

Understanding Wattle Seed Bank Dynamics

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Why Should You Care About Wattle?

- Uses 2,000 KL of water per hectare per year more than grasslands
- Water security is compromised



- Highly opportunistic invasive tree species
- Spreads at an extremely rapid rate compared to other non-native plants

Guiding Question

How do we create an effective management strategy to control the spread of wattle in the Umzimvubu catchment area?

Agenda



Project description



Data analysis



Implications for future research



Recommendations for wattle management

Site Overview



Soil Sampling & Analysis Process



1. Identified collection sites and sampled soil



2. Interviewed wattle-clearing team members



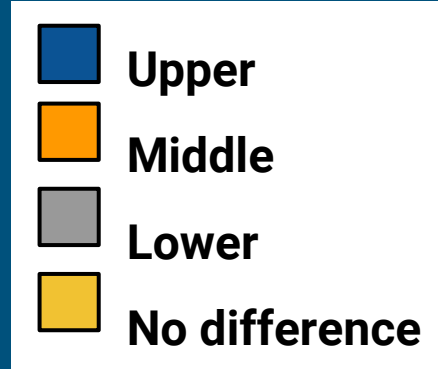
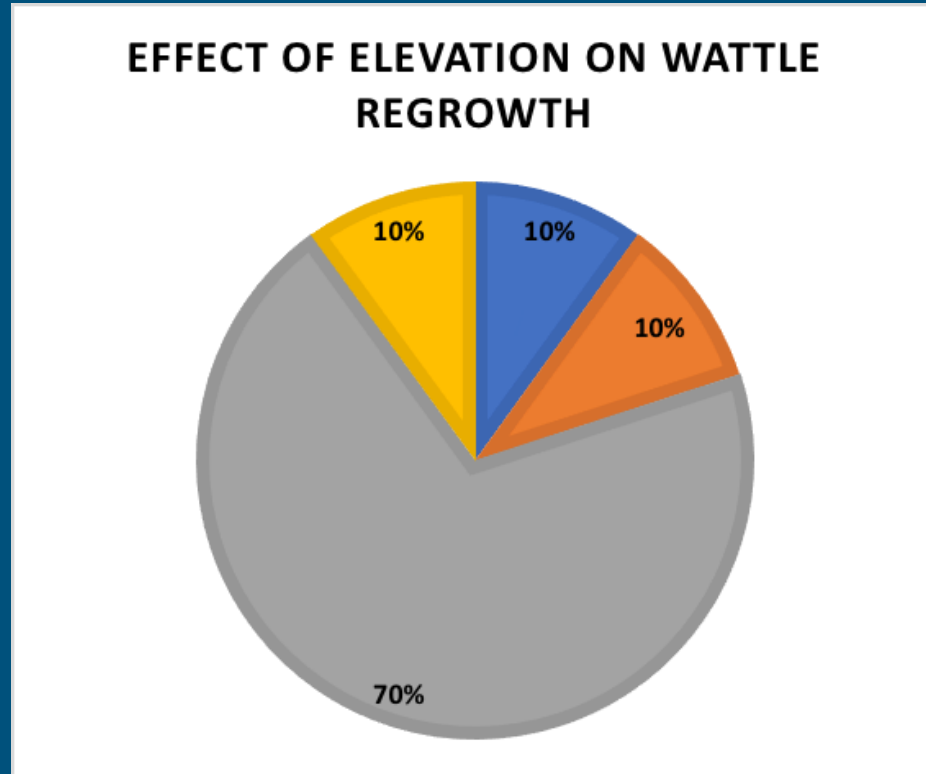
3. Counted wattle seeds and analyzed data

From the Field

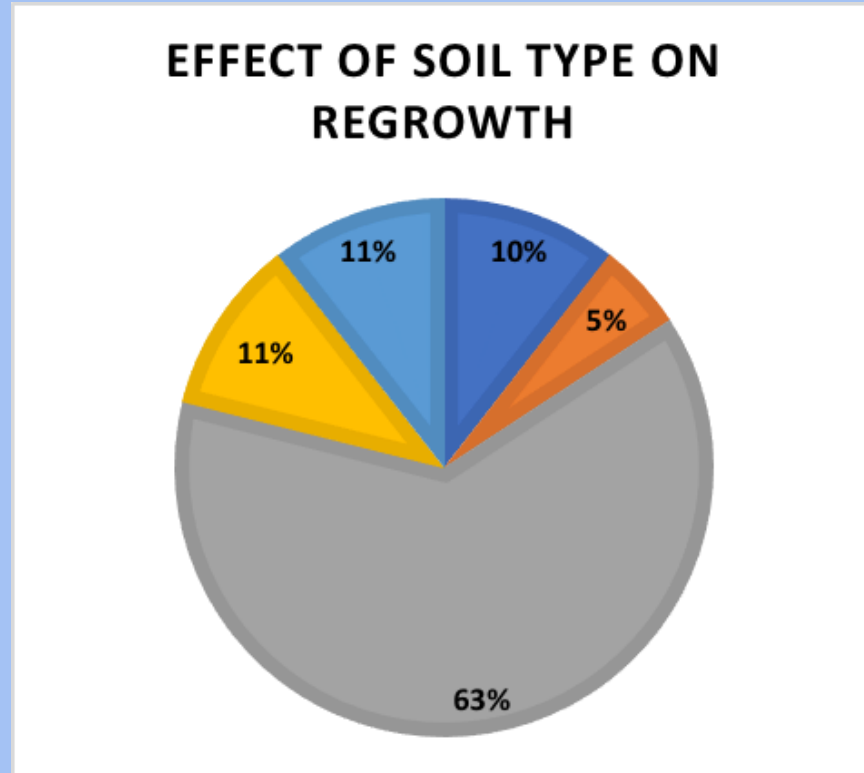




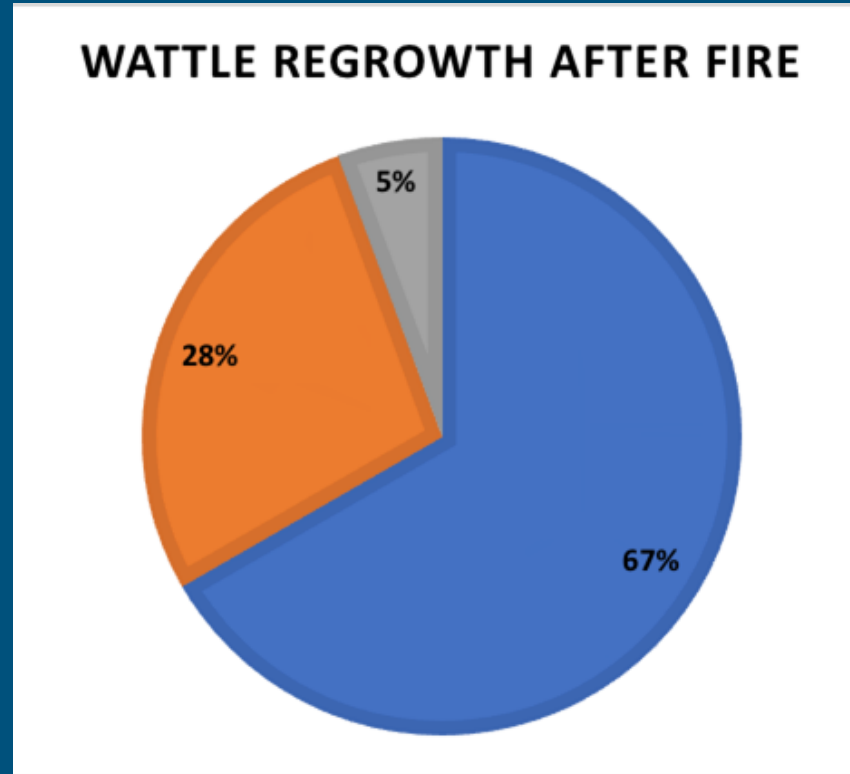
Interview Data: Elevation






Interview Data: Soil Type

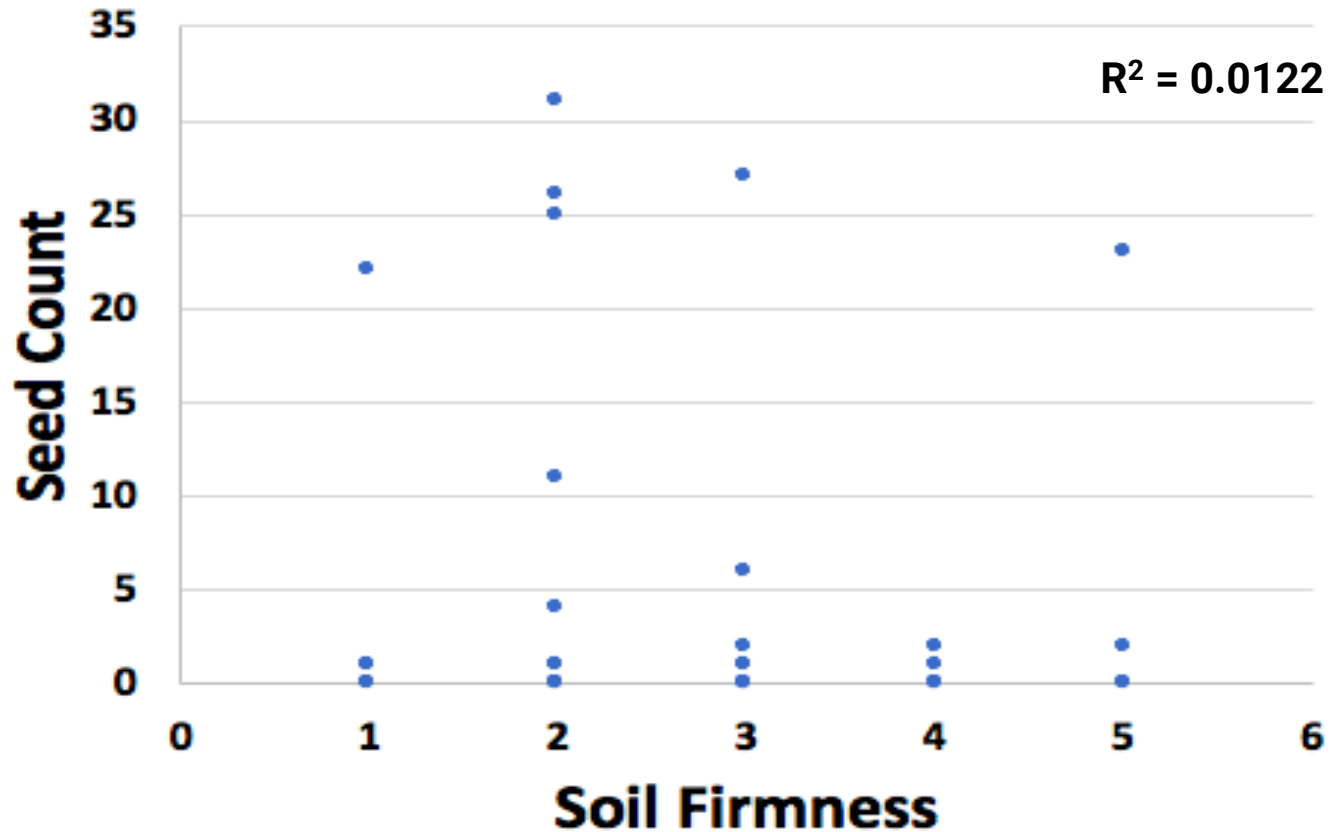


Interview Data: Burning



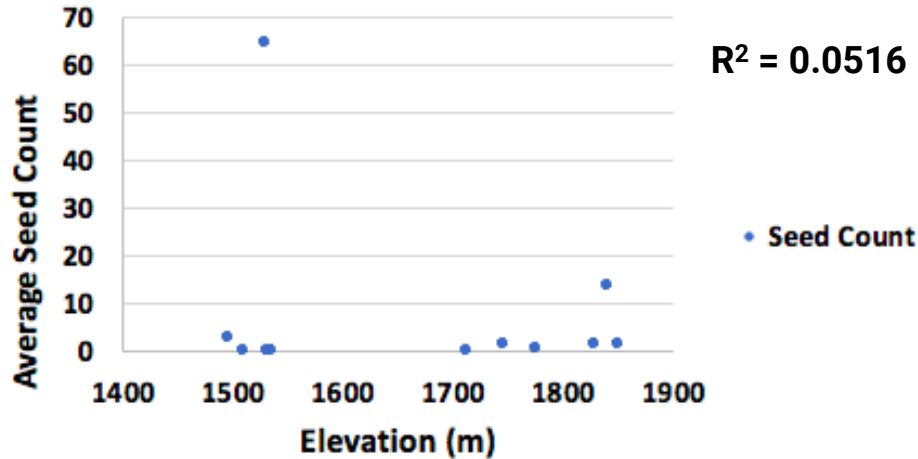
-  Regrows better
-  Regrows worse
-  No experience

Soil Firmness vs Seed Count

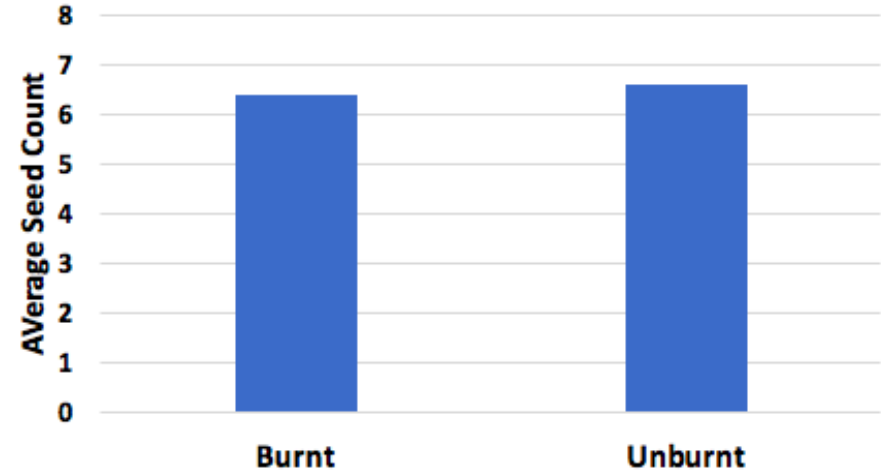


Trends in Elevation and Burning

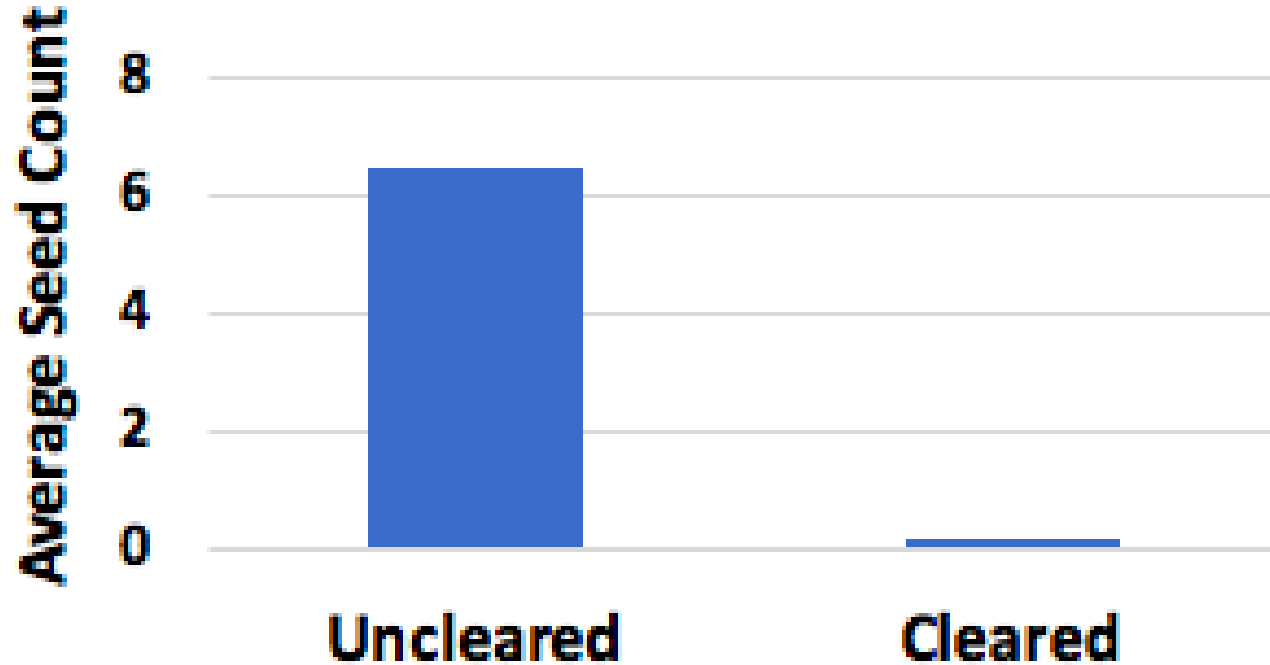
Average Seed Count vs Elevation



Effect of Burning on Cleared Land



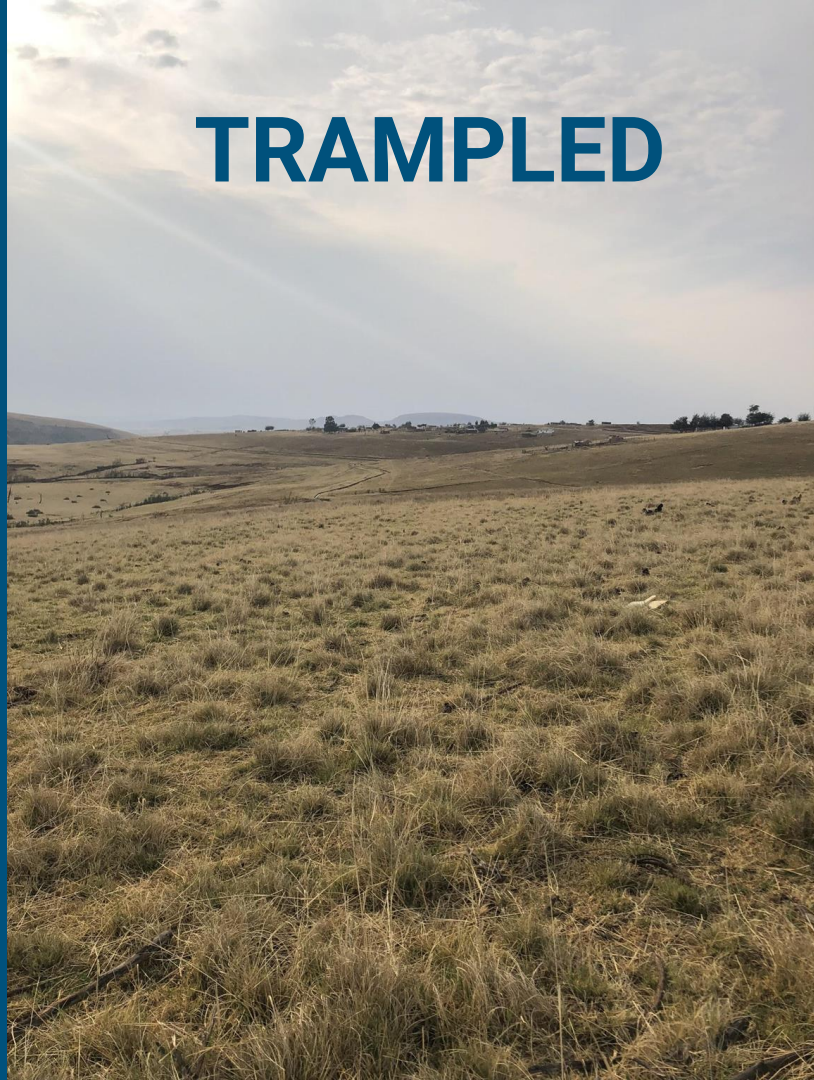
Effect of Clearing on avg. Seed Count



UNTRAMPLED

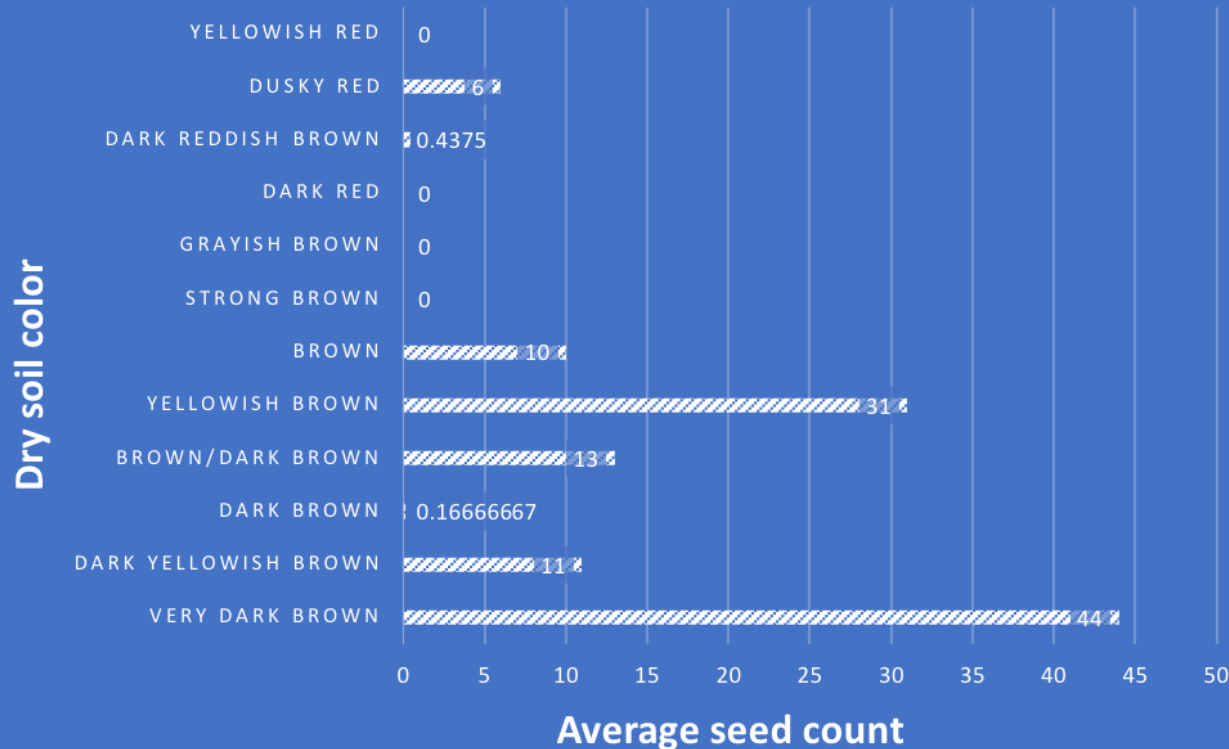


TRAMPLED



Analyzing Munsell Soil Color Type

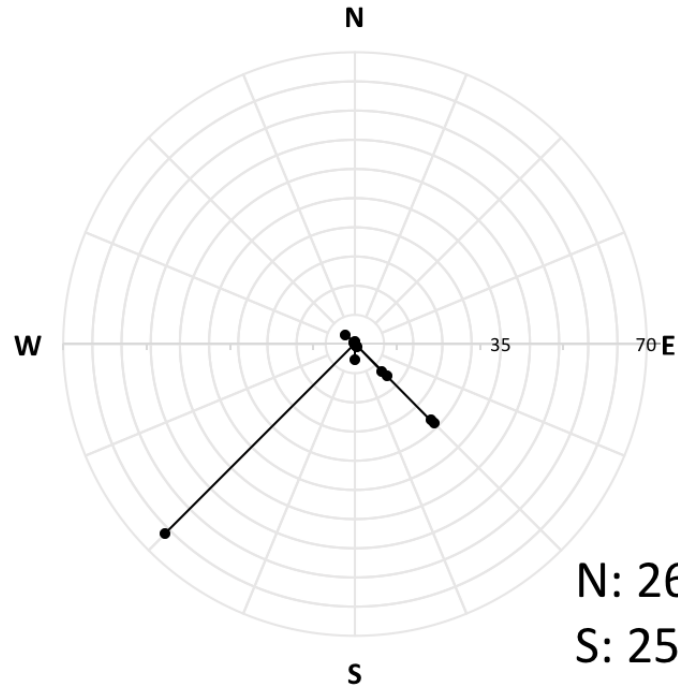
AVERAGE SEED COUNT BY DRY SOIL COLOR



**REDDER
SOIL**

**BROWNER
SOIL**

Evaluating Aspect



N: 26 Samples
S: 25 Samples

WATTLE HAPPEN NEXT?

Implications for Future Research

Further research should consider:

- Clearing & follow-up
- Trampling
- Soil color
- Aspect



Data may suggest no correlation for:

- Burning
- Elevation
- Soil firmness

Recommendations for future research:

- Look at seedlings/sprouting
- Avoid being struck by lightning

Implications for Management

- Clearing Northern and Northeastern slopes first
- Continue clearing and follow-up efforts
- Trampling cleared sites to promote grass growth where possible



THANK YOU



Questions?

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