

June 9, 2017

NEWS RELEASE

OKANAGAN WATER BOARD DIRECTORS RETURN HOPEFUL AFTER MUSSEL MEETING IN OTTAWA

Kelowna, B.C. – Okanagan Basin Water Board (OBWB) directors are back from their invasive mussel meeting in Ottawa and are looking for significant movement from the federal government on this file.

Directors were in our nation's capital for the annual Federation of Canadian Municipalities conference and took the opportunity to meet with several officials to discuss invasive zebra and quagga mussels and ask for stronger support on this issue. The contingent reported back on the discussion at this week's board meeting.

"They were very welcoming and open to what we had to say," said Tracy Gray. The OBWB Chair was joined by Vice-Chair Juliette Cunningham, Dir. and Past-Chair Doug Findlater, and Dir. Peter Waterman. Also at the meeting was Burnaby North-Seymour MP Terry Beech who is also Parliamentary Secretary to the Min. of Fisheries and Oceans (DFO), Nicholas Winfield – Director General Ecosystems Management for DFO, Ashraf Amlani – DFO Special Assistant for the Pacific - West Coast, and Kelowna-Lake Country MP Stephen Fuhr.

Of concern to the OBWB is the threat of invasive zebra and quagga mussels being introduced into Okanagan waters and elsewhere in the Pacific NorthWest. The mussels, which originate from Eastern Europe, are making their way across the U.S. and parts of Canada, primarily hitchhiking their way on watercraft. They are known to 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. At this time, there is no proven method to eradicate the mussels once they arrive that doesn't also cause significant environmental impacts. The Okanagan is considered at high risk because of its warm, calcium-rich waters.

A 2013 [study](#) for the Water Board estimated that the mussels would cost the Okanagan \$43 million a year to just manage.

In meeting with federal officials, the board presented a Briefing Note with four recommendations, including:

1. The Minister allocate targeted funding to match provincial spending toward improved invasive mussel education, containment and prevention regimes for summer 2017;
2. the Minister meet with Canada Border Services Agency (CBSA) as soon as possible to enhance the protection of federally-controlled lands, waterways, and ports of entry (border crossings) by developing a joint work plan and actions to ensure enforcement of the *Aquatic Invasive Species Regulations* by both DFO fisheries officers and CBSA agents through the use of mandatory watercraft inspections;
3. the Minister appoint senior Department staff to participate in the Pacific NorthWest Economic Region (PNWER)¹ Invasive Species Working Group to coordinate federal, provincial and international efforts to stop the spread of invasive mussels; and
4. OBWB requests a response letter as soon as possible that outlines the Minister's decision and actions on the recommendations to prevent the further spread of invasive mussels in Canada.

¹ PNWER is made up of provincial and state government representatives in the Pacific Northwest and its mission is to increase economic well-being and quality of life for all citizens in the region. It has estimated a mussel infestation would cost [\\$500 million](#) a year to the PacificNW.

Speaking to the recommendations, Ms. Gray said federal officials noted that the government allocated \$43.8 million over five years, starting in 2017-18, to address aquatic invasive species in Canada. "There is no final plan for those funds yet, so this is a great opportunity to include invasive mussel efforts," she added. "They also acknowledged that prevention is better than dealing with the mussels once they arrive. I think it was impactful to hear prevention vs. management numbers." In Montana, for example, the state was paying \$1.2 million a year on prevention efforts and had been looking to expand those efforts when the mussels were discovered in October 2016 in two of their reservoirs. Today, the budget is \$5.25 million each year to manage the infestation.

Going through the recommendations, Ms. Gray said MPs Beech and Fuhr agreed to follow-up with CBSA to try to elevate the issue. Mr. Beech said he would speak with the Min. of Fisheries and Oceans Canada Dominic LeBlanc and that the government was committed to having someone attend the July PNWER Annual Summit in Portland, Ore. where the mussel issue is to be discussed.

"We're hoping that by having the feds come to the PNWER table, it will help familiarize them with the issue, with what others are doing to tackle the mussels, and better identify how they can participate. It adds some accountability to address the issue," added Ms. Gray.

For the OBWB's part, it will continue to push the federal and provincial government to do all it can on the mussel file. "If we didn't push as long and hard as we have, we wouldn't be where we are at," she added, pointing to federal legislation that prohibits the importation, possession, transport and release of the mussels in B.C., Alberta, Saskatchewan and Manitoba, as well as provincial inspection stations. "This must continue – the risks are too high."

The Water Board, through its Okanagan WaterWise program, will also continue to spread the message through its [Don't Move A Mussel](#) campaign, which includes advertising, as well as public education and outreach.

"As boating season gets underway, as people take to the water on kayaks and paddleboards, and with their fishing gear, we are urging them to help protect our waters by making sure to always 'Clean-Drain-Dry' their equipment before moving from one water body to another," said Ms. Gray. "And, if you have family or friends coming to the Okanagan with a boat, or other water toys, 'Have the Talk!' Make sure they know the risks to our lakes, and that they have their watercraft inspected before launching in our waters."

To learn more about the mussels, the risks to the Okanagan, how to 'Have the Talk,' Clean-Drain-Dry and other prevention tips, visit www.DontMoveAMussel.ca.

Attached, please find the Briefing Note and a Backgrounder that were presented at the meeting in Ottawa.

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BRIEFING NOTE FOR MINISTER OF FISHERIES AND OCEANS AND THE CANADIAN
COAST GUARD

**MEETING WITH THE OKANAGAN BASIN WATER BOARD (OBWB) REGARDING
PREVENTION OF INVASIVE MUSSEL INTRODUCTIONS TO UNINFESTED
REGIONS IN CANADA**
Decision Sought

SUMMARY

- Meeting with OBWB Chair Tracy Gray (Councillor City of Kelowna, Director Regional District of Central Okanagan), Vice-Chair Juliette Cunningham (Councillor City of Vernon, Director Regional District of North Okanagan), Director (Past Chair) Doug Findlater (Mayor City of West Kelowna, Director Regional District of Central Okanagan), Director Peter Waterman (Mayor District of Summerland, Director Regional District of Okanagan-Similkameen) (Annex A has background on the Water Board), June 1, 2017.
- The purpose of this meeting is to discuss increased federal action to prevent the spread of invasive zebra and quagga mussels into Western Canada, B.C. and the Okanagan specifically (refer to Annex B for a map of current invasive mussel distribution).
- Recent mussel invasions into Montana (October 2016) make this an urgent matter that must be addressed prior to and during this boating season (May-October 2017). The OBWB recommends that the Minister provide funding to improve communications, strengthen protections, and direct his staff to engage in the Pacific NorthWest Economic Region (PNWER) Invasive Species Working Group.

BACKGROUND

Invasive zebra and quagga mussels, first introduced to the Great Lakes in the 1980's substantially alter aquatic food webs. 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).

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.

CONSIDERATIONS

Mussel infestations negatively affect municipal water, hydropower, and agriculture irrigation systems by clogging water intake and distribution pipes; negatively impact tourism and recreation; foul bridges and boats; increase volumes of aquatic weeds along lake shorelines and create toxic algae blooms, putting drinking water at risk. As noted above, mussel infestations also 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 Committee on the Status of Endangered Wildlife in Canada (2010).

The economic impact of invasive mussels to municipal, hydroelectric, industrial and agricultural facilities, fisheries (commercial, recreational and Indigenous), tourism and property values has been estimated to be at least \$42 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.

Western provinces have allocated funding and resources to prevent the spread of invasive mussels through watercraft inspection, water sampling, emergency response plans and public education. Current provincial programs for preventing the spread of invasive mussels have seen significant improvements in the last few years. The last significant action by the federal government was the 2015 change to the *Aquatic Invasive Species Regulation*, and the recent Parks Canada ban of motorized watercraft from entering Waterton Lakes National Park to address the spread of invasive mussels from Montana (for more Background see Annex A).

The 2017-18 Departmental Plan for Fisheries and Oceans Canada states that "Efforts will continue on a national approach to prevent the introduction and spread of aquatic invasive species in Canada, which will help protect ecosystems and fish stocks." Further, it says "Sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries is best achieved when partners and stakeholders with a common interest work together to conserve and protect fish and fish habitat."

RECOMMENDATIONS

1. Minister to allocate targeted funding to match provincial spending toward improved invasive mussel education, containment and prevention regimes for summer 2017.
2. Minister to meet with Canada Border Services Agency (CBSA) as soon as possible to enhance the protection of federally-controlled lands, waterways, and ports of entry (border crossings) by developing a joint work plan and actions to ensure enforcement of the *Aquatic Invasive Species Regulations* by both DFO fisheries officers and CBSA agents through the use of mandatory watercraft inspections.
3. Minister to appoint senior Department staff to participate in the Pacific NorthWest Economic Region (PNWER) Invasive Species Working Group to coordinate federal, provincial and international efforts to stop the spread of invasive mussels.
4. OBWB requests a response letter as soon as possible that outlines the Minister's decision and actions on the recommendations to prevent the further spread of invasive mussels in Canada.

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 km² 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.

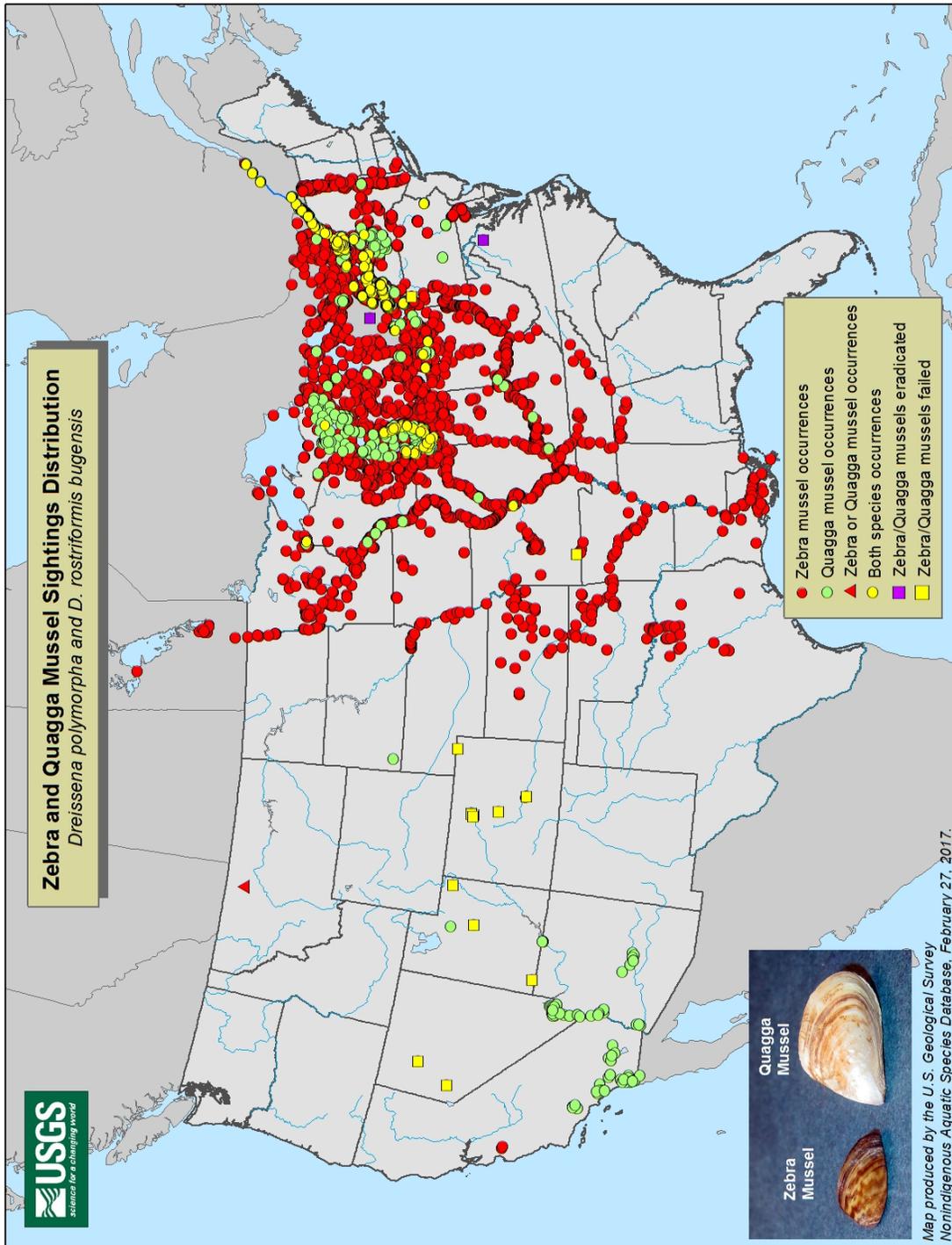
Since 2012, the OBWB has been a vocal advocate of enhancing invasive mussel prevention, as the Okanagan is at very high risk for invasion based on water chemistry, temperature and other conditions. The Okanagan River is the most productive Sockeye salmon spawning habitat in the Columbia system, accounting 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 for a commitment 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.

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/m² 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.

FAST FACTS & ACTION ITEMS:

- A study conducted for the OBWB pegged a mussel infestation in the Okanagan at more than \$42 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)
 - 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 2016, the province announced a \$2 million mussel prevention program (thanks to \$1.2 million from BC Hydro, and \$250,000 each from Fortis BC, Columbia Power and Columbia Basin Trust, with in-kind funding from the province for staff time, office space and equipment.)



The funding was for 8 inspection stations (5 along the B.C.-Alberta border; 3 along the B.C.-Washington border), operating 8-10 hours a day, seven days a week, April to October.

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.

- 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 were to increase the number of inspection stations to 10 (up from 8). The stations were to operate April 1 to Oct. 31. Nine of the stations were to have expanded 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 was to start with 33 auxiliary conservation officers, same as in 2016, with the province hiring an additional 35 to start this 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.
- Okanagan and Similkameen Invasive Species Society (OASISS) receives OBWB funding to assist with additional outreach on the Water Board's Don't Move A Mussel (DMM) program and conducts mussel monitoring. OASISS noted that their boater survey this summer found an increasing number of watercraft coming from Manitoba – a concern since the province discovered the mussels in their waters in 2013.
- 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.

What we're calling for:

From the Federal government...

- 1) Increased training and funding for CBSA;
- 2) Increased funding for containment to provinces already mussel-infested (Quebec, Ontario and Manitoba);
- 3) Increased funding to mussel-free provinces for prevention, and
- 4) Commitment to research and education for prevention, containment, control and eradication; and
- 5) Stronger federal participation in forums to address the mussel issue, such as the intergovernmental Pacific NorthWest Economic Region (PNWER)'s Invasive Species Working Group.

From the Province...

The effectiveness of recent changes in B.C.'s inspection regime will be determined, following the 2017 boating season. Up to March, 2017, OBWB was calling for:

- 1) Expanded watercraft inspection station hours (to at least daylight hours), and dates of operation (Announced in March: an increase in the number of inspection stations to 10 (up from 8). Nine of the stations were to have expanded hours from 8-10 hours a day to "generally dusk to dawn," with the Golden station – the busiest – going to 24 hours a day. Stations were to operate April 1 to Oct. 31.);
- 2) More Conservation Officers, including full-status COs with authority to pursue people who fail to stop for an inspection, (Announced in March: The season was to start with 33 auxiliary conservation officers, same as in 2016, with the province hiring an additional 35 to start this June, bringing the total to 68 auxiliaries.);
- 3) That the B.C. government revise its legislation to require all watercraft entering B.C. to report to an inspection centre before launching in provincial waters, **(Not in place)**;
- 4) That B.C. enhance its monitoring network to ensure that any infestation is identified as soon as possible, allowing the best chance of immediately quarantining a water body, and preventing further threats. (Announced in March: \$450,000 over three years to the Habitat Conservation Trust Foundation (HCTF) to increase mussel monitoring in B.C. lakes);
- 5) For 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 (The province indicated that they believe invasive mussels are already covered as a specified hazard, but that they would work to update and clarify the Emergency Detection Rapid Response Plan); and,
- 6) That the province immediately allocate permanent, sufficient funding for an expanded inspection and decontamination program, starting with this year's provincial budget and commit to ongoing core funding to ensure stability of the mussel defence program. **(Not in place)**.

For our part:

- Between 2013 and 2016, the OBWB's Okanagan WaterWise program has spent just over \$176,000 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 \$653,000.
- For more information on zebra and quagga mussels, the risk to the Okanagan and how to protect our waters, visit www.DontMoveAMussel.ca.