

Management and Control of Invasive Species in Native Pasture – Successes and Challenges

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Native Prairie Restoration/Reclamation Workshop



Presentation Overview

- Introductions
- Two different weed control programs: City of Medicine Hat and confidential client
- Project background and work completed
- Successes and challenges
- Next steps



- 100% Canadian owned, environmental, and engineering consulting company
- Offices are located in British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario
- Three main service lines:
 - Assessment, remediation, reclamation and monitoring
 - Environmental planning, assessment and approvals
 - Water resources
- Stacey Wiens, PAg, General Manager
- Meghan Hellman, P.Ag., Ecologist



Program Background #1

- City of Medicine Hat department; responsible for management of lands till bought by a developer
- Confirmed reports of noxious weeds on their lands
- *Alberta Weed Control Act*
- City is completing their due diligence
- Department owned management plan



Review of the Program

- 2016 to 2019
- Inventory surveys – completed in early October and April/May
- Developed a weed management plan (WMP) based on these inventory surveys
- Three years of weed control and monitoring complete
- Weed control completed by a third party contractor



Inventory Program – Successes

Matrix:

- Baseline map
- Valuable data for development of a weed management plan (WMP)
- Worked in conjunction with the Parks department

Client:

- Understanding of the weeds onsite and regulatory control requirements
- Formal documentation and process in place



Inventory Program – Challenges

Matrix:

- Survey timing
- Collecting data for multiple weeds across large sites
- Plants have different common names

Client:

- Greater extent of weeds onsite than expected



Site Example



Weed Management Plan



- Criteria
 - Vary between clients
- Ranking
- Treatment Options



Weed Control Programs– Successes

Matrix:

- Executed multiple treatments per control event; multiple control events during the growing season
- Effective control of weeds
- Relationships with chemical control experts

Client:

- Progress in 2018



Weed Control Programs– Challenges

Matrix:

- Difficult terrain and size of sites
- Appropriate weed control timing
- Third-party contractor
- Site supervisors required

Client:

- Internal budget allocation
- Balance budget and public perception



Pervasive Weeds

Weed Specie(s) Requiring Aggressive Treatment	Strategy
Canada (creeping) thistle	chemical treatment x 2
Black henbane	Multiple hand picking events
Japanese chess and downy brome	chemical control in the spring and application of Esplanade 200 soil residual chemical in the fall
common baby's breath	chemical treatment x 2
leafy spurge	aggressive chemical spraying x 2



Pervasive Weeds

Canada thistle - noxious



Black henbane - noxious



Pervasive Weeds



leafy spurge - noxious

Japanese chess and
downy brome -
noxious



common baby's
breath - noxious

Review of Weed Control Strategies

Weed Specie(s)	Evaluation of Treatment Method
Canada thistle	effective
Japanese chess /downy brome	effective
black henbane	effective
common baby's breath	effective
leafy spurge	partially successful



Program Background #2

- Reclamation and weed monitoring program
- Project is located in native grassland that is used for grazing
- Ministry of Agriculture land
- Multiple land users



Review of the Program

- Program tours and inventory surveys completed during the growing season
- Developed a weed management plan (WMP) for this program
- Multiple years of control
- Weed control completed by a third party contractor and in house



Weed Control Programs – Successes

- Effective control of weeds
- Positive relationship with landowner



Weed Control Programs – Challenges

- Chemical grazing restrictions
- Multiple land users and spread of weeds
- Impacts to desirable species



What Have We Learned?

- Difficult
- Multiple seasons
- Multiple control methods
- Not one solution for the same weed, even in similar habitats



A photograph of a river flowing through a dense forest. The river is turbulent, with white water rapids cascading over dark rocks. The surrounding trees are lush green, and the sky is overcast. The word "Questions?" is overlaid in white text in the center of the image.

Questions?