

## Okanagan Basin Water Board Meeting Agenda



**DATE:** Tuesday, October 3, 2017

**TIME:** 10 a.m. to 2 p.m.

**PLACE:** Regional District of North Okanagan  
9848 Aberdeen Rd., Coldstream, B.C.

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1. **CALL MEETING TO ORDER**

2. **INTRODUCTION OF LATE ITEMS**

3. **DELEGATION**

- 3.1 Colleen Marchand, Okanagan Indian Band's Director of Territorial Stewardship Division/ EOC Director for 2017 flooding on Floods, Aftermath and Preparing for Future Events
- 3.2 Jennifer Miles, Greater Vernon Water's Water Sustainability Coordinator on Water Supply Communication Efforts with Agricultural Customers

4. **APPROVAL OF AGENDA**

5. **ADOPTION OF MINUTES**

- 5.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of September 8, 2017 at Westbank Lions Community Centre *(page 1)*

6. **CHAIR'S REPORT**

7. **STAFF REPORTS**

- 7.1 Executive Director Report *(page 6)*
- 7.2 Water Stewardship Director Report *(page 8)*
- 7.3 Operations and Grants Manager Report *(page 14)*
  - 7.3.1 UBCM Invasive Mussel Briefing Note and Backgrounder
- 7.4 Communications Director Report *(page 26)*
  - 7.4.1 OkWaterWise Communications & Outreach Coord. – 2017 Outreach Summary
- 7.5 Policy and Planning Specialist Report *(page 36)*

8. **NEXT MEETING**

- 8.1 The next meeting of the Okanagan Basin Water Board will be Tuesday, November 7, 2017 at the Regional District of Central Okanagan.

9. **ADJOURNMENT**



**MINUTES OF A REGULAR MEETING OF THE OKANAGAN BASIN WATER BOARD  
HELD SEPTEMBER 8, 2017, AT THE WESTBANK LIONS COMMUNITY CENTRE  
2466 MAIN ST., WEST KELOWNA, B.C.**

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**PRESENT**

Chair Tracy Gray	Regional District Central Okanagan
Vice-chair Juliette Cunningham	Regional District North Okanagan
Director Rick Fairbairn	Regional District North Okanagan
Director Ron Hovanes	Regional District Okanagan-Similkameen
Director Doug Findlater	Regional District Central Okanagan
Director Cindy Fortin	Regional District Central Okanagan
Director Sue McKortoff	Regional District Okanagan-Similkameen
Director Peter Waterman	Regional District Okanagan-Similkameen
Director Toby Pike	Water Supply Association of BC
Director Lisa Wilson	Okanagan Nation Alliance
Director Brian Guy	Okanagan Water Stewardship Council

**REGRETS**

Director Doug Dirk	Regional District North Okanagan
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**OBWB STAFF**

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

**1. CALL MEETING TO ORDER**

Chair Gray called the meeting to order at 12:34 p.m.

**2. INTRODUCTIONS OF LATE ITEMS**

- 6.1.2 Letter from MPs Arnold and Albas to federal Ministers re: invasive mussel prevention
- 6.1.3 OBWB introductory letter to new provincial government re: water issues

**3. APPROVAL OF AGENDA**

***“THAT the agenda of the regular meeting of the Okanagan Basin Water Board of August 1, 2017 be approved as amended.”***

**CARRIED**

**4. ADOPTION OF MINUTES**

- 4.1 Minutes of the Regular Meeting of the Okanagan Basin Water Board of August 1, 2017 at Regional District of Central Okanagan in Kelowna.

***“THAT the minutes of the regular meeting of the Okanagan Basin Water Board of August 1, 2017 at Regional District of Central Okanagan in Kelowna be approved.”***

**CARRIED**

**5. CHAIR REPORT**

Ms. Gray noted the successful Annual Meeting. She also acknowledged the work of Alyssa Bougie, Okanagan WaterWise Communications and Outreach Coordinator, who conducted outreach on water issues, starting in February. This was Ms. Bougie's last board meeting. Her last day is Sept. 22.

**6. STAFF REPORTS****6.1 Executive Director Report**Flooding Update

Dr. Sears reported on flood recovery meetings held in Vernon. The meeting was organized by the Regional District of North Okanagan (RDNO) with local consultants and provincial staff to look at the challenges this past spring and how best to address future flooding. A follow-up meeting was held with Regional District of Okanagan Similkameen (RDOS). RD of Central Okanagan (RDCO) will be holding a similar one. The plan is to then hold one large meeting for the entire valley to share lessons and ensure better coordination for future events. There was also a residential meeting held in Oliver for those affected by flooding, she added.

Federal funding is available for local government for floodplain mapping and flood risk assessments. Staff assisted RDCO and RDOS with submissions. Okanagan Nation Alliance also submitted an application for areas not covered by the regional district proposals. All three applications were coordinated and cross-referenced.

Staff have also been talking with Emergency Management BC and B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development on the need for LiDAR (Light Detection and Ranging) flights in the fall to help predict what areas will flood at what lake elevations. This type of information is considered essential for accurate flood mapping. Approval of the project will be dependent on funding.

Dir. Findlater noted that this year's flooding and response suggests the need for a stronger coordinated Emergency Operations Centre response across the valley. Dr. Sears added that this is something that can be discussed further.

Osoyoos Lake Board of Control

The International Joint Commission (IJC)'s Osoyoos Lake Board of Control has its annual meeting on Oct. 17. In addition to its regular meeting there will be the premier of A River Film, produced by the Washington State Dept. of Ecology, funded by the IJC and OBWB. The film looks at the transboundary challenges of managing Okanagan River and Osoyoos Lake. A second red-carpet screening is planned for Oct. 25 at the Oliver Theatre.

Additional Items

ONA holds its annual Salmon Feast in Okanagan Falls Sept. 17.

The UBCO Water Research Chair advisory committee is looking to reorganize and expand to include a broader community spectrum.

The new B.C. government has requested an external review of the management of the Hullcar aquifer. Dr. Sears was asked and has agreed to provide the review committee any research the OBWB may have that would assist.

Staff were invited by City of Kelowna to submit a blog post to their Imagine Kelowna website on the importance of water conservation.

Staff attended a meeting in Vernon, organized by MP Mel Arnold, to discuss the invasive mussel issue. Dir. Findlater added that he also had a follow-up discussion with MP Terry Beech, Parliamentary Secretary for Fisheries, Oceans (DFO) and the Canadian Coast Guard, whom he and other OBWB directors met with in Ottawa in June. During the recent federal Liberal caucus meeting in Kelowna, Dir. Findlater took the opportunity to discuss with MP Beech the possibility of federal allocations to address the mussels.

The board discussed the possibility of sending a follow-up letter to federal officials, including MP Beech, regarding funding for mussel prevention in Western Canada. It was noted that the letter should also acknowledge that DFO staff attended the recent meeting of the Pacific NorthWest Economic Region (PNWER), as recommended by the Water Board, and that the reporting of potential watercraft of concern by Canada Border Services Agency staff to the provincial inspection team is said to be improving.

Dr. Sears also noted the letter sent by the OBWB to the new B.C. government, introducing the agency and some of the top issues of concern.

***“THAT the Executive Director’s Report, dated Aug. 30, 2017, be received.”***  
**CARRIED**

## 6.2 Water Stewardship Director Report

Mr. Jatel spoke to the previous council meeting and a presentation on the Environmental Flow Needs project with ONA’s Eleanor McGrath who is involved in the field work, consultant Drew Lejbak who is supplementing the ONA work with a desktop collection model and Natasha Neumann who is handling data collection.

There was also a presentation by Rob Schweitzer with B.C. Wildfire Service with an update on this year’s fire season, noting close to 200,000 hectares has burned with the largest fires still uncontained, and at a cost estimated to reach \$680 million.

Dr. Sears added that there was interesting discussion around the need for forest management and prescribed burns. Board directors voiced similar interest, with one noting a Black Mountain Irrigation District study that looked at forest management to protect water supply. Dir. Wilson said that ONA is working on some similar forest ecology projects that may be an opportunity to work together. Dr. Sears noted this may be a potential topic for a council committee.

***“THAT the Water Stewardship Director’s report, dated August 29, 2017, be received.”***  
**CARRIED**

## 6.3 Operations and Grants Manager Report

Mr. Littley told the board that the summer milfoil harvesting season is now complete and the crew is getting ready for winter rototilling. It was noted that the office has been contacted about a private harvester being used on the Westside. OBWB milfoil staff have offered to assist in training for operating safety. The machine will cover a private waterway treated by OBWB in the past on a cost-recovery basis.

There was further discussion regarding the letter from the OBWB to DFO regarding invasive mussels, following up on the June meeting in Ottawa and the correspondence that followed. It was suggested the letter thank DFO for sending a representative to PNWER, and acknowledge the apparent improvement with CBSA interviewing those hauling watercraft and contacting the province when it’s determined an inspection is required. It was also suggested that the letter

ask for clarification regarding regional Aquatic Invasive Species (AIS) funding and ask for at least matching provincial funds for monitoring and inspections.

Ms. Jackson added it should be clear what is meant by matching provincial funds since the province provided \$2.45 million in 2017, matching the \$2 mill. provided by B.C. Hydro, Fortis BC, Columbia Power and Columbia Basin Trust for a total of \$4.45 mill. It was noted that research as to how much is required would be prudent.

There was discussion about the provincial program and gaps that still exist and the need to relay this to the new B.C. government (e.g. need for expanded hours, legislation requiring out-of-province watercraft to be inspected before launching in B.C. waters, and ongoing funding).

The success of the invasive mussel dog program was also noted. There were also questions about B.C. funding announced for the Habitat Conservation Trust Foundation to assist local stewardship groups to conduct water monitoring and when these funds will be released, as well as the need for more boat launch signage and perhaps watercraft wash stations.

***“THAT the OBWB send a letter to federal officials acknowledging DFO attendance at PNWER in July and reported improvements in collaborative efforts between CBSA and B.C. COs, and request clarification regarding regional AIS funding and recommend at least matching provincial funds for monitoring and inspections.”***

**CARRIED**

There was also discussion about a follow-up letter to the new provincial government. It was decided to wait until after the upcoming Union of BC Municipalities convention since the issue was going to be raised at the conference and directly with ministers.

***“THAT the Operations and Grants Manager’s Report, dated August 30, 2017, be received.”***

**CARRIED**

#### 6.4 Communications Director Report

Ms. Jackson reported on a call from a local resident with lakefront property in the Thompson Nicola Regional District who wanted the Don’t Move A Mussel (DMM) boat launch signs with the Clean-Drain-Dry information. Staff offered to speak directly with TNRD staff and share the design file. The response from TNRD was that they work with the Fraser Basin Council (FBC) on such water-related issues and this hasn’t been high on their radar. Staff have since contacted the FBC to elevate the issue.

In response to previous comments during the Executive Director’s report, Ms. Jackson added the need for more boat launch signage in the Okanagan has been noted in the past. She spoke with provincial staff in spring 2016 and offered to assist and had some interest, but the province did not follow through. The same boat launch signs have also been made available to Okanagan local governments and several have received them. Most recently, RDNO has inquired to purchase some.

It was acknowledged that the DMM message is reaching organizers of water-related events in our valley. The most recent example is the Mobility Cup, with competitors coming with sailboats from mussel-infested areas including Ontario and Quebec. Organizers contacted the OBWB looking to ensure their watercraft were inspected and OK to launch in Okanagan Lake. Staff initiated the call to the province to ensure appropriate inspections were lined up and are planning to conduct DMM outreach at the actual event.

The board was briefed on the Make Water Work (MWW) campaign. Although the contest ended Aug. 20 and a winner will be announced soon, Ms. Jackson added that the continued hot, dry weather has led to a change in the MWW messaging to address the current drought. Information has been posted on the [MakeWaterWork.ca](http://MakeWaterWork.ca) website, and radio ads are running. Outreach will also continue until the end of September.

***“THAT the Communications Director’s Report, dated August 29, 2017, be received.”  
CARRIED***

6.5 Policy and Planning Specialist Report

Ms. Garcia told the board that the Level 2 Drought declaration by the province for the Thompson-Okanagan triggered the OBWB’s Drought Response Strategy. The strategy was developed following the 2015 drought to ensure better communication between the province, local water managers and the public. There was some initial confusion with the Level 2 declaration since it included the Thompson and addressed streams of concern in the South Okanagan, but were not necessarily an issue at the time in the North and Central Okanagan. OBWB staff responded with the publication of a Drought Bulletin, sent to Okanagan local governments and water utilities, and the media, explaining the situation in our basin.

Dir. Pike noted it might be better if the province was more targeted in its communications to prevent confusion. Dir. Findlater questioned what would have happened this summer, considering how dry it was in winter and in summer, if we hadn’t had the spring rains, and whether communities are prepared.

Ms. Garcia also told directors about a grant application submitted to the Federation of Canadian Municipalities to assist with the Water Board’s toolkits and guides project, helping build greater uptake by local governments in the various tools available to assist in building sustainable communities (e.g. the OBWB’s Topsoil Bylaws toolkit).

***“THAT the Policy and Planning Specialist’s Report, dated August 29, 2017, be received.”  
CARRIED***

7. **NEXT MEETING**

The next meeting of the Okanagan Basin Water Board will be Tuesday, October 3, 2017 at the Regional District of North Okanagan in Coldstream.

8. **ADJOURNMENT**

***“THAT there being no further business, the regular meeting of the Okanagan Basin Water Board of September 8, 2017 be adjourned at 2:24 p.m.”  
CARRIED***

Certified Correct:		
Chair		Executive Director



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
October 3, 2017  
Agenda No: 7.1

File No. 0550.04

To: OBWB Directors  
From: Anna Warwick Sears  
Date: September 27, 2017  
Subject: **Executive Director Report**

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### **Preparing the 2018-2019 Budget**

I've begun working on the budget for next fiscal year, working with OBWB staff and RDCO accountants. Our intention is to follow through on our plan to build the milfoil equipment reserve, following our asset replacement schedule, and to continue our water management program at about the same level. Our sewage facilities grants program budget is based on ongoing commitments (debt servicing grants). The budget will be presented at the November meeting. If any changes are required, the revised budget will be brought back for board approval in December. We are required in our legislation to pass our final budget in December each year.

Because of the early municipal election in October 2018, we will need to move our budget schedule forward next year, with preliminary budget submitted in September, and final approval in October.

### **UBCM Funding Discussions**

One of our strategies for undertaking large water management projects is to supplement our budget with external grants. I attended two sessions on funding at the Union of BC Municipalities conference. There are a number of very substantial new grants programs being established by both the province and federal governments – particularly focused on water, disaster preparedness and climate adaptation. Where the OBWB is not directly eligible for the grants, we will be working with Okanagan local governments to help them secure these grants.

### **UBCM Invasive Mussel Meetings**

On September 26<sup>th</sup>, I attended a meeting between the Southern Interior Local Government Association (SILGA) and Minister of Environment George Heyman. SILGA provided the minister with the OBWB's brief, and spoke passionately about the need to prevent mussel invasions. I spoke directly to the recommendations on the brief, and emphasized that they were developed through extensive consultations with the Pacific NorthWest Economic Region and government staff. Another meeting about mussels is scheduled with the minister on September 28<sup>th</sup>.

### **Osoyoos Board of Control Meeting and River Film Premier**

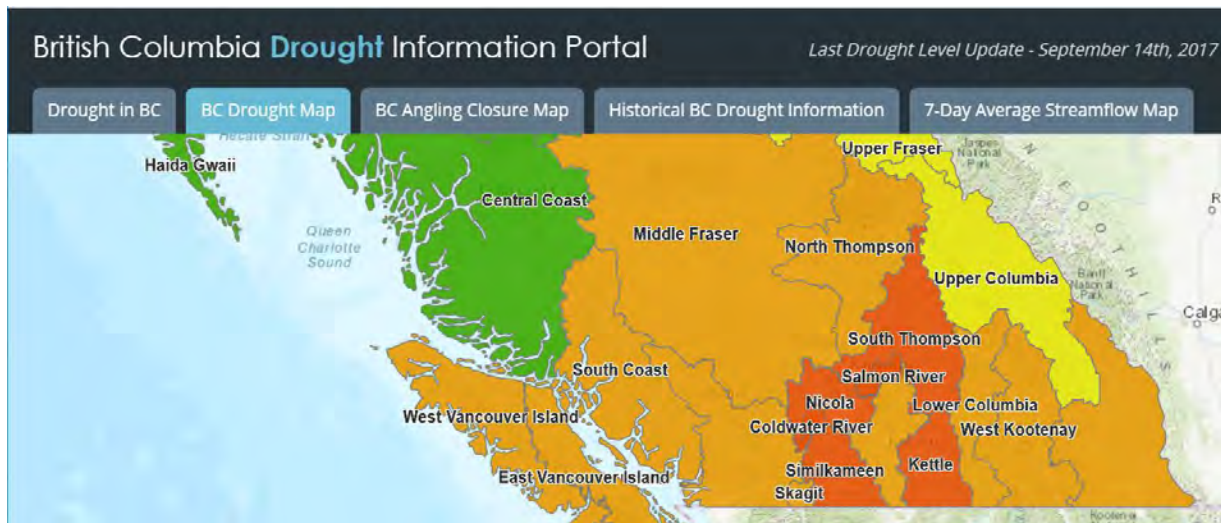
The International Osoyoos Lake Board of Control will be holding their annual public meeting in Osoyoos this year at the Sonora Centre on October 17<sup>th</sup>. This year, as part of the public meeting,

there will be a special screening of The River Film, produced by the Washington State Department of Ecology, funded by the International Joint Commission and supported by the OBWB. The film, 40 minutes long, describes the trans-boundary challenges of managing Osoyoos Lake, and the many uses and needs of the residents and ecosystem along the Okanagan River and Osoyoos Lake system. A second screening is planned October 25<sup>th</sup> at the Oliver Theatre, with additional plans for broader distribution.

### **Weather Report**

According to the latest B.C., Canada and U.S. Drought Monitor websites, the Okanagan is still in a moderate drought. Environment Canada and the National Oceanic and Atmospheric Administration (NOAA) seasonal forecasts continue to call for warmer than normal temperatures going forward into the autumn. NOAA gives a 55-60% chance for La Nina conditions forming in the Pacific this winter, potentially bringing wetter than normal conditions. There is a nice article on La Nina vs. El Nino weather patterns here:

<https://www.climate.gov/news-features/featured-images/how-el-ni%C3%B1o-and-la-ni%C3%B1a-affect-winter-jet-stream-and-us-climate>





## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
October 3, 2017  
Agenda No: 7.2

File No. 0550.04

To: Board of Directors  
From: Nelson R. Jatel  
Date: September 27, 2017  
Subject: Water Stewardship Director's Report

### Water Stewardship Council (Council) September's meeting

A summary of September's Council meeting is attached. One of Council's presentations explored the 2017 summer's fire season and some of the implications to Okanagan water. **Rob Schweitzer** from BC Wildfire Services Kamloops Fire Centre presented on the scale and impacts from this summer's wildfire season. As of early September, a total of 1,163,545 ha of forest burned



province-wide, which compared to a 10-year average of 154,944 ha and accounted for the largest wildfire event in the history of BC. In view of recent climate trends dry hot summers might become new normal condition in the Okanagan and surrounding regions, increasing the potential for spontaneous or human-induced forest fires. The risk of devastating wildfires can be substantially reduced if innovative collaborative approaches to forest management can be agreed upon and implemented in the region. Council members noted that specifically, fire suppression operations might be supplemented with prescribed fires and logging operations that would substantially reduce the forest fire impacts on Okanagan communities.

A second Council panel discussion provided a progress report on the collaborative (OBWB/ONAFD/FLNRO) Environmental Flow Needs (EFN) project and noted the significant amount of stream flow data that had been collected over the past two seasons and entered into the Aquarius hydrometric database for analysis. The fall will provide the project team an opportunity to apply the collected data and develop EFN curves for the 19 pilot streams. Part of the effort to develop Okanagan EFN values was the development of new customized methods for estimating naturalized

flows in Okanagan Rivers and the development of Okanagan specific fish habitat indices. The project continues to proceed on time and on budget.

### ***Council recommendations***

A Council committee has been reviewing Council member nominations with an emphasis on reviewing emeritus and youth members. The committee Chair, Dr. Brian Guy, presented a Nomination Committee report at the September Council meeting (see attached memo) and the findings were discussed. The committee and Council discussed the value of youth participation and input and identified that the current approach enables youth participation. The Council communication committee will actively encourage youth participation. The Council voted favorably to forward the following recommendations from the Council to the Board:

1. The OBWB receive the Council membership nomination committee report dated August 31, 2017, and;
2. The OBWB consider the following Council recommendation:

The OBWB governance manual will include “emeritus” to section 7.2 to be read as follows:  
“7.2. The Okanagan Basin Water Board will invite selected organizations, emeritus members and jurisdictions to designate a representative to the Council – subject to Board ratification.”

### ***October 12<sup>th</sup> Council meeting***

All board members are invited and encouraged to attend our October 12 Council meeting at the Coast Capri Hotel from 12:30pm – 4:30pm. Guest speakers include:

UBCO water (fishery) research

- **Michael Rusello**, Professor, UBC Okanagan

2017 flood year: review and considerations

- **Brian Symonds**, retired (TBC)
- **Shaun Reimer**, Section Head, Public Safety and Protection (TBC)

Active OBWB project: invasive mussels’ prevention

- **James Littley**, OBWB policy lead

### **Project updates**

#### ***Environmental Flow Needs Project – Okanagan historic settler fishing survey***

A collaborative project between the OBWB and the ONA Fishery Department looked at capturing local knowledge about the historic Okanagan fishery. Some of the questions that were explored included: Where did people fish in the Okanagan? What species of fish were caught? How has fishing changed in the Okanagan? The survey project team members were: *Richard Bussanich* (ONAFD), *Rick Simpson* (BCWF-Region 8 fishery committee), *Scott Boswell* (OCCP), and *Nelson Jatel* (OBWB). The project facilitations, data collection and reporting was conducted by *Ecoscape Environmental Consultants*. The results of this project captured a small segment of the Okanagan fishing history with information that dates back to the 1880’s. Through a public engagement process, which involved an online survey, as well as three coffee shop meetings, anglers shared their personal experience and stories told in their families about Okanagan fishing history.

The report noted that fishing has always been a prominent part of the lives of Okanagan homesteaders and residents, and that they have long benefitted from the abundance of fish that the valley possesses. Survey participants reported that they have seen a drastic shift from subsistence fishing to recreational fishing in the past few decades. Population growth was identified as a possible negative impact on the Okanagan fishery.

In parallel to this small project, the ONA is working with Okanagan First Nation community members and knowledge keepers to document important fishing stories, histories, cultural and environmental values, and community narratives. This project supported capturing a small and potentially complementary part of recent Okanagan local knowledge of the fishery.



*Exploring local knowledge about historic Okanagan fisheries.*



*1941 regional fishing contest certificate.*

## MEMORANDUM

Water Stewardship Council  
Regular meeting  
September 7, 2017

To: Water Stewardship Council  
From: Brian Guy  
Date: August 31, 2017  
Subject: Council membership nomination committee report

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Committee attendance: Brian Guy, Denise Neilsen, Zoe Kirk, Rob Birtles, Nelson Jatel

### Nomination committee

The nomination committee met via conference call on August 31<sup>st</sup> to discuss Council membership as outlined in their terms of reference (attached). The committee took seriously the original considerations for Council membership and composition with a historic and intentional focus on Council membership being organizations and not individuals. The current OBWB governance manual states:

7.2. The Okanagan Basin Water Board will invite selected organizations and jurisdictions to designate a representative to the Council – subject to Board ratification.

It was agreed by the committee that it is desirable to include an *emeritus membership* as part of the Board's governance of the Council. Council emeritus membership is defined as:

An individual who previously held a Council membership, having retired from their respective organization, is eligible to be nominated as a Council member in subsequent Council terms.

### Recommended action

After deliberating on a variety of Council member nomination considerations, the committee proposes two recommendations for Council consideration:

1. The OBWB governance manual add the words "and emeritus" to section 7.2 of the OBWB governance manual so that it would read:  
"7.2. The Okanagan Basin Water Board will invite selected organizations, emeritus members and jurisdictions to designate a representative to the Council – subject to Board ratification."

Note: Staff recommend that the number of emeritus members be capped to three (3) to ensure the original spirit of the Council nomination governance, and the original intention to keep the Council small and agile.

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2. The nomination committee be turned into a standing committee of the Council that works with staff to recommend future Council membership.



## Okanagan Water Stewardship Council

Technical advisory committee to the OBWB



September 2017

### Council Members

(Term 7: November 2016 – April 2018)

#### Appointed representatives / alternates

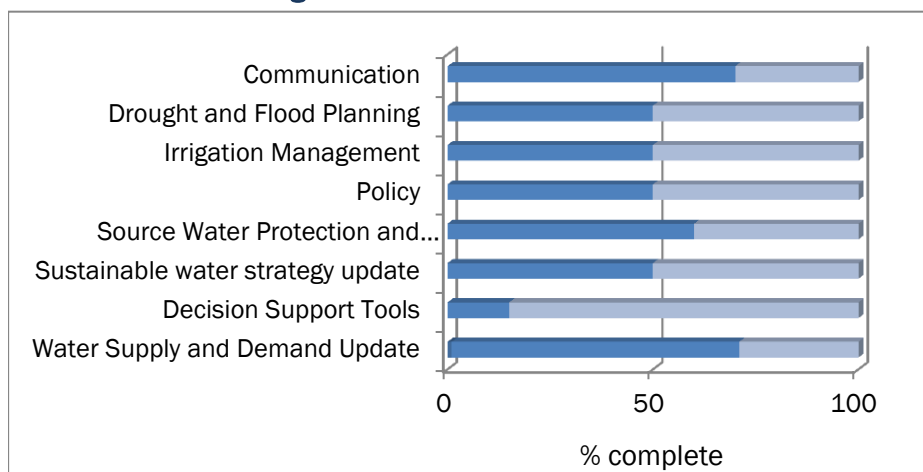
<ul style="list-style-type: none"> <li>• <b>AAFC, Research Branch</b> Denise Neilsen / Scott Smith</li> </ul>
<ul style="list-style-type: none"> <li>• <b>APEGBC</b> Don Dobson / Sue Lapp / Shawn Badasha</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Agriculture Council</b> Hans Buchler / Christine Dendee</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Cattlemen's Association</b> Lee Hesketh / Linda Allison</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Fruit Growers Association</b> Glen Lucas / Kevin Day / Richard McDonald</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Ground Water Association</b> Marta Green / Remi Allard</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Ministry of Agriculture</b> Andrew Petersen / Stephanie Tam</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Water Supply Association</b> Bob Hrasko / Patti Meger</li> </ul>
<ul style="list-style-type: none"> <li>• <b>BC Wildlife Federation – Region 8</b> Doug Flintoft / Lorne Davies</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Canadian Water Resources Association</b> Brian Guy/ Rod MacLean/ Dwayne Meredith</li> </ul>
<ul style="list-style-type: none"> <li>• <b>City of Kelowna</b> Jason Angus</li> </ul>
<ul style="list-style-type: none"> <li>• <b>City of Vernon</b> Ed Stranks / Rob Miles</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Fisheries and Oceans Canada</b> Doug Edwards</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Interior Health</b> Rob Birtles / Judi Ekkert</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Kelowna Chamber of Commerce</b> Tom Dyas / Jeff Robinson</li> </ul>
<ul style="list-style-type: none"> <li>• <b>IIBC</b> Ted van der Gulik / Bruce Naka</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Ministry of FLNRO: Fish/Wildlife</b> Lora Nield</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Ministry of FLNRO: Resource Mgmt</b> Robert Warner / Ray Crampton</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Okanagan Collaborative Conservation</b> Scott Boswell / Tanis Gieselman</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Okanagan College</b> Allison MacMillan / Rob St Onge</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Okanagan Mainline Real Estate Board</b> David O'Keefe / Howard Neufeld</li> </ul>
<ul style="list-style-type: none"> <li>• <b>RD of Central Okanagan</b> Danika Dudzik</li> </ul>
<ul style="list-style-type: none"> <li>• <b>RD of North Okanagan</b> Renee Clark / Jennifer Miles</li> </ul>
<ul style="list-style-type: none"> <li>• <b>RD of Okanagan –Similkameen</b> Zoe Kirk / Evelyn Riechert</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Shuswap Okanagan Forestry Association</b> Murray Wilson / Michael Bragg</li> </ul>
<ul style="list-style-type: none"> <li>• <b>UBC Okanagan</b> Bernard Bauer / Carolina Restrepo-Tamayo</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Okanagan Nation Alliance (observers)</b> Zoe Eyjolfson /Elinor McGrath /Natasha Lukey</li> </ul>
<ul style="list-style-type: none"> <li>• <b>ECCC Canada– Pacific&amp;Yukon (observers)</b> Kendall Woo / Ian Rogalski</li> </ul>

### Council Meeting Highlights\*

- The membership nomination committee proposed changes to support up to three 'unaligned' former council members and creating a standing membership committee; proposed changes were approved unanimously by Council.
- The OBWB *Environmental Flow Needs (EFNs) project* is a partnership between the OBWB, Okanagan Nation Alliance Fishery Department and the provincial government. This project is invaluable in helping understand the preferred amount of water required for fish at different life stages and inform water license allocation decisions. Members of the EFN project team, **Elinor McGrath**, **Natasha Neumann**, and **Drew Lejbak**, presented an update on the intensive two year field sampling program, extensive data management, and naturalized flow calculations developed for this project.
- **Rob Schweitzer**, Fire Centre Manager (Kamloops), presented on the 2017 fire year (ongoing) involving the largest area burned in history of the BC government with over 22,000 people evacuated and over \$473 million in damage and counting. Collaborative work, investments and better coordination with local government are needed to protect communities from fire.
- Council committees were active over the summer finalizing and delivering on their action work plans and chairs reported on progress.
- Proposal to create a new *Water Research Cluster at UBCO* is under development. Council members encouraged to provide a letter of support by Monday, September 18<sup>th</sup> to **Marni Turek**, Watershed Management Research Extension Facilitator.
- Flood activities continue to be a priority for provincial and local governments. LIDAR data is needed to develop updated flood maps for the Okanagan.

\* Council meeting minutes are posted at: [www.obwb.ca/wsc](http://www.obwb.ca/wsc)

### Active council working committees



For more information contact:

**Nelson Jatel**, Water Stewardship Director  
Okanagan Basin Water board

[nelson.jatel@obwb.ca](mailto:nelson.jatel@obwb.ca)

(250) 469-6295

[www.obwb.ca/wsc](http://www.obwb.ca/wsc)



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
October 3, 2017  
Agenda No: 7.3

File No. 0550.04

To: OBWB Directors

From: James Littlely

Date: September 27, 2017

**Subject: Operations and Grants Manager Report**

### Milfoil Control Program Update – Vaseux Lake

In summer 2016, residents around Vaseux Lake requested that OBWB start treating milfoil in the lake. The proposed work areas cover 67 Ha, which is equivalent to almost 24% of the total surface area of the lake. At that time, I advised them that rototilling would be the best option for long term treatment, and that there were several issues that would need to be addressed prior to OBWB undertaking any work. I indicated it would likely take until at least November 2017 before we could begin any treatment. The issues and concerns are as follows:

1. Vaseux Lake is a migratory bird reserve, with a no-motors restriction on the lake.
  - A federal permit from Environment and Climate Change Canada was issued in November 2016 to allow milfoil control on the lake.
2. OBWB requires a permit to conduct work ‘in and about a stream’ under the B.C. Water Sustainability Act.
  - OBWB applied for a provincial permit in October 2016. We have yet to receive the Habitat Officer’s Terms and Conditions, which would authorize the work. I am meeting with the Habitat Officer on Thursday, Sept 28, and will provide a verbal report to the board on the outcome of that meeting.
3. There is no boat launch large enough to accommodate our machines around the lake.
  - RDOS Public Works has been working on this issue, trying to identify a suitable location, and establish which permits may be needed for the launch site.
4. First Nations Fisheries and Cultural/Archeological considerations.
  - In June 2017, I met with staff from the Okanagan Nation Alliance and Osoyoos Indian Band to discuss concerns around the effect that rototilling and milfoil removal may have on ONA fisheries work, and possible solutions.
  - At that meeting, I was also made aware that there may be cultural/archeological sites in or around the lake, which pre-date the building of McIntyre Dam, and the channelization of the river.
  - As part of our milfoil permitting and mapping budget, \$5,000 was set aside to offset the costs for ONA staff to create a work plan to identify and address concerns. This may lead to further collaborative mapping or fisheries-related work.
5. First time rototilling in undisturbed areas
  - Since Vaseux Lake has never been rototilled in the past, it is unknown what may be released from the sediment of this shallow, small lake, and what potential effect it could have on water quality and the ecosystem. This is of special concern since, as noted above, the proposed work area covers 24% of the total surface area of the lake.

- We have started discussions with Dr. Jeff Curtis at UBCO, who has indicated there is potential for release of lead, arsenic, nitrate, and phosphorus, as well as other substances, which could lead to toxic bacteria and algae growth, affecting Vaseux, and also the Okanagan River downstream and Osoyoos Lake.

While milfoil removal in Vaseux will have benefits for shoreline recreational values and potential long-term water quality benefits, it also has the potential to create larger impacts to human health and fish, and could potentially have drastic impacts on the health of Osoyoos Lake downstream.

### **Invasive Mussel Update**

On September 22, I sent an email including a new briefing note, and backgrounder (below) regarding Calls to Action around invasive mussels to Directors, and several other agencies. The intention of the email was to ask for support from other organizations to create a unified message to both the provincial and federal governments, and to provide context for those involved in meetings at UBCM.

As directed at the September Board meeting, and with feedback from Directors on the outcomes of UBCM, I will be preparing open letters from the board to both levels of government. Drafts of these letters will be circulated via email to the board for final comments.

BRIEFING NOTE FOR MINISTERIAL MEETINGS AT UBCM

**PREVENTION OF INVASIVE MUSSEL INTRODUCTIONS TO BRITISH COLUMBIA**

Decision Sought

SUMMARY

- The purpose of this meeting is to discuss the need for increased provincial action to prevent the spread of invasive zebra and quagga mussels into B.C. (Please refer to Annex B for a recent map of invasive mussel distribution).
- The OBWB recommends that the Minister make changes to the provincial watercraft inspection program to enhance mussel prevention efforts, and provide more tools for inspection, decontamination and public outreach.

**BACKGROUND**

Invasive zebra and quagga mussels, first introduced to the Great Lakes in the 1980's substantially alter aquatic food webs, put drinking water at risk, damage infrastructure and harm human recreational values. Invasive mussels have recently been detected in water bodies in Montana (October 2016), and in Manitoba (including Lake Winnipeg in 2013 and Cedar Lake in 2016) (see Annex B for current distribution). Montana has now introduced mandatory inspections for all watercraft entering the state, and any watercraft crossing the continental divide within the state.

Current federal regulations (*Aquatic Invasive Species Regulation*, 2015) prohibit the importation, possession, transportation and release of these mussels in British Columbia, Alberta, Saskatchewan and Manitoba. In 2017, the Province of B.C. made significant enhancements to its Aquatic Invasive Species prevention program, increasing the number of inspectors and hours of operation for provincial inspection stations. Between April 1 and August 21, B.C. inspected over 28,750 watercraft. Some 1,627 of these were considered high-risk, and 17 were confirmed to have adult invasive mussels.

**CONSIDERATIONS**

Mussel infestations negatively affect municipal water, hydropower, and agricultural irrigation systems by clogging water intake and distribution pipes; foul aquatic infrastructure such as bridges; negatively impact tourism and recreation by attaching to boats and littering beaches with sharp shells; increase the volume of aquatic weeds along lake shorelines and create toxic algae blooms. As noted above, mussel infestations put drinking water at risk and substantially alter the aquatic ecosystem and aquatic food webs. These mussels have also been identified as a threat to B.C.'s endangered Rocky Mountain Ridged Mussel by the Committee on the Status of Endangered Wildlife in Canada (2010).

The economic impact of invasive mussels in lost revenue and added maintenance to aquatic infrastructure has been estimated to exceed \$43 million per year in the Okanagan alone, and \$500 million annually in the Pacific Northwest. The annual cost on the Great Lakes to control zebra mussels in water intakes alone is \$250 million.

In 2016 and again in 2017, 17 mussel-fouled boats were intercepted through the provincial inspection program. Every mussel-fouled boat that is intercepted through provincial inspections potentially saves millions of dollars annually, just to manage affected infrastructure. Despite this progress, 1 in 5 watercraft still fail to stop at mandatory inspection stations. Currently, Auxiliary Conservation Officers (COs) assigned to B.C.'s Invasive Mussel Defence program do not have the authority to chase down those who fail to stop. More full-status COs are needed to enable better enforcement.

Under current legislation, watercraft which enter the province while inspection stations are closed are not mandated to report for inspection before launching in provincial waters. Also the B.C. CO Service's K9 program has a higher success rate of detecting invasive mussels, including on vessels previously cleared by human inspectors.

## RECOMMENDATIONS

1. Make legislative changes requiring all watercraft entering B.C. to report to an inspection station prior to launching in any provincial waters.
2. Expand watercraft inspection and decontamination options for all boaters, and increase signage at boat launches to raise awareness of AIS.
3. Expand the use of trained mussel detection dogs as part of the Conservation Officer Service K9 program.
4. List invasive infestations as a specified hazard under B.C.'s Emergency Program Management Regulation (EPMR) and recognize the province's Early Detection Rapid Response plan as a multi-agency hazard plan under Emergency Management B.C.
5. Expand the number of full-status COs with authority to intercept those who fail to stop at mandatory inspection stations.

## Annex A OKANAGAN BASIN WATER BOARD

The Okanagan Basin Water Board (OBWB) is a unique local government agency in the central interior of B.C., located on the trans-boundary waters of the Okanagan River, which feeds into the Columbia River. The Okanagan watershed is almost 200 km in length, covering 8,000 km<sup>2</sup> in area and over 40,000 ha of lake surface area. The OBWB serves three regional districts, 11 municipalities, and five of the member bands of the Okanagan Nation. The Okanagan valley is home to more than 340,000 residents and the fastest growing metropolitan area in B.C.

The OBWB's mission is to provide leadership to protect and enhance quality of life in the Okanagan Basin through sustainable water management. Part of our mandate is to define water problems and priorities, the economic feasibility of solutions, responsibility, necessary legislation and required action.

Since 2012, the OBWB has been a vocal advocate of enhancing invasive mussel prevention, as the Okanagan is at very high risk for invasion based on water chemistry, temperature and other conditions. The Okanagan River is the most productive Sockeye salmon spawning habitat in the Columbia system, accounting for 80% of the total population. The Okanagan River is the focus of major restoration and fisheries improvement work by the Okanagan Nation Alliance, to which the species is of critical importance for cultural, food and spiritual purposes.

In December 2016, the OBWB called for action from several federal government ministries to: increase training and funding for Canada Border Services Agency; increase funding for containment to provinces that are already mussel-infested (Quebec, Ontario and Manitoba); increase funding to mussel-free provinces for prevention, and; commit to research and education for prevention, containment, control and eradication methods. We also asked that senior public servants in several ministries be assigned to participate in forums such as the Pacific NorthWest Economic Region's Invasive Species Working Group to demonstrate that the federal government takes this issue seriously.

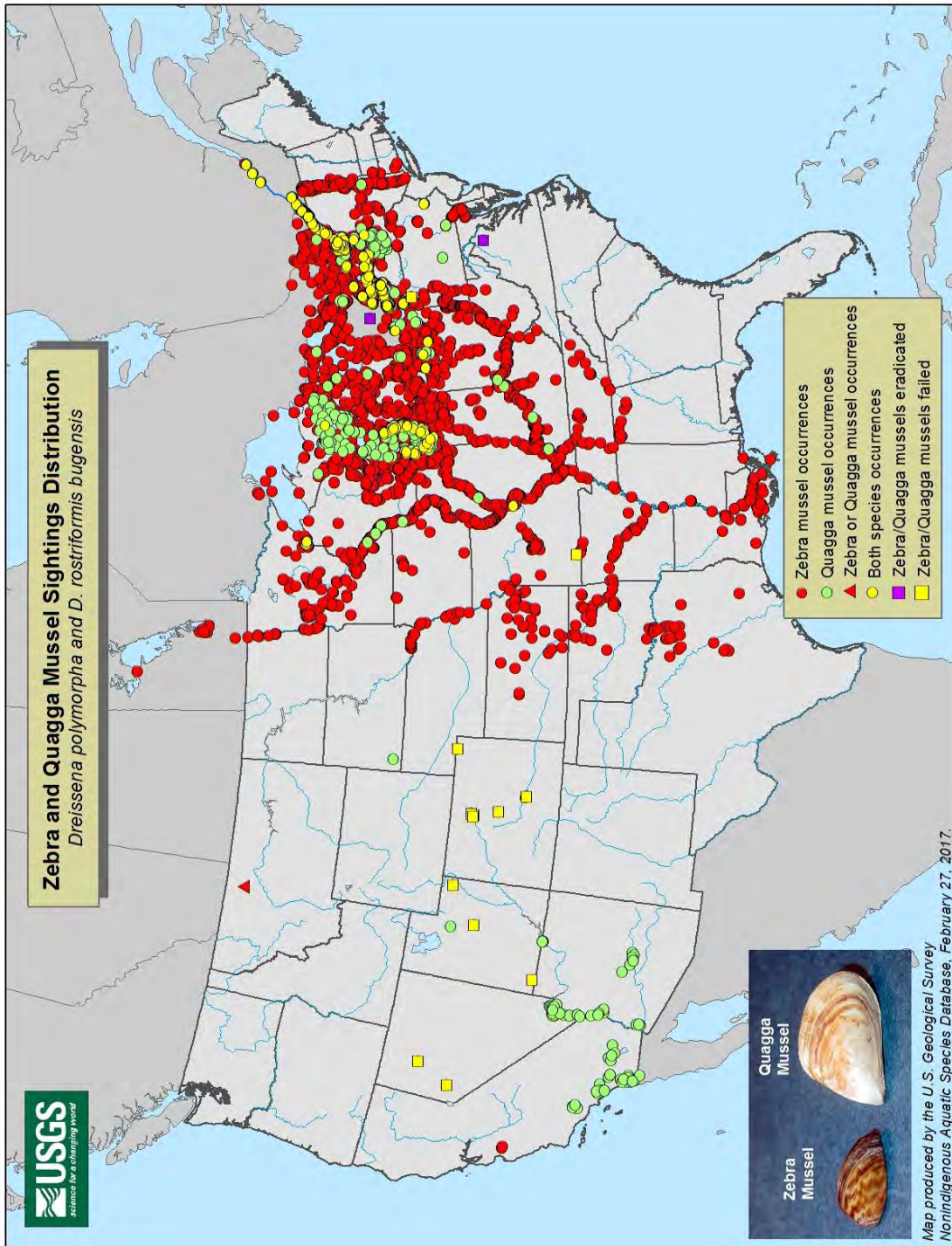
In addition to our calls to the provincial and federal governments for more support on this issue, the OBWB has raised awareness of the threat of invasive mussels through its [Don't Move A Mussel](#) (DMM) campaign, spending about \$226,000 in the past five years. With in-kind support from several business partners, the DMM program has been valued at more than \$717,000 since 2013. The OBWB has also provided \$140,000 since 2013 to the Okanagan and Similkameen Invasive Species Society for direct boater outreach, extending the DMM message.

The OBWB also has a 40 year history of controlling invasive milfoil in the valley, at a direct cost to residents of over \$650,000 annually. The cost of managing our infrastructure, losses in the tourism and agriculture industries, and ecological losses from an infestation of mussels would be disastrous.



Annex B

**CURRENT INVASIVE MUSSEL DISTRIBUTION IN NORTH AMERICA**







## INVASIVE ZEBRA & QUAGGA MUSSEL Backgrounder

The purpose of this backgrounder is to provide a summary of the invasive mussel threat to the Okanagan, including a brief background on the mussel life-cycle and effects. Information on the history, ecology and effects was primarily gathered from the U.S.G.S. Zebra Mussel Fact Sheet, but can be found in many other sources. For more see: <https://nas.er.usgs.gov/taxgroup/mollusks/zebramussel/>

### History

Zebra and quagga mussels are native to the Black Sea region around Ukraine. By the late 18th and early 19th centuries, zebra mussels had spread to most major drainages of Europe because of widespread construction of canal systems. Zebra mussels were first discovered in North America in 1988 in the Great Lakes. The first account of an established population in Canadian waters came from Lake St. Clair, a water body connecting Lake Huron and Lake Erie. By 1994, the mussels had spread through the Mississippi Basin to water bodies in 20 states. Today, zebra or quagga mussels infest at least 24 states, and three provinces (Ontario, Quebec and Manitoba).

### Ecology

Each female can produce 1 million eggs per spawning season, or more in waters that are warm throughout the year. After fertilization, larvae emerge within 3-5 days and are free-swimming for up to a month. Larvae disperse by being carried by the currents, then settle to the bottom where they use a foot to crawl about, searching for a suitable hard surface. They attach themselves to the surface with strong threads. Although the juveniles prefer a hard substrate, they have been known to attach to vegetation. As adults, they have a difficult time staying attached when water velocities exceed two meters per second. Mussels can detach and move if conditions change.

Zebra and quagga mussels are filter feeders and can filter one litre of water per day, mainly eating floating algae. Once attached to a hard surface, their life span can range from 3–9 years. Maximum growth rates can reach 0.5 mm/day and 1.5–2.0 cm/year. Adults are sexually mature at 8–9 mm in shell length (i.e. within one year). Zebra mussels attach to any stable substrate: rock, aquatic plants, artificial surfaces (cement, steel, rope, etc.), crayfish, clams, and each other, forming dense colonies.

### Effects

Zebra and quagga mussels are notorious for their fouling capabilities by colonizing water supply pipes of hydroelectric and nuclear power plants, public water supply plants, and industrial facilities. They colonize pipes constricting flow, and reducing the intake in heat exchangers, condensers, fire-fighting equipment, and air conditioning and cooling systems. Zebra mussels grew to a density of 700,000/m<sup>2</sup> at one power plant in Michigan and the diameters of pipes have been reduced by two-thirds at water treatment facilities.



Although there is little information on mussels affecting irrigation, farms and golf course water systems could be susceptible to infestations. Boating can be affected by increased drag from attached mussels. Mussels can get into engines, causing overheating and damage. Navigational buoys have been sunk under the weight of attached mussels. Fishing gear can be fouled if left in the water for long periods. Dock pilings deteriorate faster when they are encrusted with mussels. Continued attachment of zebra or quagga mussels can cause corrosion of steel and concrete, affecting its structural integrity.

Zebra and quagga mussels can have profound effects on the ecosystems they invade. Invasive mussels eat plankton which is a food source for native fish. They also outcompete native clams and mussels, causing those populations to collapse. In the Okanagan, this could be an issue for our endangered Rocky Mountain Ridged Mussel. The invasive mussels are selective feeders, and will reject non-food material, and toxic blue-green algae. Inland lakes with lower nutrient levels have been observed to be more frequently dominated by toxic algae when invaded by zebra mussels. This promotion of blue-green algae in the water can cause toxins to accumulate up the food chain, harming birds and other large animals. This would also affect our drinking water. Zebra mussels removed metals from the water column of Lake Erie and deposited it to the bottom at high rates. Increased water clarity allows light to penetrate further, potentially promoting aquatic plant populations like invasive milfoil. Increased light penetration may also cause water temperatures to rise. Invasive mussels can alter the balance of a lake to go from one with food sources suitable for salmonid and other native species, to one which is dominated by aquatic plants and junk fish.

### **Okanagan Risks**

The federal government has noted invasive mussels have a very high probability of surviving and thriving in Okanagan lakes, and throughout most of B.C. due to water chemistry (high calcium content) and temperature conditions. There would be very negative effects on the Okanagan ecosystem, should an invasion occur. An infestation could have dramatic impacts on in-lake infrastructure, recreational equipment, property values, tourism, and drinking water quality. Invasive milfoil is expected to increase if invasive mussels are introduced. The ecosystem of the lakes is likely to shift in favour of bass, carp and other junk fish species, while becoming less viable for native fish like salmon, and trout.

### **What we're calling for:**

#### **From the Federal government:**

- 1) Increased training and funding for CBSA.
  - In 2017, provincial COs visited each land port of entry along the Canada-U.S. border in B.C. CBSA has become an active partner in watercraft inspections, but would benefit from formal inspection training, and increased resources to conduct inspections.
- 2) Increased funding for containment to provinces already mussel-infested (Quebec, Ontario and Manitoba).



- Currently, there is no federal action to contain mussels in source waters.
- 3) Increased funding to mussel-free provinces for prevention.
  - Currently, there is no federal action to support provinces in prevention efforts.
- 4) Commitment to research and education for prevention, containment, control and eradication.
  - Currently, the Aquatic Invasive Species section under the Fisheries Protection Program receives less than \$8 million per year to address all AIS, both marine and freshwater across Canada.
- 5) Continued federal participation in forums to address the mussel issue, such as the intergovernmental Pacific NorthWest Economic Region (PNWER)'s Invasive Species Working Group.
  - July 2017 was the first formal attendance of a federal rep to PNWER, which was welcome. The federal government must continue to be at the table, and provide leadership in a coordinated multi-jurisdictional effort to prevent AIS.

**From the Province:**

Changes since June 2017 have filled many gaps in B.C.'s inspection regime, as shown by the number of watercraft inspected and the number of high-risk boats stopped. However, several gaps remain. As of September 2017, OBWB is calling for:

- 1) The B.C. government to revise legislation to require all watercraft entering B.C. to report to an inspection centre before launching in provincial waters.
  - This can be achieved by providing more options for boaters who enter the province when roadside inspection stations are closed (see next item).
- 2) Expanded watercraft inspection and decontamination options for all boaters, and increased signage at boat launches to raise awareness of AIS.
  - B.C. should establish year-round inspection and decontamination options at several centralized locations where watercraft can be brought for inspection if they were not stopped at a roadside inspection station, or during hours or seasons when roadside inspection stations are closed. Signage at boat launches should indicate that out-of-province boaters require an inspection prior to launch, and provide information on the nearest inspection station.
- 3) Expanded use of trained mussel detection dogs as part of the Conservation Officer Service K9 program.
  - Sniffer dogs are capable of detecting invasive mussels with far more efficiency than human inspectors. Dogs also enhance the public outreach and education of



invasive mussels. Multi-purpose dogs also enhance enforcement of other provincial conservation laws.

- 4) Invasive infestations to be added as a specified hazard under B.C.'s Emergency Program Management Regulation (EPMR) and that the province's Early Detection Rapid Response plan be recognized as a multi-agency hazard plan under Emergency Management B.C.
  - Currently the EPMR lists some infestations by agricultural pests as a specified hazard; the same could be done for invasive mussels, freeing up resources for a rapid response in the event of an invasive mussel detection.
- 5) Expanded numbers of full-status COs with authority to intercept those who fail to stop at mandatory inspection stations.
  - Currently, 1 in 5 watercraft are failing to stop at mandatory roadside inspection stations. Auxiliary inspectors do not have the resources or authority to intercept those who fail to stop. More full-status COs would enable better enforcement of mandatory inspections.

#### **FAST FACTS:**

- A study conducted for the OBWB pegged a mussel infestation in the Okanagan at more than \$43 million a year to just manage. This includes:
  - Added maintenance of in-lake infrastructure (e.g. the Bennett Bridge, water intakes and sewer outfalls, docks, etc.);
  - Risks to drinking water, with the potential for toxic algae blooms;
  - Impacts to tourism with beaches littered with sharp, smelly shells;
  - Lost revenue and property values;
  - Irreparable ecological damage (for example to salmon restoration efforts by the Okanagan Nation, and the federally-protected native Rocky Mountain Ridged Mussel);
  - PNWER (Pacific NorthWest Economic Region) estimates costs of [\\$500 million](#)/year to the Pacific Northwest.
- The mussels, which originate from Europe, spread quickly with a single female able to produce a million eggs per year. (In some regions, the warm water temperatures have allowed for even faster reproduction!)
- At their youngest stage, the mussels are the size of a grain of sand, and at their largest the size of a thumbnail (1.5 to 2 cm).
- The mussels stimulate toxic algae blooms, litter beaches with sharp shells, clog boat motors, foul water intakes and outfalls, put fish and the ecology of lakes at risk, and more.



- There is no proven method to eradicate the mussels once they arrive that doesn't also cause significant environmental impacts.
  - In some instances, agencies have drained a reservoir to help get rid of the mussels. This is not possible with Okanagan Lake.
  - Potash was used in Manitoba, without success. There has been talk about using it elsewhere, however, the Okanagan Basin Water Board has stated that the impacts to the environment and our drinking water makes this option inappropriate for our valley.
- The Water Board is doing all it can within its mandate to prevent the spread of these species into the Okanagan. For example:
  - Launch of the Don't Move a Mussel campaign ([www.DontMoveAMussel.ca](http://www.DontMoveAMussel.ca)).
  - Helping local communities and utilities prepare for a possible infestation.
  - Encouraging those with greater authority to do more - ultimately, it is up to senior levels of government to bring in the appropriate laws and enforce them.
- It is illegal to transport zebra & quagga mussels in B.C. – dead or alive – and could cost a \$100,000 fine. The legislation is there, now we need the enforcement.
- In March 2017, the province announced approx. \$4.45 mill in funding for this year's program (\$1.25 mill from BC Hydro, \$250,000 each from Fortis BC, Columbia Power, and Columbia Basin Trust and \$2.45 mill. from the province). The additional funds increased the number of inspection stations to 10 (up from 8). The stations were to operate April 1 to Oct. 31. Nine of the stations expanded their hours from 8-10 hours a day to "generally dusk to dawn," with the Golden station – the busiest – going to 24 hours a day. The season began with 33 auxiliary conservation officers, same as in 2016, with the province hiring an additional 35 who started in June, bringing the total to 68. The announcement also included \$450,000 over three years to the Habitat Conservation Trust Foundation (HCTF) to increase mussel monitoring in B.C. lakes, additional equipment for the enhanced program, and a multi-purpose dog that can also do mussel detection.

While the OBWB welcomed the funding, it has also voiced concern about the long-term viability of this type of arrangement and has called for permanent funding from the province.

- As of August 21, B.C. had inspected over 28,750 watercraft, identifying 1,627 as high risk, and finding 17 mussel-fouled boats. Inspectors issued 184 decontamination orders, and 156 quarantine orders. **1 in 5 watercraft (20%) fail to stop at mandatory inspection stations.**



- As of June 2015, the OBWB had been conducting invasive milfoil control in the Okanagan for 45 years. At that time, the program had cost Okanagan taxpayers over \$10 million, while the province had contributed less than \$8 million, and none in the last 15 years.

**For our part:**

- Between 2013 and 2017, the OBWB's Okanagan WaterWise program has spent just over \$226,000 for its Don't Move A Mussel (DMM) initiative, and thanks to in-kind support from several business partners has delivered a program valued at nearly \$717,000.
- The OBWB has also provided \$140,000 between 2013 and 2017 to the Okanagan and Similkameen Invasive Species Society to assist with direct boater outreach, extending the reach of the DMM message.
- For more information on zebra and quagga mussels, the risk to the Okanagan and how to protect our waters, visit [www.DontMoveAMussel.ca](http://www.DontMoveAMussel.ca).



## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
Oct. 3, 2017  
Agenda No: 7.4

File No. 0550.04

To: OBWB Directors  
From: Corinne Jackson  
Date: September 26, 2017  
Subject: **Communications Director Report**

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### Make Water Work

Our valley-wide outdoor water conservation campaign, Make Water Work, is winding down as Okanagan residents begin to turn the taps off with the cooler weather. As part of the initiative, we randomly select one resident who took the challenge and pledged to conserve as our Grand Prize Winner of a \$6,000 WaterWise yard upgrade. This year's winner is Laurie Weisgarber of Kelowna.

Ms. Weisgarber was excited to get the call and already has some idea of what she'd like to do in her yard. The prizing is provided completely in-kind thanks to Ken's Horticultural Services, Bylands Nurseries, ProSource Irrigation and Eco Turf.

We paid our winner a visit last week for a photo op with our Make Water Work partners. A photo is provided below. Additional photos of the event can be found here:  
<https://www.facebook.com/OkWaterWise/posts/1678549245509259>.

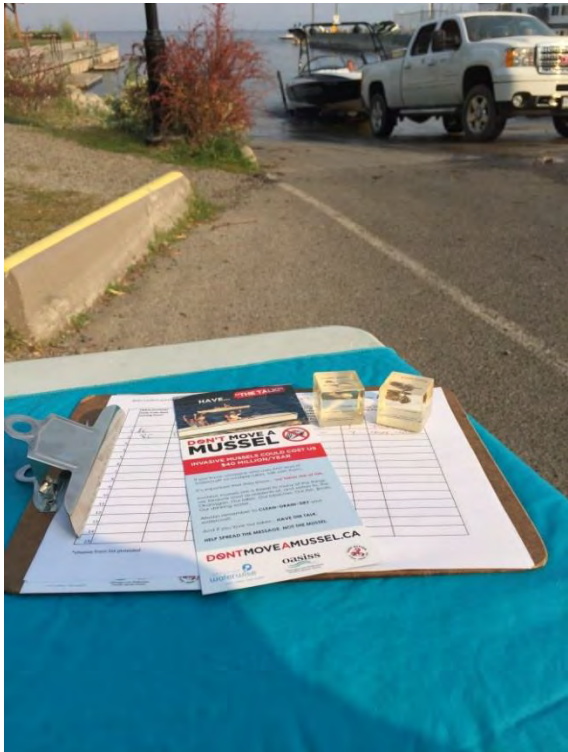
A full news release, including City of Armstrong's Mayor Chris Pieper on his community's win of the "Make Water Work Champions" title, can be found here:  
[http://www.makewaterwork.ca/app/themes/makewaterwork/img/pdf/2017-09-22\\_NR\\_As%20summer%20of%20wacky%20okanagan%20weather%20comes%20to%20end.%20WaterWise%20resid%20recog%20\\_FINAL.pdf](http://www.makewaterwork.ca/app/themes/makewaterwork/img/pdf/2017-09-22_NR_As%20summer%20of%20wacky%20okanagan%20weather%20comes%20to%20end.%20WaterWise%20resid%20recog%20_FINAL.pdf).



*Pictured l to r: Okanagan WaterWise Communications and Outreach Coordinator Alyssa Bougie, Ed Hoppe with City of Kelowna's water utility, prize winner Laurie Weisgarber, Ken Salvail of Kens Horticultural Services, Rob Holowenko with ProSource Irrigation, and Bylands Nurseries' Darren Fedorak.*

## Don't Move A Mussel

Thanks to some extra training opportunities provided by the Okanagan Similkameen Invasive Species Society (a Don't Move a Mussel partner), our most recent Okanagan WaterWise Communications and Outreach Coordinator did some additional targeted outreach at boat launches, which included collecting boater survey information.



*Top left:* Okanagan WaterWise Communications and Outreach Coordinator Alyssa Bougie with Tara Newman from Okanagan and Similkameen Invasive Species Society during boater outreach training.

*Top right:* Ms. Bougie at Gellatly Bay boat launch.

*Bottom left:* Boater outreach table at Gellatly Bay boat launch.



We received a call from the organizers of the 2017 REMAX Mobility Cup in Kelowna, who knew they had boats coming from mussel-infested areas in Canada and the U.S. and wanted to make sure to protect our lakes. I connected the group with the province's Invasive Mussel Defence team to facilitate proper inspections ahead of the race to ensure a successful event. We also conducted outreach at the event. Photos below are courtesy of the Disabled Sailing Assoc. of Kelowna.



The boats were transported across North America on CN Rail cars, unloaded and delivered to a Kelowna works yard to allow the inspections to happen.







We've had an increasing number of inquiries from people wanting more information on what to do when going away with their watercraft to mussel-infested regions, as well as what to do when bringing watercraft to the Okanagan from mussel areas. This happened again on Monday, Sept. 25 when a new Kelowna resident called. He explained that he brought his boat from Ontario and was hoping to launch it in Okanagan Lake this week. He had heard the DMM radio ads and went to our website for more information. As a result, I'll be updating the website with some additional information to answer these questions. I've talked with the province and we'll be discussing proper protocol in these cases.

In the meantime, in doing a quick interview it seemed his boat was at low-risk for the mussels. He cleaned, drained and dried his watercraft; the watercraft was out of the water since late July, so more than 30 days; and it had been inspected at stations in Utah, Montana, and Washington, and he was interviewed by Canada Border Services in Osoyoos. I contacted the province and they decided to do one last inspection. This one instance seems to indicate that working in partnership, we're seeing some successes.



The board may recall that back in June, the Kelowna Chamber contacted us regarding an update to its 2014 resolutions to the Canadian Chamber of Commerce, urging stronger action by the Canadian government to prevent invasive mussels. We provided feedback and those resolutions were adopted today by the national body at their convention in Fredericton, NB. Specifically, the chamber echoed calls from the

OBWB and recommended that the federal government match provincial mussel program dollars and that they institute mandatory and consistent inspections of watercraft entering Canada from the U.S. More here:

[http://www.kelownachamber.org/news/post/269/KELOWNA\\_CHAMBER\\_POLICIES\\_GET\\_SUPPORT\\_AT\\_CANADIAN\\_CHAMBER\\_AGM/](http://www.kelownachamber.org/news/post/269/KELOWNA_CHAMBER_POLICIES_GET_SUPPORT_AT_CANADIAN_CHAMBER_AGM/)

As mentioned at the last board meeting, the Okanagan Basin Water Board has been nominated for a Kelowna Chamber of Commerce 2017 Business Excellence Marketing Award. The nomination was for both the Make Water Work and Don't Move A Mussel campaigns. We decided to focus on the mussel initiative. The winners will be announced at an awards ceremony on Oct. 12. More information can be found here: [https://www.kelownachamber.org/news/post/267/Business\\_Excellence\\_Finalists\\_Announced/](https://www.kelownachamber.org/news/post/267/Business_Excellence_Finalists_Announced/).

**Other communication initiatives:**

A copy of our 2017 Annual Report "Weathering Extremes" and presentations from the Sept. 8 Annual Meeting have been posted at <http://www.obwb.ca/overview/annual-reports/>. Shaw Cable also attended the meeting and is putting together a feature piece that will air on their station and we will post to our YouTube channel. It's expected that the piece will be ready to air by the week of Oct. 9.

As noted at the last Board meeting on Sept. 8, staff produced a second Drought Bulletin on Sept. 1 as the province moved to declare the Okanagan in Level 3 drought. The Bulletin can be found on the OBWB site at [http://www.obwb.ca/newsite/wp-content/uploads/201709\\_obwb\\_drought\\_bulletin.pdf](http://www.obwb.ca/newsite/wp-content/uploads/201709_obwb_drought_bulletin.pdf). It was also posted to the Make Water Work website with additional information for residents on a special page (<http://www.makewaterwork.ca/drought>). The page addresses climate change in the Okanagan and encourages resilient landscapes that can handle wet and dry years, helping ensure a sustainable water supply for our valley. We also ran drought-related MWW radio ads at this time.

On Sept. 19, I attended an "Okanagan Valley Destination Development" planning session with Destination BC and the Thompson Okanagan Tourism Association. The session looked at the future of tourism in the Okanagan. The OBWB was invited to participate and provide a water perspective. It was great to be there since most participants represented tourism-specific businesses (e.g. Kelowna airport, the wine industry, shuttle service, etc.). Topics included this year's flooding, foreshore development and boat launches, invasive mussels, increasing water demand with population growth, and the challenges of climate change.

Ms. Bougie's last day with us was Sept. 22. She started on Feb. 3, thanks to funding support from the UN Association of Canada's Green Corp program. During her time with us, she spent many hours organizing, preparing and then conducting outreach at 37 events throughout the valley. This is covered off in a final report prepared by Ms. Bougie and attached here. But I wanted to make sure to mention some of the additional work she did, including assisting with the planning and organizing of our Canada Water Week events (our WaterWise Challenge for youth, screening of *RiverBlue* and our annual panel event), the creation of an engaging school presentation, the development of outreach tools such as our Cootie Catcher (WaterWise fortune teller) for kids, Prize Wheel, updates to our Outreach training manual, and an infographic that looks at climate change in the Okanagan – the challenges and the solutions. I am looking to have this outreach piece printed for distribution.

I think it's important to note that we are receiving more and more calls from schools, looking for someone to come in and talk about water as it relates to the Okanagan. My goal is to meet some of this demand with the roll-out of a new WaterWise curriculum being developed in partnership with the Okanagan Collaborative Conservation Program and which is nearing completion. Ms. Bougie was also helping update an Okanagan eco-educators listing, a searchable database, that will be posted to the Okanagan WaterWise website for teachers. And, we are looking into hiring another outreach coordinator through the Green Corps program who can help provide this service.

## **Summary of Recent Media**

- Aug. 29 "There's dry – and then there's Osoyoos dry," *OsoyoosToday.ca*
- Sept. 1 "[Drought rating increased in Okanagan.](#)" *InfoNews*
- Sept. 1 "Level 3 drought declared for Okanagan," *Vernon Morning Star*
- Sept. 1 "Drought declaration for the Okanagan," *Global News*
- Sept. 1 "[Conditions prompt Lake Country to restrict water.](#)" *Vernon Morning Star*
- Sept. 1 "Valley in drought conditions," *Castanet*
- Sept. 1 "Outdoor water restrictions ordered," *Kelowna Daily Courier*
- Sept. 7 "Managing weather extremes," *Castanet*
- Sept. 8 "[Be prepared to weather more weather extremes in the Okanagan.](#)" *Global Okanagan*
- Sept. 8 "Extreme weather discussed during annual meeting," *Kelowna Capital News*
- Sept. 8 "Fire suppression efforts exhaust resources," *Salmon Arm Observer, Vernon Morning Star*
- Sept 8 "Where the Okanagan is headed weatherwise," *KelownaNow*
- Sept. 9 "Extreme Weather the new norm," *Castanet*
- Sept 11 "Armstrong captures water conservation award," *BC Local News, Vernon Morning Star*
- Sept. 12 "Extreme weather is focus as OBWB hears about mitigating climate change," *Osoyoos Times*
- Sept. 12 "[Kilo, the mussel-sniffing German Shepherd, has made two interceptions in less than three months on the job.](#)" *Osoyoos Times*
- Sept. 12 "Time to review EOC operations says Kelowna council," *Kelowna Capital News*
- Sept 13 "Cost of Okanagan lifestyle increasing - Water board AGM focus on impact of climate change," *Lake Country Calendar*
- Sept. 20 "[Environmental concerns shore up.](#)" *Salmon Arm Observer*
- Sept. 22 "Kelowna biologist on Okanagan shoreline development study," *CBC Radio Daybreak South*
- Sept. 22 "[WaterWise residents recognized by Okanagan Basin Water Board.](#)" *KelownaNow*
- Sept. 23 "Kelowna resident Make Water Work champ," *Kelowna Capital News*
- Sept. 25 "WaterWise winner," *Kelowna Daily Courier*
- Sept. 25 "Get involved - Make Water Work," *Castanet*

## **Recent Presentations**

- Sept. 21 "WaterWise school presentation," Mar Jok Elementary (West Kelowna) – Alyssa Bougie



# Outreach Summary - 2017

Dates: February 11, 2017 to September 20, 2017  
 Alyssa Bougie  
 OkWaterWise Communications & Outreach Coordinator

## The Big Picture

Number of interactions: 2,301  
 Number of events: 37

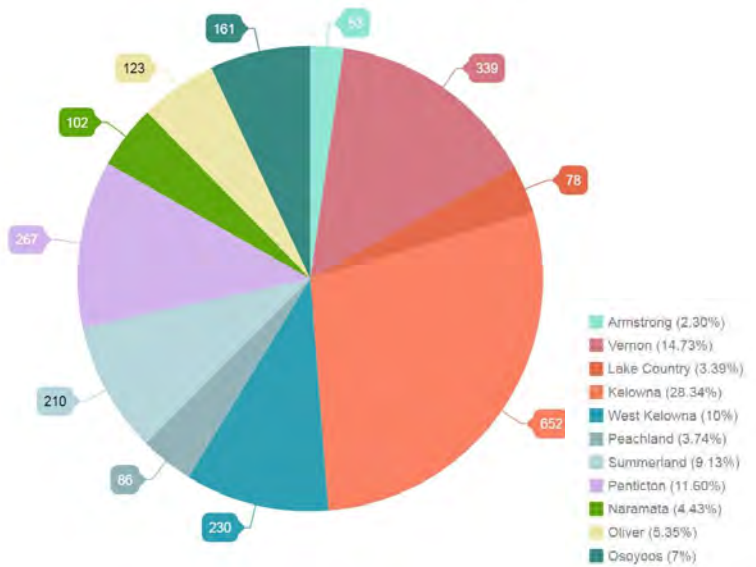
## Other Outreach

Classroom presentations: 8  
 Children presented to: 472  
 Public Presentations/Tours: 2



Where did we do outreach, and with how many people?

Municipality	Number of Interactions
Kelowna	652 (28.3%)
Vernon	339 (14.7%)
Penticton	267 (11.6%)
West Kelowna	230 (10%)
Summerland	210 (9.1%)
Osoyoos	161 (7%)
Oliver	123 (5.4%)
Naramata	102 (4.4%)
Peachland	86 (3.7%)
Lake Country	78 (3.4%)
Armstrong	53 (2.3%)
<b>TOTAL</b>	<b>2301</b>



Percent of Interactions by Municipality

Fig. 1 Number of interactions by municipality and percentage of interactions per city out of 2,301 total. Please note that none of the figures include classroom presentations.

# Outreach Summary - 2017

➤ How many events, and where, did we attend?

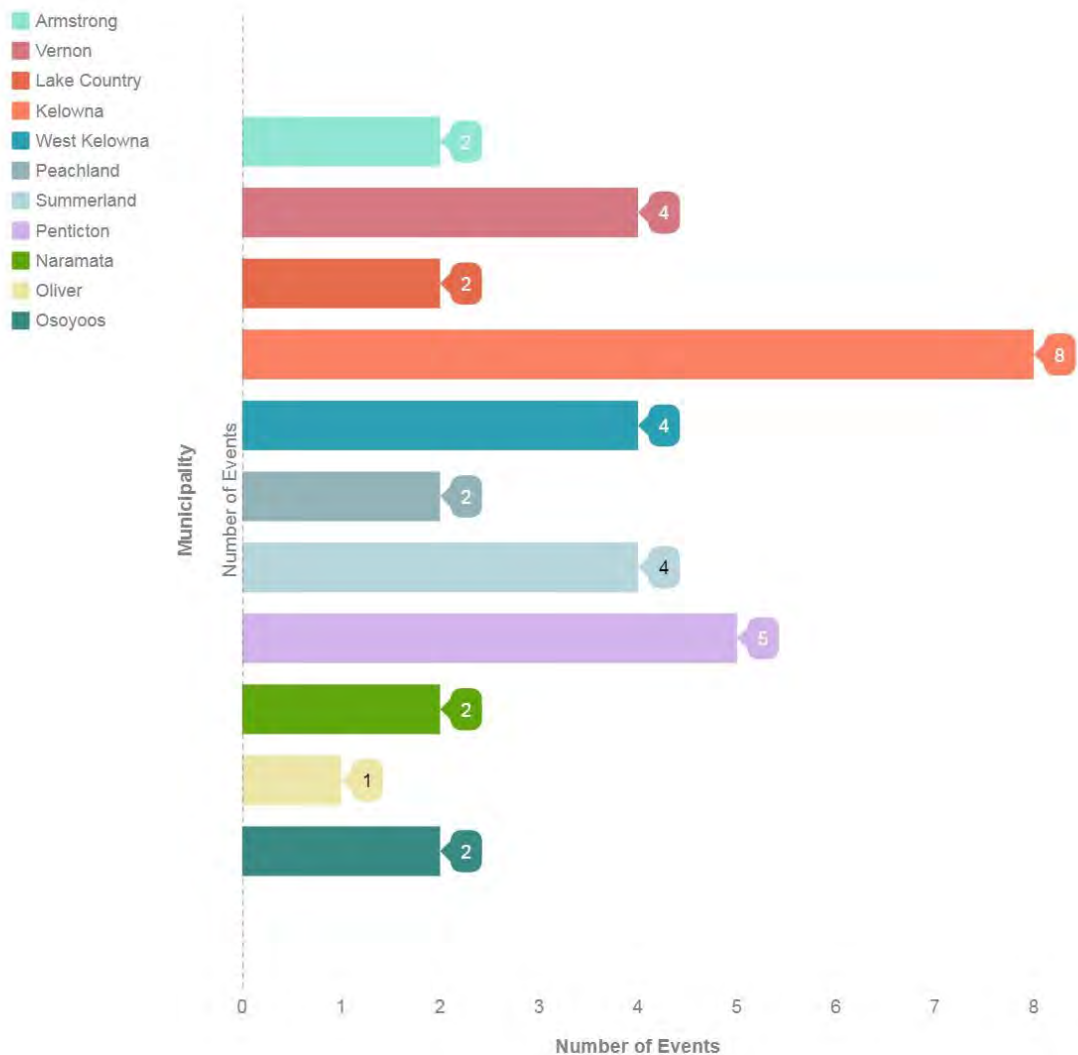


Fig. 2 Number of events by municipality, listed from North to South.

## Notes

This graph shows our number of events by the raw numbers. The municipality with the most number of events was Kelowna, at eight, and unfortunately Oliver was the lowest, with only one. It was hoped that we would attend two events in Oliver, but one was cancelled.

In 2017, we tried to attend at least two in all smaller municipalities, and other than Oliver we were able to.

This doesn't let us know about number of attendees at each event, or other important information, however.

## Outreach Summary - 2017

When did we have the most outreach?

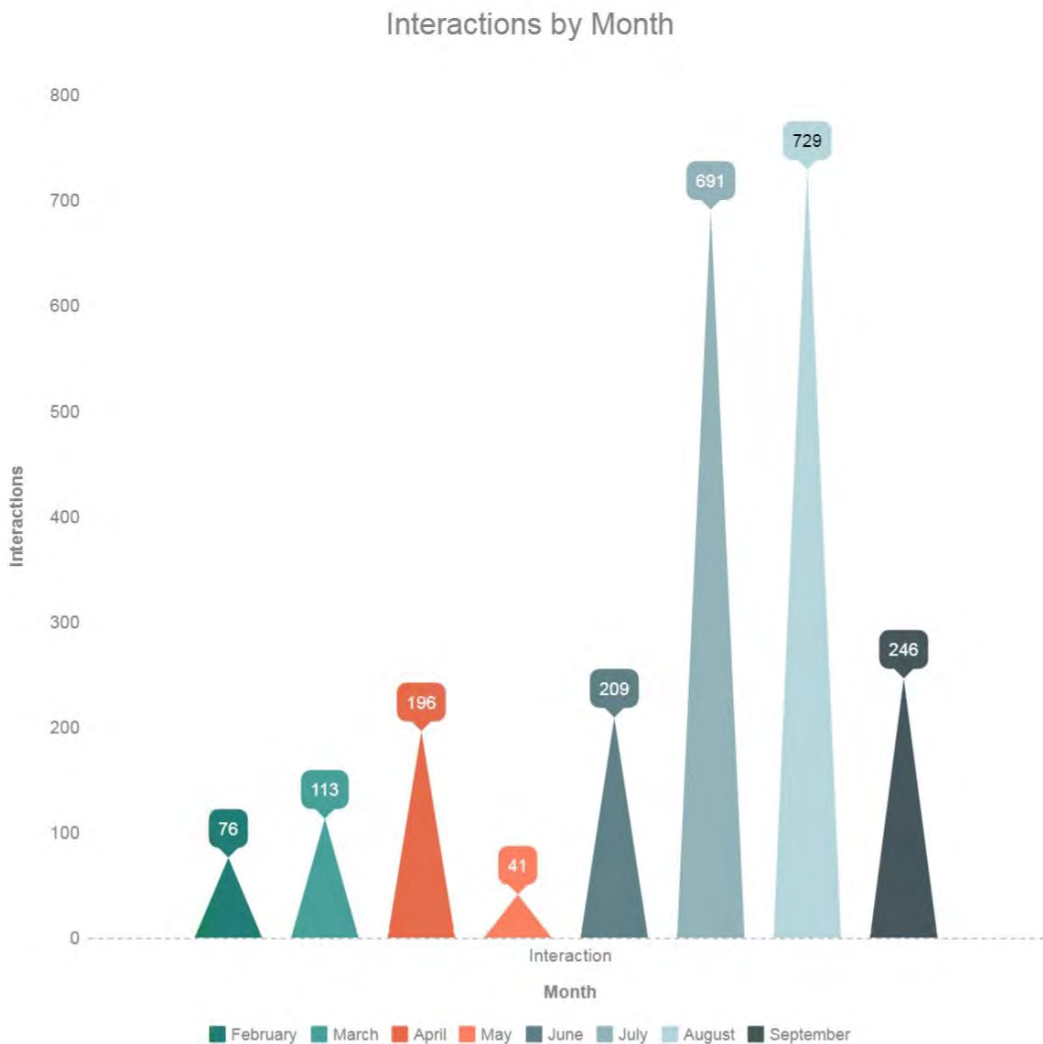


Fig. 5 Number of interactions per month.

Notes Outreach was limited in May due to a vacation.

There was also a balance of office work and outreach work. March saw World Water Week, and the focus shifted to events.

In addition, in the summer there are many more events that we can attend.

# Outreach Summary - 2017

## Public Feedback

- I was thanked many times by members of the public. It's clear that people really appreciate the work the OBWB does to protect and conserve water.
- Most people I spoke with were aware of zebra/quagga mussels (estimate 85%), but I often had to clarify at least one of the following points:
  - Zebra/Quagga mussels are not yet in B.C./A.B. as far as we know;
  - The mussels are small, and different from our native mussels;
  - They are not edible, and cannot be selectively eradicated.

In addition to providing clarification at outreach events, we tackled these misperceptions through social media posts and through our website [www.DontMoveAMussel.ca](http://www.DontMoveAMussel.ca)

- There was definitely some push back on the idea of water conservation during the flooding. Misperceptions about the need to still conserve water were also addressed through the website [www.MakeWaterWork.ca](http://www.MakeWaterWork.ca), in radio ads and in social media.
- I heard a lot of positive feedback on the MWW Plant Collection and how homeowners wanted to do more xeriscaping/water-friendly gardening.
- Overall, very positive feedback on the work being done.

## Other Projects

Creation of school presentation outlines + props around water

Worked to create new outreach materials (e.g. cootie catcher, prize wheel)

## MEMORANDUM

Okanagan Basin Water Board  
Regular meeting  
October 3, 2017  
Agenda No: 7.5

To: OBWB Directors  
From: Kellie Garcia  
Date: September 26, 2017  
Subject: Policy and Planning Specialist Report

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### Mainstem Drought Triggers Project

The objective of this project is to prepare drought trigger guidelines for the Okanagan mainstem system that can be incorporated into local drought plans to support a rational and coordinated process for moving between watering restriction stages. The second version of the proposed guidelines is complete and the OBWB will be hosting a workshop on November 6 to gather feedback from water purveyors. The guidelines will be revised as needed after the workshop, and then we will start working with each purveyor to incorporate the triggers into their drought plans.

### Planning Toolkits and Guides Project

The objective of this project is to support local governments in their uptake of bylaw toolkits and planning guides designed to support sustainable water management and land use. The OBWB has entered into a Memorandum of Understanding with CivicInfo BC for the development and long-term administration of an online hub (database) to house such toolkits and guides. We are currently preparing brief descriptions for 60 documents to include in the hub.

People will be able to search the database by way of drop down menus under four criteria:

1. Subject Area (e.g. water conservation, environmental protection, land use planning);
2. Tool (e.g. case studies, sample bylaw language, best practices);
3. Application (e.g. official community plan, zoning bylaw, drought management plan); and
4. Author (e.g. Okanagan Basin Water Board, Government of BC, Fraser Basin Council).

The hub will be up and running by the end of the year. In early 2018, the OBWB will host a workshop to introduce the new hub and discuss the application of a selection of the documents within it.

### Okanagan Sustainable Water Strategy Update

The Editorial Board, a small group of Water Stewardship Council members that will provide leadership and guidance for the project, will be meeting on November 2 to review the draft annotated outline for the updated strategy. The outline maps out the document, provides a brief explanation for each section, identifies where new content is required, and pinpoints information needs and potential sources for that

content. The proposed outline will be brought forward to the council for their input before the end of the year, and research and writing will begin in early 2018.

**Agriculture Water Supply Communications Project**

The objective of this project is to improve communication between purveyors and producers about local water supplies, particularly during times of drought. The pilot purveyors (Greater Vernon Water and City of Penticton) sent out three water supply alerts each over the past two months. They used the communications checklists and key messages documents provided through the pilot project to prepare the alerts. We have a conference call with the purveyors on October 2 to evaluate the process used to carry out the project, the usefulness of the communications materials and alert system, and producer response to alerts. The final report for the project, which will include recommendations for next steps, will be completed by mid-November.