

Using Prescribed Burns to Achieve Weed Management Objectives

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Prescribed Burning

- Protect life and property and enhance biodiversity
- Fire regimes ecologically-based
 - frequency
 - interval
 - intensity
 - season
 - scale
- Knowledge of vital attributes
- Adaptive management



The Value of Pre-burn Weed Control

Increases fire intensity and coverage

- Fewer adults survive (reducing seed set over burnt ground)
- Removes biomass – reduces fuels and easier post-burn control
- Stimulate most weed seed germination in first season
- Facilitates native recruitment



Weed: *Erica arborea*

- Mediterranean origin
- Shrub to 5m and >50yrs
- Massive lignotuber
- Produces seed at 3-4 yrs
- Seeds are tiny, disperse short distances
- **Declared** under the NRM Act 2004



Pre-burn control of *Erica arborea*

- Erica can form very large, tall, dense patches
- Burning for control not recommended (Dense patches rarely burn under prescribed burn conditions).
- Resprouts and germinates from seed
- Physical control best (removal of lignotuber)

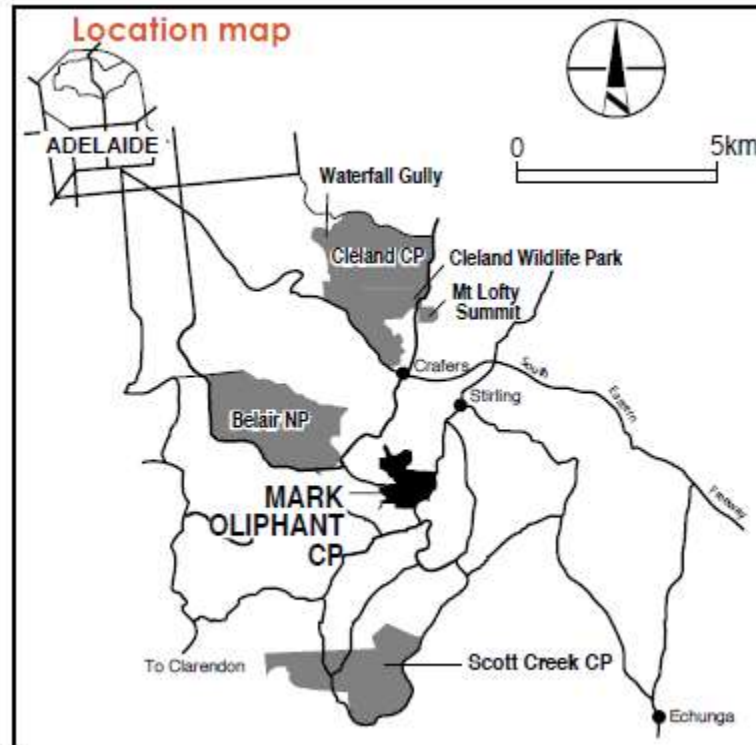


What did we want to know?

- How significant is post-burn Erica recruitment?
- Does prescribed burning kill juvenile Erica?

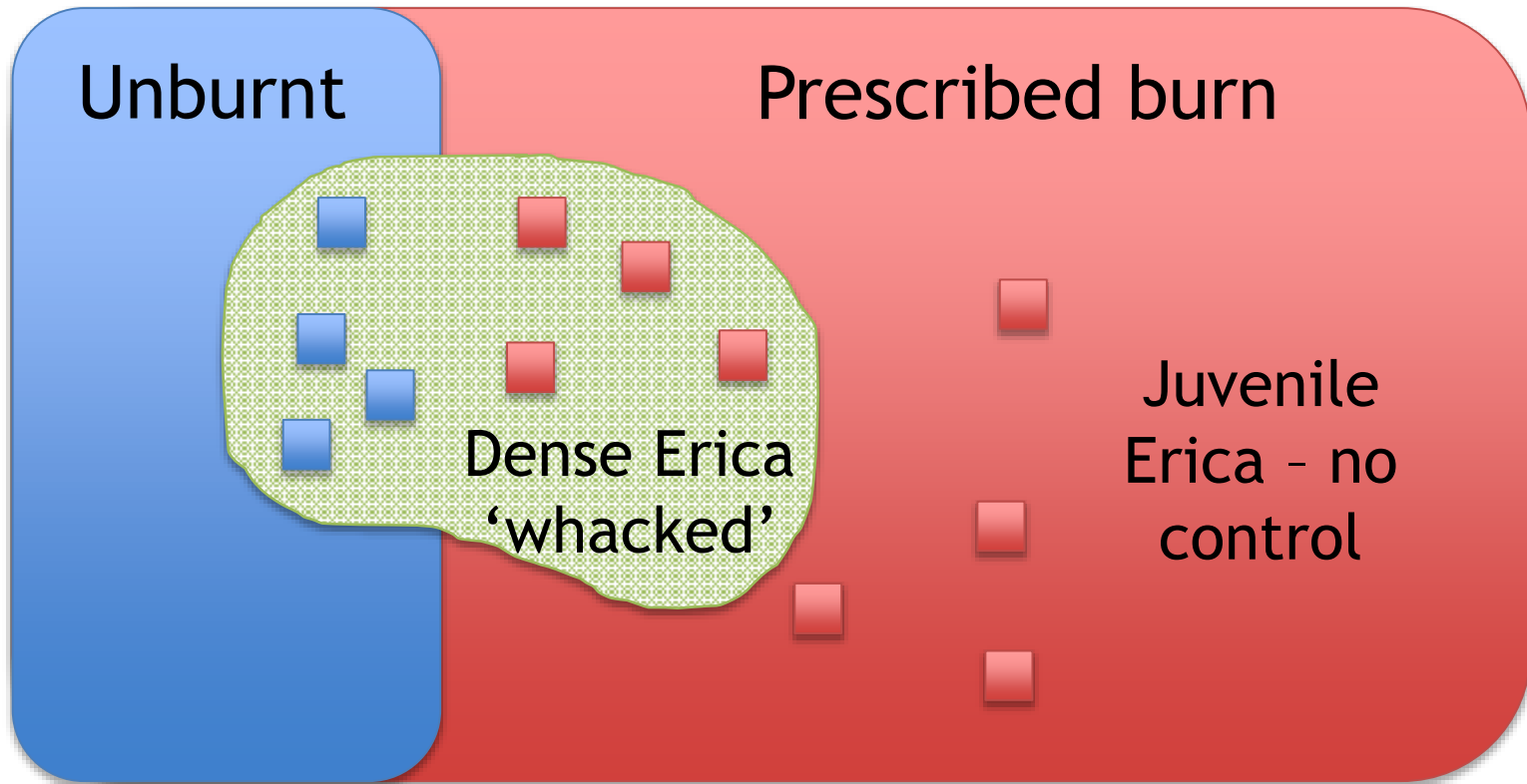


Field Site



Monitoring Design

Spring 2014





Pre control

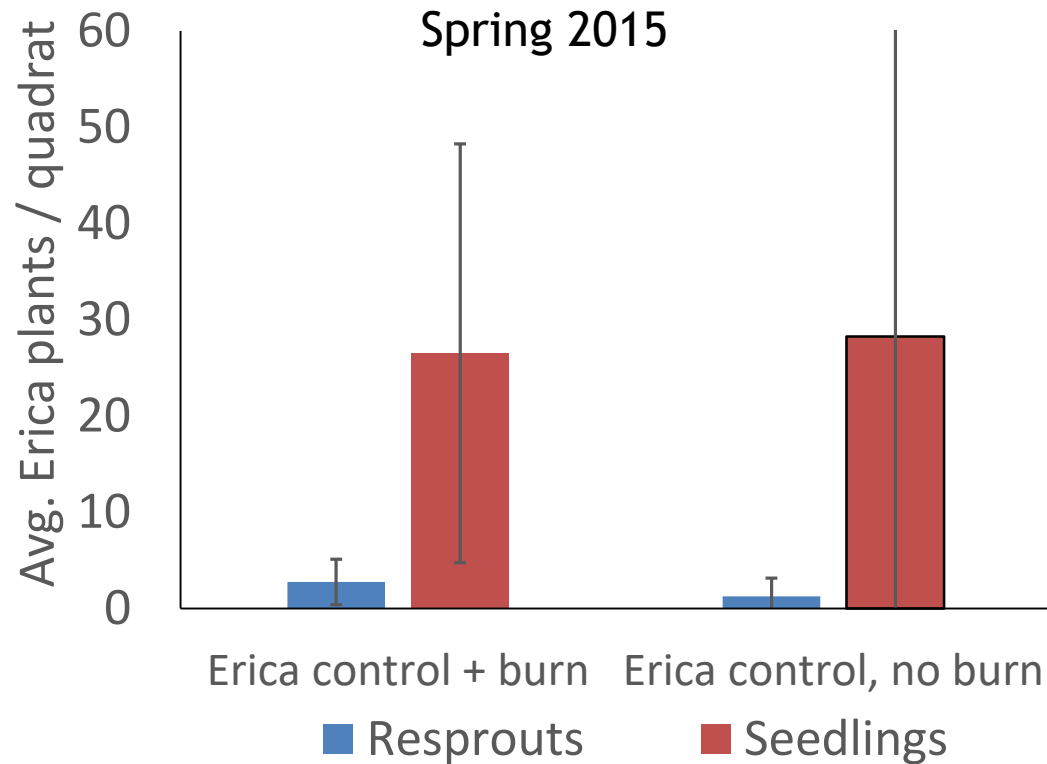
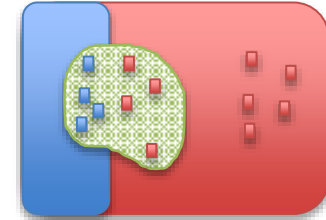


Whacked!

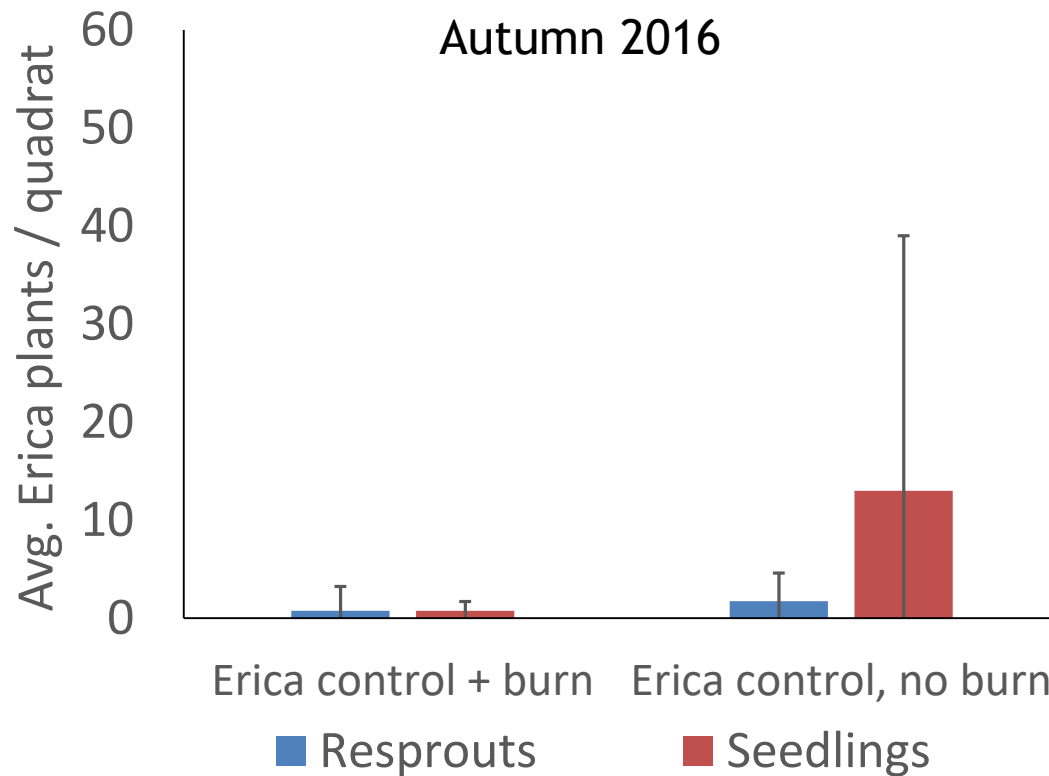
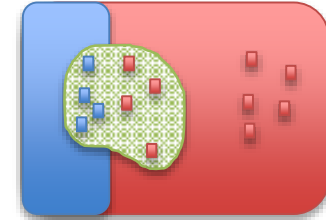


Post burn

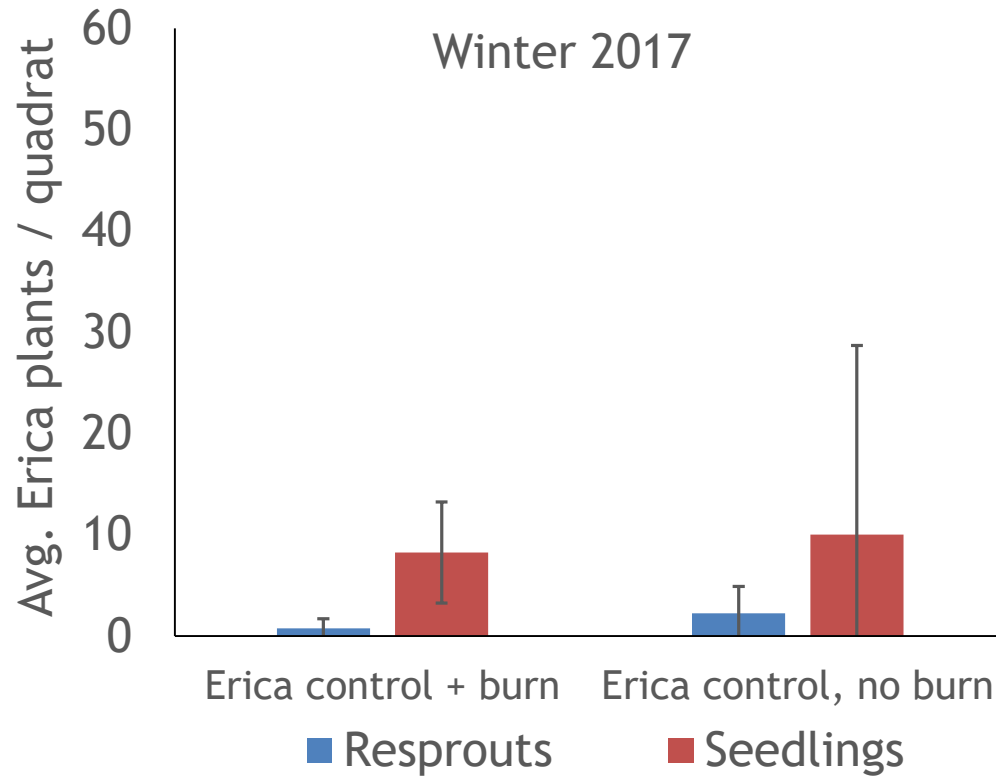
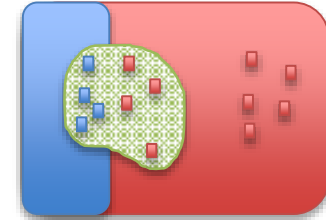
Results: Erica Germination



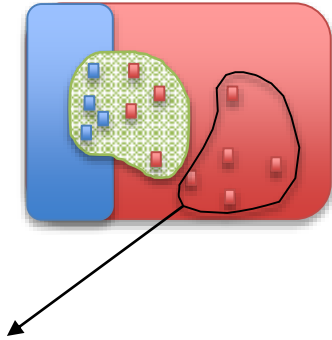
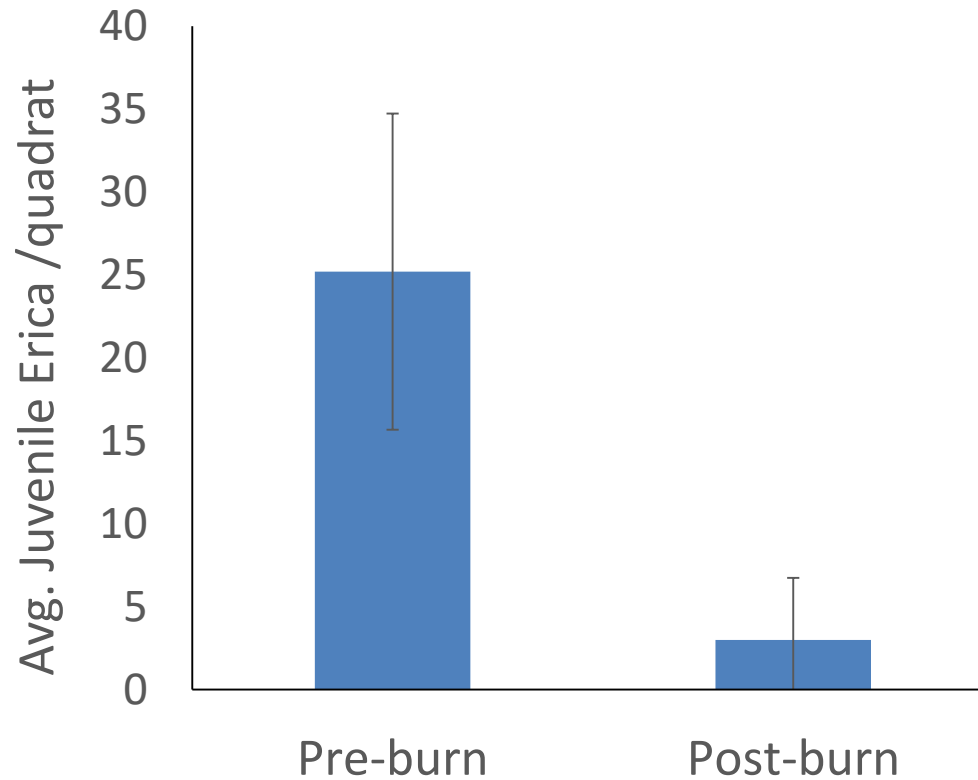
Results: Erica Germination



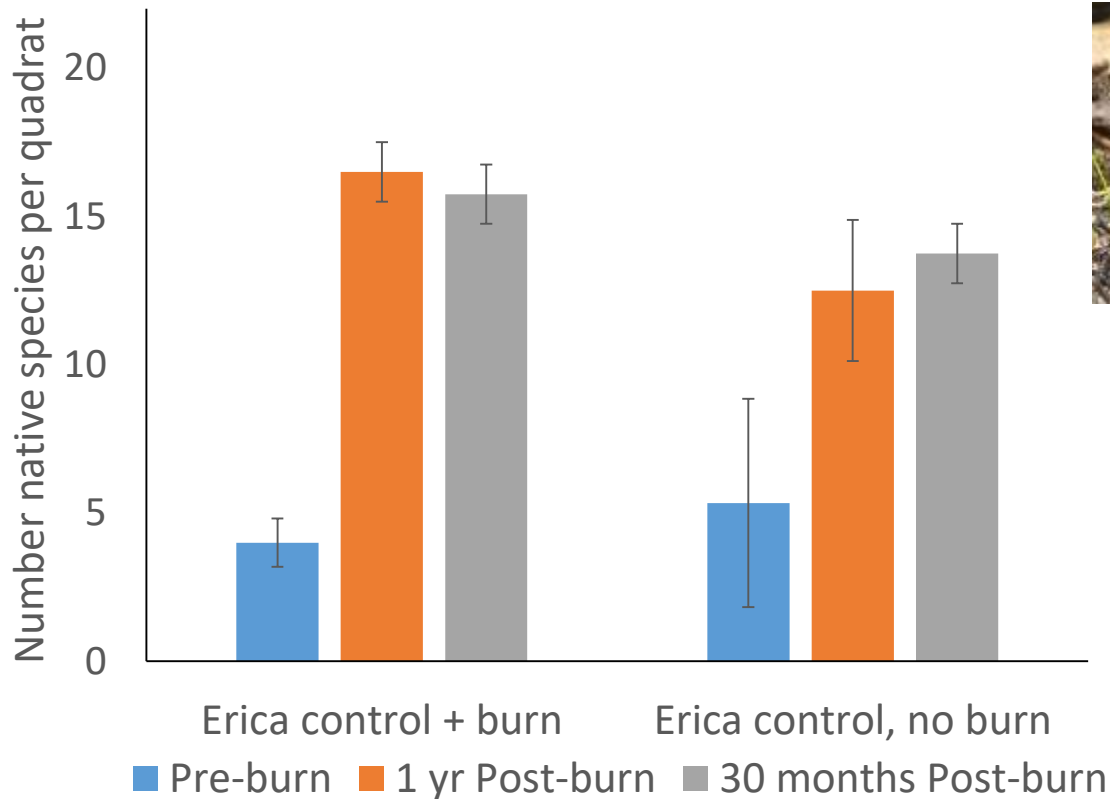
Results: Erica Germination



Results: Juvenile Erica



Results: Native Species Recruitment



Management Application

- How significant is post-burn Erica recruitment?

Low recruitment (after 1st summer)

- Does prescribed burning kill juvenile Erica?

Yes!

➡ Burning juveniles after first round of control will kill most of them, reducing further follow-up control.



Management Application

Consider pre-burn weed control when it's likely to:

- Increase efficiency of post-burn weed control
- Hasten native species re-establishment





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