

2014 CANADA THISTLE MANAGEMENT IN ANCHORAGE



A New Approach



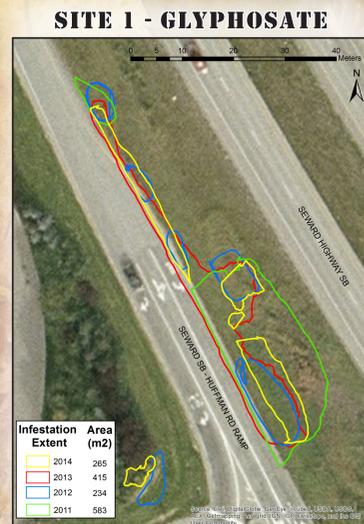
ABSTRACT

Cirsium arvense (Canada thistle) has consistently been identified in the Anchorage, Alaska area since 2002; having 304 reported locations (AKEPIC, 2014). However, various management efforts have been limited by seasonal fieldworkers, varied surveying techniques and interpretations. Since 2011, larger Canada thistle infestations have been recorded, measured using georeferenced extents and mechanically managed. In 2013, these longer-term datasets were compiled to determine effectiveness of mechanical management by quantifying changes of area between 2011 and 2013. Overlapping percentages of these areas, which, when coupled with density data, are indicative of infestation establishment. Prior to the 2014 field season, only 4 Canada thistle infestations, on park lands, were managed with herbicides. This year, 15 infestations were managed with herbicides under the Department of Transportation's Integrated Vegetation Management Plan (IVMP) by Department of Natural Resources field staff. Herbicide application sites were selected based on location; being in a State-owned right-of-way, proximity to transportation vectors and prioritized based on likeliness to spread to adjacent native areas. Herbicide applications started July 31st, and continued until September 23rd. Efficacy was monitored with routine site visits and measured with pre and post application images, including an "indicator plant" representative of the infestation results. Continued monitoring and quantification of areas in the spring will determine effectiveness of herbicide versus mechanical management.

PROJECT GOALS & METHODOLOGY

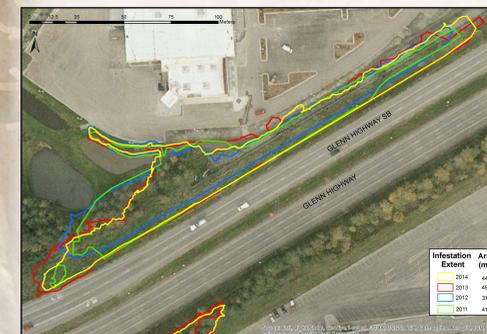
- Contain Canada thistle to the Anchorage area and reduce infestations to background levels
 - Eradicate specific high priority sites
- Communicate and work with the public and other agencies to manage known sites on private property and areas not state-owned
 - Offer outreach materials for education efforts
- Determine if mechanical management is effective
 - How does this compare to chemical management?
- 2014 Goal: Utilize Herbicides on state-owned Right-of-ways using the DOT IVMP

Heather A.M. Stewart
Alaska Plant Materials Center
Heather.Stewart@Alaska.gov
907-745-8721



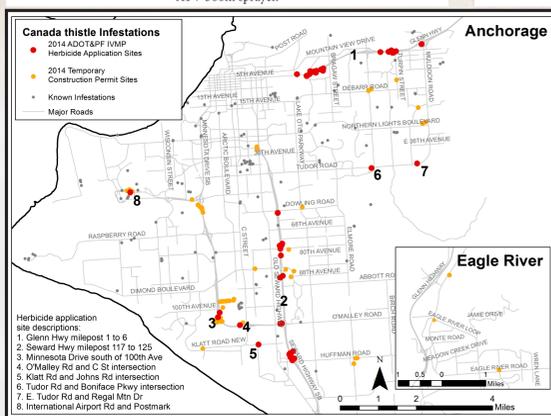
SITE 3 - AMINOPYRALID

SITE 4 - TRICLOPYR



ATV boom sprayer.

Tractor boom sprayer on priority site 4.



ACKNOWLEDGEMENTS

Sincere thanks to Chugach Yard Care for their assistance in applications with larger equipment, willingness to learn and adapt in the field, and good laughs. Financial support provided by National Fish and Wildlife Foundation, US Fish and Wildlife Services, and the US Forest Service. Genuine thanks for the general public for reporting new infestation sites and enthusiasm about invasive species.



Herbicide application on priority site 1.



Before aminopyralid herbicide application.



2 weeks after herbicide application.

RESULTS

Mechanical and Manual Management:

- 42 infestations were mechanically or manually managed totalling ~30 acres
- Extent of infestations were mapped and densities taken using quadrat
- 5 new infestations were found and managed

Chemical Management:

- 15 sites managed with herbicides, ~3.5 acres
- 3 different herbicides utilized: aminopyralid, glyphosate and triclopyr
- Priority sites each had different herbicide applied; Priority site 2 is control site

Outreach:

- Anchorage Daily News advertising generated 67 reports of Canada thistle infestations
- Anchorage Zoo Educational kiosk promoting Alaska invasive plant species built September 7th

DISCUSSION

- Given the information of infestation size since 2011, mechanical management is not effective in preventing rhizome spread
 - Example: Priority site 3 is spreading along roadside
- Is two weeks enough time for herbicides to be effective?
 - 2 sites were mowed within 2 weeks after application
- Will the summer or fall herbicide applications be more effective?

FUTURE WORK AND OUTREACH

- Continually monitor herbicide application sites for effectiveness
 - Determine which herbicide is most successful
 - Follow up with spot treatments in the spring if necessary
- Prioritize other known infestations in right-of-ways for 2015 herbicide applications
- Follow up with public reporters to make sure sites were successfully managed



Before herbicide application using glyphosate on priority site 1.



3 weeks after herbicide application.

AKEPIC. (2014) "Alaska Exotic Plant Information Clearinghouse." *Alaska Natural Heritage Program*. University of Alaska, Anchorage. Retrieved September 16, 2014 (<http://aknhp.uaa.alaska.edu/maps/akepic/>).