

**Preliminary Biodiversity Assessment**  
**including the**  
**Five Part Test of Significance**

**Part of a**  
**Site Re-development for the Port of Echuca**  
**Riverboat Access Ramp**  
**Watson Street, Echuca**  
**for**  
**Murray River Council**  
**and**  
**Shire of Campaspe**  
**June 2022**



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NOTES

## ***Executive Summary***

This report has been provided as support for a Development Application to Murray River Council for a riverboat access ramp and raised walkway to provide improved disabled person access to the riverboats at the Port of Echuca. The Development Application process must proceed through the Murray River Council because the land comes under NSW jurisdiction below the top bank of the Murray River on the Victorian side of the river.

The report provides information relating to biodiversity including habitat, flora and fauna and provides mitigation measures to address relevant environmental issues at the river port located at Watson Street Echuca (~0.3 ha). The site abuts a Terrestrial Biodiversity overlay on the north bank of the Murray River. No trees will be removed during the construction of the disabled persons access pathway.

The original indigenous overstorey vegetation on and around the site consisted predominantly of Riverine Red Gum Grassy Woodland and Derived Corkscrew Grassland communities. The remaining trees provide important habitat and will be retained and maintained to contribute to the well-being of fauna as well as local amenity.

### **Five Part Test of Significance**

The Five Part Test of Significant Impact on Species and Communities indicated that it is unlikely that there were significant impacts from previous activities on the site.

The key findings with regard to **flora** are:

1. The original flora of the site formed part of local Red Gum Grassy Woodland community. None of the species located in the riparian zone will be removed during the development process.
2. The only possibly threatened flora species listed as endangered or vulnerable are the Turnip Copperburr (*Sclerolaena napiformis*) and Floating Swamp Wallaby-grass (*Amphibromus fluitans*). Habitat constraints dictate that neither species is likely to be found on the site, but have been recorded within 10 km of the site.

The key findings with regard to **fauna** are:

1. There were no listed threatened fauna species found within the site or adjacent woodland (~1 km).

### **Biodiversity Offset Scheme Entry Threshold Report**

There will be no clearance of native vegetation and consequently entry into the Biodiversity Offset Scheme is not required.

Recommendation:

1. Development should be approved providing the Red Gum Grassy Woodland community bordering the development area is retained and protected.

# Preliminary Biodiversity Assessment including the Five Part Test of Significance Port of Echuca Riverboat Access Ramp

## 1. Introduction

This report provides information on biodiversity including habitat, flora and fauna and is submitted as part of the Murray River Council's Development Approval process for a disabled persons access river walkway and construction of railings at the port area Watson Street, Echuca. The site area is approximately 0.3 ha. The Development Application process must proceed through the Murray River Council because below the top bank of the Murray River on the Victorian side of the river the land comes under NSW jurisdiction.

This preliminary biodiversity (flora and fauna) assessment has been prepared at the request of Thomson Hay Landscape Architects order to satisfy the requirements of the *Biodiversity Conservation Act 2016* and the *Environmental Planning and Assessment Act 1979* updated in line with the *Environmental Planning and Assessment Amendment Act 2017*. The report also provides information to decision makers, such the Department of Planning and Environment NSW.

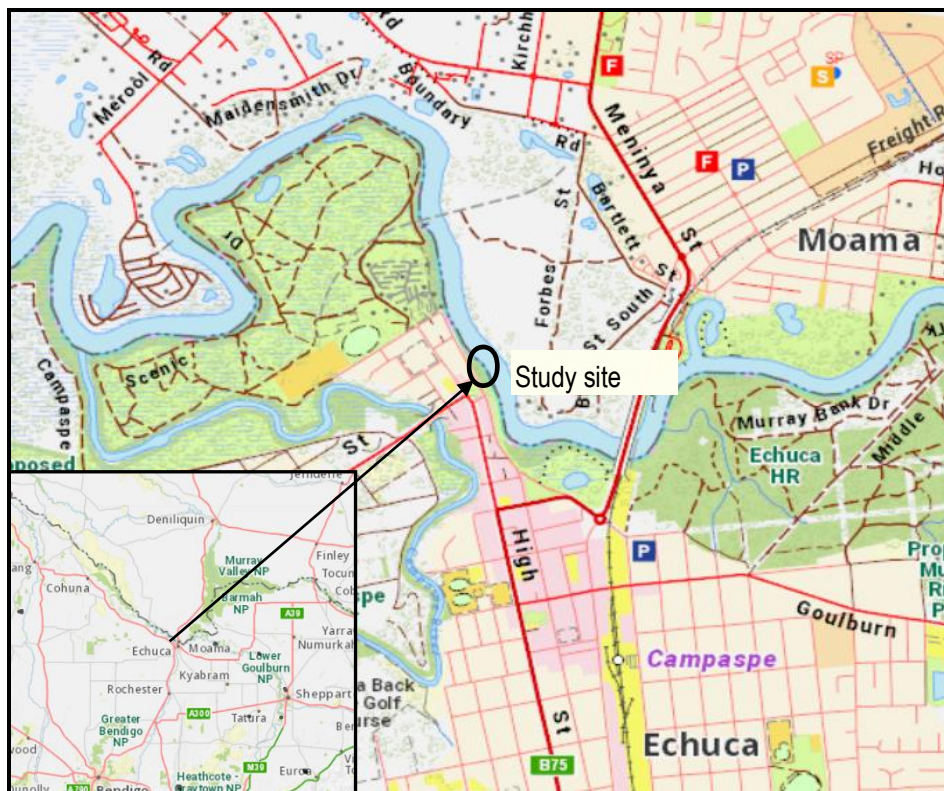


Figure 1. Locality plan and site location



Figure 2. Site overview of development area

Table 1. GPS extent of development

Corner	Zone	Easting	Northing
NW	55H	297130	6000640
SW	55H	297120	6000627
NE	55H	297210	6000541
SE	55H	297194	6000530

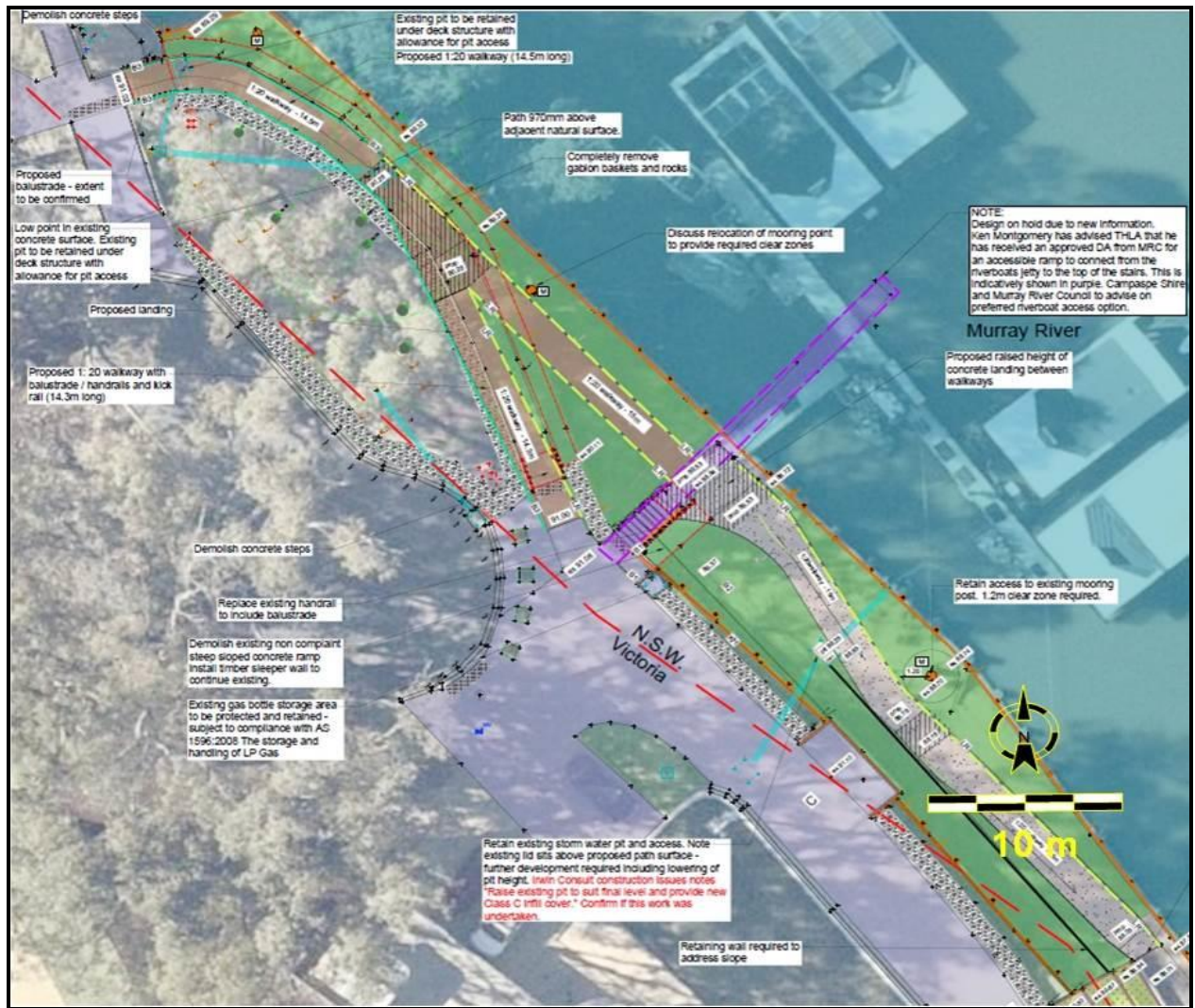


Figure 3. Development area access ramp-walkway plan and state boundary

## 2. Land Use, Zoning and Overlays

The land (Crown Allotment 2084) is located on the north side of the Murray River close to Watson Street, Echuca and is used for recreation as well as tourist activities related to paddle steamers and other water craft. The adjacent areas have been previously predominantly used for residential housing, recreation and tourist developments.



Figure 4. Redevelopment site on main walkway area - views east (2) and west (1)

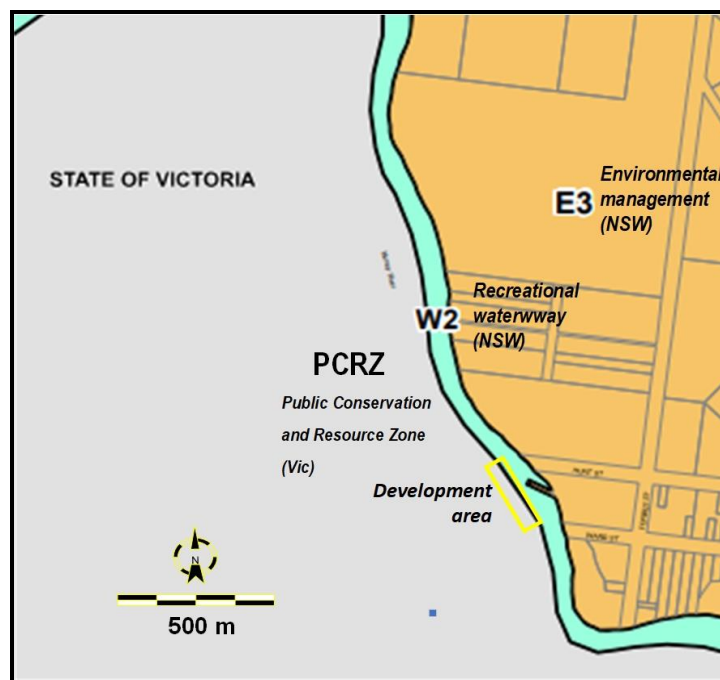




**Figure 5. Victorian Crown Land allotment 2084 (Blue boundary) at the study site**

There is no zoning for the land owned by NSW on the west bank of the river, however, the Murray River Council zoning adjacent to the site under consideration is Recreational Waterway (W2) with land on the NSW side of the river zoned Environmental management (E3). On the Victorian side the land is Public Conservation and Resource Zone (PCRZ – Figure 4) and has Flood as well as Environmental Significance overlays.

The site is situated on the Murray River floodplain and on the NSW side there is a terrestrial biodiversity and flood overlay covering the floodplain south of the Moama township (Figure 4). The site abuts a Terrestrial Biodiversity overlay on the north bank of the Murray River. Moreover, as indicated in Appendix 2 there is no overlay or Biodiversity Values mapping for the Victorian side of the Murray River.



**Figure 6. Land use zoning**



Figure 7. Murray River Council Terrestrial biodiversity overlay

### ***Previous Studies***

Brett Lane and Associates (2015) produced three sets of documentation relating to matters of National Environmental Significance, Biodiversity and Habitat Impact Assessment and an Ecological Assessment (Refer Bibliography). In addition, Ecology and Heritage Partners conducted a Biodiversity Assessment in 2018 as part of the wider port landscape development.

### ***3. Biodiversity Context and the Endangered Ecological Communities***

The development site is located in the Riverina Biogeographic Region and Murray Fans Sub-region. The main ecological community form in this region is River Red Gum-sedge dominated very tall open forest (Plant Community Type ID 2) that comprises a tree layer and a native understorey with a varying proportion of shrubs, grasses and herbs, as shown in Figure 2.

The River Red Gum-sedge dominated very tall open forest occurs on floodplains with soils of Tertiary and Quaternary alluvial origin. The Red Gum (*E. camaldulensis*) forest community generally occurs where average rainfall is 375-800 mm p.a. and the mean maximum annual temperature is 22- 26°C.

Although it has been largely modified by tourist infrastructure development, the area does contain some environmentally significant remnant trees, but is devoid of understory except for introduced weeds and a limited number of planted native sedges (Figure 4).

### **Critical Habitat Elements**

The Red gum (*E. camaldulensis*) forest abutting the Murray River provides valuable habitat for those animal species that are either resident or transient visitors, in particular they support fauna, especially birds from more temperate forest and woodland ecosystems, as well as species from the drier inland semi-arid environments. Important habitat features include hollows of all sizes, dead standing trees, thickets of trees and shrubs, fallen timber, fine litter and open grassy areas.

The typical vegetation structure is a woodland to open forest with a canopy of mostly eucalypts and an understory of moderately dense to sparse shrub layer and a ground layer of perennial and annual native herbs and grasses.

The tree canopy is dominated by Red gum (*E. camaldulensis*). The mid layer can include a range of shrubs including wattles (*Acacia species*) and Sweet bursaria (*Bursaria spinosa*). The ground layer in undisturbed areas consisted of grasses and grass-like plants including Wallaby grass (*Austrodanthonia spp*) and a range of herbaceous flowering plants, such as Vanilla lilies (*Arthropodium species*) and small saltbush species, for example Ruby saltbush (*Enchylaena tomentose*) (Refer Plant Community Type 2 - Appendix 1).

In order to best preserve the Red Gum forest, it is important to understand the critical factors and processes affecting their survival. The impact of agriculture and town development has meant that previously trees have been partly or wholly removed across large swaths of the rural landscape. In addition, many areas of the Red Gum have been logged and subjected to stock grazing. Remnants are subject to various processes of degradation that have led to a large reduction in ecological functioning; some threatening processes include:

- Logging and firewood cutting, increased livestock grazing, weed invasion, inappropriate fire regimes and soil disturbance as a result of roading;
- Loss of structural integrity, such that individual trees are subject to climatic extremes and storm impacts.

### **Murray River Endangered Aquatic Ecological Community**

There are no terrestrial Threatened Communities listed for the subject land. However, the Lower Murray River Endangered Ecological Community (EEC) is listed under part 3 of Schedule 4 of the Fisheries Management Act 1994 (Department of Primary Industries 2017).

The EEC includes all native fish and aquatic invertebrates within all "natural" creeks, rivers, and associated lagoons associated with the Murray River. Importantly the river provides a habitat for Murray Cod (*Maccullochella peeliipeelii*) and other aquatic species, such as Yabbies (*Cherax destructor*) and Murray Crayfish (*Euastacus armatus*) that are just a few of the many species that make up the Lower Murray River Endangered Ecological Community.

Runoff from the site flows into the Murray River which means that off-site impacts must be considered in relation to the river. Site drainage considerations are therefore important (Refer Table 6 - Impact mitigation).

#### 4. Threatened species

The *Biodiversity Conservation Act 2016* and its Regulations identify and protect threatened species, populations and ecological communities in NSW. A desktop assessment was conducted and a list of threatened species is provided in Table 2. There are four treated species of animals (Vulnerable and Protected) and two threatened species of plants (Endangered or Vulnerable) recorded within a 10 km radius of the study site (Refer maps Figures 8 and 9 and Appendix 3).

##### **Commonwealth EPBC Act 1999**

As previously mentioned, in relation to the *Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, if there is the potential for a significant impact on nationally threatened species or communities, or listed migratory species, then under the Act a referral to the Minister should be considered.

In this case the six treated flora and fauna species listed under the *Commonwealth EPBC Act 1999* will not be impacted directly because there is only limited habitat value (foraging) on the site. The site's limited area means that it is not of significance to the survival of any of the EPBC Act listed threatened species.

**Table 2. Threatened species list - Fauna**

Scientific Name (animal species)	Common Name	NSW status*	Comm. status	Records
<i>Climacteris victoricae</i>	Brown Treecreeper	V, P	-	2
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	V, P	-	2
<i>Petaurus norfolcensis</i>	Squirrel Glider	V, P	-	1
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	V, P	-	1

**Table 3. Threatened species list - Flora**

Scientific Name	Common Name	NSW status*	Comm. status	Records
<i>Sclerolaena napiformis</i>	Turnip Copperburr	E1	E	59
<i>Amphibromus fluitans</i>	Floating Swamp Wallaby-grass	V	V	1

\* NSW and Commonwealth status: E1/E - Endangered; P - Protected; V - Vulnerable

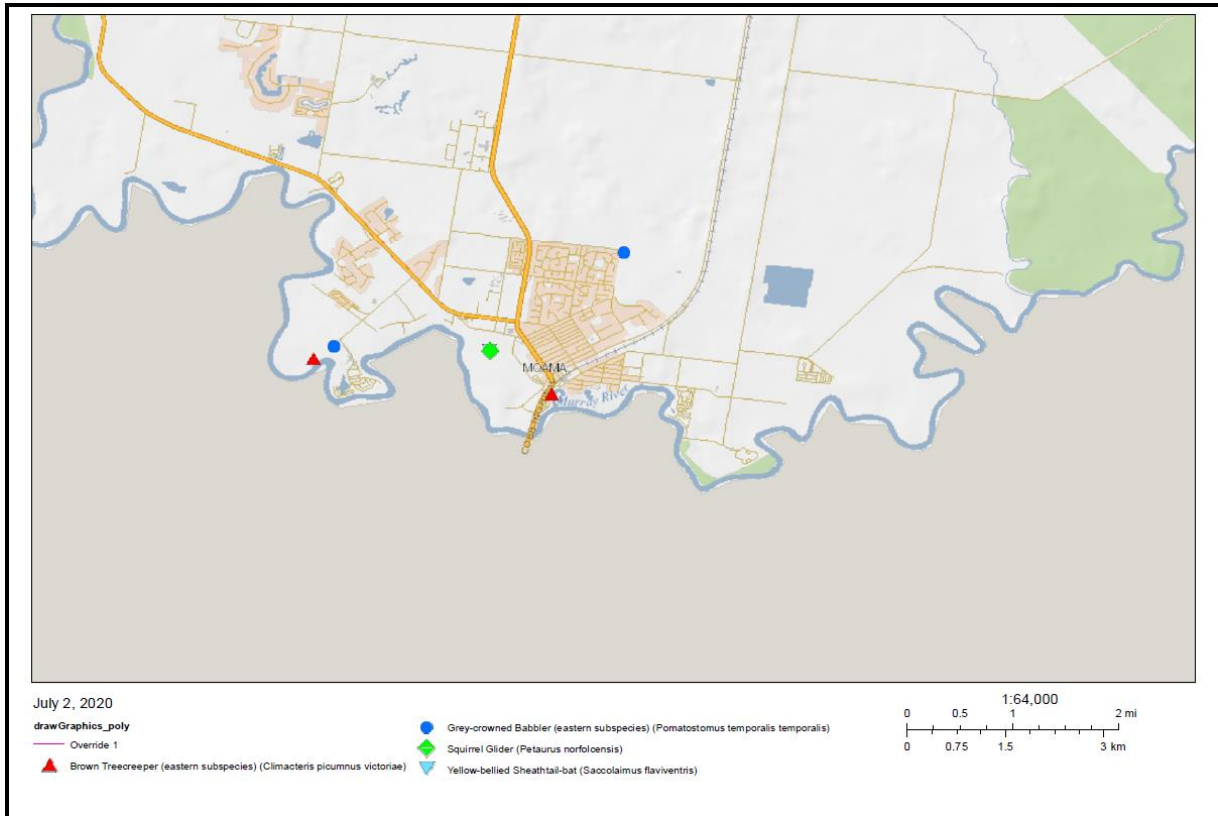


Figure 8. Fauna threatened species recorded locations

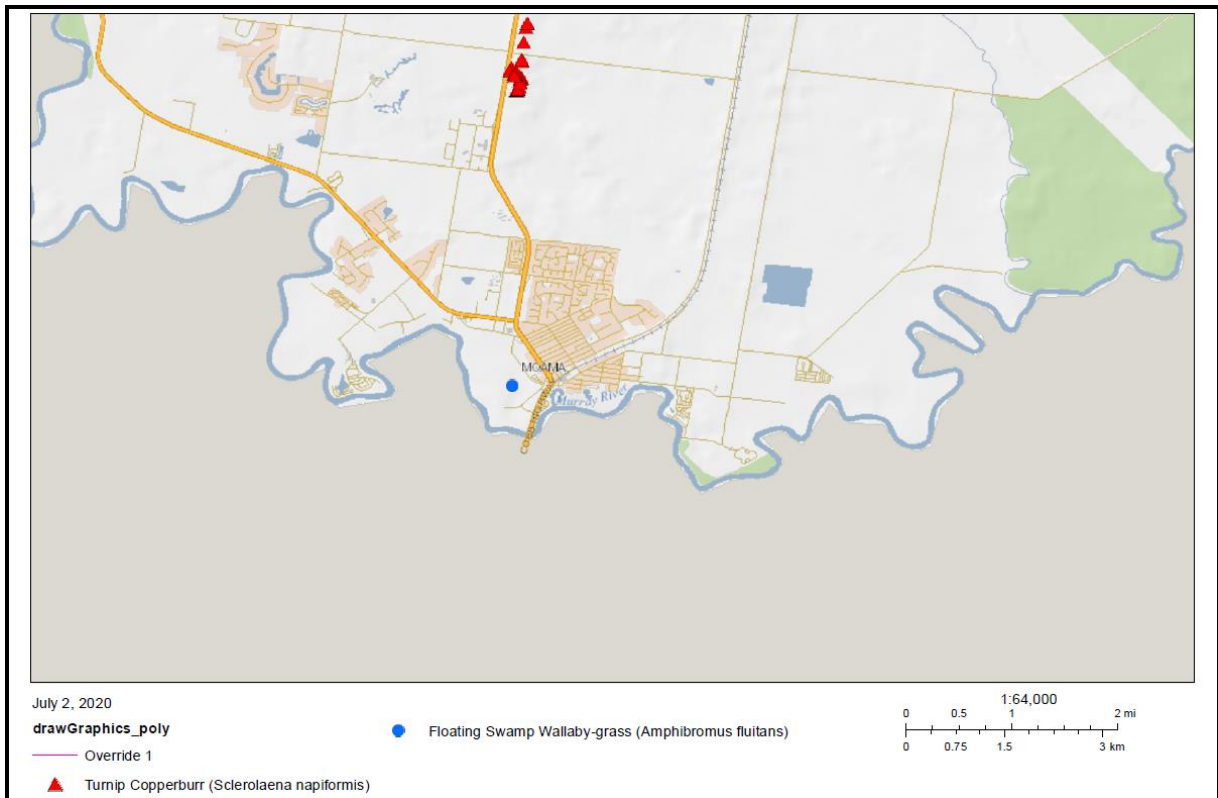


Figure 9. Flora threatened species recoded locations

## **5. BOSET Assessment**

The Biodiversity Offset Scheme Entry Threshold (BOSET) tool was used to determine if entry into the Biodiversity Offset Scheme was required.

There is no tree clearing planned and the report that was generated from the OEH website (Appendix 2) indicated that entry into the scheme under s.7.1 to 7.3 of the *Biodiversity Conservation Regulation 2017* was not required in this instance. Therefore there is no requirement for a Biodiversity Assessment Report or Species Impact Statement to be prepared in this instance.

## **6. Flora and Fauna Assessment**

### **Methodology**

The location of the proposed development site is provided in Figure 1. The area was assessed using guidelines (Threatened Species Test of Significance Guidelines, 2018) and procedures relating to the *Commonwealth EPBC Act 1999*, and the *Biodiversity Conservation Act 2016*.

The report was compiled based on the Development Application drawings, site inspection and desktop identification of flora and fauna present at the port site and a database search for threatened species within 10 km of the site. Searches by local region, habitat and type of species were performed using the Threatened biodiversity profile search application, BioNet Atlas for records of flora and fauna sightings, the Vegetation Information System (VIS) Flora Survey database for vegetation site data and Threatened Biodiversity Data Collection data on threatened species and ecological communities. The site field assessment was conducted on 8<sup>th</sup> June 2022 by Mr Peter Clinnick (AES).

The following methodologies were adopted to survey the flora and fauna on the site of the proposed facility:

- Flora and fauna site searches;
- A search of the New South Wales BioNet Atlas database.

Trees outside the boundary of the development site were not assessed in detail, because no clearing is planned for the project. The site investigation and desktop assessment take into account species occurring within the locality (10 km), as well as species that are likely to be, or were found on the study area.

## **Results**

### **Woodland and grassland habitat**

Prior to settlement the area was totally occupied by River Red Gum (*E. camaldulensis*) forest with Black Box (*Eucalyptus largiflorens*) in ephemeral swampy depressions. Similar representative woodland communities including derived grassland can be found on the surrounding floodplain with remnants on the nearby roadsides and the river reserve.

Past commercial transport activities (log and wool barges and docks) and more recent tourism infrastructure has all but obliterated native understory and ground cover on the development area. Ecology and Heritage Partners conducted a Biodiversity Assessment in 2017 and also noted:

*“The study area is devoid of any native understory, shrub or herbaceous species and the groundcover is dominated by bareground. Very few minor occurrences of native grasses were observed.”*

Ground cover previously would have included Wallaby Grass (*Austrodanthonus Spp*) and possibly Warrego Grass (*Paspalidium jubiflorum*) with Gold-dust Wattle (*Acacia acinacea*) regrowth in the middle story.

### **Threatened Fauna**

All the threatened species sightings have been from areas more than 500 m away from the development site. A complete fauna list for the 10 km search area is provided in Appendix 4. A search (21-07-2022) of the BioNet Atlas of New South Wales found no threatened species records specifically for the proposed development site. The site provides foraging habitat and is unlikely to be utilised for nesting due to the intensity of human activity light pollution and lack of suitable hollows.

### **Threatened Flora**

Only two threatened flora species were identified as being possible present within the 10 km search area (Appendix 3).

Turnip Copperburr (*Sclerolaena napiformis*) is classified as endangered species in both NSW status and commonwealth status lists. Only a few small populations can be found in the southern Riverina of NSW and north-central Victoria. NSW populations are confined to the remnant grassland habitats on clay-loam soils on travelling stock routes and road reserves. Turnip Copperburr tends to grow on level plains within an open to mid-dense tussock grassland with herbaceous ground layer in areas that are only intermittently and lightly grazed. (OEH 2020).

Floating Swamp Wallaby-grass (*Amphibromus fluitans*) exists mostly in permanent swamps including swamp margins in mud and dam beds in hard clay and in semi-dry mud of lagoons with *Potamogeton* species (e.g. *Potamogeton ochreatus* – Blunt pondweed). Populations are confined to Riverine wetlands and margins with periodic flooding of its habitat being required to maintain wet conditions (OEH, 2020). No suitable habitat exists at the port site.

The study site is subject to heavy vehicle traffic and ground disturbance and is therefore unlikely to contain the species. Trees on the site (Figure4) include six Red Gums (*Eucalyptus camaldulensis*) and one multi-stemmed Black Box (*Eucalyptus largiflorens*) which were measured and their dimensions are provide in Table 4.

**Table 4. Tree dimensions at the port site**

Tree ID	Species	Diameter @ 1.4 m (cm)	Height (m)
T1	River Red Gum ( <i>Eucalyptus camaldulensis</i> )	75	~14
T2	River Red Gum ( <i>Eucalyptus camaldulensis</i> )	65	~18
T3	River Red Gum ( <i>Eucalyptus camaldulensis</i> )	75	~18
T4	River Red Gum ( <i>Eucalyptus camaldulensis</i> )	75	~17
T5	River Red Gum ( <i>Eucalyptus camaldulensis</i> )	80	~17
T6	Black box ( <i>Eucalyptus largiflorens</i> ) Multi-stem	65	~6

## 7. Five Part Test of Significance

The Five Part Test of Significance (*Biodiversity Conservation Act 2016*) was applied to determine whether the proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats.

- (1) In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

### **Response:**

*In relation to the threatened species recorded within 10 km of the site, as outlined in the preceding text, the proposed development and associated activities is highly unlikely to have an adverse effect on the life cycle of the species, such that a viable local population of the species is likely to be placed at risk of extinction.*

- (2) In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity;
- (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
  - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.

### **Response:**

*The development and associated activities will not affect the occurrence or place at risk of extinction species listed as threatened for the Lower Murray River Aquatic Ecological Community. Furthermore, the development and associated activities will not substantially or adversely modify the composition of the ecological community, such that its local occurrence is likely to be placed at risk of extinction.*



(3) In relation to the habitat of a threatened species or ecological community:

- (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
- (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
- (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality.

**Response:**

*(i) It must be recognised that the habitat at the port site for Turnip Copperburr (*Sclerolaena napiformis*) and Floating Swamp Wallaby-grass (*Amphibromus fluitans*) and native fauna populations of Grey-crowned Babbler (*Pomatostomus temporalis temporalis*), Brown Treecreeper (*Climacteris picumnus victoriae*), Squirrel Glider (*Petaurus norfolcensis*) and Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*) has previously been modified during early settlement and development. Some roosting and foraging habitat exists. However, there are few observable hollows that could provide nesting site for either the bird or bat populations.*

*(ii) The habitat is unlikely to become fragmented or isolated as it forms part of the Murray River Red Gum forest corridor. Trees on the site will be protected during the process of re-development of the site.*

*(iii) No habitat is to be removed as a result of the redevelopment activities.*

(4) Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),

**Response:**

*The development and associated activities will not have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly).*

(5) Whether the proposed development or activity is or is part of a key threatening process, or is likely to increase the impact of a key threatening process.

**Response:**

*The re-development activities do not constitute a key threatening process for any of the threatened species or the existing habitat, including the Murray River Aquatic Ecological Community.*

Table 5. Summary of Five Part Test for Threatened Flora, Fauna and Murray River Aquatic Ecological Community

Threatened Species Five Part Test of Significance		(1) Adverse effect on lifecycle risk of extinction - viable population, likely to be placed at risk of extinction	(2) In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed will		(3) In relation to the habitat of a threatened species, population or ecological community			(4) Any adverse effect on declared area of outstanding biodiversity value	(5) If development proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of a key threatening process for habitat of a threatened species, population or ecological community
Common name	Scientific name		(i) Adversely affect the extent of the ecological community	(ii) Substantially and adversely modify the composition of the ecological community	(i) Extent to which habitat is likely to be removed or modified as a result of the development proposed	(ii) If habitat is to be fragmented or isolated from other areas of habitat as a result of the development proposed	(iii) Importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality		
<b>Animals</b>									
Brown Treecreeper	<i>Climacteris picumnus victoriae</i>	No	No	No	No	No	No	No adverse effect in short or long term	No
Grey-crowned Babbler	<i>Pomatostomus temporalis temporalis</i>	No	No	No	No	No	No		No
Squirrel Glider	<i>Petaurus norfolcensis</i>	No	No	No	No	No	No		No
Yellow-bellied Sheath-tail-bat	<i>Saccolaimus flaviventris</i>	No	No	No	No	No	No		No
<b>Plants</b>									
Turnip Copperburr	<i>Sclerolaena napiformis</i>	No	No	No	No	No	No	No adverse effect in short or long term	No
Floating Swamp Wallaby-grass	<i>Amphibromus fluitans</i>	No	No	No	No	No	No		No
<b>Endangered Community</b>									
Murray River Aquatic Ecological Community		No	No	No	No	No	No	No effect short or long term	No

## 8. *Development Impacts and Mitigation*

### Threatening processes

The impacts of the proposal will affect the remnant vegetation in different ways. One of the threatening processes listed is clearing of native vegetation, leading to loss of habitat. However, no clearing will occur as a result of the re-development activities. The existing trees can continue to act as a corridor, migratory route and provide a drought refuge to flora and fauna.

### Landscaping and revegetation

While no specific constraints will apply in relation to landscape planting, the establishment of landscape plantings, using mid-story and ground covering indigenous species will boost the habitat and feeding opportunities, particularly for native birds, bats and insects.

**Table 6. Development impacts and mitigation measures**

Location	Impact/Activity	Mitigation
Development site (0.3 ha)	Increased runoff from hard surfaces with potential for water quality decline and nutrient accessions through surface and subsurface systems to the Murray River.	i) Drainage system design will be in accord with CMA and NSW Water requirements, especially sediment control devices being in place while works are occurring.  ii) Use of Water Sensitive Urban Design (WSUD) principles for runoff management where appropriate.
	Previous clearance of regrowth native grasses and shrubs.	Landscaping the development surrounds with upper, mid story and ground cover of indigenous species.
	Intersection of tree roots	Some tree root incursion has occurred in the past, no new incursions will occur. Trees on the site will require protection from machinery by installing high viz webbing to separate them from the activity area.

## **9. Conclusion**

The desktop investigation and 5 Part Test of Significance indicates that due to the highly modified nature of the site, tourism activity and a lack of suitable habitat the Threatened Species listed under the *Commonwealth EPBC Act 1999* or the *NSW Biodiversity Conservation Act 2016* and its Regulations are unlikely be present on the site. Suitable habitat and occurrences of threatened species could occur in nearby protected areas on both sides of the Murray River.

There will be no removal of native trees and consequently the re-development activities do not trigger a requirement for entry into the Biodiversity Offset Scheme under s.7.1 to 7.3 of the *Biodiversity Conservation Regulation 2017*.

The re-development activities do not constitute a key threatening process for any of the threatened species or the existing habitat, including the Murray River Aquatic Ecological Community. I

Vegetation protection, land and water degradation mitigation measures will need to be implemented using sediment control devices for the duration of the works on the site. Damage to existing trees near the activity area is to be prevented using high-viz webbing as a barrier to works activities. The establishment of landscape plantings, using mid-story and ground covering indigenous species is recommended.

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<https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10747>

SEED (2015) The Central Resource for Sharing and Enabling Environmental Data in NSW

[https://geo.seed.nsw.gov.au/Public\\_Viewer/index.html?viewer=Public\\_Viewer&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED\\_Catalog.243.NSW%20Formations,SEED\\_Catalog.243.NSW%20Classes,SEED\\_Catalog.243.Labels,SEED\\_Catalog.243.Plant%20Community%20Type](https://geo.seed.nsw.gov.au/Public_Viewer/index.html?viewer=Public_Viewer&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED_Catalog.243.NSW%20Formations,SEED_Catalog.243.NSW%20Classes,SEED_Catalog.243.Labels,SEED_Catalog.243.Plant%20Community%20Type)

OEH (20181) Office of Environment and Heritage Threatened Species Test of Significance Guidelines

## **Appendix 1. Plant Community Type Description**

### ***River Red Gum-sedge dominated very tall open forest in frequently flooded forest wetland along major rivers and floodplains in south-western NSW (PCT ID 2)***

Shrubs are usually absent. The ground cover may be sparse and covered in litter or mid-dense to dense. It is dominated by sedges such as *Eleocharis acuta*, *Eleocharis pusilla*, *Carex inversa*, *Cyperus xaltatus*, *Cyperus gymnocaulis*, *Carex gaudichaudiana* and *Carex tereticaulis* along with the rushes *Juncus amabilis* and *Juncus flavidus*. Grass species include Spiny Mudgrass (*Pseudoraphis spinescens*), Blown Grass (*Lachnagrostis filiformis*) and Warrego Grass (*Paspalidium jubiflorum*). Forb species include *Centipeda cunninghamii*, *Persicaria prostrata*, *Rumex brownii*, *Alternanthera denticulata*, *Senecio quadridentatus*, *Centipeda minima* var. *minima*, *Stellaria angustifolia* and the pond waterplants *Triglochin procerum* and *Myriophyllum crispatum*. Weed species may be common and include *Bromus hordeaceus*, *Hypochaeris radicata*, *Hypochaeris glabra*, *Paspalum distichum*, *Aster subulatus*, *Cirsium vulgare*, *Conyza bonariensis*, *Sonchus oleraceus* and *Phyla canescens*. Occurs on black to grey silty-loam-clay alluvial (often self-mulching) soils in frequently flooded sites bordering stream channels, ox-bows and in nearby low-lying areas including intermittent lakes. Mainly distributed along the Murray River with smaller areas along the Murrumbidgee and Lachlan Rivers in the Riverina and Murray-Darling Basin Bioregions of New South Wales and Victoria with small areas in the NSW South-western Slopes Bioregion. The largest areas occur in the middle sections of the Murray River in NSW and Victoria. Many of the forests have been extensively logged so the River Red Gum trees are of smaller stature than prior to logging but some unlogged areas remain.

Poorly represented in protected areas as of 2008 but largely uncleared due to its location near river channels. Weed invasion, inappropriate logging and lack of flooding due to irrigation draw-off or climate change are the main threats to this community.

Dieback of trees since 2000 has altered the threat category of this community from Near Threatened to Vulnerable.

#### **SPECIES**

##### Tree Species

*Eucalyptus camaldulensis* subsp. *camaldulensis*

##### Shrub Species

*Acacia stenophylla*

*Amyema miquelii*

##### Ground Cover Species

*Alternanthera denticulata*

*Austrodanthonia duttoniana*

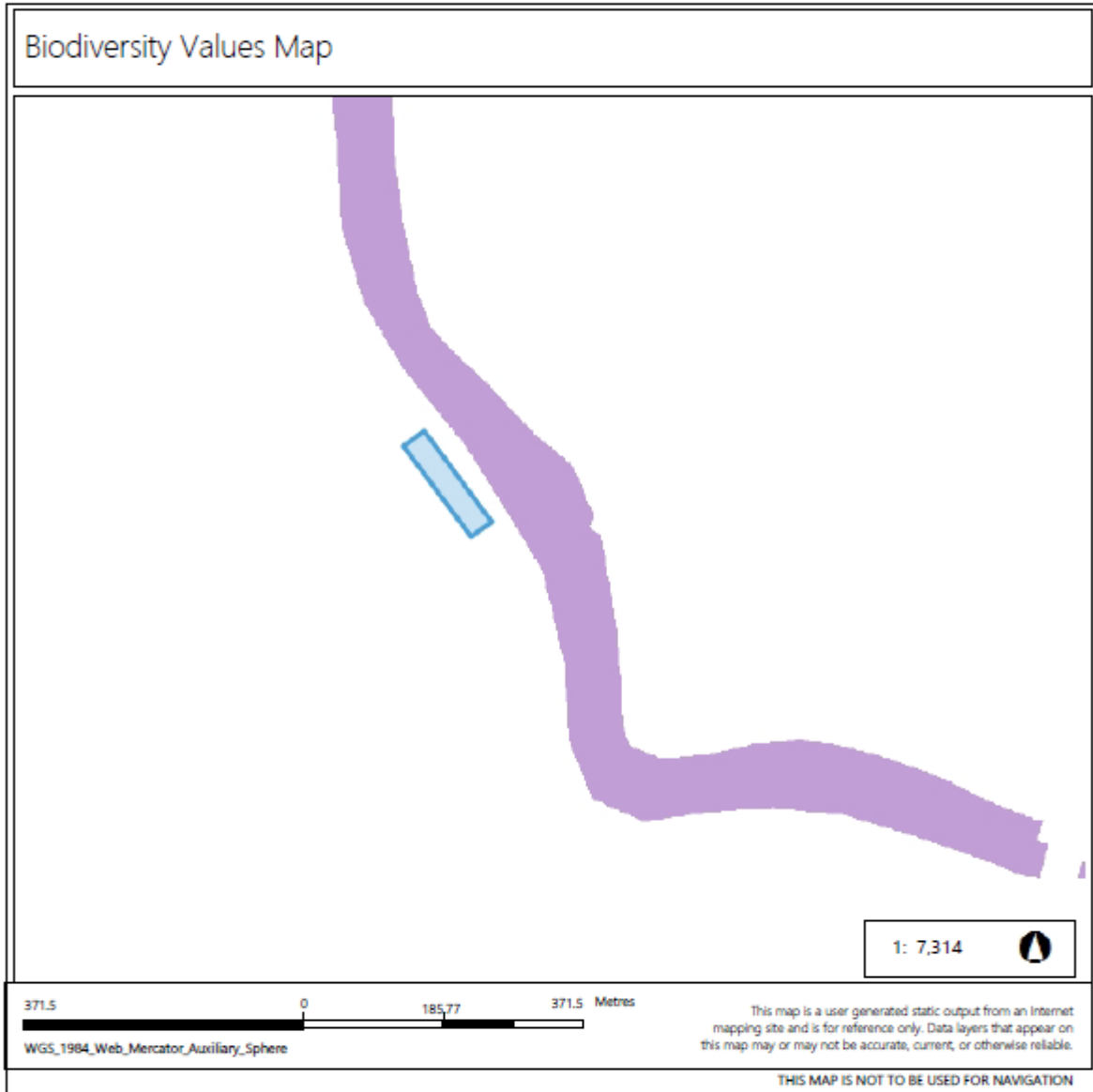
*Azolla filiculoides*

*Carex gaudichaudiana*



*Carex inversa*  
*Carex tereticaulis*  
*Centipeda cunninghamii*  
*Centipeda minima var. minima*  
*Cyperus exaltatus*  
*Cyperus gymnocaulos*  
*Eleocharis acuta*  
*Eleocharis pusilla*  
*Juncus amabilis*  
*Juncus flavidus*  
*Lachnagrostis filiformis*  
*Marsilea drummondii*  
*Myriophyllum crispatum*  
*Myriophyllum verrucosum*  
*Ottelia ovalifolia subsp. ovalifolia*  
*Oxalis perennans*  
*Paspalidium jubiflorum*  
*Persicaria prostrata*  
*Potamogeton ochreatus*  
*Pseudoraphis spinescens*  
*Ranunculus inundatus*  
*Rumex brownii*  
*Senecio quadridentatus*  
*Stellaria angustifolia*  
*Triglochin procerum*



## Appendix 2. BOSET Threshold Assessment Report



### Legend

-  Biodiversity Values that have been mapped for more than 90 days
-  Biodiversity Values added within last 90 days

### Notes

© NSW Department of Planning and Environment



## Biodiversity Values Map and Threshold Report

### Results Summary

<b>Date of Calculation</b>	23/06/2022 4:32 PM	<b>BDAR Required*</b>
<b>Total Digitised Area</b>	3,294.2 sqm	
<b>Minimum Lot Size Method</b>	LEP	
<b>Minimum Lot Size</b> 10,000sqm = 1ha	00 sqm	
<b>Area Clearing Threshold</b> 10,000sqm = 1ha	2,500 sqm	
<b>Area clearing trigger</b> Area of native vegetation cleared	Unknown #	Unknown #
<b>Biodiversity values map trigger</b> Impact on biodiversity values map(not including values added within the last 90 days)?	no	no
<b>Date of the 90 day Expiry</b>	N/A	

\*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to <https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor> to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is "likely to significantly affect threatened species" as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

# Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BMAT user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

## Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Department of Planning and Environment and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies with all aspects of the *Biodiversity Conservation Act 2016*.

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

## Acknowledgement

I as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature \_\_\_\_\_ Date: 23/06/2022 04:32 PM

### Appendix 3. Threatened Species Sightings

Table A 3-1. Threatened species list - Fauna

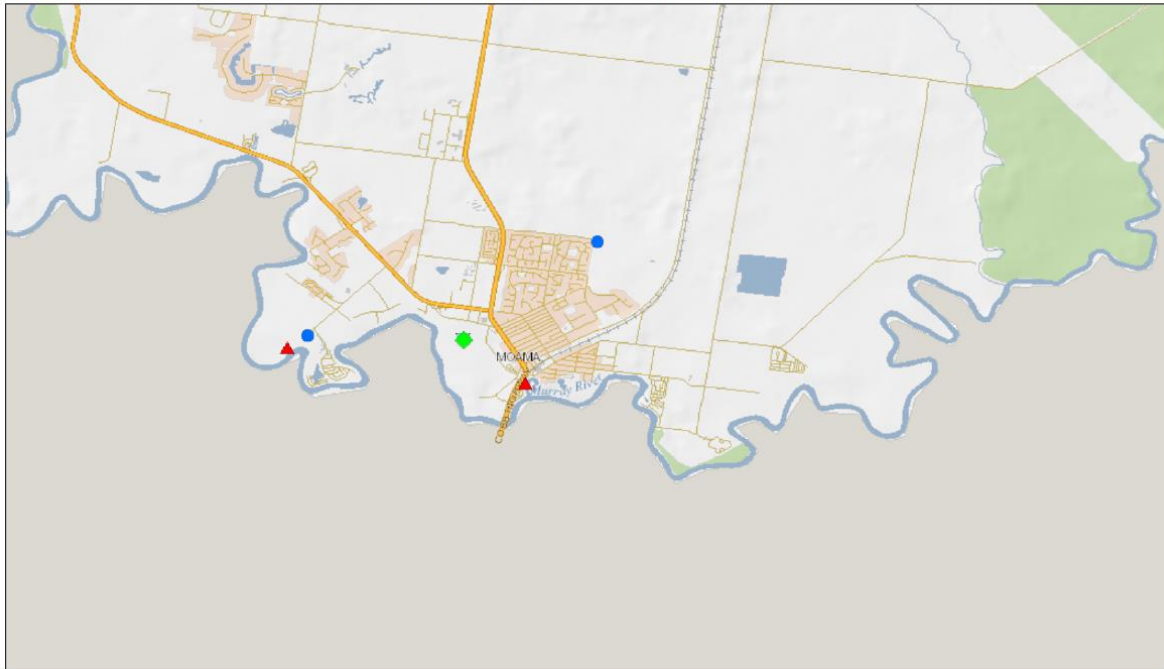
Scientific Name (animal species)	Common Name	NSW status*	Comm. status	Records
<i>Climacteris victoriae</i>	Brown Treecreeper	V,P	-	2
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	V,P	-	2
<i>Petaurus norfolcensis</i>	Squirrel Glider	V,P	-	1
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P	-	1

Table A 3-1.. Threatened species list - Flora

Scientific Name	Common Name	NSW status*	Comm. status	Records
<i>Sclerolaena napiformis</i>	Turnip Copperburr	E1	E	59
<i>Amphibromus fluitans</i>	Floating Swamp Wallaby-grass	V	V	1

\* NSW and Commonwealth status: E1/E - Endangered; P - Protected; V - Vulnerable

Threatened Species Map - Animals



July 2, 2020

drawGraphics\_poly

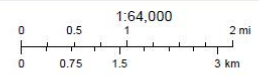
Override 1

▲ Brown Treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*)

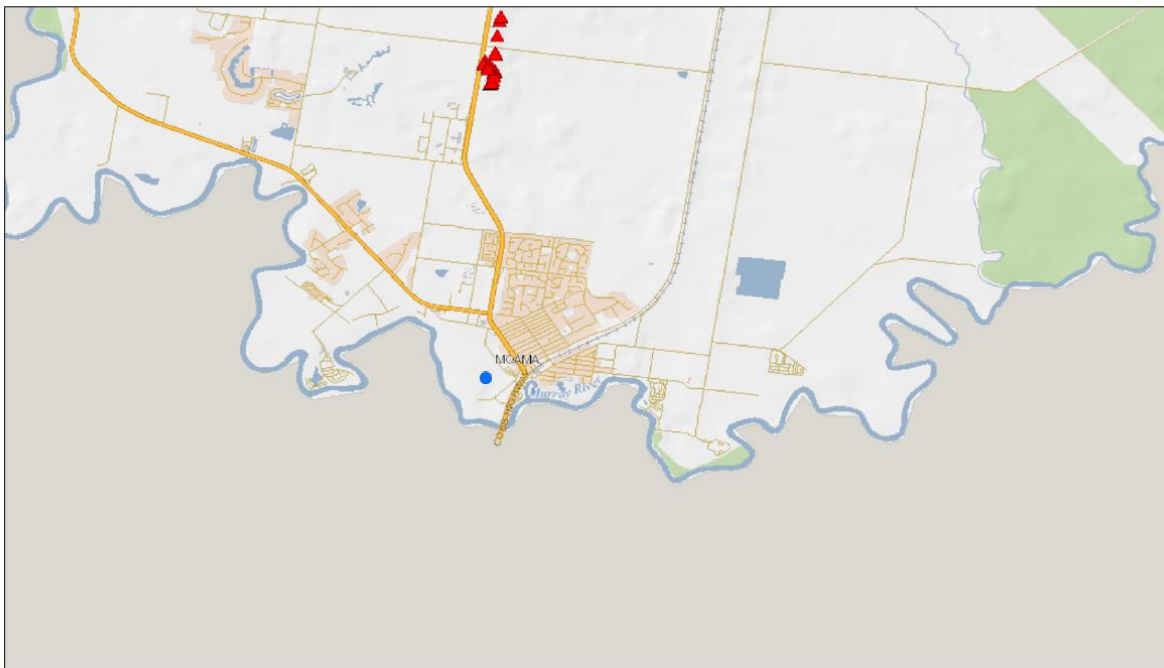
● Grey-crowned Babbler (eastern subspecies) (*Pomatostomus temporalis temporalis*)

◆ Squimel Glider (*Petaurus norfolcensis*)

▼ Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*)



Threatened Species Map - Plants



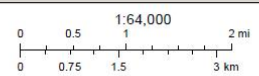
July 2, 2020

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Override 1

▲ Turnip Copperburr (*Sclerolaena napiformis*)

● Floating Swamp Wallaby-grass (*Amphibromus fluitans*)



## **Appendix 4. Flora and Fauna Species Lists**

Species likely to be found within 10 km of the study site and their legal status are listed in the tables below.

### **Legal Status Codes**

NSW legal status codes

U = unprotected, V = vulnerable, P = protected, E1 = endangered, Ex = extinct.

1 Sensitivity Class 1 (Sensitive Species Data Policy)

2 Sensitivity Class 2 (Sensitive Species Data Policy)

3 Sensitivity Class 3 (Sensitive Species Data Policy)

CH Critical Habitat (Threatened Species Conservation Act 1995)

E1 Endangered (Threatened Species Conservation Act 1995)

E2 Endangered Population (Threatened Species Conservation Act 1995)

E3 Endangered Ecological Community (Threatened Species Conservation Act 1995)

E4 Presumed Extinct (Threatened Species Conservation Act 1995)

E4A Critically Endangered (Threatened Species Conservation Act 1995)

E4B Critically Endangered Ecological Community (Threatened Species Conservation Act 1995)

FCE Critically Endangered Fish (Fisheries Management Act 1994)

FE Endangered Fish (Fisheries Management Act 1994)

FEC Endangered Ecological Community of Fish (Fisheries Management Act 1994)

FEP Endangered Population of Fish (Fisheries Management Act 1994)

FKTP Key Threatening Process of Fish (Fisheries Management Act 1994)

FP Protected Fish (Fisheries Management Act 1994)

FV Vulnerable Fish (Fisheries Management Act 1994)

FX Extinct Fish (Fisheries Management Act 1994)

KTP Key Threatening Process (Threatened Species Conservation Act 1995)

P Protected (National Parks & Wildlife Act 1974)

V Vulnerable (Threatened Species Conservation Act 1995)

V2 Vulnerable Ecological Community (Threatened Species Conservation Act 1995)

Commonwealth status codes

- C Listed on China Australia Migratory Bird Agreement
- CD Conservation Dependent (Commonwealth EPBC Act 1999)
- CE Critically Endangered (Commonwealth EPBC Act 1999)
- E Endangered (Commonwealth EPBC Act 1999)
- J Listed on Japan Australia Migratory Bird Agreement
- K Listed on Republic of Korea Australia Migratory Bird Agreement
- KTP Key Threatening Process (Commonwealth EPBC Act 1999)
- V Vulnerable (Commonwealth EPBC Act 1999)
- X Extinct (Commonwealth EPBC Act 1999)
- XW Extinct in the Wild (Commonwealth EPBC Act 1999)

## Flora

Threatened species highlighted in yellow.

Family		Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Amaranthaceae		<i>Alternanthera pungens</i>	*	Khaki Weed			1
Amaranthaceae		<i>Amaranthus albus</i>	*	Tumbleweed			1
Amaranthaceae		<i>Ptilotus erubescens</i>					1
Amaranthaceae		<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>		Tall Mulla Mulla	P		2
Anacardiaceae		<i>Schinus areira</i>	*	Pepper Tree			1
Anthericaceae		<i>Arthropodium fimbriatum</i>					1
Anthericaceae		<i>Arthropodium milleflorum</i>		Pale Vanilla-lily			1
Anthericaceae		<i>Arthropodium minus</i>		Small Vanilla Lily			1
Apiaceae		<i>Daucus glochidiatus</i>		Native Carrot			1
Apiaceae		<i>Eryngium ovinum</i>		Blue Devil			1
Asparagaceae		<i>Arthropodium strictum</i>		Chocolate Lily			1
Asparagaceae		<i>Asparagus asparagoides</i>	*	Bridal Creeper			2
Asphodelaceae		<i>Bulbine bulbosa</i>		Bulbine Lily			4
Asteraceae		<i>Arctotheca calendula</i>	*	Capeweed			1
Asteraceae		<i>Brachyscome chrysoglossa</i>					1
Asteraceae		<i>Calotis anthemoides</i>		Cut-leaved Burr-daisy			1
Asteraceae		<i>Calotis cuneifolia</i>		Purple Burr-Daisy			1
Asteraceae		<i>Calotis scabiosifolia</i>		Rough Burr-daisy			3
Asteraceae		<i>Cassinia sifton</i>					1
Asteraceae		<i>Centaurea melitensis</i>	*	Maltese Cockspur			1
Asteraceae		<i>Chrysocephalum apiculatum</i>		Common Everlasting			3
Asteraceae		<i>Chrysocephalum semipapposum</i>		Clustered Everlasting			1
Asteraceae		<i>Cotula australis</i>		Common Cotula			1
Asteraceae		<i>Helminthotheca echioides</i>	*	Ox-tongue			1
Asteraceae		<i>Hyalosperma semisterile</i>					2
Asteraceae		<i>Hypochaeris glabra</i>	*	Smooth Catsear			1

Asteraceae		<i>Hypochaeris radicata</i>	*	Catsear		1
Asteraceae		<i>Leiocarpa panaetioides</i>		Woolly Buttons		1
Asteraceae		<i>Leontodon taraxacoides</i> subsp. <i>taraxacoides</i>	*	Lesser Hawkbit		1
Asteraceae		<i>Leptorhynchus squamatus</i>		Scaly Buttons		2
Asteraceae		<i>Microseris lanceolata</i>		Yam Daisy		2
Asteraceae		<i>Myriocephalus rhizocephalus</i>		Woolly-heads		1
Asteraceae		<i>Olearia pimeleoides</i>				1
Asteraceae		<i>Podolepis jaceoides</i>		Showy Copper-wire Daisy		1
Asteraceae		<i>Pycnosorus globosus</i>		Drumsticks	P	2
Asteraceae		<i>Rhodanthe corymbiflora</i>		Small White Sunray		4
Asteraceae		<i>Sonchus oleraceus</i>	*	Common Sowthistle		1
Boraginaceae		<i>Echium plantagineum</i>	*	Patterson's Curse		3
Boraginaceae		<i>Hackelia suaveolens</i>				1
Boraginaceae		<i>Heliotropium europaeum</i>	*	Potato Weed		1
Caryophyllaceae		<i>Stellaria media</i>	*	Common Chickweed		1
Casuarinaceae		<i>Allocasuarina luehmannii</i>		Bulloak		2
Casuarinaceae		<i>Allocasuarina verticillata</i>		Drooping Sheoak		1
Casuarinaceae		<i>Casuarina pauper</i>		Black Oak		1
Chenopodiaceae		<i>Atriplex semibaccata</i>		Creeping Saltbush		4
Chenopodiaceae		<i>Atriplex suberecta</i>				1
Chenopodiaceae		<i>Chenopodium album</i>	*	Fat Hen		1
Chenopodiaceae		<i>Chenopodium desertorum</i> subsp. <i>microphyllum</i>				1
Chenopodiaceae		<i>Chenopodium desertorum</i> subsp. <i>virosum</i>				1
Chenopodiaceae		<i>Chenopodium multifidum</i>	*	Scented Goosefoot		1
Chenopodiaceae		<i>Einadia nutans</i>		Climbing Saltbush		1



Chenopodiaceae		<i>Enchylaena tomentosa</i>		Ruby Saltbush			2
Chenopodiaceae		<i>Maireana decalvans</i>		Black Cotton Bush			4
Chenopodiaceae		<i>Maireana enchylaenoides</i>		Wingless Fissure-weed			3
Chenopodiaceae		<i>Maireana excavata</i>					2
Chenopodiaceae		<i>Maireana pentagona</i>		Hairy Bluebush, Slender Fissure-weed			4
Chenopodiaceae		<i>Rhagodia spinescens</i>		Thorny Saltbush			1
Chenopodiaceae		<i>Salsola australis</i>					2
Chenopodiaceae		<i>Sclerolaena muricata</i>		Black Rolypoly			1
Chenopodiaceae		<i>Sclerolaena muricata</i> var. <i>semiglabra</i>		Black Rolypoly			2
Chenopodiaceae		<i>Sclerolaena napiformis</i>		Turnip Copperburr	E1	E	63
Colchicaceae		<i>Wurmbea dioica</i> subsp. <i>dioica</i>		Early Nancy			1
Convolvulaceae		<i>Convolvulus erubescens</i>		Pink Bindweed			5
Crassulaceae		<i>Crassula colorata</i>		Dense Stonecrop			1
Crassulaceae		<i>Crassula decumbens</i> var. <i>decumbens</i>		Spreading Stonecrop			5
Cupressaceae		<i>Callitris gracilis</i> subsp. <i>murrayensis</i>		Murray Pine			1
Cyperaceae		<i>Carex</i> spp.					1
Cyperaceae		<i>Cyperus brevifolius</i>	*				1
Cyperaceae		<i>Cyperus eragrostis</i>	*	Umbrella Sedge			2
Cyperaceae		<i>Eleocharis pallens</i>		Pale Spike Sedge			2
Cyperaceae		<i>Fimbristylis aestivalis</i>					2
Cyperaceae		<i>Isolepis multicaulis</i>					2
Euphorbiaceae		<i>Euphorbia drummondii</i>		Caustic Weed			4
Fabaceae (Faboideae)		<i>Dillwynia cinerascens</i>					4
Fabaceae (Faboideae)		<i>Eutaxia microphylla</i>					1
Fabaceae (Faboideae)		<i>Lotus corniculatus</i>	*	Birds-foot Trefoil			1
Fabaceae (Faboideae)		<i>Medicago</i> spp.	*				1

Fabaceae (Faboideae)		<i>Swainsona oroboides</i>				1
Fabaceae (Faboideae)		<i>Trifolium subterraneum</i>	*	Subterranean Clover		1
Fabaceae (Mimosoideae)		<i>Acacia acinacea</i>		Gold-dust Wattle		4
Fabaceae (Mimosoideae)		<i>Acacia dealbata subsp. dealbata</i>		Silver Wattle		3
Fabaceae (Mimosoideae)		<i>Acacia hakeoides</i>		Hakea Wattle		2
Fabaceae (Mimosoideae)		<i>Acacia montana</i>		Mallee Wattle		3
Fabaceae (Mimosoideae)		<i>Acacia oswaldii</i>		Miljee		1
Fabaceae (Mimosoideae)		<i>Acacia pendula</i>		Weeping Myall, Boree		1
Fabaceae (Mimosoideae)		<i>Acacia pycnantha</i>		Golden Wattle		4
Geraniaceae		<i>Erodium crinitum</i>		Blue Crowfoot		1
Geraniaceae		<i>Pelargonium spp.</i>				1
Goodeniaceae		<i>Goodenia gracilis</i>				1
Goodeniaceae		<i>Goodenia pinnatifida</i>		Scrambles Eggs		2
Goodeniaceae		<i>Goodenia pusilliflora</i>				2
Haloragaceae		<i>Haloragis aspera</i>		Rough Raspwort		1
Haloragaceae		<i>Myriophyllum crispatum</i>				1
Hypoxidaceae		<i>Hypoxis glabella var. glabella</i>		Tiny Star		5
Iridaceae		<i>Romulea rosea var. australis</i>	*	Onion Grass		1
Juncaceae		<i>Juncus flavidus</i>				1
Juncaceae		<i>Juncus subsecundus</i>		Finger Rush		5
Lamiaceae		<i>Marrubium vulgare</i>	*	White Horehound		1
Loranthaceae		<i>Amyema linophyllum subsp. orientale</i>				1
Loranthaceae		<i>Amyema miquelii</i>		Box Mistletoe		1
Malvaceae		<i>Brachychiton populneus</i>		Kurrajong		1
Malvaceae		<i>Malva parviflora</i>	*	Small-flowered Mallow		1
Malvaceae		<i>Sida corrugata</i>		Corrugated Sida		5
Malvaceae		<i>Sida spp.</i>				1
Myoporaceae		<i>Eremophila</i>		Turkeybush		1

		<i>deserti</i>					
Myrtaceae		<i>Callistemon spp.</i>					1
Myrtaceae		<i>Calytrix tetragona</i>		Common Fringe-myrtle			1
Myrtaceae		<i>Eucalyptus camaldulensis</i>		River Red Gum			3
Myrtaceae		<i>Eucalyptus cladocalyx</i>	*	Sugar Gum			1
Myrtaceae		<i>Eucalyptus largiflorens</i>		Black Box			4
Myrtaceae		<i>Eucalyptus melliodora</i>		Yellow Box			4
Myrtaceae		<i>Eucalyptus microcarpa</i>		Western Red Gum			3
Myrtaceae		<i>Eucalyptus sideroxylon</i>		Mugga Ironbark			1
Myrtaceae		<i>Melaleuca lanceolata</i>		Moonah			1
Oleaceae		<i>Fraxinus angustifolia subsp. angustifolia</i>	*	Desert Ash			1
Orchidaceae		<i>Thelymitra megcalyptra</i>		Scented Sun Orchid	P		1
Oxalidaceae		<i>Oxalis perennans</i>					4
Oxalidaceae		<i>Oxalis spp.</i>					1
Phrymaceae		<i>Mimulus gracilis</i>		Slender Monkey-flower			1
Pittosporaceae		<i>Bursaria spinosa</i>		Native Blackthorn			1
Plantaginaceae		<i>Plantago gaudichaudii</i>		Narrow Plantain			2
Poaceae		<i>Amphibromus fluitans</i>		Floating Swamp Wallaby-grass	V	V	1
Poaceae		<i>Austrostipa nodosa</i>					3
Poaceae		<i>Austrostipa scabra</i>		Speargrass			2
Poaceae		<i>Austrostipa spp.</i>					2
Poaceae		<i>Avena fatua</i>	*	Wild Oats			1
Poaceae		<i>Cenchrus clandestinus</i>	*	Kikuyu Grass			1
Poaceae		<i>Chloris truncata</i>		Windmill Grass			1
Poaceae		<i>Cynodon dactylon</i>		Common Couch			1
Poaceae		<i>Cynodon transvaalensis</i>	*	South African Couch			1
Poaceae		<i>Enteropogon acicularis</i>		Curly Windmill Grass			6
Poaceae		<i>Lolium perenne</i>	*	Perennial Ryegrass			1

Poaceae		<i>Lolium spp.</i>	*			1
Poaceae		<i>Paspalidium jubiflorum</i>		Warrego Grass		1
Poaceae		<i>Paspalidium spp.</i>				1
Poaceae		<i>Poa fordeana</i>		Sweet Swamp-grass		1
Poaceae		<i>Rytidosperma bipartitum</i>		Wallaby Grass		1
Poaceae		<i>Rytidosperma caespitosum</i>		Ringed Wallaby Grass		5
Poaceae		<i>Rytidosperma erianthum</i>		Wallaby Grass		1
Poaceae		<i>Rytidosperma setaceum</i>		Small-flowered Wallaby-grass		1
Poaceae		<i>Walwhalleya proluta</i>				2
Polygonaceae		<i>Polygonum aviculare</i>	*	Wireweed		1
Polygonaceae		<i>Rumex crispus</i>	*	Curled Dock		1
Polygonaceae		<i>Rumex dumosus</i>		Wiry Dock		2
Polygonaceae		<i>Rumex tenax</i>		Shiny Dock		1
Proteaceae		<i>Hakea tephrosperma</i>		Hooked Needlewood		1
Ranunculaceae		<i>Ranunculus sceleratus</i>	*	Celery Buttercup		1
Rubiaceae		<i>Asperula conferta</i>		Common Woodruff		2
Rubiaceae		<i>Asperula scoparia</i>		Prickly Woodruff		3
Santalaceae		<i>Exocarpos aphyllus</i>		Leafless Ballart		1
Santalaceae		<i>Exocarpos strictus</i>		Dwarf Cherry		2
Scrophulariaceae		<i>Glossostigma elatinoides</i>				1
Scrophulariaceae		<i>Stemodia florulenta</i>		Bluerod		1
Solanaceae		<i>Cestrum parqui</i>	*	Green Cestrum		1
Solanaceae		<i>Lycium ferocissimum</i>	*	African Boxthorn		1
Solanaceae		<i>Solanum esuriale</i>		Quena		1
Stackhousiaceae		<i>Stackhousia monogyne</i>		Creamy Candles		1
Typhaceae		<i>Typha spp.</i>				1
Zygophyllaceae		<i>Tribulus spp.</i>		Cat-head, Caltrop		1

## Fauna

Threatened species highlighted in **yellow**.

Family	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Myobatrachidae	<i>Crinia parainsignifera</i>		Eastern Sign-bearing Froglet	P		33
Myobatrachidae	<i>Crinia signifera</i>		Common Eastern Froglet	P		58
Myobatrachidae	<i>Pseudophryne bibronii</i>		Bibron's Toadlet	P		1
Hylidae	<i>Litoria peronii</i>		Peron's Tree Frog	P		5
Limnodynastidae	<i>Limnodynastes dumerilii</i>		Eastern Banjo Frog	P		33
Limnodynastidae	<i>Limnodynastes fletcheri</i>		Long-thumbed Frog	P		4
Limnodynastidae	<i>Limnodynastes tasmaniensis</i>		Spotted Grass Frog	P		34
Gekkonidae	<i>Christinus marmoratus</i>		Marbled Gecko	P		1
Typhlopidae	<i>Anilios bituberculatus</i>		Prong-snouted Blind Snake	P		1
Elapidae	<i>Pseudonaja textilis</i>		Eastern Brown Snake	P		1
Anatidae	<i>Anas gracilis</i>		Grey Teal	P		13
Anatidae	<i>Anas superciliosa</i>		Pacific Black Duck	P		10
Anatidae	<i>Chenonetta jubata</i>		Australian Wood Duck	P		7
Anatidae	<i>Cygnus atratus</i>		Black Swan	P		1
Columbidae	<i>Columba livia</i>	*	Rock Dove			1
Columbidae	<i>Ocyphaps lophotes</i>		Crested Pigeon	P		5
Podargidae	<i>Podargus strigoides</i>		Tawny Frogmouth	P		1
Phalacrocoracidae	<i>Microcarbo melanoleucos</i>		Little Pied Cormorant	P		1
Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>		Little Black Cormorant	P		2
Ardeidae	<i>Ardea intermedia</i>		Intermediate Egret	P		1
Ardeidae	<i>Egretta novaehollandiae</i>		White-faced Heron	P		3
Threskiornithidae	<i>Threskiornis moluccus</i>		Australian White Ibis	P		3
Threskiornithidae	<i>Threskiornis spinicollis</i>		Straw-necked Ibis	P		2
Accipitridae	<i>Aquila audax</i>		Wedge-tailed Eagle	P		2
Accipitridae	<i>Haliastur sphenurus</i>		Whistling Kite	P		2
Falconidae	<i>Falco peregrinus</i>		Peregrine Falcon	P		1
Rallidae	<i>Fulica atra</i>		Eurasian Coot	P		1
Rallidae	<i>Gallinula tenebrosa</i>		Dusky Moorhen	P		2
Charadriidae	<i>Vanellus miles</i>		Masked Lapwing	P		2
Cacatuidae	<i>Cacatua galerita</i>		Sulphur-crested Cockatoo	P		3
Cacatuidae	<i>Cacatua sanguinea</i>		Little Corella	P		3
Cacatuidae	<i>Cacatua tenuirostris</i>		Long-billed Corella	P		1
Cacatuidae	<i>Eolophus roseicapilla</i>		Galah	P		12
Psittacidae	<i>Northiella haematogaster</i>		Blue Bonnet	P		1
Psittacidae	<i>Platycercus elegans</i>		Crimson Rosella	P		1
Psittacidae	<i>Platycercus elegans flaveolus</i>		[Yellow Rosella]	P		2
Psittacidae	<i>Platycercus eximius</i>		Eastern Rosella	P		5
Psittacidae	<i>Psephotus</i>		Red-rumped Parrot	P		2

	<i>haematonotus</i>				
Strigidae	<i>Ninox novaeseelandiae</i>		Southern Boobook	P	1
Alcedinidae	<i>Dacelo novaeguineae</i>		Laughing Kookaburra	P	5
Alcedinidae	<i>Todiramphus sanctus</i>		Sacred Kingfisher	P	2
Climacteridae	<i>Climacteris picumnus victoriae</i>		Brown Treecreeper (eastern subspecies)	V,P	2
Climacteridae	<i>Cormobates leucophaea</i>		White-throated Treecreeper	P	1
Maluridae	<i>Malurus cyaneus</i>		Superb Fairy-wren	P	5
Acanthizidae	<i>Acanthiza chrysorrhoa</i>		Yellow-rumped Thornbill	P	2
Acanthizidae	<i>Gerygone fusca</i>		Western Gerygone	P	1
Pardalotidae	<i>Pardalotus punctatus</i>		Spotted Pardalote	P	1
Pardalotidae	<i>Pardalotus striatus</i>		Striated Pardalote	P	1
Meliphagidae	<i>Anthochaera carunculata</i>		Red Wattlebird	P	1
Meliphagidae	<i>Entomyzon cyanotis</i>		Blue-faced Honeyeater	P	2
Meliphagidae	<i>Manorina melanocephala</i>		Noisy Miner	P	4
Meliphagidae	<i>Philemon citreogularis</i>		Little Friarbird	P	3
Meliphagidae	<i>Philemon corniculatus</i>		Noisy Friarbird	P	1
Meliphagidae	<i>Ptilotula penicillata</i>		White-plumed Honeyeater	P	3
Pomatostomidae	<i>Pomatostomus temporalis temporalis</i>		Grey-crowned Babbler (eastern subspecies)	V,P	2
Pachycephalidae	<i>Colluricincla harmonica</i>		Grey Shrike-thrush	P	2
Pachycephalidae	<i>Pachycephala rufiventris</i>		Rufous Whistler	P	1
Artamidae	<i>Artamus leucorhynchus</i>		White-breasted Woodswallow	P	1
Artamidae	<i>Gymnorhina tibicen</i>		Australian Magpie	P	8
Artamidae	<i>Strepera graculina</i>		Pied Currawong	P	1
Artamidae	<i>Strepera versicolor</i>		Grey Currawong	P	2
Rhipiduridae	<i>Rhipidura albiscapa</i>		Grey Fantail	P	1
Rhipiduridae	<i>Rhipidura leucophrys</i>		Willie Wagtail	P	6
Corvidae	<i>Corvus coronoides</i>		Australian Raven	P	5
Monarchidae	<i>Grallina cyanoleuca</i>		Magpie-lark	P	7
Corcoracidae	<i>Corcorax melanorhamphos</i>		White-winged Cough	P	5
Petroicidae	<i>Microeca fascians</i>		Jacky Winter	P	1
Acrocephalidae	<i>Acrocephalus australis</i>		Australian Reed-Warbler	P	2
Hirundinidae	<i>Hirundo neoxena</i>		Welcome Swallow	P	4
Hirundinidae	<i>Petrochelidon nigricans</i>		Tree Martin	P	1
Turdidae	<i>Turdus merula</i>	*	Eurasian Blackbird		3
Sturnidae	<i>Acridotheres tristis</i>	*	Common Myna		1
Sturnidae	<i>Sturnus vulgaris</i>	*	Common Starling		2
Zosteropidae	<i>Zosterops lateralis</i>		Silvereye	P	1
Estrildidae	<i>Neochmia temporalis</i>		Red-browed Finch	P	2
Dasyuridae	<i>Antechinus sp.</i>		Unidentified Antechinus	P	4
Petauridae	<i>Petaurus norfolcensis</i>		Squirrel Glider	V,P	1
Pseudocheiridae	<i>Pseudocheirus peregrinus</i>		Common Ringtail Possum	P	2
Phalangeridae	<i>Trichosurus sp.</i>		brush-tail possum	P	1
Phalangeridae	<i>Trichosurus vulpecula</i>		Common Brushtail	P	13

			Poosum			
Macropodidae	<i>Macropus giganteus</i>		Eastern Grey Kangaroo	P		8
Macropodidae	<i>Macropus sp.</i>		kangaroo / wallaby	P		3
Emballonuridae	<i>Saccolaimus flaviventris</i>		Yellow-bellied Sheathtail-bat	V,P		1
Molossidae	<i>Austronomus australis</i>		White-striped Freetail-bat	P		1
Vespertilionidae	<i>Chalinolobus gouldii</i>		Gould's Wattled Bat	P		1
Vespertilionidae	<i>Chalinolobus morio</i>		Chocolate Wattled Bat	P		1
Vespertilionidae	<i>Nyctophilus sp.</i>		long-eared bat	P		1
Vespertilionidae	<i>Scotorepens balstoni</i>		Inland Broad-nosed Bat	P		1
Vespertilionidae	<i>Vespadelus darlingtoni</i>		Large Forest Bat	P		1
Vespertilionidae	<i>Vespadelus regulus</i>		Southern Forest Bat	P		1
Vespertilionidae	<i>Vespadelus vulturnus</i>		Little Forest Bat	P		1
Muridae	<i>Rattus rattus</i>	*	Black Rat			1
Canidae	<i>Vulpes vulpes</i>	*	Fox			4