

Okanagan Basin Water Board Meeting Agenda



DATE: Tuesday, May 5, 2020

TIME: 10 a.m. to 10:30 a.m.

PLACE: *Online – Zoom (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 April 7, 2020 held online ([page 1](#))

5. **CHAIR'S REPORT**

6. **STAFF REPORTS**

6.1. Executive Director Report ([page 5](#))

6.1.1. Draft OBWB letter to B.C. government re: legislative changes to prevent invasive mussels ([page 10](#)) (*resolution requested*)

6.1.2. OBWB Strategic Plan for adoption by the board ([page 12](#)) (*resolution requested*)

7. **NEW AND UNFINISHED BUSINESS**

7.1. Okanagan Hydrometric Information Management Options Update ([page 28](#))

8. **NEXT MEETING**

8.1. The next meeting of the Okanagan Basin Water Board will be Tuesday, June 2, 2020 at 10 a.m., online. Further details TBA.

9. **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 the COVID-19 pandemic, the board will be holding its meeting online to ensure physical distancing and follow senior governments' request to stay home. 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.



**MINUTES OF A REGULAR MEETING OF THE OKANAGAN BASIN WATER BOARD
HELD APRIL 7, 2020, 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 James Baker	Regional District Central Okanagan
Director Colin Basran	Regional District Central Okanagan
Director Toni Boot	Regional District Okanagan-Similkameen
Director Rick Knodel	Regional District Okanagan-Similkameen
Director Christopher Derickson	Okanagan Nation Alliance
Director Bob Hrasko	Water Supply Association of BC
Director Denise Neilsen	Okanagan Water Stewardship Council

STAFF

Anna Warwick Sears	Executive Director
Nelson Jatel	Water Stewardship Director
Corinne Jackson	Communications Director
James Littley	Operations and Grants Manager
Kellie Garcia	Policy and Planning Specialist

TECHNICAL OBSERVER

Tessa Terbasket	Okanagan Nation Alliance
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1. CALL MEETING TO ORDER

Chair McKortoff called the meeting to order at 10:02 a.m.

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

2. APPROVAL OF AGENDA

"THAT the agenda of the regular meeting of the Okanagan Basin Water Board of April 7, 2020 be approved."

CARRIED

3. ADOPTION OF MINUTES

3.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of March 3, 2020 at Regional District of Okanagan-Similkameen.

"THAT the minutes of the regular meeting of the Okanagan Basin Water Board on march 3, 2020 at Regional District of Okanagan-Similkameen be approved."

CARRIED

4. STAFF REPORTS

4.1 Executive Director Report

Dr. Sears noted that staff are working from home, coming into the office to work only as needed.

The joint board-council meeting in May is still planned to go ahead and will be conducted online.

Work is continuing on a flood map website with a webinar for local government staff and elected officials in the coming weeks, followed by a public launch.

Dr. Sears explained that the OBWB's Strategic Plan has been revised to include additional tracking measures. The board was asked to provide final comments within the next two weeks. Dir. Cumming asked that the board, in particular, review the section on hydrometric data and provide input.

The board was provided a weather update and told that the province has been lowering Okanagan Lake to accommodate the high snowpack as it melts. At the same time, it has been relatively dry but there is no strong indication for flooding or drought, Dr. Sears explained. Dir. Hrasko reminded directors that upcoming rains are key and if the valley receives too much, too fast, some areas could have flooding.

"THAT the Executive Director's Report, dated April 1, 2020, be received."

CARRIED

4.2 Water Stewardship Director Report

Mr. Jatel reported on the March council meeting and a presentation by Associated Environmental's Carrie Nadeau and Hugh Hamilton and their work on the Okanagan Wetland Strategy. UBC Okanagan Assistant Professor Matthieu Bourbonnaise and his student, Tina Deenik, spoke about new wetland mapping research and the use of LiDAR data to update wetland maps. The next council meeting will be April 9, 1 – 3 p.m. online with the province's Shaun Reimer providing an update on where Okanagan Lake levels are at and the forecast for the coming weeks.

The annual Okanagan Water Supply Webinar will be April 16, 11 a.m. – noon. It will also be recorded and posted to our YouTube channel ([youtube.com/OkanaganWaterWise](https://www.youtube.com/OkanaganWaterWise)). It will also be posted on our social media channels.

Mr. Jatel noted that a memo regarding hydrometric monitoring, looking at potential costs, is being developed based on recent board discussions.

"THAT the Water Stewardship Director's Report, dated April 1, 2020, be received."

CARRIED

4.3 Operations and Grants Manager Report

Mr. Littley updated the board on the milfoil control program, noting rototilling is wrapping up and the crew is doing machine maintenance, getting ready for harvesting season. Staff are working safely considering physical distancing, he added.

The province has provided maps of areas previously surveyed for Rocky Mountain Ridged Mussels and where none were found. These areas are limited and do not cover most of the existing treatment areas. Staff are continuing to work with the province on this file.

The B.C. AquaHacking Challenge semi-final was held online March 21 and organizers have agreed to do the same with the final.

The Environmental Funders Canada 2020 Conference has been postponed to 2021 in response to the COVID-19 pandemic.

“THAT the Operations and Grants Manager Report, dated April 1, 2020, be received.”
CARRIED

4.4 Communications Director Report

Ms. Jackson provided an update on the Make Water Work (MWW) and Don't Move A Mussel (DMM) public outreach campaigns that typically roll-out in the spring. Although some advertising contracts are already in place (e.g. billboards and buses), staff are reviewing plans to reach the public, recognizing that face-to-face outreach may be unlikely this year, she said.

The screening of “Brave Blue World,” planned for March 19 as part of Canada Water Week, was postponed and funds were returned to purchasers. As noted earlier, the AquaHacking semi-final that was held online allowed us to offer something to the public to celebrate the week. The event aired on our Okanagan WaterWise Facebook site. The board was told that as of last week, the video had reached 1,497 people. A news release announcing the five semi-finalists was also sent to media.

The composter-rain barrel sale with RDCO's Waste Reduction Office ended on March 30 with all items sold. In past years we have had pick up events. Given the current situation with COVID-19, the RDCO is looking to hire a delivery company to drop the units off to residents who ordered them.

“THAT the Communications Director's Report, dated April 1, 2020, be received.”
CARRIED

4.5 Policy and Planning Specialist Report

Ms. Garcia reported on the Source Water Protection Toolkit for water suppliers, noting that a meeting has been held with the consultants to discuss project goals, timeline and more, and they have begun a literature review. Staff have also met with the Water Stewardship Council's source protection committee to gather input on the project charter and discuss membership for a technical advisory committee.

Staff are working with various water suppliers who are part of the Agricultural Water Supply Communications Project, providing e-alerts to their ag customers regarding water supplies. This project is intended to assist this sector plan and prepare for potential droughts.

Work on an updated “Slow it. Spread it. Sink it!” guide for Okanagan homeowners is well underway, with a draft ready to be submitted to a graphic designer within the coming weeks. This guide has been a popular resource and ties in with other OBWB-OkWaterWise outreach efforts, including the Make Water Work Plant Collection.

“THAT the Policy and Planning Specialist Report, dated March 30, 2020, be received.”
CARRIED

5. NEW AND UNFINISHED BUSINESS

5.1 OBWB Draft Strategic Plan and Tracking Measures 2020-2024

Dr. Sears introduced the draft Strategic Plan and tracking measures and encouraged the board to review and provide final feedback.

“THAT the Draft Strategic Plan and Tracking Measures 2020-2024 memo be received.”
CARRIED

Move to go in-camera at 11:03 a.m. under sec. 90(1)(m) of the Community Charter.

6. IN-CAMERA

7.1 In-camera session

Close in-camera at 11:22 a.m.

7. RISE & REPORT FROM IN-CAMERA

“THAT the OBWB fund the Armstrong Wetland Mapping project, as described in its WCQI application, up to the amount of \$6,106 through the Water Board’s existing wetlands project, and not through WCQI funds.”

CARRIED
Dirs. Dericksen, Hrasko and Nielsen abstained

“THAT the OBWB approve the 2020 grant funding as presented. AND THAT the OBWB Rise and Report the 2020 grant funding as approved.”

CARRIED
Dirs. Dericksen, Hrasko and Nielsen abstained

8. NEXT MEETING

8.1 The next meeting of the Okanagan Basin Water Board will be held on Tues. May 5, 2020 at 10 a.m. at location TBD.

9. ADJOURNMENT

“THAT there being no further business, the regular meeting of the Okanagan Basin Water Board of April 7, 2020 be adjourned at 11:28 p.m.”

CARRIED

Certified Correct:		
Chair		Executive Director

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
May 5, 2020
Agenda No: 6.1

File No. 0550.04

To: OBWB Directors
From: Anna Warwick Sears
Date: April 29, 2020
Subject: **Executive Director Report**

Covid-19 Considerations: OBWB operations are adjusting to the new Covid-19 normal, but looking forward to a return to working from the building as the province begins to reopen.

- The office staff are still primarily working from home, coming into the office only when necessary.
- We have allowed flexible schedules to accommodate childcare needs.
- Milfoil operators are now working on equipment repair at our shop in Vernon, and have adjusted their processes to maintain physical distance.

Revised Z/Q Letter in light of Covid-19

The attached letter to B.C. Minister of Environment and Climate Change Strategy George Heyman was provisionally approved at the April OBWB meeting. However, with the rapid social changes related to Covid-19, it seemed appropriate to update the letter. There is a lot for government to respond to right now, but the threat of invasive mussels remains, and their impact would be even greater under the current circumstances.

Flood Resilience Planning Projects

We are excited to have a public launch of the new Okanagan Flood Story website May 6th and hope to attract a good number of media to the online event. The flood maps created as part of this project will be a resource for years to come, and we want the public to become comfortable and familiar with the website. The media will be important in helping reach this audience.

We were informed at our online workshop on April 17th, that UBCM staff are reviewing applications for the most recent round of flood mitigation projects, and they hope to make announcements in May. I'm hopeful that many of the good projects coming out of the Okanagan will be funded. We have a small amount of funds set aside for ongoing outreach to different sectors, to discuss the flood maps and the website.

Osoyoos Lake Water Science Forum 2021

The Osoyoos Lake Board of Control is advancing a funding proposal to Washington D.C. and Ottawa, to support the fourth Osoyoos Lake Water Science Forum (previous forums were held in 2007, 2011, 2015). The OBWB has been a strong partner in previous forums, and we expect to be involved in the planning and organizing committees as this goes forward.

Strategic Plan Revision

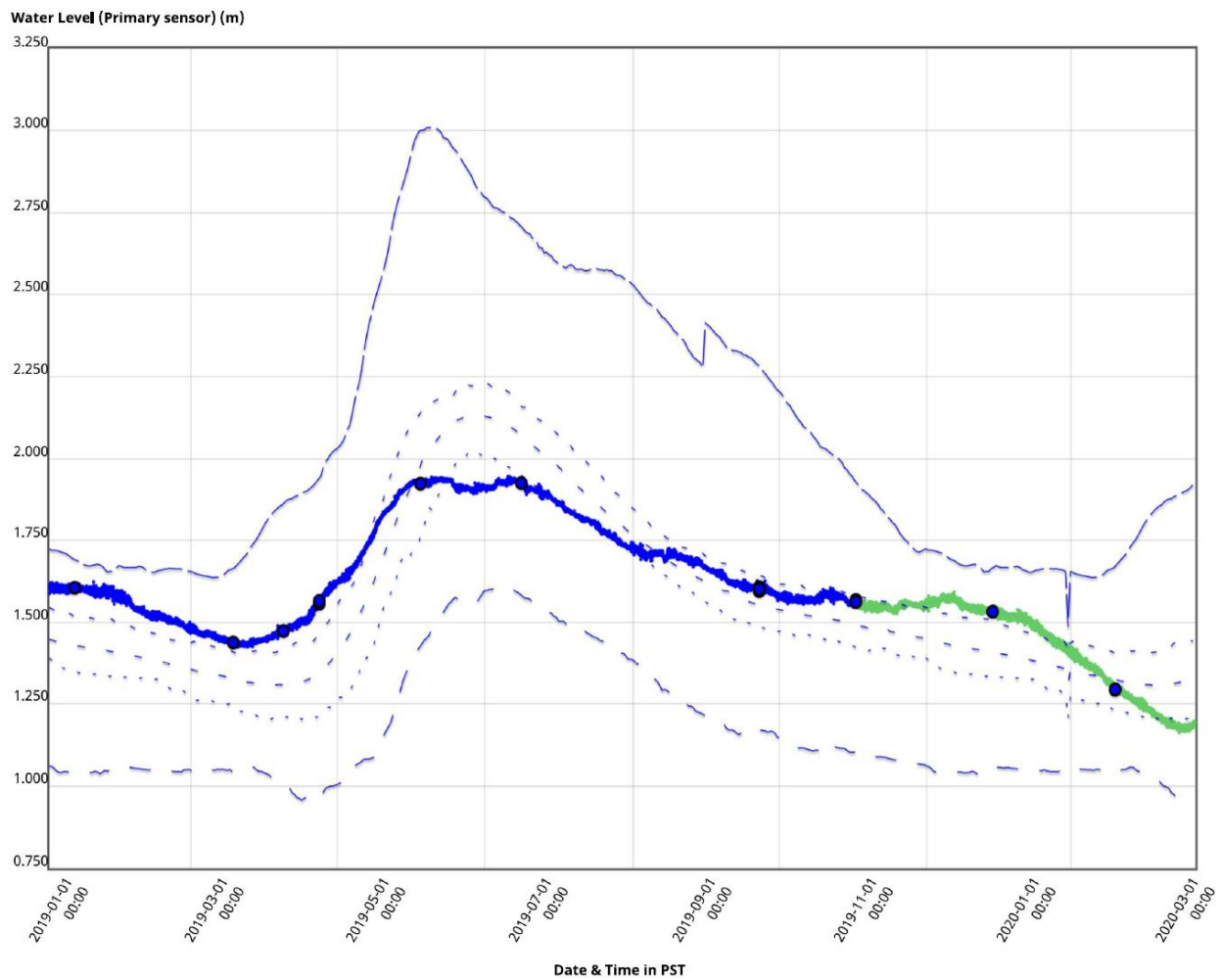
I have received no further comments or revisions to the OBWB strategic plan, so I recommend that the attached final version be adopted by the board.

Weather Report

As of April 22, the Okanagan's average snow pillow levels was 102% of normal for the watershed. The next snow bulletin will be released on May 8th. As you can see from the snow pillows, most of the snowpack has melted from the mid-elevation Brenda Mines observation station on the west side, but there is still a very significant snow pack in the Mission Creek drainage which means there is some ongoing risk of flooding downstream. There is also significant snow in the northern end of the valley, and Kalamalka Lake is high. (Graphs on next page.)

Realtime hydrometric data for Okanagan Lake at Kelowna – March 30, 2020

The province continues to draw down Okanagan Lake level releases into the Okanagan River channel.

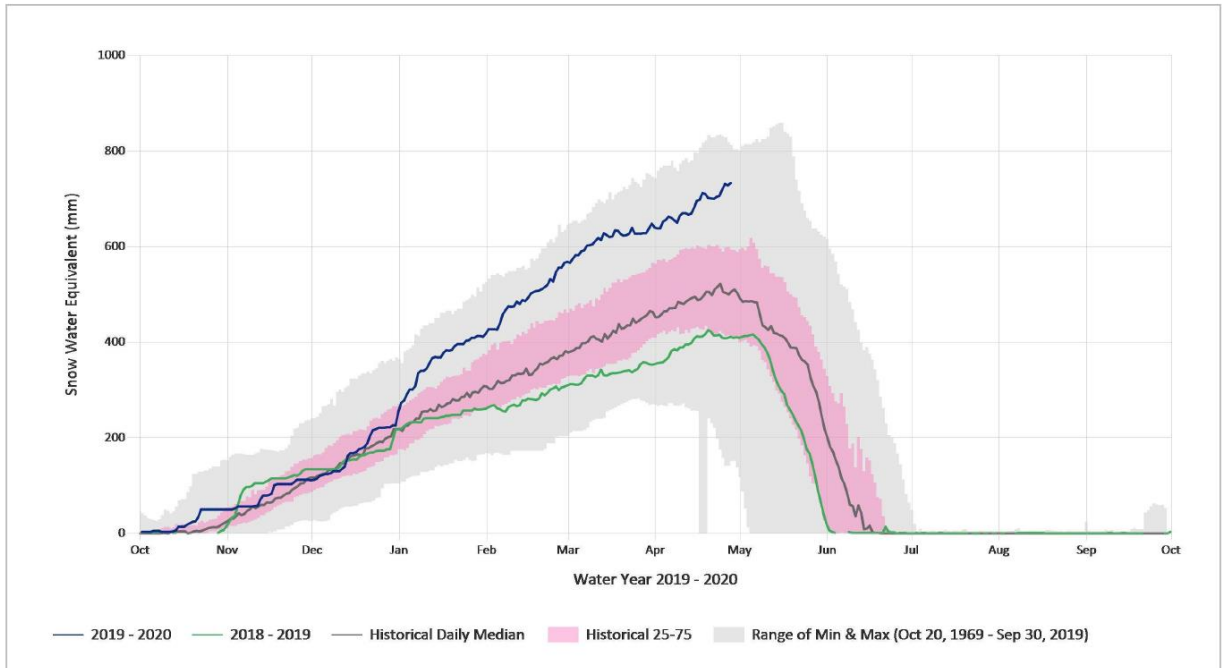


The most recent [water_level \(primary sensor\)](#) recorded is 1.289 metres at 2020-04-28 11:25:00 [LST](#).

Mission Creek snow pillow – April 28, 2020 (135% of normal on April 22)

SW.Daily@2F05P - Mission Creek

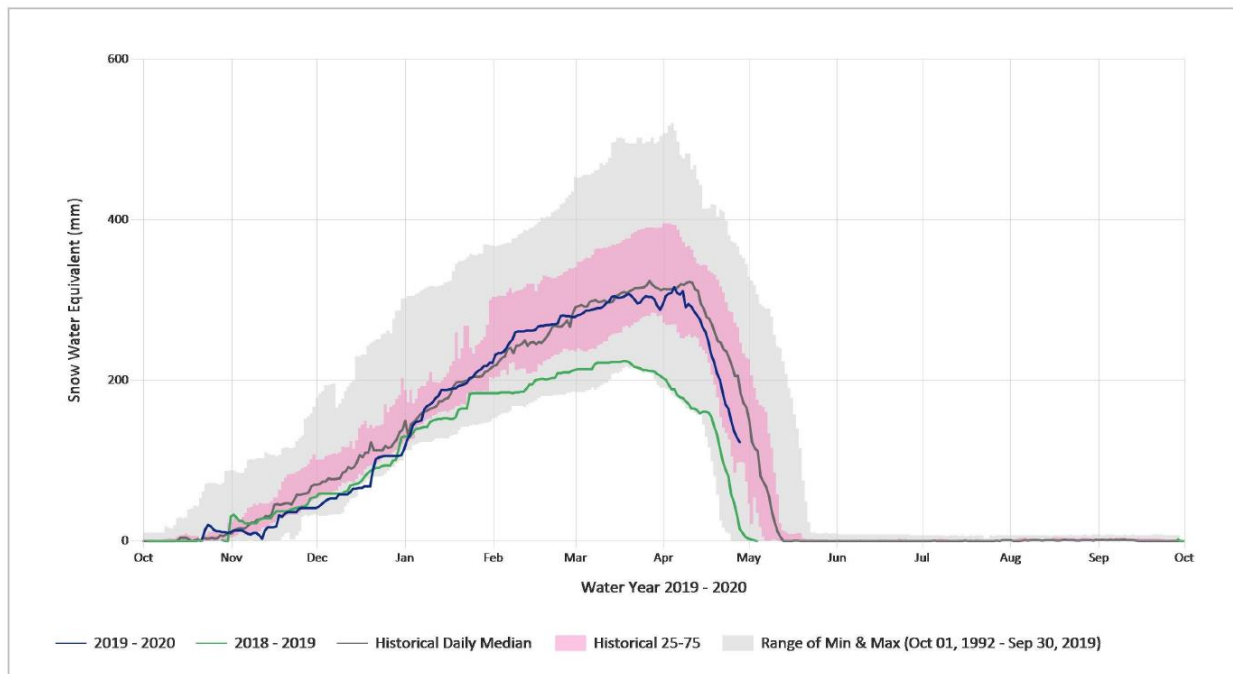
Latitude: 49.94889 Longitude: -118.94889 Elevation: 1780 (m)



Brenda Mine snow pillow – April 28, 2020 (73% of normal on April 22)

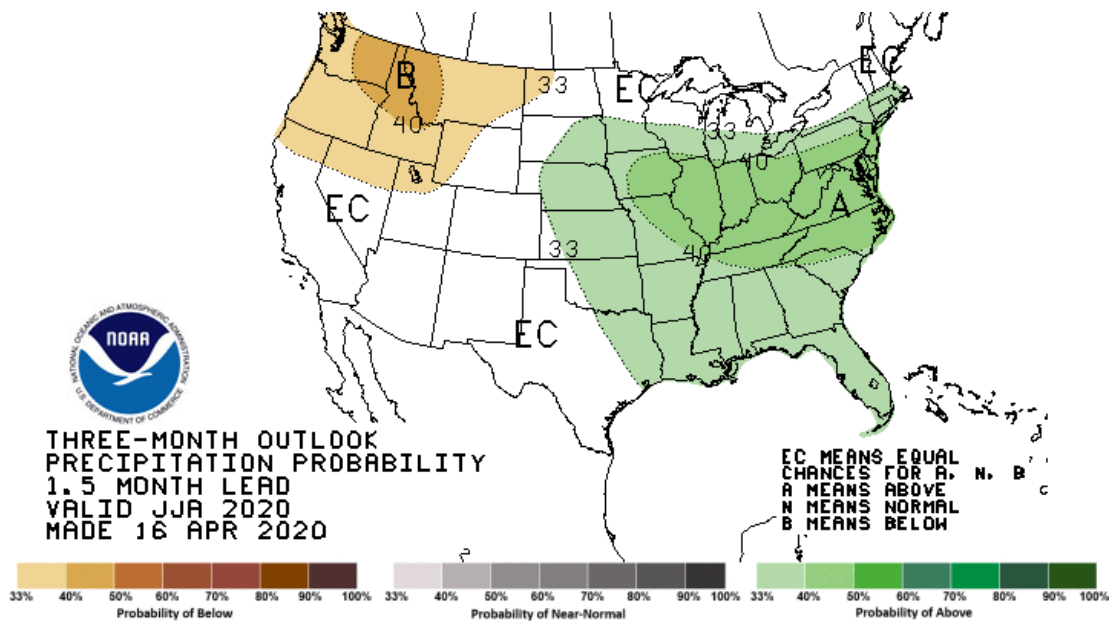
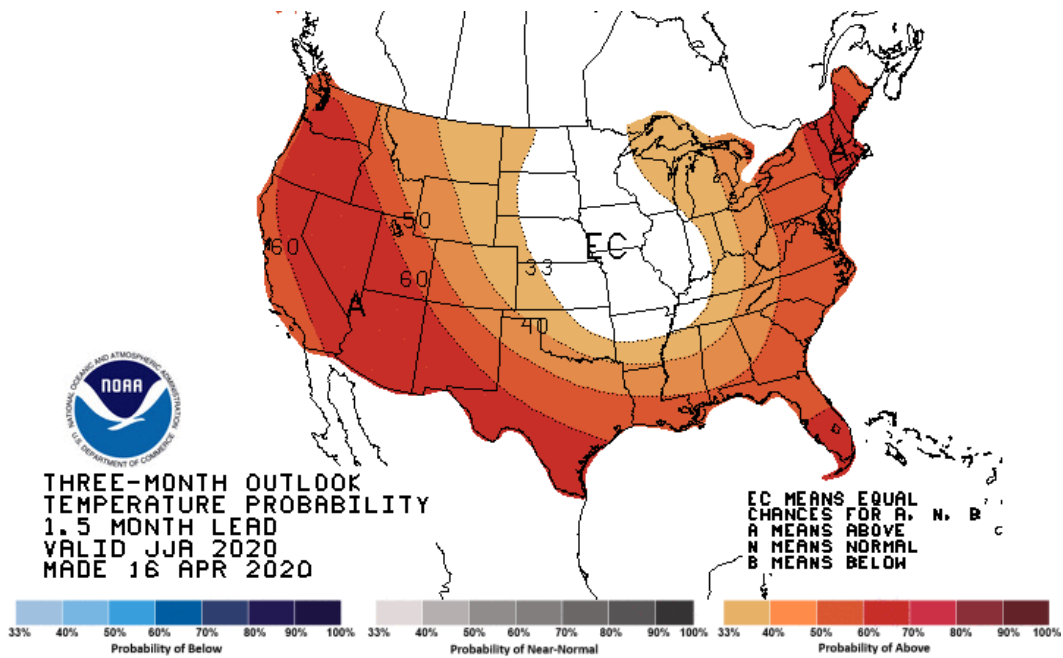
SW.Daily@2F18P - Brenda Mine

Latitude: 49.862361 Longitude: -119.982111 Elevation: 1460 (m)



Seasonal Forecast: June - August

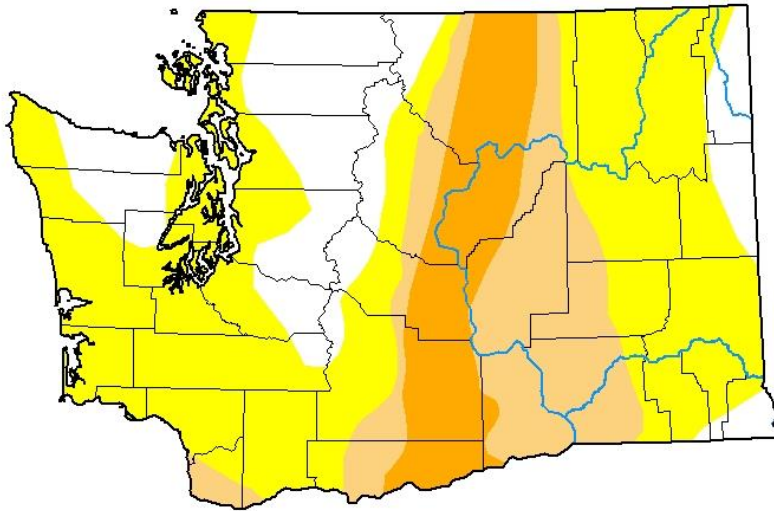
The most recent seasonal forecasts I can find are from National Oceanic and Atmospheric Administration in the U.S. They suggest that the summer will be warmer and drier than normal.









Drought Projections: The drought monitor for Washington State (and the Okanogan County) are ramping up their projections for a hydrologic drought this summer. For us, this signifies that we may experience lower rainfall and drier soils than normal, especially in the southern portions of the valley.

U.S. Drought Monitor Washington

April 21, 2020
(Released Thursday, Apr. 23, 2020)
Valid 8 a.m. EDT



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brian Fuchs
National Drought Mitigation Center



droughtmonitor.unl.edu

Hon. George Heyman
B.C. Minister of Environment and Climate Change Strategy
PO Box 9360 Stn Prov Govt
Victoria, B.C. V8W 9M2

Okanagan Basin Water Board Regular meeting May 5, 2020 Agenda No: 6.1.1
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May 5, 2020

Re: Legislative Changes to Prevent Invasive Mussels

Dear Minister Heyman,

On behalf of the Okanagan Basin Water Board (OBWB), I am writing again to call for stronger provincial legislation to help prevent the introduction of invasive mussels and other aquatic invasive species into B.C. In light of the current COVID-19 crisis, it is apparent - more than ever - the devastating economic impacts that an invasion of these mussels would have on the Okanagan and the province, especially while we try to recover from the impacts of this pandemic. We recognize the incredibly difficult economic position that this pandemic has caused for the government and people of B.C. and that is why we continue to urge your government to take all necessary action to prevent the introduction of species which could significantly add to the economic fallout.

As stated in our previous letter of July 2019, we recognize the significant progress made by instituting a watercraft inspection system within B.C. and by working with other provinces and Canada Border Services Agency to monitor for infested watercraft from other jurisdictions. We also recognize that serious gaps remain, and we stress the importance of addressing these gaps to reduce the risk of an invasive mussel introduction this summer. Specifically, we call on the government of B.C. to:

1. Prioritize legislation to require all watercraft owners to remove the drain plug of their watercraft prior to transporting it.
2. Increase inspection station funding back to at least 2017 levels of \$4.45 million per year.
3. Renew the public-private funding partnerships which help to fund the inspection system and are set to expire in 2021.
4. Establish a working group to explore options and partnerships to enable legislation which would require all watercraft entering B.C. to report for an inspection station prior to entering provincial waters.

In our previous correspondence, we have suggested many possible ways to implement these changes, and we would welcome the opportunity to work with provincial staff to support these efforts. Other jurisdictions have addressed both the legislative and resource gaps to bolster their efforts, and we urge the province of B.C. to look at these approaches as examples of what could work here.

Again, thank you for your continued leadership in preventing aquatic invasive species introductions into B.C. waters.

Sincerely,

A handwritten signature in black ink that reads "Smckortoff". The signature is written in a cursive, flowing style.

Sue McKortoff, Chair
Okanagan Basin Water Board

CC:

- Okanagan MPs: Mel Arnold, Tracy Gray, Dan Albas, Richard Cannings
- Federal Critics: Conservative Party – Mel Arnold, NDP – Gord Johns Chiefs Executive Council, Okanagan Nation Alliance
- MLAs: Greg Kylo, Eric Foster, Norm Letnick, Steve Thomson, Ben Stewart, Dan Ashton, Linda Larson
- Regional District Chairs for North Okanagan, Central Okanagan, and Okanagan-Similkameen
- Mayors of Okanagan Municipalities
- Matt Morrison, Chief Executive Officer, Pacific NorthWest Economic Region
- Gail Wallin, Executive Director, Invasive Species Council of B.C.
- Okanagan Chambers of Commerce
- Thompson Okanagan Tourism Association

Okanagan Basin Water Board Strategic Plan: 2020-2024

March 31, 2020

The 2020-2024 Strategic Plan is intended to guide the OBWB's work for the next five years. The plan reflects our priorities, and our unique strengths, and the way we carry out our work. The plan is a framework for future projects, programs, partnerships and decisions. It will create clarity for our partners, and help us shape our work together.

This plan focuses on actions that can be undertaken by the OBWB, complementing the Okanagan Sustainable Water Strategy, and the planning initiatives of Okanagan communities. The plan describes key activities, and our role in supporting actions by diverse partners.

Why a Strategic Plan?

The world is changing rapidly. The global economy is bringing unexpected stresses, global climate change is creating unpredictable swings in weather, and within the next 30 years the global population will grow from 7.8 billion to 9.7 billion people. Although these are world-wide processes, their effects on water are local. We enjoy healthy water in the Okanagan – from the drinking water in our taps to the clear blue waters of our lakes. But we also experience water problems – from pollution to shortages to flooding – and many of the solutions are local. Working locally, we have the capacity and agency to respond to external change.

The OBWB supports the work of Okanagan communities, and all sectors of Okanagan society, to collectively improve the way water is managed in the valley. We want to be a centre for collaboration and creativity. We also want to strengthen and grow partnerships with Okanagan Indigenous communities, because of our mutual responsibility to care for water, and in the spirit of reconciliation. We believe that *thinking strategically* about these approaches allows us all to make best use of human and financial resources – finding the right solutions and making the right decisions to adapt to a changing climate. It also allows us to accommodate our growing population while protecting the natural environment – so that the Okanagan continues to have an excellent quality of life.

Introduction to the Okanagan Basin Water Board (OBWB)

The Vision of the OBWB is for the valley to have clean and healthy water in perpetuity, meeting the needs of natural ecosystems, residents and agriculture.

The OBWB's mission is to *provide leadership to protect and enhance quality of life in the Okanagan Basin through sustainable water management*. The OBWB was initiated in 1968 as a collaborative local government agency, to identify and resolve critical water issues in the Okanagan. We link and catalyze water initiatives throughout the valley.

The OBWB's strength is in our partnerships: bringing people and resources together, and providing a means for joint strategic action. We advocate for local water concerns to senior governments, and are a public voice for water education. Our financial structure enables us to bring together funds from many sources – creating new opportunities based on regional collaborations and goals. We have the capacity to deliver complex, multi-partner projects.

The Okanagan is a leader for many of Canada's water issues. We have among the lowest water availability per person, and many water-dependent industries. With less water available, we must protect water quality, so it can be used and re-used for many purposes – while preserving environmental flows and environmental health. Few comparable examples exist, so we must be innovative in our water policy and water management. This has been our history, and this will also be the key to our future.

OBWB Purpose or Mandate

The OBWB's mandate¹ was established in 1969 through the *Municipalities Enabling and Validating Act* and Supplementary Letters Patent to the Okanagan regional districts, to:

- Organize or receive proposals from private interests, organizations or agencies and all levels of governments regarding best practices for water use and management;
- Define water problems and priorities, economic feasibility of solutions, responsibility, necessary legislation and required action;
- Communicate and coordinate between levels of government and their agencies about water use and management;
- Present proposals and recommendations to local or senior governments, according to jurisdiction and responsibility;
- Participate financially or otherwise, in surveys, investigations or projects on behalf of Okanagan local governments;
- Coordinate implementation of the Okanagan Basin Study Plan (1974) – for water management activities that affect the Valley as a whole;
- Advise local or senior government agencies when proposed actions, regulations or bylaws are contrary to the Okanagan Basin Study Plan or OBWB recommendations; and
- Participate in an aquatic weed control program for Okanagan lakes

¹ See www.obwb.ca/board-of-directors/governance/

Current Situation

The Okanagan region has many advantages – mild and sunny weather, deep lakes, and a dramatic backdrop of grassy hills and forested mountains. As a result, students, young families and retirees are moving to the valley from other parts of Canada and around the world to enjoy this beautiful place. New residents bring vitality, culture and economic growth to our region, and local communities are making plans to accommodate them. However, we are working with a legacy of past planning decisions that have not been gentle to the environment. Our ecosystems are stressed through intense development on floodplains, loss of wetlands and riparian areas, and resource extraction. Our growing communities are vulnerable to climate change, which will bring more intense droughts, floods, and storms.

The “drought of record” was marked by three consecutive years of low rainfall beginning in 1929. The population of the valley was much smaller then, and there was less extensive agriculture. A multi-year extended drought now could make it very difficult to manage water systems and provide for all needs. A climate-driven shift from winter snow to winter rain could also lead to water shortages even if overall precipitation is the same, because there may not be enough storage in lakes and reservoirs to hold the water necessary. The “flood of record” was in 1894, and had far greater volume than the most recent damaging floods of 2017 and 2018. These historical events remind us that even if climate change were not occurring, the Okanagan is vulnerable to extreme drought and flood. **Figure 1** shows that the amount of inflow each year fluctuates wildly. Average years are rare. Instead we must plan for changing conditions.

We have great potential to strengthen our resilience. Okanagan communities have many advantages, compared to elsewhere in B.C. A spirit of innovation exists here, balanced with a respect for maintaining the quality of the environment – especially the water. As we better understand the causes and solutions for environmental stress, we can make strong, integrated community-based plans and decisions that reduce human impacts to our water in this time of change.

OBWB Operating Principles and Core Values²

- One Valley – One Water. Our actions and decisions will recognize that all water in the Okanagan is connected, in all its forms and sources.
- Transparency. Our actions and decisions will be transparent and open.
- Collaboration. We will seek collaborative solutions to water concerns, to bridge the interests of all Okanagan citizens and orders of government, and to help resolve water conflicts.

² From the OBWB Governance Manual

- Informed Action. We will undertake actions that are informed by the best available science and the expertise of the community.
- Credibility. We will be a reliable source of water science and information for the Okanagan, and a hub for water research.
- Balance. We will take a non-partisan approach, and balance environmental, social, and economic interests.
- Sharing. We will share knowledge, data and information, contributing to the creation of resilient community water plans, and educating citizens.
- Innovation. We will be committed to innovation, seeking out new ideas and approaches, while at the same time respecting and drawing on historical knowledge.
- Leaving a Legacy. We will consider the needs of our children and grandchildren, as well as those of the present, looking ahead to protect water in times of change.

Long-term goals/Strategic priorities

Goal 1: Delivering our mandate across all projects and programs

Over 50 years, as the Okanagan Valley has grown and changed, the OBWB has adapted to meet community needs. Looking forward, we need to maintain a stable and flexible organization and remain open to new challenges. The OBWB has a strong organizational structure, with board, staff and the Okanagan Water Stewardship Council working together. We must stay awake to trends and understand how needs are changing. At the same time, we are valued for consistency and reliability – aligned with our mandate. We create capacity for all Okanagan communities to continuously improve the sustainability of Okanagan water, regardless of the pace of change.

Sub-goal 1 (a): Water management in the Okanagan is not limited by funding or capacity.

As both a grant maker and recipient of senior government funding, and by tapping the expertise of the Okanagan Water Stewardship Council (the Council or OWSC), the OBWB has accelerated funding for water in the valley. Seed funding to and from our partners – local governments, universities, improvement districts and other organizations – triggers new funds from many sources. External funding may come to OBWB or to any partner to benefit Okanagan water. The OBWB also has the ability to leverage in-kind contributions, which can be as valuable as cash.

Desired Outcomes and Actions: The OBWB diversifies funding sources for water initiatives in the valley, securing new funding partners and leveraging those through further partnerships. The OBWB also identifies and advocates for new senior government funding policies to support water initiatives.

Sub-goal 1 (b): The OBWB is a respected advocate for water concerns.

The OBWB has a mandate to make recommendations to local and senior governments, to improve water management in the Okanagan, and to advocate for needed changes in legislation. To be most effective, the OBWB seeks to provide information of the highest quality, maintaining a balanced approach and professional standards. This requires the board, staff and council to continuously learn about water issues and trends, and find the OBWB's role to promote solutions. The OBWB is objective, transparent and non-partisan.

Desired Outcomes and Actions: The OBWB maintains close communication with all levels of government, with our network of water experts and the public – to understand needs and challenges. Through ongoing learning, the board, staff and council continuously

enhance the quality of information and advice we provide. The OBWB will use this information to provide advice to all levels of government where appropriate.

Sub-goal 1(c): The Okanagan public is knowledgeable about local water issues, and are active and engaged with furthering water sustainability.

The public are essential partners for all of our work. By bridging the communications of local water providers and water-related agencies, the OBWB supports consistent public outreach, reducing costs and increasing social impact. Giving information to our citizens helps reduce waste, and builds support for water protection and improvements.

Desired Outcomes and Actions: The Okanagan public has a broad common understanding of Okanagan water challenges and the value of water, and are empowered to help with solutions.

Sub-goal 1(d): The OWSC extends the OBWB's knowledge and communications, and provides insight and advice on current and future water issues.

The OWSC is an essential partner of the OBWB and is formally established in our legislation. Through their respective organizations, members represent all corners of the water sector, sharing expertise and strategic information across a wide range of water issues. The OWSC's advice and analysis supports the OBWB's role in advocating for Okanagan water concerns. Members also share information back to their wider networks, raising the collective knowledge of the broader community.

Desired Outcomes and Actions: The OWSC improves the quality of the OBWB's programs and projects, diversifies our partnerships, and increases our credibility with the broader community. The OWSC supports the OBWB in our strategic initiatives, and assists with developing policy recommendations to senior government. The board and council meet at least once a year, and members of the board and council attend each other's monthly meetings.

Goal 2: Managing water for all needs, under all conditions

Water shortages are common in dry years and recently there have also been historic floods in the Okanagan. Under extreme conditions, with variable snow pack, we risk dry streams and drawing down lakes during multiyear droughts and being swamped with water in wet years. Many conflicts can be avoided with careful management and planning based on good science and data. The best and least costly way to access more water in dry years is through conservation. The best and least costly way to reduce flood risk is to improve land use planning and policy, use green infrastructure, and restore natural systems.

Sub-goal 2 (a): Local communities have plans in place and the capacity to prepare for and respond to climate change's impact on water.

By coordinating local efforts, securing external funding, and sharing information and best practices we can help local governments create better plans at lower cost for drought and flood response and mitigation, to improve water quality, and to enhance the resilience of water systems. Mitigation through planning and policy changes is often more effective, durable, and cost-effective than building dikes or expanding reservoirs. The OBWB has a key role to support planning among local governments, Indigenous communities, and utilities, and to support valley-wide planning efforts.

Desired Outcomes and Actions: The Okanagan has a sustainable water supply and robust system to manage water for human and environmental needs, with plans and policy that support healthy communities and a resilient economy while reducing conflicts between sectors.

Sub-goal 2 (b): The Okanagan has sufficient, accessible, water data to adapt to weather extremes, to changes in the economy, and to population growth.

We can't manage what we don't measure. To ensure water security, and equitable water sharing between different sectors and needs, we must understand how much water enters the valley, in what location, where it is needed, and how these factors change from year to year. This information forms the backbone of planning and emergency preparedness. Data accessibility includes being able to use and understand the data. The OBWB will support and coordinate water data collection and accessibility without duplicating the role of senior government.

Desired Outcomes and Actions: The OBWB identifies what water data is needed for a base level of water management, supporting surface and groundwater monitoring to achieve this target level, and supporting data storage, analysis and sharing where there is no other agency performing these functions.

Sub-goal 2 (c): The Okanagan has the best available water science and models to sustainably manage surface and groundwater.

The Okanagan's hydrology is changing. Water and climate models are needed to understand this change, and to support infrastructure planning, flood mitigation, water allocations, environmental flows, and other water management planning. Much less is known about groundwater than surface water, and it is a priority to better understand our aquifers. As technology and data improve, and as the climate and population patterns change, we will continue to improve and update these models.

Desired Outcomes and Actions: The OBWB continues to improve models of climate, surface and groundwater, by securing funding, leading projects, coordinating efforts and building partnerships, to support water planning and management in a changing system.

Sub-goal 2 (d): All sectors in the Okanagan use water efficiently.

The least costly way to expand water availability and increase the resilience of water supplies is to decrease demand by reducing waste, in a consistent manner across water delivery systems. Actions may include upgrading irrigation systems, stopping leaks, metering end users, developing conservation plans, and conducting outreach campaigns, among other approaches. Improving water efficiency is insurance against harm caused by shortages, and reduces burdens on delivery systems during wet years when there are high-turbidity events. Reducing demand also saves the costs and energy needed to pump, treat and deliver water. Water purveyors should have consistent language and approaches to water efficiency campaigns and the application of watering restrictions. The OBWB supports these actions by increasing communication and highlighting best practices, supporting consistent planning and coordination.

Desired Outcomes and Actions: The OBWB assists water purveyors, agriculture and other industries to improve water efficiency by sharing data and information, promoting best practices and supporting consistent approaches in long-term water supply planning and public outreach on water conservation and efficiency.

Sub-goal 2 (e): Water is managed and regulated in a way that protects the needs of the environment, agriculture, and communities over the long term.

Water use and management is primarily regulated by the province, who oversees licensing and requirements to maintain stream flows, regulates lake levels, and looks after dam safety, among other things. Local communities and water suppliers manage water distribution for their customers, and may manage environmental flow releases from reservoirs. Local jurisdictions can also have powers for land use regulation that affect water quality and the availability of

water for the environment, as well as drought response and flood risk reduction. The OBWB has a mandate to identify problems with regulations and policy, and/or how they are executed, as well as potential remedies.

Desired Outcomes and Actions: The OBWB works with partners to identify gaps in policy, planning and regulation for water management, makes recommendations to all levels of government, and assists with solutions.

Goal 3: Maintain excellent water quality in the Okanagan

Water quality can be difficult to manage because small sources of pollution add up to big problems. Source protection falls into three areas: upper-watershed lakes and streams; agricultural areas; and developed cities, towns and roadways. Different actions are needed for each. Healthy riparian areas and wetlands protect water quality and reduce runoff. Aquatic invasive species are a specific kind of water pollution. Local communities need the tools and resources to maintain the quality of water sources and aquatic habitats, and provide safe drinking water.

Sub-goal 3 (a): The OBWB has the data and research needed to fully understand risks to source water, and how to manage those risks.

Source protection is one of the most complex issues facing the Okanagan. We rely on healthy lakes and streams for our drinking water, but we have multi-use watersheds under provincial jurisdiction, and our main valley lakes and most productive aquifers are surrounded by urban development and agriculture. Risk assessment, planning and response are ongoing challenges as our population increases. Water quality monitoring requires coordination, and more work is needed to expand water quality data collection and accessibility.

Desired Outcomes and Actions: There are consistent water quality baselines, indicators and targets for water quality in the Okanagan. The OBWB supports research and data collection, and helps to promote best practices and to share and manage water quality data.

Sub-goal 3 (b): Communities and sectors collaborate on approaches to protect water quality.

Many source protection conflicts can be reduced through policy and management practices. The province, Indigenous Peoples, water purveyors, and a large number of different resource users are finding ways to work collaboratively on source protection to minimize the impact of range uses, resource development, and recreation. There is a need for additional research, policy, and planning so that approaches are consistent throughout the watershed.

Desired Outcomes and Actions: Local governments, water purveyors, Okanagan Indigenous communities, provincial agencies and other partners, including the public, to work collaboratively on source protection. The OBWB supports these collaborations, research and policy development, and advocates to senior governments for water-protective policies.

Sub-goal 3 (c): Pollution is reduced in developed areas through infrastructure improvements and policies that limit contamination of surface and ground waters.

Although wastewater treatment has reduced sewage pollution overall, a growing population and resulting development has increased the volume of stormwater. This has increased the need to reduce pollution from stormwater and to better understand emerging contaminants. Stormwater flows mostly untreated into the valley lakes, potentially polluting one of our primary drinking sources and our greatest natural asset. During intense rain events – expected to occur more frequently with climate change – stormwater can flood small neighborhood streams with contaminated water. Infrastructure improvements, sized for climate change, along with best planning practices, are essential; supported with good policies by local and provincial governments.

Desired Outcomes and Actions: Local communities have funding and capacity to coordinate and improve stormwater and wastewater plans. The OBWB will share information, assist with communication and coordination, and help secure funding for plans and infrastructure improvement.

Sub-goal 3 (d): Okanagan communities understand the value of green infrastructure systems, and the condition of our existing natural assets, and have plans and policies to protect and restore them.

Wetlands, riparian areas and other natural buffers protect water quality, mitigate flooding and erosion, and have many other values as green infrastructure, especially for stormwater treatment. Communities need regularly updated inventories of sensitive areas, and plans and policies to protect, restore and maintain them over time. Engineered natural systems, like constructed wetlands, have many of the same functions that nature provides.

Desired Outcomes and Actions: Communities in the Okanagan successfully identify, inventory and evaluate natural assets. They protect and restore green infrastructure. The OBWB supports this work, and helps to secure funding to protect and restore green infrastructure in the Okanagan.

Sub-goal 3 (e): Harmful new aquatic invasive species, including zebra mussels, are kept out of the Okanagan, and Eurasian watermilfoil continues to be controlled.

It is impossible to eradicate aquatic invasive species once they enter the Okanagan lake system, as the OBWB has experienced with watermilfoil. Only the provincial and federal governments have authority to inspect boats and equipment at B.C.'s borders. The province is coordinating efforts to educate boaters and recreational users who can unknowingly spread invasive species. The role of the OBWB and local communities is to both advocate for prevention and to think ahead about management options for current and potential invasive species. We have a long-

standing mandate to manage watermilfoil, and if necessary to support mitigation efforts for other aquatic invasive species.

Desired Outcomes and Actions: No new invasive aquatic species are introduced into the watershed, and watermilfoil is successfully managed in the mainstem lakes. The OBWB advocates for inspections, regulations and controls; educates the public to raise awareness of the potential threats and future costs of new invasive species; and continues to actively manage watermilfoil.

Goal 4: Advancing Partnerships with Okanagan Indigenous Communities

The governments of Canada and British Columbia have committed to recognizing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Significant changes in senior government policy will be coming, and local governments have an important role to advance reconciliation. The OBWB will take steps to further our engagement and partnerships with Okanagan Indigenous communities, committing to ongoing learning about Indigenous culture, Indigenous values with respect to water, and rights of self-determination.

Sub-goal 4 (a): The OBWB’s directors, staff and council members are knowledgeable about the history, culture and values of Okanagan Indigenous communities with respect to water.

Education and understanding are essential for strong partnerships, and non-Indigenous communities have had few opportunities to learn about the Indigenous history, culture and values of the Okanagan, and the ways that traditional knowledge complements Western science. Okanagan Indigenous communities have a strong vision for the future, which can inform OBWB’s projects and programs.

Desired Outcomes and Actions: The OBWB takes advantage of opportunities for engagement and learning from Okanagan Indigenous communities. The OBWB will work with Indigenous communities to support and participate in meetings, workshops, and field activities.

Sub-goal 4 (b): The OBWB has solid long-term partnerships with Okanagan Indigenous communities focused on advancing mutual goals to protect Okanagan water quality and supply.

The OBWB has had many partnerships with the Okanagan Nation Alliance and individual Indigenous communities in the valley, including projects on environmental flow needs and wetland restoration. There are many opportunities for aligning efforts, including potential for projects incorporating traditional knowledge and Western science. While undertaking these partnerships, the OBWB will respect the self-determination of Indigenous communities, and strive to abide by their principles established for data sovereignty.

Desired Outcomes and Actions: The OBWB and Okanagan Indigenous communities have increased their joint collaboration on projects that meet mutual water management goals. The OBWB works to identify and implement these collaborative projects.

Appendix A: Tracking Progress toward the Goals of this Strategic Plan

We will use the following tracking measures with to measure progress on this plan. They are not comprehensive, but they are important, measureable, tangible, and directly involve the OBWB. Some of the measures represent the maintenance of best practices rather than continued expansion. Some measures have readily-available data, and others will best be tracked through a qualitative, narrative approach. Each is associated with a specific goal. The OBWB will track progress with these measures annually in our annual reports. We will report on the barriers as well as the successes over time.

Tracking measures for Goal 1: Delivering our mandate across all projects and programs

A1 (a): Funding water in the valley

- Sum of grants to OBWB, annually and over the 5-year period of this strategic plan;
- Sum of successful grants to OBWB partners for which OBWB staff assisted with application.

A1 (b): Change through informed advocacy

- Clear examples of government policy changes, consistent with OBWB advocacy.

A1 (c): Educated public

- Okanagan WaterWise survey results measuring changes in public knowledge about water availability, water quality, and invasive aquatic species.

A1 (d): OWSC engagement

- The attendance of Council members at meetings, and the diversity of the sectors attending;
- The Number of letters, reports and other documents prepared by OWSC members for OBWB.

Tracking measures for Goal 2: Managing water for all needs, under all conditions

A2 (a): Plans for climate adaptation

- Number of drought and flood response plans and reports, and other climate adaptation-related initiatives developed by the OBWB, or with OBWB assistance.

A2 (b): Availability of water data

- Benchmark analysis of where hydrometric and weather stations are needed for water management in the Okanagan;
- Number of hydrometric stations under operation with publicly-available data, including Water Survey stations, and independently-operated stations;
- Number of climate/weather stations under operation with publicly-available data, including government-operated stations, and independently-operated stations.

A2 (c): Excellent water science

- The number and scope of initiatives, with OBWB involvement, to improve Okanagan models of surface flow, groundwater, and groundwater/surface water connections.

A2 (d): Improving water efficiency

- The number and scope of initiatives, with OBWB involvement, to improve Okanagan water use efficiency.

A2 (e): Managing water for all needs

- Water management is primarily a provincial responsibility, although Indigenous and local governments also have significant roles. As the OBWB has a mandate to identify gaps, make recommendations, and assist with solutions, the tracking measure should be a narrative of the successes and failures related to water management over the life of this plan.

Tracking measures for Goal 3: Maintaining excellent water quality in the Okanagan

A3 (a): Understanding risks to source waters

- The number, scope and progress of initiatives, with OBWB involvement, related to research, data collection, and the development of baselines and targets for source water quality.

A3 (b): Fostering collaborative approaches

- The number of formal new Okanagan source assessments and source protection plans, as well as their consistency among water purveyors;
- OBWB advocacy for provincial policy changes to protect water quality.

A3 (c): Pollution reduction through policy and infrastructure

- Demonstrated improvements to stormwater management in the Okanagan, with OBWB involvement, including infrastructure, plans and policies.

A3 (d): Supporting green infrastructure

- The number and scope of green infrastructure initiatives, with OBWB involvement, including physical green infrastructure as well as plans and policies that support green infrastructure.

A3 (e): Preventing and controlling aquatic invasive species

- The measure of OBWB's successful management of invasive milfoil on public beaches and boating areas;
- The scope and success of prevention measures and advocacy to exclude invasive mussels.

Tracking measures for Goal 4: Advancing partnerships with Okanagan Indigenous Communities

A4 (a): Increasing knowledge about Okanagan Indigenous history, culture and values

- The number of Indigenous-led workshops, training sessions and other education opportunities attended or undertaken by OBWB board, staff, and members of the OWSC each year.

A4 (b): Partnerships with Indigenous communities

- The number and scope of initiatives, new and ongoing, undertaken in partnership with Okanagan Indigenous communities.

MEMORANDUM

Okanagan Basin Water Board
Regular meeting
May 5, 2020
Agenda No: 7.1

File No. 0550.04

To: Board of Directors
From: Nelson R. Jatel
Date: April 29, 2020
Subject: **Okanagan Hydrometric Information Management Options - update**

Okanagan hydrometric station network:

At the request of the Board, staff is developing options to address current and future unmet Okanagan hydrometric information needs. Comprehensive hydrometric information is essential for at least three areas of water management in the Okanagan: (1) local government infrastructure, (2) site-specific environmental flow needs, and (3) hydrometric and hydraulic modelling.

An ad hoc committee has been set-up to review and support the introduction of new options for Board consideration and consists of the following members:

- Don Dobson, Dobson Engineering
- Neil Goeller, B.C. Ministry of Environment (MoE)
- Shawn Grundy, District of Peachland
- Denise Neilsen, Water Stewardship Council
- Drew Lejbak, Associated Engineering
- Zee Marcolin, RDNO
- Rich McCleary, Fisheries & Oceans Canada
- David Hutchinson, Environment & Climate Change Canada
- Brian Guy, independent
- Elinor McGrath, Okanagan Nation Alliance
- Rod McLean, City of Kelowna
- Jamison Roman, BC MoE
- Trevor Scott, City of Vernon
- Ryan Whitehouse, B.C. Min. Forests, Lands, Natural Resource Ops, Rural Development
- Zoe Kirk, RDOS
- Nelson Jatel, OBWB

As part of the development of a report for board consideration, the ad hoc committee is reviewing previous hydrometric assessments including:

- **Recommendations from Summary Report of Water Supply and Demand Project (2010)**
- **Surface Water Hydrology and Hydrologic Modelling Study “State of the Basin” Report (2009)**
- **Hydrometric Network Requirements for the Okanagan Basin (2008)**

A full review including recommendations will be presented at the June 2nd, 2020 Board meeting.