

Cobbler Creek Recreation Park 'Proof of Concept'

Hyparrhenia hirta (L.)
Stapf (Coolatai grass)
Control Demonstration
Site

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Government of
South Australia



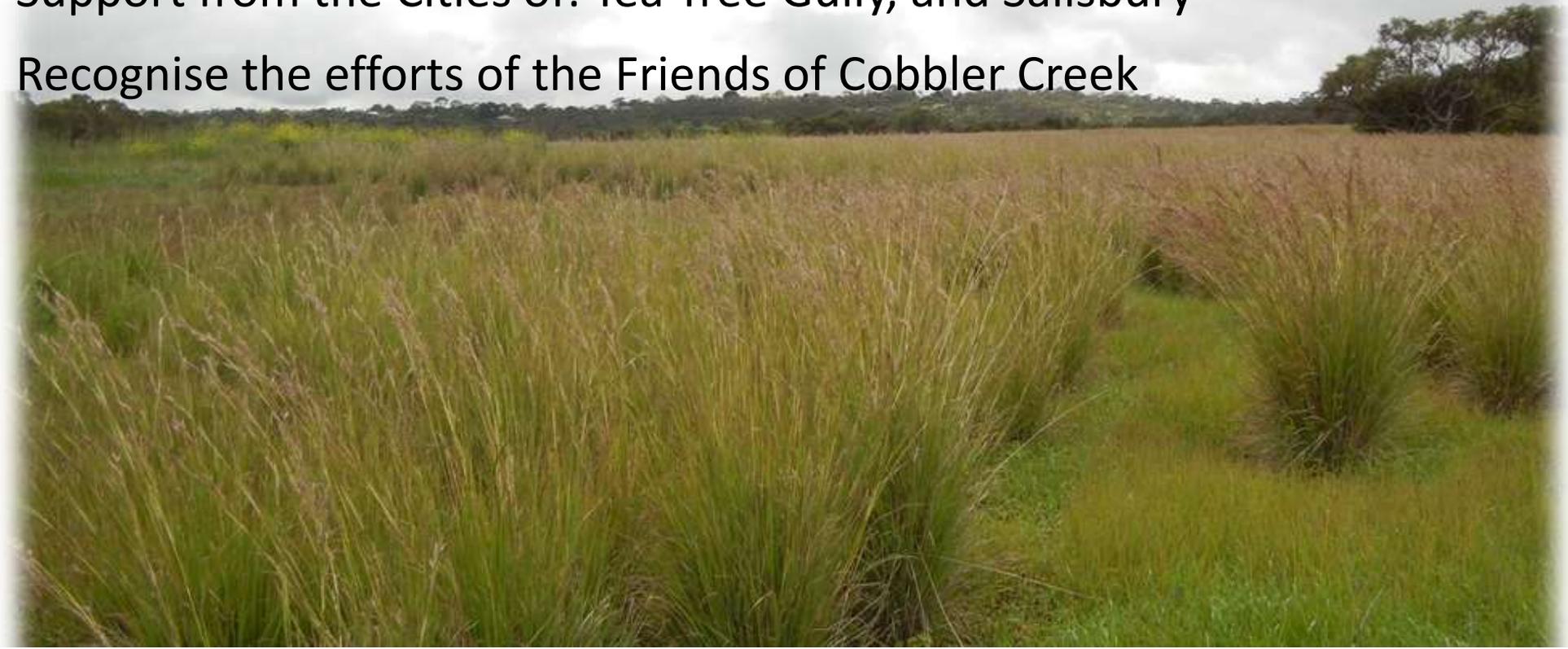
Natural Resources
Adelaide and Mt Lofty Ranges

Acknowledgement of traditional owners:

“The sites described in this presentation are within the Lands of the Kurna Nation, and that this presentation is addressing problems that has arisen from the degradation of Kurna Lands; and I wish to thank you all for listening to my talk today and for taking an interest in the care of these Lands.”

Support from the Cities of: Tea Tree Gully, and Salisbury

Recognise the efforts of the Friends of Cobbler Creek



History

Coolatai grass (*Hyparrhenia hirta* (L) Stapf) is native to Northern Africa and Eurasia.

Summer growing C4 cycle perennial tussock grass. Near continual and prolific seeder, with a very short duration from sword cut back to seed set.

Essentially as little as six weeks from been mowed until it is producing seed, and approximately 12 weeks from chemical control to seed set.

Readily invades grasslands and open woodlands, creating a dominant monoculture.

Increases fire fuel loadings and when under fire creates intense heat causing further impact to competing vegetation

“Coolatai grass was introduced into the Salisbury area during the 1980’s as a landscaping plant, to quickly escape and become an environmental weed.”

Priority

Under the SA Weed Risk Management Guide (Virtue 2008) Coolatai grass returns the highest possible response:

DESTROY INFESTATIONS across every NRM Region

(i.e. work towards State Wide Eradication)

Site

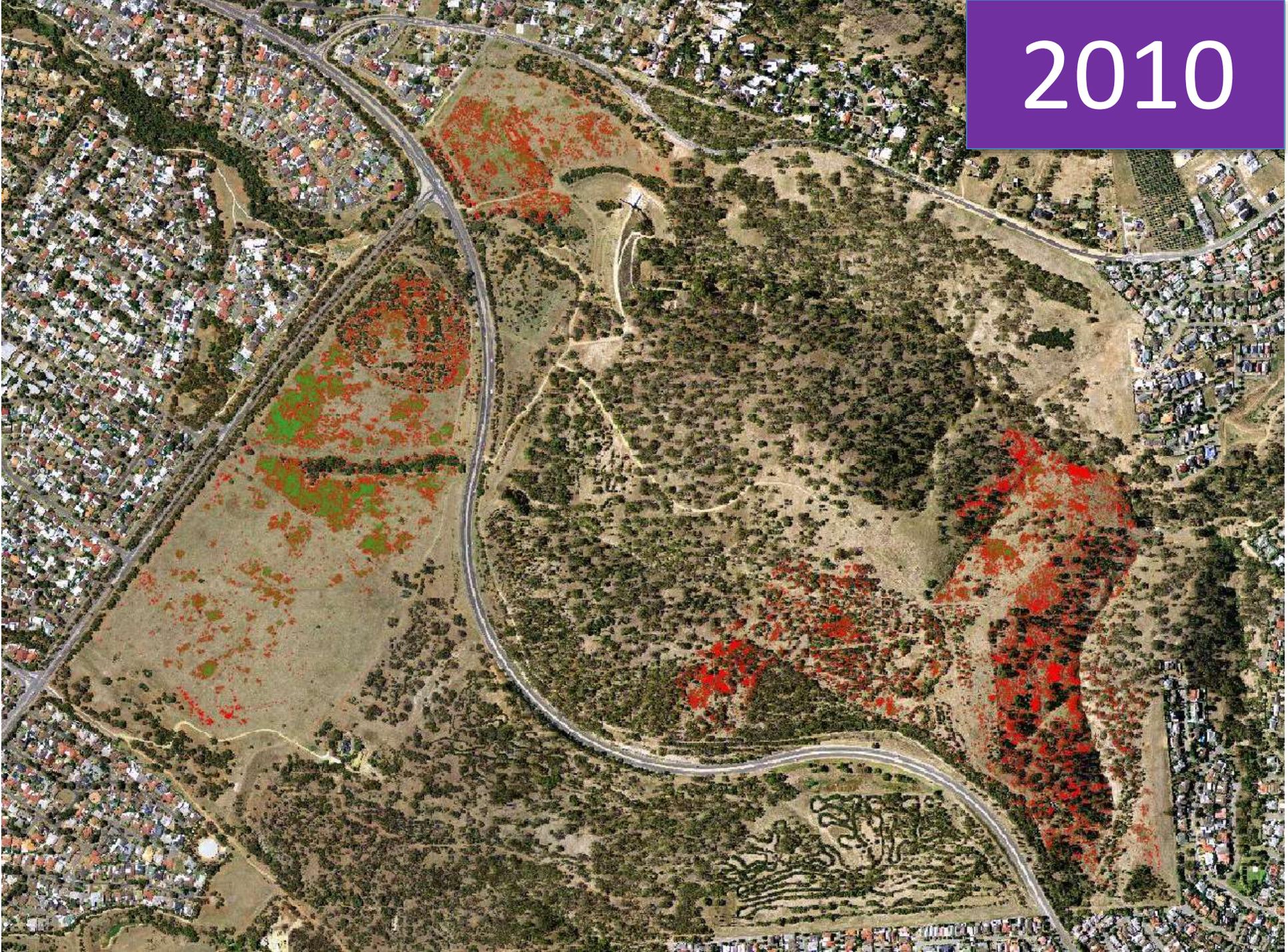
The State Government purchased the land in the early 1970's as part of the planned Metropolitan Open Space (MOSS) network. The western, cleared portion had been cropped, and the eastern portion had been extensively grazed by sheep with clearing and cropping of broader ridges.

Control of Cobbler Creek passed to National Parks and Wildlife in 1982 when the land was designated a Recreation Park under the *National Parks and Wildlife Act 1972*.

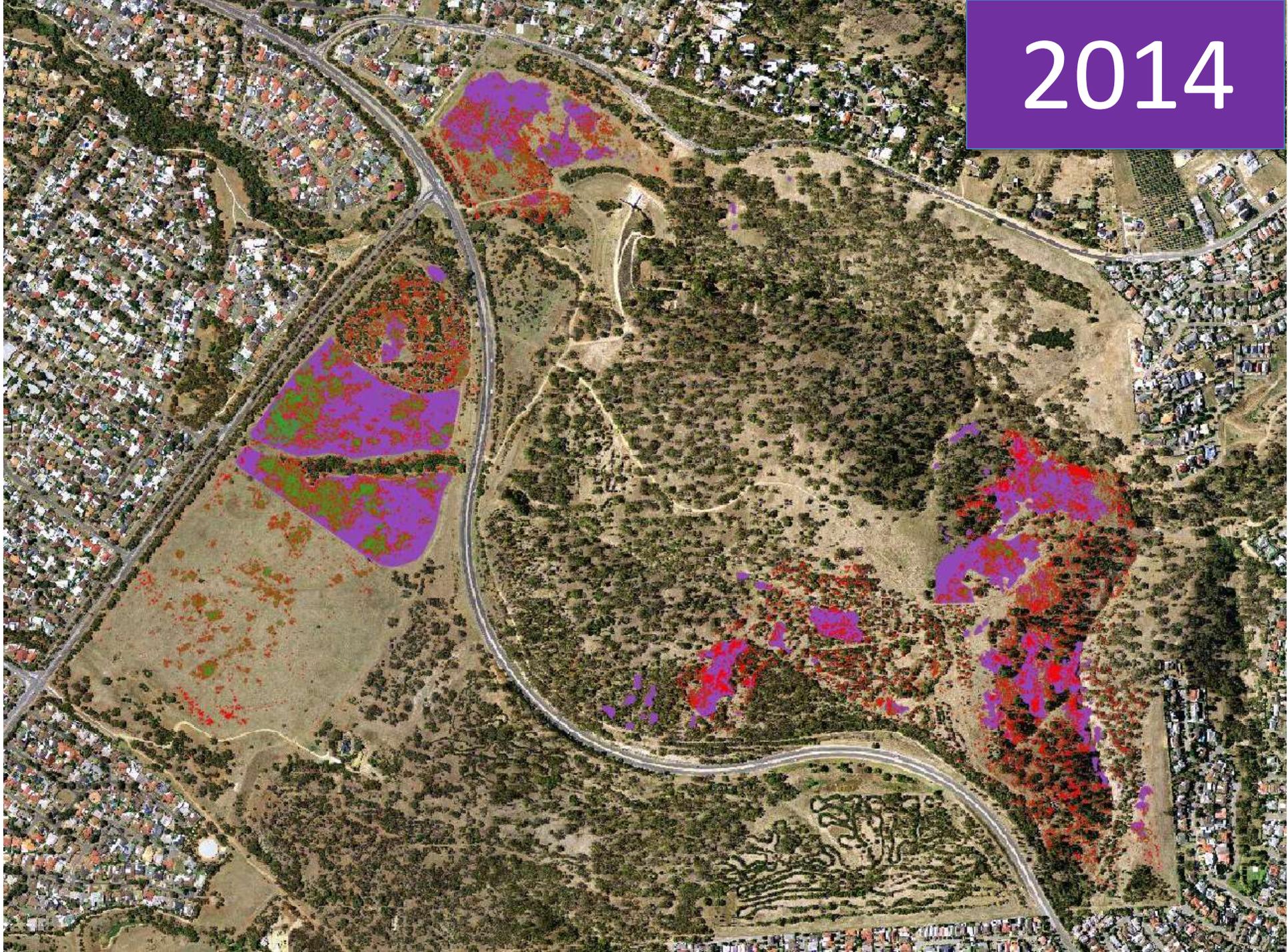
2007



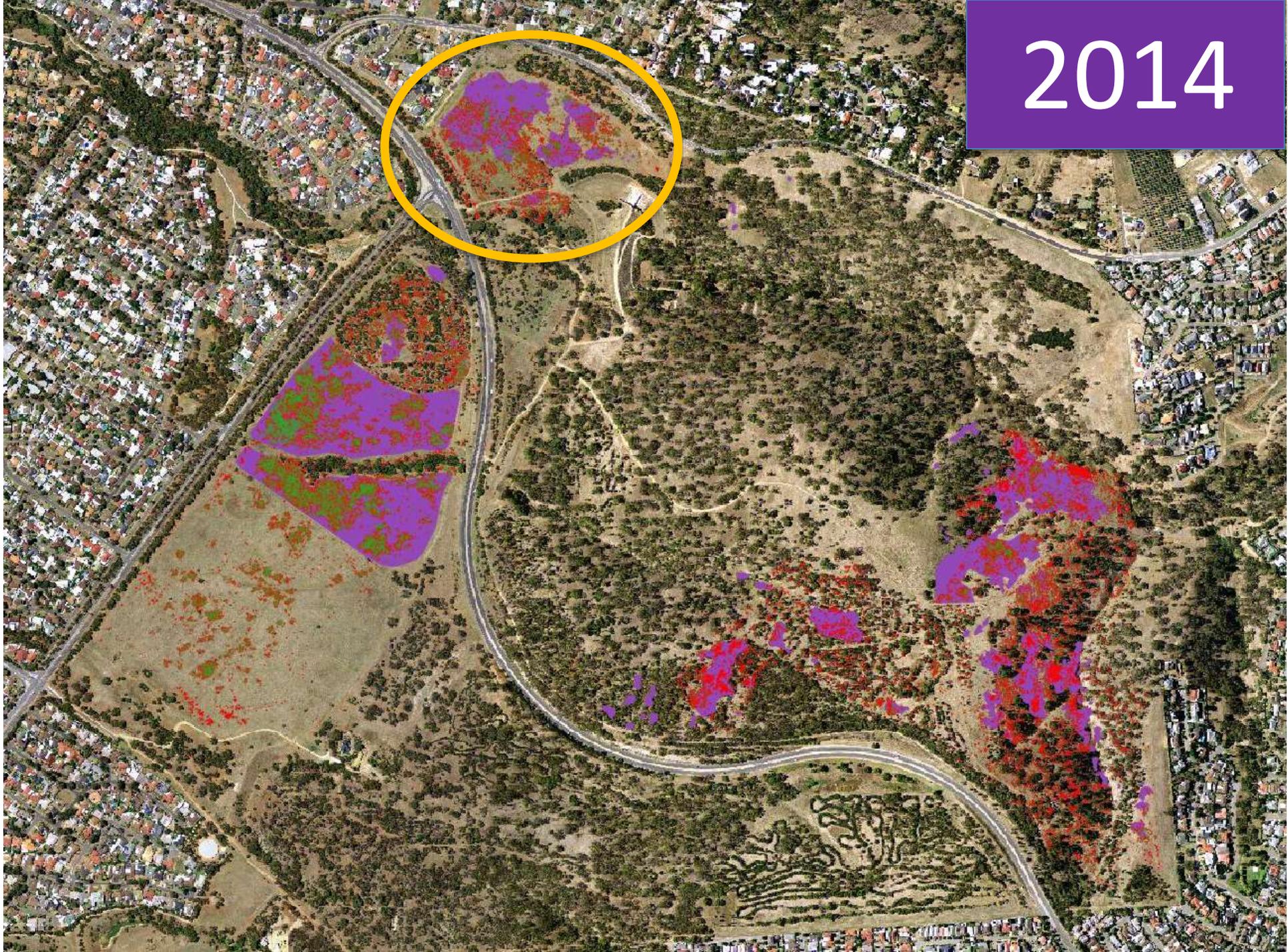
2010



2014



2014



Theory for effective Coolatai grass control

Advice from the Cities of Tea Tree Gully and Salisbury, and supported by research by (Chejera 2008) that reported:

“seed persistence as mostly unviable after 12 months”

Purpose of the proof of concept project

“to show that affordable control could be achieved by exhausting the soil seed bank”

Operational question

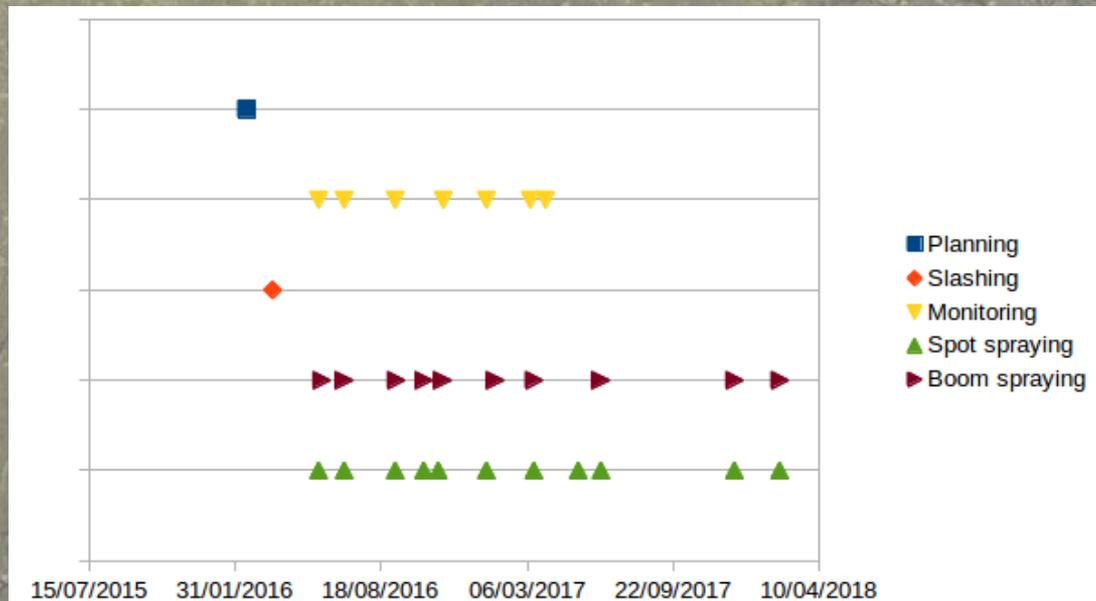
“How many times and how often would a Coolatai grass infestation need to be treated with Glyphosate to achieve effective total control?”

Treatment scheduling

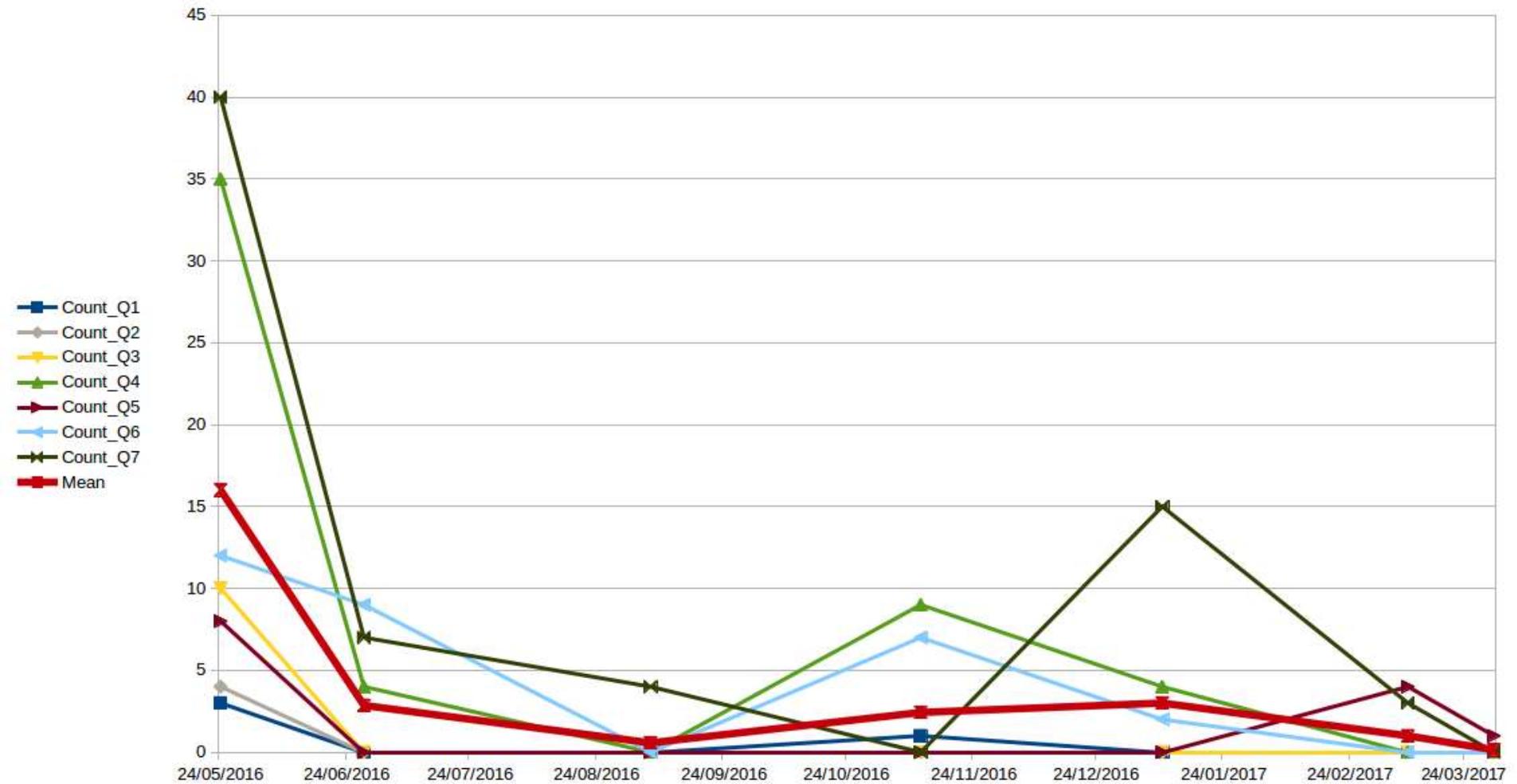
The program started in March 2016 with the slashing of the 8ha area.

The area was then treated by repeated application by blanket spraying with glyphosate via a tractor mounted boom sprayer, and in sensitive areas with a long hand line.

Interval periods were considered around the 8 week period, with the site monitored to dictate the actual time of treatment, which was at the point where maximum germination and growth had occurred yet seed set was not yet occurring.

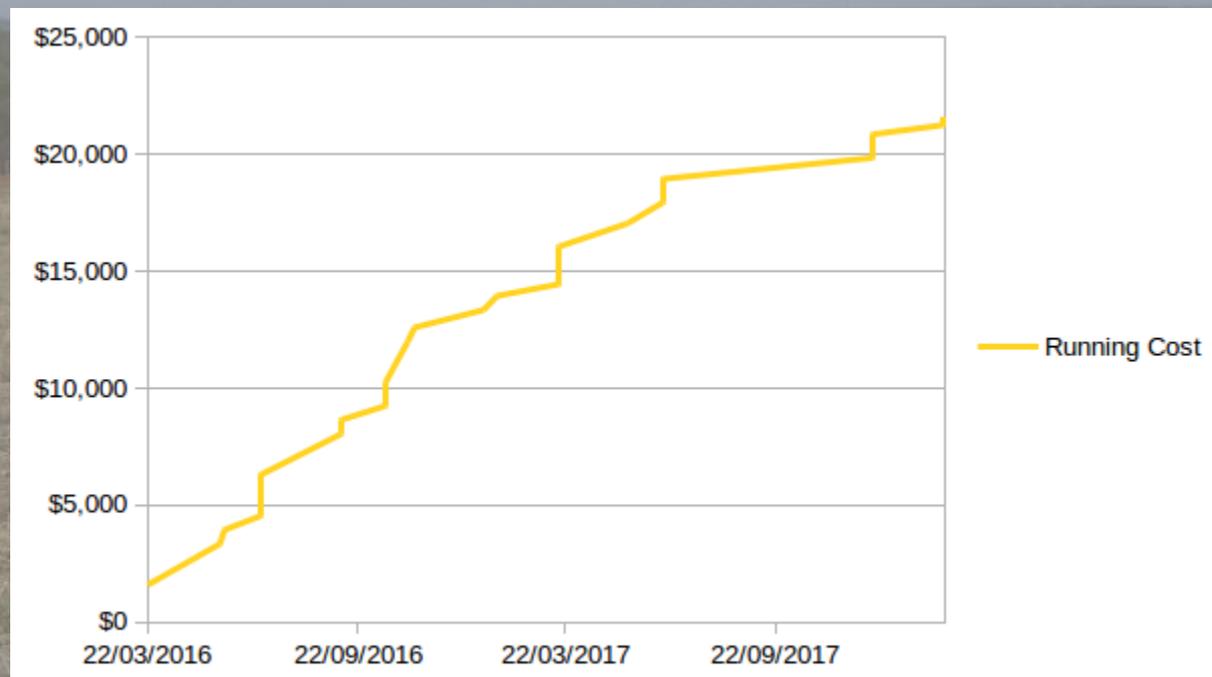


Monitoring the efficacy



Costings

COSTS	Average / Ha	Total
Slashing	\$229	\$1,600
Boom Spraying	\$90	\$6,300
Long Line Spraying	\$356	\$13,700
Total		\$21,600



Discussion: *What's next for the site?*

- Currently the site has been left as bare.
- Resurgence of the deeply buried Silverleaf Nightshade that was been suppressed by the Coolatai grass.

Discussions underway as to what is the intended land description for the site, currently leaning toward a *Themeda* (kangaroo grass) open grassy woodland as the preferred vegetation community.

Risks with trying to achieve this outcome in the first iteration are:

- Coolatai likes to invade open grasslands,
- Grasses will offer less competition than shrubs or trees,
- Identification of reinvasion of Coolatai grass amongst other grass will be difficult,
- Controlling Coolatai amongst other grasses will be difficult.

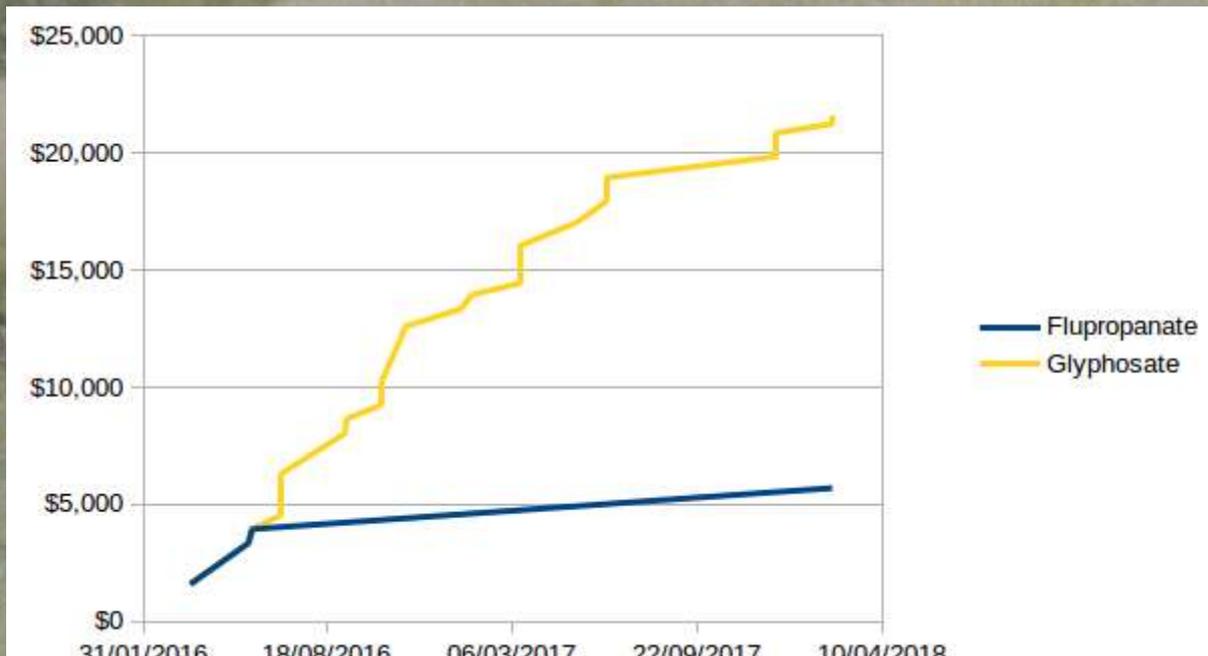
To mitigate some of these complications it has been suggested that a simple transitional vegetation community be established that:

- Offers a high competitive advantage in the first instance
- Is comprised of species that will naturally senesce
- Is comprised of species that are easily propagated and thus could be intentionally sacrificed as off target collateral during later follow control of Coolatai grass reinvasion

Moving forward

Adapting the technique to include:

- Scale up the size of plant and equipment,
 - Access steeper terrain (remote slashing units),
 - Replace slashing with prescribed fire,
 - Introduce a tussock grass selective herbicide (flupropanate),
 - Efficiently manage herbicide where off target damage is a factor,
- So to implement the program across the park at the landscape scale.



Questions?



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