

Alberta Aquatic Invasive Species Program: Updates and Enhancements

CRB Meeting – June 28, 2017

Kate Wilson

Aquatic Invasive Species Specialist
Fish & Wildlife Policy

Zebra mussels multiplying in Lake Winnipeg, now found on shorelines





Alberta

Manitoba government finds a single suspect zebra mussel in Singush Lake



Invasive zebra mussels have reached Montana



Keeping out mussels: Parks Canada bans motorized boats in Waterton Lakes park



2016 Watercraft Inspections

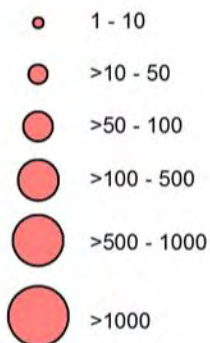
~19,000 inspections

17 fouled boats



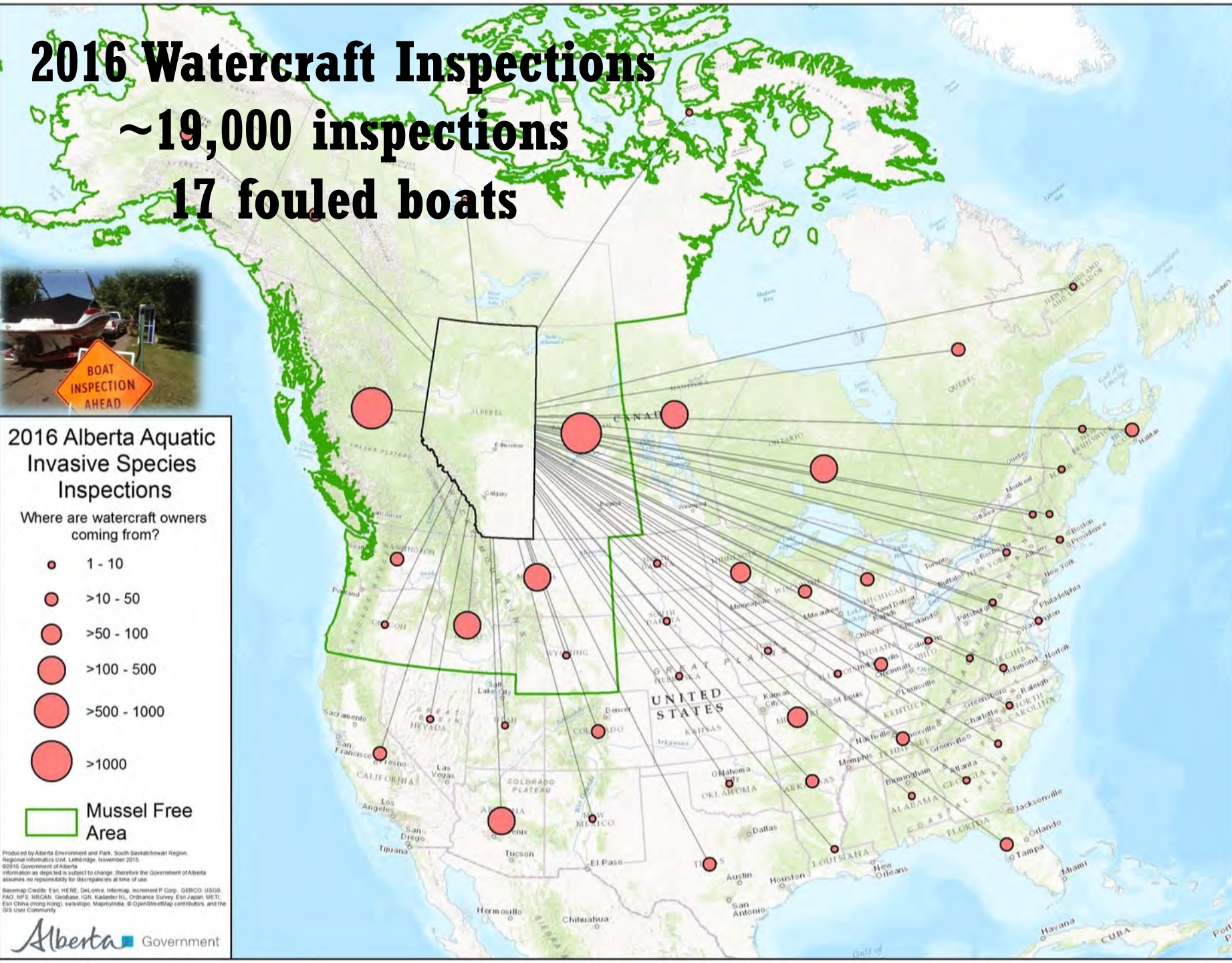
2016 Alberta Aquatic Invasive Species Inspections

Where are watercraft owners coming from?



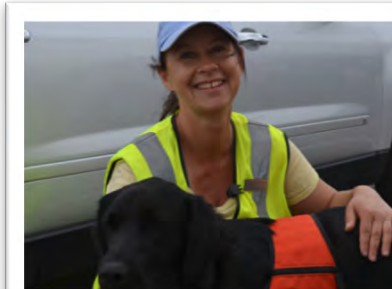
 Mussel Free Area

Produced by Alberta Environment and Parks, South Saskatchewan Region.
Regional Information Unit, Lethbridge, November 2015.
©2015 Government of Alberta.
Information as depicted is subject to change, therefore the Government of Alberta
assumes no responsibility for discrepancies at time of use.
Basemap Credits: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS,
FAO, Swire, NOAA, GEBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI,
Esri China (Hong Kong), Swisstopo, Mapbox India, © OpenStreetMap contributors, and the
GN Unl Community

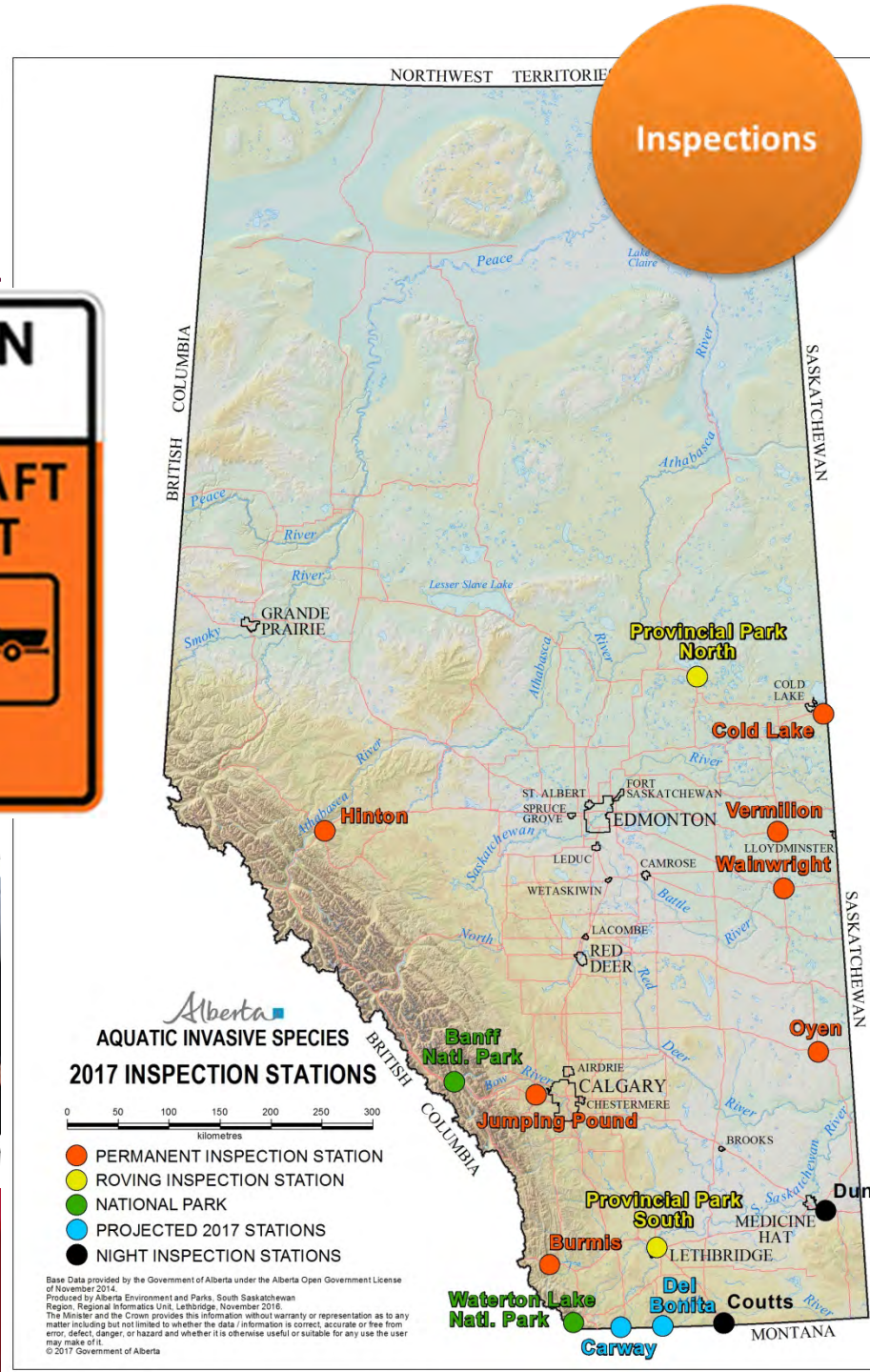


2017 Watercraft Inspection Stations

1. Coutts
2. Burmis
3. Dunmore
4. Wainwright
5. Oyen
6. Vermillion
7. Cold Lake
8. Hinton
9. Jumping Pound
10. Del Bonita
11. Carway
12. Parks – north
13. Parks – South



Alberta



Inspection station updates

- Biggest expansion to date
- Two new stations at Ports of Entry
 - Shared with Canadian Border Services Agency!
 - Mimic hours of Port of Entry
- Increased operational season and hours
 - 24 hours at Coutts & Dunmore
 - 16 hours at Vermillion
 - 10-12 hours all other
- Response staff 'on call'
- No shared database



Total inspections	5980
High risk inspection	1693
Commercial Hauls	147
Canine Inspections	71
Night Inspections (after 19:00hrs)	518
Skippers	1692
Mussel Fouled	5
Hot Washes	198
Weeds	58

Canadian NAVY:

Started in
Halifax NS
went to
Winnipeg MB
en route to
Great Slave Lake
NWT

SERIOUSLY?!?

Alberta

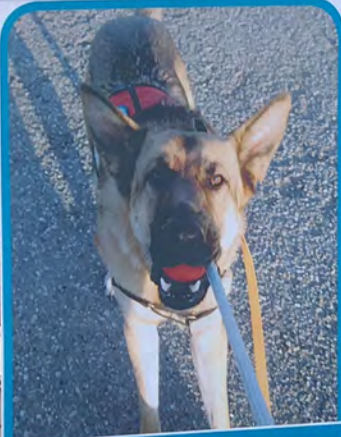




Conservation Canine Update

- Montana veliger detection – shoreline search (November 2016)
- Lake Powell shoreline training (February 2017)
- USFWS/Texas Canine Veliger training (May 2017)
- Assisting with night inspections
- New target: *Thesium Arvense*





THEIR REWARD IS PLAYING
WITH A FAVORITE TOY



GERMAN SHEPHERD
SEUSS



WORKING DOGS
for CONSERVATION

Alberta
Government



THEIR NOSES CAN CHECK
PLACES OUR EYES CAN'T



BLACK LAB
HILO



WORKING DOGS
for CONSERVATION

Alberta
Government



THEY WORK TO SPREAD THE
CONSERVATION MESSAGE



CHOCOLATE LAB
DIESEL



WORKING DOGS
for CONSERVATION

Alberta
Government

Pull the Plug Regulation

Policy &
Legislation

2016 Fisheries Regulations (April 1)

- PULL THE PLUG! – all watercraft must be transported with drain plug out
- Mandatory reporting of AIS (in water)
- Release of 'subject' water prohibited
- Typo in sport-fishing guide ☹️
- Fish disease connection

PULL
the
PLUG



TO REPORT INVASIVE SPECIES, CALL:
1-855-336-BOAT (2628)

Alberta
Government

Alberta

CLEAN + DRAIN + DRY YOUR GEAR



CLEAN + DRAIN + DRY YOUR BOAT



Props, boats and natural ecosystems can be ruined by zebra mussels and other aquatic invasive species. Take a few simple steps to preserve our lakes and fisheries: **CLEAN** off the plants and debris, **DRAIN** bilges and ballast, and **DRY** any wet areas of your boat.



ZEBRA MUSSELS



QUAGGA MUSSELS



EURASIAN WATERMILFOIL



DON'T LET THEM CATCH A RIDE
STOP AQUATIC HITCHHIKERS

TO REPORT INVASIVE SPECIES:
1-855-336-BOAT (2628)
esrd.alberta.ca



Alberta

Education
& Outreach

Canadian Border Services Agency

Federal Fisheries Act – AIS Regulations

- Prohibition on *Dreissenids*, Asian carp
- Canadian Border Services Agency collaboration
 - Ports of Entry, Transport Form
- No release of non-indigenous species



“Cross Border Transport Form”

- All boaters fill out – risk, contact info, etc.
- CBSA emails each day
- We decide if follow up required
- 3/6 Ports of Entry covered (prov Inspection stations);
direct boaters to our stations

Allow us to operate at 2 Ports of Entry



PREVENT THE SPREAD OF ZEBRA MUSSELS

CLEAN • DRAIN • DRY
YOUR BOAT



WATERCRAFT
INSPECTIONS ARE
NOW MANDATORY

Expect to be inspected
– watch for watercraft
inspections province-wide.

All watercraft including
non-motorized are required
to stop.

FOR MORE INFORMATION ON INVASIVE SPECIES, CALL:

1-855-336-BOAT (2628)





Alberta

WATERCRAFT CROSS-BORDER TRANSPORTATION FORM

Updated January 31, 2017

SECTION 1: TRANSPORTING VEHICLE INFORMATION						
Name:		Plate Number:		Issuing State/Province:		
Phone:		Email:		Owner? <input type="checkbox"/> Yes <input type="checkbox"/> No If NO, fill out Section 4		
Destination Address:				City:		
Estimated Date of Arrival:			State/Province:		Zip/Postal Code:	
Watercraft Type: <small>Select from below</small>	Size:	Manufacturer:	Watercraft: <input type="checkbox"/> New <input type="checkbox"/> Used	Any Ballast Tanks? <input type="checkbox"/> Yes <input type="checkbox"/> No		
<input type="checkbox"/> Motor Boat <input type="checkbox"/> Sail Boat <input type="checkbox"/> Pontoon Boat <input type="checkbox"/> Jet Skis <input type="checkbox"/> Canoe <input type="checkbox"/> Kayak <input type="checkbox"/> Inflatable Craft <input type="checkbox"/> Barge <input type="checkbox"/> Docks <input type="checkbox"/> Other						

SECTION 2: WATERCRAFT HISTORY AND USE	
Where has watercraft been used in past 30 days (waterbodies, state/province):	Jurisdiction:
Where will watercraft next be used?:	When:
Was watercraft inspected for aquatic invasive species on this trip? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, where?	

SECTION 3: COMMERCIAL HAULER INFORMATION	
Name of facility being delivered to:	Name of carrier:
Address:	Phone:

SECTION 4: WATERCRAFT OWNER INFORMATION (If different from above)		
Name of Owner:		Phone:
Address:		
City:	State/Province:	Zip/Postal Code:

Given the high risk of aquatic invasive species being imported into Alberta via overland transport of trailered watercraft, and the significant impacts associated with these invasive species, Government of Alberta Officials may contact you for more information or require follow up actions be taken.¹

It is illegal to import, transport or possess prohibited aquatic invasive species in Alberta without authorization.²

In addition, all watercraft are required to report to for an inspection when provincial watercraft stations are open.³

By signing below I indicate that the above information is accurate.

Protecting your privacy

We are collecting information under the authority of Section 9(1) and (2) of the *Government Organization Act*, and in accordance with Section 33 (c) of the *Freedom of Information and Protection of Privacy Act*. We will keep this information only for the length of time necessary to fulfill the purpose for which it was collected. An internal project report will be produced, however, no personally identifying information will be used in the report. A summary report of the project and findings may be released to the public. Again, no personally identifiable information will be used in the report. By completing this survey you agree that you have read and fully understand the above information, and have provided your consent in participation.

¹ Fisheries (Alberta) Act (32/6)

² Federal Fisheries Act-Aquatic Invasive Species Regulations and the Fisheries (Alberta) Act

³ Fisheries (Alberta) Act 32(7), 32(7) and the associated Inspection of Certain Conveyances for Invasive Species at Inspection Stations Order

Call Alberta's 24/7 Invasive Species Hotline
1-855-336-BOAT(2628)



Western Province Partnerships

Western AIS Agreement

- BC, AB, SK, MB, YK

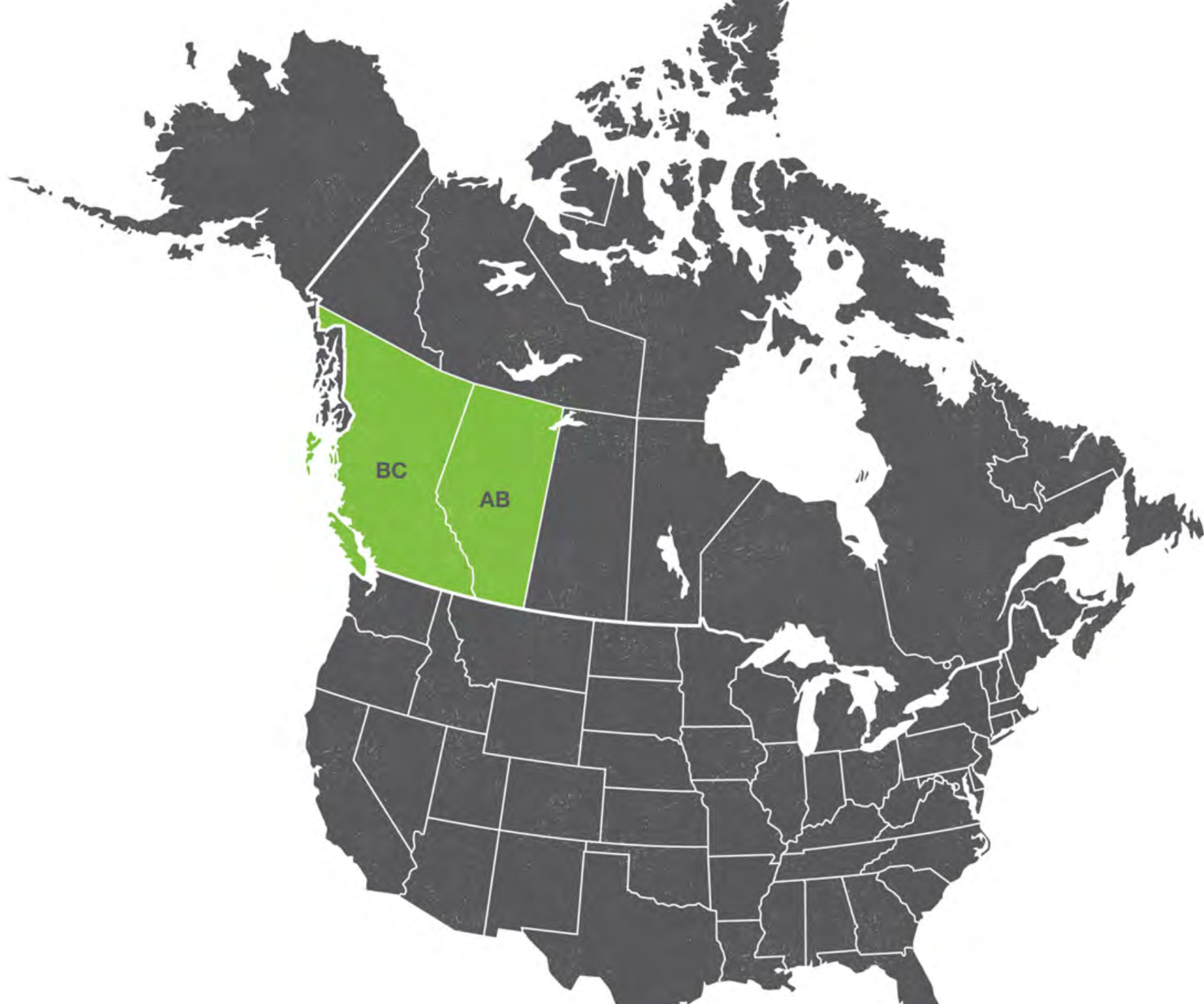
Working Group

- AIS Coordinators from each province/territory

Annual Work Plan

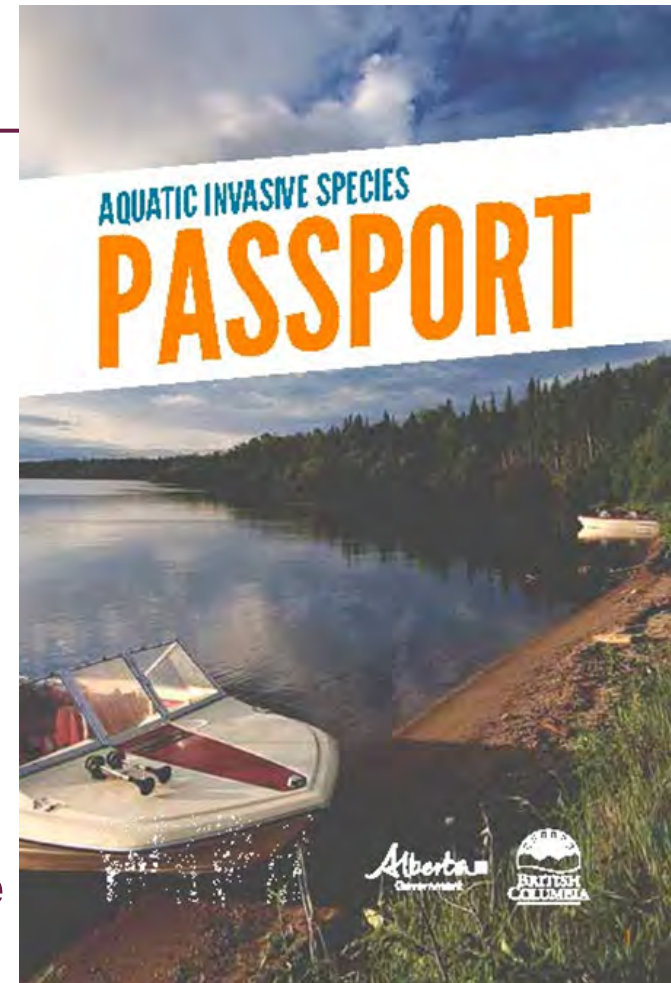
- Prioritize regional issues, work towards collaborative solutions
- Example: shared database (server issues, too expensive)
- 2017: Outreach to watercraft manufacturers
 - Template to 'clear' new boats from follow up activities
 - Approach from western province perspective





Alberta/BC Passport Pilot

- Frequent boaters only
 - Alberta/BC or between
- Expedite inspections
- Community based social marketing model
- 'Commitment form'
 - Clean Drain Dry
 - Stop at inspections
 - Pull the Plug
 - Survey at end of season
 - Lottery?
- Tablet questions (each time) on experience
- Evaluate efficacy at end of season
 - Enhance boater experience, triage risk



Intentional Release



DO
LET
LOOSE

DON'T
LET IT
LOOSE

DON'T
LET IT
LOOSE



**DON'T
LET IT
LOOSE**

It is illegal to release fish into waterbodies! Species that are not native to Alberta can become invasive when released into the wild, increasing competition for resources and spreading diseases to native species. Don't Let It Loose!

FOR MORE INFORMATION
1-855-33



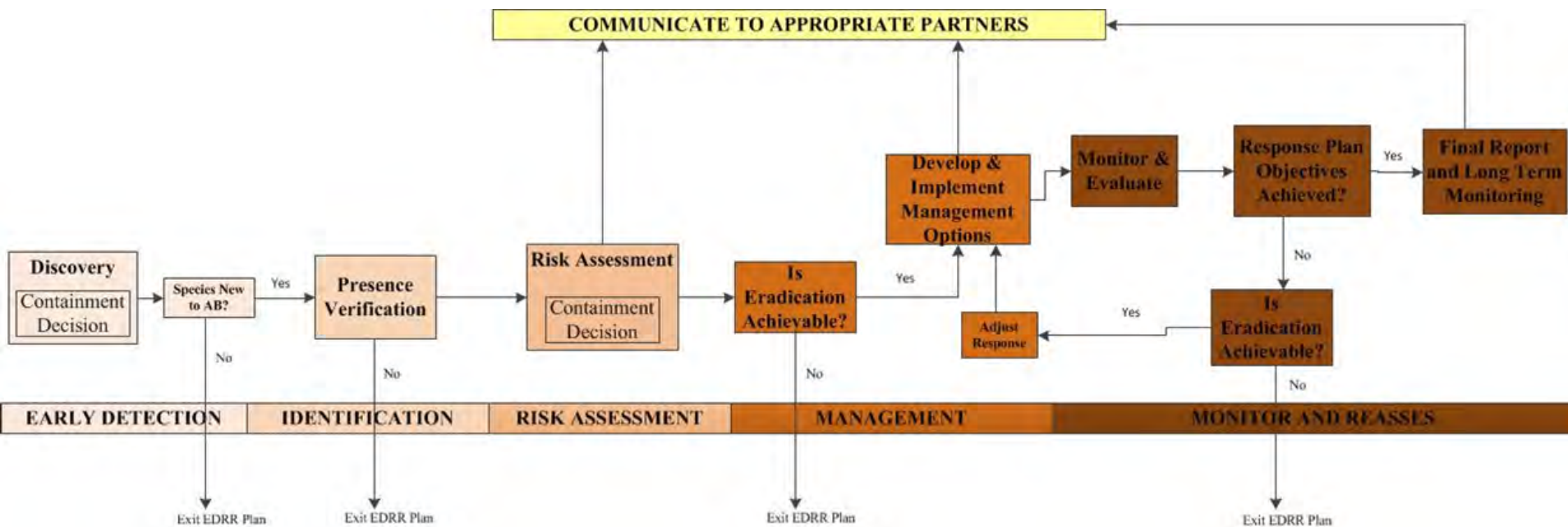
CALL:
(28)



Exploring New Territory...



Finally, we can get to response activities!



Flowering Rush

- **DIPLOID! 13 known locations**
 - Found in lakes, creeks, rivers, man-made ponds, irrigation canals
- **Control Trials 2016-17**
 - Hand digging
 - Barriers
 - Herbicides (x2)
 - Diver dredging
 - Reveg
- **Full scale treatment 2017**



Flowering Rush Trials 2016



Phragmites

- CP Rail Right of Way near Brooks (April)
- Determined to be invasive (June)
- Listed only in *Fisheries (Alberta) Act*
- Partners/stakeholders
 - Alberta Environment & Parks
 - Alberta Agriculture & Forestry
 - Canadian Pacific Rail
 - County of Newell
 - Eastern Irrigation District
- Five additional locations reported now
 - Brooks golf course, Med Hat, Greenview County x2, N. Sunrise County
 - AF lab confirmed (DNA)



Phragmites Management

Response



We HATE Goldfish! Just Kidding. Kind of.

- Hearty & robust
- Over 40 locations
- Seven treatments in 2016!
- New! Fish & Invertebrates Applicator Training
 - Municipalities, consultants, biologists
 - Okotoks and Grand Prairie training
 - 16 Certified Applicators in province



Alberta Special: Fish and Aquatic Invertebrate Control Training Manual

(adapted from the Montana Department of Agriculture Pesticide Piscicide Training Manual)



Vermilion
Lloydminster

Alberta Environment and Parks

Alberta

Prussian carp (*Carassius gibelio*)

**HAVE YOU SEEN
THIS FISH?
CATCH IT. KILL IT.**



PRUSSIAN CARP A.K.A WILD GOLDFISH

Prussian Carp is a harmful invasive species that are known to devastate aquatic ecosystems and pose severe threats to native fish.

**If you catch a Prussian Carp,
DON'T LET IT LOOSE. Please kill it
and take it home to eat or properly
dispose of the carcass (away from
any water bodies).**

FOR MORE INFORMATION ON INVASIVE SPECIES, CALL:

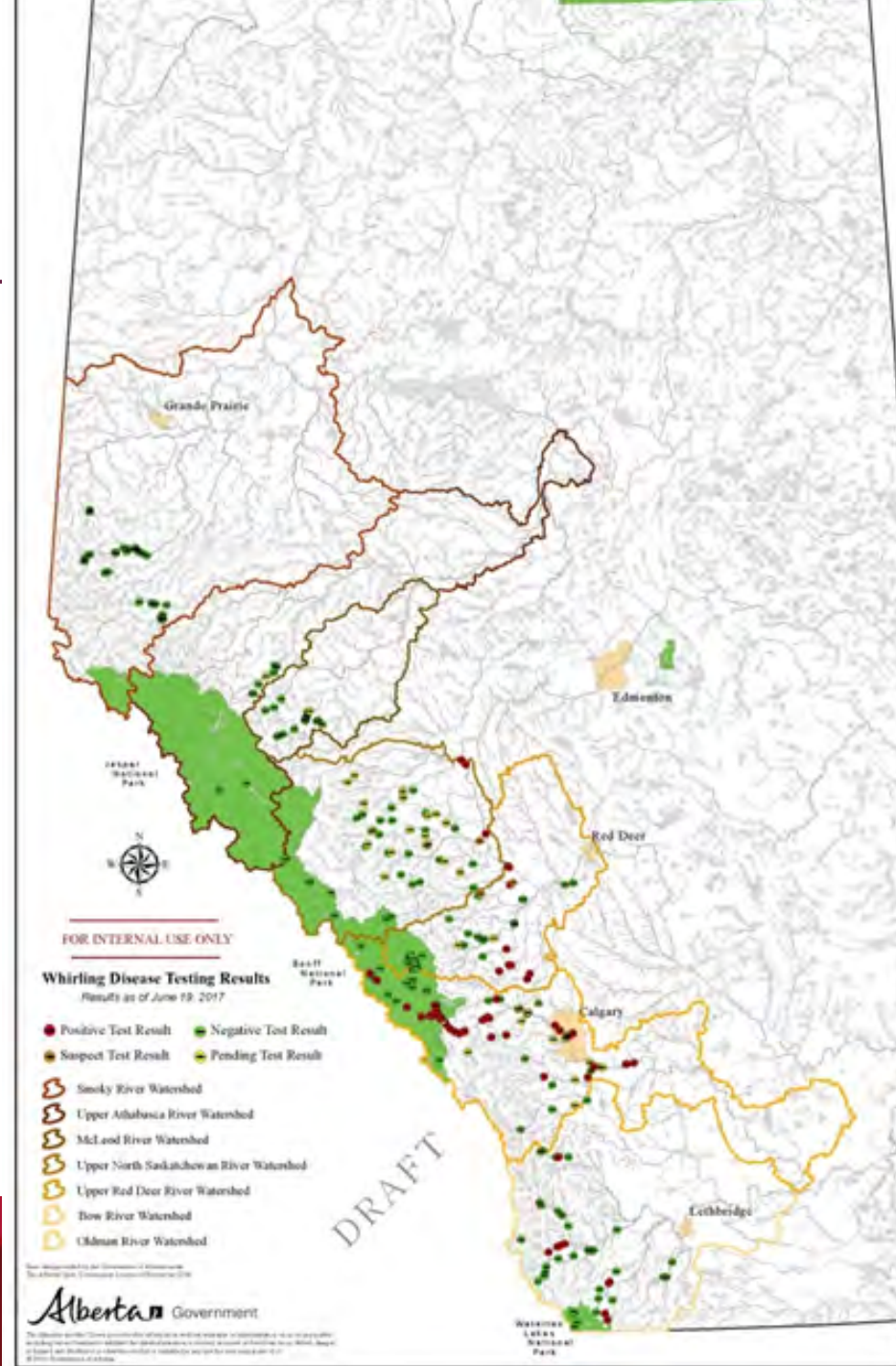
1-855-336-BOAT (2628)

Alberta
Government



Whirling Disease

- August 2016 detected
 - 1st in Canada
- Response
 - AEP, Parks Canada, Canadian Food & Inspection Agency
 - Incident Command
 - Monitoring
- Results to date:
 - 5 Aquaculture Facilities
 - 13 sites - Banff National Park
 - 4 watersheds
- Still awaiting results of monitoring



QUICK FACTS WHIRLING DISEASE

WHAT CAN YOU DO TO PREVENT THE SPREAD OF WHIRLING DISEASE?

Whirling disease affects salmonid fishes including trout, salmon and whitefish and is caused by a parasite, *Myxobolus cerebralis*. It can be transmitted through spores that attach to equipment used for swimming, paddling, boating, water pumping, fishing, or through infected fish (alive or dead) and fish parts.

- Never move live or dead fish, or fish parts from one waterbody to another. Dispose of fish or any fish parts in the garbage.

The movement of fish, mud, and water can spread whirling disease. Before moving a boat or any equipment (e.g. hip waders, life jackets, kayaks, etc.) between water bodies, be sure to:

CLEAN

- Clean and inspect watercraft, trailers, and all equipment that has been in contact with water. This includes boats, motors, boots, waders, bait buckets, and swimming floats.
- Remove all mud, sand, and plant materials before leaving the shore.
- Rinse, scrub, or pressure wash your boat and equipment away from storm drains, ditches or waterways. Use hot water if possible (90°C or hotter).

DRAIN

- Before leaving the shoreline, drain water from watercraft and equipment onto dry land.
- Remember to "Pull the Plug" because it is illegal to transport watercraft with the drain plug still in place.

DRY

- Dry the watercraft and/or equipment completely between trips and allow the wet areas to air dry. Allow for a minimum of 24 hours of drying time before entering new waters.
- Leave compartments open on boats and equipment, and sponge out standing water.



QUICK FACTS:

- The first case of whirling disease in Canada was confirmed in August 2016 in Johnson Lake, Alberta, in Banff National Park. The disease has also been confirmed within the Bow River watershed outside of the national park. Provincial monitoring is ongoing.
- Whirling disease was first observed in the northeastern United States in the 1950s. By the 1990s it was also detected throughout the western US, including neighbouring Montana.
- There is **no treatment** currently available for whirling disease; containment and prevention are the best response.
- There are no health concerns for people swimming in or drinking water that contains whirling disease. Eating an infected fish is not known to cause harmful effects to people or other animals.
- In infected waters, whirling disease may cause a large number of mortalities, potentially killing up to 90% of juveniles in susceptible fish; however not all populations or species may be affected to the same level.
- The parasite has two hosts; a fish and a freshwater worm. Fish may become infected by directly encountering the life stage of the parasite that is released from the worm. Once inside the fish, the parasite affects the cartilage near the spine, leading to skeletal deformities of the spine or skull. This causes the fish to abnormally whirl in a tail-chasing behaviour and/or display a blackened tail.



Trout showing signs of whirling disease infection

FOR MORE INFORMATION OR TO REPORT INVASIVE SPECIES, CALL:

1-855-336-BOAT (2628)

ISBN 978-1-4601-3300-2 (print)
ISBN 978-1-4601-3301-9 (PDF)
Printed: February 2017
Search for Whirling Disease on aep.alberta.ca

Alberta
Government

PREVENT THE SPREAD OF WHIRLING DISEASE



CLEAN + DRAIN + DRY YOUR GEAR

Whirling disease causes mortality in salmonid fish including trout and whitefish. The movement of fish, mud, and water can spread this deadly disease.

To help protect our fisheries, take these easy steps:

- ✓ Never move live or dead fish, or fish parts from one waterbody to another.
- ✓ Use fish-cleaning stations where available or put fish parts in the trash.
- ✓ Dry all gear thoroughly prior to next use.
- ✓ Avoid using felt-soled waders.

CLEAN, DRAIN, DRY all equipment that has been in contact with the water.

FOR MORE INFORMATION OR TO REPORT INVASIVE SPECIES, CALL:

1-855-336-BOAT (2628)

Alberta
Government
aep.alberta.ca

Alberta

New! Mandatory Decon Protocol

Level 1: Streamside

Clean, Drain, Dry

Level 2: Streamside

Clean, QUAT treatment, Rinse

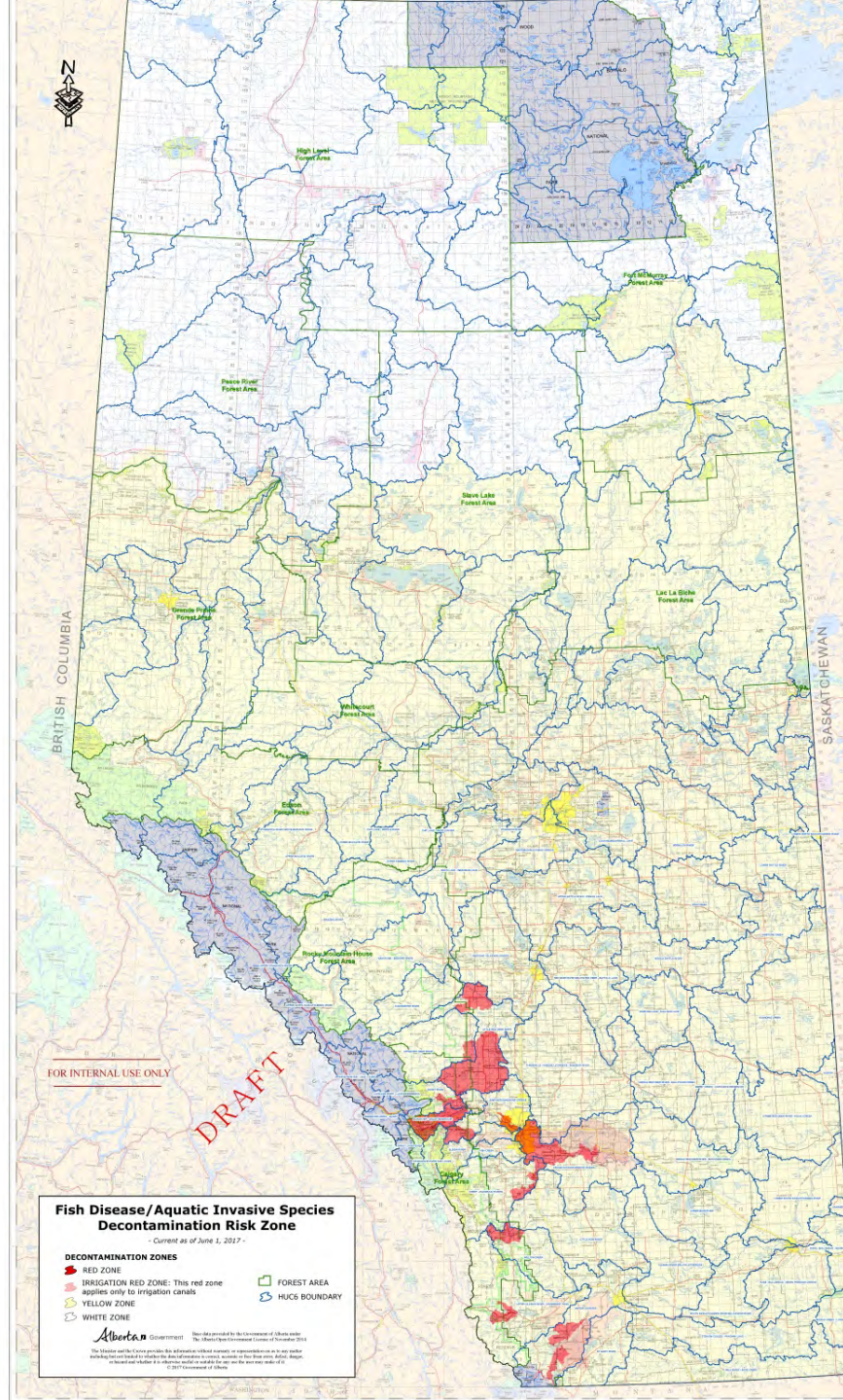
Level 3: Decontamination Hub

Hot water treatment

Secondary application of QUAT

WHITE ZONE PROTOCOLS	YELLOW ZONE PROTOCOLS	RED ZONE PROTOCOLS
Level 1	Level 1	Level 1
-	Level 2	Level 2
-	-	Level 3

Alberta



Potash Project

Response

- No molluscicides registered for open water in Canada
 - Need EDRR tools
 - Most promising, cost effective and accessible option
 - Would benefit Canada/USA
 - Aiming for Dec 2017 submission
-
- Navigating Health Canada PMRA process
 - Currently preparing for '5 batch analysis' (chemistry)
 - \$200k invested; \$40k - \$180k additional for registration

1-855-336-BOAT (AB)



**Coming together is a beginning; keeping together
is a process; working together is success.**

- Henry Ford