

Okanagan Basin Water Board Meeting Agenda



DATE: Tuesday, October 5, 2021

TIME: 10 a.m. to 12 p.m.

PLACE: *Online (see notation below)

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 June 1, 2021 held online. (page 1)

5. STAFF REPORTS

5.1 Policy and Planning Specialist Report and Presentation on Source Protection Toolkit (page 6)

5.2 Executive Director Report (page 10)

5.2.1 Written submission to the B.C. Select Committee on Finance

5.3 Operations and Grants Manager Report (page 16)

5.4 Water Stewardship Director Report (page 19)

5.5 Communications Director Report (page 23)

5.6 Special Projects Coordinator Report (page 27)

6. DELEGATION

6.1 Yosamin Esanulla, Co-Director of Team SIP - winners of the 2021 Western Canada AquaHacking Challenge

7. NEXT MEETING

7.1 The next meeting of the Okanagan Basin Water Board will be **Tuesday, November 2, 2021 at 10 a.m. online.** (CALENDAR INVITE TO FOLLOW)

8. 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. Given the current situation with COVID-19, 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 for further details. Thank you for your patience and understanding.



Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 4.1

**MINUTES OF A REGULAR MEETING OF THE OKANAGAN BASIN WATER BOARD
HELD SEPTEMBER 10, 2021, ONLINE
OKANAGAN, B.C.**

PRESENT

Chair Sue McKortoff	Regional District Okanagan-Similkameen
Vice-Chair Cindy Fortin	Regional District Central Okanagan
Director Victor Cumming	Regional District North Okanagan
Director Rick Fairbairn	Regional District North Okanagan
Director Bob Fleming	Regional District North Okanagan
Director Colin Basran	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 Christopher Derickson	Okanagan Nation Alliance
Director Scott Boswell	Okanagan Water Stewardship Council (OWSC)

STAFF

Anna Warwick Sears	Executive Director
Nelson Jatel	Water Stewardship Director
Corinne Jackson	Communications Director
James Littlely	Operations and Grants Manager
Kellie Garcia	Policy and Planning Specialist
Carolina Restrepo-Tamayo	Special Projects Coordinator

REGRETS

Director James Baker	Regional District Central Okanagan
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GUESTS

Jeremy Fyke	OWSC
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1. CALL MEETING TO ORDER

Chair McKortoff called the meeting to order at 9:02 a.m.

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

2. INTRODUCTION OF LATE ITEMS

No late items were brought forward.

3. APPROVAL OF AGENDA

“THAT the agenda of the regular meeting of the Okanagan Basin Water Board of September 10, 2021 be approved.”

CARRIED

4. ADOPTION OF MINUTES

4.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of July 6, 2021 held online.

“THAT the minutes of the regular meeting of the Okanagan Basin Water Board on July 6, 2021 held online be approved.”

CARRIED

5. STAFF REPORTS

5.1 Executive Director Report

A tracking measures report was provided to directors as a companion piece to the annual report, reviewing progress on goals in the OBWB’s strategic plan. The board was also updated on a submission provided to the Province of B.C. on its draft climate preparedness and adaptation strategy.

Dir. Basran entered the meeting at 9:06 a.m.

Chair McKortoff noted the regional differences as it relates to climate change impacts and the importance of the province listening to local communities.

Dir. Derickson entered the meeting at 9:08 a.m.

Dir. Cumming agreed with Chair McKortoff, adding that scale is an issue, noting the significant loss of forests this year due to the fires.

Dir. Fairbairn entered the meeting at 9:10 a.m.

Dr. Sears updated the board on efforts to update governance procedures to strengthen the ONA-OBWB relationship, explaining that the changes need to be done at the regional district level. However, after some initial discussions with one of the regional district Chief Administrative Officers, Dr. Sears has now asked the province for a formal letter with their review of the OBWB’s letters patent with respect to this matter. Once that is received, staff will meet with Okanagan regional district Chief Administrative Officers and then their boards.

Dir. Derickson exited the meeting at 9:11 a.m.

The OBWB has been invited to present to the Government of B.C.’s Select Standing Committee on Finance and Government Services on Sept. 29. Some of the issues the Water Board will be looking for support on include: invasive mussel prevention, ongoing funds for B.C.’s new Healthy Watersheds Initiative, and a review of the Okanagan Lake Regulation System (OLRS).

Dr. Sears added that provincial staff have said the OLRS gap analysis report will be released soon. Several directors noted the importance of this project and the release of the report.

“THAT the Executive Director’s Report, dated August 31, 2021, be received.”

CARRIED

5.2 Water Stewardship Director Report

Mr. Jatel introduced guest Jeremy Fyke with Environment and Climate Change Canada and vice-chair of OWSC.

The September council meeting held yesterday included a review of this summer's record-breaking temperatures and a look at what can be expected in future years based on modeling. Members, including those in agriculture, shared their experiences with the extreme heat and drought.

Dir. Derickson re-entered the meeting at 9:28 a.m.

The board was updated on the hydrometric program, the installation of stations, and their use by partners this summer to help maintain environmental flow needs.

"THAT the Water Stewardship Director's Report, dated August 31, 2021, be received."
CARRIED

5.3 Policy and Planning Specialist Report

Ms. Garcia provided an update on this summer's drought, noting the impact it had on streams, especially those not supported by storage, and concerns for fish. Staff sent out two drought bulletins this summer, ensuring water utilities, elected officials, media and the public were aware of the drought status and efforts required to address it. A meeting was also held with water suppliers on Aug. 26 to allow them to share their experiences this summer and promote information sharing,

Work is continuing on completion of the Source Protection Toolkit and website, and planning for a webinar series is underway.

A UBC Okanagan report, looking at Okanagan flood plans and policies, comparing them to others in Canada, and providing recommendation for improvement, has been completed. The report is part of a larger effort to address flood protection in the valley, Ms. Garcia explained.

"THAT the Policy and Planning Specialist's Report, dated August 30, 2021, be received."
CARRIED

5.4 Operations and Grants Manager Report

Mr. Littlely noted that the topo-bathymetric LiDAR project is underway. Additional partner funding is allowing data acquisition on the U.S. side of Osoyoos Lake and a portion of the lower Similkameen River, which influences Osoyoos Lake water levels.

The board was told that although a heavy milfoil season was expected based on early observances and public complaints, there was less weed growth, possibly due to low precipitation. At the same time, fires also affected milfoil control operations, with operators required to stay off the lake one day due to health concerns with the smoke, and then having to stay off the lake another day to prevent interference with skimmer aircraft. A long-term project to provide milfoil control in Vaseux Lake is still being pursued. In addition, UBCO engineering students are being provided the opportunity to focus a school project on improving current rototilling practices to address turbidity.

"THAT the Operations and Grants Manager Report, dated August 18, 2021, be received."
CARRIED

5.5 Special Projects Coordinator Report

Ms. Restrepo-Tamayo reported on organizing efforts for the Osoyoos Lake Water Science Forum now set for April 28-30, 2022. Final funds are being raised and speakers and facilitators are being

finalized.

The Western Canada AquaHacking Challenge final is being held online on Sept. 14. The three finalist teams have been working on their solutions throughout the summer and will be pitching their projects to judges with 1st, 2nd and 3rd placements announced at the finals.

“THAT the Specialist Projects Coordinator’s Report, dated August 31, 2021, be received.”
CARRIED

5.6 Communications Director Report

Ms. Jackson updated the board on the final stretch of the Make Water Work campaign, noting that the community champion would be announced at the OBWB’s Annual Meeting. However, she added, the outdoor water conservation campaign continues into early October with water still needed for fish returning to spawn and fall food crops. It was noted that the drought made for a very busy summer with media calls, local but also provincial and national, looking for information regarding the impacts of the drought and what people could do to help.

An update was given on the Don’t Move a Mussel campaign. New materials were designed this year to draw attention to invasive mussels, including sandwich boards that were provided to interested tourist info. centres. New digital items were also provided to interested water-related business and community partners to help spread the message. Ms. Jackson added that recent outreach and inspection numbers provided by the province are very similar to last year with the greatest number of mussel-infested watercraft coming from Ontario (7 of 16), and the greatest number of infested watercraft destined for the Okanagan (8 of 16).

Staff have also met with Okanagan Nation Alliance about the development of a *syilx* water education guide, which would be an extension of the “Our Relationship with Water in the Okanagan” guides produced earlier this year by the OBWB’s Okanagan WaterWise program.

“THAT the Communications Director’s Report, dated August 27, 2021, be received.”
CARRIED

6 CORRESPONDENCE

6.1.1 E-mail response from B.C. Minister of Environment and Climate Change Strategy to OBWB letter of July 14, 2021 re. source protection

“THAT the OBWB receive the correspondence from B.C. Minister of Environment and Climate Change Strategy re. source protection.”
CARRIED

7 NEXT MEETING

9.1 The next meeting of the Okanagan Basin Water Board will be held Tuesday, October 5, 2021 at 10 a.m. online.

8 ADJOURNMENT

“THAT there being no further business, the regular meeting of the Okanagan Basin Water Board of July 6, 2021 be adjourned at 11:58 p.m.”
CARRIED

Certified Correct:		
Chair		Executive Director

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.1

File No. 0550.04

To: OBWB Directors
From: Kellie Garcia
Date: September 28, 2021
Subject: Policy and Planning Specialist Report

Thompson Okanagan Regional Drought Response Team

The drought response team met weekly in September. The Okanagan Basin was downgraded to drought Level 3 on September 22 due to an improvement in streamflow conditions from precipitation and cooler temperatures (bringing less irrigation demand), but Shuttleworth and Inkaneep creeks remain at Level 4 and Vaseux Creek at Level 5. To view current drought levels, visit the [BC Drought Information Portal](#) and click on the Thompson Okanagan Stream Watch tab. The final regular team meeting for this season is September 29, but the provincial drought leads are planning a half-day debrief session in October. We will be discussing many issues at the debrief, including the process for implementing and rescinding Section 88 fish protection orders, the role of Fisheries and Oceans Canada in drought response, how to work with Agriculture Canada to better coordinate drought communications, and what improvements can be made to streamflow data collection and sharing to support timely decisions.

kłúsxñítkw (Okanagan Lake) Responsibility Plan (OKLRP) Workshop

On September 14, I attended the Revitalizing Indigenous Law for Land, Air and Water (RELAW) workshop hosted by the OKLRP coordinating team. Several Indigenous presenters spoke about the *syilx* water law work being done by the Lower Similkameen Indian Band, and how *syilx* water law can be applied in the context of the OKLRP planning process and the development of the responsibility plan. I am grateful to be participating in this project because I am learning about *syilx* perspectives and history, which is changing the way I approach projects and partnerships.

Okanagan Collaborative Source Water Protection Project

Source Water Protection Toolkit

The Source Water Protection Toolkit is complete and can be downloaded [here](#). I will be giving a presentation about the toolkit at the board meeting.

The toolkit was prepared by Larratt Aquatic Consulting and me, with input and guidance from a committee of provincial, local and First Nations government staff, and other water experts. It was crafted to clarify and simplify the source protection planning process and to inspire a more holistic and collaborative approach to drinking water management.

The toolkit is centred around four key messages:

A healthy watershed is central to clean and abundant source water.

British Columbia legislation related to source water protection is complicated, and the Government of B.C. does not have a lead water agency. Local action supported by stable funding and consistent and coordinated approaches is imperative to maintaining source water quality.

Collaboration is essential to protect source waters for today and for generations to come. Our collective efforts will bring cumulative benefits.

We are all **D**ownstream.

The **Introduction** section opens with a discussion of why clean water is essential and how we can better protect it. It features the Okanagan Nation's *siw̓kʷ* (water) strategy and declaration and talks about the drivers of reconciliation, including UNDRIP, Canada's Truth and Reconciliation Commission report, and B.C.'s Declaration on the Rights of Indigenous Peoples Act (DRIPA). The section also includes several features to help readers directly navigate (through links) to toolkit sections they are interested in.

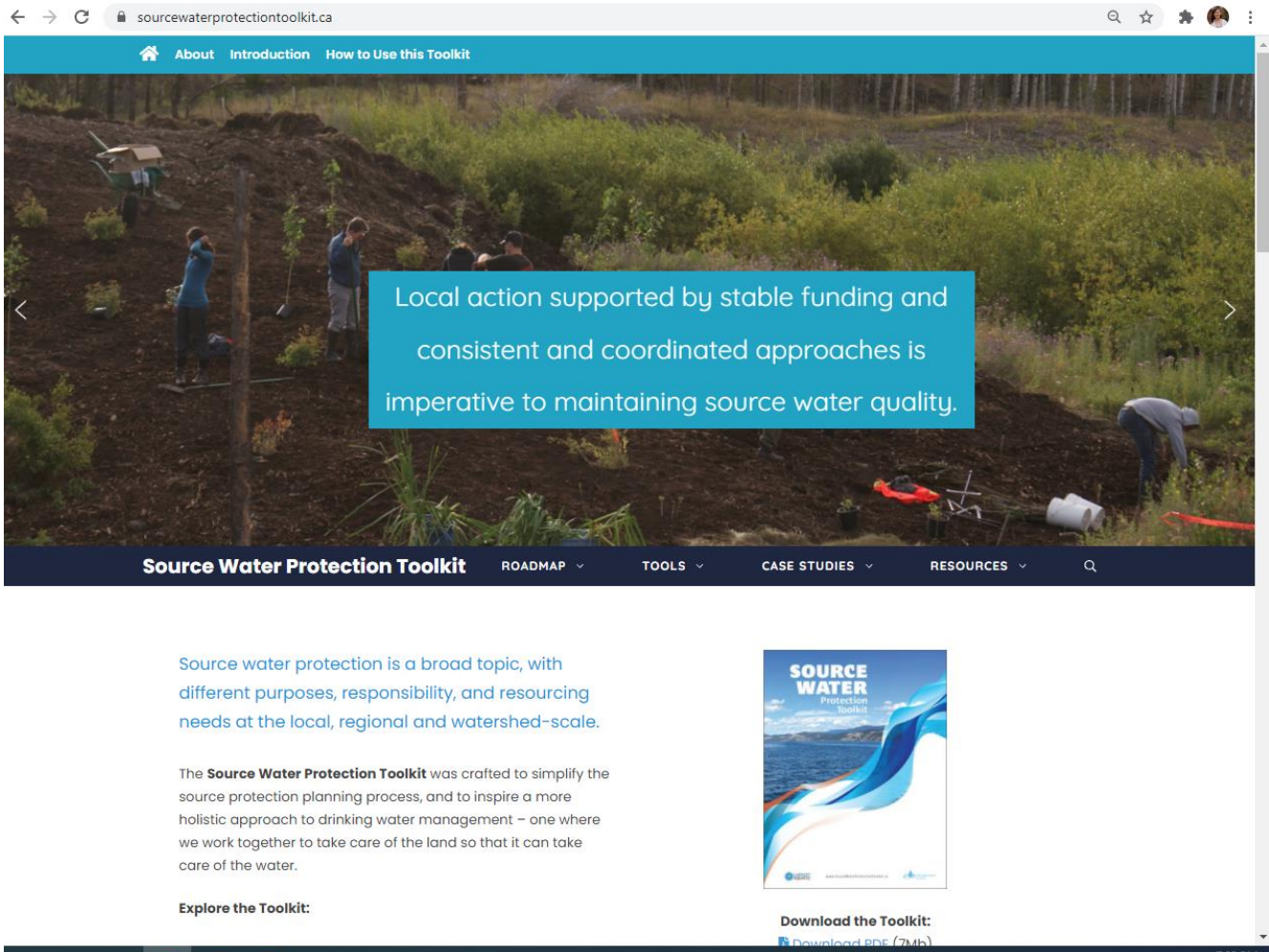
Part 1 Roadmap to Source Water Protection provides clear direction for the source protection planning process by breaking it into five steps: Partner, Assess, Plan, Act and Evaluate. Each step is linked to the appropriate supporting information in parts 2 and 3 of the toolkit and to other resources, such as the British Columbia Comprehensive Drinking Water Source-to-Tap Assessment Guidelines.

Part 2 The Tools features eight tools to help water suppliers carry out their source protection plans: Collaboration; Funding; Policies, plans and bylaws; Education and engagement; Natural assets and green infrastructure; Emergency preparedness and response; Mapping; and Monitoring and reporting. A brief description, an explanation of how to use it for source protection, and numerous case studies are provided for each tool (the document contains about 35 case studies).

Part 3 Additional Information and Resources includes extensive information about the regulatory framework in B.C. (spoiler alert – it's complicated!); the economic benefits of source water protection and an overview of ecosystem valuation approaches and methods; and common threats to drinking water and how to overcome them. The section also provides several pages of useful links for those who want to dive deeper into the tools and a link to the source water assessment and response plan templates that were prepared specifically for the toolkit.

Source Water Protection Toolkit Website

The OBWB's new website, www.sourcewaterprotectiontoolkit.ca, will also be officially launched soon. The website brings the toolkit content to a digital platform so that it can be more dynamic and easily updated – particularly the case studies section.



Source Water Protection Webinars

The OBWB will be hosting a webinar series to support the launch of the toolkit. The webinars will run for nine consecutive Wednesdays, from 11 to noon, starting October 20. Each webinar will feature several panelists who will give brief presentations followed by a facilitated discussion with the audience. Watch for an invitation email with more information and the registration link later this week.

The dates and session topics are:

- Oct 20 Source water protection steps and tools
- Oct 27 Shared challenges, shared opportunities: transcending jurisdiction through partnerships
- Nov 3 Working together to protect water: learning from Indigenous-led projects
- Nov 10 Increasing awareness and stewardship of watersheds and drinking water resources
- Nov 17 Advancing local government policies and regulations to protect water sources
- Nov 24 Securing long-term funding for source water protection
- Dec 1 Protecting and restoring watersheds and aquifers to improve water quality
- Dec 8 Using mapping to understand and manage risks to drinking water
- Dec 15 Monitoring and reporting for source water protection

Presentations to Councils and/or Regional Boards

I would like to offer presentations on source water protection (using the toolkit as a framework) to Okanagan city councils and/or regional boards in October, November, and December. I would appreciate advice from the board about how to approach this, including how I can be considered as a delegation and what information would be most relevant and interesting to elected officials.

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.2

To: OBWB Directors
From: Anna Warwick Sears
Date: September 29, 2021
Subject: **Executive Director Report**

COVID-19 Considerations:

OBWB office-based staff continue to work from home, but most have been coming into the office a few times a week. Milfoil staff are observing COVID-19 safety protocols while moving equipment, and mostly work alone. We will transition back into the office with a hybrid schedule, with some office days and some work-from-home days. As the pandemic progresses, we are taking a slow, deliberate approach and responding to health directives.

OBWB 2023 Budget Development

Each year, the board receives the annual budget at the November meeting, and we have begun the budget development process for the fiscal year ending March 31, 2023. The budget can be adopted when it is presented at the November meeting, or if revisions are required, at the December meeting. I am working with staff to develop watermilfoil and water management project budgets that reflect our interest in consistency and continuous improvement.

Growing the ONA/OBWB Relationship

I am still waiting for a review of our Supplementary Letters Patent, by B.C. Ministry of Municipal Affairs – looking at the voting powers of board directors. The ministry is preparing a formal written response – this could take a few more weeks, although I've been getting regular updates that it's still in process. When I've met with the three Okanagan regional district CAOs, and answered any other questions, I'll set up presentations to the regional district boards. I'm still confident we can move through the process this autumn.

A number of OBWB staff have been finding opportunities for education on Indigenous culture, history and related topics. We will share any local opportunities we hear about with the board. If board directors have the time, I recommend the Indigenous Canada course taught through the University of Alberta, and made available at no charge on Coursera. It's an introductory course, taught through videos that can be watched at your own pace. Board directors may also be interested in the upcoming One River, Ethics Matter conference (online) hosted by UBC Okanagan. The conference focuses on the Columbia River Treaty, and treaty review process that is now underway, and *“does so within a framework that emphasizes social and environmental justice, collaboration towards the common good, and the need for truth as well as reconciliation between Indigenous and non-Indigenous peoples.”* The conference website is here ([link](#)). It is a free event, held November 17 - 18.

Budget Committee Presentation

I made a presentation on September 29th to the Government of B.C.'s Select Standing Committee on Finance and Government Services, which is doing a round of consultation on the 2022 provincial budget. I have attached the written portion of my submission, calling for the need for funds to support the Okanagan Lake Regulation System review, funds for preventing invasive mussels, as well as support for establishing a permanent Watershed Security Fund. The committee asked a number of questions, all centered around the Okanagan Lake Regulation System review.

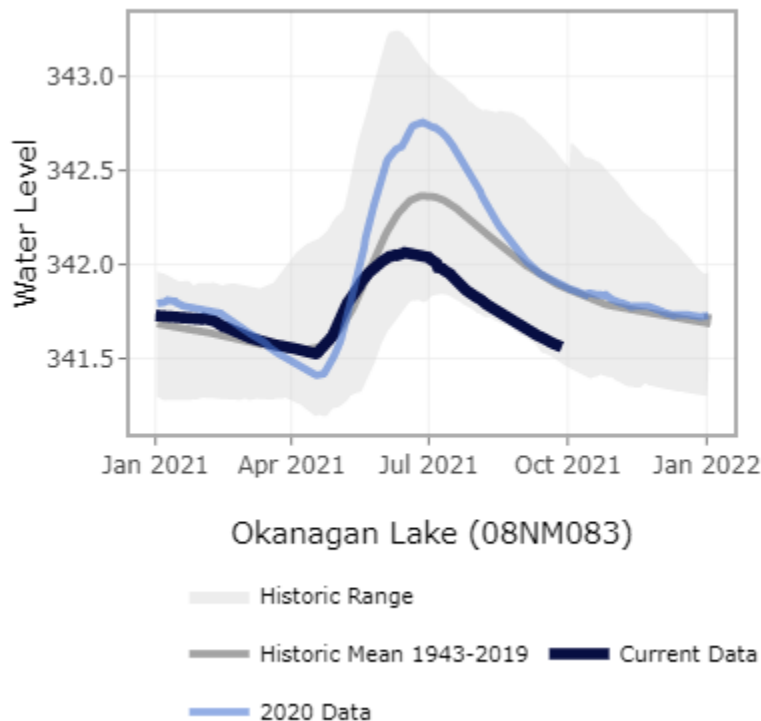
Flood Resilience

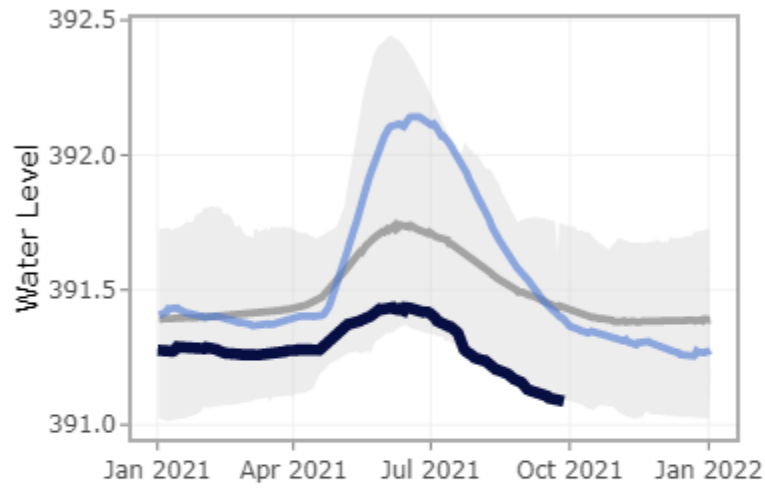
We are still waiting for the Province of B.C. to release the report we prepared: a gap analysis and plan of study for the work needed to review and update the Okanagan Lake Regulation System infrastructure and management plan. I've been told that the release could come any time now, and a press release is being prepared. This plan of study will direct much of our future work on flood resilience.

Weather Report

Environment Canada is predicting that the autumn will be warmer and wetter than normal, which hopefully will help lake levels recover. Both Okanagan and Kalamalka lakes are close to the lowest levels of their (recorded) historic range.

The following lake level graphs are from Water Survey of Canada data: September 29, 2021.





Kalamalka Lake (08NM143)

- Historic Range
- Historic Mean 1967-2019
- Current Data
- 2020 Data

Attn: Select Standing Committee on Finance and Government Services

Okanagan Basin Water Board Regular meeting October 5, 2021 Agenda No: 5.2.1
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September 22, 2021

Re: Funding for Water Concerns in the Okanagan Basin

Dear Committee Members,

On behalf of the Okanagan Basin Water Board (OBWB), I am providing the following written submission to accompany my presentation scheduled for September 29, in Kelowna. Established in 1970, the OBWB is a partnership of the three Okanagan regional districts, with additional board directors from the Okanagan Nation Alliance, the Water Supply Association of B.C., and the Okanagan Water Stewardship Council, a technical advisory body to the board. Please find our annual report included with this submission.

Today's submission regards three water funding needs in the Okanagan:

1. Funding for the review of the Okanagan Lake Regulation System and Operating Plan;
2. Funding to prevent invasion by non-native zebra and quagga mussels; and
3. Establishing a permanent Watershed Security Fund to support protection of water sources.

Each of these is essential for the sustainability of Okanagan waters, and the social and economic health of the region.

1. Okanagan Lake Regulation System Review: Okanagan Lake is the largest and deepest lake in the Okanagan watershed, and an important water supply for approximately half of Okanagan residents. Its level is controlled by the Okanagan Dam in Penticton, and other structures that make up the Okanagan Lake Regulation System. The infrastructure is owned and operated by the B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR). The operating plan was developed in 1974, primarily to manage for flood control.

As a result of climate change, Okanagan Lake level fluctuates more significantly than in the past, and the infrastructure and operating plan are no longer adequate. In 2017, we had the worst flood in living memory, and in 2021 the lake was nearly the lowest level in its historical range. Flooding is projected to become much more common in the next few decades, damaging public and private infrastructure – at great cost. Drought is also projected to become more common, challenging the agricultural economy and creating conflict between water users. Both drought and flood harm the ongoing work, led by the Okanagan Nation Alliance (ONA), to restore sockeye, chinook, and kokanee salmon.

In addition, the typical lifespan of this infrastructure is 70 – 80 years, and the Okanagan Dam is now more than 60 years old. It is inadequate for managing future floods in its current state (given the increased volume and frequency of floods as a result of climate change), and the Province of B.C. needs to begin planning for its replacement.

This year, the OBWB partnered with FLNR to develop a *Plan of Study for Modernizing the Okanagan Lake Regulation System*, including a comprehensive review of the operating plan, existing infrastructure, and needed improvements. The Plan of Study has a clear set of objectives and course of action and is anticipated to take five years to complete. The work is clearly under the jurisdiction of the Province of B.C. and requires the immediate allocation of funding to begin. The OBWB, its member local governments, and the ONA, are willing and essential partners. There is a huge return on investment for this work, as the costs to repair damage in the future – if the work is not completed – will be astronomical.

Required Funding: \$1,000,000/year for the next 5 years, distributed through external grants to local governments, including the OBWB, and the Okanagan Nation Alliance; as well as internal funding to FLNR. This amount is based on an estimate for the cost of all the studies, that has been shared with FLNR.

2. Prevention of Invasive zebra and quagga mussels: The Okanagan watershed is at very high risk for invasion by zebra and quagga mussels, non-native species that were first introduced to the Great Lakes in the 1980s, and have spread throughout most of Eastern North America. B.C., Alberta, Yukon and Saskatchewan are the only provinces that have not been affected, along with the U.S. Pacific Northwest. They are spread by hitchhiking on watercraft that have been in infested waterbodies – like Lake Winnipeg, or Lake Mead. The invasive mussels cause significant harm to native fish, cover beaches with razor-sharp shells, degrade water quality, and damage water intakes, boats, and other infrastructure and equipment in the water.

The Okanagan is at risk for invasive mussels because our relatively warm, calcium-rich waters provide ideal habitat where the mussels can rapidly reproduce. We are also at risk because, based on the Province's own mussel-inspection station statistics, we are the number one destination for mussel-infested watercraft trying to enter B.C. The only way to prevent the mussels from invading the Okanagan watershed (beyond banning the launch of any out-of-province boats) is through inspection and decontamination of affected watercraft.

The Province of B.C. has maintained inspection stations at major highways since 2015, and the Canada Border Services Agency works with B.C. Conservation Officers to flag B.C.-bound boats for inspection. However, the funding and scope of the program is inadequate to protect B.C. lakes. Our partner, the Okanagan and Similkameen Invasive Species Society found, in a 2020 boater survey, that only 67% of out-of-province boaters stopped at an inspection station. With so much at risk, the Province of B.C. must ramp up inspections to ensure that no boats enter B.C. without inspections. The OBWB has sent many letters to the B.C. Ministry of Environment and Climate Change Strategy (ENV), detailing recommended actions, including the following funding needs.

Required Funding: Restore core inspection program funding to ENV and FLNR to at least 2017 levels of \$3.8 million/year, and adjust for inflation going forward.

3. Establish a permanent Watershed Security Fund: In 2020, as part of its COVID-19 response, the Province of B.C. made \$27 million available through its Healthy Watershed Initiative, to support water and watershed protection in B.C. These funds were used by communities and not-for-profit groups to restore watersheds and undertake protection of water sources. The Province of B.C. has a long-standing policy to allow resource development and recreation in drinking water source areas (with fees and other income from these activities going to the province). At the same time, water suppliers, who draw on streams and reservoirs from these areas are required by the B.C. Ministry of Health to deliver high-quality drinking water to their communities, but are given little assistance or funding to respond to damage by resource development and recreation. Approximately half of the Okanagan's drinking water comes directly from these watershed source areas.

The Watershed Security Fund would provide funding to Okanagan water suppliers to restore damage to source areas from resource development and recreation, improving wildlife habitat as well as reversing water quality degradation. We recognize that the B.C. Watershed Security Coalition is making similar calls to government, reinforcing the importance of these issues across the province.

Required Funding: Create a dedicated and ongoing investment to B.C.'s watershed security, with funding of \$75 million/year, to protect water sources in the Okanagan and across the province.

Please don't hesitate to contact me with any questions.

Yours sincerely,



Anna Warwick Sears, PhD
Executive Director
Okanagan Basin Water Board

CC:

Harwinder Sandhu, MLA Vernon-Monashee;

Norm Letnick, MLA Kelowna-Lake Country;

Renee Merrifield, MLA Kelowna-Mission;

Ben Stewart, MLA Kelowna West;

Dan Ashton, MLA Penticton;

Roly Russell, MLA Boundary-Similkameen;

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.3

File No. 0550.04

To: OBWB Directors
From: James Littley
Date: September 29, 2021
Subject: Operations and Grants Manager Report

Okanagan Lakes Topo-Bathymetric LiDAR Project

Quantum Spatial has now completed the (underwater) bathymetry data acquisition for 100% of the project area, and 67% of the total data acquisition for the lake surface level and land topographic LiDAR. They anticipate 100% acquisition of all data by the first week of October. Preliminary data review shows a very good outcome in most areas, achieving the target 10m depth or 3 times secchi disk depth where 10 meters was not possible. In some areas, laser returns were collected as far down as 14m (46 Feet). Figure 1 below shows a sample of flight lines used to acquire the data. Similar flight lines were used throughout the valley.

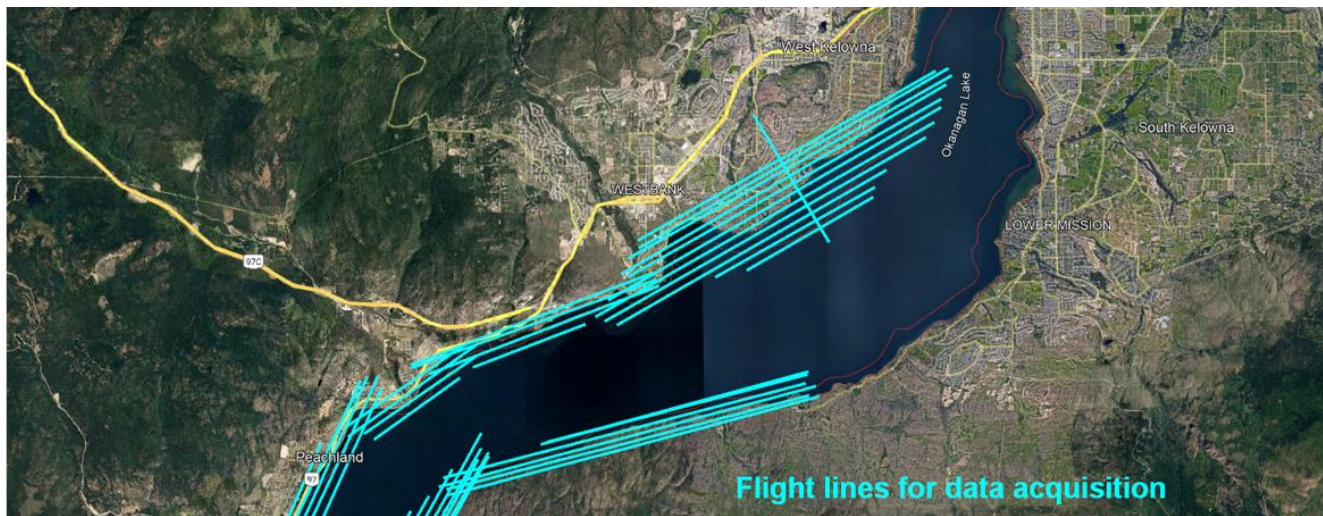


Figure 1 - Flight lines in Peachland area

Figure 2 shows a sample of unprocessed bathymetric and topographic LiDAR data (bottom) compared to a satellite image (top). The smooth gray near-shore area is where high resolution data was acquired, while the grainy area is below the target depth. The transition shows a clearly delineated drop-off, and a number of other features are also visible in the near-shore area. Data processing will clean up this image for more accuracy.

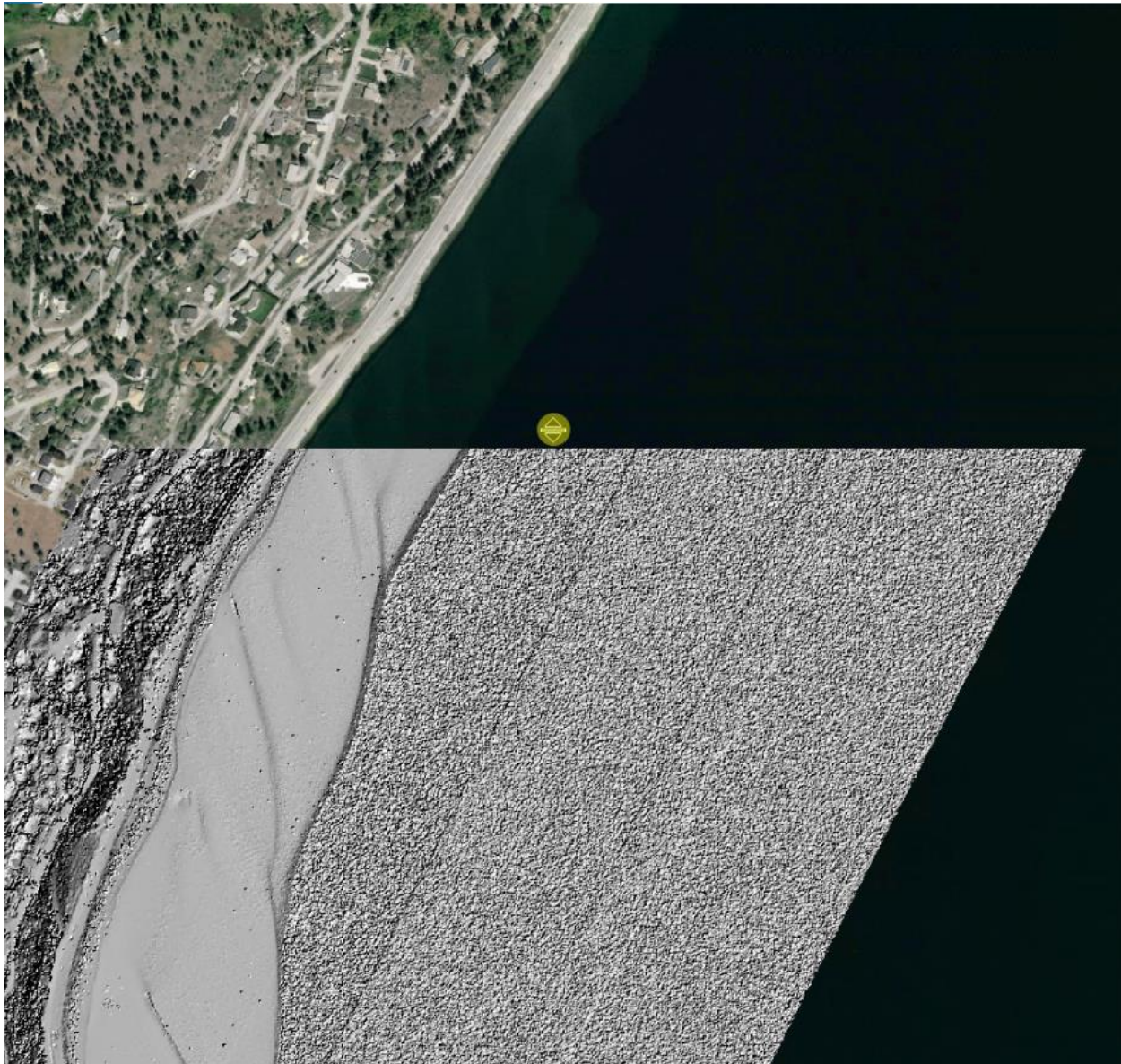


Figure 2 - Unprocessed topobathy LiDAR data

Figure 3 shows a cross-section of the lake bottom near Peachland with data gathered to a distance from shore of 227m (745 feet), and down to a depth of 10 m (33 feet).

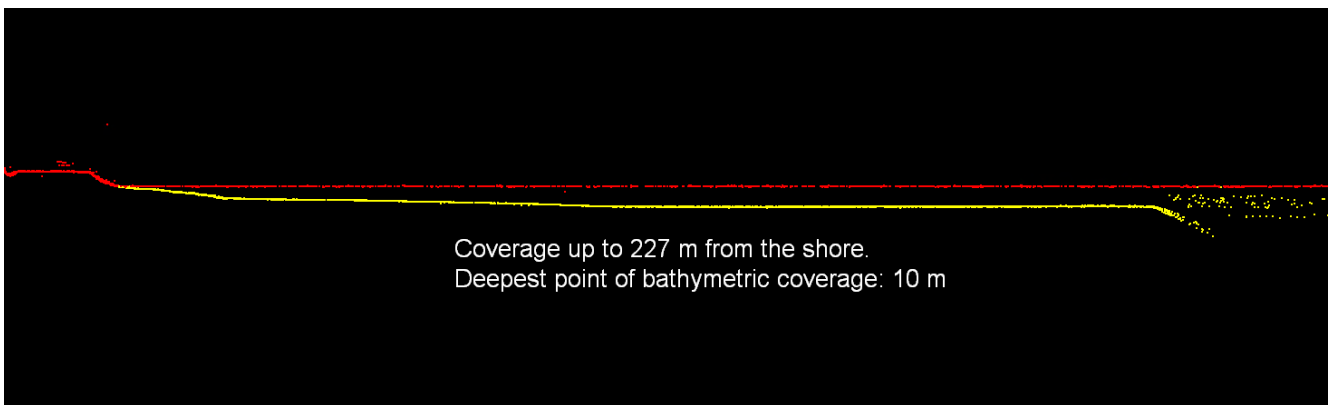


Figure 3 - Cross section of bathymetric data

Milfoil Control Program

The milfoil team is currently preparing for rototilling season, starting in mid-October. We anticipate being able to use the new orthophotos from the topo-bathymetric LiDAR project to map aquatic plant beds, hopefully in time to inform our upcoming de-rooting season. Rototilling will continue until the beginning of April.

While our current provincial permits for this program are in place until April 2024, I am continuing to work with Ecoscape Environmental Consultants to acquire data and mapping to support future applications. Once we have completed the new mapping and identified areas for future treatment, I plan to meet with provincial staff to establish a consistent process for future permit applications, including understanding the types of information they will require before we submit our applications. This advance meeting will give us the time to gather any required information and make the permit process run more smoothly in the future.

As I reported in September, I am also working to establish a pilot project for milfoil de-rooting in Vaseux Lake, and a process for acquiring an as-needed permit for harvesting in summers when the milfoil growth is significant, such as in 2016 and 2021.

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.4

File No. 0550.04

To: Board of Directors
From: Nelson R. Jatel
Date: September 29, 2021
Subject: **Water Stewardship Director's Report**

Okanagan Water Stewardship Council (Council)

Our September 9th Council meeting included a panel presentation by **Faron Anslow** (Pacific Climate Impacts Consortium), **Sheena Spencer** (BC Forestry, Lands, Resources, and Operations) and **Kirsten Hannam** (Summerland Research and Development Centre). The panel presentation provided some context, trends and observations from this summer's *heat wave event and summer weather effects on Okanagan waters*. The Council meeting was well-attended, and a number of Council members contributed their observations from this summer's weather events and a range of implications on Okanagan agriculture, fisheries, tourism and forests.

The Council leadership team consisting of the chair, co-chair and committee chairs met on September 23rd. The Council has six active standing committees: *Policy, Water and Climate, Alluvial Fans, Wetlands, Agriculture Water, Water Quality, and a Source Protection (ad hoc) committee*. These volunteer committees have developed work plans for the next 18 months of activity and are starting to meet regularly.

A new sub-committee of the OWSC policy committee is exploring water indicators. On September 27th, we hosted a small online workshop to explore best practices and recent activities by local government to develop water indicators. Good indicators consist of a range of core characteristics including being: clear in value, clear in content, compelling, policy relevant and feasible. Several challenges to developing water indicators were discussed, including availability of quality data and effort level associated with data collection and quality control. The B.C. government provides environmental reporting on [water indicators](#) for groundwater levels and river flows but has not developed state of the environment reports for the last two decades.

Our next Council meeting is scheduled for Thursday, October 14th from 1 p.m. – 4 p.m. on Zoom. Our guest speaker(s) will be discussing contemporary water issues and their impacts on the Okanagan watershed. Board members are encouraged to attend.

Okanagan Flood Risk Mapping project

The project management team met frequently throughout September. We continued to focus on acquiring the necessary datasets from various government and non-government sources required to develop the Okanagan flood risk maps. This project will utilize recently developed ortho photography and flood modelling undertaken by the OBWB.



Okanagan Lake flooding in 2017.

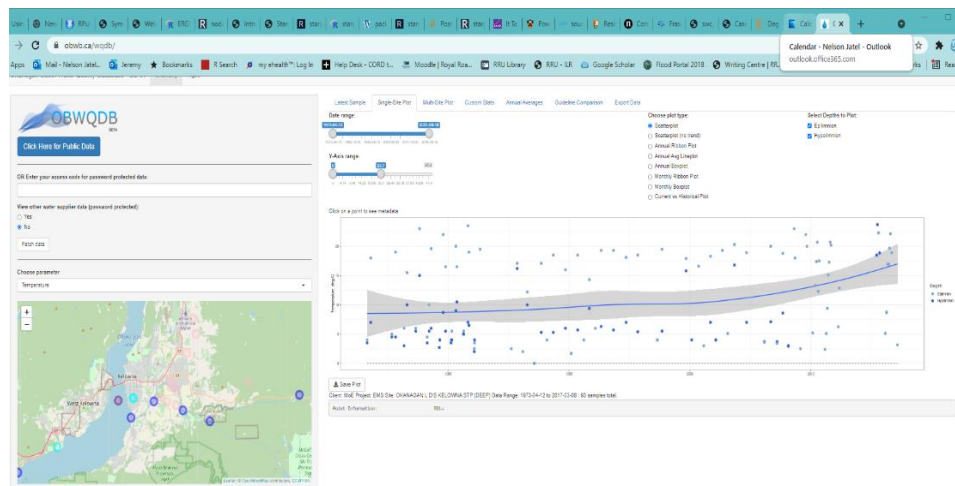
The first technical working group meeting will introduce the Okanagan Flood Risk project and

explore available flood risk data and is scheduled for October 6th from 10am -12pm. Planners, GIS staff, policy, and other flood management staff from local and senior levels of government are invited and encouraged to participate.

In partnership with the ONA, this project builds on a previously completed flood and hazard risk mapping project and will increase the resolution and granularity of flood risk maps. This project will produce digital maps to support flood planning and adaptation, customized to support all levels of government.

Okanagan Water Quality Monitoring (Okanagan Lake) project

In collaboration with the province and three local governments, Summerland, Central Okanagan Regional District and Vernon, water quality monitoring continued this year in Okanagan Lake. The OBWB provided administrative support for the data collection program.



Data collection for this year is now complete and data from the three sampling runs has been completed. All 2021 water quality collected data has been added to the [OBWB.ca/WQ](https://obwb.ca/WQ) website.

OBWB water quality database website showing location of sampling and long-term water quality trends.

OBWB Hydrometric Service

The objective of the OBWB's Okanagan Basin Hydrometric Information Network is to develop and manage an adequate hydrometric information network for the valley. Throughout September, I continued to working with staff from the Okanagan Nation Alliance, Environment and Climate Change Canada and our project team to operationalize the service.

September was a busy field month installing new hydrometric stations. Progress continues as we complete our installation schedule through September and October. Activities relating to individual stations includes:

OBWB / ONA Real-time Stations (2021 Installation)

- Naramata Creek - at mouth (INSTALLED and OPERATIONAL)
- Powers Creek – New station at Bridge (in collaboration with City of West Kelowna) (INSTALLED and OPERATIONAL)
- Mill Creek (in collaboration with City of Kelowna) (INSTALLED and OPERATIONAL)
- McLean Creek (in progress)
- Shuttleworth Creek (in progress)
- Deep Creek (upstream from Otter Lake) (in progress)



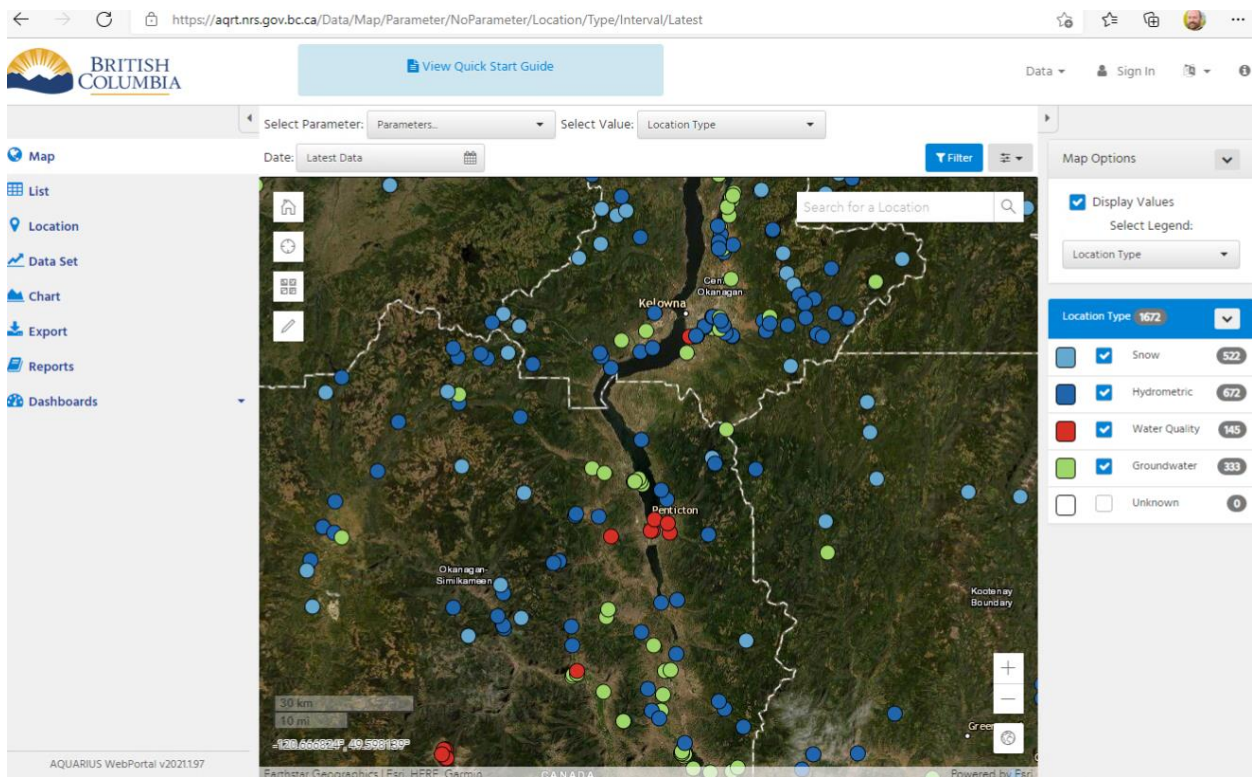
Newly installed Naramata Creek hydrometric station. Note the spawning Kokanee in the foreground.

Environment and Climate Change Canada (2021 Installation)

- Pearson Creek (INSTALLED and OPERATIONAL)
- Trout Creek (in progress)
- BX Creek (in planning. Installation – 2022)

The Technical Advisory Committee has already met twice this year and will meet again in late-October to review the summer installation schedule and focus on: data QA/QC, data access for local government emergency response centers and other government planning needs.

Efforts to ensure Okanagan real-time station data is processed through our Aquarius server continues as well as data QA/QC work. Data collected by OBWB/ONA hydrometric stations is posted on the BC government water data websites, providing public access to our collected hydrometric data. Below is a screen shot of the BC government's public water data website that includes OBWB hydrometric station streaming data.



BC government water data portal where Okanagan hydrometric data is displayed and made accessible.

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.5

File No. 0550.04

To: OBWB Directors
From: Corinne Jackson
Date: Sept. 29, 2021
Subject: Communications Director Report

“Make Water Work” 2021

As summer gives way to fall, and as people start to turn off their irrigation, our outdoor water conservation campaign is slowing down. We will be wrapping up Make Water Work in the next couple of weeks, encouraging people to start planning for next year and making changes in their landscape to be more WaterWise.

Since the OBWB’s annual meeting and the announcement of District of Peachland as our 2021 Make Water Work Community Champion, we have delivered Mayor Fortin her community’s certificate. We also arranged for the prizing of a \$750 WaterWise yard upgrade to one of our lucky Make Water Work pledgees, Lindsey Craig of Summerland. Ms. Craig collected her prize from GardenWorks Penticton.



Left: Peachland Mayor Fortin with the district’s three Make Water Work Community Champion certificates, representing wins in 2016, 2019 and now 2021. Right: GardenWorks Penticton staff, Jodi Smith (left) and Dominika Nowak (right), present Lindsey Craig with \$750 WaterWise prize.

2021-10-05_CD Report_Memo

Once again, I want to thank all of our garden centre partners who helped raise the level of awareness for water conservation this summer and help residents do their part: Shepherd's Home Hardware in Armstrong, Blue Mountain Nursery in Spallumcheen, Swan Lake Market & Garden and Nicholas Alexander Home & Garden in Vernon, Lake Country Home Hardware, Better Earth & Gardens and Pro Source Supply in Kelowna, GardenWorks Penticton, Sagebrush Nursery in Oliver and Osoyoos' Sandhu Greenhouses.

I have started gathering feedback from these partners, and will be reaching out to our local government partners in the days ahead. I have also been working with our marketing contractor, Habit Creations, to review the performance of the campaign. A final report will then be developed which will help inform next year's campaign.

Don't Move A Mussel" 2021

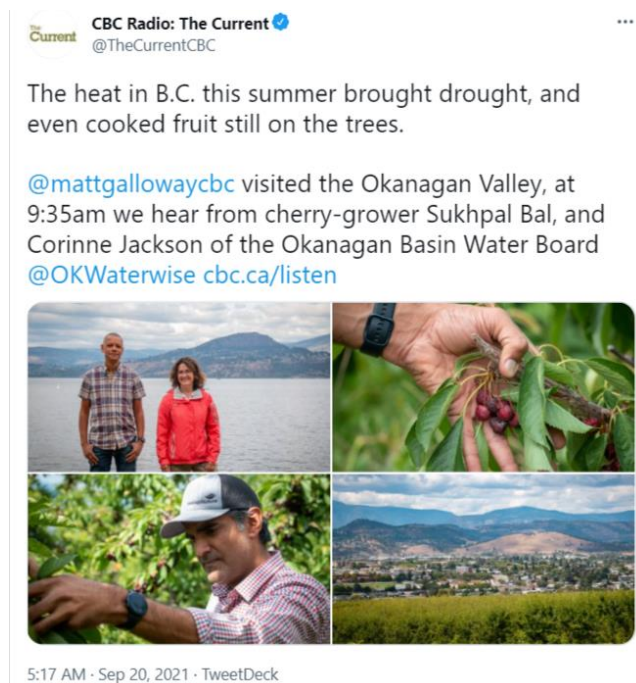
As with MWW, we are compiling feedback from our "Don't Move A Mussel" partners, as well as reviewing advertising data to look at the performance of the campaign, and will be providing a final report to the board. This will also help inform next year's efforts.

Other communication initiatives

As noted last month, we had a number of media calls this summer about the drought, its impact, what was being done to address it, and what individuals could do to help. One of those calls was from CBC Radio's national morning show "The Current" (<https://www.cbc.ca/radio/thecurrent/about-the-current-1.4348036>). Their host, Matt Galloway and his team were planning a trip to the B.C. Interior to talk to people about the wildfires, extreme weather and climate change. They visited Lytton, Ashcroft, Skeetchestn First Nation near Savona, and the Okanagan.

For the Okanagan piece, they spoke with Sukhpal Bal, president of the B.C. Cherry Association and cherry grower at Hillcrest Farm and Market in Kelowna, and me, for the Water Board. What resulted was a very touching series of stories about the impact of these extreme events. I've included all four clips below.

- from Lytton (Sept. 7: Survivors in Lytton, B.C., talk resilience and rebuilding after devastating fire)
<https://www.cbc.ca/listen/live-radio/1-63-the-current/clip/15864634-survivors-lytton-b.c.-talk-resilience-rebuilding-devastating-fire>
- from Ashcroft (Sept 13: the impact of wildfires on B.C.'s tourism industry)
<https://www.cbc.ca/listen/live-radio/1-63-the-current/clip/15865787-the-impact-wildfires-b.c.s-tourism-industry>
- from Skeetchestn First Nation (Sept. 17: How Skeetchestn First Nation uses traditional knowledge to keep wildfires at bay)
<https://www.cbc.ca/listen/live-radio/1-63-the-current/clip/15866939-how-skeetchestn-first-nation-uses-traditional-knowledge-keep>
- and, from the Okanagan (Sept. 20: how scorching temperatures and water shortages are affecting the Okanagan Valley)
<https://www.cbc.ca/listen/live-radio/1-63-the-current/clip/15867290-how-scorching-temperatures-water-shortages-affecting-okanagan-valley>



Above: Social media post used to promote the series. (<https://twitter.com/TheCurrentCBC/status/1439926769088438272?s=20>)

As noted back in my July report, I was invited to be a contributor to a **UBC Okanagan School of Education-led Co-Curricular-Making project**, aimed at de-colonizing and indigenizing education. This is a five-year project and partners include ONA, IndigenEYEZ, the University of Alberta and Ottawa, the Central Okanagan School District, Kelowna Museums and Art Gallery. The invitation comes, in part, based on the development of the “*Our Relationship with Water in the Okanagan – Explorations in Outdoor Education to Support the B.C. Curriculum*” project. A strong focus of the project is on water and our relationship with water. Last night, Sept. 28, I attended the first of four land-based gatherings planned for now and into May. More than 100 people attended, including representatives from each of the partner groups and at least 80 educators from schools throughout the Central Okanagan. The theme for the event was “Water Declaration as Pedagogy.” The other three land-based events will look at “*Captikwł* as our Teacher, Repairing and Renewing our Relations,” “Witness Blanket: Witnessing to Contribute and Further Learning,” and “Water’s Teachings: Who We Are/Who We Can Be.”

More information on this project can be found here:

<https://education.ok.ubc.ca/research-partnerships/co-curricular-making/>

Three **news releases** went out this month regarding various OBWB activities, including our Annual Meeting, our Make Water Work winners, and the Western Canada AquaHacking Challenge finals. **Videos** were also uploaded to our YouTube channel for the Annual Meeting (found at <https://youtu.be/vdZk-rk3udk>) and the AquaHacking finals (<https://youtu.be/JljCAoEzCXs>). Our **Annual Report** “Waves of Change” has also been uploaded to our OBWB website and can be found at <https://bit.ly/3mUZo0V>.

Also, we have started promoting “**Waterways**,” a project funded in part through the OBWB’s Water Conservation and Quality Improvement Grant Program and now on display at Okanagan Heritage Museum until Jan. 20, 2022. The exhibit explores human-water relationships in the Okanagan Valley, and its connection and importance to the larger Columbia River System. The project was developed in partnership with the En’owkin Centre, Syilx Okanagan Elders and Knowledge Keepers, Sncəwips Heritage Museum, Okanagan Nation Alliance, and many others.

Summary of OBWB-Related News Media

- Aug. 30 “Water diligence urged amid continued drought conditions in the Okanagan,” *Summerland Review, Lake Country Calendar, Keremeos Review, Kelowna Capital News, West K News, Vernon Morning Star, Penticton Western News*
- Sept. 1 “Re-tool considered for Okanagan machines that chop water weeds,” *Kelowna Daily Courier*
- Sept. 2 “[Milfoil growth not as bad as anticipated in Okanagan lakes this summer](#),” *Castanet*
- Sept. 2 “[Okanagan Basin Water Board says B.C.’s draft climate plan doesn’t go far enough](#),” *Castanet*
- Sept. 10 “Letter to editor: Vernon water wasters ignoring drought,” *Vernon Morning Star*
- Sept. 11 “[Peachland dethrones Armstrong for Okanagan water conservation title](#),” *Black Press, Kelowna Capital News, West K News*
- Sept. 14 “New winner of ‘Make Water Work’ in Okanagan,” *VernonMatters.ca*
- Sept. 14 “Okanagan News In Brief - Saving water pays off for Summerland woman,” *Kelowna Daily Courier*
- Sept. 14 “[Strengthening water conservation efforts in the Okanagan Valley – Okanagan Basin Water Board provides vital link between water resource managers and community stakeholders](#),” *Vernon Morning Star*
- Sept. 15 “[Kelowna students backpack sized water filtration unit wins 20K prize](#),” *Kelowna Daily Courier*
- Sept. 15 “New Okanagan Heritage Museum explores human water relationships,” *Castanet.net*
- Sept. 15 “[New exhibit explores human-water relationships at Okanagan Heritage Museum](#),” *VernonMatters.ca*
- Sept. 15 “Winners announced for 2021 Western Canada AquaHacking Challenge,” *WaterCanada.net*

Sept. 16 "Make Water Work loss is just Peachy," *Armstrong Advertiser*
Sept. 19 "UBCO engineering students finding solutions to water problems," *Castanet.net*
Sept. 20 "[How scorching temperatures and water shortages are affecting the Okanagan Valley,](#)"
CBC Radio One's The Current
Sept. 24 "Make Water Work winner announced as Peachland," *South Okanagan Times-Chronicle*

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
October 5, 2021
Agenda No: 5.6

To: OBWB Directors
From: Carolina Restrepo Tamayo
Date: September 28, 2021
Subject: **Special Projects Coordinator report**

During September, I have been working on two projects: The AquaHacking Challenge 2021 and the Osoyoos Lake Water Science Forum 2022.

AquaHacking

The AquaHacking 2021 Western Canada Challenge has come to an end with the finals held virtually on September 14th. Here are some details regarding the final results:

- On September 11th, the final pitching session took place where the three finalist teams presented their solutions to the panel of judges. The judges then selected the winners which were announced during a live-streaming ceremony on Vimeo on the 14th. More than 200 people attended.
- Please find below final results of the challenge:
 - 3rd place – Eco-Water from University of Saskatchewan, winning \$10,000 in seed funding for their project which addresses optimization of wastewater treatment plants with their innovative Eco-Model and Eco-Filter, to remove pollutants, including pharmaceuticals, from wastewater before it's released back into the environment.



- 2nd place – Eledigm from UBC Okanagan, tackling contamination of drinking water in cisterns by developing a hydraulic coupling for water delivery hoses and cistern lid, took home \$15,000 in seed funding.



- 1st place – The SIP Project from UBC Okanagan, taking on drinking water contamination with a mobile filtration station in the form of a gravity filter backpack, won top prize - \$20,000 to help get their project off the ground. We will be sharing a short video of their pitch, and have a live Q & A with one of the team members at the board meeting.



- In addition, all finalist teams were awarded a spot in a local business incubator to help them with their new start-up, and legal support from Lavery Lawyers.
- An additional \$1,500 was awarded to the Audience Top Choice, Eco-Water.

This is the second year the OBWB has cohosted AquaHacking, in partnership with AquaAction, and it was a great experience. Mostly this was because of the contribution of young students and professionals in solving critical water issues in our region, but also for because of the partnerships and networks that were developed around the project. The solutions presented by the finalists in both challenges are very promising and we have high hopes that they will continue their process to become real companies and solutions.

Osoyoos Lake Water Science Forum (OLWSF) 2022

- Planning for the April 28-30, 2022 event is in progress. The month of September has been dedicated to work by the program committee, and on logistics. The other committees will resume their meetings in October.
- Program Committee: Anna has taken the lead of the program development for the conference. Work has been done to contact and confirm speakers, define sessions and content, as well as meeting with facilitators.

- Finances Committee: The current budget is being updated and a new version will be presented in October, however, currently 95% of the conference budget is secured, with the confirmation of Environment Canada's contribution for \$10,000. The remaining budget will be secured through participant registration and sponsorship by consulting companies in both the U.S. and Canada and additional businesses in Osoyoos and Oroville.