

Summary of ISC Conference – Wednesday, January 22

In all there were 14 speakers. I will present them in order.

1. Donald Robinson, ESSA and Dominique Siggs, B.C Environment

Preliminary Damage Estimates for Selected Invasive Fauna in B.C.

There are over 1000 introduced and native species in B.C. We need to know the geographic extent of the species, its life history and ecosystem dynamics.

There are several high risk invaders:

- Quagga or the Zebra mussel
- European fire ant
- Asian carp, bighead carp, black and silver carp
- European starling

So we assume the environment is saturated, a worse case scenario. Control and no-control estimates are confounded .

Driessenids – mussels

D. polymorphs and D. brugensis. Driessina sp. Are found on boats, on docks and all water infrastructures, in water supplies and power generation. Damage estimates are high.

We need to increase the capability to overtake the mussels, improve data on water facilities, and look at how fish passages and fisheries could be affected.

Fire Ants impact on households, schools and municipalities. They need to address gaps in knowledge, on distribution, behaviour, displacement of native species, support and prevention.

2. Trevor Sheffels, Portland State University

Status of Nutria in the Pacific North West and Implications for B.C.

Nutria (*Myocastor coypus*) or coypu as it is known, is the only member of the genus. It is a large rodent, 2 feet in length with a round rat-like tail. It has a whitish muzzle and whiskers, and longer hind legs. It is native to S. America and was introduced to N. America in the 70's for fur farming. It occurs in 30 states, mostly in the south, SE and Pacific Northwest. There are large-scale management in Louisiana and Maryland.

Populations are restricted west of the cascades. Nutria have persisted due to the mild climate

and lack of prolonged freezing. Nutria are semi-aquatic, can stay underwater for 10 minutes. In the 70's, a pelt was worth \$11.00, but with the drop in sales are almost worthless. They have invasive characteristics, are adaptable to a wide range of habitats. They are generally herbivores, feeding on the root masses of grasses. They are prolific breeders. A female can produce at 4 months of age. They have few natural predators and are able to disperse quickly. They cause burrowing damage, ie. 150 feet into a river embankment. They cause soil erosion, damaging land, dykes and property. They damage native species and are known to cause disease, carrying bacteria like *gaurardia* and *tulemin*. With global warming habitat could increase 240%, therefore the potential to move northward is high. They are present in Washington State and now in B.C.

3. **Jonn Braman, B.C. Ministry Environment**

Tsunami Debris Update

3 years since the Japanese tsunami – 1.5 M. tonnes of floating debris off Japan. 70% sank immediately. Debris is widely distributed and left Japan **before** the radiation leak. It has been arriving here since 2011, and has a low environmental risk. However, aquatic invasives are an issue. The B.C. Tsunami Management Plan has an on-going off-shore patrol and co-ordinates with the U.S. There are several monitoring sites on the coast.

June 2012, a large dock washed up on Oregon, 65 feet x 20 feet x 8 feet. There were 150 species found on board, about 40 of which were a concern. December 2012, a second dock washed up in Washington State, in a very rugged site and less aquatic life on board. In addition, a fishing boat washed up in Hecate Strait, a cement culvert in Haida Gwaii and another fishing boat on Vanc. Island.

A year ago the Japanese Government offered Money to the US and Canada to assist in the clean-up.

4. **Matthias Herborg – B.C. Environment Ministry Aquatic Invasive Species Co-Ordinator**

B.C. Aquatics Action Plan – Update on Progress

Prohibition of Live Species: Schedule 3 – December 2012

Families - Channidai, Cabitae, Cypresnid and Dreissinedae

prohibition - possession and breeding, release into B.C. Waters, and mussels to enter B.C. Waters

Amendments to Wildlife Act – banned from release on crown land -feral pigs and pond and river turtles

Fisheries Act proposes banning: Asian carp, zebra mussels – aims for spring 2014

Legislation Phase 1 – 2013

- focus on zebra and quagga mussels on trailered boats
- train of enforcement – provincial conservation officers, natural resource officers, B.C. Park rangers and Federal Fisheries
- divide resources around boat inspection, decontamination and quarantine
- set up report structure for poachers and polluters
- run pilot boats
- inspection of low-risk water crafts -when was boat last in the water – if > 30 days, just remove mussels. If < 30 days de-contaminate
- developed a checklist for boat inspection
- increase in monitoring zebra and quagga mussels – 31 samples in 2013. The mussels have now appeared in Lake Winnipeg
- Columbia River pike removal

2014 – Plan

- expand training for identifying listed species
- expand Outreach Program
- use highway signs to communicate to boaters
- get Federal legislation involved
- increase boat inspection
- hire dedicated summer staff

5. Robert Higgins-Thompson River University

European Fire Ants *Myrmica rubra*

Lessons from Maine

- was first introduced into Maine
- Dr. Eleanor Groden is working on entymopathogenic fungi. She can infect individuals but not the colony. BUT when an ant is infected the colony kills it and dismembers it and takes the remains into the sun to be sterilized
- pesticide use – pyrethryns- work ants tend to be older, so initially the pesticide works and then the colony multiplies
- Virginia Beach – European fire ant is more of a problem than the Red Imported fire ant Its nests are easy to spot and the RIFA can be knocked out
- Dr. Sanford porter uses decapitating flies. He inserts the larvae on a live ant, the larva moves into the ants' head, decapitates it and the fly emerges

Boric Acid – an Oak Bay resident has 34 European fire ant nests in his yard. He baited with 2% boric acid, but the ants can detect the boric acid in food and move to an alternative food.

- what is needed ? Mapping!
ID areas adjacent to affected area and examine boundaries to assess existing barriers
- randomly assess
- need to continue with the Oak Bay Study
- experiment with traps
- consider specific landscaping – raised wooden decks covering entire lawn
- understand more on colony movements
- control bulk movement of soils
- education and support

6. **Megan Levy – Pacific North West Economic Region PNWER**

Prevention Partnerships: Strengthening the Region's Invasive Species Planning Through Cross-Border Partnerships

-established in 1991, public-private partnership made up of North West U.S. And provinces of western Canada

- 20 working groups – energy, tourism, and agriculture
- Invasive Species Working group co-chaired by Dr. Mark Styma, Portland U. and rep. Eric Anderson U. of Idaho
- annual PNWER ISC this year in Whistler 500-600 attendees
- agenda : invasive weeds, Quagga/Zebra mussels, warming arctic, international border co-ordination, tsunami debris and legislative challenges.

7. **Val Miller B.C. Ministry of Forests Provincial Invasive Plant Officer**

Proposed B.C. Weed Control Regulation Revisions and Next Steps

- an act is a statute, a law is a must-do, regulation is how you deliver and a policy an act, regulation and services
- we need to be able to respond to new invasives. In 1871- first Weed Legislation, 1888- Noxious Weed Act – 8 species, 1979- 25 species listed, 2001 – 48 species listed, 2011- 66 species listed
- 75 % of our population lives in the Fraser Valley, lower mainland and Vancouver Island

Proposed Amendment Intentions

- establish a prohibited noxious weed list
- adding 3 new restrictions A, B and C
- ability to update the notice to occupier to control his weeds
- provide provisions to prevent transport of noxious weeds
- prevent introduction of listed noxious weeds not already established in the area
- restrict deposit of listed species on crown land
- restrict sale of any prohibited or restricted noxious weeds
- require stored infested material with noxious weeds to be secure
- add offense provisions – ability to ticket
- update existing lists and add definitions

8. Carolyn Richman – District of Saanich

Capital Region Invasive Species Partnership CRSP

-description of how they developed their working group, involving land owners and key partners, school districts. Training and resources for CRISP members, educational outreach program, disposal issues. Pilot focus was on knotweed. Gradually obtained funding for their efforts. Challenge was in the vast area they represent.

Overall a success story.

9. Lesley Douglas and Eric Portelance – City of Richmond

Richmond's Parrot's Feather Parody

Parrot feather *Myriophyllum aquaticum*

-only the female flowers – clonal

-likes sun and shallow depth with low flow watercraft

-likes warm water and high nutrients

-*M. spicatum* – native to South America – most leaves are below the water level

-*M. aquaticum* – most leaves are above the waterline

-40 pump stations in Richmond, therefore they unknowingly spread it through their drainage

- first plant found near the Hawaiian Botanical Nursery -Westminster Hwy. and # 7 Road

– 2005 – present in Richmond city

– 2012-2013 now has spread throughout Richmond and the Shell Road Canal

– forms a dense mat covering the water surface, shading out all other growth. In winter leaves die back and sulphur is emitted. Leaves are only rhizomes. Biomass accumulates, with increasing cost of drain mgmt., increase risk of floods and increase maintenance of waterways from 5 yrs. To 1 or 2.

– 2010 Shell Road Canal was cleared. Digging machines left plant material on side of the dyke. Temperature dropped and all the material died

– other options were herbicides- used in the U.S., but emerging portions of the plant have a waxy covering that would slow down uptake

– plant grows poorly in a culvert or bridge so they are trialing to shade the plant with TAC-150, also with a burlap that breaks down with time and would mean they didn't have to remove it

– next steps are to evaluate the shade trials, hire an environmental consultant using the best practice, investigate herbicide use and to continue communication with ISCMV

– nutria has also been found – both parrot feather and nutria are from the Amazon

10. Agnes Jackson Napier Lake Ranch, Nicola Valley

United We Stand Divided We Fall

- grasslands are imperative to ranches in this area. Land has been bisected by transport that has spread noxious weeds. Spotted and diffuse knapweed, hound's tongue, cinquefoil and ox-eye daisy are the worst offenders. The knapweed has become a terrible issue, and they have had to resort to aerial spraying. It has grown by 20,000 hectares in the last 10 years. Hounds tooth had responded to bio-control, but it too is making a resurgence. Knapweed and cinquefoil are moving to higher elevations. Ox-eye daisy has moved to the utility corridors.
- The population has become complacent. They need to develop a good neighbour policy. People no longer want to talk about the issue. New tools and a new vision are desperately needed.

11. Denise McLean B.C. Ministry of Forests, Lands and Natural Resource Operations

Getting From No to Yes: A Short History of Invasive Plant Management on Haida Gwaii

- Sitka deer were introduced in 1890's- they are eating the entire understorey
- Hecate Strait has not kept invasives away
- local nursery sells mountain bluet, buddleja and yellow flag iris
- thus far all management has been mechanical – started in 2005
- 2010 – no herbicides without consultation. They were used extensively to kill alder during re-forestation in Haida in 1979 + 1980
- knotweeds, Japanese, Bohemian and Himalayan spread is linked to horticultural practice on the island. The weeds are dumped off the roads or over the fence. Japanese knotweed was introduced in the 1980's, Himalayan brought in as an ornamental in the 1950's. These grow right to the ocean and are a major island issue
- IPM on the islands is at a crossroad. Tipping point was a new rec area near a skate board park in Queen Charlotte village- the site had been used as a dumping spot for weeds.
- They approached the government in 2012 with the issue. This led to a series of mtgs. With the Haida First nation who wanted to use diesel. The government was recommending glycosphate. Health Canada was involved. In the end 3 sites were chosen for treatment.
- Roundup was used both as stem injection and as a foliar spray. It now needs to be re-assessed for further treatment.

12. Mario Lanthier CropHealth Advising and Research

Plantwise: a Recognition program for the Industry

-we need to stop nurseries from selling invasives. They did a survey of Canadian Nurseries. Most of them have a plant from start to finish. They want nurseries to inspect plants when they arrive, or before they are shipped out, including inspection of roots in container grown plants. Certification is a tool impacting behaviour, so there is lasting learning

- they are now back-tracing, trying to locate where a plant comes from and where a pest or problem begins. On-site training, documentation has been more successful in Alberta as it is smaller than Ontario or B.C.
- Code of Conduct designed for nursery people in B.C. I agree to scale back on invasive plants and in return I will get free training for my employees.
- Grow Me Instead brochure – ID's 25 invasives and colour photos of plants to replace them with.
- Certification Manual ISC – designed for Garden Centers to stop growing invasives, and what to replace them with

13. Jaimie Dickson Highland Valley Copper

Invasive Species Control at Highland Valley Copper

- one of the largest open-copper mines in the world
- formed in 1988 with the merger of 4 copper companies
- 75k SW of Kamloops
- two types of waste – rock and tailings (fine like sand)Disturbed areas encourage invasive species at 7000 feet. Disturbed areas at 1800 feet have been regenerated.
- Challenge when tailings are moved from area to area
- 100-200 feral horses that contribute to the spread of weeds
- partnered with Southern Intermediate Weed Mgmt. Committee to assist in weed control-no border approach, prioritization of species, management techniques, knowledge, tracking App, biological control program, waste-drop dump using helicopters
- focus now on major weeds on mine site Biological control for hound's tongue , Canadian thistle
- lastly, invasive mussels. Some reclaimed ponds are turned into fish ponds. They created posters about the invasive mussels and hope to get a boat-wash

14. Jennifer Critcher Encana Corporation

The Oil and Gas Perspective to Invasive Species

- natural gas based at Dawson Creek
- Jennifer took on management of all invasives – 530 site – in 2011
- they have a Vegetation Management Practice and a Pest Management Practice
- they work on a lot of canola grown areas
- practice focuses on prevention, by reducing soil movement
- on arrival into a “man's world”, she realized she wasn't getting through to them and needed another strategy. Challenges were in having hundreds of sites full of people and equipment and movement of soil
- there were a mass of projects, 500 sites, some 15 acres, and soil constantly being moved
- it was also a very large geographical area. But with an internal audit process, a summer student, improved stockholder relations, improved monitoring things improved. Alfalfa was used to re-vegetate trails.

15. Rick Manchak TimberWest

TimberWest: Coastal Forestry and Invasive Species Management

- legislation -Private Forestland, BC Weed Control
- invasives involved : anchusa, baby's breath, black knapweed, knotweed and ox-eye daisy
- Broom is 90 % of the problem. The head of every inlet on the coast is infected with broom. On remote sites goal is to kill it all. The islands in Johnston Strait are only occupied by foresters
- occupational practice – contractor training, heavy reliance on herbicides- Roundup
- \$250,000 annually to treat the area
- goal is to enhance awareness and training, machine cleaning before moving machinery
- elk that were introduced into the area are eating the seedlings