

28 July 2014

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Dear Fiona,

Scattered tree assessment, PSP 1067 Donnybrook

Project no. 18183

Biosis Pty Ltd was commissioned to undertake a survey of a selection of trees within the Donnybrook PSP. The following details the methods and results of the survey.

Methods

A tree assessment was undertaken within Donnybrook PSP on 16 July 2013 and updated on 22 May 2014.

Locations of trees that required assessment were provided by the Department of Environment and Primary Industries (DEPI). Trees were located in the field using a handheld GPS and the size class and species of each tree was recorded.

Indigenous tree size was determined on the basis of the relevant Ecological Vegetation Class (EVC) benchmark (BM) diameter at breast height (DBH), with tree size classes based on the following minimum size thresholds:

- Very Large Old Tree (VLOT) = $\geq 1.5 \times \text{BM}$
- Large Old Tree (LOT) = $\geq \text{BM} < 1.5 \times \text{BM}$
- Medium Old Tree (MOT) = $\geq 0.75 \times \text{BM} < \text{BM}$
- Small Tree (ST) = $\geq 0.25 \times \text{BM} < 0.75 \times \text{BM}$

Trees were further categorised based on their location relative to the time stamped native vegetation data provided by DEPI. Trees located outside of time stamped native vegetation patches were termed 'scattered trees' and those within patches are termed 'patch trees'.

For patch trees, the associated EVCs were identified in the field. The EVC to which scattered remnant trees originally belonged was determined using nearby time stamped native vegetation, EVC mapping from DEPI's Biodiversity Interactive Maps, and evidence gathered in the field.

The conservation significance of each scattered tree was determined based on its size and EVC (DSE 2007).

Results

The following section details the combined results of surveys conducted on 16 July 2013 and 22 May 2014. Indigenous trees assessed within the Donnybrook PSP are predominantly River Red-gum. Two Manna Gums *Eucalyptus viminalis*, and a Yellow Gum *Eucalyptus leucoxylon* were also identified. While one of the Manna Gums (Tree no. 4) is certainly a remnant indigenous tree, the origin of the remaining Manna Gum (Tree no. 75) and the Yellow Gum (Tree no 74) is less certain. While these trees are within their natural range, both trees occur amongst other non-site indigenous Australian native plantings. It is possible that they established naturally, but more likely that they were planted. As such they are identified in this report as planted site indigenous trees.

Indigenous trees are within two different EVCs: Riparian Woodland (EVC 641) along the Merri Creek (Plate 1), and Plains Grassy Woodland (EVC 55_61) elsewhere.

A number of the trees identified for survey are located within time stamped patches of native vegetation and/or within areas identified as conservation areas in the Biodiversity Conservation Strategy (BCS) for Melbourne's Growth Corridors (DEPI 2013). Details of the location of each tree relative to time stamped mapping are provided in Table 1 and Figure 1.



Plate 1: Riparian Woodland, including remnant River Red-gums, within the study area

Several trees identified for survey within this PSP were introduced species such as Pine *Pinus* spp., and Elms *Ulmus* spp. A number were planted non-indigenous eucalypts such as Southern Mahogany *Eucalyptus botryoides* and Sugar Gum *Eucalyptus cladocalyx* (Table 1).

Tree 73, a large River Red Gum was located in close proximity (~5 m) to another Very Large River Red Gum. The canopies for these two trees overlapped to an extent that it may have been difficult to distinguish the trees from aerial photo interpretation. This report provides information on both the tree marked by waypoint 73, and the adjacent tree, labelled 73a and 73b respectively in Figure 1. This information has been provided in the event that information for tree 73b had not yet been captured by DEPI.

No tree was identified at waypoint 18. The vegetation at this point consisted of a patch of small Black Wattle *Acacia mearnsii* shrubs on a rocky outcrop.

Table 1: Scattered and patch trees within Donnybrook PSP

Tree Number	PSP	Species	Common Name	Indigenous/Introduced	Scattered/Patch	Conservation area	DBH	Size class	Conservation Status	EVC#	Bioregion	Threatened Species rating	Other Attributes	Conservation significance
1	Donnybrook	<i>Eucalyptus camaldulensis</i>	River red-gum	Indigenous	Scattered	-	163	VLOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
2	Donnybrook	<i>Populus</i> spp.	Poplar	Introduced	-	34	28	-	-	-	Victorian Volcanic Plain	N/A	-	-
3	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	138	VLOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
4	Donnybrook	<i>Eucalyptus viminalis</i>	Manna Gum	Indigenous	Scattered	22	117	LOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
5	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	93	LOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
6	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	180	VLOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
7	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	56	ST	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
8	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	73	MOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
9	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	105	LOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
10	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	126	VLOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
11	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	95	LOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
12	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	39.5	ST	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
13	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	29	ST	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
14	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	119	LOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
15	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	72	MOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
16	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	80	MOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	-	Very High
17	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	93	LOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
18	Donnybrook	No tree present	-	-	-	34	-	-	-	-	-	-	-	-
19	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	68	MOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	High
20	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	92	LOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
21	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	60	ST	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	Low
22	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	67	MOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	High
23	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Scattered	-	71	MOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	High
24	Donnybrook	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Introduced	-	-	43	-	-	-	Victorian Volcanic Plain	N/A	-	-
25	Donnybrook	<i>Eucalyptus globulus</i> subsp. <i>bicostata</i>	Blue Gum	Introduced	-	-	70	-	-	-	Victorian Volcanic Plain	N/A	-	-
26	Donnybrook	<i>Eucalyptus botryoides</i>	Southern Mahogany	Introduced	-	-	63	-	-	-	Victorian Volcanic Plain	N/A	-	-
27	Donnybrook	<i>Ulmus</i> sp.	Elm	Introduced	-	-	72	-	-	-	Victorian Volcanic Plain	N/A	-	-
28	Donnybrook	<i>Pinus</i> sp.	Pine	Introduced	-	-	78	-	-	-	Victorian Volcanic Plain	N/A	-	-

Tree Number	PSP	Species	Common Name	Indigenous/Introduced	Scattered/Patch	Conservation area	DBH	Size class	Conservation Status	EVC#	Bioregion	Threatened Species rating	Other Attributes	Conservation significance
29	Donnybrook	<i>Pinus sp.</i>	Pine	Introduced	-	-	102	-	-	-	Victorian Volcanic Plain	N/A	-	-
30	Donnybrook	<i>Pinus sp.</i>	Pine	Introduced	-	-	75	-	-	-	Victorian Volcanic Plain	N/A	-	-
35	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum	Indigenous	Patch	34	131	VLOT	Endangered	Riparian Woodland	Victorian Volcanic Plain	N/A	Hollows	Very High
72	Donnybrook	<i>Pinus spp.</i>	Pine		Introduced	-	84	-	-	-	Victorian Volcanic Plain	N/A	-	-
73a	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum		Indigenous	Scattered	112	LOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
73b	Donnybrook	<i>Eucalyptus camaldulensis</i>	River Red-gum		Indigenous	Scattered	129	VLOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	Hollows	High
74	Donnybrook	<i>Eucalyptus leucoxylon</i>	Yellow Gum		Planted indigenous	Scattered	69	MT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	High
75	Donnybrook	<i>Eucalyptus viminalis</i>	Manna Gum		Planted indigenous	Scattered	84	LOT	Endangered	Plains Grassy Woodland	Victorian Volcanic Plain	N/A	-	High

Tree Offset Requirements

This section of the report details the prescribed offset requirements for trees within the Donnybrook PSP as outlined in the recently introduced Biodiversity Conservation Strategy for Melbourne's Growth Corridors (DEPI 2013a). The BCS specifies that a 'habitat compensation fee', or offset fee, must be paid for the removal of native vegetation and/or threatened species habitat values within Melbourne's growth corridors, including scattered trees.

Areas identified as 'conservation areas' are excluded from urban development under the BCS. Impacts on conservation areas that are a direct result of development may only occur with the agreement of DEPI and would be offset in the same manner to areas outside of the conservation areas. Conservation areas are displayed in Figure 1 and trees occurring within conservation areas are listed in Table 1.

The specific offset requirements for scattered trees and large old trees within patches assessed in this survey are provided as follows:

Large old trees within patches

Under the BCS the loss of any patches of time stamped native vegetation will attract a habitat compensation fee. There are no specific additional offsets requirements for trees within time stamped patches of native vegetation. The cost of offsetting these trees will be met through payment of the habitat compensation fees for native vegetation patches.

Trees within patches are assigned the conservation significance appropriate to the EVC to which they belong. Under the BCS all patches of native vegetation and, therefore, trees within patches, are assigned a conservation significance of 'Very High'.

Scattered trees

Under the BCS the removal of a scattered tree would attract a habitat compensation fee of \$13,218.00 per tree as specified in the 'Draft Habitat Compensation Under the Biodiversity Conservation Strategy' document (DEPI 2013b). This fee applies to trees that are within the 'medium' or greater size classes. It does not apply to the removal of 'small' trees.

Scattered old trees are assigned the lowest conservation significance category appropriate to the conservation status of the EVC to which they originally belonged, unless there are threatened species or other attributes that increase their rating (DSE 2007). Scattered trees within Donnybrook PSP are considered to be remnants of Plains Grassy Woodland (55_61) and Riparian Woodland (EVC 641) which are both endangered in the Victorian Volcanic Plain Bioregion. The lowest conservation significance category applicable to an endangered EVCs is 'High' (NRE 2002). No threatened species or other attributes were identified which would increase the significance of the trees recorded. Small scattered trees are given a conservation significance of 'low'.

Please contact me on 9646 9499 if you have any queries.

Yours sincerely



Rohan Simkin

Botanist

0429 019 163

References

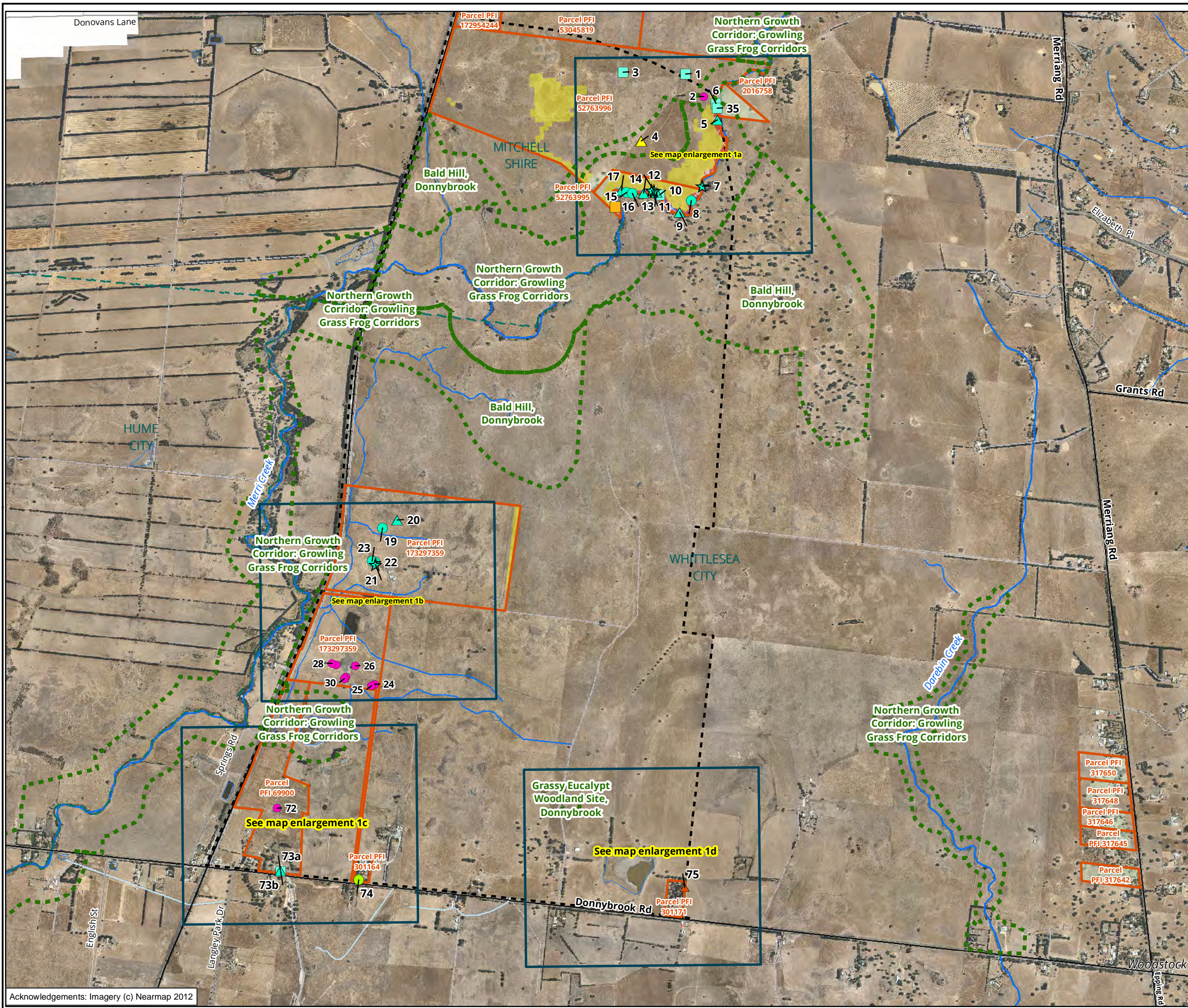
DEPI 2013a, *Biodiversity Conservation Strategy for Melbourne's Growth Corridors*, Victorian Government Department of Environment and Primary Industries, Melbourne

DEPI 2013b, *Draft Habitat Compensation Under the Biodiversity Conservation Strategy*, Victorian Government Department of Environment and Primary Industries, Melbourne

DSE 2007. *Native Vegetation - Guide for assessment of referred planning permit applications*. Victorian Government, Department of Sustainability and Environment, East Melbourne.

DSE 2011. *Biodiversity Conservation Strategy for Melbourne's Growth Areas Draft for Public Consultation*. The Victorian Government Department of Sustainability and Environment Melbourne.

NRE 2002. *Victoria's Native Vegetation Management: A Framework for Action*. Department of Natural Resources & Environment, Victoria.



Indigenous Trees

- Very Large Old Tree
Eucalyptus camaldulensis
- ▲ Large Old Tree
Eucalyptus camaldulensis
- Medium Old Tree
Eucalyptus camaldulensis
- ★ Small Tree
Eucalyptus camaldulensis
- ▲ Large Old Tree
Eucalyptus viminalis

Planted Indigenous Trees

- ▲ Large Old Tree
Eucalyptus viminalis
- Medium Old Tree
Eucalyptus leucoxylo
- Exotic tree
- No tree present

Time-stamped EVCs

- 132 Plains Grassland
- 55 Plains Grassy Woodland
- 641 Riparian Woodland
- 654 Creekline Tussock Grassland
- PSP Boundary
- Parcels for survey
- Conservation Reserves

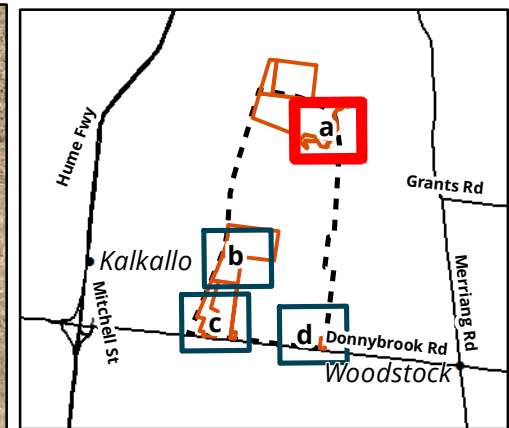
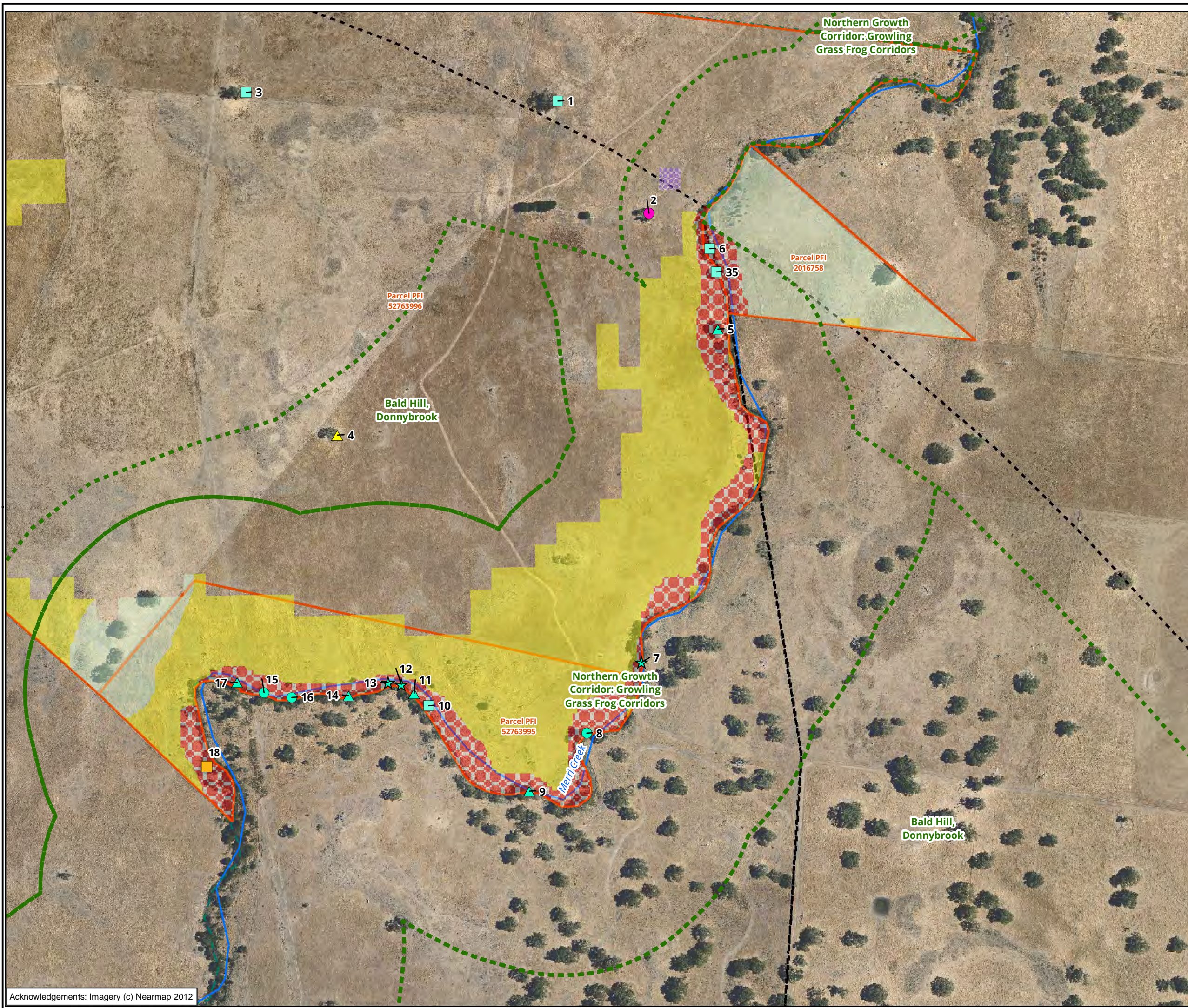
Figure 1: Surveyed trees within the Donnybrook PSP

0 200 400 600 800 1,000
Metres
Scale: 1:20,000 @ A3
Coordinate System: GDA 1994 MGA Zone 55

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Acknowledgements: Imagery (c) Nearmap 2012

Matter: 18183,
Date: 28 July 2014,
Checked by: RDS, Drawn by: JMS/SKM, Last edited by: Imilne
Location: P:\18100s\18183\Mapping\18183_F1_Tree_survey_DBrook



Indigenous Trees

- Very Large Old Tree
Eucalyptus camaldulensis
- ▲ Large Old Tree
Eucalyptus camaldulensis
- Medium Old Tree
Eucalyptus camaldulensis
- ★ Small Tree
Eucalyptus camaldulensis
- ▲ Large Old Tree
Eucalyptus viminalis
- Exotic tree
- No tree present

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Time-stamped EVCs

- 132 Plains Grassland
- 55 Plains Grassy Woodland
- 641 Riparian Woodland
- 654 Creekline Tussock Grassland
- PSP Boundary
- ▭ Parcels for survey
- Conservation Reserves

Figure 1a: Surveyed trees within the Donnybrook PSP

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Metres

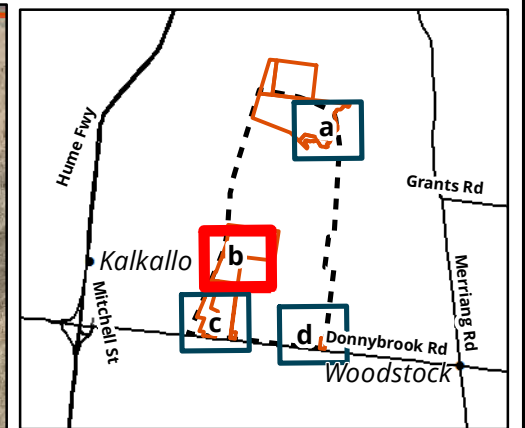
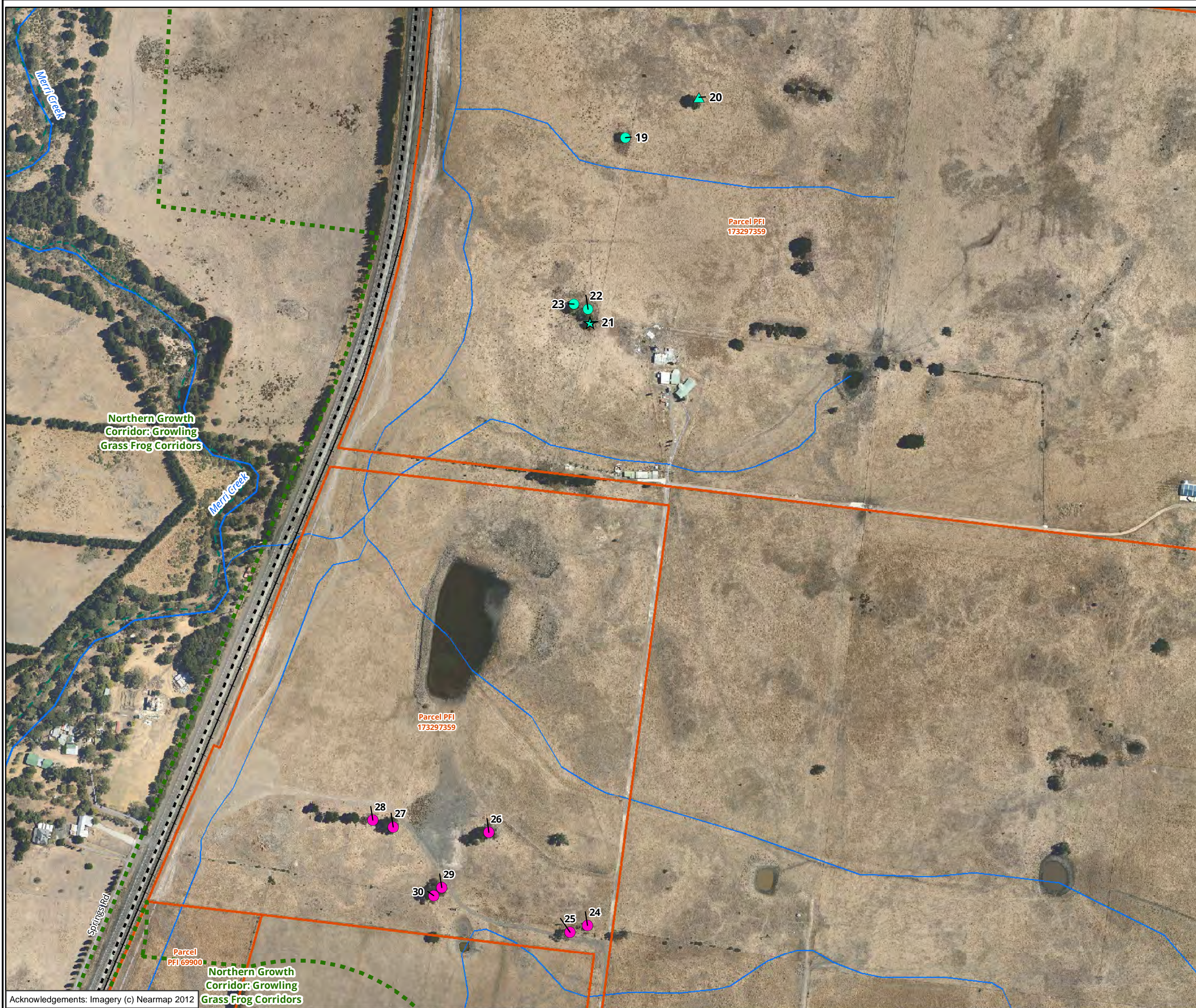
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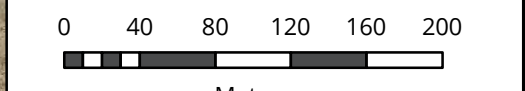
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- Indigenous Trees**
- ▲ Large Old Tree
Eucalyptus camaldulensis
 - Medium Old Tree
Eucalyptus camaldulensis
 - ★ Small Tree
Eucalyptus camaldulensis
 - Exotic tree
- PSP Boundary
- ▭ Parcels for survey
- ▭ Conservation Reserves

Figure 1b: Surveyed trees within the Donnybrook PSP



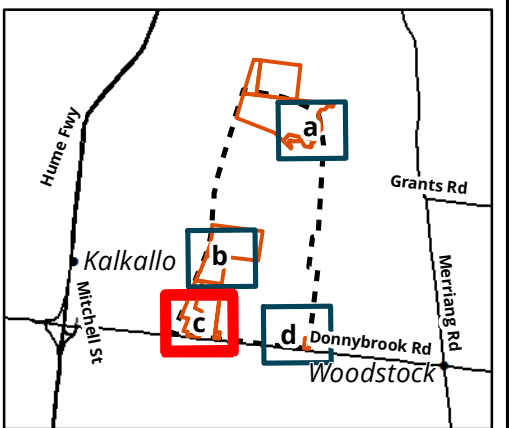
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Acknowledgements: Imagery (c) Nearmap 2012



Indigenous Trees

- Very Large Old Tree
Eucalyptus camaldulensis
- ▲ Large Old Tree
Eucalyptus camaldulensis

Planted Indigenous Trees

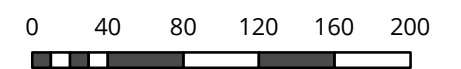
- Medium Old Tree
Eucalyptus leucoxylon
- Exotic tree

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Time-stamped EVCs

- 132 Plains Grassland
- PSP Boundary
- Parcels for survey
- Conservation Reserves

Figure 1c: Surveyed trees within the Donnybrook PSP



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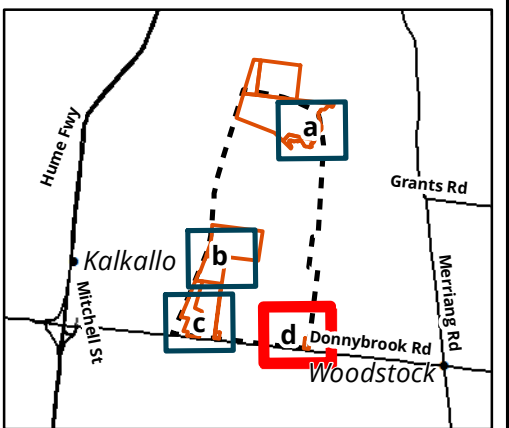


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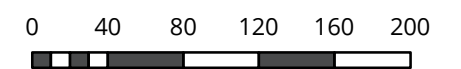


Acknowledgements: Imagery (c) Nearmap 2012



- Planted Indigenous Trees**
- ▲ Large Old Tree
Eucalyptus viminalis
 - PSP Boundary
 - ▭ Parcels for survey
 - ▭ Conservation Reserves

Figure 1d: Surveyed trees within the Donnybrook PSP



Metres
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