Final Report to the Commonwealth:

Implementation of recovery actions for priority EPBC listed threatened species and ecological communities in Western Australia

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Department of Environment and Conservation (DEC)

Project ID 45061439

Title: Corymbia calophylla – Kingia australis woodlands on heavy soils, Swan Coastal Plain Threatened Ecological Community (TEC)

Detailed description of activities: The major activities of this project are weed mapping and weed control within occurrences of the critically endangered marri woodlands TEC. Each of these milestones is discussed in detail below.

Weed mapping and weed control has been achieved for the following sites occurring on Department of Environment and Conservation (DEC) estate:

Site	Species controlled
Roman Nature Reserve, Mundijong	Watsonia, Tagasaste
Lambert Nature Reserve, Wungong	Weed mapped only
Talbot Nature Reserve, Stratton (previously weed mapped therefore only weed control undertaken for this project)	Hesperantha falcata, Freesia
Brixton Nature Reserve, Kenwick (previously weed mapped therefore only weed control undertaken for this project)	Hesperantha falacata, Sparaxis bulbifera, Cynodon dactylon

A differential GPS was used at both Lambert and Roman Nature Reserve's to map the distribution and density of weeds. Where the number of plants for a particular weed species were limited each individual was recorded, however where the infestation was larger and denser a polygon showing the approximate boundary of each species was mapped. For each of the polygons created a cover class was assigned in the field based on the density of the weed. The cover classes used were <5%, 5-75% and >75%. A map showing the distribution and density of each species was then produced (refer to attachment).

Following on from the mapping at these two sites, weed control was then undertaken at Roman NR to target specific weed infestations to protect the threatened ecological community, as outlined in the table above. Weed control at Roman NR included hand pulling of tagasaste seedlings, cutting and painting stems of adult Tagasaste plants (this was undertaken in September 2009), and spraying the Watsonia infestation with Dalapon, pulse and dye (undertaken in October 2009).

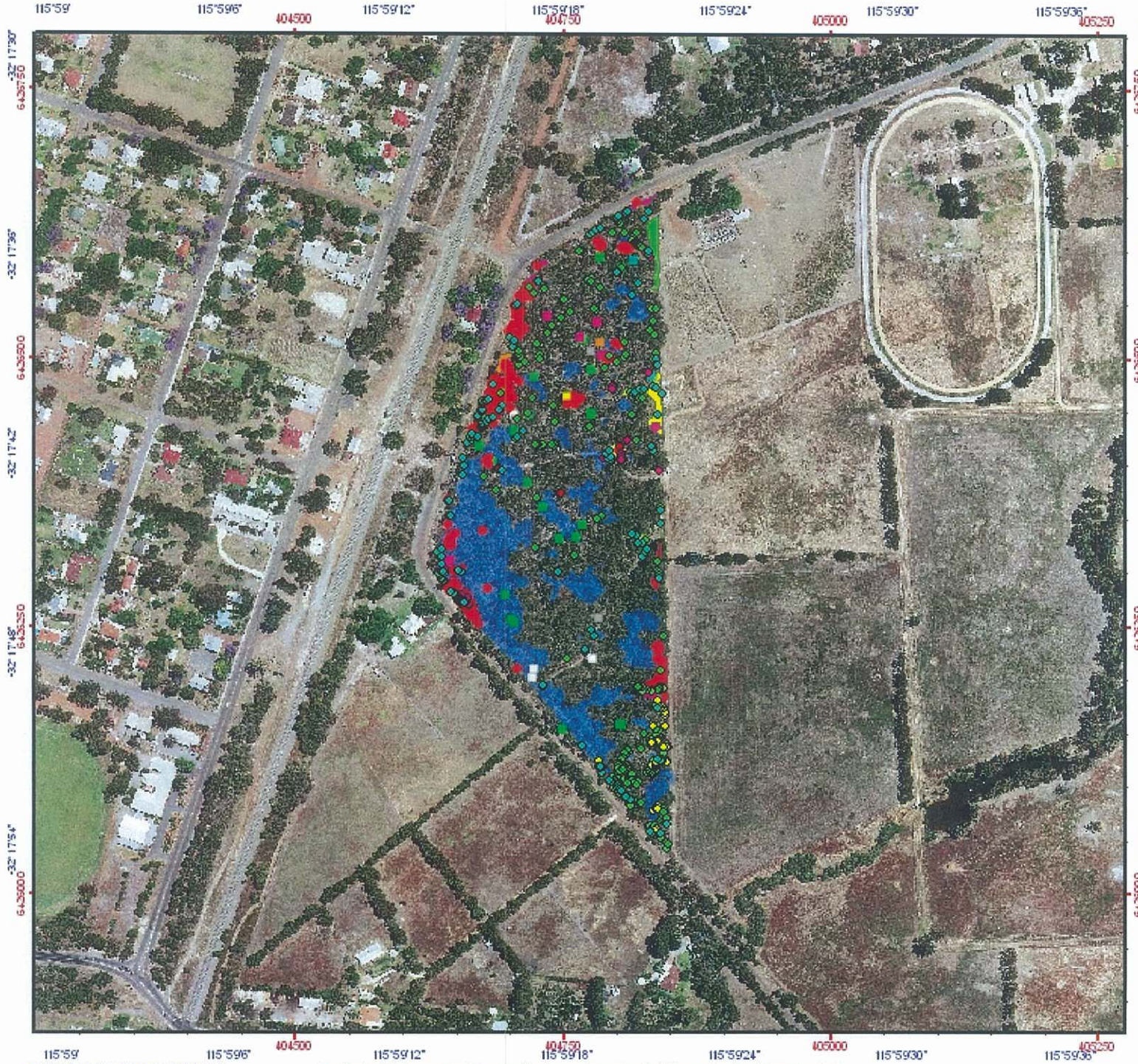
Weed mapping had previously been undertaken at Talbot and Brixton Nature Reserves so the focus for these sites was weed control. Hesperantha falcata and Freesia control was undertaken at Talbot NR in September 2009, with Metsulfuron sprayed onto the target plants. At Brixton wetlands infestations of *Hesperantha falcata* and *Sparaxis bulbifera* were controlled in October 2009 by a combination of chemical spraying using Metsulfuron and hand weeding which involved manually removing the bulbs and disposing of the plants off site. The exotic couch (*Cynadon dactylon*) was controlled in November of 2009 using Fusilade.

The production of the weed maps have provided us with valuable baseline data and are a very useful tool for assisting in priority setting for weed management within our reserves. Future weed mapping can be compared to those maps produced under this project to determine the effectiveness of the recovery actions being implemented at the reserves. As a result of the implementation of the weed control techniques outlined above the density of the infestations has decreased. The control of weeds at all of these sites will be ongoing in future years.

The rehabilitation component of this project was not undertaken due to greater costs associated with the works than originally anticipated. These funds were contributed towards further important weed control at the sites listed in the table above.

The project was achieved ahead of schedule with all funds expended as at 31 December 2009.

Distribution & density of weed species within Roman Nature Reserve



African Love Grass
- 1-5

Arum Lilly
- 1-5

Lupins
- 1-5

PVG
- 1-5

Watsonia
- 1-5

Woody Weeds
- Cootamundra
- Cotton Bush
- Flinders Range
- Olive
- Palm
- Queensland Silver
- Sydney golden
- Tagasaste

African Love Grass
- 1-5
- 5-75

Tagasaste
- Tagasaste

Lupins
- 5-75

PVG
- 5-75

Watsonia
- 1-5
- 5-75

N

1:5,000 (A4)

0 40 80 160 240 320

Meters

Projection: Universal Transverse Mercator
MGA Zone 50. Datum: GDA94

Produced under the Direction of
Keiran McNamara
Director General, Department of
Environment and Conservation

Graticule shown at 6 seconds intervals
Grid shown at 250 metre intervals

Produced December 2010

Distribution of weed species at Lambert NR

African Love Grass
- 1-5%

Woody Weeds
- Cootamundra Wattle
- Olive
- Queensland Silver wattle

Watsonia
- 1-5%
- Tagasaste

Lupins
- 1-5%

Lupins
- 1-5%

African Love Grass
- 5-75%
- Old Tip Site

N

12,300 (A4)

0 15 30 60 90 120

Meters

Projection: Universal Transverse Mercator
MGA Zone 50. Datum: GDA94

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Environment and Conservation

Graticule shown at 6 seconds intervals
Grid shown at 250 metre intervals

Produced in January 2010