

THE EFFECT OF TIME-SINCE-BURNING ON SPOTTED KNAPWEED AND DALMATIAN TOADFLAX

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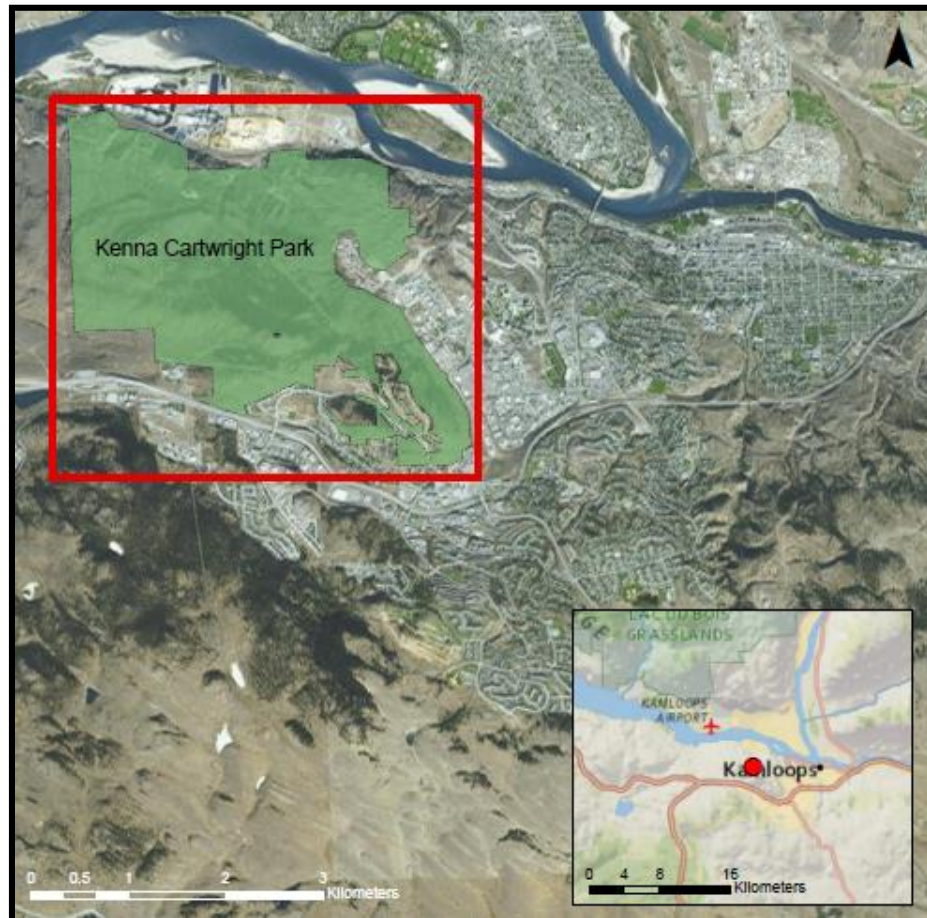
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Presentation Outline

- Review of current literature
- Study location – Kenna Cartwright park
- Study design
- Application

Study Location – Kenna Cartwright Park



- 800 ha urban park
- Ponderosa Pine and Bunchgrass BEC zone
- Park goals: fuel reduction and decrease invasive species

Project Background

- Fire suppression since 1940s
- Mountain pine beetle outbreak
- Abundance of spotted knapweed and Dalmatian toadflax
- Re-introduction of fire using prescribed burning



Spotted Knapweed – *Centaurea maculosa*

- Perennial herb
- Survival rate of adult spotted knapweed a critical stage affecting population size (Jacobs and Sheley 1997)
- Low severity burn treatments in the spring and summer negatively impacted population growth (Emery and Grosse 2005)

Dalmatian toadflax – *Linaria genistifolia* *ssp. dalmatica*

- Emerges in early spring
- Strong competitor
- Increase in seed production in response to burning (Jacobs and Sheley 2003)



Study Design

- Fire, control, and hand-pull treatments across two sites
- Historical burn sites from 2015 and 2016
- Measure number of stems and stem length within 1m² sample plot
- Collect seeds in the fall to determine reproduction



Application

- Develop an invasive species management plan
- Examine the legacy effect of prescribed burning
- Recommendations may include:
 - Change in the timing and frequency of burning
 - Reseeding with native ground cover
 - Combining prescribed burning with other treatments



Thank you!