# MAIN ROAD ST ALBANS, LEVEL CROSSING REMOVAL PROJECT:

# CONSERVATION MANAGEMENT AND BUTTON WRINKLEWORT RECOVERY PLAN


Prepared By

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management

Suite 5 61 - 63 Camberwell Road, Hawthorn, VIC 3123
P.O. Box 337, Camberwell, VIC 3124
Ph. (03) 9815 2111
Fax. (03) 9815 2685



April 2016

Report No. 12152 (10.5)

## *CONTENTS*



## *TABLES*

## *FIGURES*



## *APPENDICES*

**Acknowledgement:**


This Plan was prepared by a team from Brett Lane & Associates Pty Ltd, comprising Davide Coppolino (Senior Ecologist) and Alan Brennan (Senior Ecologist & Project Manager).

# 1. INTRODUCTION

This Conservation Management and Button Wrinklewort Recovery Plan ('the Plan') for the Main Road, St Albans Level Crossing Removal Project ('the Project') has been prepared to manage Biosite 3546, referred to herein as 'the Conservation Reserve'. Assessments of the Project and the Conservation Reserve were previously documented by Brett Lane & Associates Pty. Ltd. in the following reports:

- Report 12152 (1.6) – Main Road St Albans, Level Crossing Removal Project: Targeted Survey, Detailed Flora & Fauna Assessment and Net Gain Analysis (BL&A 2014a);
- Report 12152 (1.7) – Main Road St Albans, Level Crossing Removal Project: Revised Impact Assessment (BL&A 2014b);
- Report 12152 (3.4) – Main Road St Albans, Level Crossing Removal Project: EPBC Act Referral (BL&A 2014c);
- Report 12152 (4.5) – Main Road St Albans, Level Crossing Removal Project: EPBC Act – Matters of National Environmental Significance Report (BL&A 2014d); and
- Report 12152 (8.1) – Main Road St Albans, Level Crossing Removal Project: Staking and Mapping of Listed Flora (BL&A 2014e).

### EPBC Approval:

The Project was approved with conditions under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 5th November 2014.

This Plan is required under Condition 2 of the Commonwealth approval for the Project, EPBC 2014/7203, and also addresses Conditions 4 and 5 of the approval.

The EPBC Act approval conditions relevant to this Plan are provided below.

Condition 2:

> *"To protect the listed threatened species and communities present at Biosite 3546, including but not limited to the Spiny Rice-flower and the Button Wrinklewort, the person taking the action must, unless otherwise agreed to in writing by the Minister, provide to the Minister for approval, within 12 months of the date of this approval, a Conservation Management Plan that ensures the environmental values of Biosite 3546 and the listed threatened species and communities within Biosite 3546 are managed for a period of at least 10 years. This plan or strategy must be submitted to the Minister for approval within 12 months of the date of this approval. The approved Conservation Management Plan must be implemented."*

Condition 4:

> *"To monitor the listed and threatened species at Biosite 3546 the person taking the action must ensure that for every year for five (5) years after the commencement of construction activities, surveys for listed threatened species and communities are undertaken by a suitably qualified expert in accordance with the most recent version of the Department's guidelines and must submit the results to the Department. The person undertaking the action must provide a*

*report of these monitoring surveys to the Minister within ten (10) days of completion of the monitoring surveys."*

Condition 5:

*"If the five monitoring reports required at Condition 4 demonstrate that no more than five (5) Spiny Rice-flower plants, no Button Wrinklewort plants and no more than 1.5 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain have been impacted due to the action, and construction activities are complete, the person taking the action may request the Minister to reduce the minimum timeframe for implementing the Conservation Management Plan at Condition 2 to be reduced to no less than 5 years."*

Condition 6:

*"If the monitoring surveys required at Condition 4, identify that construction activities result in a loss of greater than five (5) Spiny Rice-flower plants, any Button Wrinklewort plants or of greater than 1.5 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain, attributable to the action, such as though changes in hydrology, the person taking the action must notify the Minister and must:*

*a. Prepare an updated Conservation Management Plan and provide it to the Minister for approval within one month of the provision to the Minister of the monitoring report at condition 4. The approved updated Conservation Management Plan must be implemented*
*b. In consultation with the Department, identify and secure an offset to compensate for all losses, including Habitat zone H, in accordance with the EPBC Act Environmental Offsets Policy (October 2012) within 12 months of the provision of the report at condition 4; and*
*c. Prepare an Offset Management Plan and provide this ton the minister for approval within 12 months of the provision of the report at condition 4. The Offset Management Plan must be reviewed by a suitable qualified ecologist prior to the submission to the minister for approval. The approved Offset Management Plan must be implemented within 12 months of impacts on listed threatened species and communities occurring.*

## Planning Scheme Amendment:

Planning and Environment Act approval condition relevant to this Plan, as set out in the Main Road, St Albans Level Crossing Removal project Incorporated Document, is provided below.

Condition 5.3:

*"Prior to the commencement of main construction works, VicRoads must, in consultation with Brimbank City Council, prepare a recovery plan for the Button Wrinklewort to the satisfaction of the responsible authority".*

Among other content, this Plan includes the following:

- A description of the Conservation Reserve;
- Outline of management actions and targets;
- Strategies and targets for weed control;
- Methods of protection of the ecological values present;
- Parties responsible for implementing the Plan and monitoring progress; and
- Timeframes for implementing the Plan.

Section 2 sets out the objectives of this Plan.

Section 3 stipulates the period over which this Plan will operate.

Section 4 describes the Conservation Reserve, including native vegetation, listed threatened species and ecological communities present as well as any notable management issues.

Section 5 describes how the Conservation Reserve will be managed for conservation. It includes details about commitments, management activities, monitoring and reporting.

## 2. OBJECTIVES

The objectives of this Plan are to:

- Satisfy Conditions 2, 4 and 5 of the Commonwealth approval for the Project (reference EPBC 2014/7203);
- Protect and enhance the listed threatened species and communities present at Biosite 3546, including but not limited to the Spiny Rice-flower and the Button Wrinklewort;
- Identify threats to the listed threatened species and communities present at Biosite 3546;
- Provide methods to manage threats to the listed threatened species and communities present at Biosite 3546; and
- Identify environmental rehabilitation measures that are appropriately designed and implemented where required.
- Satisfy Condition 5.3 of the Main Road, St Albans Level Crossing Removal project Incorporated Document.

## 3. DURATION OF THIS PLAN

The implementation of this Plan will commence by the commencement of the main construction activities for the Project. This Plan will expire, and implementation will cease, under the following circumstances:

- The Plan has been implemented for a period of no less than 10 years; or
- The Plan has been implemented for a period of no less than 5 years and all of the following occur:
    - The five monitoring reports required under Condition 4 of the Project approval demonstrate that no more than five (5) Spiny Rice-flower plants, no Button Wrinklewort plants and no more than 1.5 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain have been impacted due to the action;
    - Construction activities are complete;
    - The person taking the approved action has obtained approval from the Commonwealth Minister for Environment to reduce the minimum timeframe for implementing the Conservation Management Plan to no less than 5 years; and
    - The approved amended timeframe has lapsed.

# 4. DESCRIPTION OF THE CONSERVATION RESERVE

## 4.1. Environmental values of the Conservation Reserve

The Conservation Reserve comprises retained parts of Department of Environment, Land, Water and Planning Biosite 3546 (Figure 1). It is located within a publicly-owned rail reserve, alongside the Sunbury suburban rail line in St Albans in Melbourne's north-western suburbs. The Conservation Reserve is approximately 400 metres north-west of St Albans Train Station.

The Conservation Reserve is surrounded by built environments, including roads, footpaths, railway infrastructure and residential development. Several significant breaks in the vegetation along the broader rail reserve are characterised by hardstand infrastructure, limiting habitat connectivity along the rail reserve. Earthworks and fill are commonplace in these breaks. The Conservation Reserve comprises three fairly narrow, linear patches of native grassland vegetation totalling 0.978 hectares. Soils are heavy basaltic clays and clay-loams on a flat to gently undulating landscape. Shallow man-made table drains extend along the rail line-side edges within the Conservation Reserve. Vegetation within the Conservation Reserve is predominantly weedy along the reserve edges and more weed-free towards the central portions. Small sections of high-quality vegetation, rich in herbs and small shrubs, occur along the upper-slopes of drainage channels which extend along the railway-side edges of the three reserve sections, immediately abutting very weedy vegetation in the bottom of the drainage channels. The entire Conservation Reserve was subject to an ecological burn to reduce biomass in May 2013. The native elements are dominated by Kangaroo Grass, along with several wallaby grasses and spear grasses. Weed cover currently includes a number of high threat weeds; the most notable species include Chilean Needle-grass and Serrated Tussock.

All native vegetation in the Conservation Reserve has been identified as Natural Temperate Grassland of the Victorian Volcanic Plain, which is listed as critically endangered under the Commonwealth EPBC Act (BL&A 2014a; 2014b; 2014d). Flora species recorded within Conservation Reserve are listed in Appendix 4 to Appendix 6 while fauna species recorded in the Conservation Reserve and immediate surrounds are listed in Appendix 1.

Rare and threatened flora species listed under Commonwealth and Victorian Legislation and government advisory lists recorded within the Conservation Reserve to date are summarised in Table 1 (BL&A 2014a; 2014b; 2014e). Most of these plants occur along the aforementioned table drains. Each Spiny Rice-flower, Button Wrinklewort and Small Milkwort plant has been marked onsite with numbered stainless-steel pegs (Figure 1). Details of these plants are provided in Appendix 2.

The Striped Legless Lizard (listed as threatened under the EPBC Act, FFG Act and DELWP Advisory List) is also presumed to be present (BL&A BL&A 2014a; 2014b).

Table 1: Numbers and locations of threatened flora species in the study area

| Species | Listing | Biosite 3546 | | | |
|---|---|---|---|---|---|
| | | Habitat Zone D | Habitat Zone E | Habitat Zone F | Total |
| Button Wrinklewort | EPBC Act, FFG Act, DELWP Advisory List | 10 | 2 | – | 12 |
| Spiny Rice-flower | | 266 | 93 | 177 | 536 |
| Large-headed Fireweed | | - | 2 | - | 2 |
| Arching Flax-lily | DELWP Advisory List | 33 | – | – | 33 |
| Small Milkwort | FFG Act, DELWP Advisory List | - | 1 | - | 1 |


## Legend

Existing fence

### Threatened Species

- Spiny Rice-flower
- Button Wrinklewort
- Large-headed Fireweed
- Small Milkwort
- Arching Flax-lily

Metres

0 15 30 60

**Figure 1: Locations of threatened species recorded in the Conservation Reserve**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 17/06/2015 | Created By: A. Brennen / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

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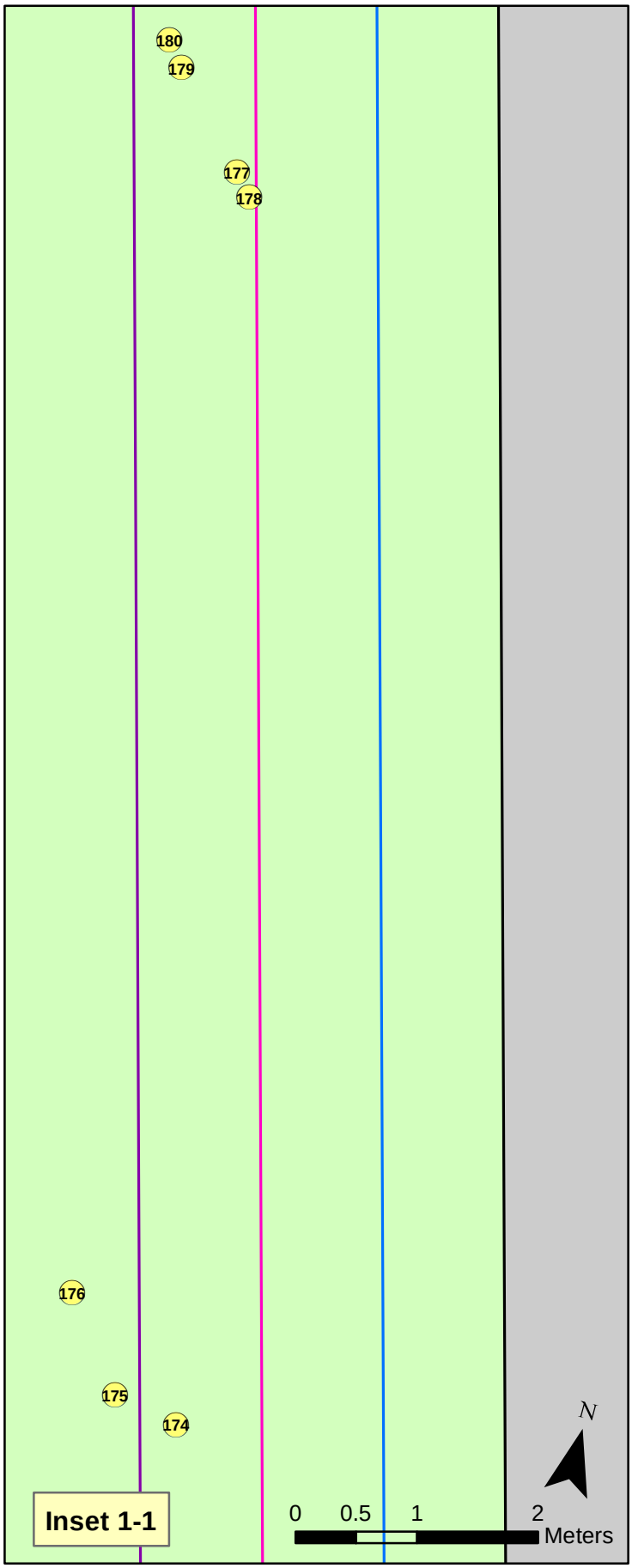
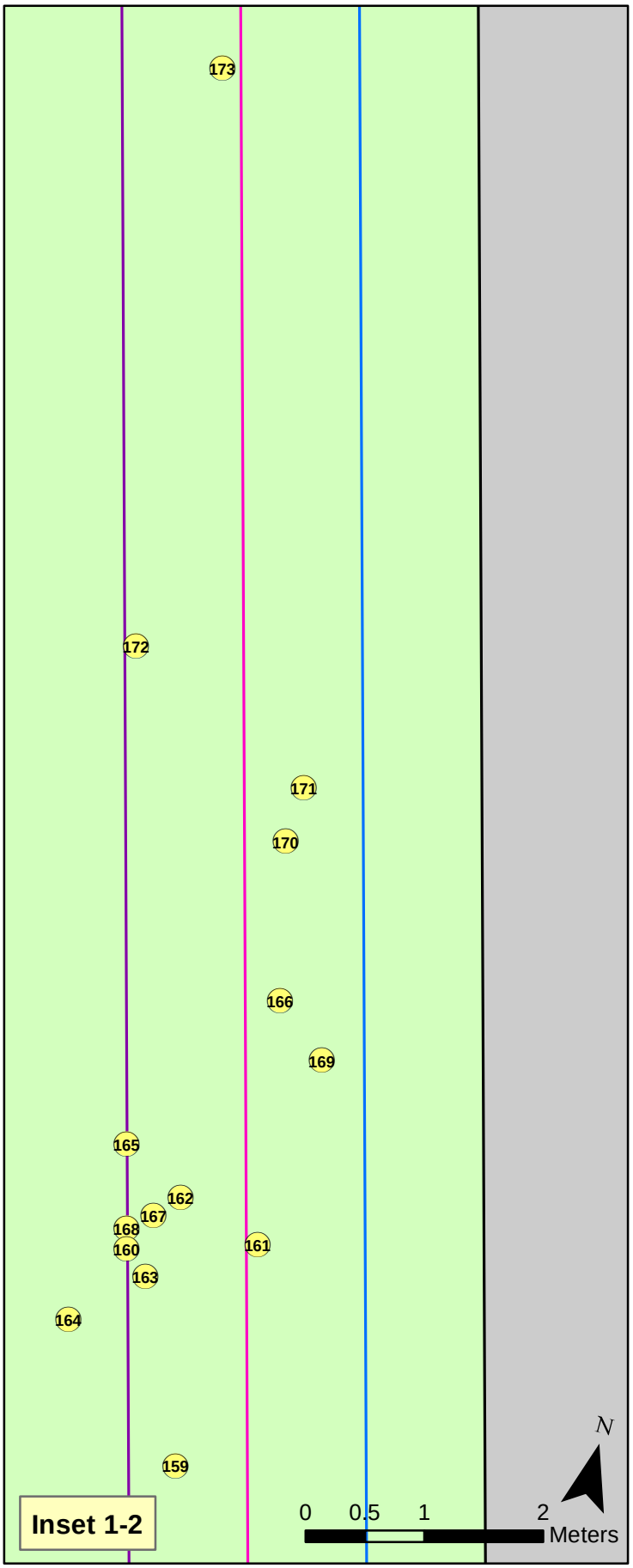



## Legend

- Fence line
- 1m from fence line
- 2m from fence line
- 3m from fence line

**MoNES locations and tag numbers**

- 101 Spiny Rice-flower
- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

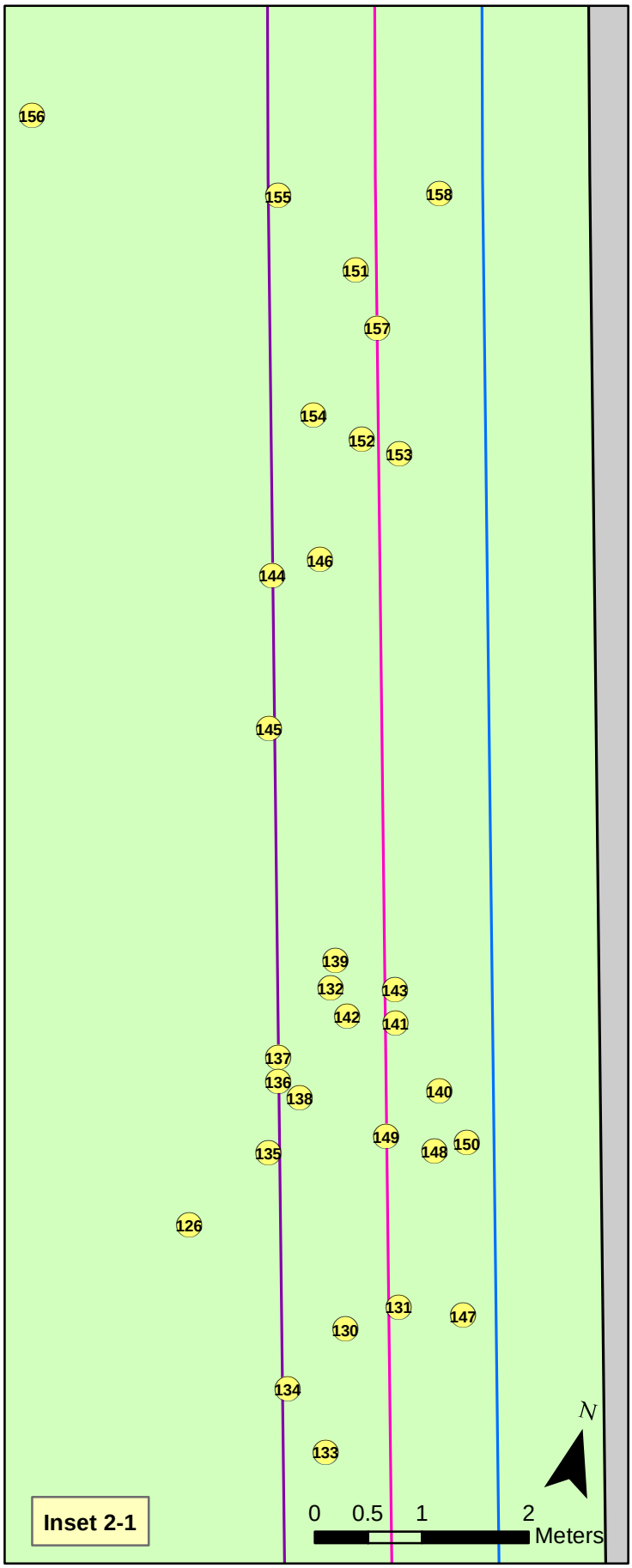
**Inset 1: Locations of threatened species recorded in the Conservation Reserve**

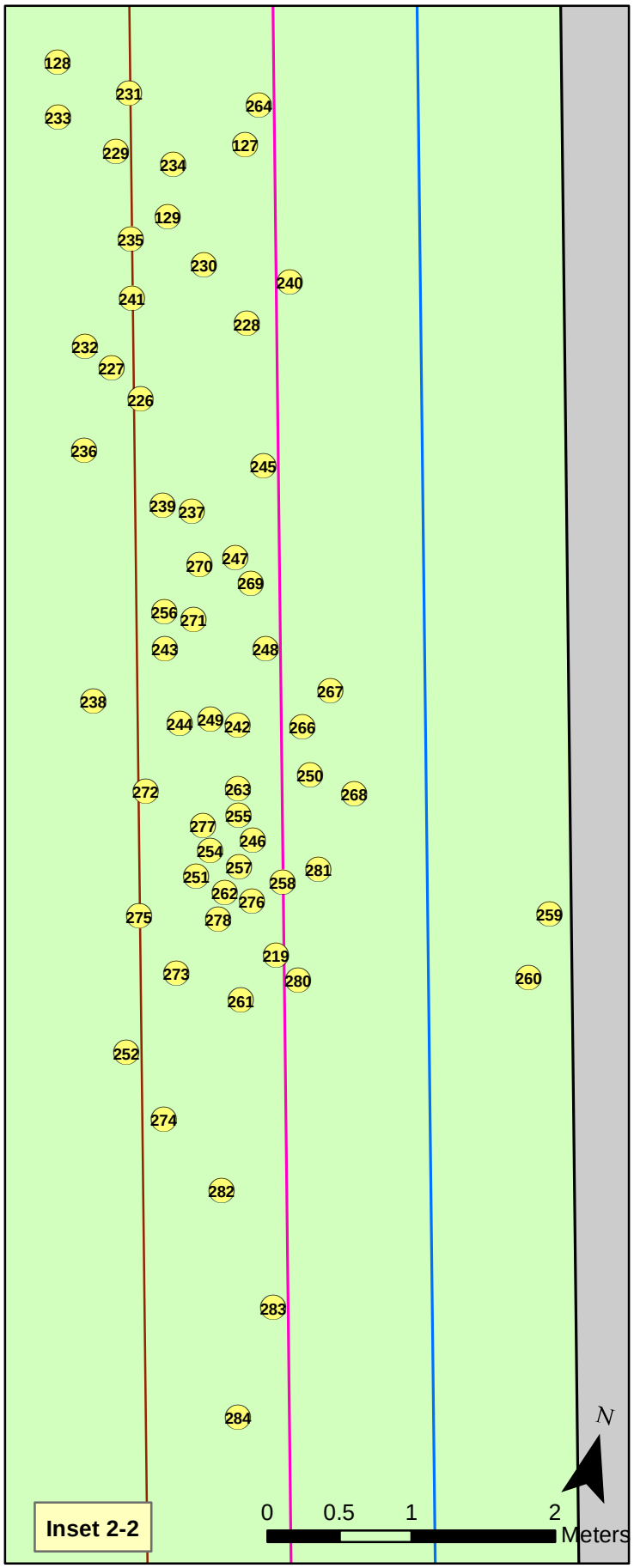
**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 18/08/2015 | Created By: B. MacDonald / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

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**MoNES locations and tag numbers**

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- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

**Inset 2: Locations of threatened species recorded in the Conservation Reserve**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

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|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
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Suite 5, 61 - 63 Camberwell Road
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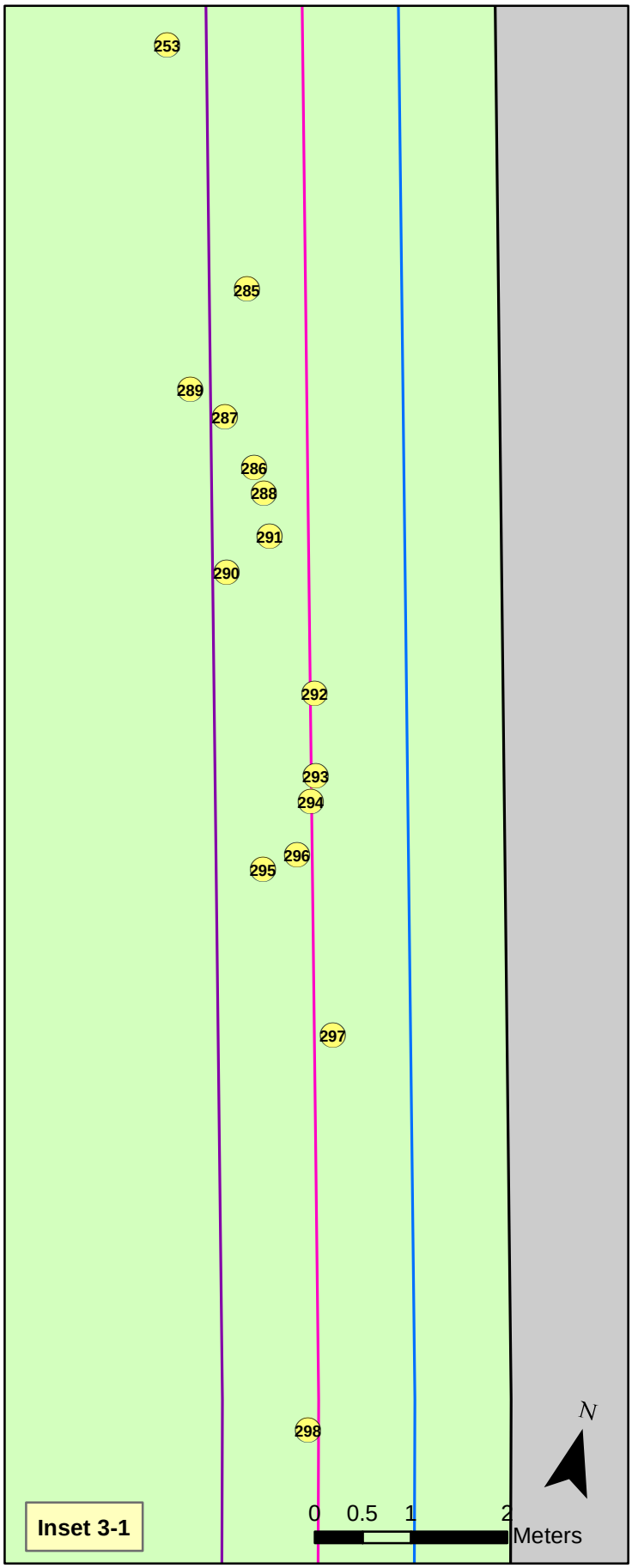
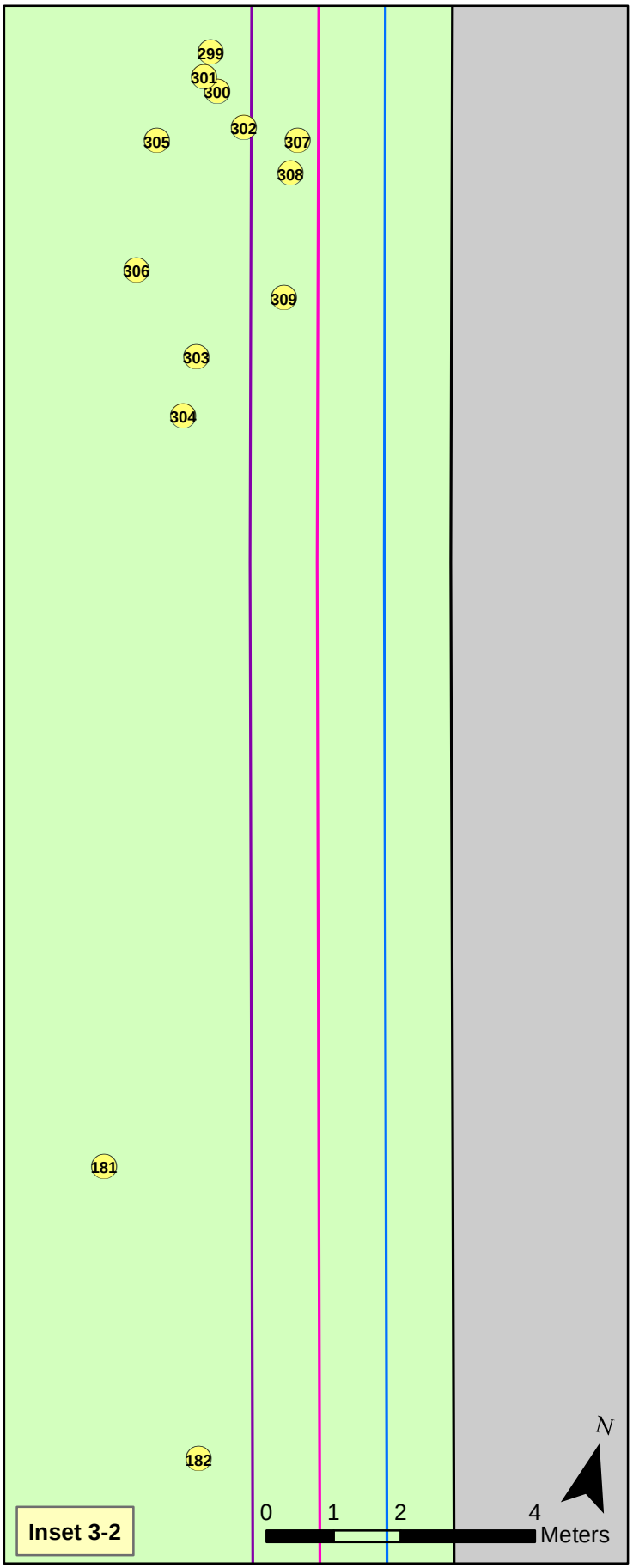
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

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**MoNES locations and tag numbers**

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- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

# Inset 3: Locations of threatened species recorded in the Conservation Reserve

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**Client: VicRoads**

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BL&A Brett Lane & Associates Pty. Ltd.
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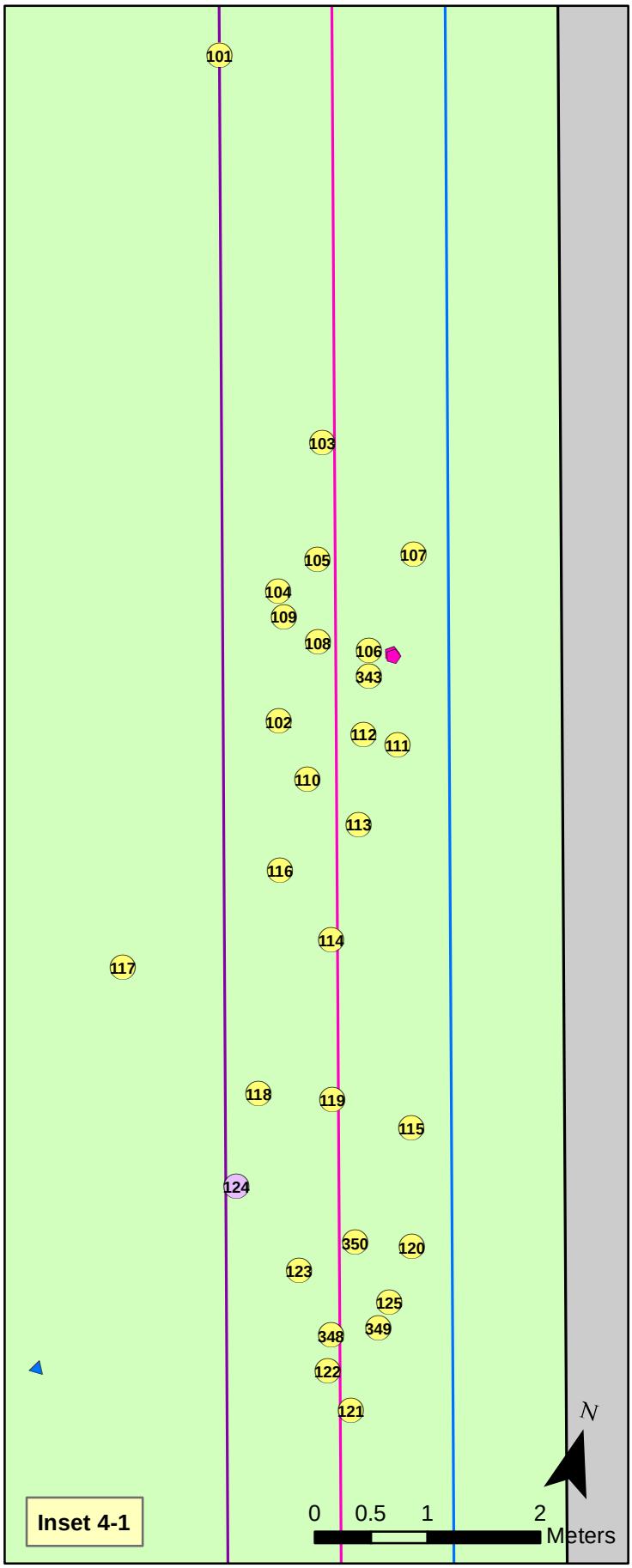
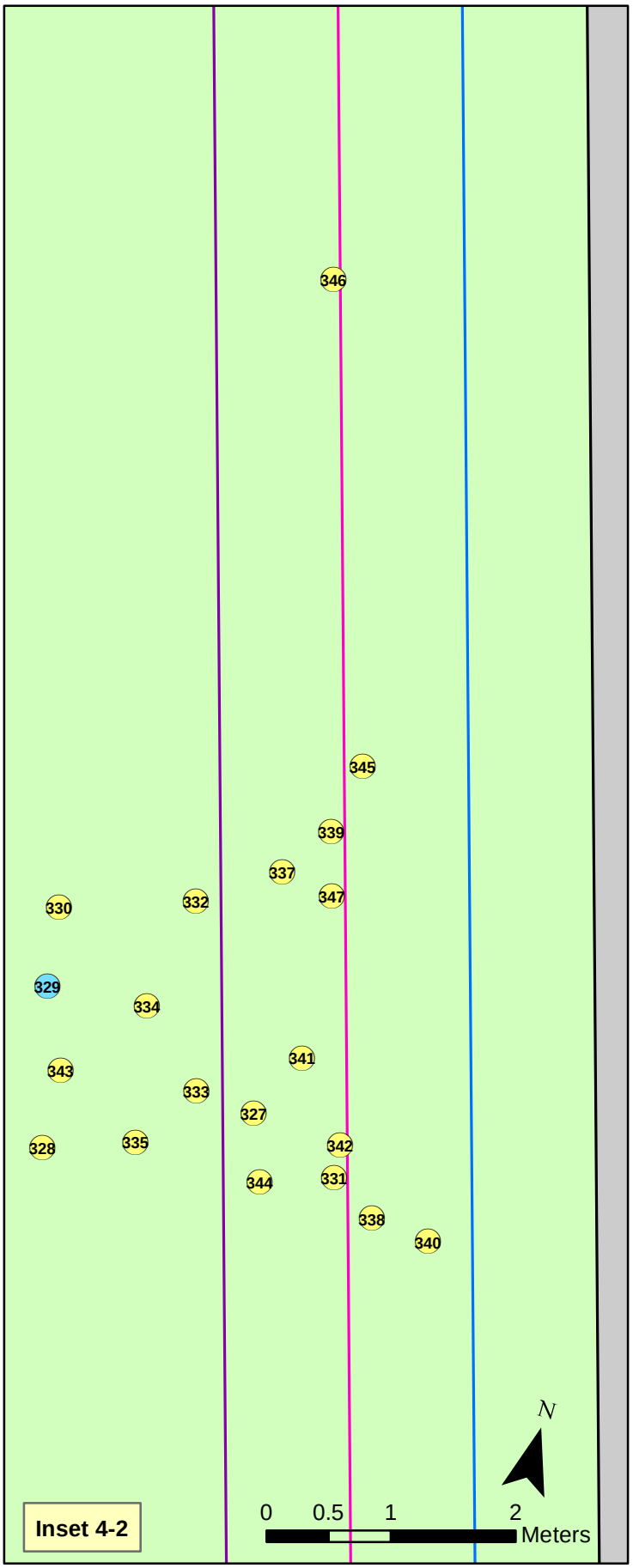
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2688
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au




## Legend

- Fence line
- 1m from fence line
- 2m from fence line
- 3m from fence line

**MoNES locations and tag numbers**

- 101 Spiny Rice-flower
- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

# Inset 4: Locations of threatened species recorded in the Conservation Reserve

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**Client: VicRoads**

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BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
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enquiries@ecologicalresearch.com.au
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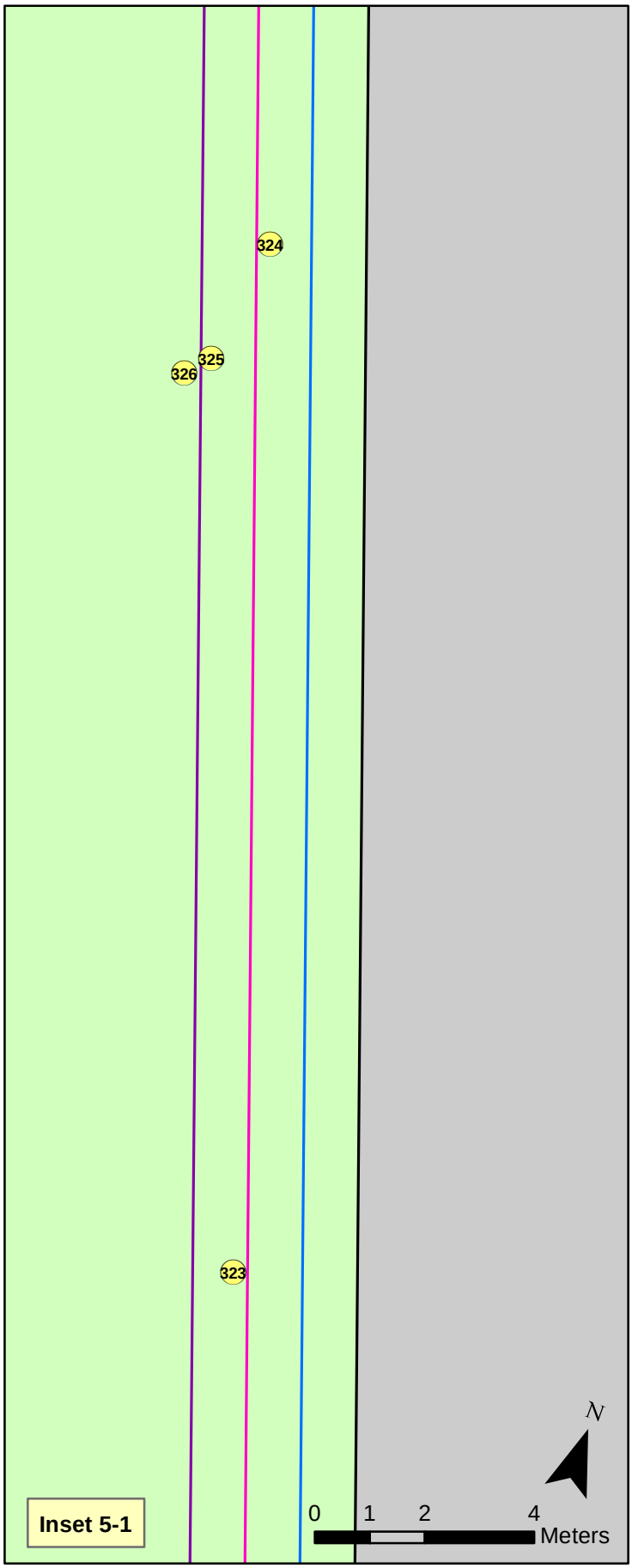


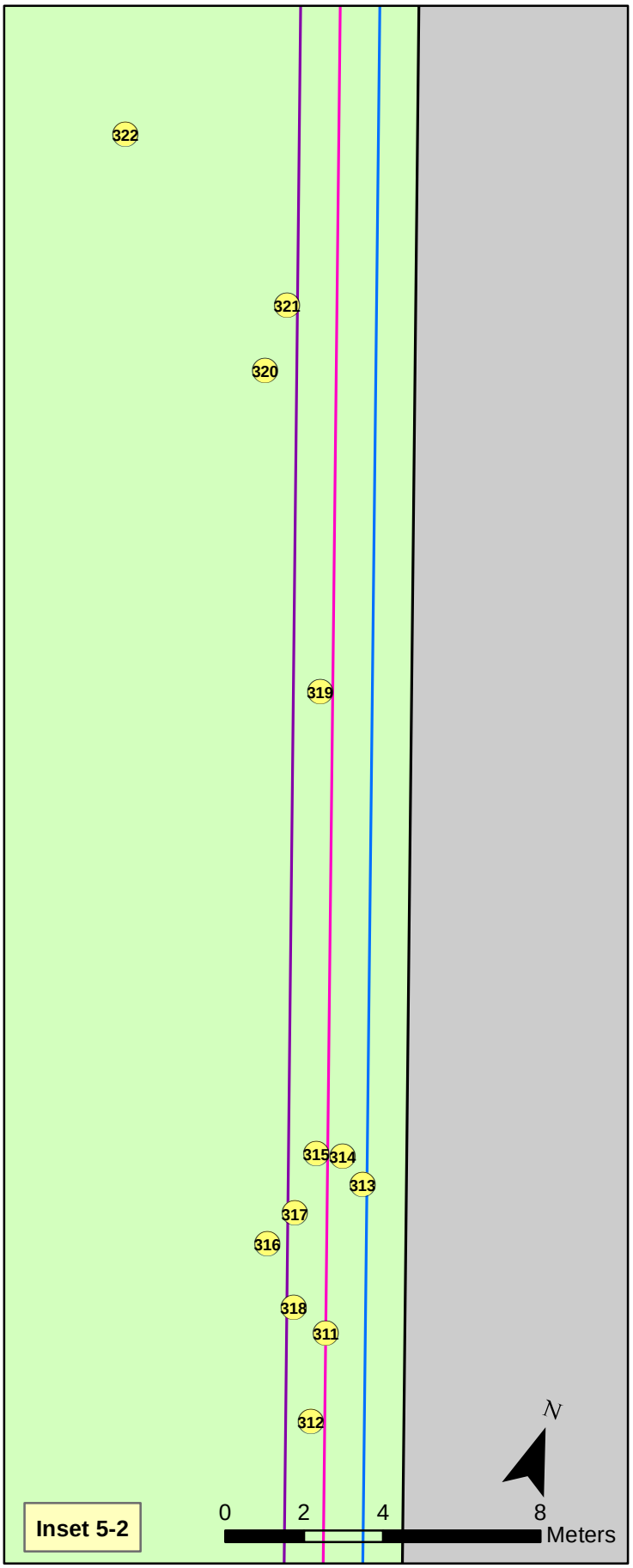


## Legend

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**MoNES locations and tag numbers**

- 101 Spiny Rice-flower
- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

**Inset 5: Locations of threatened species recorded in the Conservation Reserve**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

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BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
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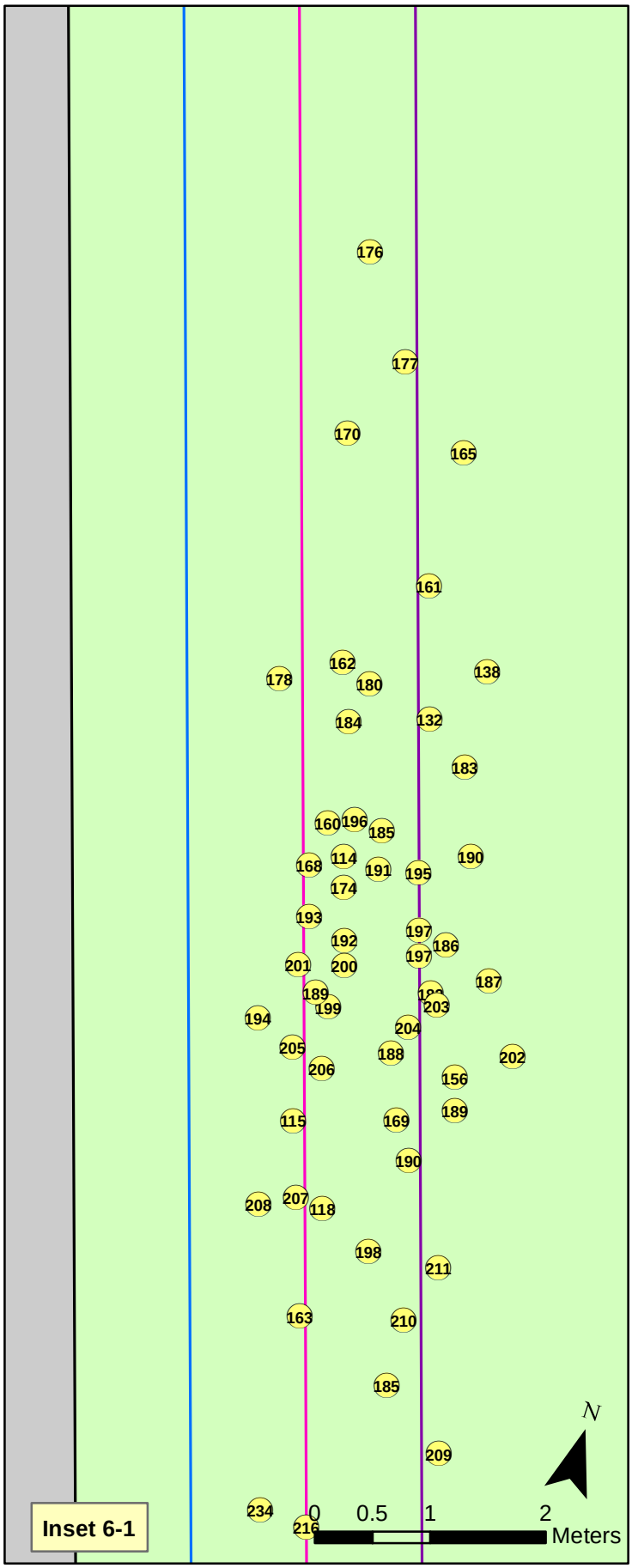
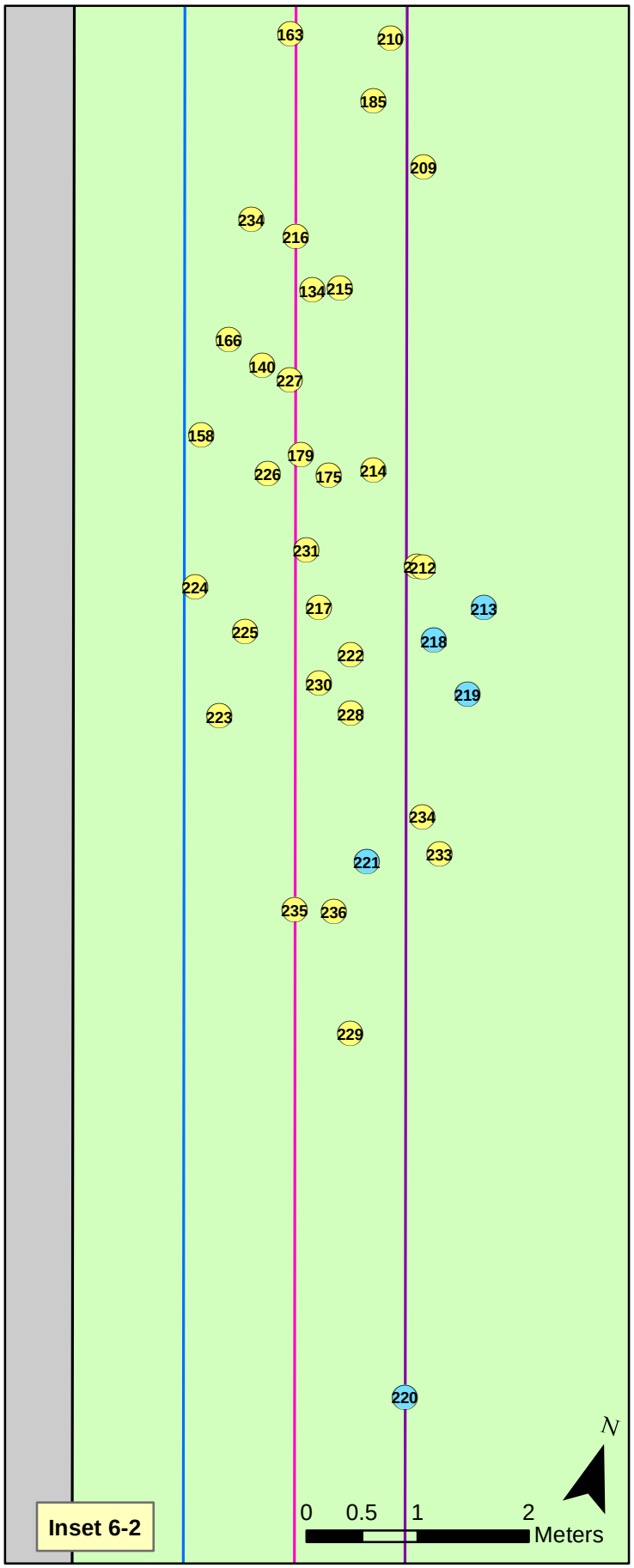
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au




## Legend

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**MoNES locations and tag numbers**

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- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

**Inset 6: Locations of threatened species recorded in the Conservation Reserve**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

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Ecological Research & Management
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Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
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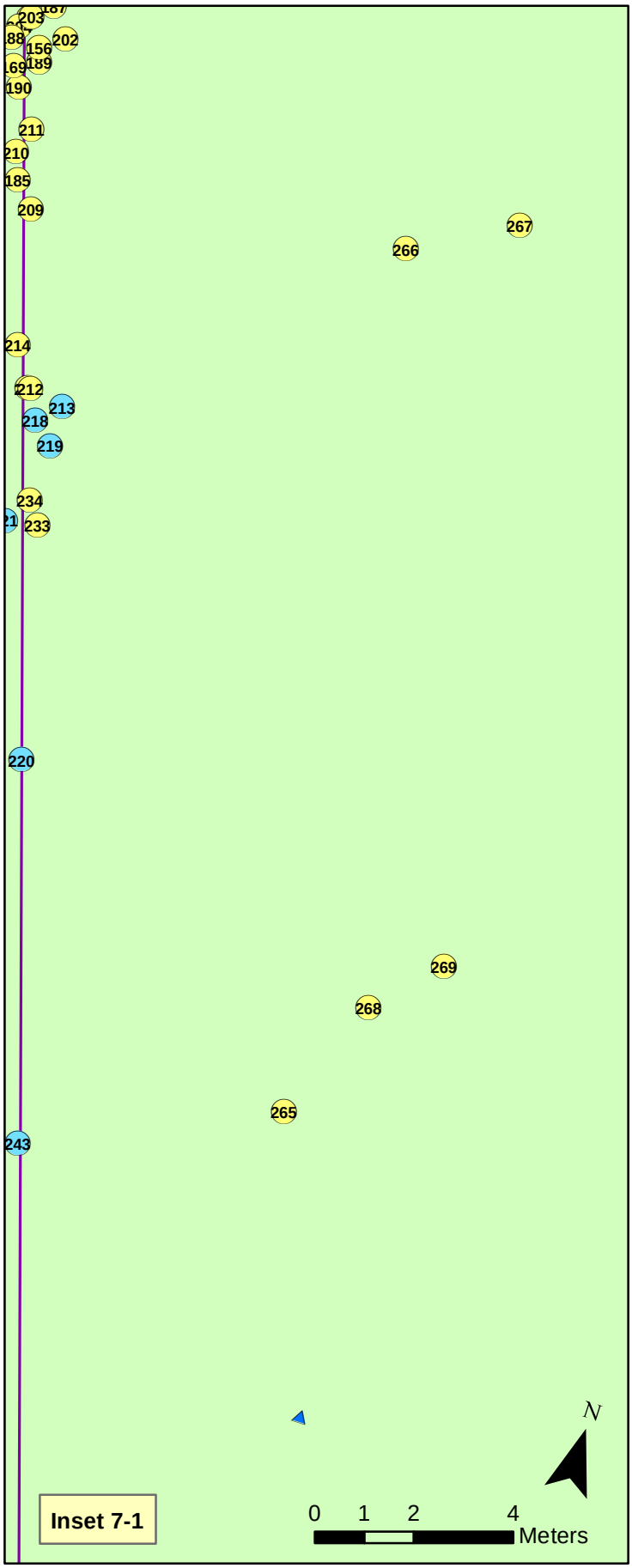


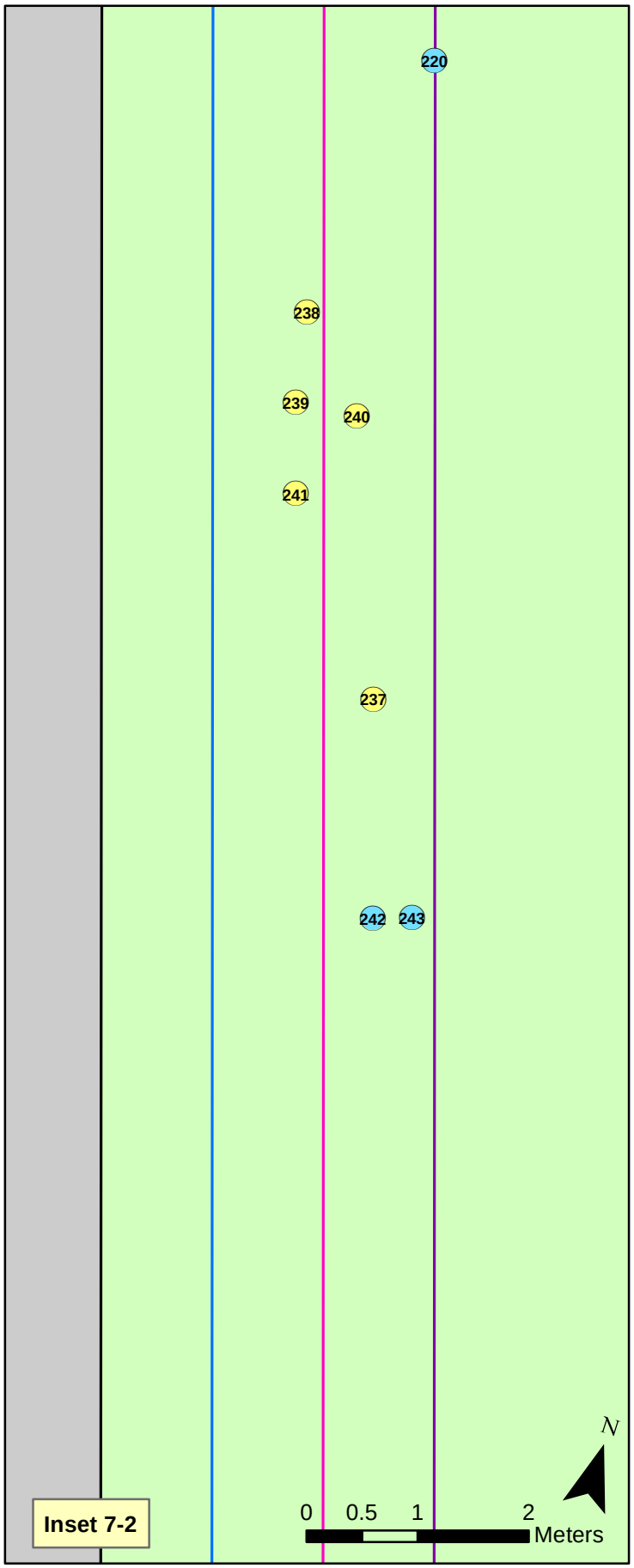


## Legend

- Fence line
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**MoNES locations and tag numbers**

- 101 Spiny Rice-flower
- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

# Inset 7: Locations of threatened species recorded in the Conservation Reserve

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

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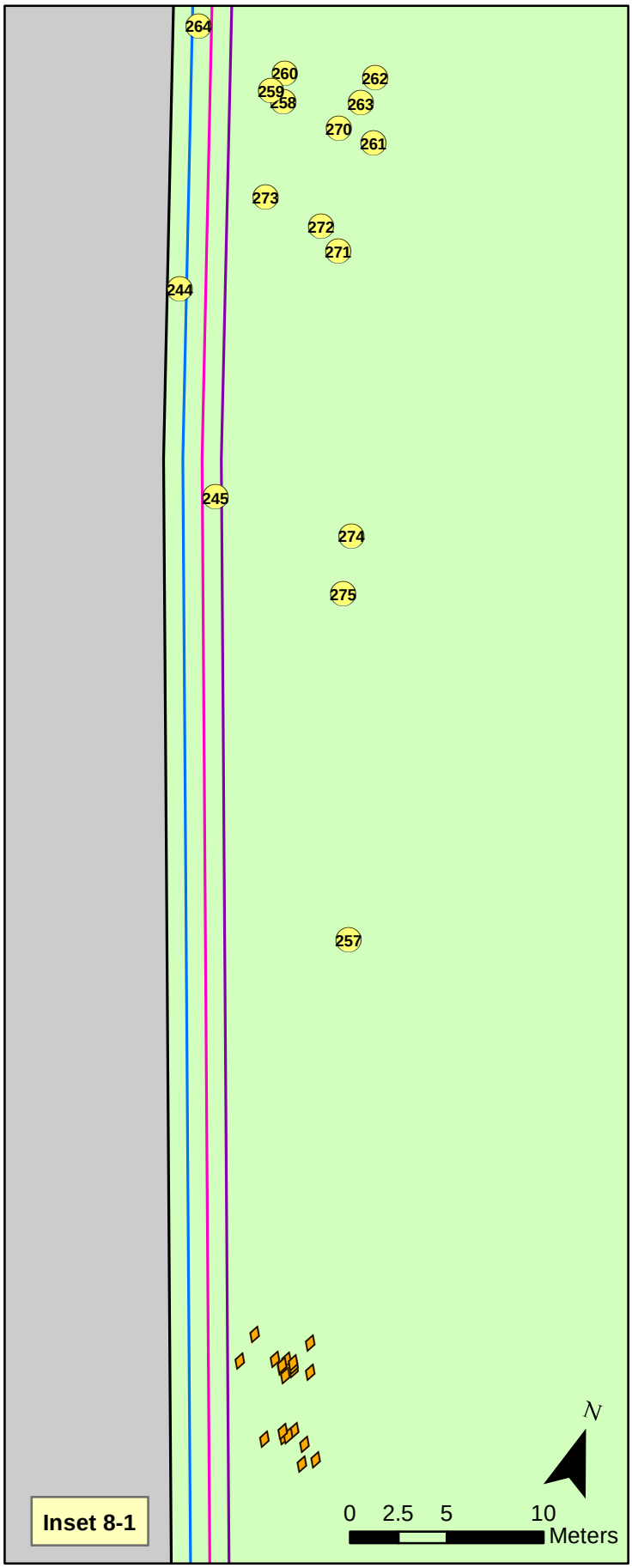
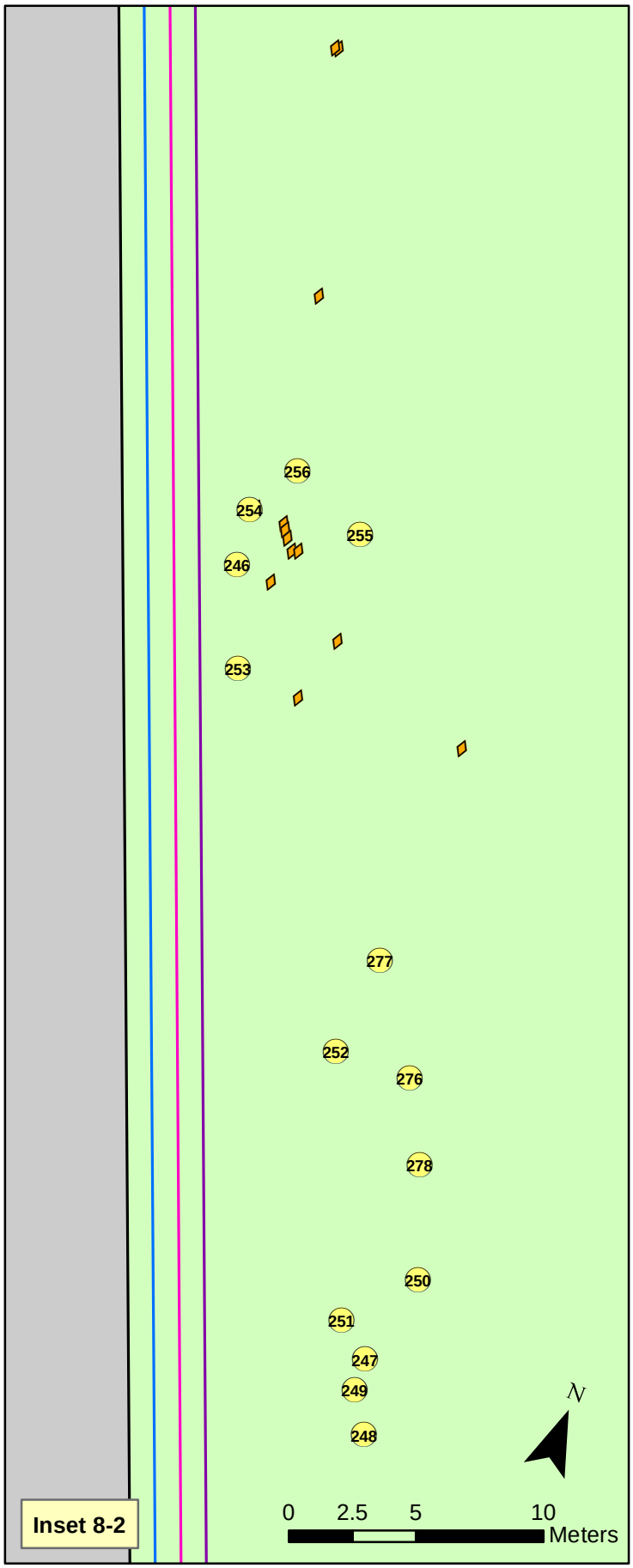
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2688
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au




## Legend

- Fence line
- 1m from fence line
- 2m from fence line
- 3m from fence line

**MoNES locations and tag numbers**

- 101 Spiny Rice-flower
- 242 Button Wrinklewort
- 124 Small Milkwort

- DEPI Biosite
- Railway line side of fence

**MoNES locations - untagged**

- Arching Flax-lily
- Button Wrinklewort
- Large-headed Fireweed

# Inset 8: Locations of threatened species recorded in the Conservation Reserve

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

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|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

#### *4.1.1. Management issues*

Current management issues within the Conservation Reserve are listed below. These threats shall be controlled in order to conserve the Conservation Reserve's environmental values.

**Weeds**

Weed cover within the Conservation Reserve was found to be moderate to high at a site visit on 1st June 2015. High-threat weed species such as Chilean Needle-grass (*Nassella neesiana*) and Serrated Tussock (*Nassella trichotoma*) were present. Weed cover is particularly high along the perimeters of the Conservation Reserve as well as within sections of the table drains.

**Rubbish**

Construction and domestic waste is too often dumped in Conservation Reserves or is carried into Conservation Reserves by wind and surface water drainage. Rubbish can bury/cover indigenous vegetation, fauna or fauna habitat. It can also pollute soils and be toxic or otherwise dangerous to indigenous fauna. It can also prevent indigenous vegetation establishment or encourage weed establishment as a result of associated soil disturbance.

Cyclone mesh (1.8m high) fencing has been installed around each section of the Conservation Reserve. This fencing is likely to limit the amount of any rubbish dumping or 'blow-in' into the Conservation Reserve.

**Biomass build-up**

Native grasslands dominated by Kangaroo Grass (*Themeda triandra*) require frequent biomass removal to prevent senescence of Kangaroo Grass and the build up of detritus. Senescence and senescence die-back of Kangaroo Grass and resulting detritus build-up can smother out inter-tussock forbs, reduce species diversity and leave gaps which can be more swiftly invaded by weeds such as Chilean Needle-grass (Stuwe & Parsons 1977; Lunt 1991; Faithfull n.d.).

**Other incompatible anthropogenic activities**

The following additional human activities pose significant current and future threat to the conservation of environmental values within the Conservation Reserve:

- Pedestrian traffic; and
- Vehicular access (including motorcycles).

The above activities can suppress the establishment, survival and recruitment of indigenous vegetation or impact on wildlife. They can also reduce the Conservation Reserve's habitat value by altering its structure and underlying abiotic characteristics.

Access to the Conservation Reserve is restricted by the 1.8m high cyclone mesh fencing and a locked gate so as to minimise the above anthropogenic threats.

### 4.2. Management Zones

Management zones within the Conservation Reserve are shown in Figure 2 and Figure 3.

F7
F6
F3
F9
F9
F8
F5
F1
F1
F3
F1
F5
F1
F5
F4
F1
F2
F1
F1
F2
Habitat Zone F

## Legend

- Existing fencing
- Sensitive 2 m threatend species buffer zone - careful precision weed control required

### Vegetation quality

- Introduced vegetation
- Native vegetation - Moderate quality with high-threat weeds
- Native vegetation - Moderate quality with negligible high-threat weeds
- Native vegetation - High quality with high-threat weeds
- Native vegetation - Highquality with negligible high-threat weeds

F2 Management Zone

Metres
0 5 10 20

**Figure 2: Conservation Reserve and management zones - Habitat Zone F**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 18/08/2015 | Created By: A. Brennen / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience Knowledge Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

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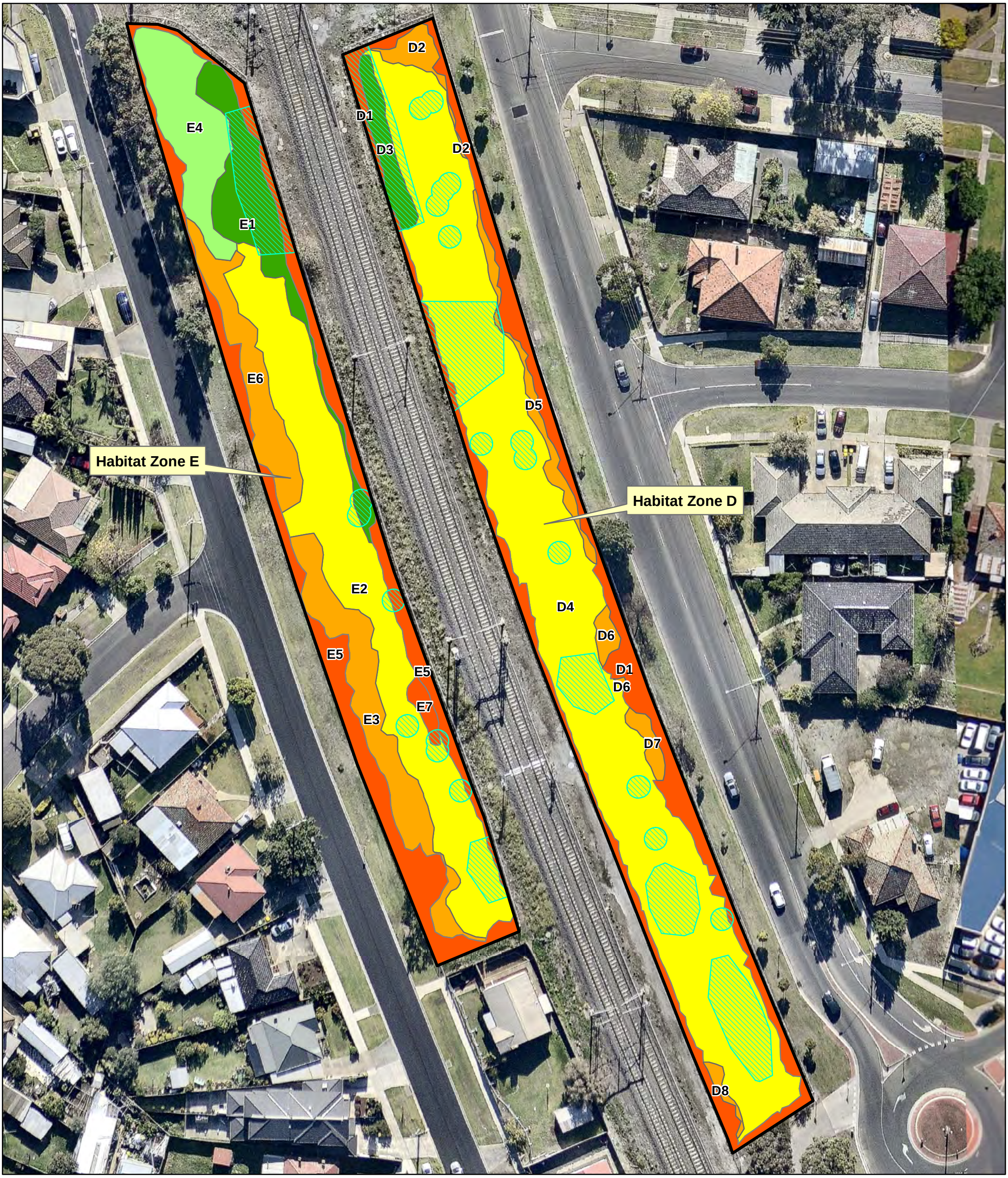


## Legend

- Existing fencing
- Sensitive 2 m threatend species buffer zone - careful precision weed control required

### Vegetation quality

- Introduced vegetation
- Native vegetation - Moderate quality with high-threat weeds
- Native vegetation - Moderate quality with negligible high-threat weeds
- Native vegetation - High quality with high-threat weeds
- Native vegetation - Highquality with negligible high-threat weeds

Metres
0 5 10 20

**Figure 3: Conservation Reserve and management zones - Habitat Zones E and D**

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 18/08/2015 | Created By: A. Brennen / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
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Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

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# 5. MANAGEMENT STRATEGY

## 5.1. Implementation

All contractors entering the Conservation Reserve are to be inducted into the relevant aspects of this Plan prior to commencing works (see Appendix 9).

## 5.2. Management actions to be undertaken

Under this Plan, the following management actions shall be undertaken for the life of this Plan to ensure that the Conservation Reserve's ecological values are conserved:

- Restriction of unauthorised human, vehicular and machinery access (including for rail maintenance works);
- Prevention of all machinery and vehicular access (including for Conservation Reserve management purposes) during wet periods when soils are boggy.
- Provision of signage to deter prohibited activities;
- Recovery of the Button Wrinklewort;
- Biomass management;
- Rubbish removal (as required);
- Monitoring of Spiny Rice-flower and Button Wrinklewort plants for impacts;
- Weed control;
- Implementation of revegetation protocols;
- Monitoring outcomes, including the use of photo points.

### *5.2.1. Weed and pest control*

A high degree of care shall be employed to ensure that no Spiny Rice-flower or Button Wrinklewort plants are damaged as a result of weed control activities. Weed control within two metres of any Spiny Rice-flower or Button Wrinklewort plants will be limited to hand-pulling (then bagging and removal), cutting-and-swabbing (for woody weed species) or dabbing (e.g. using a herbicide wand). The weed control techniques detailed in Table 3 shall be applied in all other areas within the Conservation Reserve.

Table 3 provides targeted control methods for weed species which have been recorded within the Project area.

Herbicide shall be applied as per the label.

All non-target kill (i.e. cover of indigenous flora killed as a result of weed control works) will be documented and provided in an annual report (Table 9). Non-target kill is not to exceed 1% projective foliage cover in any given area.

Weed control efforts shall be intensified in the first two years of this Plan and within six months following ecological burns. Mulch shall not to be used in any part of the Conservation Reserve. Weed control will be undertaken while weeds are actively growing and are not in a stressed condition. Control methods will be modified, if required, from spraying to cutting and painting or hand-pulling in line with the adaptive management approach. Weed control results will be monitored.

A pest animal proof fence has been constructed around the Conservation Reserve to prevent rabbit access. If rabbits are found within the Conservation Reserve, they will be controlled by the least invasive method practical (i.e. baiting using carrots or oats).

Adaptive management will be applied to all weed and pest control measures provided in this Plan (see Adaptive Management sub-section below).

Every weed and pest control action shall be undertaken by a suitably qualified bushland contractor with experience in weed and pest management within the Victorian Volcanic Plains Bioregion.

Corrective action will be triggered by any increase in weed cover compared to the raw baseline data (Appendix 4) or any non-target kill exceeding 1% projective foliage cover in any given area. The corrective action for both triggers will involve a review of the methods used and implementation of additional measures.

### *5.2.2. Rubbish removal*

All rubbish in the Conservation Reserve will be removed manually (by hand) as required during works and following the completion of works until the cessation of this Plan. Rocks and indigenous vegetation in the Conservation Reserve are not to be disturbed during the removal of rubbish.

Corrective action will be triggered by any significant rubbish dumping event. The corrective action will involve a review of the signage and fencing and repairs or modifications, if needed.

### *5.2.3. Biomass*

Biomass control measures are to be undertaken in the Conservation Reserve. This will comprise ecological burning during March each year, which is the period when EPBC-listed species in the Conservation Reserve are likely to be least impacted upon by fire (Department of the Environment 2015a, 2015b, 2015c & 2015d; *Pimelea spinescens* Recovery Team 2008).

Only part of the Conservation Reserve will be burnt in any given year. Ecological burning must retain at least 25% of the Conservation Reserve as unburnt after each individual burn (i.e. be a mosaic burn). At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year.

The frequency of burns will depend upon the level of biomass build-up. Burns in a given area shall be undertaken at a frequency of one to three years during wetter periods when biomass growth will be greater and three to five years during dryer periods when biomass growth will be less.

Given the adaptive management approach, burning will be subject to regular review and modification, as required.

Table 2: Timing of prescribed burns in relation to threatened species activity

| Species | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Striped Legless Lizard | | | | | | | | | A | A | **A** | **A** |
| Spiny Rice-flower | | | | F | F | **F** | **F** | **F**/S | S | S | | |
| Button Wrinklewort | F | | | | | | | | | F | **F** | **F** |
| Large-headed Fireweed | **S** | S | | | | | | | **F** | **F** | **F** | **F/S** |

A = active period; F = Flowering period; S = Seeding period; **Bold text** = peak periods; Grey-highlight = prescribed burn period

Weed control measures outlined below shall be intensified if weed outbreaks occur following any ecological burns to ensure that weed spread isn't amplified during the post-burn period when competition from native grasses is decreased.

Broad-scale slashing is an unsuitable method of biomass management within parts of the Conservation Reserve supporting Button Wrinklewort, as slashing/mowing is known to adversely affect the species (Department of the Environment (NSW Office of Environment and Heritage 2012). Localised slashing can be undertaken if burning cannot be undertaken. Any slashed biomass must be removed off-site post-slashing.

Corrective action will be triggered by any decline in numbers of Spiny Rice-flower, Button Wrinklewort or Large-headed Fireweed. The corrective action will involve a review of the biomass management methods used and a change to the frequency of burning, if needed.

### *5.2.4. Other incompatible anthropogenic activities*

New 1.8m high cyclone fencing has recently been erected around the perimeters of the Conservation Reserve, as part of the pre-construction phase of the Project. This fencing is considered to be sufficient to physically prevent undesirable access into, and activity within the Conservation Reserve.

Existing fencing will be supported by deterrent signage with the aim of discouraging pedestrian, rail personnel and project personnel, equipment, machinery and vehicle movement into and/or through the Conservation Reserve.

Fencing and signage integrity will be maintained for the duration of this Plan.

All signage shall be simple, clear and consistent in design. NO GO ZONE signage with contact details for access will be erected around the perimeters of the Conservation Reserve (outside of the boundary as shown in Figure 1).

All signage will be updated where required (e.g. when information within the sign is outdated) and maintained for the duration of this Plan.

The revegetation contractor will inspect signage and fencing and arrange for any repairs (if needed) every quarter (Table 7). The revegetation contractor will also undertake this task anytime they are present on site. During construction, signage and fencing will be monitored on a weekly basis by the construction contractor.

Corrective action will be triggered by any unauthorised access to the Conservation Reserve. The corrective action will involve a review of the signage and fencing and repairs or modifications, if needed.

#### *5.2.5. Plant health monitoring*

Plant health monitoring will be undertaken by a suitably-qualified botanist or ecologist, annually between September and November during construction and then annually post-construction. Plant health monitoring will involve visually inspecting Spiny Rice-flower and Button Wrinklewort plants for mortality and signs of stress.

Stress in Spiny Rice-flower plants is observed as yellowing and/or shedding of leaves while stress in Button Wrinklewort is observed as leave or stem die-back during periods of active growth (i.e. between September and November).

As per Condition 6 of the EPBC Act approval (as detailed in Section 1.0), if the monitoring surveys identify that construction activities result in a loss of greater than five (5) Spiny Rice-flower plants, any Button Wrinklewort plants or of greater than 1.5 hectares of Natural Temperate Grassland of the Victorian Volcanic Plain, attributable to the action, such as though changes in hydrology, the person taking the action must notify the Minister, prepare an updated Conservation Management Plan identify and secure an offsets; and prepare an Offset Management Plan.

Corrective action will be triggered by any decline in numbers of Spiny Rice-flower, Button Wrinklewort or Large-headed Fireweed. The corrective action will involve a review of the management actions being implemented and a change to the actions and/or their frequency, if needed.

Table 3: High-threat weed species and control methods

| Common Name | Scientific Name | Control methods | | | | Timing |
|---|---|---|---|---|---|---|
| | | Outside sensitive two-metre buffer zones | Within sensitive two-metre buffer zones | | | |
| | | | Hand-pull | Cut & swab | Dab | |
| Pine | *Pinus sp.* | Cut and paint with a suitable herbicide | | X | | Any time of year |
| Gazania | *Gazania spp.* | Hand-pull plants, bag and remove. | | | X | Any time of year |
| Cotoneaster | *Cotoneaster spp.* | Hand-pull seedlings. Cut and point with a suitable herbicide if plants are too difficult to remove by hand. | X | X | | Any time of year |
| Prunus | *Prunus spp.* | Hand-pull seedlings, bag and remove. Cut and paint with a suitable herbicide if plants are too difficult to remove by hand. | X | X | | Any time of year |
| Sugar Gum | *Eucalyptus cladocalyx* | <u>Mature plants:</u><br><br>Hand-pull seedlings, bag and remove. Cut and paint with a suitable herbicide if plants are too difficult to remove by hand.<br><br><u>Immature plants:</u><br><br>Hand-pull seedlings, bag and remove. Cut and paint with a suitable herbicide if plants are too difficult to remove by hand. | X | X | | Any time of year |
| Mirror Bush | *Coprosma repens* | Hand-pull plants, bag and remove. | X | X | | Any time of year |
| Twiggy Turnip | *Brassica fruticulosa* | Hand-pull, bag and remove. | | | | Any time of year |
| Chilean Needle-grass | *Nassella neesiana* | Hand-chip before seed-set period. Place plants directly into a sealable bag and incinerate before drying. Ensure that plant material (particularly seeds) are not spread. Quarantine infested areas outside of treatment period. Spot-spray seedlings after fire using an appropriate herbicide. | | | X | March to October |
| Drain Flat-sedge | *Cyperus eragrostis* | Spot-spray / dab with an appropriate herbicide. | X | | X | March to May |
| Prairie Grass | *Bromus catharticus var. catharticus* | Spot-spray using a non-selective or grass-selective herbicide. | X | | X | March to May |
| Galenia | *Galenia pubescens var. pubescens* | Sever main tap root, invert plant and leave in place. Spot-spray seedlings using an appropriate herbicide. | X | | X | March to May |
| Serrated Tussock | *Nassella trichotoma* | Spot-spray using an appropriate herbicide. Increase effort following fire. | X | | X | March to May |

| | | | | | | |
|---|---|---|---|---|---|---|
| Toowoomba Canary-grass | *Phalaris aquatica* | Spot-spray using an appropriate herbicide. Increase effort following fire. | X | | X | March to May |
| Spear Thistle | *Cirsium vulgare* | Remove any flower heads before they go to seed. Spot-spray leaves using an appropriate herbicide. | X | | X | March to May |
| Water Couch | *Paspalum distichum* | Burn or slash-low invested areas. When the grass begins to reshoot, treat with an appropriate herbicide using a dabber or by spot spraying. Likely to require multiple follow-up treatments around four weeks apart. | X | | X | August to September (burn /slash); September to February (herbicide treatment) |
| Clustered Dock | *Rumex conglomeratus* | For scattered mature plants: sever roots at least 20cm below ground before flowering then remove by hand. Spot spray with an appropriate herbicide. | X | | X | August to September |
| Soursob | *Oxalis pes-caprae* | Spot-spray using an appropriate herbicide and wetting agent. | | | X | August (most effective control period) through to December |
| Artichoke Thistle | *Cynara cardunculus subsp. flavescens* | Seedlings dug out before taproot thickens between September and November. Treated with selective broadleaf herbicides. Will require follow-up for large individuals. | X | | X | September to October before flower stem thickens |
| Blue Periwinkle | *Vinca major* | Spot-spray with an appropriate herbicide. | | | X | September to November |
| Cocksfoot | *Dactylis glomerata* | Spot-spray using an appropriate herbicide. | X | | X | September to November |
| Couch | *Cynodon dactylon var. dactylon* | Spot-spray using a non-selective or grass-selective herbicide. Repeat applications are always required. Fire before spraying large infestations can improve site access and minimise off target spray. | | | X | September to November |
| Drain Flat-sedge | *Cyperus eragrostis* | Spot-spray / dab with an appropriate herbicide. | X | | X | September to November |
| Galenia | *Galenia pubescens var. pubescens* | Sever main tap root, invert plant and leave in place. Spot-spray seedlings using an appropriate herbicide. | X | | X | September to November |
| Panic Veldt-grass | *Ehrharta erecta var. erecta* | Spot-spray using a non-selective or grass-selective herbicide. Weed control for this species should occur frequently (i.e. at least three times yearly, twice between September and March) until the species has been eliminated. | X | | X | September to November |
| Prairie Grass | *Bromus catharticus var. catharticus* | Spot-spray using a non-selective or grass-selective herbicide. | X | | X | September to November |
| Kikuyu | *Cenchrus clandestinus* | Spot-spray using an appropriate herbicide. | | | X | September to December |
| Paspalum | *Paspalum dilatatum* | Spot-spray using a non-selective or grass-selective herbicide. | X | | X | September to December |

Note: All weed control done between March and May must be done prior to any Button Wrinklewort plants being planted into the Conservation reserve to avoid impacting this species

## 5.3. Monitoring

For every year for five years after the commencement of construction activities, surveys for listed threatened species and communities are to be undertaken by a suitably qualified expert in accordance with the most recent version of the Department of the Environment's guidelines. The person undertaking the action shall provide a report of these monitoring surveys to the Minister within ten days of completion of the monitoring surveys.

The following are to be monitored and detailed within monitoring reports:

- Fencing and signage integrity;
- Dates and mapped extent of ecological burns;
- Mortality or observed stress in Spiny Rice-flower and Button Wrinklewort plants and assessment of causes;
- Undertake vegetation quality mapping as per Figures 2 and 3;
- Biomass levels;
- Documentation of any areas of off-target kills (from weed control) exceeding 1% projective foliage cover over at least 1m$^2$; and

Photo points will also be taken annually at each photo point location within each management zone (see Figure 2 and Figure 3).

A monitoring and reporting schedule is provided in Section 8.

### *5.3.1. Baseline monitoring data*

Baseline monitoring was undertaken on 1st June 2015 for each management zone within each of the three sections of the Conservation Reserve (i.e. Habitat Zones F, E and D).

A summary of baseline monitoring data for each management zone is provided in Table 4 (Habitat Zone F), Table 5 (Habitat Zone E) and Table 6 (Habitat Zone D). Detailed raw data are provided in Appendix 4 (Habitat Zone F), Appendix 5 (Habitat Zone E) and Appendix 6 (Habitat Zone D). Baseline photo points are provided in Appendix 7.

**Table 4: Summary of baseline monitoring results – Habitat Zone F**

| Measure | Management Zone | | | | | | | | | Totals across all Zones |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Number of indigenous species | 4 | 6 | 21 | 21 | 12 | 5 | 12 | 4 | 17 | 36 |
| Number of weed species | 16 | 8 | 9 | 12 | 12 | 8 | 21 | 6 | 6 | 35 |
| Number of high-threat weed species | 9 | 2 | 7 | 6 | 6 | 3 | 10 | 2 | 4 | 17 |
| Percentage cover of high-threat weeds | 37 | 30 | 1 | 2 | 30 | 15 | 63 | 28 | 0 | |

Table 5: Summary of baseline monitoring results – Habitat Zone E

| Measure | Management Zone | | | | | | | Totals across all Zones |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Number of indigenous species | 23 | 17 | 13 | 14 | 10 | 7 | 10 | 34 |
| Number of weed species | 7 | 9 | 13 | 6 | 8 | 12 | 23 | 34 |
| Number of high-threat weed species | 3 | 2 | 8 | 4 | 2 | 7 | 13 | 21 |
| Percentage cover of high-threat weeds | 1 | 2 | 73 | 26 | 30 | 55 | 55 | |

Table 6: Summary of baseline monitoring results – Habitat Zone D

| Measure | Management Zone | | | | | | | | Totals across all Zones |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| Number of indigenous species | 7 | 6 | 19 | 21 | 6 | 3 | 5 | 7 | 30 |
| Number of weed species | 24 | 8 | 2 | 13 | 7 | 5 | 6 | 6 | 33 |
| Number of high-threat weed species | 9 | 2 | 7 | 6 | 6 | 3 | 10 | 2 | 15 |
| Percentage cover of high-threat weeds | 34 | 30 | 0 | 0 | 26 | 15 | 15 | 3 | |

## 5.4. Adaptive management

This Plan provides actions for a period of up to 10 years. The timing of actions and whether they occur is based upon adaptive management. By monitoring the outcomes of actions, management may be adapted to ensure the stated commitments in the Plan are upheld. For example, new techniques for controlling weeds may become available, or further information on the ecology and status of vegetation communities may necessitate adjustment to management actions.

# 6. BUTTON WRINKLEWORT RECOVERY PLAN

### *6.1.1. Objectives*

The objectives of this recovery plan are consistent with the National Recovery Plan for Button Wrinklewort (OEH 2012) which states as its overall objective:

*"To ensure that all populations consisting of more than 10 plants of Button Wrinklewort are stable or increasing in size by reducing or managing threats, encouraging sympathetic site management to promote recruitment wherever possible, use supplementary planting where appropriate and increase knowledge of the genetic diversity and response to disturbance of this species"*.

Furthermore, the National Recovery Plan for Button Wrinklewort (OEH 2012) states that these objectives will be achieved through the following recovery actions:

1. Remove threatening weeds
2. Monitor populations
3. Undertake ecological burning as needed
4. Prompt recording of new sites
5. Complete a survey of the genetic composition of all populations
6. Genetic enhancement of small populations
7. Formal reservation or negotiation of management agreements for populations on non-reserve tenure
8. Undertake various site-specific actions

Specifically, this Plan seeks to:

- Ensure that the existing Button Wrinklewort population within the Conservation Reserve does not significantly decline in health, extent or abundance as a result of anthropogenic factors.
- Boost the existing population's resilience to natural and anthropogenic disturbances and pressures through increased numbers of plants and genetic enhancement.

This Plan provides actions for a period of up to 10 years and must be implemented for at least 5 years (see Section 3 for details).

### *6.1.2. Key threats*

The key factors threatening the long-term survival and viability of the existing population are listed below. (The threatening factors associated with this project are identified by **bold** text.)

- **Physical disturbance of plants and the soils they grow in.**
- **Weed invasion.**
- **Competition from native grasses.**
- Unsuitable fire regimes.
- Demographics of the small population.
- Reproductive limitations resulting from the self-incompatibility system.

- Genetic incompatibility between chromosomal races.
- Climate change.

#### *6.1.3. Actions*

The objectives in Section 6.1.1 above will be achieved by undertaking the following actions:

- Removing threatening weeds;
- Monitoring population health, extent and abundance and responding promptly to any declines due to impacts from the project;
- Undertaking ecological burning as needed;
- Enhancing the genetic diversity of the population; and
- Managing direct anthropogenic threats, including:
    - Adverse soil disturbance;
    - Rubbish dumping; and
    - Wildflower picking.

In addition, the specific actions outlined below will be undertaken.

- The Button Wrinklewort population onsite is a diploid population. Seed from other diploid populations shall be sourced based on advice from DELWP and Brimbank City Council and used for revegetation within the Conservation Reserve. This will diversify the gene pool of the extant population, thus enhancing its resilience to stochastic events.
- Existing reserve fencing will limit adverse soil disturbance and wildflower picking within the Conservation Reserve.
- A suitably qualified person shall be engaged to assess the genetic diversity of any collected seed.

### *6.1.4. Monitoring*

The following are to be monitored and detailed within annual monitoring reports:

- Numbers of flowers collected from on each Button Wrinklewort plant;
- Number of seeds collected from each Button Wrinklewort plant that produces seed;
- Dates Button Wrinklewort seed was collected;
- Identity of persons collecting Button Wrinklewort seed;
- Viability of Button Wrinklewort seed;
    - Results of genetic analysis of seed;
    - Contact details of person/organisation holding seed.
- Survival rates of Button Wrinklewort seedlings planted into the Conservation Reserve;
- Planting densities and locations within the Conservation Reserve;
- Fencing and signage integrity;
- Dates and mapped extent of ecological burns;

- Mortality or observed stress in Button Wrinklewort plants and assessment of causes;
- Undertake vegetation quality mapping as per Figures 2 and 3;
- Biomass levels;
- Documentation of any areas of off-target kills (from weed control) exceeding 1% projective foliage cover over at least 1m$^2$; and
- Photo points will also be taken annually at each photo point location within each management zone (see Figure 2 and Figure 3).

A monitoring and reporting schedule is provided in Section 8.

### *6.1.5. Revegetation*

Revegetation will be undertaken in general accordance with the National Recovery Plan for Button Wrinklewort (OEH 2012). A suitably qualified person shall be engaged to collect seed from the Button Wrinklewort plants in the Conservation Reserve, in accordance with relevant permits, industry guidelines and species-specific best-practices. While it is usual practice to undertake this prior to construction, in this instance construction commencement will precede seed set which occurs between December and February for Button Wrinklewort. The aim should be to collect seed from one flower head of each parent plant.

A suitably qualified person shall be engaged to store and/or germinate the seed and grow plants: At least half the seedlings germinated are to be used to revegetate the Conservation Reserve. The remaining plants are to be used to supplement other diploid Button Wrinklewort populations as directed by DELWP. This measure will ensure the security and preservation of genetic material in case of inadvertent loss of the local populations of this threatened species. It will also be used for any losses of Button Wrinklewort plants that were not approved for removal but are inadvertently lost during the duration of this Plan.

Button Wrinklewort plants or propagules from offsite shall are not be introduced into the Conservation Reserve if they are from populations with different ploidy levels to the remnant onsite population.

Button Wrinklewort plantings shall be designed to increase the abundance and extent of, and to connect, existing populations and then create new populations. Dense cluster-plantings are recommended. Planting shall occur when there is adequate soil moisture. Depending on seasonal conditions, this is likely to be between May and September. Planting may need to occur over several years depending on planting success and survival rates. Monitoring will determine the need for such an approach.

### *6.1.6. Biomass management*

Biomass control measures will comprise ecological burning during March as set out in Section 5.2.3.

Any burning must occur prior to planting any Button Wrinklewort seedlings in the Conservation Reserve to avoid impacts to newly established plants.

## 7. MANAGEMENT ACTION TABLES

The following tables identify specific management actions and targets pertaining to the management of the Conservation Reserve.

| Timing | Management Action | Target to be achieved | Required expertise | Month and Year Completed |
|---|---|---|---|---|
| Commencement of Plan | Erect signage | Signage (with specifications detailed in Section 5.2.4) erected | Sign maker | |
| December | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Collect Button Wrinklewort seeds for propagation and genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| January | Collect Button Wrinklewort seeds for propagation and genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| February | Undertake genetic analysis of collected seeds | Obtain base data | Specialist Contractor | |
| March | Remove rubbish | All rubbish removed | Bushland Contractor | |
| April | Biomass management — undertake ecological burn | ▪ Ecological burn undertaken<br>▪ At least 25% of Conservation Reserve area shall be left unburned during most current burn<br>▪ At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year | Bushland Contractor/ DELWP | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| June | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| September | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Undertake monitoring using form provided in Appendix 3 | Monitoring undertaken as per Section 5.3 and 6.1.4. | Botanist/Ecologist | |
| November | Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DELWP and the Responsible Authority. | Report delivered to the Responsible Authority and DELWP no later than 10 days after monitoring survey was undertaken. | Botanist/Ecologist | |

Table 8: Years 2 actions 2016/2017

| Timing | Management Action | Target to be achieved | Required expertise | Month and Year Completed |
|---|---|---|---|---|
| December | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Collect Button Wrinklewort seeds for propagation and genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| January | Collect Button Wrinklewort seeds for propagation and genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| March | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| April | Biomass management — undertake ecological burn | Ecological burn undertaken<br>At least 25% of Conservation Reserve area shall be left unburned during most current burn<br>At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year | Bushland Contractor/ DELWP | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Plant Button Wrinklewort seedlings in Conservation Reserve from Year 1 seed collection and propagation | Plants in ground | Bushland Contractor | |
| June | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| September | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Undertake monitoring using form provided in Appendix 3 | Monitoring undertaken as per Section 5.3 and 6.1.4. | Botanist/Ecologist | |
| November | Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DELWP and the Responsible Authority. | Report delivered to the Responsible Authority and DELWP no later than 10 days after monitoring survey was undertaken. | Botanist/Ecologist | |

Table 9: Years 3 actions 2017/2018

| Timing | Management Action | Target to be achieved | Required expertise | Month and Year Completed |
|---|---|---|---|---|
| December | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Collect Button Wrinklewort seeds for genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| January | Collect Button Wrinklewort seeds for genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| | Supplementary irrigation of revegetation works (as required) | Revegetation plantings irrigated as required | Bushland Contractor | |
| February | Undertake genetic analysis of collected seeds | Obtain base data | Specialist Contractor | |
| March | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| April | Biomass management — undertake ecological burn | ▪ Ecological burn undertaken<br>▪ At least 25% of Conservation Reserve area shall be left unburned during most current burn<br>▪ At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year | Bushland Contractor/ DELWP | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Plant Button Wrinklewort seedlings in Conservation Reserve from Year 2 seed collection and propagation | Plants in ground | Bushland Contractor | |
| June | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| September | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Undertake monitoring using form provided in Appendix 3 | Monitoring undertaken as per Section 5.3 and 6.1.4. | Botanist/Ecologist | |
| November | Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DELWP and the Responsible Authority. | Report delivered to the Responsible Authority and DELWP no later than 10 days after monitoring survey was undertaken. | Botanist/Ecologist | |

Table 10: Years 4 actions 2018/2019

| Timing | Management Action | Target to be achieved | Required expertise | Month and Year Completed |
|---|---|---|---|---|
| December | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Collect Button Wrinklewort seeds for genetic analysis | Button Wrinklewort seeds recorded and propagated (as per Section 6.1.4) | Botanist/Ecologist/ Bushland Contractor | |
| February | Undertake genetic analysis of collected seeds | Obtain base data | Specialist Contractor | |
| March | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| April | Biomass management — undertake ecological burn | ▪ Ecological burn undertaken<br>▪ At least 25% of Conservation Reserve area shall be left unburned during most current burn<br>▪ At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year | Bushland Contractor/ DELWP | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| June | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| September | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Undertake monitoring using form provided in Appendix 3 | Monitoring undertaken as per Section 5.3 and 6.1.4. | Botanist/Ecologist | |
| November | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| November | Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DELWP and the Responsible Authority. | Report delivered to the Responsible Authority and DELWP no later than 10 days after monitoring survey was undertaken. | Botanist/Ecologist | |

Table 11: Years 5 -10 actions

| Timing | Management Action | Target to be achieved | Required expertise | Month and Year Completed |
|---|---|---|---|---|
| December | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Supplementary irrigation of revegetation works (as required) | Revegetation plantings irrigated as required | Bushland Contractor | |
| March | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| April | Biomass management — undertake ecological burn | ▪ Ecological burn undertaken<br>▪ At least 25% of Conservation Reserve area shall be left unburned during most current burn<br>▪ At least one of the three sections of the Conservation Reserve shall be left unburned in any given year to provide refuge for the Striped Legless Lizard. The area left unburned shall be different each burn year | Bushland Contractor/ DELWP | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| June | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| September | Remove rubbish, check signage and fencing and arrange repairs if needed | All rubbish removed | Bushland Contractor | |
| | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| | Undertake monitoring using form provided in Appendix 3 | Monitoring undertaken as per Section 5.3 and 6.1.4. | Botanist/Ecologist | |
| November | Control weeds (as required) | Reduction in weed cover | Bushland Contractor | |
| November<br>(in years 5, 6, 8 & 10) | Report to be prepared documenting management actions undertaken and monitoring results. Report structure and content to be prescribed by DELWP and the Responsible Authority. | Report delivered to the Responsible Authority and DELWP no later than 10 days after monitoring survey was undertaken. | Botanist/Ecologist | |

## 8. MONITORING AND REPORTING SCHEDULE

Table 9: Monitoring and Reporting Schedule

| Year | Year from commencement | Time of year | Monitoring Method | Responsible Party | Report due to administering authority: |
|---|---|---|---|---|---|
| 2015-2016 | 1 | September to November | Undertake monitoring using form provided in Appendix 3 | VicRoads | Within ten days of completion of the monitoring surveys |
| 2016-2017 | 2 | | | | |
| 2017-2018 | 3 | | | | |
| 2018-2019 | 4 | | | | |
| 2019-2020 | 5 | | | | |
| 2020-2021 | 6 | | | | |
| 2021-2022 | 7 | | | | |
| 2022-2023 | 8 | | | | |
| 2023-2024 | 9 | | | | |
| 2024-2025 | 10 | | | | |

The species and communities to be monitored are as follows:

- Natural Temperate Grasslands of the Victorian Volcanic Plain;
- Spiny Rice-flower;
- Button Wrinklewort; and
- Large-headed Fireweed

Monitoring will involve a full survey of the entire Conservation Reserve by a qualified ecologist. Striped Legless-lizard is assumed to be present and will not be actively monitored.

# 9. REFERENCES

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**Appendix 1: Vertebrate terrestrial fauna species that occur in the Project study area (BL&A 2014a)**

| Origin | Common Name | Scientific Name |
|---|---|---|
| * | Cat | *Felis catus* |
| * | Common Blackbird | *Turdus merula* |
| * | Common Myna | *Acridotheres tristis* |
| * | Common Starling | *Sturnus vulgaris* |
| | Crested Pigeon | *Ocyphaps lophotes* |
| * | Dog | *Canis lupus familiaris* |
| * | Eurasian Tree Sparrow | *Passer montanus* |
| * | European Greenfinch | *Carduelis chloris* |
| * | European Rabbit | *Oryctolagus cuniculus* |
| | Galah | *Eolophus roseicapilla* |
| * | House Sparrow | *Passer domesticus* |
| | Little Raven | *Corvus mellori* |
| | Magpie-lark | *Grallina cyanoleuca* |
| | New Holland Honeyeater | *Phylidonyris novaehollandiae* |
| | Rainbow Lorikeet | *Trichoglossus haematodus* |
| | Red Wattlebird | *Anthochaera carunculata* |
| * | Rock Dove | *Columba livia* |
| * | Spotted Turtle-Dove | *Streptopelia chinensis* |
| | White-plumed Honeyeater | *Lichenostomus penicillatus* |
| | Willie Wagtail | *Rhipidura leucophrys* |

***** = introduced species

## Appendix 2: Detailed information for mapped and pegged threatened plants

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 101 | 3 | 1 |
| Spiny Rice-flower | 102 | 2.5 | 3 |
| Spiny Rice-flower | 103 | 2.1 | 1 |
| Spiny Rice-flower | 104 | 2.5 | 1 |
| Spiny Rice-flower | 105 | 2.15 | 1 |
| Spiny Rice-flower | 106 | 1.7 | 1 |
| Spiny Rice-flower | 107 | 1.3 | 1 |
| Spiny Rice-flower | 108 | 2.15 | 2 |
| Spiny Rice-flower | 109 | 2.45 | 2 |
| Spiny Rice-flower | 110 | 2.25 | 1 |
| Spiny Rice-flower | 111 | 1.45 | 1 |
| Spiny Rice-flower | 112 | 1.75 | 1 |
| Spiny Rice-flower | 113 | 1.8 | 3 |
| Spiny Rice-flower | 114 | 2.05 | 2 |
| Spiny Rice-flower | 115 | 1.35 | 1 |
| Spiny Rice-flower | 116 | 2.5 | 1 |
| Spiny Rice-flower | 117 | 3.9 | 1 |
| Spiny Rice-flower | 118 | 2.7 | 1 |
| Spiny Rice-flower | 119 | 2.05 | 1 |
| Spiny Rice-flower | 120 | 1.35 | 2 |
| Spiny Rice-flower | 121 | 1.9 | 3 |
| Spiny Rice-flower | 122 | 2.1 | 2 |
| Spiny Rice-flower | 123 | 2.35 | 4 |
| Small Milkwort | 124 | 2.9 | 1 |
| Spiny Rice-flower | 125 | 1.55 | 3 |
| Spiny Rice-flower | 311 | 2 | 1 |
| Spiny Rice-flower | 312 | 2.35 | 1 |
| Spiny Rice-flower | 313 | 1.1 | 1 |
| Spiny Rice-flower | 314 | 1.6 | 1 |
| Spiny Rice-flower | 315 | 2.25 | 1 |
| Spiny Rice-flower | 316 | 3.5 | 1 |
| Spiny Rice-flower | 317 | 2.8 | 1 |
| Spiny Rice-flower | 318 | 2.8 | 1 |
| Spiny Rice-flower | 319 | 2.3 | 1 |
| Spiny Rice-flower | 320 | 3.8 | 1 |
| Spiny Rice-flower | 321 | 3.25 | 1 |
| Spiny Rice-flower | 322 | 7.4 | 1 |
| Spiny Rice-flower | 323 | 2.25 | 2 |
| Spiny Rice-flower | 324 | 1.75 | 1 |
| Spiny Rice-flower | 325 | 2.8 | 1 |
| Spiny Rice-flower | 326 | 3.1 | 1 |
| Spiny Rice-flower | 327 | 2.75 | 1 |
| Spiny Rice-flower | 328 | 4.45 | 1 |
| Button Wrinklewort | 329 | 4.4 | 1 |
| Spiny Rice-flower | 330 | 4.3 | 1 |
| Spiny Rice-flower | 331 | 2.1 | 1 |
| Spiny Rice-flower | 332 | 3.2 | 1 |
| Spiny Rice-flower | 333 | 3.2 | 3 |
| Spiny Rice-flower | 334 | 3.6 | 1 |
| Spiny Rice-flower | 335 | 3.7 | 3 |
| Spiny Rice-flower | 337 | 2.5 | 1 |
| Spiny Rice-flower | 338 | 1.8 | 2 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 339 | 2.1 | 1 |
| Spiny Rice-flower | 340 | 1.35 | 3 |
| Spiny Rice-flower | 341 | 2.35 | 1 |
| Spiny Rice-flower | 342 | 2.05 | 1 |
| Spiny Rice-flower | 343 | 1.7 | 2 |
| Spiny Rice-flower | 343 | 4.3 | 1 |
| Spiny Rice-flower | 344 | 2.7 | 1 |
| Spiny Rice-flower | 345 | 1.85 | 1 |
| Spiny Rice-flower | 346 | 2.05 | 1 |
| Spiny Rice-flower | 347 | 2.1 | 1 |
| Spiny Rice-flower | 348 | 2 | 5 |
| Spiny Rice-flower | 349 | 1.65 | 1 |
| Spiny Rice-flower | 350 | 1.85 | 2 |
| Spiny Rice-flower | 126 | 3.85 | 2 |
| Spiny Rice-flower | 127 | 2.2 | 1 |
| Spiny Rice-flower | 128 | 3.5 | 1 |
| Spiny Rice-flower | 129 | 2.75 | 1 |
| Spiny Rice-flower | 130 | 2.4 | 1 |
| Spiny Rice-flower | 131 | 1.9 | 2 |
| Spiny Rice-flower | 132 | 2.5 | 1 |
| Spiny Rice-flower | 133 | 2.6 | 3 |
| Spiny Rice-flower | 134 | 2.95 | 3 |
| Spiny Rice-flower | 135 | 3.1 | 1 |
| Spiny Rice-flower | 136 | 3 | 1 |
| Spiny Rice-flower | 137 | 3 | 1 |
| Spiny Rice-flower | 138 | 2.8 | 1 |
| Spiny Rice-flower | 139 | 2.45 | 2 |
| Spiny Rice-flower | 140 | 1.5 | 1 |
| Spiny Rice-flower | 141 | 1.9 | 1 |
| Spiny Rice-flower | 142 | 2.35 | 1 |
| Spiny Rice-flower | 143 | 1.9 | 1 |
| Spiny Rice-flower | 144 | 3 | 1 |
| Spiny Rice-flower | 145 | 3.05 | 1 |
| Spiny Rice-flower | 146 | 2.55 | 1 |
| Spiny Rice-flower | 147 | 1.3 | 2 |
| Spiny Rice-flower | 148 | 1.55 | 2 |
| Spiny Rice-flower | 149 | 2 | 2 |
| Spiny Rice-flower | 150 | 1.25 | 1 |
| Spiny Rice-flower | 151 | 2.2 | 1 |
| Spiny Rice-flower | 152 | 2.15 | 1 |
| Spiny Rice-flower | 153 | 1.8 | 2 |
| Spiny Rice-flower | 154 | 2.6 | 1 |
| Spiny Rice-flower | 155 | 2.9 | 1 |
| Spiny Rice-flower | 156 | 5.2 | 1 |
| Spiny Rice-flower | 157 | 2 | 1 |
| Spiny Rice-flower | 158 | 1.4 | 1 |
| Spiny Rice-flower | 159 | 2.6 | 1 |
| Spiny Rice-flower | 160 | 3 | 2 |
| Spiny Rice-flower | 161 | 1.9 | 2 |
| Spiny Rice-flower | 162 | 2.6 | 1 |
| Spiny Rice-flower | 163 | 2.85 | 1 |
| Spiny Rice-flower | 164 | 3.5 | 1 |
| Spiny Rice-flower | 165 | 3 | 1 |
| Spiny Rice-flower | 166 | 1.7 | 1 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 167 | 2.8 | 1 |
| Spiny Rice-flower | 168 | 3 | 2 |
| Spiny Rice-flower | 169 | 1.35 | 2 |
| Spiny Rice-flower | 170 | 1.65 | 1 |
| Spiny Rice-flower | 171 | 1.5 | 1 |
| Spiny Rice-flower | 172 | 2.9 | 2 |
| Spiny Rice-flower | 173 | 2.15 | 2 |
| Spiny Rice-flower | 174 | 2.7 | 2 |
| Spiny Rice-flower | 175 | 3.2 | 1 |
| Spiny Rice-flower | 176 | 3.55 | 1 |
| Spiny Rice-flower | 177 | 2.15 | 2 |
| Spiny Rice-flower | 178 | 2.05 | 1 |
| Spiny Rice-flower | 179 | 2.6 | 1 |
| Spiny Rice-flower | 180 | 2.7 | 1 |
| Spiny Rice-flower | 181 | 5.2 | 1 |
| Spiny Rice-flower | 182 | 3.8 | 1 |
| Spiny Rice-flower | 219 | 2.05 | 3 |
| Spiny Rice-flower | 226 | 2.95 | 2 |
| Spiny Rice-flower | 227 | 3.15 | 1 |
| Spiny Rice-flower | 228 | 2.2 | 1 |
| Spiny Rice-flower | 229 | 3.1 | 1 |
| Spiny Rice-flower | 230 | 2.5 | 1 |
| Spiny Rice-flower | 231 | 3 | 1 |
| Spiny Rice-flower | 232 | 3.3 | 1 |
| Spiny Rice-flower | 233 | 3.5 | 1 |
| Spiny Rice-flower | 234 | 2.7 | 1 |
| Spiny Rice-flower | 235 | 3 | 1 |
| Spiny Rice-flower | 236 | 3.35 | 1 |
| Spiny Rice-flower | 237 | 2.6 | 1 |
| Spiny Rice-flower | 238 | 3.3 | 1 |
| Spiny Rice-flower | 239 | 2.8 | 2 |
| Spiny Rice-flower | 240 | 1.9 | 1 |
| Spiny Rice-flower | 241 | 3 | 1 |
| Spiny Rice-flower | 242 | 2.3 | 1 |
| Spiny Rice-flower | 243 | 2.8 | 1 |
| Spiny Rice-flower | 244 | 2.7 | 1 |
| Spiny Rice-flower | 245 | 2.1 | 2 |
| Spiny Rice-flower | 246 | 2.2 | 1 |
| Spiny Rice-flower | 247 | 2.3 | 1 |
| Spiny Rice-flower | 248 | 2.1 | 1 |
| Spiny Rice-flower | 249 | 2.4 | 2 |
| Spiny Rice-flower | 250 | 1.8 | 1 |
| Spiny Rice-flower | 251 | 2.6 | 1 |
| Spiny Rice-flower | 252 | 3.1 | 1 |
| Spiny Rice-flower | 253 | 3.4 | 1 |
| Spiny Rice-flower | 254 | 2.5 | 1 |
| Spiny Rice-flower | 255 | 2.3 | 1 |
| Spiny Rice-flower | 256 | 2.8 | 1 |
| Spiny Rice-flower | 257 | 2.3 | 1 |
| Spiny Rice-flower | 258 | 2 | 1 |
| Spiny Rice-flower | 259 | 0.15 | 1 |
| Spiny Rice-flower | 260 | 0.3 | 1 |
| Spiny Rice-flower | 261 | 2.3 | 1 |
| Spiny Rice-flower | 262 | 2.4 | 1 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 263 | 2.3 | 1 |
| Spiny Rice-flower | 264 | 2.1 | 1 |
| Spiny Rice-flower | 266 | 1.85 | 2 |
| Spiny Rice-flower | 267 | 1.65 | 1 |
| Spiny Rice-flower | 268 | 1.5 | 1 |
| Spiny Rice-flower | 269 | 2.2 | 3 |
| Spiny Rice-flower | 270 | 2.55 | 1 |
| Spiny Rice-flower | 271 | 2.6 | 1 |
| Spiny Rice-flower | 272 | 2.95 | 1 |
| Spiny Rice-flower | 273 | 2.75 | 1 |
| Spiny Rice-flower | 274 | 2.85 | 3 |
| Spiny Rice-flower | 275 | 3 | 1 |
| Spiny Rice-flower | 276 | 2.25 | 1 |
| Spiny Rice-flower | 277 | 2.55 | 2 |
| Spiny Rice-flower | 278 | 2.45 | 1 |
| Spiny Rice-flower | 280 | 1.9 | 1 |
| Spiny Rice-flower | 281 | 1.75 | 1 |
| Spiny Rice-flower | 282 | 2.45 | 1 |
| Spiny Rice-flower | 283 | 2.1 | 1 |
| Spiny Rice-flower | 284 | 2.35 | 1 |
| Spiny Rice-flower | 285 | 2.6 | 2 |
| Spiny Rice-flower | 286 | 2.55 | 1 |
| Spiny Rice-flower | 287 | 2.85 | 1 |
| Spiny Rice-flower | 288 | 2.45 | 1 |
| Spiny Rice-flower | 289 | 3.2 | 1 |
| Spiny Rice-flower | 290 | 2.85 | 1 |
| Spiny Rice-flower | 291 | 2.4 | 1 |
| Spiny Rice-flower | 292 | 1.95 | 1 |
| Spiny Rice-flower | 293 | 1.95 | 2 |
| Spiny Rice-flower | 294 | 2 | 1 |
| Spiny Rice-flower | 295 | 2.5 | 2 |
| Spiny Rice-flower | 296 | 2.15 | 1 |
| Spiny Rice-flower | 297 | 1.8 | 2 |
| Spiny Rice-flower | 298 | 2.1 | 2 |
| Spiny Rice-flower | 299 | 3.6 | 1 |
| Spiny Rice-flower | 300 | 3.5 | 1 |
| Spiny Rice-flower | 301 | 3.7 | 1 |
| Spiny Rice-flower | 302 | 3.1 | 1 |
| Spiny Rice-flower | 303 | 3.8 | 1 |
| Spiny Rice-flower | 304 | 4 | 1 |
| Spiny Rice-flower | 305 | 4.4 | 1 |
| Spiny Rice-flower | 306 | 4.7 | 1 |
| Spiny Rice-flower | 307 | 2.3 | 1 |
| Spiny Rice-flower | 308 | 2.4 | 1 |
| Spiny Rice-flower | 309 | 2.5 | 1 |
| Spiny Rice-flower | 310 | 12.2 | 1 |
| Spiny Rice-flower | 114 | 2.35 | 3 |
| Spiny Rice-flower | 115 | 1.9 | 1 |
| Spiny Rice-flower | 118 | 2.15 | 6 |
| Spiny Rice-flower | 132 | 3.1 | 2 |
| Spiny Rice-flower | 134 | 2.15 | 4 |
| Spiny Rice-flower | 138 | 3.6 | 1 |
| Spiny Rice-flower | 140 | 1.7 | 2 |
| Spiny Rice-flower | 156 | 3.3 | 4 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 158 | 1.15 | 1 |
| Spiny Rice-flower | 160 | 2.2 | 2 |
| Spiny Rice-flower | 161 | 3.1 | 1 |
| Spiny Rice-flower | 162 | 2.35 | 3 |
| Spiny Rice-flower | 163 | 1.95 | 4 |
| Spiny Rice-flower | 165 | 3.4 | 1 |
| Spiny Rice-flower | 166 | 1.4 | 1 |
| Spiny Rice-flower | 168 | 2.05 | 2 |
| Spiny Rice-flower | 169 | 2.8 | 4 |
| Spiny Rice-flower | 170 | 2.4 | 1 |
| Spiny Rice-flower | 174 | 2.35 | 2 |
| Spiny Rice-flower | 175 | 2.3 | 3 |
| Spiny Rice-flower | 176 | 2.6 | 1 |
| Spiny Rice-flower | 177 | 2.9 | 1 |
| Spiny Rice-flower | 178 | 1.8 | 4 |
| Spiny Rice-flower | 179 | 2.05 | 2 |
| Spiny Rice-flower | 180 | 2.55 | 3 |
| Spiny Rice-flower | 182 | 3.1 | 3 |
| Spiny Rice-flower | 183 | 3.4 | 1 |
| Spiny Rice-flower | 184 | 2.4 | 1 |
| Spiny Rice-flower | 185 | 2.7 | 4 |
| Spiny Rice-flower | 185 | 2.6 | 1 |
| Spiny Rice-flower | 186 | 3.15 | 1 |
| Spiny Rice-flower | 187 | 3.6 | 1 |
| Spiny Rice-flower | 188 | 2.75 | 2 |
| Spiny Rice-flower | 189 | 3.3 | 4 |
| Spiny Rice-flower | 189 | 2.1 | 2 |
| Spiny Rice-flower | 190 | 2.9 | 3 |
| Spiny Rice-flower | 190 | 3.45 | 1 |
| Spiny Rice-flower | 191 | 2.65 | 1 |
| Spiny Rice-flower | 192 | 2.35 | 2 |
| Spiny Rice-flower | 193 | 2.05 | 2 |
| Spiny Rice-flower | 194 | 1.6 | 4 |
| Spiny Rice-flower | 195 | 3 | 1 |
| Spiny Rice-flower | 196 | 2.35 | 3 |
| Spiny Rice-flower | 197 | 3 | 6 |
| Spiny Rice-flower | 197 | 3 | 2 |
| Spiny Rice-flower | 198 | 2.55 | 4 |
| Spiny Rice-flower | 199 | 2.2 | 2 |
| Spiny Rice-flower | 200 | 2.35 | 3 |
| Spiny Rice-flower | 201 | 1.95 | 1 |
| Spiny Rice-flower | 202 | 3.8 | 1 |
| Spiny Rice-flower | 203 | 3.15 | 4 |
| Spiny Rice-flower | 204 | 2.9 | 6 |
| Spiny Rice-flower | 205 | 1.9 | 1 |
| Spiny Rice-flower | 206 | 2.15 | 6 |
| Spiny Rice-flower | 207 | 1.95 | 4 |
| Spiny Rice-flower | 208 | 1.6 | 3 |
| Spiny Rice-flower | 209 | 3.15 | 4 |
| Spiny Rice-flower | 210 | 2.85 | 3 |
| Spiny Rice-flower | 211 | 3.15 | 3 |
| Spiny Rice-flower | 212 | 3.15 | 3 |
| Button Wrinklewort | 213 | 3.7 | 1 |
| Spiny Rice-flower | 214 | 2.7 | 4 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 215 | 2.4 | 3 |
| Spiny Rice-flower | 216 | 2 | 2 |
| Spiny Rice-flower | 217 | 2.2 | 4 |
| Button Wrinklewort | 218 | 3.25 | 1 |
| Button Wrinklewort | 219 | 3.55 | 1 |
| Button Wrinklewort | 220 | 3 | 1 |
| Button Wrinklewort | 221 | 2.65 | 1 |
| Spiny Rice-flower | 222 | 2.5 | 1 |
| Spiny Rice-flower | 223 | 1.3 | 1 |
| Spiny Rice-flower | 224 | 1.1 | 1 |
| Spiny Rice-flower | 225 | 1.55 | 2 |
| Spiny Rice-flower | 226 | 1.75 | 2 |
| Spiny Rice-flower | 227 | 1.95 | 3 |
| Spiny Rice-flower | 228 | 2.5 | 4 |
| Spiny Rice-flower | 229 | 2.5 | 6 |
| Spiny Rice-flower | 230 | 2.2 | 2 |
| Spiny Rice-flower | 231 | 2.1 | 4 |
| Spiny Rice-flower | 232 | 3.1 | 2 |
| Spiny Rice-flower | 233 | 3.3 | 2 |
| Spiny Rice-flower | 234 | 1.6 | 2 |
| Spiny Rice-flower | 234 | 3.15 | 4 |
| Spiny Rice-flower | 235 | 2 | 4 |
| Spiny Rice-flower | 236 | 2.35 | 5 |
| Spiny Rice-flower | 237 | 2.45 | 3 |
| Spiny Rice-flower | 238 | 1.85 | 1 |
| Spiny Rice-flower | 239 | 1.75 | 1 |
| Spiny Rice-flower | 240 | 2.3 | 1 |
| Spiny Rice-flower | 241 | 1.75 | 1 |
| Button Wrinklewort | 242 | 2.45 | 3 |
| Button Wrinklewort | 243 | 2.8 | 1 |
| Spiny Rice-flower | 244 | 0.65 | 2 |
| Spiny Rice-flower | 245 | 2.7 | 2 |
| Spiny Rice-flower | 246 | 4.5 | 1 |
| Spiny Rice-flower | 247 | 9.3 | 1 |
| Spiny Rice-flower | 248 | 9.25 | 1 |
| Spiny Rice-flower | 249 | 8.9 | 1 |
| Spiny Rice-flower | 250 | 11.4 | 1 |
| Spiny Rice-flower | 251 | 8.4 | 3 |
| Spiny Rice-flower | 252 | 8.25 | 1 |
| Spiny Rice-flower | 253 | 4.5 | 2 |
| Spiny Rice-flower | 254 | 5 | 2 |
| Spiny Rice-flower | 255 | 9.35 | 2 |
| Spiny Rice-flower | 256 | 6.9 | 1 |
| Spiny Rice-flower | 257 | 9.4 | 1 |
| Spiny Rice-flower | 258 | 5.8 | 1 |
| Spiny Rice-flower | 259 | 5.15 | 1 |
| Spiny Rice-flower | 260 | 5.85 | 1 |
| Spiny Rice-flower | 261 | 10.5 | 1 |
| Spiny Rice-flower | 262 | 10.5 | 2 |
| Spiny Rice-flower | 263 | 9.8 | 1 |
| Spiny Rice-flower | 264 | 1.3 | 1 |
| Spiny Rice-flower | 265 | 8.3 | 1 |
| Spiny Rice-flower | 266 | 10.7 | 1 |
| Spiny Rice-flower | 267 | 13 | 1 |

| Species | Tag number | Distance from fence | Number of plants |
|---|---|---|---|
| Spiny Rice-flower | 268 | 10 | 2 |
| Spiny Rice-flower | 269 | 11.5 | 1 |
| Spiny Rice-flower | 270 | 8.7 | 2 |
| Spiny Rice-flower | 271 | 8.8 | 2 |
| Spiny Rice-flower | 272 | 7.9 | 1 |
| Spiny Rice-flower | 273 | 5 | 2 |
| Spiny Rice-flower | 274 | 9.7 | 3 |
| Spiny Rice-flower | 275 | 9.25 | 1 |
| Spiny Rice-flower | 276 | 11.15 | 1 |
| Spiny Rice-flower | 277 | 10 | 1 |
| Spiny Rice-flower | 278 | 11.5 | 1 |

## Appendix 3: Monitoring and reporting form

| | |
|---|---|
| Person Undertaking Action | VicRoads |
| Location and address of Conservation Reserve | DELWP Biosite 3546<br>(2A Mansfield Avenue, Sunshine North 3020) |
| Approval reference | EPBC 2014/7203 |
| Administering Authority | Commonwealth Department of the Environment |
| Report No. | |
| Name | |
| Signature | |
| Date | |

**Please attach a copy of relevant Management Action Table from Section 7 of this Plan with information on which actions have been completed for year/s of this reporting period.**

Describe specific monitoring results from surveys undertaken, signage work, success of weed control work, successful management tools, etc. (i.e. techniques used to control weed species, monitoring techniques…) and any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing/signage…).

Provide photographs showing evidence of works.

If any agreed management actions or commitments are incomplete or have not been undertaken in the times specified explain the reasons why and what program of action/s will be undertaken to implement the action. If no action is to be undertaken, explain the reason/s and how the targets specified will be met.

Appendix 4: Raw baseline data for species composition and high-threat weed cover –Habitat Zone F

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| * | Annual Veldt-grass | *Ehrharta longiflora* | X | | | | | | | | |
| * | Artichoke Thistle | *Cynara cardunculus subsp. flavescens* | + | | + | | | | | | |
| * | Aster-weed | *Aster subulatus* | | | | | | X | X | | |
| | Berry Saltbush | *Atriplex semibaccata* | | | | | X | | | | |
| | Black-anther Flax-lily | *Dianella admixta* | X | X | X | X | X | X | X | | X |
| | Blue Devil | *Eryngium ovinum* | | | | X | | | | | |
| * | Blue Pimpernel | Lysimachia arvensis (Blue-flowered variant) | | | | X | | | | | |
| | Bristly Wallaby-grass | *Rytidosperma setaceum* | | | X | | | | | | |
| * | Buck's-horn Plantain | *Plantago coronopus subsp. coronopus* | | | | | | | X | | X |
| * | Cocksfoot | *Dactylis glomerata* | 10 | 15 | + | | + | 15 | 5 | 25 | + |
| * | Common Peppercress | *Lepidium africanum* | | | | X | | | | | |
| * | Common Sow-thistle | *Sonchus oleraceus* | X | | | | X | | | | |
| | Common Tussock-grass | *Poa labillardierei var. labillardierei* | | | X | | | X | | | |
| * | Common Vetch | *Vicia sativa* | | X | | X | X | | X | | |
| | Common Wallaby-grass | *Rytidosperma caespitosum* | | | | | X | | | | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | Common Woodruff | *Asperula conferta* | | X | X | X | | X | X | | X |
| | Cotton Fireweed | *Senecio quadridentatus* | | | X | X | | | X | | X |
| * | Couch | *Cynodon dactylon var. dactylon* | 10 | | | + | | + | 30 | | + |
| * | Curled Dock | *Rumex crispus* | | | | | | | X | | |
| | Curved Rice-flower | *Pimelea curviflora var. 1* | | | X | X | | | | | X |
| | Cut-leaf Goodenia | *Goodenia pinnatifida* | | | | X | | | | | X |
| *Pl | Desert Ash | *Fraxinus angustifolia* | + | | | | | | + | | |
| * | Dove's Foot | *Geranium molle* | | | | | | | X | | |
| | Finger Rush | *Juncus subsecundus* | | | | | | | X | | |
| * | Fleabane | *Conyza sp.* | | | | | | X | X | | |
| | Fuzzy New Holland Daisy | *Vittadinia cuneata* | | | | X | | | | | |
| * | Galenia | *Galenia pubescens var. pubescens* | | | + | | | | | | |
| | Golden Billy-buttons | *Pycnosorus chrysanthes* | | | | X | | | X | | X |
| #Pl | Golden Wattle | *Acacia pycnantha* | | | | + | | | | | |
| | Grassland Crane's-bill | *Geranium retrorsum s.l.* | X | X | X | X | X | X | X | X | X |
| | Grassland Wood-sorrel | *Oxalis perennans* | X | | | X | | | | X | X |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | Grey Tussock-grass | *Poa sieberiana* | | X | X | | X | | | | |
| | Hairy Willow-herb | *Epilobium hirtigerum* | | | | | | | X | | |
| | Kangaroo Grass | *Themeda triandra* | X | X | X | X | X | X | X | X | X |
| * | Kikuyu | *Cenchrus clandestinus* | | | | | + | | | | |
| * | Large Quaking-grass | *Briza maxima* | X | X | X | | X | | | | |
| * | Large-flower Wood-sorrel | *Oxalis purpurea* | + | | + | + | 10 | + | 1 | 3 | + |
| | Lemon Beauty-heads | *Calocephalus citreus* | | | X | | | | | | X |
| * | Lemon-scented Gum | *Corymbia citriodora subsp. citriodora* | | | + | | + | | | | |
| | Narrow Plantain | *Plantago gaudichaudii* | | | X | X | X | | | | X |
| * | Oat | *Avena sp.* | X | X | | | | | | X | |
| * | Onion Grass | *Romulea rosea* | X | X | X | X | X | X | X | X | X |
| * | Ox-tongue | *Helminthotheca echioides* | | | | X | | X | X | | |
| | Pale Rush | *Juncus pallidus* | | | | | | | X | | |
| * | Panic Veldt-grass | *Ehrharta erecta var. erecta* | | | | | | | 1 | | |
| * | Paspalum | *Paspalum dilatatum* | 1 | | + | | + | | 1 | | |
| | Plains Everlasting | *Chrysocephalum sp. 1* | | | | X | X | | | | X |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| * | Prairie Grass | *Bromus catharticus var. catharticus* | 1 | | | | | | | | |
| * | Prickly Lettuce | *Lactuca serriola* | | | | | | | X | | |
| * | Ribwort | *Plantago lanceolata* | X | X | | X | X | X | X | X | |
| | Rigid Panic | *Walwhalleya proluta* | | | | | | | X | | |
| | Rush | *Juncus spp.* | | | X | | | | X | | |
| * | Serrated Tussock | *Nassella trichotoma* | | | | + | | | + | | |
| | Sheep's Burr | *Acaena echinata* | | | X | X | | | | | X |
| | Slender Bindweed | *Convolvulus angustissimus subsp, omnigracilis* | | X | X | X | | | | | |
| | Slender Spear-grass | *Austrostipa scabra subsp. falcata* | | | X | X | X | | | | |
| | Slender Wallaby-grass | *Rytidosperma racemosum var. racemosum* | | | | X | X | | | | |
| | Small-flower Mat-rush | *Lomandra micrantha subsp. micrantha* | | | X | X | | | | | |
| | Smooth Rice-flower | *Pimelea glauca* | | | | | | | | | X |
| * | Soft Brome | *Bromus hordeaceus subsp. hordeaceus* | | | | | | | | X | |
| * | Soursob | *Oxalis pes-caprae* | 15 | 15 | 1 | 2 | 20 | | 5 | | + |
| | Spear Grass | *Austrostipa sp.* | | | X | | | | | | |
| * | Spear Thistle | *Cirsium vulgare* | | | | | | | + | | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | Spiny Rice-flower | *Pimelea spinescens subsp. spinescens* | | | X | X | X | | X | | X |
| | Spur Velleia | *Velleia paradoxa* | | | X | X | | | | | X |
| *Pl | Sugar Gum | *Eucalyptus cladocalyx* | + | | | | | | | | |
| * | Toowoomba Canary-grass | *Phalaris aquatica* | | | | + | | | 20 | | |
| | Tufted Bluebell | *Wahlenbergia communis s.s.* | | | X | X | | | | | X |
| * | Twiggy Turnip | *Brassica fruticulosa* | X | X | | | X | | X | | |
| | Wallaby Grass | *Rytidosperma sp.* | | | | | X | | | | |
| | Windmill Grass | *Chloris truncata* | | | X | | | | | X | |

***** = introduced species; **#** = native species occurring outside of natural range; **Pl** = planted, **X** = species recorded but cover not assessed (i.e. not high-threat weed species); **+** = negligible cover

Appendix 5: Raw baseline data for species composition and high-threat weed cover – Habitat Zone E

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| * | Angled Onion | *Allium triquetrum* | | + | 10 | | 25 | | 3 |
| * | Artichoke Thistle | *Cynara cardunculus subsp. flavescens* | | | | | | | + |
| * | Aster-weed | *Aster subulatus* | | | | | | | X |
| | Black-anther Flax-lily | *Dianella admixta* | X | X | X | X | X | X | X |
| | Blue Devil | *Eryngium ovinum* | | | X | | | | |
| * | Blue Periwinkle | *Vinca major* | | | 30 | | | | |
| | Brown-back Wallaby-grass | *Rytidosperma duttonianum* | | | | | X | | |
| * | Brown-top Bent | *Agrostis capillaris* | | | | | | | 1 |
| * | Cocksfoot | *Dactylis glomerata* | | | | | | 1 | |
| | Common Blown-grass | *Lachnagrostis filiformis s.l.* | | | | | | | X |
| * | Common Peppercress | *Lepidium africanum* | X | | | | | | |
| * | Common Sow-thistle | *Sonchus oleraceus* | | | | | | X | X |
| | Common Tussock-grass | *Poa labillardierei var. labillardierei* | | X | X | | | | |
| * | Common Vetch | *Vicia sativa* | | | X | | | X | X |
| | Common Wallaby-grass | *Rytidosperma caespitosum* | | | X | X | | X | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Common Woodruff | *Asperula conferta* | X | X | X | X | X | X | X |
| | Cotton Fireweed | *Senecio quadridentatus* | X | | X | | | | |
| * | Couch | *Cynodon dactylon var. dactylon* | | | 5 | | | 3 | |
| * | Curled Dock | *Rumex crispus* | | | | | | | X |
| | Curved Rice-flower | *Pimelea curviflora var. 1* | X | X | | X | | | |
| | Cut-leaf Goodenia | *Goodenia pinnatifida* | X | | | | | | |
| *Pl | Desert Ash | *Fraxinus angustifolia* | | | | | | + | + |
| * | Dove's Foot | *Geranium molle* | | | X | | X | | X |
| * | Drain Flat-sedge | *Cyperus eragrostis* | | | | | | | 2 |
| * | Galenia | *Galenia pubescens var. pubescens* | | | + | | | | |
| | Grassland Crane's-bill | *Geranium retrorsum s.l.* | X | X | X | X | X | X | |
| | Grassland Wood-sorrel | *Oxalis perennans* | X | X | | X | X | | |
| | Grey Tussock-grass | *Poa sieberiana* | X | X | | X | X | | |
| * | Hair Grass | *Aira sp.* | X | X | | | | | |
| * | Iris | *Iridaceae sp.* | | + | | | | | |
| | Kangaroo Grass | *Themeda triandra* | X | X | X | X | X | X | X |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| * | Kikuyu | *Cenchrus clandestinus* | | | | 1 | | 15 | 20 |
| | Kneed Spear-grass | *Austrostipa bigeniculata* | | | X | | | | X |
| * | Large Quaking-grass | *Briza maxima* | | X | | | X | | |
| * | Large-flower Wood-sorrel | *Oxalis purpurea* | | | + | + | | | + |
| | Large-headed Fireweed | *Senecio macrocarpus* | X | | | | | | |
| | Lemon Beauty-heads | *Calocephalus citreus* | X | | | | | | |
| | Minnie Daisy | *Minuria leptophylla* | X | | | | | | |
| | Narrow Plantain | *Plantago gaudichaudii* | X | X | | | X | | |
| | Nodding Saltbush | *Einadia nutans* | | X | X | X | | | |
| * | Oat | *Avena sp.* | | X | X | | | X | X |
| * | Onion Grass | *Romulea rosea* | X | X | X | | X | | X |
| * | Ox-tongue | *Helminthotheca echioides* | | X | | | X | | X |
| * | Panic Veldt-grass | *Ehrharta erecta var. erecta* | | | 5 | | | 5 | 3 |
| * | Paspalum | *Paspalum dilatatum* | | | | | | | 1 |
| * | Prairie Grass | *Bromus catharticus var. catharticus* | | | | | | | 1 |
| * | Ribwort | *Plantago lanceolata* | | X | X | X | X | X | X |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rigid Panic | *Walwhalleya proluta* | X | | | | | | X |
| * | Serrated Tussock | *Nassella trichotoma* | | | + | | + | + | |
| | Sheep's Burr | *Acaena echinata* | X | X | | | | | |
| | Slender Bindweed | *Convolvulus angustissimus subsp, omnigracilis* | X | X | | | | | |
| | Slender Spear-grass | *Austrostipa scabra subsp. falcata* | | X | | X | | | |
| | Slender Speedwell | *Veronica gracilis* | | X | X | | | | X |
| | Small Milkwort | *Comesperma polygaloides* | X | | | | | | |
| | Small-flower Mat-rush | *Lomandra micrantha subsp. micrantha* | X | | | X | | X | |
| | Smooth Rice-flower | *Pimelea glauca* | X | X | | X | X | X | X |
| * | Soft Brome | *Bromus hordeaceus subsp. hordeaceus* | + | | | | | | |
| * | Soursob | *Oxalis pes-caprae* | | | 20 | 1 | | 25 | 15 |
| | Spear Grass | *Austrostipa sp.* | X | X | | X | | | |
| * | Spear Thistle | *Cirsium vulgare* | | | | | | | + |
| | Spiny Rice-flower | *Pimelea spinescens subsp. spinescens* | X | X | X | | X | | |
| | Spur Velleia | *Velleia paradoxa* | X | | | | | | |
| *Pl | Sugar Gum | *Eucalyptus cladocalyx* | + | | | 20 | | | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Tufted Bluebell | *Wahlenbergia communis s.s.* | X | | X | X | | | |
| * | Twiggy Turnip | *Brassica fruticulosa* | X | X | | X | X | X | X |
| | Wallaby Grass | *Rytidosperma sp.* | | | | | | | X |
| | Windmill Grass | *Chloris truncata* | | | | | | | X |
| * | Yorkshire Fog | *Holcus lanatus* | + | | | | | | 2 |

***** = introduced species; **#** = native species occurring outside of natural range; **Pl** = planted, **X** = species recorded but cover not assessed (i.e. not high-threat weed species); **+** = negligible cover

Appendix 6: Raw baseline data for species composition and high-threat weed cover – Habit Zone D

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Arching Flax-lily | *Dianella sp. aff. longifolia (Benambra)* | | | | X | | | | |
| * | Artichoke Thistle | *Cynara cardunculus subsp. flavescens* | + | | | | | | | |
| * | Bastard's Fumitory | *Fumaria bastardii* | | | | X | | | | |
| * | Bearded Oat | *Avena barbata* | X | | | | | | | |
| | Black-anther Flax-lily | *Dianella admixta* | X | X | X | X | X | X | X | X |
| | Blue Devil | *Eryngium ovinum* | | | | X | | | | |
| | Brown-back Wallaby-grass | *Rytidosperma duttonianum* | | | | X | | | | |
| | Button Wrinklewort | *Rutidosis leptorhynchoides* | | | X | X | | | | |
| * | Chilean Needle-grass | *Nassella neesiana* | 1 | | | | 1 | 10 | + | |
| * | Clustered Dock | *Rumex conglomeratus* | X | | | | | | | |
| * | Common Groundsel | *Senecio vulgaris* | | | | X | | | | |
| * | Common Sow-thistle | *Sonchus oleraceus* | X | | | | | | | |
| | Common Tussock-grass | *Poa labillardierei var. labillardierei* | | | | X | | | | |
| * | Common Vetch | *Vicia sativa* | X | X | | | | | | X |
| | Common Wallaby-grass | *Rytidosperma caespitosum* | X | X | | | X | | X | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Common Woodruff | *Asperula conferta* | | X | | | X | | | X |
| | Cotton Fireweed | *Senecio quadridentatus* | | | | | | | | X |
| * | Couch | *Cynodon dactylon var. dactylon* | 3 | | | + | | | | 1 |
| | Curved Rice-flower | *Pimelea curviflora var. 1* | | | X | X | | | | |
| * | Cut-leaf Crane's-bill | *Geranium dissectum* | | X | | | | | | |
| | Cut-leaf Goodenia | *Goodenia pinnatifida* | | | X | X | | | | |
| *PI | Desert Ash | *Fraxinus angustifolia* | + | | | | | | | |
| * | Giant Mustard | *Rapistrum rugosum* | X | | | | | | | |
| | Golden Billy-buttons | *Pycnosorus chrysanthes* | | | X | | | | | |
| #PI | Golden Wattle | *Acacia pycnantha* | 1 | | | | | | | |
| *PI | Golden Wreath Wattle | *Acacia saligna* | 1 | | | + | + | | | |
| | Grassland Crane's-bill | *Geranium retrorsum s.l.* | X | X | X | X | X | | | X |
| | Grassland Wood-sorrel | *Oxalis perennans* | | | X | | | | | X |
| | Grey Tussock-grass | *Poa sieberiana* | | | X | X | | | | X |
| * | Iris | Iridaceae sp. | | | | + | | | | |
| | Kangaroo Grass | *Themeda triandra* | X | X | X | X | X | X | X | X |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| * | Kikuyu | *Cenchrus clandestinus* | 15 | 15 | | | 20 | | | |
| | Kneed Spear-grass | *Austrostipa bigeniculata* | | X | | | | | | |
| * | Large Quaking-grass | *Briza maxima* | | | | X | | | | X |
| | Lemon Beauty-heads | *Calocephalus citreus* | | | X | X | | | | |
| | Minnie Daisy | *Minuria leptophylla* | | | X | X | | | | |
| | Narrow Plantain | *Plantago gaudichaudii* | | | X | X | | | | |
| * | Oat | *Avena sp.* | X | | X | X | | | | |
| * | Onion Grass | *Romulea rosea* | X | X | | X | X | | X | |
| * | Ox-tongue | *Helminthotheca echioides* | | | | X | X | | | |
| * | Panic Veldt-grass | *Ehrharta erecta var. erecta* | | | | | | | + | |
| * | Paspalum | *Paspalum dilatatum* | 1 | | | + | | | | |
| | Plains Everlasting | *Chrysocephalum sp. 1* | | | X | | | | | |
| * | Prairie Grass | *Bromus catharticus var. catharticus* | 1 | | | | | | | |
| * | Ribwort | *Plantago lanceolata* | X | X | | X | X | X | X | X |
| * | Rye Grass | *Lolium sp.* | X | | | | | | | |
| * | Salsify | Tragopogon porrifolius subsp. porrifolius | X | X | | | | | | |

| Origin | Common Name | Scientific Name | % cover in each management zone | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Sheep's Burr | *Acaena echinata* | X | | X | X | | | | |
| #Pl | Silver Wattle | *Acacia dealbata* | 1 | | | | | | | |
| | Slender Bindweed | *Convolvulus angustissimus subsp, omnigracilis* | | | X | | | | | |
| | Slender Speedwell | *Veronica gracilis* | | | | X | | | | |
| | Smooth Rice-flower | *Pimelea glauca* | X | | X | X | | | X | |
| | Smooth Solenogyne | *Solenogyne dominii* | | | X | | | | | |
| * | Soft Brome | *Bromus hordeaceus subsp. hordeaceus* | | | | | | X | | |
| * | Soursob | *Oxalis pes-caprae* | 5 | 5 | | | 5 | 5 | 15 | |
| | Spear Grass | *Austrostipa sp.* | X | | | X | X | X | X | |
| | Spiny Rice-flower | *Pimelea spinescens subsp. spinescens* | | | X | X | | | | |
| | Spur Velleia | *Velleia paradoxa* | | | X | X | | | | |
| * | Toowoomba Canary-grass | *Phalaris aquatica* | 5 | 10 | + | + | | | | 2 |
| * | Twiggy Turnip | *Brassica fruticulosa* | X | | | X | | X | X | |
| * | Vetch | *Vicia sp.* | | | | | | | | X |
| | Wallaby Grass | *Rytidosperma sp.* | | | | X | | | | |
| * | Yorkshire Fog | *Holcus lanatus* | + | | | | | | | |

***** = introduced species; **#** = native species occurring outside of natural range; **Pl** = planted, **X** = species recorded but cover not assessed (i.e. not high-threat weed species); **+** = negligible cover

# Appendix 7: Photo points June 2015


## Legend

- Existing fencing
- Management zone photo points
- Photo direction

Metres

0 5 10 20

# Appendix 7-1: Management zone photo points - Habitat Zone F

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 18/08/2015 | Created By: A. Brennen / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
Ecological Research & Management
Experience
Knowledge
Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

N


## Legend

- Existing fencing
- Management zone photo points
- Photo direction

Metres
0 5 10 20

# Appendix 7-2: Management zone photo points - Habitat Zones E and D

**Project: Main Road St. Albans Level Crossing Removal**

**Client: VicRoads**

| Project No.: 12152 | Date: 18/08/2015 | Created By: A. Brennen / M. Ghasemi |
|---|---|---|

BL&A Brett Lane & Associates Pty. Ltd.
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Experience
Knowledge
Solutions
Suite 5, 61 - 63 Camberwell Road
Hawthorn East ,VIC 3123
PO Box 337, Camberwell, VIC 3124, Australia
Ph (03) 9815 2111 / Fax (03) 9815 2685
enquiries@ecologicalresearch.com.au
www.ecologicalresearch.com.au

N

Habitat Zone F - Management Zone 1 (Photo point 10)


Habitat Zone F - Management Zone 2 (Photo point 11)

Habitat Zone F - Management Zone 3 (Photo point 12)

Habitat Zone F - Management Zone 4 (Photo point 13)

Habitat Zone F - Management Zone 5 (Photo point 14)

Habitat Zone F - Management Zone 6 (Photo point 15)

Habitat Zone F - Management Zone 7 (Photo point 20)

Habitat Zone F - Management Zone 8 (Photo point 19)

Habitat Zone F - Management Zone 9 (Photo point 16)

Habitat Zone E - Management Zone 1 (Photo point 4)

Habitat Zone E - Management Zone 2 (Photo point 2)

Habitat Zone E - Management Zone 3 (Photo point 7)

Habitat Zone E - Management Zone 4 (Photo point 5)

Habitat Zone E - Management Zone 5 (Photo point 9)

Habitat Zone E - Management Zone 6 (Photo point 6)

Habitat Zone E - Management Zone 7 (Photo point 8)

Habitat Zone D – Management Zone 1 (Photo point 24)

Habitat Zone D - Management Zone 2 (Photo point 21)

Habitat Zone D - Management Zone 3 (Photo point 29)

Habitat Zone D - Management Zone 4 (Photo point 22)

Habitat Zone D - Management Zone 5 (Photo point 27)

Habitat Zone D - Management Zone 6 (Photo point 26)

Habitat Zone D - Management Zone 7 (Photo point 25)

Habitat Zone D - Management Zone 8 (Photo point 23)

# Appendix 8: EVC benchmark for Heavier-soils Plains Grassland (EVC 132_61) of the VVP

Department of Sustainability and Environment

# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Volcanic Plain bioregion

## EVC 132_61: *Heavier-soils* Plains Grassland

**Description:**
Treeless vegetation mostly less than 1 m tall dominated by largely graminoid and herb life forms. Occupies fertile cracking basalt soils prone to seasonal waterlogging in areas receiving at least 500 mm annual rainfall.

**Life Forms:**

| Life form | #Spp | %Cover | LF code |
|---|---|---|---|
| Large Herb | 2 | 5% | LH |
| Medium Herb | 12 | 20% | MH |
| Small or Prostrate Herb | 4 | 5% | SH |
| Large Tufted Graminoid | 1 | 5% | LTG |
| Medium to Small Tufted Graminoid | 13 | 40% | MTG |
| Medium to Tiny Non-tufted Graminoid | 4 | 5% | MNG |
| Bryophytes/Lichens and Soil Crust* | na | 20% | BL |

* Note: treat as one life form in this EVC

| LF Code | Species typical of at least part of EVC range | Common Name |
|---|---|---|
| SS | *Pimelea humilis* | Common Rice-flower |
| LH | *Rumex dumosus* | Wiry Dock |
| MH | *Calocephalus citreus* | Lemon Beauty-heads |
| MH | *Acaena echinata* | Sheep's Burr |
| MH | *Leptorhynchos squamatus* | Scaly Buttons |
| MH | *Eryngium ovinum* | Blue Devil |
| SH | *Solenogyne dominii* | Smooth Solenogyne |
| SH | *Lobelia pratioides* | Poison Lobelia |
| LTG | *Austrostipa bigeniculata* | Kneed Spear-grass |
| LTG | *Dichelachne crinita* | Long-hair Plume-grass |
| MTG | *Themeda triandra* | Kangaroo Grass |
| MTG | *Austrodanthonia caespitosa* | Common Wallaby-grass |
| MTG | *Elymus scaber* var. *scaber* | Common Wheat-grass |
| MTG | *Schoenus apogon* | Common Bog-sedge |
| MNG | *Microlaena stipoides* var. *stipoides* | Weeping Grass |
| MNG | *Thelymitra pauciflora* s.l. | Slender Sun-orchid |
| MNG | *Microtis unifolia* | Common Onion-orchid |
| SC | *Convolvulus erubescens* | Pink Bindweed |

**Recruitment:**
Episodic/Fire or Grazing. Desirable period between disturbances is 5 years.

**Organic Litter:**
10% cover

# EVC 132_61: *Heavier-soils* Plains Grassland - Victorian Volcanic Plain bioregion

**Weediness:**

| LF Code | Typical Weed Species | Common Name | Invasive | Impact |
|---|---|---|---|---|
| LH | *Plantago lanceolata* | Ribwort | high | low |
| LH | *Cirsium vulgare* | Spear Thistle | high | high |
| LH | *Sonchus oleraceus* | Common Sow-thistle | high | low |
| MH | *Hypochoeris radicata* | Cat's Ear | high | low |
| MH | *Leontodon taraxacoides* ssp. *taraxacoides* | Hairy Hawkbit | high | low |
| MH | *Trifolium subterraneum* | Subterranean Clover | high | low |
| MH | *Plantago coronopus* | Buck's-horn Plantain | high | low |
| MH | *Trifolium striatum* | Knotted Clover | high | low |
| MH | *Trifolium dubium* | Suckling Clover | high | low |
| LTG | *Phalaris aquatica* | Toowoomba Canary-grass | high | high |
| LNG | *Holcus lanatus* | Yorkshire Fog | high | high |
| MTG | *Romulea rosea* | Onion Grass | high | low |
| MTG | *Vulpia bromoides* | Squirrel-tail Fescue | high | low |
| MTG | *Briza minor* | Lesser Quaking-grass | high | low |
| MTG | *Bromus hordeaceus* ssp. *hordeaceus* | Soft Brome | high | low |
| MTG | *Briza maxima* | Large Quaking-grass | high | low |
| MTG | *Lolium rigidum* | Wimmera Rye-grass | high | low |
| MTG | *Lolium perenne* | Perennial Rye-grass | high | low |
| MTG | *Nassella neesiana* | Chilean Needle-grass | high | high |
| MNG | *Cynosurus echinatus* | Rough Dog's-tail | high | low |
| MNG | *Juncus capitatus* | Capitate Rush | high | low |

Published by the Victorian Government Department of Sustainability and Environment December 2004

## Appendix 9: Conservation Reserve induction checklist

| Sections of plan contractor to be inducted into | Management action to be implemented | | | | | | |
|---|---|---|---|---|---|---|---|
| | Removing rubbish | Seed collection | Biomass reduction | Weed control | Monitoring | Planting seedlings | Supplementary irrigation |
| Introduction | | Yes | Yes | Yes | Yes | Yes | - |
| Objectives | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Duration | - | - | - | - | Yes | - | - |
| Description of Reserve | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Management Strategy | - | - | Yes | Yes | Yes | - | - |
| Button Wrinklewort Recovery Plan | - | Yes | Yes | Yes | Yes | Yes | Yes |
| Management Action Tables | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Monitoring and reporting schedule | - | - | - | - | Yes | - | - |