Response of Invasive Plants to Prescribed Burning

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OVERVIEW

• Why study invasive plants and prescribed burning
• Characteristics of Dalmatian toadflax and spotted knapweed
• Study Area – Kenna Cartwright Park
• Methods of study
• Results
• Management Implications
• Summary
Why fire ecology?
Prescribed Burning

• Prescribed burning is a tool for ecological restoration
• The effects of prescribed burning are species specific and can depend on the timing of fire and characteristics of species
Dalmatian Toadflax
(Linaria dalmatica)
SPOTTED Knapweed
(Centaurea stoeb)
CONSIDERING THE CLIMATE IN 2017
METHODS
METHODS

Three treatments
- Prescribed burn
- Hand-pulling
- Control

Measured:
- Stem density
- Height of individuals

Three survey periods
- May
- June
- July
SPATIAL OCCURRENCE OF DALMATIAN TOADFLAX
Dalmatian Toadflax — Growth Rate
Dalmatian Toadflax - Height
Dalmatian Toadflax - Density
Dalmatian Toadflax — Burn-Year
Dalmatian Toadflax – Burn-Year
SPATIAL OCCURRENCE OF SPOTTED KNAPWEED
SPOTTED KNAPWEED — GROWTH RATE
SPOTTED KNAPWEED - HEIGHT
SPOTTED KNAPEWEEED - DENSITY
Relevance to Ecological Restoration

- Treatments not effective for Dalmatian toadflax
- Treatments effective for spotted knapweed
- Wildfire recovery
• Incorporate more studies with management practices
• BACI
• Foster a relationship between institutions and industry
• Invasive species management plans necessary in rehabilitation of wildfire events
SUMMARY

• Must understand the specific effect of burning on species of interest

• Burning might be effective for spotted knapweed

• Burning not effective for Dalmatian toadflax

• Need more long-term BACI studies
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