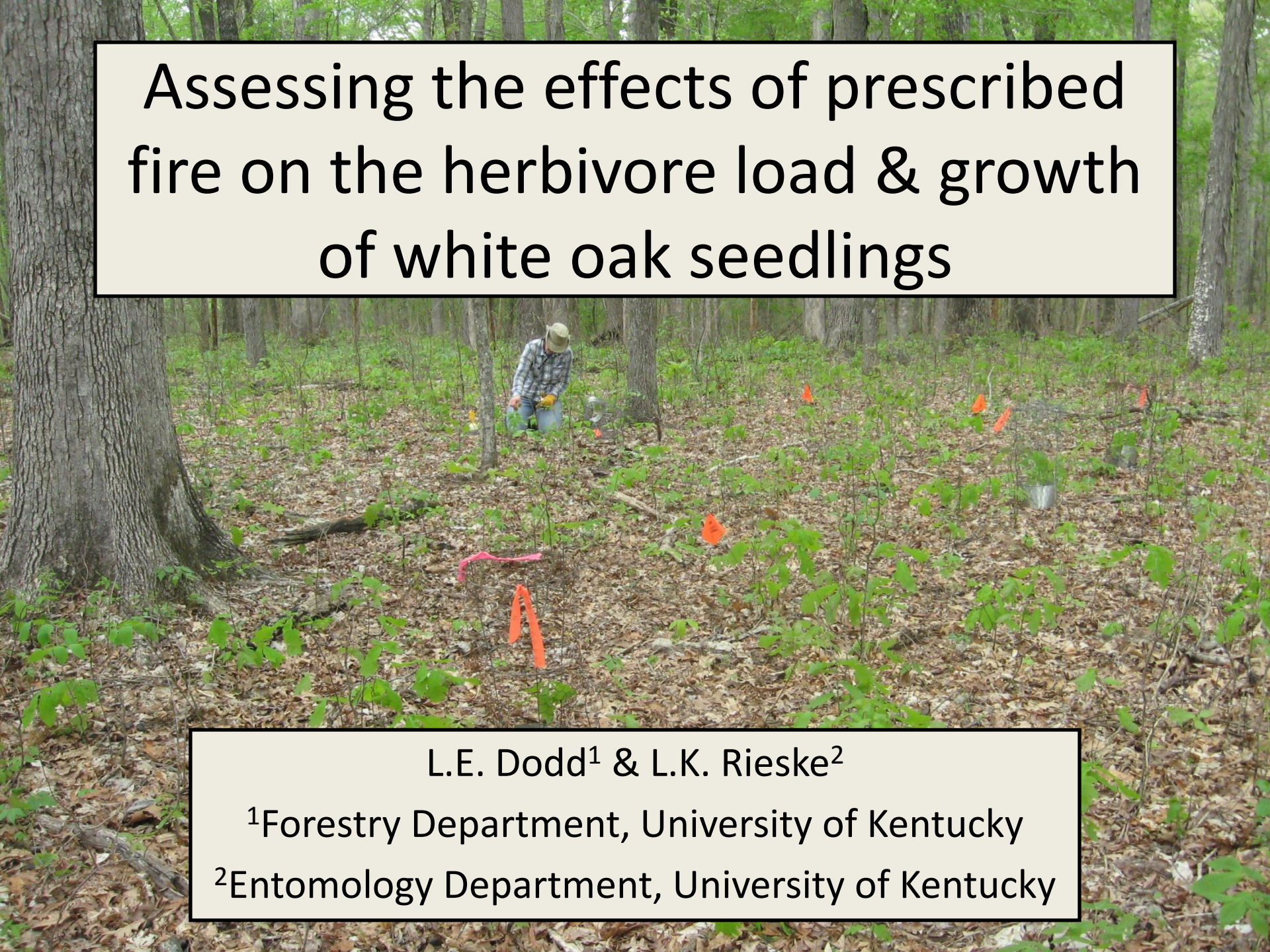
Assessing the effects of prescribed fire on the herbivore load & growth of white oak seedlings



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[2]Entomology Department, University of Kentucky

Assessing the effects of prescribed fire on the herbivore load & growth of white oak seedlings

Tracy Culbertson, Super Tech!!!

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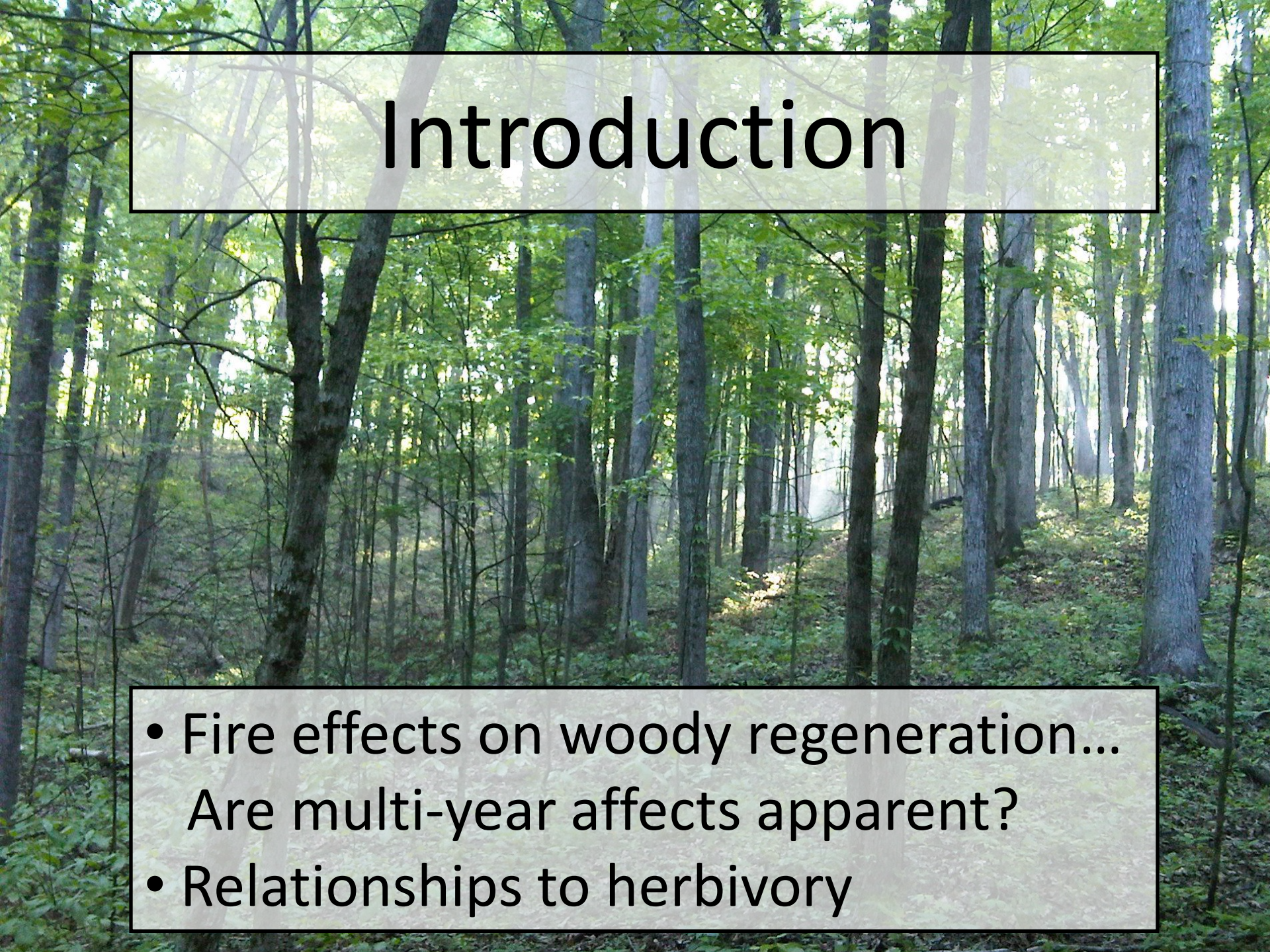
Introduction

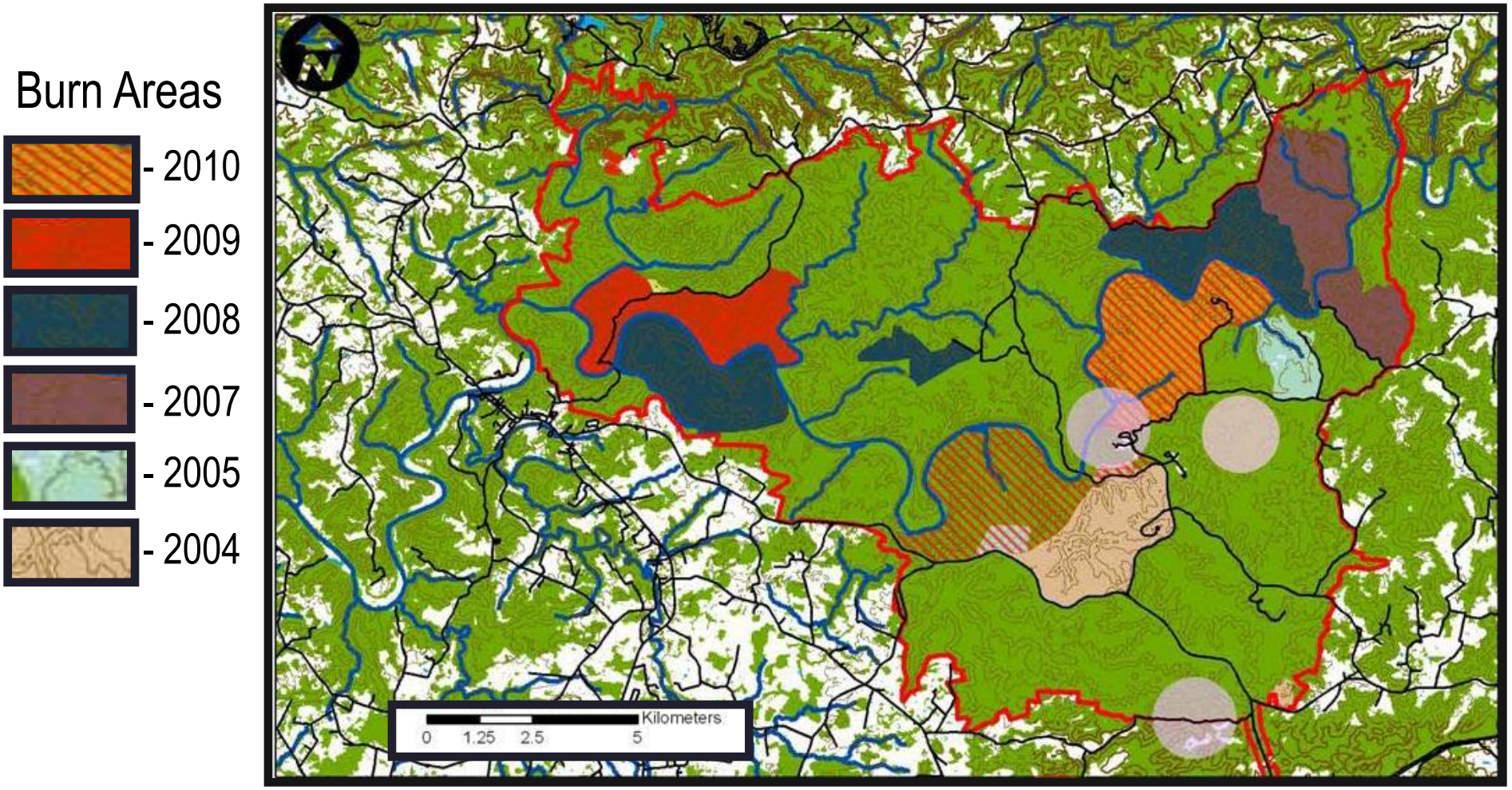


- Fire effects on woody regeneration…
  Are multi-year affects apparent?
- Relationships to herbivory

Introduction

- Herbivory & fire in a WNS context

Study Design



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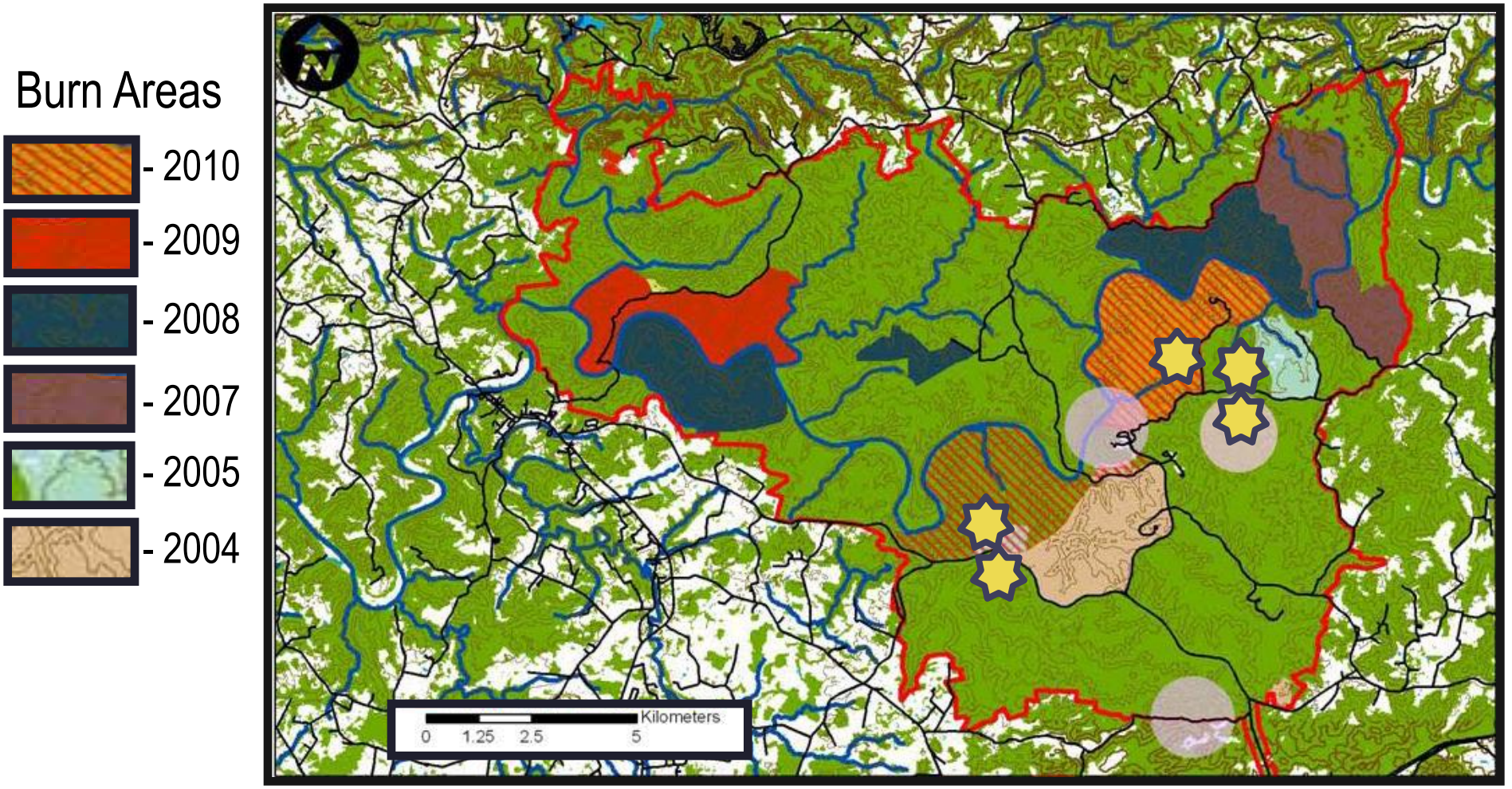


Study Design

- 5 plots, 20 seedlings each
- 2×2×2 treatment structure
- Insect herbivory exclusion
- Vert herbivory exclusion
- Burn effects

Study Design

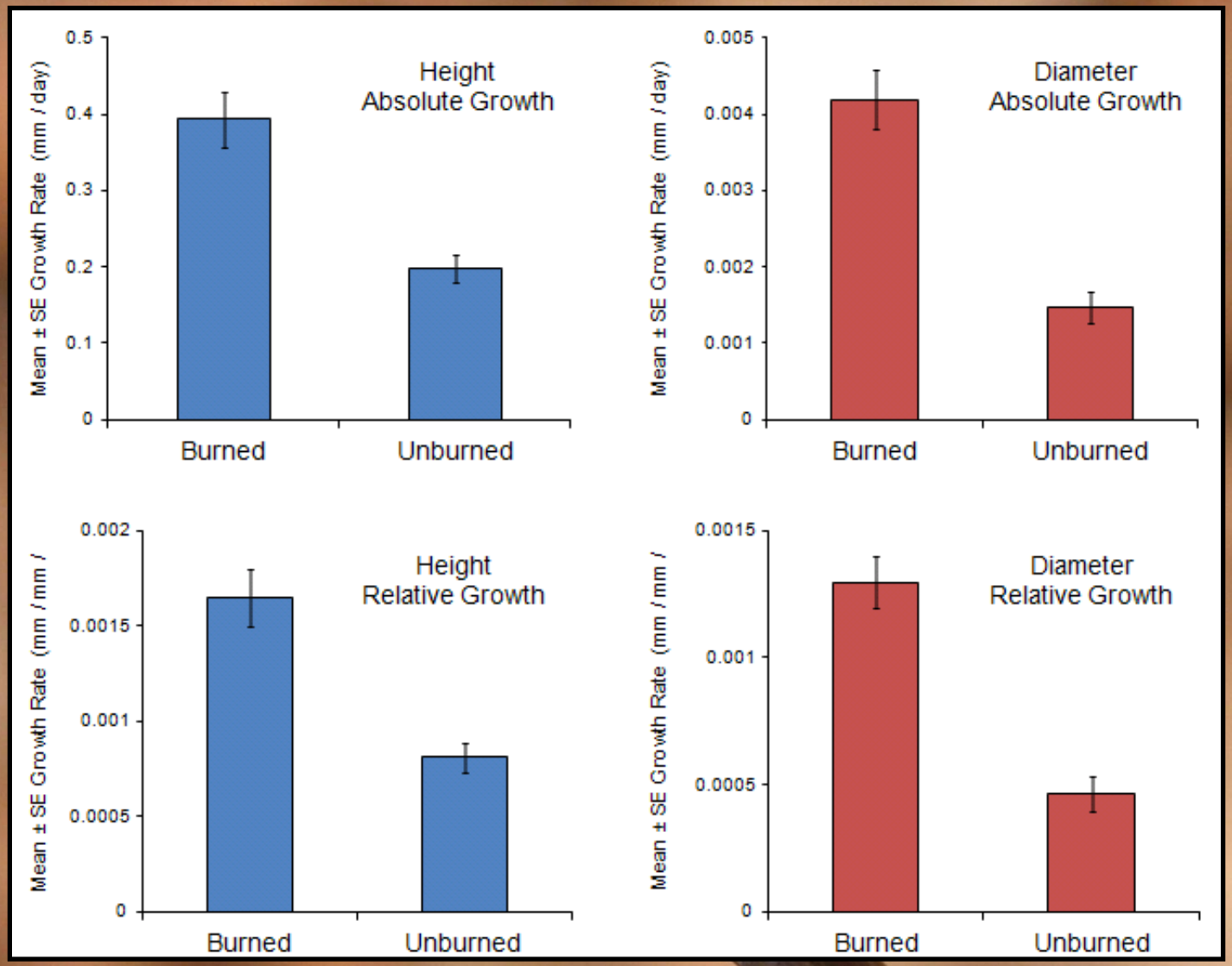
- 5 plots, 20 seedlings each
- 2×2×2 treatment structure
- Insect herbivory exclusion
- Vert herbivory exclusion
- Burn effects
  - Unburned (2 plots)
  - 2-3 year post-burn (2 plots)
  - Year of burn (1 plot)

Study Design

- Seedling plots established with budbreak (~Apr 7th)
- Bi-weekly visits for herbivory assessments (& pyrethroid application)
- Monthly visits for growth measurements… repeated measures design.

Seedling Growth

Seedling Growth



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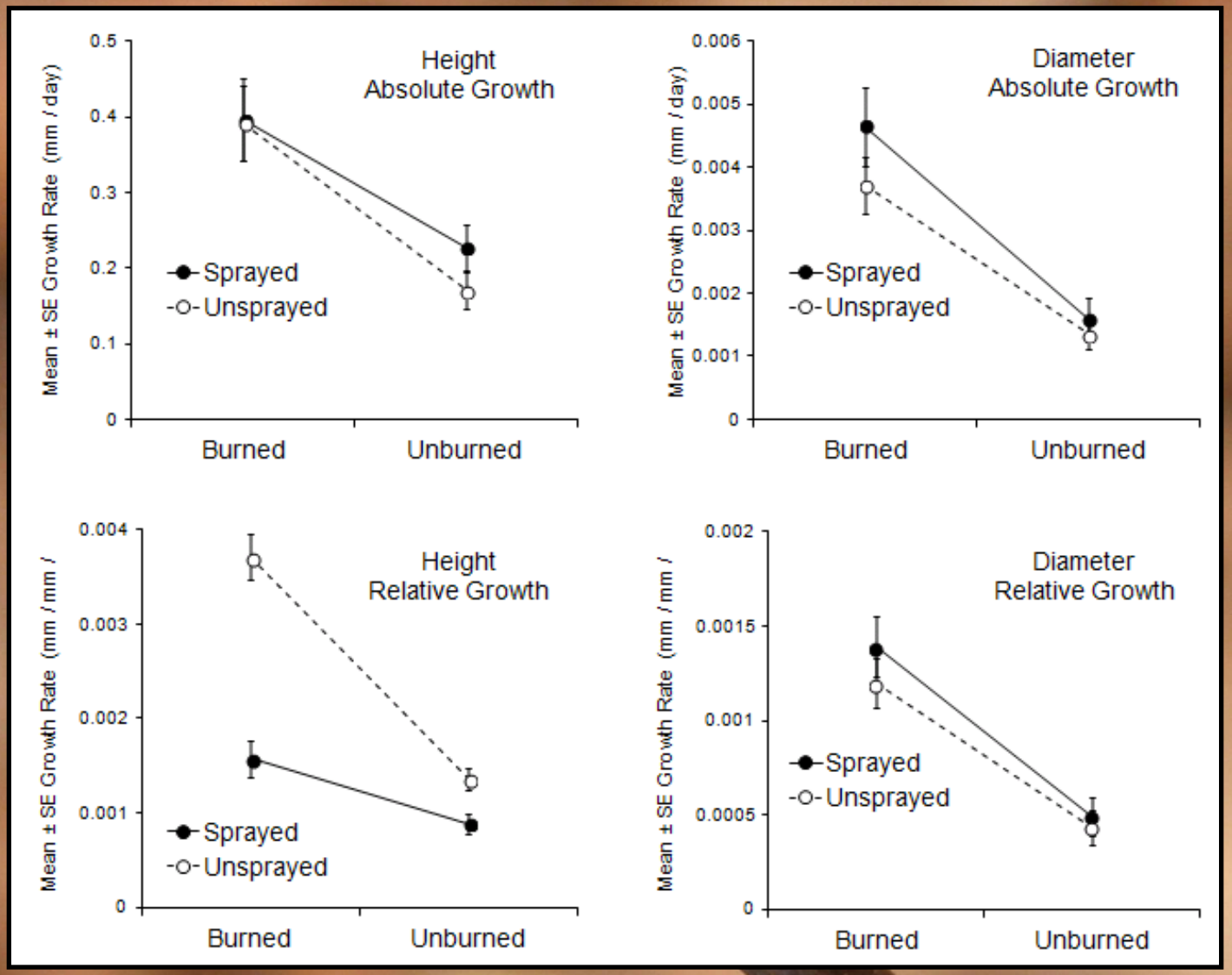

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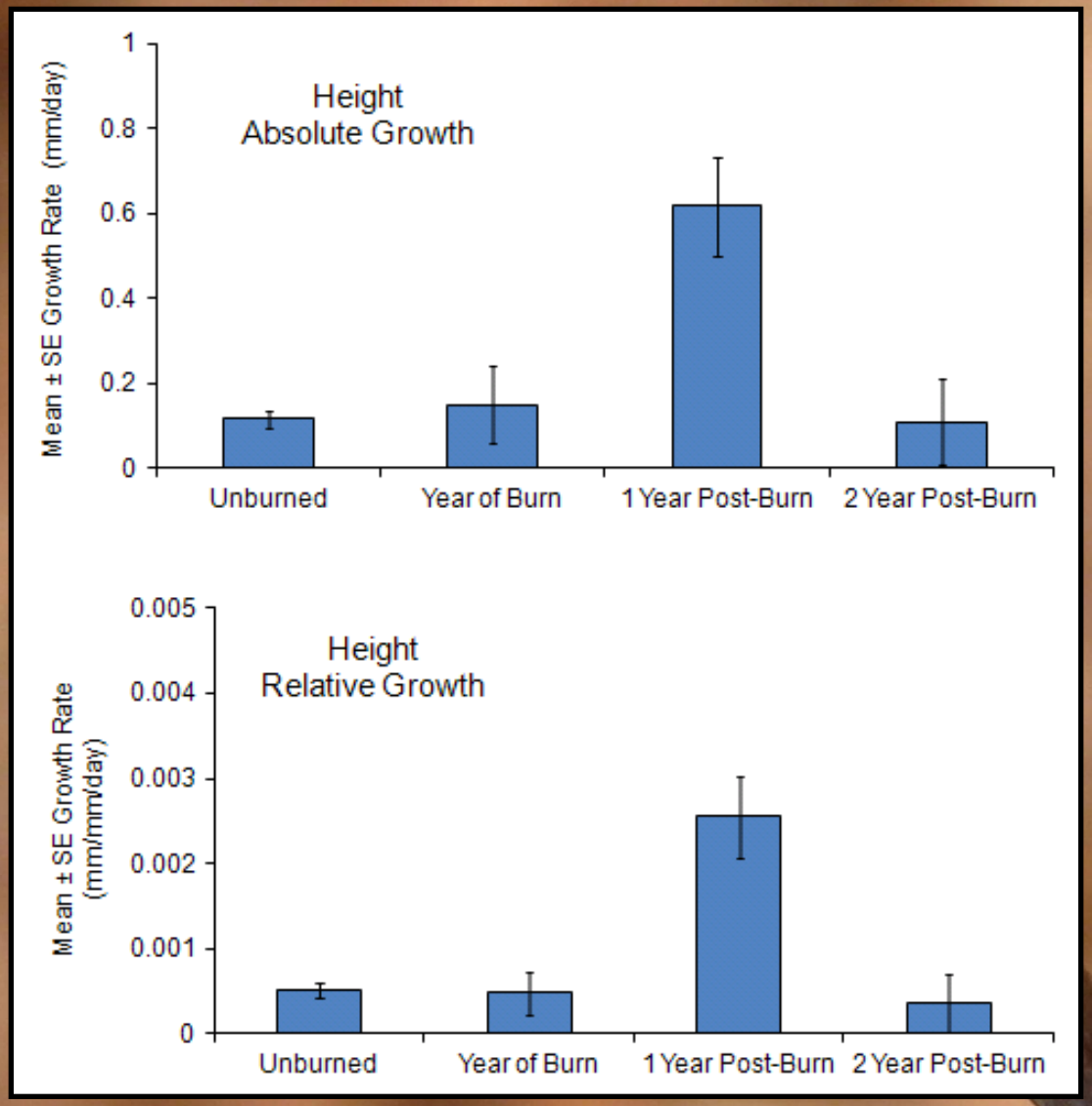

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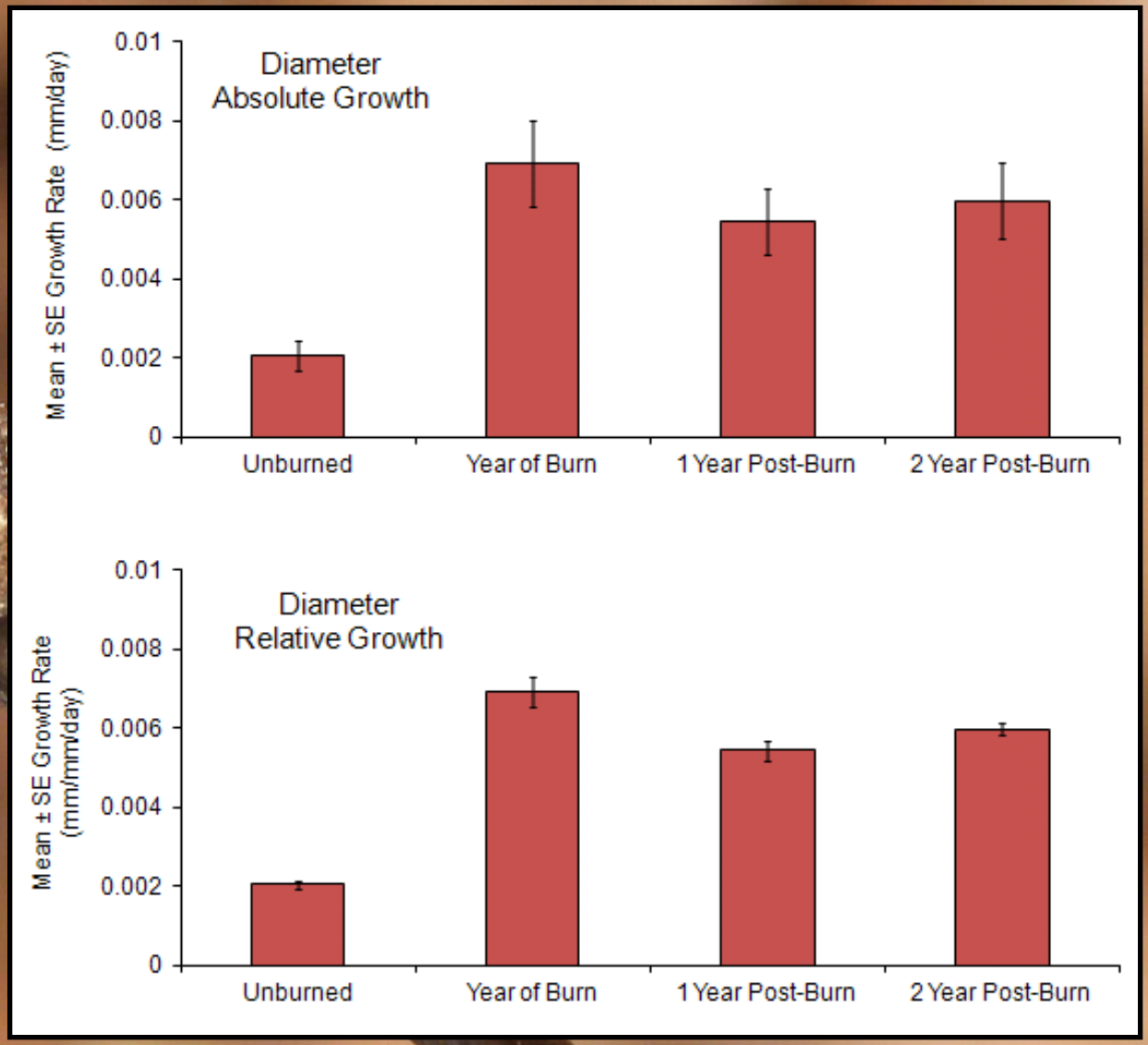

Insect Herbivory

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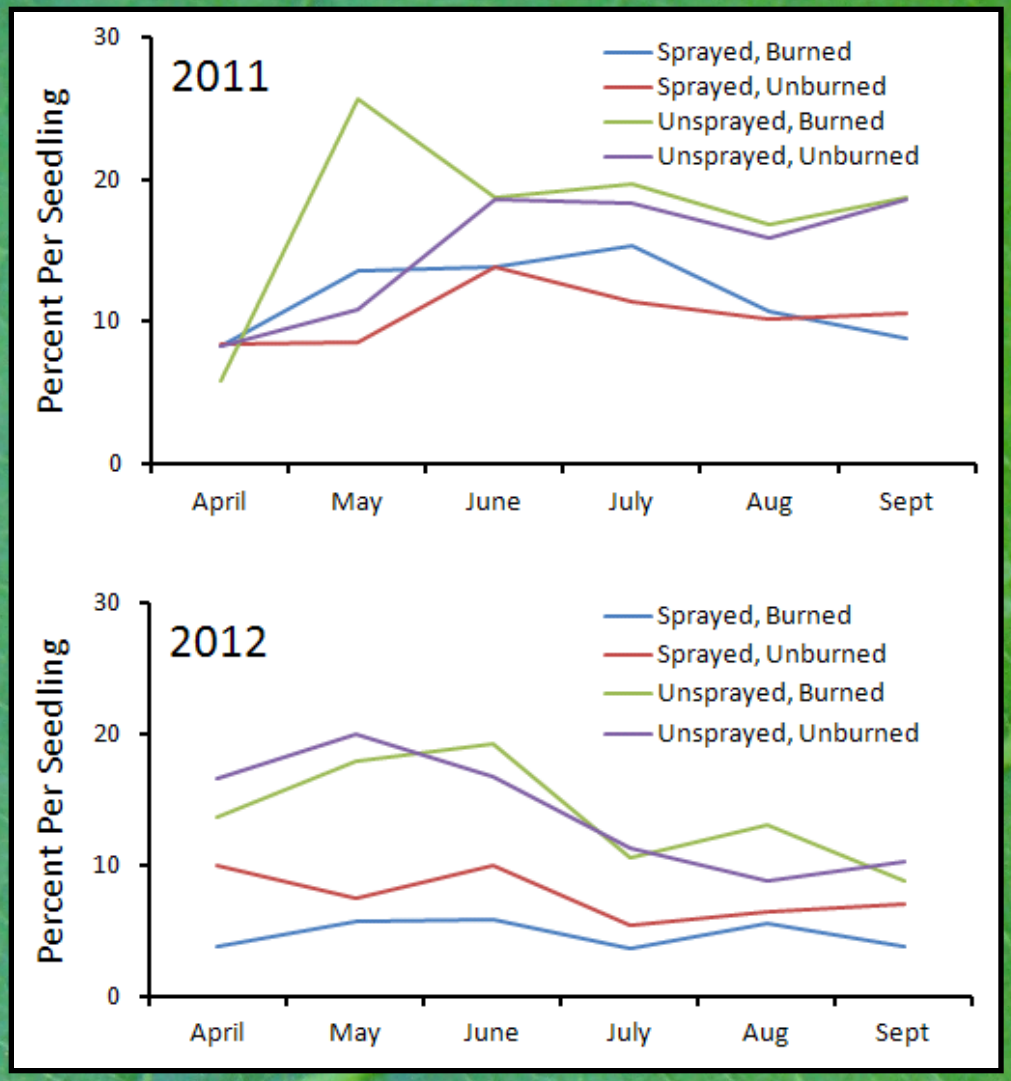

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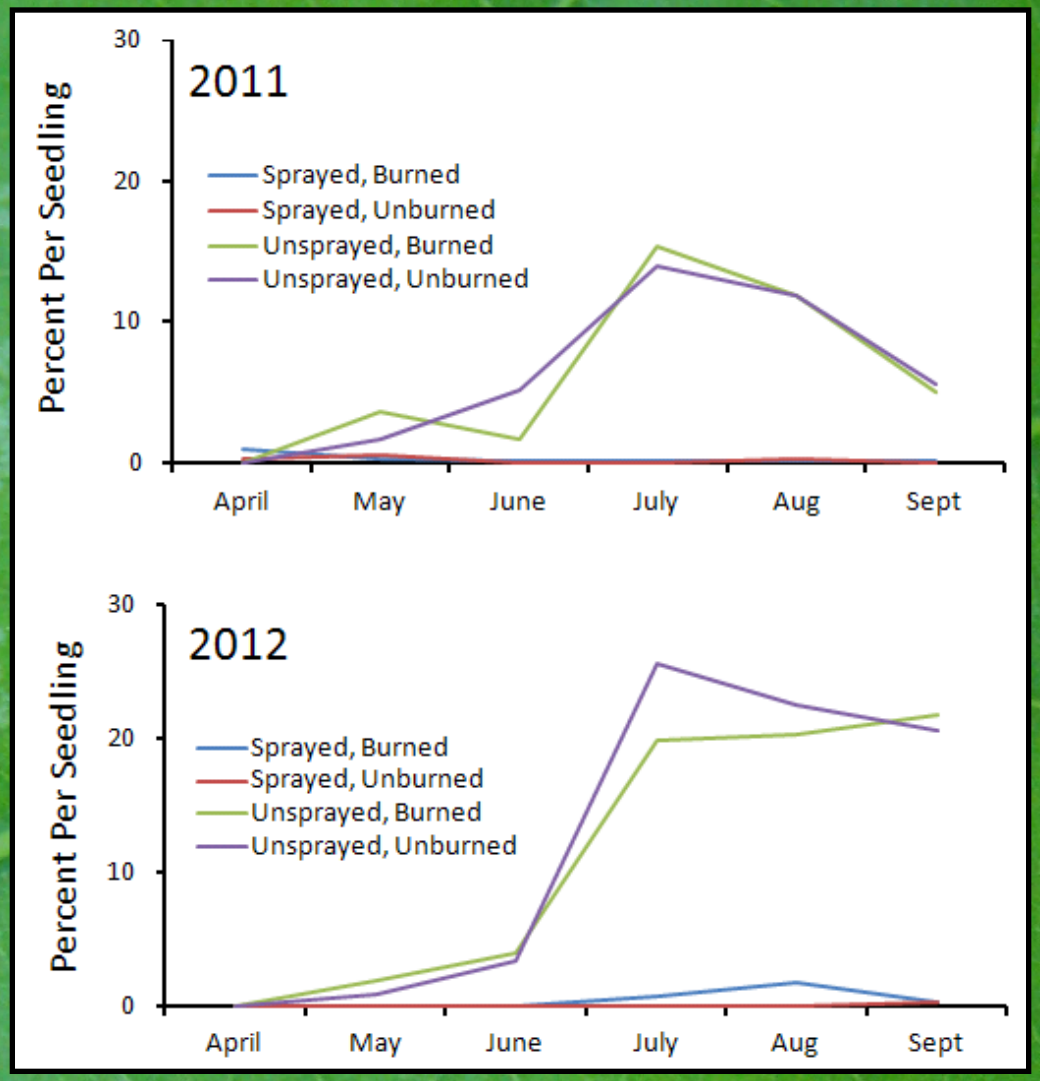

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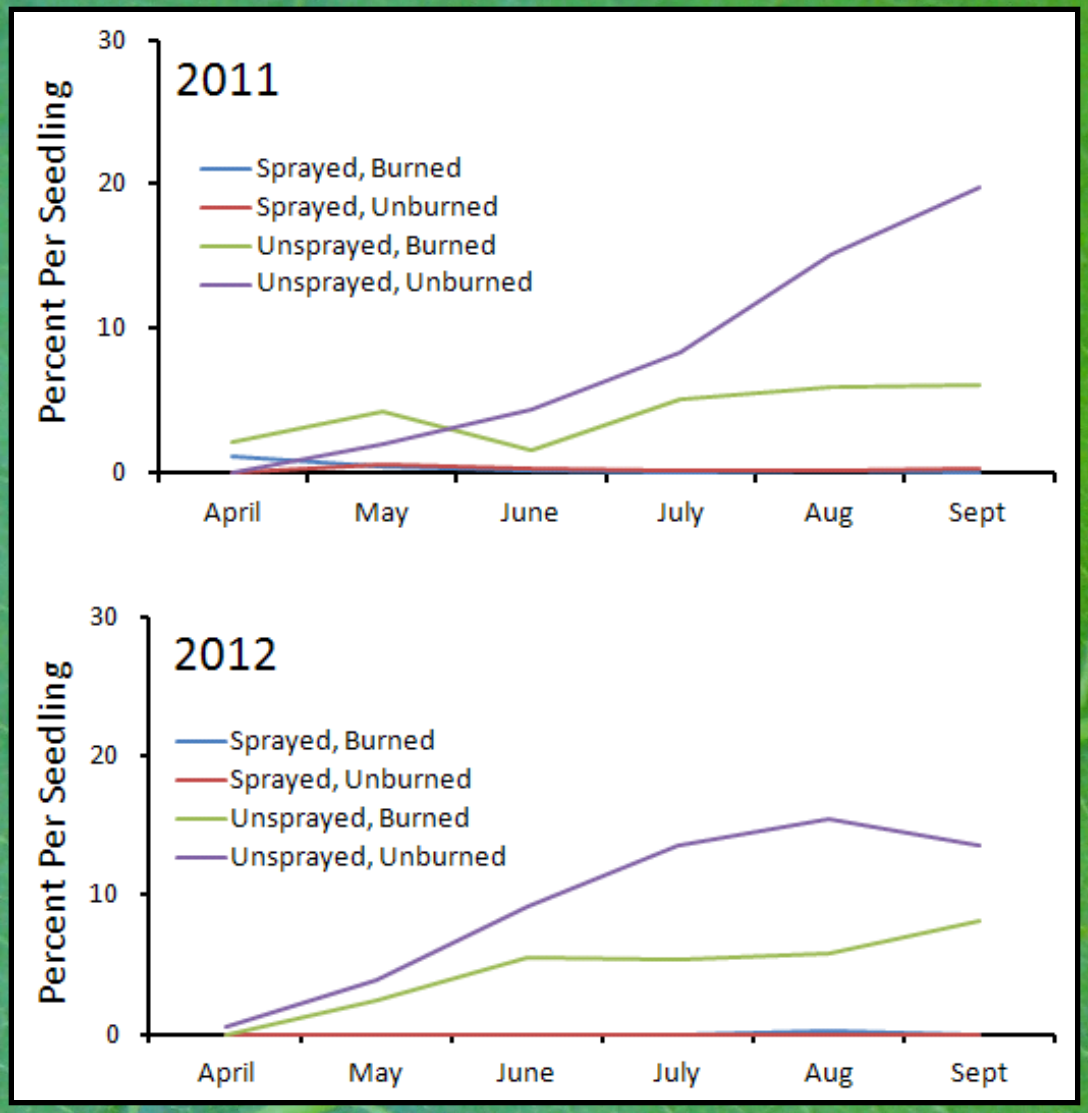

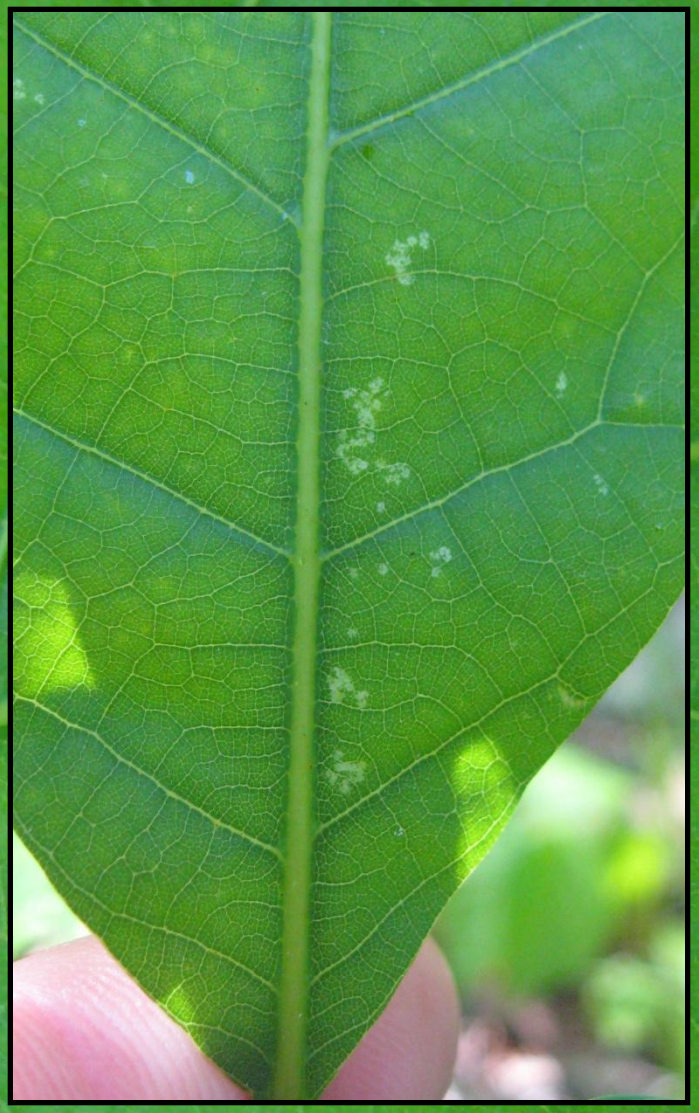

Conclusions & Looking Ahead

- Growth rates are higher in burned plots
- Herbivore dominance shifts over the season
- What species are important for future monitoring? How does this relate to fire legacy?

Thanks!!!

- Wrap-Up & House-Keeping
- Field Trip #1 – Visit to Cave Entrance
- Lunch Plans
- Field Trip #2 – Visit to Burned Sites