

Potash as a Molluscicide



PNWER Saskatoon

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Outline



Mussels Cost to Alberta
from Mussels



Why Potash?



Registration Discussion



Next steps & Questions

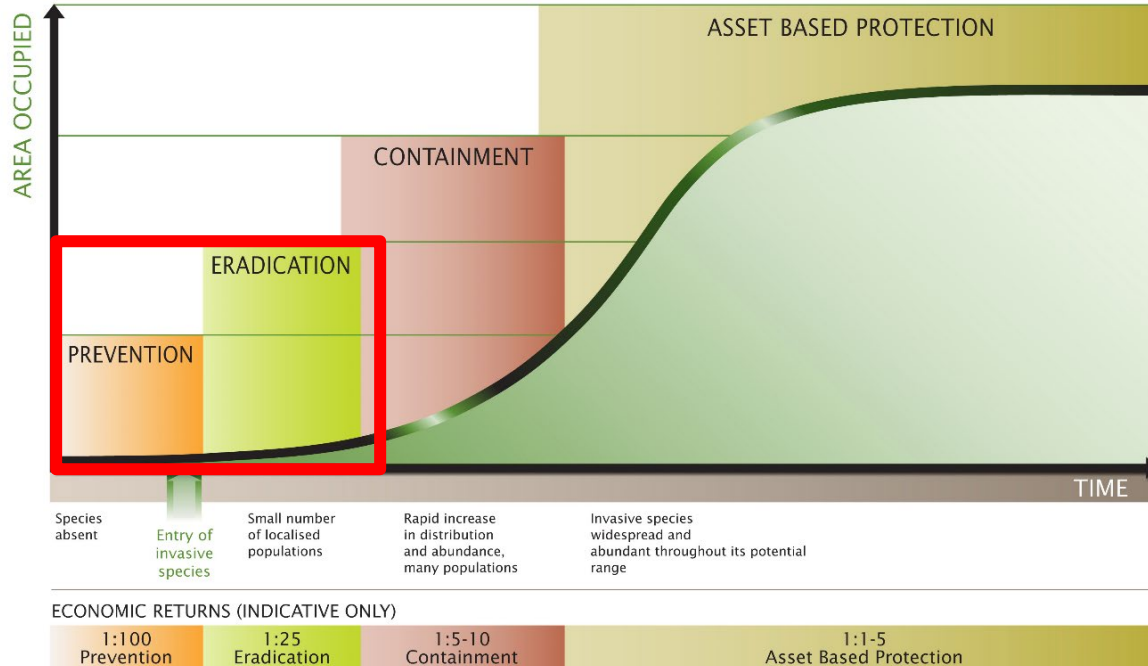




Cost of doing nothing

GENERALISED INVASION CURVE SHOWING ACTIONS APPROPRIATE TO EACH STAGE

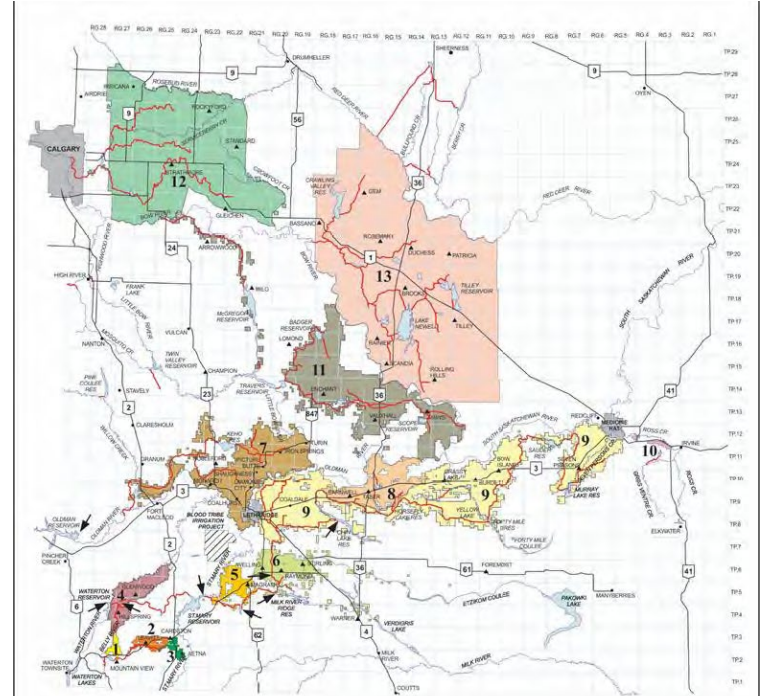
Version 1.0: 30 APR 2009



Australia Agriculture Victoria :
Invasive Plants and Animals
Policy Framework

What is at stake for Alberta?

- Alberta is the irrigation capital of Canada.
- About 704,000 ha of land is currently irrigated within the province, and this represents almost 70% of Canada's total irrigation area.
- About 82% of Alberta's irrigated area is in the 13 irrigation districts



Early Detection, Rapid Response

- Lead by the Alberta Support and Emergency Response Team (ASERT)
- Verify Reported Introduction
- Make Initial Notifications
- Activate a Response Management System
- Quarantine and Pathway Management
- Establish External Communications System
- Obtain and Organize Resources
- Determine Extent of Colonization
- **Initiate Control Measures**
- Implement Long-Term Monitoring
- Stand Down Incident and Evaluate Response

Aquatic Herbicides

United States		Canada	
Copper	1950s	Diquat	2000
2,4-D amine	1959		
2,4-D ester	1959		
Endothall	1960		
Diquat	1962		
Peroxides	1980s		
Fluridone	1986		
Glyphosate	1977		
Triclopyr	2002		
Imazapyr	2003		
Carfentrazone	2004		
Penoxsulam	2007		
Imazamox	2008		
Flumioxazin	2011		
Bispyribac-sodium	2012		
Topramezone	2013		

Imbalance of available pesticide products.

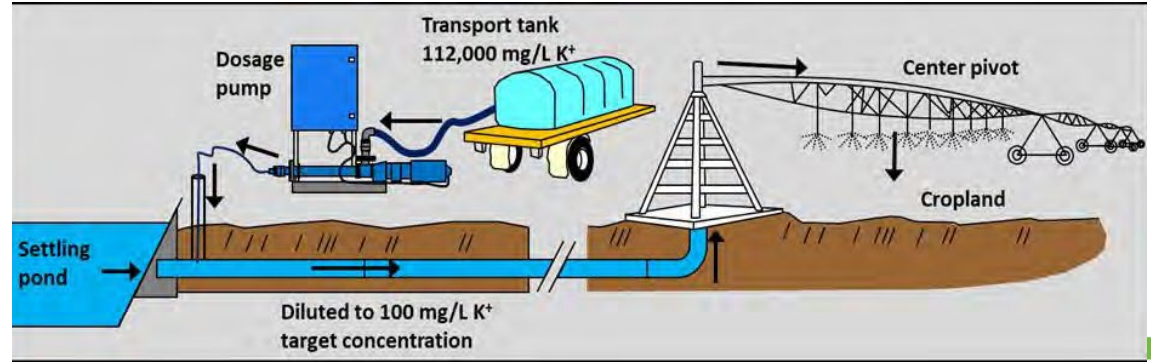
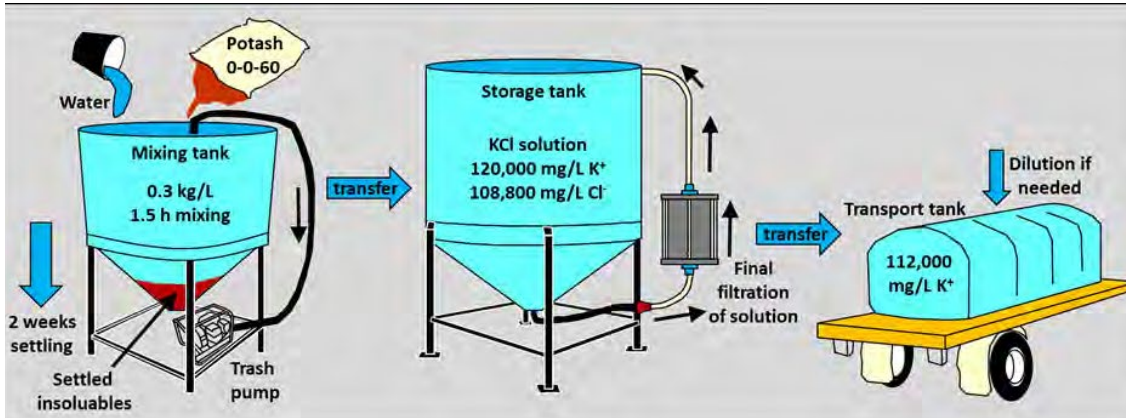


Why Potash?

- Cheaper than alternatives (e.g. Zequanox)
- Less environmental risk than alternatives (e.g. chlorine)
 - Still risks to native mussels and some aquatic species
- Limited risk to human health if used in proper concentrations
- Previous success in US/Canada
 - Millbrook Quarry, Virginia
 - Sister Grove, Texas
 - Lake Winnipeg, Manitoba
 - Christmas Lake, Minnesota
 - Lake Independence, Minnesota



It will work!!!



Neighbor literally has tons!



Pictures from Nutrien

Why is the AB Government Pursuing Registration?

- Limited ability for use of Federal emergency tools
- No chemical company interested (no market for potash as a mussel control agent in Alberta at this time)
- In the interest of public good and being prepared in the event of a mussel detection, Alberta sees the value in having a registered pesticide available
- Would allow use by other partnering jurisdictions

Registration Process

- Initial internal discussions in mid-2015
- Pre-submission Consultation to PMRA (Fall 2015) highlights:
 - Research:
 - Irrigation Pipeline application study (underway – lead by Ag and Forestry)
 - Registration:
 - Lakes/Rivers/Reservoirs
 - Irrigation Canals
 - Irrigation Pipelines

Registration Process

- Securing resources to gather information required for registration:
 - 200K grant to Innotech to conduct research and lead work to gather necessary information on control agents including Potash
 - Support from Intertek – a company that specializes in registration of products in both Canada and the US.
 - Securing support from a Saskatchewan supplier who could manufacture and provide product to the Government of Alberta

Registration Process

- Several literature studies and information gathered on:
 - Chemical information (including lab work associated with 5-batch analysis)^{***}
 - Manufacturing information and process descriptions
 - Environmental fate
 - Toxicity
 - Storage & Use

Supply/Manufacturing Challenges

- Although Alberta will pursue a registration, we will not manufacture or directly supply product
- Solution - Alberta to collaborate with the supplier/manufacturer to label at the distribution site and then ship/invoice to the purchaser (i.e. jurisdiction using the product) subject to the use label

Process Challenges (Alberta Perspective)

- Expensive to complete all the necessary work required to complete a registration package
 - It takes a high degree of expertise to prepare these packages for registration – not often available in house/limited assistance
- Expensive registration fees
 - PMRA's registration fees are in the tune of almost \$100,000. This can be reduced/partially waived but costs for Alberta to register will still be in the tens of thousands.
- No streamlining of registration for products for the public good (i.e. AIS control agents)
 - Typical turnaround time from date of registration submission is 18 months.

Possible Solutions

- Look for negotiation with PMRA to discuss options for a more efficient registration process that reflects the unique situations AIS control products might present
- Continue to learn from the Potash registration in Alberta as to where efficiencies can be realized
- Proactively work to register more products that might be of benefit to potential AIS control

Next Steps

- Finalize last outstanding pieces in registration package
- Submit package for registration to PMRA



Questions?

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