



# WENTWORTHVILLE STATION PRECINCT ACCESSIBILITY UPGRADE Flora and Fauna Assessment

FINAL REPORT

Prepared for Transport for NSW

5 December 2014

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## Summary

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Biosis Pty Ltd was commissioned by Transport for NSW (TfNSW) to undertake a flora and fauna assessment of the area around the Wentworthville Railway Station potentially impacted by the proposed Wentworthville Station Easy Access Upgrade (the Proposal).

### Ecological values

- Narrow strips of vegetation, located mostly along both sides of the fence lines on either side of the rail corridor. These areas were found to mostly comprise planted native and landscaped vegetation with one remnant native tree. All areas were highly influenced by edge effects and were particularly weed dominated.
- No trees with hollows were found within the study area but, when flowering, the large Grey Gum *Eucalyptus punctata* and adjacent large Bottlebrushes at the base of the steps on the northern side of the rail corridor, provide a small amount of potential foraging habitat, for nectivorous birds and possibly the Grey-headed Flying-fox *Pteropus poliocephalus*.
- The large Grey Gum may also provide roosting habitat under the loose bark for a small number of micro-bats.
- The two large Mediterranean Cypress trees *Cupressus sempervirens* at the base of the steps on the south side of the rail corridor were found to be used as roosts for Rainbow Lorikeets *Trichoglossus haematodus* during a site inspection by Biosis in 2013.
- Only a very small amount of potential habitat for four of the 31 threatened or migratory fauna species, known or predicted to occur within 5 km of the study area, is present. This comprises the large Grey Gum and associated large Bottlebrushes.

## Government legislation and policy

An assessment of the proposal against key biodiversity legislation and policy is provided and summarised below.

Legislation / Policy	Relevant ecological feature on site	Permit / Approval required	Notes
<b><i>Environment Protection and Biodiversity Conservation Act Cwlth 1999</i></b>	Potential for Threatened flora or fauna species or Threatened ecological communities (TEC) within the study area.  Potential for listed Migratory Species within the study area.	None	Inspection of study area found no evidence of any threatened species, threatened ecological community or listed migratory species within the study area. A very small amount of potential foraging habitat for the Grey-headed Flying-fox (one large Grey Gum tree) is present within the study area. This tree is proposed for removal during the construction phase of the proposal, but this small loss of habitat is not considered significant for the species.
<b><i>Threatened Species Conservation Act (NSW) 1995</i></b>	Potential for threatened flora or fauna species or Threatened Ecological Communities within the study area.	None	Inspection of study area found no evidence of any threatened species or threatened ecological community within the study area.
<b><i>Fisheries Management Act (NSW) 1994</i></b>	None	None	No aquatic habitat present.
<b><i>Environmental Planning &amp; Assessment Act (NSW) 1979</i></b>	If potential habitat for threatened flora or fauna species or Threatened Ecological Communities is present within the study area then Assessment of Significance (formerly 7-part test) of Section 5A of the Act is required	None	Inspection of the study area found one very small area potentially providing periodic foraging or roosting habitat for up to four threatened species. Assessment of Significance not required due to the fact that this small amount of potential habitat is unlikely to be significant to any local population of threatened fauna species.
<b><i>National Parks &amp; Wildlife Act (NSW)</i></b>	None	None	N.A.

Legislation / Policy	Relevant ecological feature on site	Permit / Approval required	Notes
<b>1974</b>			
<b>Noxious Weeds Act (NSW) 1993</b>	Noxious weeds	No formal approval required	Four Noxious Weed species were identified within the study area (Green Cestrum, Lantana, Small-leaved Privet and Large-leaved Privet. Comply with control requirements of each class of noxious weed encountered.
<b>State Environmental Planning Policy No. 44</b>	Koala habitat	None	No potential Koala habitat present.

Note: Guidance provided in this report does not constitute legal advice.

## Recommendations

The primary measure to minimise impacts on ecological values from works within any site is to minimise removal of any native vegetation and habitat.

Within the Wentworthville Station study area no native vegetation communities are present and no critical habitat for threatened species is present.

However, the large Grey Gum at the base of the steps on the northern side of the rail corridor is likely a remnant of the native vegetation of the local area and in association with the adjacent large Bottlebrushes, provides a small amount of potential fauna habitat for several fauna species including three threatened species. The Wentworthville Station Accessibility Upgrade proposal has the potential to require the removal of this vegetation pending the development of the detailed design. If removal is required then offsets for medium trees in accordance with TfNSW Vegetation Offsets Guide will apply.

Two large Brush Box trees, located close to the construction footprint on the north side of the rail corridor are to be retained but paving and other works is proposed close to them. Any excavation close to these trees may result in some root damage. It is recommended that if any roots are encountered during the proposed works, a qualified arborist be engaged to advise on the best way to minimise risks to the long-term survival of the trees.

If the removal of the two large Mediterranean Cypress trees on the south side of the rail corridor cannot be avoided then offsets for two medium trees in accordance with TfNSW Vegetation Offsets Guide will apply.

It is recommended that a weed management protocol be prepared and adopted as part of a general vegetation management strategy. This would include adherence to legal requirements or established procedures for removal and control of noxious or environmental weeds.

# 1. Introduction

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## 1.1 Project background

Biosis Pty Ltd was commissioned by TfNSW to undertake a flora and fauna impact as part of the Review of Environmental Factors (REF) for the proposal. The purpose of the study is to assess and report on the impacts to the environment and provide discussion of the best strategies to mitigate any identified impacts.

## 1.2 Proposed Accessibility Upgrade Works

The upgrade works at Wentworthville Railway Station includes the following indicative key scope items:

- retention, repairs and repainting of the existing footbridge structure
- retention of the existing ramps
- installation of four new lifts:
  - one at each station entrance
  - one to Platform 1/2
  - one to Platform 3/4
- replacement of all stairs with new stairs
- widening of the existing footbridge between the new platform lifts
- provision of passenger information displays and ticket vending machines
- demolition of the existing retail concession on the footbridge to allow for the platform lift
- Station building upgrades to provide accessible customer and staff areas and facilities including waiting rooms, family accessible toilet, and new male/female amenities
- Pedestrian access and transport interchange improvements in the Kingsway and Wentworth Avenue.

## 1.3 Scope of assessment

The objectives of this Flora and Fauna Impact Assessment are to:

- Identify any native vegetation communities, significant species or significant habitat features present within the study area.
- Identify any known or potential habitat for threatened species.
- Review the implications of relevant biodiversity legislation and policy.
- Identify potential impacts on significant ecological communities, species or habitats from the proposed development and provide recommendations to assist with the mitigation of those potential impacts during the construction and operation stages.



- Recommend any further assessments of the site that may be required (such as targeted searches for significant species within inaccessible parts of the study area or considered to be at a low level of detectability at the time of the surveys).

## **1.4 Location of the study area**

The study area is located around Wentworthville Railway Station, which is situated between Wentworth Avenue and The Kingsway in the residential suburb of Wentworthville (

Figure 1 and Figure 2). The study area includes any vegetated areas within the rail corridor and some vegetation on footpaths and isolated trees that could potentially be impacted by the proposal. In most cases the vegetation is restricted to long narrow corridors along fence lines.

The study area is within the:

- Sydney Basin Bioregion.
- Holroyd and Parramatta Local Government Areas (LGA).

For this Flora and Fauna Impact Assessment report:

- 'Local area' is the area within a five km radius of the study area.
- 'Study area' is the area considered during surveys and impact assessment.
- 'Subject site' is the area directly impacted by the Wentworthville Station Access Upgrade proposal.



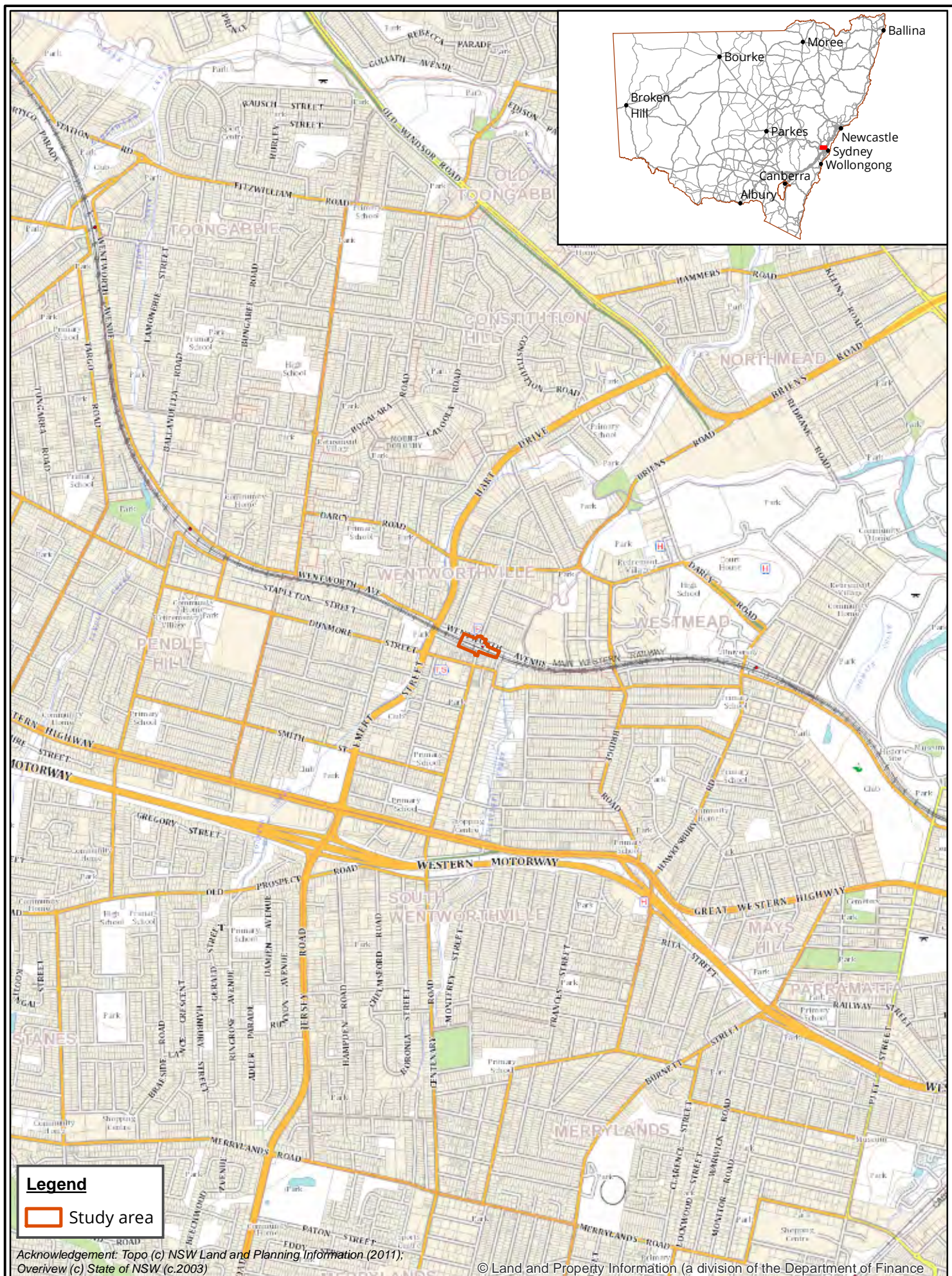
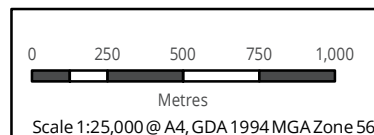


Figure 1: Location of the study area, NSW

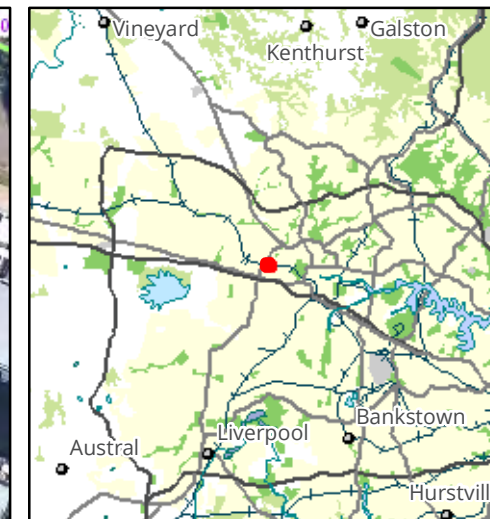


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Matter: 19160  
Date: 30 October 2014,  
Checked by: BW, Drawn by: JMS, Last edited by: jshepherd  
Location: P:\19100s\19160\Mapping\







#### Legend

Study area

Figure 2: Wentworthville Station Upgrade Study Area

0 10 20 30 40 50  
Metres

Scale: 1:1,000 @ A3  
Coordinate System: GDA 1994 MGA Zone 56



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## 2. Methods

### 2.1 Literature and database review

In order to provide a context for the study area, information about flora and fauna from within 5 km of the study area (the 'local area') was obtained from relevant public databases. Records from the following databases were collated and reviewed:

- Atlas of NSW Wildlife. New South Wales, Office of Environment and Heritage (OEH).
- NSW Threatened Species Information (OEH).
- PlantNET (The Royal Botanic Gardens and Domain Trust 2014).
- Protected Matters Search Tool of the Australian Government Department of the Environment (DoE) for matters protected by the Cwlth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Other sources of biodiversity information:

- Relevant vegetation mapping, including:
  - Vegetation Mapping of the Cumberland Plain (NPWS, 2002).

The following reports were also reviewed:

- Wentworth Working Papers 1 and 2 prepared for Cardno (Biosis 2013).

### 2.2 Definitions of significance

#### 2.2.1 Species and ecological communities

Significance of a species or community is determined by their listing as rare or threatened under Commonwealth or State legislation / policy. The sources used to categorise significance of species and communities in this report are summarised below in Table 1.

**Table 1: Criteria for determining significance of species & ecological communities**

Significance	
<b>National</b>	Listed as threatened (critically endangered, endangered, vulnerable or conservation dependent) or Migratory under the Cwlth Environment Protection and Biodiversity Conservation Act 1999.
<b>State</b>	Listed as threatened (critically endangered, endangered or vulnerable) under the NSW Threatened Species Conservation Act 1995.

### 2.3 Likelihood of occurrence

The likelihood of occurrence is a broad categorisation used by Biosis to indicate the potential for a species to occur within the study area. It is based on expert opinion and implies the relative value of a study area for a particular species.



The likelihood of species occurring within the study area is ranked as negligible, low, medium or high. The rationale for the rank assigned is provided for each species in Appendix 1 (flora) and Appendix 2 (fauna).

Species which have a medium or higher likelihood of occurrence are given further consideration in this report. The need for targeted survey for these species is also considered.

## **2.4 Site investigation**

Biosis completed a preliminary flora and fauna assessment for the study area in 2013. The information from the 2013 assessment will be referred to in this document as well as recent data captured from a secondary site visit 29 October 2014.

### **2.4.1 Flora assessment**

The flora assessment for the current report was undertaken on 29 October 2014 by inspecting all vegetated areas within the study area from the closest access point. For vegetation within the rail corridor, the inspection was usually only able to be carried out through a fence or from an adjacent platform.

A list of flora species was compiled for the study area. Records of any threatened flora species will be submitted to OEH for incorporation into the NSW Wildlife Atlas.

The general condition of native vegetation was observed as well as the effects of current seasonal conditions. Notes were made on specific issues such as noxious and environmental weed infestations, evidence of management works, roadside impacts such as rubbish dumping and routine maintenance works and the regeneration capacity of the vegetation.

### **2.4.2 Fauna assessment**

The study area was investigated for the current report on 29 October 2014 to determine its values for fauna. These were determined primarily on the basis of the types and qualities of habitat(s) present. All species of fauna opportunistically observed during the assessment were noted. This included direct observation, searching for evidence of fauna presence such as nests, examination of tracks and scats and identifying calls. Particular attention was given to searching for significant species and their habitats. Fauna species were recorded with a view to characterising the values of the study area and the investigation was not intended to provide a comprehensive survey of all fauna that has potential to utilise the study area over time.

Fauna records will be submitted to OEH for incorporation into the NSW Wildlife Atlas.

### **2.4.3 Permits and Licences**

The flora and fauna assessment was conducted under the terms of Biosis's Scientific Licence issued by the Office of Environment and Heritage under the *National Parks and Wildlife Act* (SL100758, expiry date 31 March 2015). Fauna survey was conducted under approval 11/355 from the NSW Animal Care and Ethics Committee.

## **2.5 Limitations**

Database searches, and associated conclusions on the likelihood of species to occur within the study area, are reliant upon external data sources and information managed by third parties.

Ecological surveys provide a sampling of flora and fauna at a given time and season. There are a number of reasons why not all species will be detected at a site during survey, such as species dormancy, seasonal conditions, migration and breeding behaviours of some fauna. In many cases these factors do not present a significant limitation to assessing the overall biodiversity values of a site.

The current flora and fauna assessment was conducted in spring, which is an optimal time for survey.

The site inspection was only permissible by TfNSW within the publicly assessable areas around the study area, so some observations had to be made from a distance. It is possible that small plants of some species and small fauna species could have been missed, particularly within densely vegetated areas.

## 2.6 Legislation and policy

The implications for the proposal were assessed in relation to key biodiversity legislation and policy including:

- *Cwlth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- *Environmental Planning and Assessment Act 1979* (EP&A Act), including where relevant:
  - State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14)
  - State Environmental Planning Policy No. 26 – Littoral Rainforests (SEPP 26)
  - State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44)
- *Threatened Species Conservation Act 1995* (TSC Act).
- *Fisheries Management Act 1994* (FM Act).
- *National Parks & Wildlife Act 1974* (NP&W Act).
- *Noxious Weeds Act 1993* (NW Act).

## 2.7 Mapping

Transport for NSW supplied plans for the proposal as well as the proposed work area (Wentworthville Platform Plan Option 2.1 and TAP – 1851 – SITE – 0001 Revision A over an aerial photograph base).

The locations of trees and other ecological features mapped in this report are based on site inspection and aerial photo interpretation.

## 3. Results

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### 3.1 Database and document review

Significant species previously recorded within 5 km of the study area are mapped in Figures 3, 4 and 5.

A list of significant flora species recorded or predicted to occur in the local area, along with an assessment of the likelihood of the species occurring within the Wentworthville Railway Station study area is provided in Table 7.

None of the 20 threatened flora species previously recorded or predicted to occur in the local area, is considered likely to occur within the study area.

The 16 Threatened Ecological Communities previously recorded or predicted to occur in the local area, is provided in Table 8.

A list of significant fauna species recorded or predicted to occur in the local area, along with an assessment of the likelihood of the species occurring within the Wentworthville Railway Station study area is provided in Table 9.

None of the 31 threatened fauna species previously recorded or predicted to occur in the local area, is considered likely to occur within the study area.

A list of migratory fauna species (EPBC Act) recorded or predicted to occur in the local area, along with an assessment of the likelihood of the species occurring within the Wentworthville Railway Station study area is provided in Table 10.

### 3.2 Site assessment

The ecological features of the study area are described below and mapped in Figure 6. Photographs of those parts of the study area referred to below are presented in Appendix 3.

#### 3.2.1 Vegetation communities

From the database search 16 Threatened Ecological Communities (TEC) have been recorded or are predicted to occur within the study area.

However, based on regional vegetation mapping of the Cumberland Plain (NPWS, 2002), remnants of four identifiable native vegetation communities comprising three TEC have been mapped near the study area:

- Shale Plains Woodland (Cumberland Plain Woodland, Critically Endangered Ecological Community, TSC Act and EPBC Act)
- Shale Hills Woodland (Cumberland Plain Woodland Critically Endangered Ecological Community, TSC Act and EPBC Act)
- Alluvial Woodland (River-flat Eucalypt Forest of the NSW North Coast, Sydney Basin and South-east Corner Bioregions, Endangered Ecological Community, TSC Act)
- Shale-Sandstone Transition Forest – High Sandstone influence (Shale Sandstone Transition Forest, Endangered Ecological Community, TSC Act)

The long history of urbanisation in the Wentworthville area means that intact remnants of these native vegetation communities are now scarce and they are all listed as Threatened Ecological Communities under NSW and/or Commonwealth legislation. No native vegetation communities are mapped as present within the Wentworthville Railway Station study area.

Some individual elements may remain of these vegetation communities even in highly disturbed sites, usually as isolated trees, shrubs or groundcover species or as very small patches of vegetation in relatively inaccessible or undisturbed areas.

Within the Wentworthville Railway Station study area, most parts exhibit a long history of disturbance and consequently exotic vegetation is common, comprising specific plantings, landscaping treatments, and invasion by environmental weeds and garden plants.

One flora species detected within the study area is considered to be an element of a local native vegetation community that is a listed TEC. The Grey Gum located at the base of the steps on the northern side of the rail corridor is a listed species of Shale-Sandstone Transition Forest and Cumberland Plain Woodland and may be a remnant of one of those vegetation communities in the local area.

### 3.2.2 Description of vegetated areas within the study area

The railway station platforms have no trees, shrubs or other vegetation present.

#### North side of the Rail Corridor

Narrow bands of vegetation are present within the RailCorp fence. A large multi-stemmed Grey Gum, around 14 m in height, is present immediately to the east of the existing steps. This area also contains a row of Bottlebrushes *Callistemon* sp. around eight metres in height. At shrub level there is a range of garden plants and environmental weeds, comprising; Star Jasmine *Trachelospermum jasminoides*, Tree of Heaven *Ailanthus altissima*, Green Cestrum *Cestrum parqui*, Bird of Paradise plant *Strelitzia reginae*, Paddys Lucerne *Sida rhombifolia* and Cobblers Pegs *Bidens pilosa*. Further east, a large multi-stemmed Camphor Laurel *Cinnamomum camphora* around 10 metres in height and a Sweet Pittosporum *Pittosporum undulatum* around four metres in height are present. Again, various environmental weeds occur under this tree comprising; Large-leaved Privet *Ligustrum lucidum*, African olive *Olea europaea* subsp. *cuspidata* and Green Cestrum. Further east, other Camphor Laurels and a dense thicket of Small-leaved Privet *Ligustrum sinense*, Lantana *Lantana camara*, Paspalum *Paspalum dilatatum* and some Kikuyu *Pennisetum clandestinum* is present in a narrow strip.

On the footpath along Wentworth Avenue, outside the RailCorp fence, some landscaping has been carried out comprising small-leaved Lillypillies *Syzygium* sp. to two metres in height with some Mat-rushes *Lomandra* sp. as groundcover.

West of the stairs and adjacent to the station access ramp three Brush Box *Lophostemon confertus* trees around six metres in height are present in a row along the footpath and further west the landscaping comprising small-leaved Lillypillies and Mat-rushes continues.

#### South side of the Rail Corridor

Under the railway station access ramp and stairs, small Camphor Laurels and Large-leaved Privet are present with Paddys Lucerne, Ochna *Ochna serrulata* and Dietes below.

On either side of the bottom of the stairs, a large Mediterranean Cypress tree around eight metres in height is present.

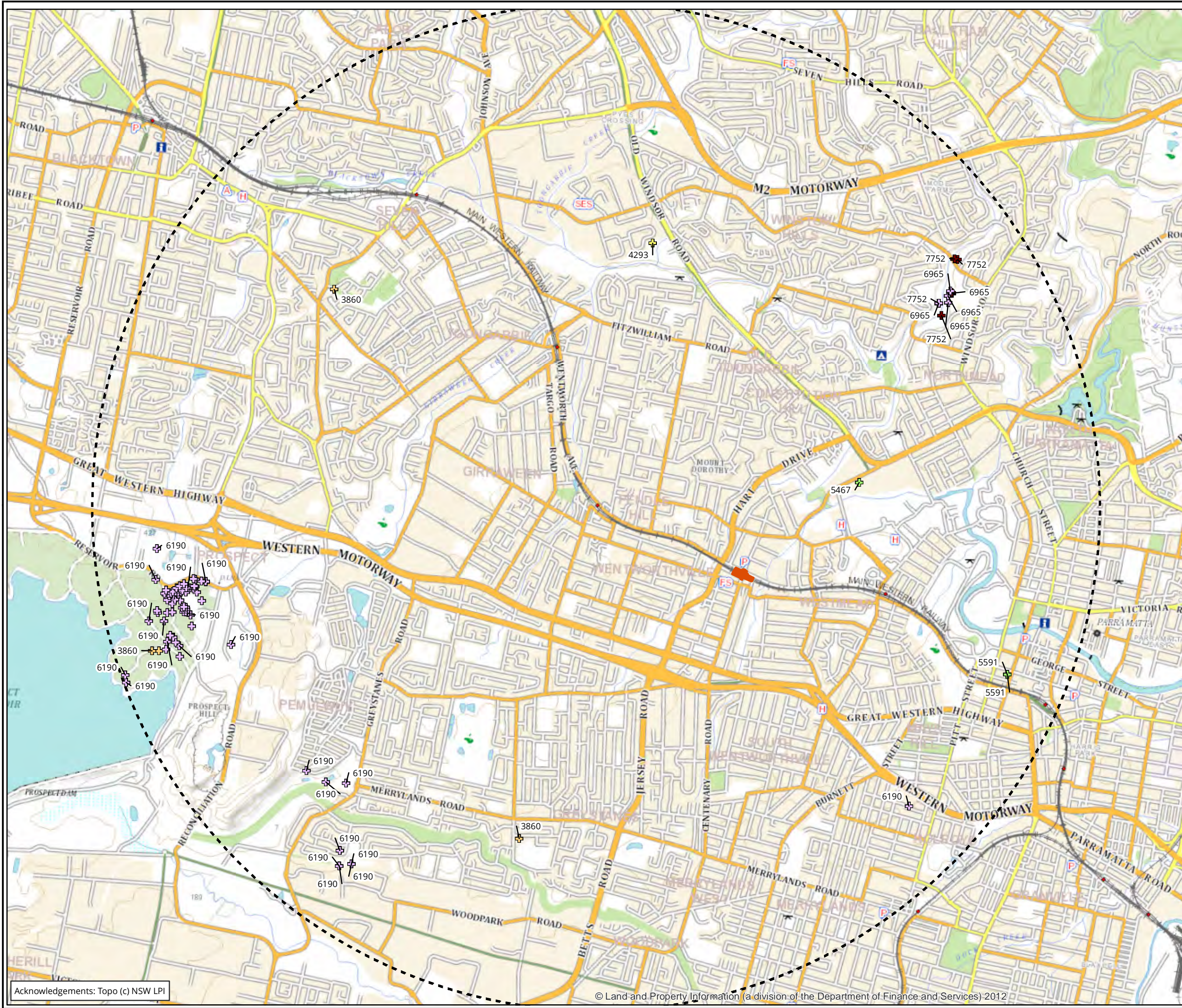
To the east, inside the RailCorp fence a row of Camphor Laurels is present at around eight metres in height with some Lantana also present. Further east more Camphor Laurels, Green Cestrum,

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Lantana and Small-leaved privet occur and Dolichos Pea *Dipogon lignosus* grows along the RailCorp fence.

West of the stairs a small memorial has been planted out with Dietes *Dietes* sp. but some Ochna is also present. Further west a row of Black Locust *Robinia pseudoacacia* around 8 m in height is present with Moth Vine *Araujia sericifera*, Green Cestrum and Paddys Lucerne. Camphor Laurels occur adjacent to the roundabout on The Kingsway.





**Legend**

Study Area

Search area

Threatened flora

- 3860; *Acacia pubescens*
- 4293; *Syzygium paniculatum*
- 5467; *Persoonia nutans*
- 5591; *Pomaderris prunifolia*
- 6190; *Pimelea spicata*
- 6965; *Pimelea curviflora* var. *curviflora*
- 7752; *Epacris purpurascens* var. *purpurascens*

Figure 3: Threatened Flora within 5km of the Study Area

0 350 700 1,050 1,400 1,750

Metres

Scale: 1:35,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Biosis Pty Ltd

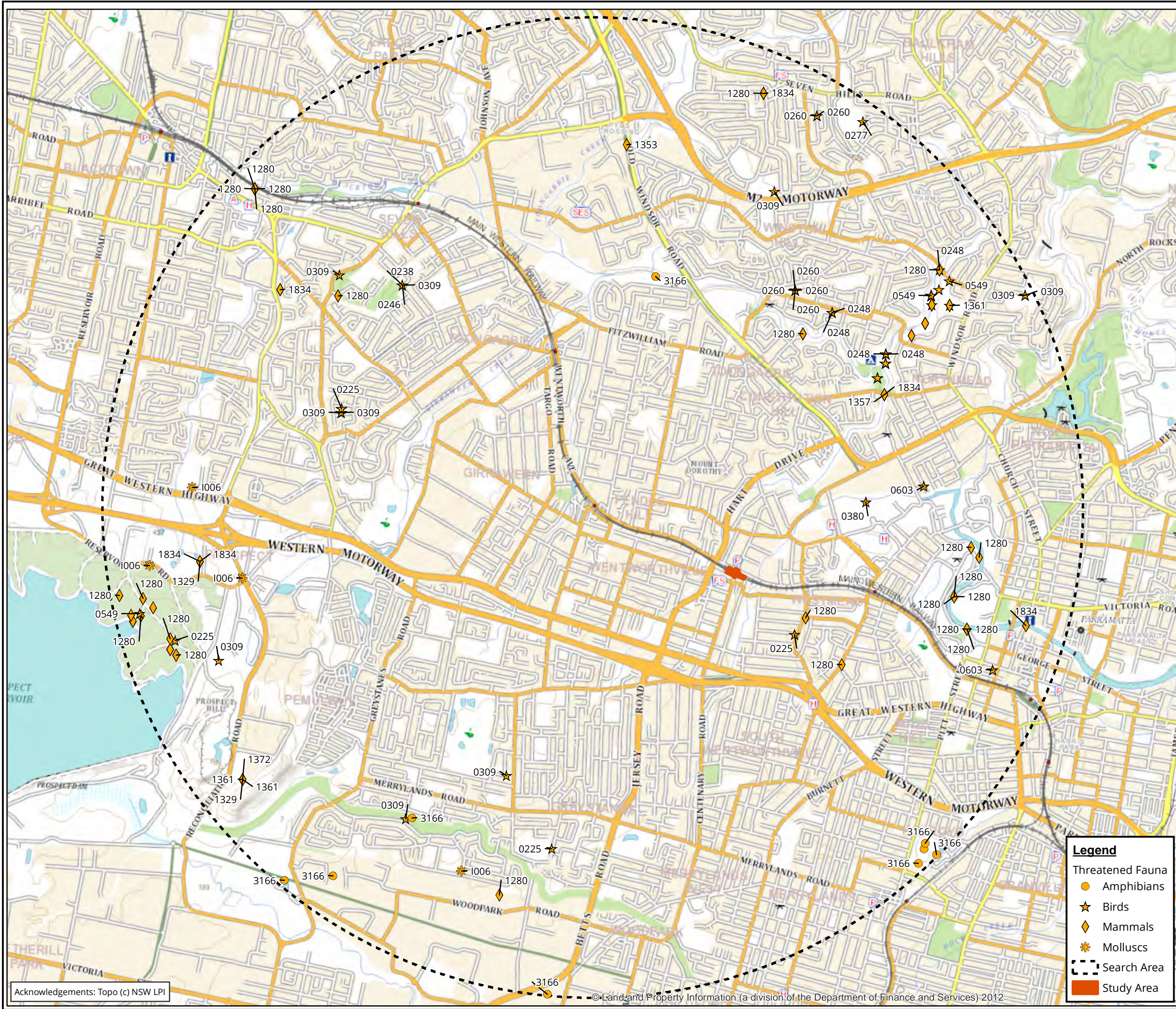
Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

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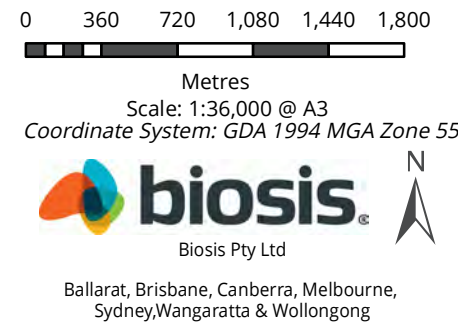
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Date: 30 October 2014,  
Checked by: BW, Drawn by: JMS, Last edited by: jshepherd  
Location: P:\19100s\19160\Mapping\19160\_F3\_ThrFlora\_Wwth





- Species list
- Amphibians
- 3166 - Green and Golden Bell Frog
- Birds
- 0225 - Little Eagle  
0238 - Black Falcon  
0246 - Barking Owl  
0248 - Powerful Owl  
0260 - Little Lorikeet  
0277 - Superb Parrot  
0309 - Swift Parrot  
0380 - Scarlet Robin  
0549 - Varied Sittella  
0603 - Regent Honeyeater
- Mammals
- 1280 - Grey-headed Flying-fox  
1329 - Eastern Freetail-bat  
1353 - Large-eared Pied Bat  
1357 - Southern Myotis  
1361 - Greater Broad-nosed Bat  
1372 - Eastern False Pipistrelle  
1834 - Eastern Bentwing-bat
- Molluscs
- 1006 - Cumberland Plain Land Snail

Figure 4: Threatened Fauna within 5km of the Study Area



Matter: 19160  
Date: 30 October 2014,  
Checked by: BW, Drawn by: JMS, Last edited by: jshepherd  
Location: P:19100s19160\Mapping\19160\_F4\_ThrFauna\_Wentworthville

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