitment for B.C.'s Invasive Mussel Defence Program to 2019 levels. The province acknowledged they have been unable to meet their staffing levels due to recruitment and retention challenges related to a changing job market and remote employment conditions.
3. Introduce pull-the-plug legislation before 2024 boating season. The response asked us to submit this advice through the B.C. Wildlife Act review process. We have already responded, submitting the call to action directly to the Wildlife Act review staff. (attached)
4. Update the provincial Early Detection, Rapid Response (EDRR) plan. The province states that this review and update is currently underway but gives no timeline for completion.
5. Regional long-term response, containment and control plans. The province has not yet finalized the way they engage with partners but asked us to reach out to provincial staff to discuss regionally focussed opportunities.

Further updates:

1. The province is working on another response to the board's latest calls to action. I have no timeline for when this will be received.
2. Idaho has been declared a high-risk area for the purpose of provincial and CBSA inspections.

3. CBSA increased notifications to the province following the detection in Idaho, and the province extended the inspection season to be able to respond to notifications from CBSA.
4. Idaho will be considered infested for at least the next five years while water testing continues. If there are no further detections over the five year period, Idaho would go back to mussel-free status.
5. The province is working on the new EDRR plan which will go beyond the initial response phase and look at longer-term inter-regional plans. Provincial staff will also collaborate with OBWB's new invasive mussel working group to ensure plans at the regional and provincial level are aligned.

Support for calls to action. To date we have been notified of support for OBWB's calls to action from the following local governments and organizations:

- Regional District of North Okanagan
- Regional District of Central Okanagan
- Regional District of Okanagan Similkameen
- City of Vernon
- District of Peachland
- District of Summerland
- District of Lake Country
- Town of Osoyoos
- Thompson Okanagan Tourism Association
- Penticton and Lake Country Chamber of Commerce
- Shuswap Watershed Council
- qathet Regional District (Powell River area)

We anticipate further support as we continue our outreach.

#### Invasive Mussel Infrastructure Vulnerability Assessment Guide

The vulnerability assessment guide is in final draft form, designed, and being reviewed with the intention to have it available in the new year.

#### Invasive Mussel Working Group

On November 9<sup>th</sup> I gave an extended presentation to the Okanagan Water Stewardship Council and solicited feedback about the membership and terms of reference for establishing an invasive mussel working group for the Okanagan. I have already received offers for participation from some invasive species experts and will start reaching out to other potential members in December. In January or February (TBD) we will host the first workshop including my extended presentation, hearing from experts in the field, and beginning to form the Terms of Reference for the working group. The outcome of that workshop will set the workplan for the group.

#### Milfoil Control Program

Milfoil rototilling continues in the Vernon Arm of Okanagan Lake and Wood Lake. We are dealing with historically low lake conditions this year, following this summer's drought. Lake levels may limit our rototilling operations in Osoyoos Lake depending on whether we can launch our machines.

I have also received an update from the amphibious harvester manufacturer in Germany. The machine build is proceeding on schedule, and the factory has now taken delivery of the new engine, which was a concern given supply chain issues. I have attached a few photos of the machine build below.



Drive system prop mounts for machine stern



In-hull bulkhead and hydraulic connectors



November 15, 2023

B.C. Wildlife Act Review

**Re: Immediate Action to Introduce “Pull-the-Plug” Legislation in B.C.**

Dear Wildlife Act Review Team,

We recently received co-signed correspondence from B.C.’s Honourable Nathan Cullen, Minister of Water, Land and Resource Stewardship, and the Honourable George Heyman, Minister of Environment and Climate Change Strategy, asking us to provide our advice on the need for pull-the-plug legislation through the B.C. Wildlife Act review process, which is our reason for writing today.

We urge you to recommend the immediate introduction of legislation requiring removal of drain plugs for all watercraft transported within B.C. The legislation is a critical step in helping prevent the introduction of invasive zebra and quagga mussels which would devastate provincial aquatic ecosystems. Invasive mussels collapse freshwater food chains, lead to significant declines in native fish populations, cause toxic algae blooms, and have been linked to the death of thousands of migratory birds in the Great Lakes. All other western provinces have this legislation in place, with B.C. being the only exception.

The current Wildlife Act review process is not scheduled to make recommendations to update the Wildlife Act until winter/spring 2026, however, pull-the-plug legislation must not be delayed this long. The discovery of quagga mussels in Idaho’s Snake River in September means that these invaders may now be within a shared watershed, and within a half-day’s drive to B.C.

The Okanagan Basin Water Board (OBWB) is a partnership of the three regional districts of the Okanagan, with external board directors from the Okanagan Nation Alliance, the Water Supply Association of B.C., and the Okanagan Water Stewardship Council. Our mandate is to protect and enhance the quality of life in the Okanagan through sustainable water management.

For more than 10 years, one of the board’s gravest concerns has been a potential infestation of zebra and quagga mussels establishing in B.C. waterways. Mussels are most often spread via infested watercraft and provincial statistics show a large proportion of mussel-fouled watercraft from out-of-province are headed to the Okanagan Valley.

Since July 2019, we have called for pull-the-plug legislation, requiring all watercraft owners to remove their vessel’s drain plug prior to transporting it on public roads, helping deliver on best practices to clean, drain, and dry watercraft before launching in B.C. waters. Recently, this call for pull-the-plug legislation has been endorsed by the Regional District of Central Okanagan, Regional District of North Okanagan, City of Vernon, District of Peachland, District of Lake Country, District of Summerland, the Shuswap Watershed Council, and the Thompson Okanagan Tourism Association. More support is expected in the coming weeks.

We urge you to recommend the immediate introduction of this legislation, and whatever regulations are necessary to support it, regardless of the schedule for the broader Wildlife Act review. For reference, we have included the relevant legislation from Alberta, Saskatchewan, and Manitoba below.

Yours truly,



**James Littley — Deputy Administrator**  
**Okanagan Basin Water Board**  
1450 KLO Road, Kelowna, B.C. V1W 3Z4  
Email : [james.littley@obwb.ca](mailto:james.littley@obwb.ca)  
Office: 250-469-6270

CC: Honorable Nathan Cullen, Minister of Water, Land and Resource Stewardship,  
Honorable George Heyman, Minister of Environment and Climate Change Strategy  
Okanagan MLAs Harwinder Sandhu, Norm Letnick, Renee Merrifield, Ben Stewart,  
Dan Ashton, and Roly Russell  
Sue McKortoff, Chair, OBWB  
Anna Warwick Sears, Executive Director, OBWB

#### **Alberta Fisheries Act Regulation 220/1997 (2016)**

Transportation of watercraft 6.1:

A person shall not transport an item of watercraft on a highway by means of a conveyance if the watercraft has a drainage hole in the lower hull or bilge that is blocked with a plug. AR 45/2016 s8.  
<https://www.canlii.org/en/ab/laws/regu/alta-reg-220-1997/latest/alta-reg-220-1997.html#sec6.1>

#### **Saskatchewan The Fisheries Regulations 88.6 (2018)**

Transportation of watercraft:

No person shall transport a watercraft on a highway by means of a conveyance if the watercraft has a drainage hole in the lower hull or bilge and that drainage hole is blocked with a plug. 6 Apr 2018 SR 22/2018 s12.  
<https://pubsaskdev.blob.core.windows.net/pubsask-prod/1869/F16-1r1.pdf>

#### **Manitoba The Water Protection Act AIS Regulation (2015)**

3(3) When transporting a watercraft on land, a person must (a) ensure that the drain plug and all valves or other devices used to drain water from the watercraft are removed or left open, other than plugs used in kitchen or washroom facilities on the watercraft; and

(b) ensure that the motor vehicle and any trailer transporting the watercraft are free of aquatic invasive species and aquatic plants. <https://web2.gov.mb.ca/laws/regs/current/pdf-regs.php?reg=173/2015>



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
December 5, 2023  
Agenda No: 6.3

To: OBWB Directors  
From: Carolina Restrepo Tamayo  
Date: November 28, 2023  
Subject: Office and Grants Manager report

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### **WCQI program:**

Call for applications for the Water Conservation and Quality Improvement (WCQI) Grant program will go out on November 30th with the application deadline set for Friday, Feb. 23 at 4 p.m. The annual theme for this year is “Drought Resilience,” awarding up to 10 bonus points for projects whose goals are directed to the prevention, management, and/or mitigation of drought or water shortages in the Okanagan.

For this cycle and for the first time, applications can be submitted online on our website at <https://obwb.ca/overview-grants/wcqi/application-information/>.

Those eligible to apply for a grant include:

- local governments
- irrigation or improvement districts
- community and non-profit groups
- First Nations

More information about the program is available at <https://obwb.ca/overview-grants/wcqi/>.

### **BC Watersheds Collaborative (BCWC) Fall Gathering:**

Mr. Littley and I attended the Fall Gathering of the BC Watersheds Collaborative. The BCWC is an informal body of water funders and water leaders supporting strategic collaboration among organizations and foundations that work in freshwater and watershed protection efforts in British Columbia. Members of this diverse group of public and private institutions have independent goals and approaches.

The OBWB has been a very active member of this group since its beginning. Our participation with others in B.C.'s philanthropic sector has been an excellent opportunity to establish collaborations and partnerships. By keeping other organizations up-to-date on local water issues, we have helped leverage our grant program to bring extra funding to Okanagan projects. The network also helps keep partners up to date on changes in provincial and federal legislation and policy around water.

The 8th annual gathering was held in the Cowichan and Koksilah watersheds and highlighted work being done by the Cowichan Tribe and the Province of B.C. through the Xwulqw'selu Watershed Planning Agreement. The event was a chance to connect, share successes & learnings, reflect on emerging opportunities & challenges, and learn from on-the-ground work.

Mr. Littley delivered a presentation on invasive mussels, which generated a lot of interest and will hopefully encourage funders to support projects aimed at helping prevent, treat and mitigate the mussels.

I also delivered a presentation about OBWB's work with the Okanagan Nation Alliance on hydrometrics and environmental flows. My presentation promoted the Environmental Flows Conference that the OBWB and Canadian Water Resources Association are hosting in March 2024, encouraging BCWC members to attend the event, be part of the funders session, present related work on environmental flows, and/or potentially sponsor the event.

Mr. Littley's two-year term as Chair of the Steering Committee for the BCWC is coming to an end. I will take on the role as the OBWB's representative with this group in my position as Grants Manager.

## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
December 5, 2023  
Agenda No: 6.4

To: OBWB Directors  
From: Nelson R. Jatel  
Date: November 28, 2023  
Subject: **Water Stewardship Director's Report**

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### Okanagan Water Stewardship Council (OWSC)

At our previous meeting, Mr. **James Littley**, OBWB's Deputy Administrator, delivered a compelling presentation on the serious threat that invasive zebra and quagga mussels pose to British Columbia. He began by recounting a pivotal moment in 2015 when a boat inspection uncovered these harmful mussels. Since then, the BC government had intercepted over 160 boats contaminated with these mussels. He underscored the destructive impact of these invaders on aquatic ecosystems, detailing how they drastically changed these environments, led to significant economic losses, disrupted infrastructure, and spoiled recreational water activities. James noted the province's own figure of \$129 million annually if these mussels invaded the province. The Council provided feedback on membership and considerations for the Board proposed the formation of a dedicated working group to tackle the mussel threat. This group would operate in three strategic phases: enhancing protective measures, curbing the spread within BC, and developing strategies for coexisting with these invasive species. He invited feedback on the proposed composition of this group and outlined key considerations for each phase.

Mark your calendars for our upcoming meeting on December 14th! We're excited to host a special presentation by Christina Ortiz, who will be shedding light on watershed security from the unique perspective of Colombia, a South American nation. Christina will delve into both the common challenges and the distinctive factors influenced by Colombia's climate, population, and topography. This session promises to be insightful, and we strongly encourage all board members to attend and engage in this valuable discussion.

### Environmental Flows Needs (EFN)

#### Inaugural BC Government EFN Symposium

I was invited to the inaugural Provincial Environmental Flow Needs (EFN) Symposium scheduled for November 28-30th in Victoria. Hosted by the Ministry of Water, Land and Resource Stewardship (WLRS) Aquatic Conservation Science team, this event aims to foster collaboration and knowledge exchange among a diverse group of professionals, including biologists, hydrologists, scientists, and researchers. Participants will include members from the Government of BC, First Nations, and various partners and collaborators, all focused on EFN.

The symposium's objectives are to:

- Present current scientific, research, and applied perspectives in supporting fish-friendly flows, highlighting the latest initiatives and findings in the province.
- Facilitate connections between scientists, researchers, and practitioners in the field of EFN.
- Encourage discussions on EFN-related issues.

- Identify key knowledge gaps, research priorities, and outline future steps.

MY presentation, titled "Navigating Waters: The Okanagan EFN Project and Decision-Making in the Age of Open Data," will explore the integration of the Okanagan EFN project with real-time hydrometric data, utilizing the innovative Okanagan Real-Time EFN Explorer Web Application. This talk will cover the history of environmental flow needs in the Okanagan Basin and the adoption of open data for improved decision-making. It will also discuss the application of this data through a new decision support tool, emphasizing the transformative impact of accessible, real-time



data in ecological stewardship and collaborative water management. This provincial symposium complements the upcoming EF conference hosted in Kelowna (update below).

#### 2024 OBWB Environmental Flows Conference

Building on the momentum of the highly successful 2018 EFN Conference, our team is diligently preparing for the upcoming Environmental Flows (EF) 2024 Conference, titled 'siwłkʷ (Water) For All – Co-creating Futures.' This exciting event is scheduled for March 13-15, 2024, in Kelowna. We're off to a great start with 20 early registrants, and we're now ramping up our efforts to reach our goal of 125 attendees over the next two months. Our sponsorship initiatives are progressing impressively, including the submission of a grant application to the BC Real Estate Foundation. We eagerly anticipate a response to our conference grant proposal by early December.

To relive the inspiring moments and key takeaways from the 2018 conference, please visit [www.obwb.ca/efnconference](http://www.obwb.ca/efnconference). For more information on the EF 2024 conference and to secure your spot, head over to [www.environmentalflores2024.ca](http://www.environmentalflores2024.ca). Don't miss this opportunity to be a part of shaping our water's future!

#### Okanagan Hydrometric (Stream Flow) Monitoring

Last month, the Okanagan Hydrometric Program continued to monitor water flow and levels across various Okanagan streams continuously. With the cooler temperatures, efforts have focused on completing several of the data quality control and quality assurance tasks required to ensure we have credible and defensible hydrometric data.



## Okanagan Water Stewardship Council

Technical advisory committee to the OBWB



**November 2023**

### Council Members (Term 11, April 2023-March 2025)

#### Appointed representatives | alternates

• <b>AAFC, Research Branch</b> Kirsten Hannam   Jesse MacDonald
• <b>BC Agriculture Council</b> Hans Buchler
• <b>BC Cattlemen's Association</b> Lee Hesketh   Keith Manders
• <b>BC Fruit Growers Association</b> Katie Sardinha   Glen Lucas
• <b>Ministry of Forests</b> Research: Sheena Spencer (Vice Chair)   Kristen King RM: Kelly Chiatto   Ray Crampton
• <b>BC Ground Water Association</b> Marta Green
• <b>BC Water Supply Association</b> Patti Meger   Bob Hrasco   Shawn Grundy
• <b>BC Wildlife Federation – Region 8</b> Lorne Davies   Bill Bosch
• <b>Canadian Water Resources Association</b> Brian Guy (past chair)
• <b>City of Kelowna</b> Rod MacLean   Ed Hoppe
• <b>City of Penticton</b> Alistair Wardlaw   Jonathan Chu
• <b>City of Vernon</b> TBD
• <b>Fisheries and Oceans Canada</b> Lynda Ritchie   Sue Lemke   Teri Ridley
• <b>Environment and Climate Change Canada</b> Jeremy Fyke (Chair)   Dave Hutchinson   Alyssa Charbonneau
• <b>Emerita</b> Denise Neilsen (past chair)
• <b>Engineers &amp; Geoscientists BC</b> TBD
• <b>Interior Health</b> Rob Birtles   Judi Ekkert
• <b>Irrigation Industry Association of BC (IIABC)</b> Bruce Naka   Ted van der Gulik (past vice-chair)
• <b>Ministry of Agriculture</b> Stephanie Tam   Lindsay King
• <b>Ministry of Environment and CC Strategy</b> Kym Keogh   Dennis Einarson
• <b>Ministry of Land, Water &amp; Resource Stewardship</b> TBD
• <b>Okanagan Collaborative Conservation Program</b> Scott Boswell (past Chair)
• <b>Okanagan College</b> Allison O'Neill   Rob St Onge
• <b>Okanagan Indian Band</b> Patrick Riley   Dan Wilson   Tim Isaac
• <b>RD Central Okanagan</b> Jing Niu   Brittany Nichols
• <b>RD North Okanagan</b> Zee Marcolin   Tricia Brett
• <b>RD Okanagan –Similkameen</b> Shelley Fiorito
• <b>Shuswap Okanagan Forestry Association</b> Matt Scott   Bryan Darroch
• <b>Thompson - Okanagan Tourism Association</b> Ellen Walker – Matthews
• <b>University of British Columbia - Okanagan</b> Craig Nichol
• <b>Chamber of Commerce – Kelowna</b> Derek Gratz
• <b>Westbank First Nations</b> Krista Derrickson   Kaine Abel

### Council Meeting Highlights

#### Highlights of the Presentation on Invasive Mussels

Mr. James Little, Deputy Administrator – OBWB, delivered a compelling presentation on the serious threat that invasive zebra and quagga mussels pose to British Columbia. He began by recounting a pivotal moment in 2015 when a boat inspection uncovered these harmful mussels. Since then, the BC government has intercepted over 160 boats contaminated with these mussels.

He underscored the destructive impact of these invaders on aquatic ecosystems, detailing how they can drastically change these environments, lead to significant economic losses, disrupt infrastructure, and spoil recreational water activities. James highlighted the staggering potential cost of up to \$129 million annually if these mussels invade the province.

Addressing the current challenges, James pointed out the shortcomings of BC's inspection system. He noted the strategic placement of inspection stations in 2023 and the concerning number of out-of-province boats that escape inspection. He raised an alarm about recent discoveries in Idaho, where quagga mussels were found in the Snake River, a tributary of the Columbia River. This discovery is particularly worrying due to its proximity to Osoyoos Lake. James conveyed the OBWB's call for urgent action from both provincial and federal governments. The Board is advocating for increased funding for inspection programs, updates to rapid response strategies, and consideration of a temporary ban on out-of-province boats.

Furthermore, the Board proposed the formation of a dedicated working group to tackle the mussel threat. This group would operate in three strategic phases: enhancing protective measures, curbing the spread within BC, and developing strategies for coexisting with these invasive species. He invited feedback on the proposed composition of this group and outlined key considerations for each phase.

Finally, James stressed the importance of a strategic plan with clear objectives, measurable goals, and defined milestones. He described a recent audit of the US Army Corps of Engineers, suggesting a similar approach could be effective in this context.

#### Latest Updates on WSC Committees

- ✓ **Water Demand and Supply Committee:** This committee is focused on crafting a proposal to pinpoint the technical needs for evaluating water demand and supply in the Okanagan Basin. Their goal is to ensure a balanced and sustainable approach to water resource management in the region.
- ✓ **Water Quality Monitoring and Improvement Committee:** Currently, this committee is conducting a comprehensive survey. The aim is to collect vital data on water quality, the health of ecosystems, and community perspectives or priorities concerning water resources. This initiative is crucial for understanding and improving the region's water quality.
- ✓ **Responsible Water Management Committee:** This group is initiating a book club, a unique approach to deepen council members' understanding of First Nations' history, culture, and water-related issues. They are also developing a guide or resource package to support ethical practices in these areas, enhancing the council's knowledge base and organizational preparedness.
- ✓ **Policy Committee:** This committee has formed a dedicated working group to scrutinize the enforcement of fish population protection orders in three provincial watersheds. They are also proactively engaging with the Department of Fisheries and Oceans (DFO) regarding the potential classification of Okanagan Chinook Salmon as an endangered species, a critical step in preserving the province's aquatic biodiversity.

For more information contact:

Dr. Nelson Jatel, Water Stewardship Director, OBWB  
[nelson.jatel@obwb.ca](mailto:nelson.jatel@obwb.ca) | o.(250) 469-6295

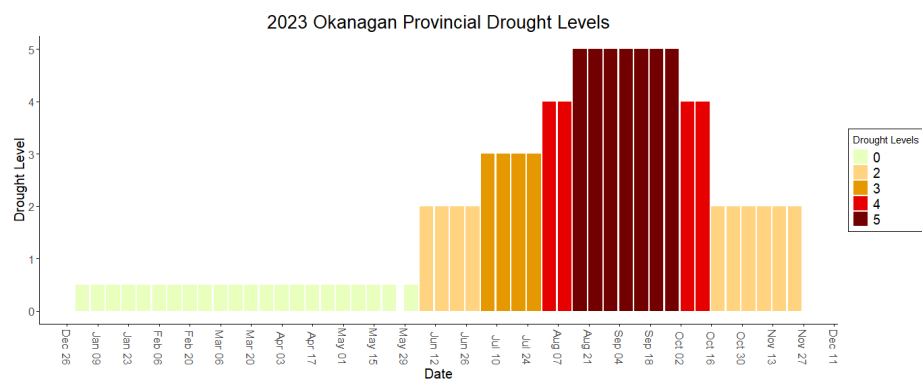
## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
Dec. 5, 2023  
Agenda No: 6.5

To: OBWB Directors  
From: Sandra K. Schira  
Date: November 28, 2023  
Subject: Water Science Specialist's Report

### Drought Update

The provincial drought level for the Okanagan remained at 2 as of Nov. 27 (Figure 4). Although this means adverse impacts to socio-economic or ecosystem values are unlikely, the Okanagan is still in drought. This means that the Okanagan has been in drought for the last 25



weeks, with the drought beginning June 8<sup>th</sup>. Furthermore, while the Okanagan is at level 2, some individual streams remain at higher drought levels. For example, Shuttleworth is at level 4, and Vaseux remain at level 5. This demonstrates the different responses of various streams to precipitation and the difference between regulated and unregulated systems.

### Indicators Project Update

Work continues on the climate indicators dashboard. Staff reviews are ongoing and based on preliminary feedback, some of the content is being restructured and more added. The goal is to present information in a clear and informative manner. In the current version, I have given key indicators, with expanded explanations to clearly describe the main findings. I am also developing a second section with a more expanded exploration of the data for users who want more information.. The current version of the dashboard (see attached) has over 30 indicators available at annual or seasonal resolution, depending on the indicator. Indicators are available for Penticton, Vernon, Kelowna, Okanagan Lake, Mission Creek, and several unregulated streams. I am also writing descriptions of methods and results to accompany each indicator to enhance interpretability. In a separate project, the OBWB has contracted with Heather Larratt and Jamie Self to add water quality indicators to the dashboard. The goal is to complete the dashboard for early 2024.

### Seasonal examples

With winter beginning in the Okanagan, let's examine some winter (December, January, and February) trends. Temperatures in winter months have increased by 1.4 C in Kelowna, 1.3 C in Vernon, and 0.7 C in Penticton compared to the 1951-1980 average (Figure 1). The number of cold days (i.e. days with a minimum temperature below 0 C) has decreased slightly, but most days still meet this threshold. Extremely cold days (i.e. days with a minimum temperature below -20 C) were uncommon historically and are becoming increasingly rare, not occurring at all in some years.

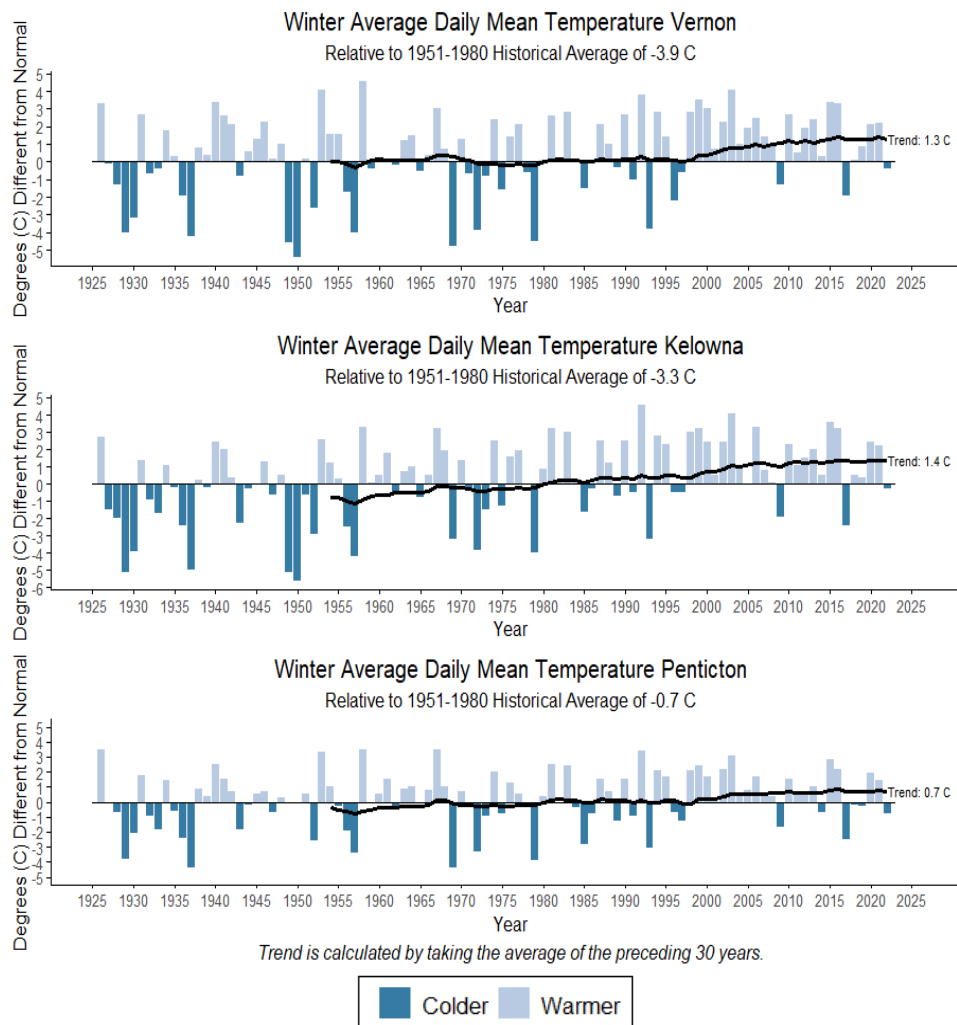
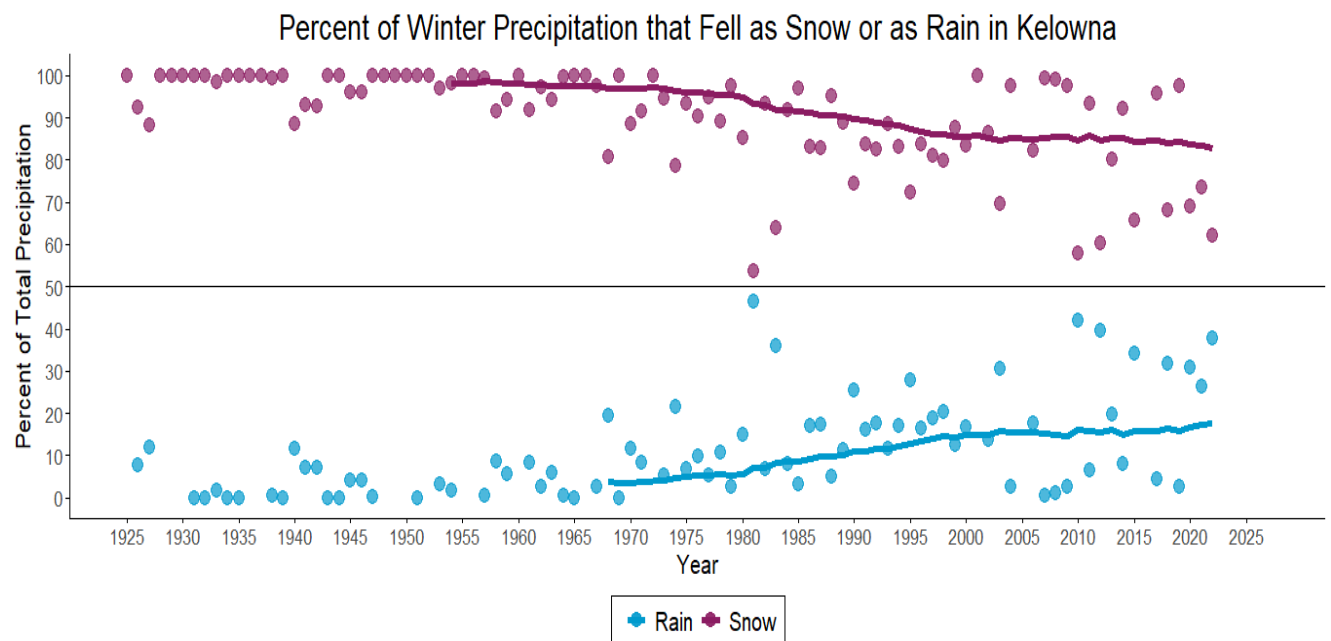


Figure 1. **Winter (DJF) daily mean temperature (C) trend from 1922 to 2022.** The temperature anomaly for Vernon, Kelowna, and Penticton. Each year is compared to that location's 1951-1980 average to see if it is warmer (positive value) or colder (negative value) than normal. **All locations saw an increase in temperatures, especially after 2000.**

Across the Okanagan, winter typically sees about 100 mm of precipitation, making it one of the wettest seasons. Total winter precipitation has decreased slightly (35.1 mm in Kelowna, 9.6 mm in Penticton, and 2.2 mm in Vernon). Besides shifts in total precipitation, the type of precipitation received has changed in some cities, with some precipitation that would have previously fallen as snow, instead falling as rain. The shift has been the most apparent in Kelowna (Figure 3), and the other cities have yet to see significant shifts in precipitation type. These changes in the type of precipitation can play an important role in the timing of the hydrological process in the valley. Due to data limitations, only stations on the bottom of the valley were used, and information about upper valley snowpacks is not examined here. Therefore, changes in winter temperatures are quite apparent, while precipitation shows some shifts, but they remain less drastic.

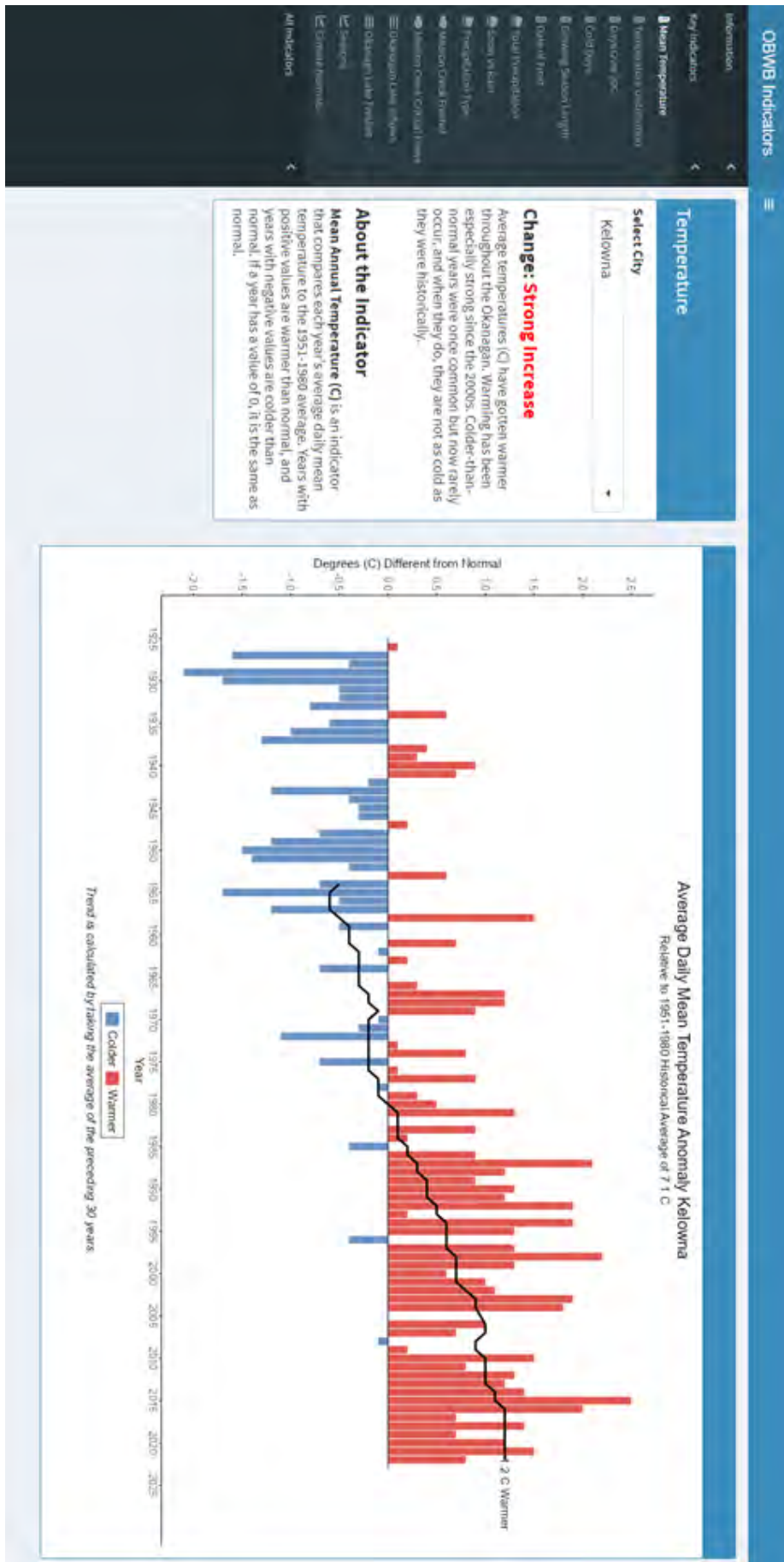




*Trend is calculated by taking the average of the preceding 30 years.*

Figure 2. **Percent of winter (DJF) precipitation that fell as either snow (purple) or rain (blue) in Kelowna from 1925 to 2022.** Each point represents the percentage of winter precipitation that fell as snow or rain each year. The lines show the 30-year rolling average of the preceding 30 years. Overall, in Kelowna, there has been a shift from nearly 100% snow to about 80% snow. This shift is particularly apparent starting in the 1980s through to 2000.

# Working draft of the OBWB Indicators dashboard.



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
Dec. 5, 2023  
Agenda No: 6.6

To: OBWB Directors  
From: Corinne Jackson  
Date: November 29, 2023  
Subject: **Communications Director Report**

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### Okanagan Water Survey 2023

We are currently working with a local polling and research company to conduct a survey of Okanagan residents to gauge interest in, and understanding of local water issues. We have conducted similar surveys in 2009, 2014, and 2020. (In intervening years we have conducted focus groups and targeted surveys for additional purposes.) This year's survey will include questions about water in the valley, the OBWB, Okanagan WaterWise and its public outreach campaigns, Make Water Work and Don't Move A Mussel. The survey is intended to help inform OBWB activities to address water issues, and potential outreach and engagement.

### Drought Communications

On Nov. 9<sup>th</sup>, I attended the B.C. government's Thompson Okanagan Regional Drought Team's debrief meeting along with local government utility partners, First Nation fisheries department staff, federal Department of Fisheries and Oceans personnel, and provincial staff in groundwater monitoring, water licencing, and more. Discussion included drought response actions and options, the experience of this summer, lessons learned, and ways to improve. The meeting was very well-attended and we are now waiting for a final report.

In the meantime, the province has been gathering information and providing weekly drought updates. Their [Drought Information Portal](#) is expected to be updated a couple times through the winter based on precipitation rates. Since the Okanagan remains at Level 2 drought with some streams still at Level 4 and 5, we are continuing to encourage conservation, focusing on ways to save water indoors. We will also be providing information on how residents can plan and prepare landscapes to be more water efficient and meet the needs of a healthy ecosystem.

A [news release](#) was issued on Nov. 8, regarding the Make Water Work campaign, announcing the two winners of a \$500 WaterWise yard upgrade: Shannan Machulski from West Kelowna and Ken De Grott of Vernon. The release also served to remind residents of the need to conserve at this time. Photos of our winners are provided below.



Left: West Kelowna's Shannan Machulski (middle) receives congratulations and a \$500 gift certificate towards WaterWise landscaping materials from OBWB Communications Coordinator Amanda Burnett (left) and Melanie Mewhort (right).

Above: Burnett presents a \$500 gift certificate to Vernon's Ken DeGroot for Swan Lake Market and Garden.

On Nov. 10<sup>th</sup>, Dr. Sears and I attended a meeting with some Okanagan utilities regarding this summer's drought and extreme wildfires, and communications around the use of roof sprinklers. Further discussions will be held with the intention of developing a communications plan to address the use of sprinklers when there are water delivery and supply concerns.

### Invasive Mussel Communications

The communications team has continued to support OBWB efforts to bring attention to the board's invasive mussel concerns, assisting with letters to various agencies, with social media posts, updates to our [Don't Move a Mussel](#) website, tracking and following up on support letters, and responding to calls from media. News coverage on our calls to action, including a boat moratorium, is noted below.

### Additional Communications

We have been providing communications support to the March 2024 **Environmental Flow Conference**, including regular social media posts.

The OBWB continues in its role for a 3<sup>rd</sup> year as a collaborator on **UBCO's School of Education Co-Curricular-Making Project**. The aim is to help Okanagan educators de-colonize and Indigenize curriculum, much of it through a water lens. On Nov. 15<sup>th</sup> I attended an online workshop, "Unlearning/Learning: Needed Modes of Being in Support of Vulnerable Learning Terrain," led by Kelly Terbasket of IndigenEYEZ. These gatherings promote relationship-building between members of the local Indigenous community, educators, partners and collaborators.

### Summary of OBWB-Related News Coverage

- Oct. 31 "Sicamous wants invasive mussels stopped at borders, not boat ban," *Salmon Arm Observer*, *Eagle Valley News*
- Nov. 2 "[Threat of invasive mussels has Okanagan's water board calling for moratorium on out-of-province boats](#)," *CBC Radio*, *TheWeatherNetwork.com*
- Nov. 3 "Okanagan drought conditions improve, but concern lingers over multi-year water shortage," *Castanet.net*

- Nov. 3 “Winter milfoil rototilling begins in Okanagan, Wood lakes - Vernon News,”  
*Castanet.net*
- Nov. 3 “[Okanagan drops to level 2 drought conditions but warmer, drier winter still a concern](#),”  
*KelownaNow.com, PentictonNow.com*
- Nov. 6 “[Invasive mussels could cost BC economy \\$129M annually if they take hold in province](#),”  
*Castanet.net, CoastalNewsToday.com*
- Nov. 6 “Vernon council backs out-of-province boat ban suggestion despite dissenting opinions,”  
*Castanet.net*
- Nov. 7 “Vernon council to write letters of support for OBWB despite tourism concerns,”  
*VernonMatters.ca*
- Nov. 8 “MPs demand immediate action to protect freshwaters from invasive species,”  
*VernonMatters.ca*
- Nov. 8 “[Okanagan water conservation campaign wraps up, Board wary of drought conditions over the winter](#),” *KelownaNow.com, PentictonNow.com*
- Nov. 8 “Column – Gardening with Nature: Now’s the time to prep your garden for winter,”  
*Castanet.net*
- Nov. 9 “[Interior MPs call on Ottawa to take invasive mussel threat seriously](#),” *Castanet.net*
- Nov. 9 “Okanagan Basin Water Board report highlights for November 9,” *iHeartRadio.ca*
- Nov. 9 “Drought levels in Okanagan Valley dropping, but some areas are still struggling,” *Ground Water Canada*
- Nov. 9 “WaterWise program extended over winter due to drought,” *VernonMatters.ca*
- Nov. 9 “Okanagan MPs push for more muscle in mussel protection,” *Kelowna Capital News, Vernon Morning Star, Summerland Review*
- Nov. 9 “[Okanagan water board hoping for plenty of precipitation](#),” *Vernon Morning Star, Salmon Arm Observer, Similkameen Spotlight, Summerland Review, Revelstoke Review*
- Nov. 10 “Conservative MP's pen letter to feds over concern for aquatic invasive species in Okanagan Lake,” *iHeartRadio.ca*
- Nov. 10 “Significant precipitation through fall and winter needed to replenish Okanagan water supplies,” *Castanet.net, Ground.news*
- Nov. 10 “Conservative MPs call for mussel inspection throughout the West,” *Penticton Herald*
- Nov. 13 “Okanagan Basin Water Board remains on drought alert,” *Kelowna Capital News, Vernon Morning Star, Penticton Western News*
- Nov. 14 “[Valemount Council: Entryway sign, invasive mussels, five-year financial plan](#),” *The Rocky Mountain Goat*
- Nov. 20 “[Out-of-province boat ban gaining support in the Thompson-Okanagan](#),” *InfoTel.ca*
- Nov. 22 “[Columbia Shuswap Regional District urging increased action on invasives](#),” *Kelowna Capital News, Revelstoke Review*
- Nov. 22 “Column – Gardening with Nature: Rodent problems can force harsh measures in a garden,”  
*Castanet.net*
- Nov. 27 “[RVs could be used for housing on agricultural land: City of Vernon report](#),” *VernonMatters.ca*
- Nov. 27 “[Freshwater mussels concern gathet Regional District director](#),” *Powell River Peak*

### **Recent Presentations**

- Oct. 12 – “Invasive Mussel update and Calls to Action” to Boards of RDNO, RDCO, and RDOS, Municipal
- Nov. 23 Councils in Vernon, Peachland, Lake Country, and B.C. Watersheds Collaborative – James Littlely

Nov. 22            “Hydrometrics, EFNs and EF conference” to B.C. Watersheds Collaborative – Carolina Restrepo-Tamayo

Nov. 22 & 23    “Overview of the Climate Indicators Project” to Brandon University Water Supply Course students – Sandra Schira

Nov. 28            “Navigating Waters: The Okanagan EFN Project,” to BC Government EFN workshop – Nelson Jatel



November 9, 2023

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

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

Okanagan Basin Water Board Regular meeting Dec. 5, 2023 Agenda No: 8.1
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Dear Ministers,

Re: CALL FOR IMMEDIATE ACTION TO PREVENT INVASIVE MUSSEL INTRODUCTION TO B.C.

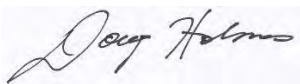
The District of Summerland unequivocally supports the Okanagan Basin Water Board's (OBWB) updated calls to action to prevent the introduction of invasive mussels into British Columbia. They include eight immediate actions recommended for the Province as well as two complementary actions recommended for the Government of Canada.

With quagga mussels now in the Columbia River system after being found in Idaho, it is time to recognize the urgency of the situation and prioritize the protection of our water sources and critical infrastructure from the impending threat of invasive mussels. Allowing these species to infiltrate our waters will have potentially devastating consequences on our environment, economy, and way of life.

The District of Summerland will continue to support the OBWB's efforts in raising public awareness and providing assistance to prepare infrastructure. However, local governments cannot be expected to bear the brunt of managing and paying for the costs of invasive mussel mitigation.

We urgently need senior governments to take action.

Sincerely,

A handwritten signature in black ink that reads "Doug Holmes".

Doug Holmes  
Mayor

cc Summerland Council  
OBWB Board  
Dan Albas, MP



November 9, 2023

Honourable Dominic LeBlanc  
Minister of Public Safety, Democratic Institutions and Intergovernmental Affairs  
269 Laurier Avenue West, Ottawa, Ontario K1A 0P8  
[iga.minister-ministre.aig@pco-bcp.gc.ca](mailto:iga.minister-ministre.aig@pco-bcp.gc.ca)

Honourable Diane Lebouthillier  
Minister of Fisheries, Oceans and the Canadian Coast Guard  
200 Kent St Station 15N100, Ottawa, Ontario K1A 0E6  
[DFO.Minister-Ministre.MPO@dfo-mpo.gc.ca](mailto:DFO.Minister-Ministre.MPO@dfo-mpo.gc.ca)

Dear Ministers,

Re: CALL FOR IMMEDIATE ACTION TO PREVENT INVASIVE MUSSEL INTRODUCTION TO B.C.

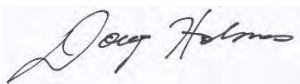
The District of Summerland unequivocally supports the Okanagan Basin Water Board's (OBWB) updated calls to action to prevent the introduction of invasive mussels into British Columbia. The calls to action include two immediate actions recommended for the Government of Canada to complement eight actions recommended for the Provincial Government.

With quagga mussels now in the Columbia River system after being found in Idaho, it is time to recognize the urgency of the situation and prioritize the protection of our water sources and critical infrastructure from the impending threat of invasive mussels. Allowing these species to infiltrate our waters will have potentially devastating consequences on our environment, economy, and way of life.

The District of Summerland will continue to support the OBWB's efforts in raising public awareness and providing assistance to prepare infrastructure. However, local governments cannot be expected to bear the brunt of managing and paying for the costs of invasive mussel mitigation.

We urgently need senior governments to take action.

Sincerely,

A handwritten signature in black ink that reads "Doug Holmes".

Doug Holmes  
Mayor

cc Summerland Council  
OBWB Board  
Dan Albas, MP

November 21, 2023

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

Honourable George Heyman  
Minister of Environment and Climate Change Strategy  
PO Box 9047 Stn. Prov. Govt.  
Victoria BC V8M 9L6  
ENV.Minister@gov.bc.ca

Dear Minister Cullen and Minister Heyman:

**Re: Call for Immediate Action to Prevent Invasive Mussel Introduction to BC**

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The Town of Osoyoos Mayor and Council wholeheartedly support the Okanagan Basin Water Board's (OBWB) urgent request to prevent invasive mussels from entering the province of BC. The recent discovery of invasive quagga mussels in Idaho's Snake River, a tributary of the Columbia River and the Okanogan River, is of great concern to the Town of Osoyoos and Osoyoos Lake properties. We are the first point of entry.

We endorse the OBWB's immediate calls to action:

1. Introduce a temporary moratorium on out-of-province watercraft, until the Columbia River infestation status is better understood.
2. Introduce "Pull the Plug" legislation on watercraft before transporting them on public roads. OBWB has supported a "Clean, Drain, Dry" program for many years.
3. More inspection stations, staffed for longer hours is required. A commitment to funding the Invasive Mussel Defence Program is essential.
4. Ensure a Rapid Response Plan is developed, so that regional plans can be enacted immediately in high risk areas.
5. Promote vulnerability assessments by utilities, local jurisdictions and private entities.

We know that there is broad local support for these actions in the Okanagan Valley. The three Regional Districts (RDNO, RDCO, RDOS) actively work together to protect and enhance the quality of life in the Okanagan Basin. For 50 years the Water Board's vision has been to have clean and healthy water in perpetuity, meeting the needs of natural ecosystems, residents, and agriculture.

Thank you for your consideration of our letter, by helping to prevent an invasive mussel threat to our shared waters.

Yours truly,

  
Sue McKortoff  
Mayor

cc: Osoyoos Town Council  
Rod Risling, CAO  
Okanagan Basin Water Board (OBWB)  
RDOS, RDNO, RDCO  
Okanagan MLAs  
Okanagan MPs



November 20, 2023

Mrs. Anna Warwick Sears  
Okanagan Basin Water Board  
1450 KLO Road  
Kelowna, B.C. V1W 3Z4

Email: [anna.warwick.sears@obwb.ca](mailto:anna.warwick.sears@obwb.ca)

Dear Mrs. Warwick Sears,

**Re: Letter of Support re: Prevention of Invasive Mussels to B.C.**

On behalf of Mayor and Council, thank you for your letter dated October 18, 2023, which was received for information at the Regular Meeting of Council held Monday, December 14, 2023, regarding the call for immediate action to prevent invasive mussel introduction to B.C.

Council has directed staff that no further action be taken on the matter.

Sincerely,

Tab Young  
Corporate Officer

/nm



November 7, 2023

To: Anna Warwick Sears, Ph.D – Executive Director,  
Okanagan Basin Water Board

Re: Call for Immediate Action to Prevent Invasive Mussel Introduction to B.C.

The Penticton & Wine Country Chamber of Commerce supports the Okanagan Basin Water Board in their request to introduce a temporary moratorium on out-of-province watercraft entering British Columbia until April 30, 2024, in order to provide time to learn the effectiveness of treatments applied to Snake River, a tributary of the Columbia River in Idaho, where invasive quagga mussels were identified.

The ecological and economic impact of invasive quagga or zebra mussels have proven to be catastrophic in those communities where they have taken hold, and we appreciate the work and advocacy the Okanagan Basin Water Board is doing to protect our lakes and river systems.

Sincerely,



Nicole Clark  
President



Michael Magnusson,  
Executive Director



Okanagan Basin Water Board  
Regular meeting  
Dec. 5, 2023  
Agenda No: 8.2

Reference: WLRS 31472 / ENV 403219

November 18, 2023

**VIA EMAIL:** [anna.warwick.sears@obwb.ca](mailto:anna.warwick.sears@obwb.ca)

Anna Warwick Sears, Ph.D. --- Executive Director  
Okanagan Basin Water Board  
1450 KLO Road  
Kelowna, B.C.  
V1W 3Z4

Dear Anna Warwick Sears:

Thank you for your letter of August 16, 2023, regarding protecting British Columbia (B.C.) waters from invasive mussels and the opportunity to speak about this issue with you in September at UBCM. We appreciate the continued support provided by the Okanagan Basin Water Board regarding invasive mussel prevention in B.C.

As you noted, zebra and quagga mussels pose significant economic risks due to their impacts on infrastructure and to native freshwater species as was highlighted in the 2023 economic report. Keeping B.C. waters free of invasive mussels is an ongoing priority for our government and I can tell you the Conservation Officer Service (COS), under the Ministry of Environment and Climate Change Strategy, remains committed to supporting the Invasive Mussel Defence Program (IMDP) through watercraft inspections and enforcement efforts as a program delivery partner. We will continue to annually monitor changes in information, knowledge and threats as well as collaborate with neighbouring jurisdictions to ensure our prevention measures are equal to the threats posed on many levels by these invasive mussels.

Call to Action: Commit funding to the IMDP of no less than \$4 million per year (all sources), indexed to inflation for at least 10 years.

Program funding relies on funding partners and fluctuates annually. To date, financial support has come from BC Hydro, FortisBC, Fisheries and Oceans Canada (DFO), the Columbia Basin Trust, Columbia Power, and three B.C. ministries. Funding from the Government of B.C. has either remained stable or increased in recent years in an effort to maintain program operations despite decreases in some partner funding. I hear and appreciate your call for greater resourcing. Having this support is critical to our ability to work with funding partners to keep the IMDP a collective priority.

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Call to Action: Enhance support to recruit and retain B.C. Conservation Officers, Auxiliary Conservation Officers, and other staff as needed to 2019 levels (64 inspectors) to ensure sufficient staffing for the IMDP.

Recruitment and retention of Aquatic Invasive Species (AIS) inspectors continue to be a challenge for the IMDP. The COS has gone to significant efforts to recruit at colleges, universities, and natural resource enforcement related programs across the province to attract seasonal inspectors, as the IMDP is a potential recruitment pathway to becoming a full time Conservation Officer. The IMDP has been an important start to many new careers in the natural resource management sector. The Program has been successful in recalling and retaining a number of AIS inspectors annually who provide valuable expertise and mentorship to new staff.

As a result of the ongoing recruitment and retention challenges, the level of operations at individual inspection stations have fluctuated throughout the 2023 season. Accommodation has been especially challenging in Valemount (Mt. Robson station) in recent years. To mitigate this the COS secured a trailer to provide accommodation for staff in Valemount for the 2023 season. Despite this, the COS was not able to fill any of the positions in Valemount this year. In order to provide coverage at the Mt. Robson station AIS inspectors from other locations travelled to Valemount and worked weekend shifts to cover the peak traffic periods in July and August. The Program will continue to explore options to help recruit staff; however, the current competitive job market makes it an ongoing challenge.

Call to Action: Commit to introducing “pull-the-plug” legislation to be in effect prior to the 2024 boating season.

As you noted “Pull the plug” legislation has been successfully implemented in several jurisdictions across the northwest to enforce Clean, Drain, Dry. Please provide your advice on the need for Pull the Plug through the Wildlife Act review process this fall. For more information on that process please contact [WildlifeActReview@gov.bc.ca](mailto:WildlifeActReview@gov.bc.ca).

Call to Action: Update the provincial Early Detection, Rapid Response plan (EDRR), including a round of consultation with partner organizations prior to finalization.

A review and update of the Early Detection, Rapid Response Plan is currently underway; it will incorporate lessons learned from the provincial moss ball response. It will also include reviewing available tools for invasive mussel response, containment, and control. As a first step the Program initiated internal training on Incident Command System this past winter and is exploring next steps for further rapid response training and exercises with our United States counterparts in the Columbia River Basin. This was chosen as the initial priority as these partners have been running rapid response exercises for many years, and the IMDP plans to learn from their experience.

Call to Action: Lead a planning process with regional partners to create long-term response, containment, and control plans in regions at high risk of introduction and vulnerable to infestation, including the Okanagan, Shuswap, and Kootenay Regions



The process by which we engage with our partners has not yet been finalized, and we appreciate your ongoing support for advancing this work. Please reach out to [Martina.Beck@gov.bc.ca](mailto:Martina.Beck@gov.bc.ca) on opportunities to discuss response planning on a regional scale.

The Okanagan Basin Water Board is an important partner of the IMDP. We appreciate your continued investments into invasive mussel prevention efforts such as your most recent work on developing a vulnerability assessment guide for raw water infrastructure. We look forward to supporting that work and exploring new ways to continue working together on protecting B.C. waters from invasive mussels.

Sincerely,

A handwritten signature in black ink that reads "Nathan Cullen". The signature is written in a cursive, slightly slanted style.

Nathan Cullen  
Minister  
Ministry of Water, Land and  
Resource Stewardship

A handwritten signature in blue ink that reads "George Heyman". The signature is written in a cursive, slightly slanted style.

George Heyman  
Minister  
Ministry of Environment and  
Climate Change Strategy