

Alberta Aquatic Invasive Species

Summit Day One

2015-01-19

Program Overview, Introduction of Partners and Goals for the Aquatic Invasive Species Summit – Kate Wilson

- AIS are threats to the environment as they are the leading cause of biodiversity loss
- AIS threatens the economy - it is estimated the cost to Albertan's, if Zebra/Quagga mussels enter the province, could amount to \$75M annually
- One zebra mussel can deliver up to one million offspring per year
- Mussels are an imminent threat to Alberta, Manitoba and B.C.
- The work that we are doing should be precedent setting-AIS has 5 program components. (Education Outreach, watercraft inspection, monitoring, response, policy and legislation)
- Prevention is more feasible than control. This is where focus must be
- International trade, cross border watercraft transport (snowbirds), release of aquariums, ceremonial fish release, are among a few of the ways AIS can enter the province. Air tankers now have to be steam cleaned
- Eurasian milfoil, flowering rush, Prussian carp, Silver carp (jumping), Snakehead (still legal in Canada), round gobies are now in Alberta

Education and Outreach – Gavin Berg

- Education is an important tool to protect our province
- “Clean, Drain, Dry message”
- How can we get the message out?
 - o Snowbirds
 - o School programs
 - o Involve WPACS
 - o Fishing derbies should be a focus as they draw boats from outside of the province.
- There is no known data base of all existing boat / hand launches in the province
- Don't let it loose campaign to follow
- Some promising developments using Pheromones and repellants to attract or deter AIS for entrapment

Watercraft Inspections – Cindy Sawchuk

- Inspectors are trained in Montana using an actual infected boat
- Our inspections came across 4 fouled boats in 2014. How many are getting through uninspected?
- 395 inspections were completed in 2013, 3,740 were completed in 2014
- AIS has partnered with commercial vehicle weigh stations but problem remains..."how do we get people to stop at inspections stations?" Must be mandatory
- Firefighting water bombers and helicopters are another avenue for AIS to come into Canada o In Alberta all firefighting equipment gets a hot water/steam bath when they come home. AIS can live in hoses, buckets and other small locations on the equipment.
- A pilot canine project (Working Dogs for Conservation) was also used to detect mussels in 2014. This project will continue at Coutts in 2015 as there are 30 to 40 boats per day pass through Coutts from

within the Great Northern Landscape Region (Washington, Oregon, Idaho, Alberta, B.C., Nevada, Wyoming and Nevada) o The dogs will begin watercraft inspections in March.

- Sniffer dogs complete an inspection in 3-4 minutes with 100 % accuracy vs. 10-15 minutes per human with only 75% accuracy.
- Cindy spoke of some of the trans boundary initiatives that are ongoing. (Crown Managers Partnership and Columbia River Basin Project)
- One of the big questions is how to encourage people to stop for a voluntary inspection.

Monitoring for Mussels and Plant Pilot – Ron Zurawell

- Provided a review of the current monitoring performed in Alberta within surface and ground water, including lakes and Air monitoring
- AEMERA (The Alberta Environmental Monitoring, Evaluation and Reporting Agency) is being setup to transfer surface water monitoring from Environment and Sustainable Resources
- Is the central management location for all monitoring programs
- Will involve a more formal monitoring process.
- Calcium and PH are the primary factors for survivability of mussels. Our lakes are at risk as calcium is at levels greater than 25 mg/litre with a pH balance of 8.4.
- After two years of monitoring there has been no indication of introduction of the species.
- Bradley (Alberta Lake Management Society) spoke on the Invasive Plant Monitoring Pilot at 10 Alberta lakes including Sylvan, Wizard and Chestermere. Chestermere was found to have Flowering Rush
- The reach of the program was not effective
- More work is required on processes to enhance the program
- The program will run again in 2015 and further training of volunteers is required
- Alberta Lake Management Society and AEMERA have adopted decontamination processes on all vessels.

Monitoring Irrigation Reservoirs – Nicole Seitz (Agriculture and Rural Development)

- Provided a different perspective on economic and environmental impacts concerning infrastructure (pivots, turnouts, pipes etc.)
- Alberta has 13 irrigation districts and 21 high risk reservoirs in southern Alberta
- Alberta has roughly 8,000 km. of canals and pipelines, along with dams etc. In southern Alberta the total replacement value of irrigation infrastructure is estimated at 3.66 billion dollars.
- Steering committee is looking at o Monitoring logistics o Education and outreach o Watercraft inspections
- High risk reservoirs are classed as having Camping, Angling, Recreational boating
- Monitoring Challenges included o The southern Alberta winds o Natural and non-natural vandals o Inadequate substrate reporting
- Moving forward in 2015 ARD will be working on rapid response and long-term management.

AIS Prevention Efforts in Alberta Parks – Karen Anderson

- Alberta has 475 parks totaling 27,700 square kilometers yet are only 4.2% of all Alberta lands
- 26% of all inspections occurred in parks
- 15 lakes were sampled multiple times in three regions

- Online boat launch finder resulted in 46,000 unique visitor hits to website
- 68 of 767 boats skipped inspections at boats and launches...a big problem
- Fisheries Officers and Parks Officers are now authorized to detain "non-volunteers"
- Alberta Parks has 221 boat / hand launch sites in the province with signage at most locations
- Officer are trained for inspections
- They have 26 Interpretive displays for programming and plans on continued expansion of the program in 2015
- AIS notices are found online, in magazines and on signage etc.
- Parks maintenance staff and contractors to be educated to stop accidental removal of substrate

Invasive Mussel Response Plan Status – Sherry Zielinski ESRD ASERT Consequence Manager

- ASERT (Alberta Environment Support and Emergency Response Team)
- Five emergency response managers and five regional responders
- Total of 38 staff for entire province
- Specializes in Environmental Emergency Response, assess risk, co-ordinate containment and clean up
- Rapid response plans for fouled boats (contact appropriate authority and organize decontamination)
- Rapid response plan for waterbody (dispatch fishery officer to identify, coordinate ASERT duty officer, drop off sample, ASERT reviews outcome, initiates rapid response plan or communicate false positive)
- The current draft has ten steps and two lab requirements so should not be referred to as rapid
- "The plan is to have the plan done in the spring of 2015"
- ASERT would arrive quickly, however the processes required in the timeline did not appear to be rapid.
- Challenges - no treatment registered for open body treatment. The four western provinces may collaborate on a grant application for funding the registration of a treatment . Zequinox, KCL, Copper sulphate, no known long term effects and treatment only lasts one year. Mussels are the only AIS covered by ASERT

Responding to Existing Aquatic Invasive Species in Alberta Flowering Rush – Nicole Kimmel (ARD)

- Nicole provided a review of the Weed Control Act first passed in 1865 in response to Canada Thistle
- There are currently 46 prohibited weeds, 26 of which are noxious
- Flowering Rush is an Aquatic invasive species found in Isle and Chestermere Lakes and Sturgeon River and Bow rivers and the drainage ponds and irrigation ponds of Buffalo Creek near Innisfail. This plant reproduces in multiple ways and displaces cattails, rushes and other sedges.
- Found in natural water bodies of Alberta in 1990 after being sold through greenhouses in 1985.
- Occurrences are of the diploid (toughest) type • This is a European native and has been in Canada since 1897.
- First found in Alberta in 1990 and stocked in greenhouses in 1985 and can still be bought online and shipped to Alberta.
- Partnerships have been developed and the program for Buffalo Creek will begin as soon as it has been given federal approval. o Habitat and dredging is proposed with chemical
- Chestermere Lake is working on a plan, as the use of chemicals is restricted due to proximity to higher population and their drinking water.
- The Weed Control Act only has jurisdiction to the Low Water Mark. Some solutions to be considered are:
 - One Invasive Species Act to rule all
 - Keep department specific legislation

- More responsibility at the federal level to stop the internet transfer of plant material. Chemicals are the current go to answers

Prussian Carp: Jason Cooper (ESRD Operations)

- 8 species of carp
- Grass Carp were introduced to control vegetation in dugouts
- Prussian Carp are omnivores and require less than a meter of water to survive, are tolerant of low oxygen, high pollution and high temperature waters therefore Alberta is habitat suitable
- Females can spawn three times in a season • Confirmed presence in the:
 - Red Deer, Bow, South Saskatchewan and Rosebud Rivers
 - 2009 / 2010 found in Medicine River downstream of Dixon Dam, as well as the Blindman, Little Red and Dog Pound. Found in Hanna at the Ducks Unlimited site
- Appearance of intentional or assisted release
- Potential impacts - recreational and commercial fisheries, first nations subsistence, alteration of fish habitat, disease and parasites
- Challenge – Ideas – Solutions
 - Increasing awareness
 - Outreach and Education
 - Understanding / controlling vectors
 - better management of our predatory species like Pike and Walleye, amend the fisheries act to include Bighead, Silver, Black and Grass carp and Quagga and Zebra Mussels

Policy, Legislation and Next Steps – Kate Wilson ESRD

- AIS is covered under three pieces of legislation
 - Environmental Protection
 - Weed Act
 - Fisheries Act (fisheries act does not address AIS, and should include plants, invertebrates and fish)
- Mussels have been included under Ministerial Order

These sessions were followed with a Question and Answer period from speakers and a round table discussion.

Day Two Sessions

2015-01-19 8:52 AM

Thursday morning started with greetings from Minister Fawcett and the message that this program is important at the provincial level. We will continue to work with our neighbors and federal government to keep Alberta Mussel Free. Minister Fawcett plans to make boat inspections mandatory

Following Minister Fawcett we were given presentations on Jurisdictional Aquatic Invasive Species Updates.

Matthias Herborg from British Columbia provided information on their program and some of the initiatives relating to live /ceremonial release. He believes that it is necessary to share applied research and collaborate to provide the best utilization of limited funding. Needs legislation to control live and dead AIS including breeding, release, etc. An AIS app is available. BC is not inspecting boats but plans to do so.

Chad Doherty from Saskatchewan noted that in Saskatchewan the focus is on public awareness and education. The province has provided funding for two mobile decontamination units and the provincial program will continue to expand. All jurisdictions need to make efficient use of resources. In 2010 only 24% of those asked knew about AIS. Using Clean, Drain, Dry campaign. Early detection monitoring using substrate samplers however, there is a large area to cover.

Candace Parks from Manitoba provided an opportunity for us to hear firsthand how the identification of Zebra Mussels in Lake Winnipeg was handled. Manitoba has had a watercraft inspection program in place for 14 years, and the infestation was noted when a boat was pulled at the end of season in 2013. In 2014 2,819 watercraft inspections had been completed with 4% being considered high risk. The mussels were found in the South Basin of the lake and to date have been contained there. Originally it was thought the mussels were contained to four harbours and these were given a potash treatment. The treatment was successful in killing the mussels in the harbours, but unfortunately the mussels had already moved further into the basin.

The present goal is to contain them to the south basin.

Candace believes Alberta has come along way in a short period of time, and we need to work on the legislation now. The term "watercraft" should be used rather than "boats" as it is more encompassing.

Thomas Boos from Montana provided information on their program and some of the problems that arise from having mandatory inspections; especially with repeat clients. Montana has performed inspections since 2004. They have 20 inspection stations and 460 monitoring stations. 65 to 75 inspectors are hired annually. AIS Act was introduced in 2009. School programs have been very successful. 34,000 inspections were performed in 2014.

Following these presentations an Expert Panel gave presentations on their roles and experiences and what watch going forward.

- * Carleton Lane : applied research, education & outreach
- * Tom Wolfe : Idaho dept of agriculture - AIS (initially plants)
- * Noxious weed law -2007 incl. 64 species
- * Funded through a cost share program
- * Invasive Species Act 2008
- * \$10 per boat annually which funds the inspection program (\$1.3 million annually)
- * Boat inspections are mandatory
- * Weed and AIS combined strategic plan
- * Inspected over 247000 since 2009
- * 17 stations planned for 2015
- * 120 vessels infected since 2009 of which 23% heading to Canada (9% to Alberta)
- * Especially lakes Powell, Havasou, and Lake Mead
- * Have education as part of the inspections, use a passport repeat inspections
- Mandatory law for inspection
 - * Don Stubbs: formerly with EPA and eventually dealing with AIS
 - * Amy fowler in Idaho dealing with quagga mussels
 - * Bill Haller Univ. of Florida- started in 1970
 - * Need to be preventative not reactive
 - * Need one lead agency
 - * Collaboration
 - * Problem is lack of trained people
 - * Water soldier first found in the Trent River in Ontario is being treated this year
 - * Yellow Floating Heart introduced by water industry

- * Water chestnut
- * Hydrilla
- * Aquatic weeds \$20 million in Florida
- * Upland invasive \$15 million in Florida
- * Use of pesticides - industry must prove that they will (no reasonable?) impact on the environment or human health
- * No herbicides pesticides, molluscicides, etc available for rapid emergency use
- * Check out <http://plants.ifas.ufl.edu> for school programs

What can our Summer Villages do?

- Check and replace / enhance our signage every spring
- Distribution of literature at the boat launch – summer student
- Information in our newsletters and our website
- Provide data base information on all the boat launches on Sylvan Lake How can the SLMC assist with this imminent problem?

- What can/is the Province working on?
- School programs are a possibility and can be created
- Ministers to continue to get the message out and fund
- Inspections and education at Fishing Derby's
- Mandatory inspection stations
- Work is required on some of the processes for identification and assessment in the plant programs.
- Stronger legislation is required on the sale and transportation of invasive aquatics in and to Alberta
- Provincial AIS strategy
- Fisheries Act amendment support
- Mandatory retention of carp Don't Let it Loos Campaign
- Address Pet /Aquarium industry
- Provide Black and white authority to Officers
- Create our own controlled species list
- Requirement for definition of invasive species as "non-indigenous" may cause problems for stocked lakes.

What can/is the Federal Govt. doing?

- Stronger legislation on the sale and transport of banned substances in the provinces
- Propose changes to help address priorities