Terrestrial Fauna Assessment: Traralgon North

Report prepared for Indigenous Design Environmental Management

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- [redacted] Indigenous Design Environmental Management
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1. Introduction

1.1. Background

TactEcol Consulting Pty Ltd (TactEcol) was commissioned by Indigenous Design Environmental Management in November 2023 to undertake a terrestrial fauna assessment of a proposed development site at Traralgon North. We understand that the site has been proposed for residential development.

This investigation comprised two stages; firstly, a desktop assessment and site inspection were undertaken to gain an overview of the general quality and extent of native vegetation and habitats across the site, and secondly, targeted surveys were undertaken for threatened fauna species that were considered at least moderately likely to occur at the site. The results of this assessment are intended to determine the presence of significant faunal values, as well as a general assessment of potential impacts from the proposed residential development to significant faunal values present.

1.2. Objectives

The aim of this fauna assessment is to better understand the quality and extent of fauna habitat within the study area, and the potential presence of threatened fauna species, in the context of identifying potential biodiversity impacts that may result from a potential future change in land use, including for residential and urban development.

Specific objectives for the project were as follows:

- Undertake a desktop assessment of faunal values including biological database records for threatened species and modelled biodiversity-related information.
- Undertake a site inspection to capture baseline environmental data, verify modelled data, and determine the potential suitability of habitat for threatened fauna species.
- Undertake targeted surveys for threatened fauna species considered to have a moderate or greater likelihood of occurrence at the site.
- Determine the likelihood of occurrence for threatened species within the study area, potential legislative triggers, and planning approval risks to the project.

1.3. Study Area

The study area is approximately 60 hectares of cleared agricultural land comprising previously stocked paddocks, established and recently constructed wetlands, and drainage lines. The study area is located approximately two kilometres north of Traralgon city centre.

The study area is bordered by Traralgon-Maffra Road to the east, cleared agricultural land to the north, west and southwest, and residential developments adjacent to the southeast. The majority of the study area is zoned as General Residential Zone (GRZ) with some extents of the northern border subject to a Farm Zone (FZ) planning scheme (DEECA, 2024a). Where the FZ zoning is in place, these areas are also subject to a Land Subject to Inundation Overlay (LSIO) (DEECA, 2024a).

Previously grazed paddocks with heavy pugging are dominated by exotic grasses and forbs with some patches of rushes *Juncus* sp. In the central and northeast sections, drainage lines are dominated by exotic vegetation with some patches of bulrush *Typha* sp. and remnant native sedges and rushes. The three wetlands in the northwest of the study area are surrounded by pasture grasses, bare ground and rock rubble, very limited emergent or other aquatic vegetation observed. There is a small stand of remnant Forest Red Gums *Eucalyptus tereticornis* in the south-eastern most corner. Nominal stands of exotic shrubs and trees (pines and non-indigenous *Eucalyptus*) are located along paddock fence lines in the central and southwestern areas of the western half of the study area.

The study area is within the West Gippsland Catchment Authority (CMA) jurisdiction and the Latrobe City Council municipality (DEECA, 2024c).

2. Methodology

2.1. Desktop assessment

A desktop review was undertaken to ascertain the known and potential ecological values of the study area and broader surrounds. The desktop review included a search of relevant literature, online resources, and numerous databases, including:

- The Victorian Biodiversity Atlas (DEECA 2024b) for threatened species records within a 5 km buffer of the study area.
- The Commonwealth Government's EPBC Act Protected Matters Search Tool (DCCEEW) for predicted threatened species and threatened ecological communities within a 5 km buffer of the study area (DCCEEW 2024).
- Planning Maps online for planning overlays relevant to the study area (DEECA 2024a).
- Available relevant reports and policy documents.

All databases were accessed in February and March 2024.

2.1.1. Threatened species likelihood of occurrence

A likelihood of occurrence for significant fauna species was determined by comparing habitat requirements of a species to the habitat present within the study area. Likelihoods were developed using a structured approach considering species range, species records, habitat characterisation (based on database searches, field data and aerial imagery) and any incidental fauna and flora detection. There are some uncertainties and intermediaries in likelihood ratings; for example, a 'Low – Moderate' rating is applied where assessing the relative likelihood as either Low or Moderate would require further information. The rubric for the threatened fauna likelihood of occurrence has been previously developed by TactEcol for similar assessments, and is described below (Table 1).

Table 1 Threatened species likelihood of occurrence categories and definitions

Likelihood Category	Definition
Present	Known to occur on the site, based on current or very recent surveys/data.
High	Known or likely to have resident populations in the local area (within 5 km) and/or previously recorded on the site or frequently recorded in the local area (within c. 5 years), and preferred habitat present within the site.
Moderate	May have a resident population in the local area based on existing records (within 5 km, and within c. 10 years) – or, for fauna, likely to move through the site or visit seasonally – and at least some characteristics of preferred habitat are present (although may have been modified). Additionally, for fauna. the study area may not support a resident population within the site but may form part of the home range of individual animals.
Low	Few previous records in the local area (within 5 km), and generally not recent (within 25 years), and few characteristics of preferred habitat, or habitat elements present are highly modified, and (for fauna) species may occur rarely or as an opportunistic visitor.

Likelihood Category	Definition
Very low	No species records in the local area (within 5 km) or few/no recent records (within 25 years), or beyond the species' natural distribution, or locally extinct, and no or very little potentially suitable habitat present in the site or adjacent area.

N.B. The assessment of previous records must factor in the detectability of species and the level of previous survey effort in the landscape, as best known or inferred. Where a lack of records may simply represent a lack of survey effort (e.g. a rarely surveyed cryptic species with a small home range), more weight should be given to the suitability of habitat than the presence of previous records.

2.2. Site assessments

2.2.1. Site inspection

A site inspection was undertaken within properties for which access was granted and was traversed on foot by two zoologists on 25 January 2024. The purpose of this field assessment was to identify the presence and extent of fauna habitats, and identify areas that may warrant subsequent targeted surveys.

2.2.2. Habitat suitability for threatened species

This inspection included an assessment of the suitability of habitat to support threatened species listed under state and commonwealth legislation. Habitat deemed suitable for targeted fauna assessments was noted in the field, including the location of potential reptile and avifauna survey locations, along with areas where fauna salvage may be required.

2.2.3. Targeted surveys

The desktop assessment and site inspection identified potential habitat for several threatened fauna taxa, as follows:

- Swamp Skink *Lissolepis coventryi*, listed as Endangered under both the Commonwealth *Environment Protection and Biodiversity Protection Act 1999* (EPBC Act) and the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act; DEECA 2024c).
- Glossy Grass Skink *Pseudemoia rawlinsonii*, listed as Endangered under the FFG Act (DEECA 2024c).
- Various threatened waterbirds.

Evidence suggests that the detectability of Swamp Skinks by a particular technique (i.e. Elliott traps, artificial refuge surveys or thermal cameras) may vary between populations/sites, and that a single technique is unlikely to be sufficient to reliably determine presence/absence (Urlus et al. 2018; Clemann 2000; Clemann et al. 2004; Humphrey 2014). Therefore, two survey techniques were undertaken within areas of suitable habitat: artificial refuge surveys and Elliott traps. These targeted surveys are described further below.

Artificial refuge surveys

The principal survey technique for Glossy Grass Skink, and one of the techniques for Swamp Skink, was artificial refuge surveys, using roof tile grids. This is typically an effective and minimally disruptive survey approach for these species.

Two roof tile grids, of 50 tiles each, were established on 26 March 2024, in areas of suitable habitat for the two target species in the northeast of the site (Figure 1). These artificial refuges were then checked three times, under suitable conditions. Pooled data on surveying for Swamp Skink (Urlus et al. 2018) shows that survey effort for this species should be relatively high, at least 200 trap days for each technique. The current surveys utilised a survey effort for artificial refuges of 300 trap days (i.e. 100 refuges times three checks), hence exceeding the recommended survey effort threshold.

Tile grids were allowed to 'weather in' for approximately three weeks, with checks undertaken on the following dates:

- 15 April 2024
- 22 April 2024
- 7 May 2024

Tile checks were undertaken in mid to late morning, depending upon the prevailing conditions. Weather conditions for each survey are outlined in Table 2. Vertebrate fauna beneath tiles were captured, where possible and safe to do so, if necessary for identification; not all animals were able to be captured, with some escaping down burrows located underneath tiles or into the surrounding vegetation. All vertebrates observed were identified to the lowest taxonomic level (i.e. species/subspecies) possible.

Locations of tile grids and significant species were recorded using a Garmin MAP64S GPS (+/- 3 m accuracy) and recorded to MGA 94, Zone 55 coordinate system. Species nomenclature follows the Victorian Biodiversity Atlas (DEECA 2024b).

Table 2 Weather conditions during artificial refuge surveys at the study area (April to May 2024)

Conditions	15 April 2024	22 April 2024	07 May 2024
Max. temperature	21°C	22°C	20°C
Rainfall preceding survey period (48 hrs)*	<1 mm	<1 mm	0 mm
Wind speed (approximate)	18-24 km/h	0-6 km/h	5-9 km/h
Cloud cover (approximate)	0-10%	0%	0%

* BoM, Latrobe Valley weather station, approximately 5 km from the study area.

Elliott trapping

A total of 100 Elliott traps were deployed in potentially suitable habitat for the target reptile species in the north-eastern portion of the study area (Figure 1) from 26 March until 29 March 2024, for a total of 400 trap-days. Weather conditions during the surveys were favourable for the activity and detection of the species, being warm days with light winds, no rain during the surveys and generally sunny conditions, with cloud cover generally ranging from 0% to 70% (Table 3).

Elliott traps were deployed in a transect layout, with each trap approximately 2 to 5 m apart (depending upon microhabitat), and targeted areas of higher quality habitat as well as supporting sufficient ground layer shading for the trap. Each Elliott trap was micro-sited within or adjacent to appropriate ground shelter and/or refuge, and was baited with universal bait (oats, peanut butter and golden syrup) with the addition of sardines. Elliott traps were checked twice daily and closed at night; all captured animals were identified and the location recorded using Garmin GPS (+/- 3 m accuracy). Animals were then released into shelter or dense vegetation within approximately 2 m of the point of capture, with traps cleaned and reset.

Table 3 Weather conditions during Elliot trapping surveys at the study area (26 - 29 March 2024)

Conditions	26 March 2024	27 March 2024	28 March 2024	29 March 2024
Max. temperature	20°C	21°C	23°C	27°C
Rainfall preceding survey period (48 hrs)*	0 mm	0 mm	0 mm	0 mm
Wind speed (approximate)	20-28 km/h	12-19 km/h	12-19 km/h	1-5 km/h
Cloud cover (approximate)	50-70%	40%	15%	20%

* BoM, Latrobe Valley weather station, approximately 5 km from the study area.

Bird surveys

Targeted surveys for threatened avifauna in the study area were undertaken on 28 and 29 March 2024; weather conditions were suitable, with no rain and light to no wind. The bird surveys focused on two functional groups:

- Wetland birds (e.g. Hardhead *Aythya australis*, Australian Shoveler *Anas rhynchotis*, egrets) and other wet-habitat birds (e.g. Latham's Snipe *Gallinago hardwickii*)
- Other threatened, non-wetland avifauna (e.g. Gang-gang Cockatoo *Callocephalon fimbriatum*).

Surveys for the former consisted of thorough coverage around existing wetland habitat, including suitable ephemeral and permanent/semi-permanent wetlands and drainage lines (and margins) within the study area, with long stationary pauses to scan available habitat through binoculars.

Surveys for non-wetland avifauna consisted of traversing the site, and scanning with binoculars all areas of potential habitat, focusing on areas of potential feeding, refuge, and roosting value within the site (e.g. the remnant trees in the southeast), and recording all bird species and important habitat features detected.

2.3. Permits

Targeted surveys were undertaken under the following permits and approvals:

- *Wildlife Act 1975* Authorisation issued by DELWP Permit No: 10011122
- Wildlife and Small Institutions Animal Ethics Committee Approval No. 29.23 (Department of Jobs, Precincts and Regions).

2.4. Limitations

The variability in the distribution of species over time and seasons, and the imperfect probability of detection of most survey techniques, means that is generally some level of uncertainty in determining the absence of a species from an area.

We note that rainfall was materially lower than average leading in to and during most of the targeted surveys, although rainfall was above average in April. This may have influenced habitat and hence the relative abundance, distribution or detection of target species. We also note that the surveys were undertaken within, but relatively late in, the active (survey) season for the target reptile species; however, conditions during the surveys were suitable for these species, and the results demonstrate reptile activity and detection. Accordingly, we do not consider there to be any significant limitations to the targeted surveys undertaken for the Swamp Skink, Glossy Grass Skink and threatened birds, which aligned with relevant guidelines for the survey of these species.

3. Results

3.1. Desktop assessment

3.1.1. Victorian Biodiversity Atlas (DEECA)

A search of the Victorian Biodiversity Atlas (VBA) from within a 5 km radius of the study area resulted in a total of 23 threatened fauna species, including:

- Three threatened aquatic fauna species
- 19 threatened terrestrial fauna species
- One threatened invertebrate species.

No threatened fauna species have been historically recorded within the study area itself; however, this may simply reflect a lack of historical surveys within the study area.

3.1.2. Protected Matters Search Tool (DCCEEW)

The Protected Matters Search Tool identified a range of Matters of National Environmental Significance that may occur, or may relate to the area encompassing a 5 km radius of the study area, including:

- Wetlands of International Importance (Ramsar): 1
- Listed Threatened Ecological Communities: 1
- Listed Threatened Species: 44
- Listed Migratory Species: 12

The wetlands of international importance (Ramsar) with the potential to occur in the study area or within the 5 km buffer area includes:

- Ramsar site 21: Gippsland Lakes (20-30 km upstream)

The EPBC Act threatened ecological community with the potential to occur in the study area or within the 5 km buffer area includes:

- Gippsland Red Gum (Critically Endangered; 'likely to occur' within 5 km area)

A list of threatened and migratory species listed under the EPBC Act, along with a corresponding likelihood of occurrence, is provided in Appendix 2.

3.2. Overview of ecological values and site history

The quality and extent of vegetation and habitats of the study area are primarily influenced by a combination of land-use history, soil type and topography. The majority of the site has been subject to intensive land clearance and agriculture. The uniform topography and low elevation of the entirety of the site provides high fertility soils for pasture. High levels of stock activity and grazing was evident across the site with heavy pugging caused by ungulates throughout. Higher fertility soils are more conducive to exotic pasture grass colonisation following clearing and promoted by ongoing grazing, and consequently the paddocks within the study area are currently dominated by exotic grass species.

The study area contains four relatively large wetlands; wetlands A and B (Figure 1) are man-made and only recently constructed (c. 2021), while wetlands C and D are well-established and contain some native fringing and emergent vegetation. Relatively few native rushes and sedges have formed around the wetland margins, with exotic pasture grasses and weeds dominating the fringing vegetation. The general lack of emergent or other aquatic (submergent/floating) vegetation in these wetlands provides limited habitat opportunities for many threatened aquatic species, including amphibians. Wetland C in the northwest of the site is an established wetland with a somewhat higher coverage of aquatic vegetation, presumably providing better habitat quality for native frogs and fish. Wetland D, while established and containing native rushes and sedges throughout, was drained in 2022. At the time of the assessment the wetland was partially filled, although water quality appeared to be relatively low.

The southeast portion of the study area supports five large old Forest Red Gum trees currently. These trees represent high quality habitat and support numerous hollows for native fauna, as well as flowering, nectar and other habitat resources (Plate 1).

In summary, the vegetated areas of the site predominantly comprise disturbed soil structures resulting from a history of agricultural activity, the result of which is extensive colonisation of exotic grasses and low diversity of native flora species, which provide limited ecological value across much of the study area. The wetlands and drainage lines contain some native aquatic and fringing vegetation, and support potential habitat resources for some native fauna species, which may include threatened bird species. The remnant large old trees in the southeast are likely to provide important nesting and foraging resources for native fauna species.

Plate 1 Remnant Forest Red Gum trees in the southeast of the study area, supporting numerous hollows.

3.2.1. Habitat for threatened species

The dominant habitat type in the study area is pasture, almost entirely composed of non-indigenous grass species and forbs. While these areas have previously been cleared and grazed, and provide limited habitat value, they may provide foraging opportunities for species occupying adjacent areas, particularly avian species. Several of the threatened fauna species identified in the desktop assessment are noted to forage in open farmland areas. Additionally, the edges of some of these areas contain wet habitat, which could potentially attract threatened wetland or migratory birds.

The four wetlands and various drainage lines within the study area provide potential habitat for a range of fauna species, including potentially threatened bird species. Although most of the wetland emergent vegetation is dominated by exotic species, the wetlands that contain emergent vegetation provides some potential habitat opportunities for amphibian, reptile and bird species. The drainage lines and the few vegetated (i.e. tree and shrub) boundary lines in the study area contain some patches of denser exotic vegetation, including Blackberry **Rubus fruticosis*, which could provide some habitat and movement opportunities for threatened small mammals such as the Southern Brown Bandicoot. However, the low amount and connectivity of this vegetation in the study area limits the potential habitat value, and the likelihood of this species occurring is considered relatively low.

The wet graminoid vegetation around the drainage line in the northeast supports potential habitat for two target species, Swamp Skink and Glossy Grass Skink; these species are described briefly below. The remnant large old Forest Red Gums may support habitat for Gang-gang Cockatoos and potentially other aerial (i.e. bird and/or bat) species.

3.2.2. Target species

Swamp Skink *Lissolepis coventryi*

The Swamp Skink has a predominantly coastal distribution across southern Victoria, reaching into adjoining southern coastlines of South Australia and New South Wales (Cogger 2014). Dorsal scales are olive-brown in colour with a black anterior margin and two black dorso-lateral stripes from the nape to tail base (Robertson and Coventry 2019). A medium-sized skink, the Swamp Skink has a snout-vent length of c. 100 mm and a tail reaching 150% of the body length (Cogger 2014).

Swamp Skinks typically inhabit densely vegetated wetlands (both freshwater and saltmarsh habitats) including low-lying marshes, swampy heaths and paperbark swamps, as well as surrounding vegetation (Clemann 2000a; Cogger 2014; Smales 1981). The species is highly dependent on wetlands and marshes and surrounding vegetation, with the structure of the vegetation, rather than its composition, generally being of greatest importance. This species requires low, dense vegetation in damp, humid areas, and is excluded from any areas where a dense overstorey or canopy blocks sunlight from reaching the lower strata.

The dominant plant species in freshwater habitats commonly includes reeds, sedges and tussocks, with Paperbarks and Tea-trees often scattered throughout or on the margins of wetland habitat. In saltmarsh habitats, dominant species typically include Beaded Glasswort, saltbush, rushes and tussock grasses (Clemann 2004). As structure is a more important determinant of habitat suitability than composition, 'intact native vegetation' is not necessarily required and skinks can make use of introduced species such as Kikuyu grass. The Swamp Skink can commonly be found in or adjacent to dense sedges and tussock life-form vegetation (such as species of *Gahnia*, *Poa*, *Baumea*) up to 1.5 m in height, which provides shelter and protection from predators (Smales 1981). Other habitat requirements of this species include mats of dead vegetation or logs or fallen branches which can provide perches for basking.

Plate 2 Swamp Skink Lissolepis coventryi *(J. Urlus 2015).*

Glossy Grass Skink *Pseudemoia rawlinsonii*

The Glossy Grass Skink occurs in a patchy distribution in New South Wales, Victoria and South Australia, as well as Tasmania, and occurs predominantly in and around wetlands and swamps, including brackish areas and drainage lines (Robertson and Coventry 2019). This wet habitat can occur in a variety of surrounding vegetation types, intact and modified, from woodlands to heathlands, coastal scrub and saltmarsh, and paddocks. Occupied habitats tend to support dense ground layer vegetation, particularly sedges, rushes and grasses. This preference for dense vegetation, combined with its cryptic nature, mean that the species is rarely seen outside of targeted searches and surveys.

There is a substantial overlap in habitat niche between Glossy Grass Skink and Swamp Skink, and as for the latter species it appears that the structure of vegetation, rather than its composition or origin (i.e. native or exotic), is more important for the Glossy Grass Skink. The Glossy Grass Skink is listed as Endangered within Victoria under the FFG Act.

Plate 3 Glossy Grass Skink Pseudemoia rawlinsonii *(J. Urlus 2008)*

3.2.3. Likelihood of occurrence of threatened species

The preliminary likelihood of occurrence of threatened species, based on the desktop assessment and site inspection, is summarised in Appendix 2, including the databases records were returned from, previous record information and a brief habitat description.

A summary of these species with a 'Moderate' or higher likelihood of occurrence, based on the desktop assessment and site inspection, is presented below in Table 4.

Table 4 Summary of significant species assigned a 'moderate' or higher likelihood of occurrence in the study area from the desktop assessment.

Common Name	Scientific Name	Conservation Status	Count of Sightings	Date of last Record	Database	Habitat requirements	Likelihood of occurrence
Blue-billed Duck	*Oxyura australis*	vu	20	28/09/2018	VBA	Prefers stable, deep, fresh and well-vegetated (particularly submergent vegetation) wetlands for much of the year, particularly for breeding. Seldom seen on land. Individuals often found in sedges and rushes when not in large flocks.	Moderate
Eastern Great Egret	*Ardea alba modesta*	vu	11	22/05/2019	VBA	Occupies a ranges of wetland habitats both inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated. Usually frequents shallow waters.	High
Gang-Gang Cockatoo	*Callocephalon fimbriatum*	EN en	18	14/04/2020	VBA	During summer, Gang-gangs are found in tall mountain forests and woodlands, with dense shrubby understoreys. In winter, Gang-gangs will move to lower altitudes into drier, more open forests and woodlands.	Moderate
Glossy Grass Skink	*Pseudemoia rawlinsonii*	en	N/a	N/a	VBA	Dense graminoid vegetation in and surrounding wet environments, including wetlands, drainage lines and swamps, typically dominated by sedges, rushes and grasses.	Moderate
Hardhead	*Aythya australis*	vu	36	31/07/2019	VBA	Prefers open wetland habitats, particularly lakes and lagoons.	Moderate

Common Name	Scientific Name	Conservation Status	Count of Sightings	Date of last Record	Database	Habitat requirements	Likelihood of occurrence
Latham's Snipe	*Gallinago hardwickii*	VU	9	12/01/2019	VBA	Wetland habitats sewerage farms and ephemeral lakes, dams, usually with areas of vegetated muflats and with dense low vegetation.	Moderate
Swamp Skink	*Lissolepis coventryi*	EN en	N/a	N/a	EPBC	Dense graminoid vegetation in swampy environments, particularly swamp scrub or riparian thicket, comprising Melaleuca and leptospermum species, sedges, rushes and grasses, and saltmarshes.	Moderate

Key:

EPBC Act 1999: EN – Endangered; VU – Vulnerable; Migratory/Marine – Listed on the EPBC Act 'migratory' (s209) or 'marine' (s248) species lists

FFG Act 1988: cr – Critically Endangered; en – Endangered; vu – Vulnerable; th – Threatened

3.3. Targeted surveys

3.3.1. Artificial refuge surveys

Three native vertebrate species were identified during the artificial refuge surveys, as well as an unidentified skink that could only be glimpsed briefly but not captured (Table 5). This included the Glossy Grass Skink, which was recorded at both tile grids during the surveys (Figure 1).

Table 5 Species detections during *artificial refuge surveys at the study area (April to May 2024)*

Survey	Date	Species (common)	Species (scientific)	Comments
Tile check 1	15 April 2024	Spotted Marsh Frog	*Limnodynastes tasmaniensis*	Plate 4
		Unidentified skink		Glimpsed but not caught/ identified
Tile check 2	22 April 2024	Spotted Marsh Frog	*Limnodynastes tasmaniensis*	Three individuals, across both tile grids
		Common Eastern Froglet	*Crinia signifera*	
		Glossy Grass Skink	*Pseudemoia rawlinsonii*	Western grid (Plate 5)
Tile check 3	07 May 2024	Glossy Grass Skink	*Pseudemoia rawlinsonii*	Three individuals, both tile grids (Plate 6)

Plate 4 *Spotted Marsh Frog* Limnodynastes tasmaniensis, *recorded during tile check 1*

Plate 5 Glossy Grass Frog Pseudemoia rawlinsonii, *recorded during tile check 2*

Plate 6 Glossy Grass Frog Pseudemoia rawlinsonii, *recorded during tile check 3*

3.3.2. Elliott trapping

Across the 300 trap days there were no captures of the target or non-target fauna species. Low numbers of captures are not unexpected in surveys of disturbed and relatively poorly connected habitats such as these, although zero captures is somewhat unusual—even in the absence of the target species (Swamp Skink), small mammals, particularly exotic species such as House Mouse **Mus musculus* and native or exotic rats *Rattus* spp. are often recorded in pasture habitats.

We note that Glossy Grass Skink is not known to be detected using Elliott traps (i.e. only Swamp Skink), and hence the lack of records of the former species from the Elliott surveys is not unexpected.

3.3.3. Bird census

A total of 37 bird species were observed during the bird census surveys, including 33 native species and four exotic species (Appendix 1).

One threatened bird species, the Eastern Great Egret *Ardea alba modesta* (Plate 7), was recorded, with multiple individuals detected in wetland B in the northwest of the site, as well as at drainage lines D and I, the latter being where the targeted reptile surveys were undertaken (Figure 1). This species is listed as Vulnerable under the FFG Act.

Plate 7 Eastern Great Egret recorded on the edge of wetland B within the study area.

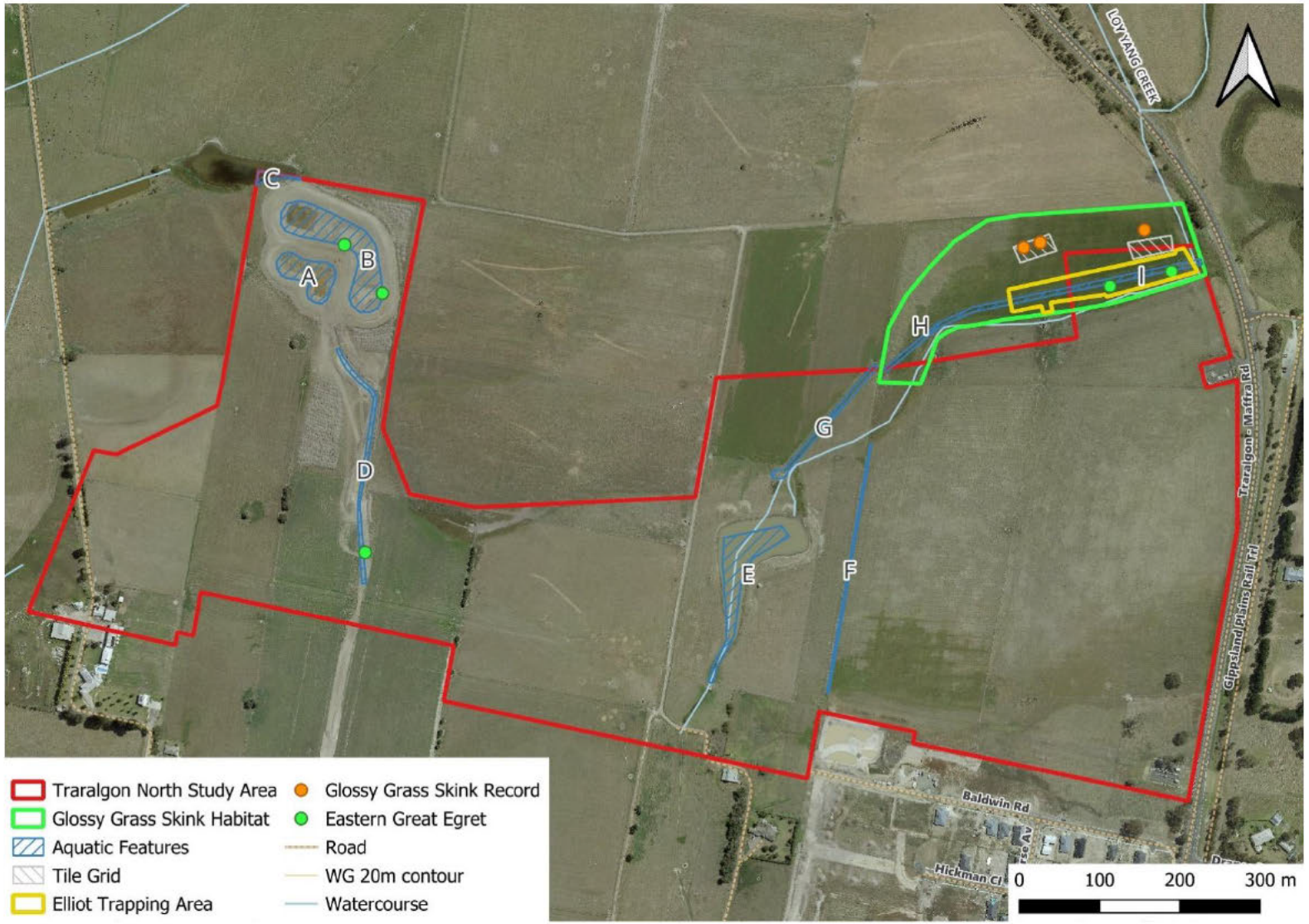

Figure 1 Targeted survey locations and threatened species records within the study area.

4. Proposed Works

We understand the study area has been identified as a site for the expansion of residential development, and has accordingly been rezoned from Farming Zone to Residential Zone, with a Development Plan Overlay. A draft Concept Layout for the site is shown in Figure 2 below.

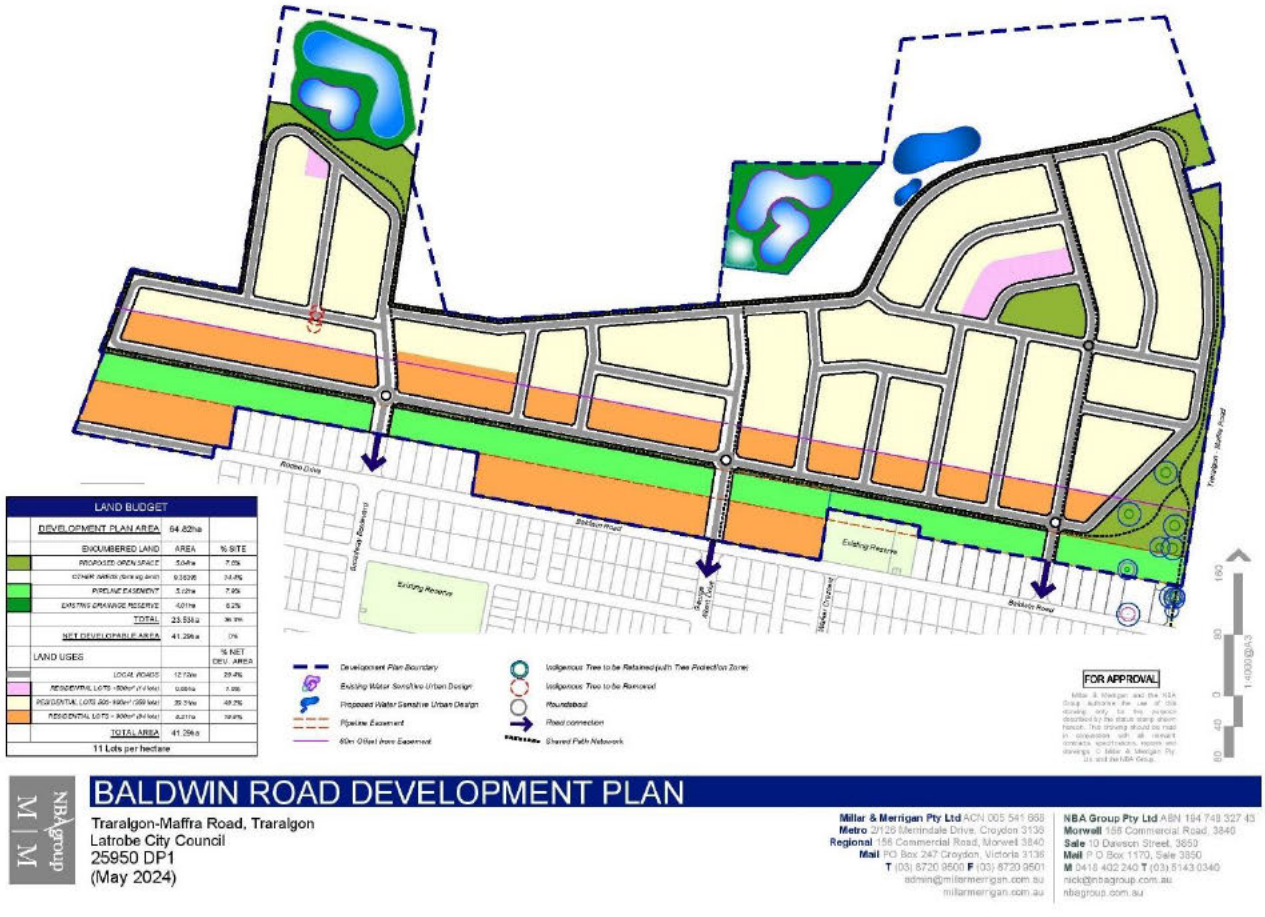

Figure 2 Draft Concept Layout of the proposed development (supplied; Millar Merrigan)

5. Policy & Legislation

The likely implications of relevant policy and legislation are discussed in the following sections.

5.1. Commonwealth legislation

5.1.1. Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* is the Australian Government's principal article of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the Act as Matters of National Environmental Significance (MNES).

There are nine matters of national environmental significance to which the EPBC Act applies, these are:

- World heritage sites;
- National heritage places;
- Wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed);
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas;
- Nuclear actions.
- the Great Barrier Reef Marine Park
- a water resource, in relation to coal seam gas development and large coal mining development

If a project is likely to have a significant impact on one of the nine Matters of National Environmental Significance the action or proposal must be referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW). This 'referral' is, then released to the public for comment.

Under the EPBC Act 1999, actions that are likely to have a significant impact upon MNES require approval from the Environment Minister to undertake those actions. An action includes any project, development, undertaking, activity or series of activities.

Significant impact criteria have been published by the Commonwealth government (DoE 2013), which depending on the conservation status of a listed threatened species can be defined as:

'*an action is likely to have a significant impact on a species if there is a real chance or possibility that it will*:

- *lead to a long-term decrease in the size of a population,*
- *reduce the area of occupancy of the species,*
- *fragment an existing population into two or more populations,*
- *adversely affect habitat critical to the survival of a species,*
- *disrupt the breeding cycle of a population,*
- *modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline,*
- *result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat,*

- *introduce disease that may cause the species to decline, or*
- *interfere with the recovery of the species.*

EPBC Act-listed fauna species

No EPBC Act-listed threatened fauna species were recorded at the study area during initial site assessment.

No EPBC Act-listed fauna species are considered to have a high likelihood of occurrence, while two EPBC Act-listed fauna species (Swamp Skink and Gang-gang Cockatoo) were considered to have a moderate likelihood of occurrence, but were not recorded in subsequent targeted surveys at the site. The failure to detect Swamp Skink suggests this species is not present at the site. The failure to detect Gang-Gang Cockatoo suggests this species either does not occur at the study area on a regular basis or does not utilise for the study area as important habitat, including for breeding or roosting.

Referral to the Commonwealth

A referral to the Commonwealth under the EPBC Act is considered unlikely to be required for threatened fauna species, due to the low likelihood of these MNES occurring on the site.

5.2. State legislation

5.2.1. Flora and Fauna Guarantee Act 1988

The Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) was established to provide a legal framework for enabling and promoting the conservation of all Victoria's native flora and fauna, and to enable management of potentially threatening processes (DEECA 2024d).

A key feature of the Act is the listing process, whereby native species and communities of flora and fauna, and the processes that threaten native flora and fauna are listed within the schedules of the Act. This listing assists in identifying those species and communities that require management to survive and identifies the processes that require management to minimise the threat to native flora and fauna species and communities within Victoria (DEECA 2024d).

FFG Act permit triggers only apply to public land, of which none is contained within this study area.

While the study area for this project does not contain any public land parcels, the FFG Act requires consideration of biodiversity across government to ensure decisions and policies are made with proper consideration of the potential impacts on biodiversity (DELWP 2021), regardless of land tenure. Consideration of biodiversity issues by Local Council across all land tenures includes:

- Long and short-term impacts,
- Detrimental and beneficial impacts,
- Direct and indirect impacts,
- Cumulative impacts,
- Potentially threatening processes.

FFG Act-listed species recorded at the study area

Two FFG Act-listed fauna species were recorded at the study area during the current assessment:

- Glossy Grass Skink
- Eastern Great Egret.

FFG Act-listed communities

No confirmed examples of FFG Act listed threatened communities were recorded within the study area or identified in the desktop assessment.

FFG Act permit requirements

An FFG Act permit to impact FFG Act-listed threatened species and communities may be required depending on land tenure. Consideration of potential biodiversity impacts is required by the FFG Act to be addressed as part of State and Local government planning permit processes, regardless of land tenure (DELWP 2021).

Given the known presence of two FFG Act-listed species on the site, particularly one species of low mobility and very small home range/dispersal capability (Glossy Grass Skink), and hence likely to be impacted by development in or adjacent to habitat where it occurs, consultation with DEECA and Council is advised to determine the appropriate mitigation and management for this population.

5.2.2. Wildlife Act 1975

The Wildlife Act 1975 forms the procedural, administrative and operational basis for the protection and conservation of native wildlife within Victoria. The purposes of the Act are:

1. To establish procedures in order to promote:
   - The protection and conservation of wildlife; and
   - The prevention of taxa wildlife from becoming extinct; and
   - The sustainable us of and access to wildlife; and
2. To prohibit and regulate the conduct of persons engaged in activities concerning or related to wildlife.

Under the Wildlife Act, it is an offence to hunt, take or destroy threatened or protected wildlife without authorisation. Functionally, this Act means that 'protected wildlife' (e.g. most native vertebrate fauna) that may be directly impacted by a proposed action, will need to have measures put in place to reduce and manage these impacts. Typically, and depending upon the nature of a project, this may require the development of a Wildlife Management Plan, which will include avoidance and mitigation measures, as well as salvage and relocation processes for fauna encountered during development works.

5.2.3. Catchment and Land Protection Act 1994

The *Catchment and Land Protection Act 1994* (CaLP Act) intends to manage land degradation including detrimental environmental or economic impacts of declared noxious weeds and pest animals. Numerous exotic plants occur within the study area (e.g. Blackberry), and it is highly likely that many pest species are also present (Red Fox *Vulpes vulpes*, European Rabbits *Oryctolagus cuniculus*). Measures to control exotic species listed under the CaLP Act will need to be developed as part of the approval process for this project.

5.2.4. Clause 12.01-1S Biodiversity

The State Planning Policy Clause 12.01-1S Biodiversity requires that decision making takes into account the impacts of land use and development on Victoria's biodiversity, including consideration of:

- Cumulative impacts
- Fragmentation of habitat
- The spread of pest plants, animals and pathogens into natural ecosystems

An environmental management plan may need to be prepared by the developer that addresses the considerations above, of which *cumulative impacts* and *fragmentation of habitat* are not explicitly required to be addressed by other policy and legislation.

6. Recommendations

6.1. Avoidance and minimisation of impacts

It is recommended to incorporate native vegetation and habitat impact avoidance and minimisation measures from the earliest stages of the design phase. For example, the location of works or disturbance areas that can be located within cleared land, devoid of native vegetation, should be prioritised over disturbance to areas comprising native vegetation.

The wetlands and drainage lines contained within the study area must be carefully considered to avoid, minimise and mitigate potential impacts. Given the study area falls within 20-30 km proximity of these waterbodies to Ramsar Site 21 (Gippsland Lakes), any works and disturbance to these areas which could have effects further downstream should be avoided where possible and carefully managed.

It is recommended that potential impacts to the Glossy Grass Skink habitat in the northeast (Figure 1) are avoided as much as possible. We understand that drainage infrastructure (e.g. treatment wetlands) are currently proposed to be constructed in part of this area; however, we note that the proponent appears to have substantially reduced the area of potential habitat impacted in the latest iteration of the draft Concept Layout for the project (Figure 2), and that the remaining overlap of the proposed drainage infrastructure is restricted to the south-western edge of the area of habitat. This change is likely to avoid the majority of potential impacts to Glossy Grass Skink at the site.

We make the following recommendations:

- Drainage assets proposed in the northwest of the study area are built outside of the Glossy Grass Skink habitat if possible (e.g. downstream); if necessary and approved to be built within the area of GGS habitat, these assets should be as small as possible and on the margins.
- Any drainage assets approved and constructed within or adjacent to the GGS habitat should include revegetation around the water's edge with appropriate graminoid vegetation to promote suitable habitat structure for this species.
- Consultation should held with DEECA and Council regarding this population of GGS, and ensure that appropriate approaches to address and manage potential impacts with regard to the proposed development are taken.
- Any development in this area will require a Construction Environment Management Plan that addresses potential impacts on habitat such as sedimentation, erosion, contaminants and weeds.
  - Within the CEMP or as a separate plan (e.g. Wildlife Management Plan), potential impacts to native fauna from the development should be addressed, including the specific avoidance and mitigation of direct and indirect impacts to Glossy Grass Skink in the area (e.g. retention/provision of habitat features, salvage and relocation), and mitigation of impacts to native fauna more generally (i.e. under the *Wildlife Act 1975*).
- The Glossy Grass Skink habitat is incorporated into a conservation reserve/open space, and managed appropriately for the species through the development of a habitat management plan. This will also retain and protect habitat for Eastern Great Egret in this area.

We understand that the large waterbodies on the site will generally be retained, although these may be redesigned to meet hydrological and water treatment objectives. We make the following recommendations regarding waterbodies at the site:

- If waterbodies or waterways on the site require decommissioning, i.e. dewatering, ensure that a suitably experienced and permitted ecologist is present to undertake salvage and relocation, in order to avoid direct harm to protected wildlife and meet obligations under the Wildlife Act 1975

- Undertake hydrological and stormwater investigations as part of site design and development to ensure that there is both no discharge of untreated surface waters or stormwater from the site into retained wet habitat at the site, or into the nearby Latrobe River or associated tributaries.

We understand that the stand of Forest Red Gums in the southeastern corner of the site will be retained and avoided to minimise impacts to the variety of species currently supported by these remnant trees. These mature remnant trees contain many hollows and spouts occupied by a variety of bird species and bees, potentially including Gang-gang Cockatoo, and provide habitat opportunities for arboreal mammals including bats. These trees should be incorporated into a conservation reserve, and managed accordingly.

6.2. Engage regulatory authorities

In the interests of ensuring robust outcomes, expediency and cost efficiency, early and ongoing engagement with Latrobe City Council, DEECA and the DCCEEW is recommended to establish information requirements and set expectations in terms of the type of avoidance, minimisation and mitigation measures that will be expected of the client, prior to undertaking detailed design work.

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Appendix 1: Fauna species recorded on site

Key: vu – Vulnerable under the FFG Act; * - exotic species (introduced to Australia).

Common Name	Scientific Name	Conservation Status
Australasian Darter	*Anhinga novaehollandiae*	
Australian Magpie	*Cracticus tibicen*	
Australian Pelican	*Pelecanus conspicillatus*	
Australian Shelduck	*Tadorna tadornoides*	
Australian White Ibis	*Threskiornis moluccus*	
Australian Wood Duck	*Chenonetta jubata*	
Black Swan	*Cygnus atratus*	
Black-faced Cuckooshrike	*Coracina novaehollandiae*	
Black-fronted Dotterel	*Elseyornis melanops*	
Black-shouldered Kite	*Elanus axillaris*	
Cape Barren Goose	*Cereopsis novaehollandiae*	
Chestnut Teal	*Anas castanea*	
Common Myna	*Acridotheres tristis*	*
Common Starling	*Sturnus vulgaris*	*
Crested Pigeon	*Ocyphaps lophotes*	
Eastern Great Egret	*Ardea alba modesta*	vu
Eurasian Coot	*Fulica atra*	
Eurasian Skylark	*Alauda arvensis*	*
European Goldfinch	*Carduelis carduelis*	*
Golden-headed Cisticola	*Cisticola exilis*	
Grey Butcherbird	*Cracticus torquatus*	
Grey Teal	*Anas gracilis*	
Hoary-headed Grebe	*Poliocephalus poliocephalus*	
Little Pied Cormorant	*Microcarbo melanoleucos*	
Little Raven	*Corvus mellori*	
Magpie-lark	*Grallina cyanoleuca*	
Masked Lapwing	*Vanellus miles*	
Musk Lorikeet	*Glossopsitta concinna*	
Nankeen Kestrel	*Falco cenchroides*	
Pacific Black Duck	*Anas superciliosa*	
Purple Swamphen	*Porphyrio porphyrio*	
Straw-necked Ibis	*Threskiornis spinicollis*	

Common Name	Scientific Name	Conservation Status
Sulphur-crested Cockatoo	*Cacatua galerita*	
Welcome Swallow	*Hirundo neoxena*	
White-faced Heron	*Egretta novaehollandiae*	
Willy Wagtail	*Rhipidura leucophrys*	
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*	

Appendix 2: Desktop assessment of likelihood of occurrence of significant species

Key:

EPBC Act 1999: EN – Endangered; VU – Vulnerable; Migratory/Marine – Listed on the EPBC Act 'migratory' (s209) or 'marine' (s248) species lists

FFG Act 1988: cr – Critically Endangered; en – Endangered; vu – Vulnerable; th - Threatened

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Australasian Bittern	*Botaurus poiciloptilus*	EN cr	N/a	N/a	EPBC	Wetland habitats, preferring areas with dense cover such as reedbeds and tall marsh.	Low
Aquatic fauna	Australian Grayling	*Prototroctes maraena*	VU en	3	23/03/2010	VBA	Spends part of its lifecycle in freshwater and at least part of the larval and/or juvenile stages in coastal seas. Inhabits cool, clear, freshwater streams with gravel substrate and areas alternating between pools and riffle zones (DSE 2008).	Low
Fauna	Australian Painted Snipe	*Rostratula australis*	EN cr Marine	N/a	N/a	EPBC	Ephemeral, shallow wetlands with muddy margins or mud flats and small low-lying islands.	Low
Fauna	Barking Owl	*Ninox connivens*	cr	1	11/11/2009	VBA	Large home ranges that require old hollow bearing trees for nesting. Feeding grounds include woodland, forest and open farmland.	Low
Fauna	Black Falcon	*Falco subniger*	cr	1	28/10/1999	VBA	Prefers open grassland and grassy woodlands, resident populations are occasionally supplemented by irruptions from further inland during droughts.	Low

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Blue-billed Duck	*Oxyura australis*	vu	20	28/09/2018	VBA	Prefers stable, deep, fresh and well-vegetated (particularly submergent vegetation) wetlands for much of the year, particularly for breeding. Seldom seen on land. Individuals often found in sedges and rushes when not in large flocks.	Moderate
Fauna	Blue-winged Parrot	*Neophema chrysostoma*	VU	1	1/01/1977	VBA	A range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones. The species can also be seen in altered environments such as airfields, golf-courses and paddocks. (Higgins 1999; Holdsworth et al. 2021).	Low
Fauna	Broad-toothed Rat (mainland), Tooarrana	*Mastacomys fuscus mordicus*	VU vu	N/a	N/a	EPBC	Generally higher elevation sites but also foothil areas. Requires high annual rainfall comprising heathlands, grassland adjacent to boulder outcrops, swamps, shrubby dunes, and sometimes forests with grassy understoreys.	Low
Fauna	Brown Treecreeper	*Climacteris picumnus*	VU	N/a	N/a	VBA / EPBC	Drier open forests and woodlands. Sedentary.	Low
Fauna	Curlew Sandpiper	*Calidris ferruginea*	CR Migratory Marine	N/a	N/a	EPBC	Intertidal mud-flats, coastal areas, such as estuaries, bays, inlets and lagoons. Also sewerage farms and ephemeral lakes, dams, usually with bare muddy banks.	Low
Fauna	Diamond Firetail	*Stagonopleura guttata*	VU vu	N/a	N/a	VBA / EPBC	Open grassy woodland, heath and farmland or grassland with scattered trees	Low
Aquatic fauna	Dwarf Galaxias	*Galaxiella pusilla*	VU en	N/a	N/a	EPBC	Slow flowing and still, shallow, permanent and temporary freshwater habitats, often	Low

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
							containing dense aquatic macrophytes and emergent plants	
Fauna	Eastern Great Egret	*Ardea alba modesta*	vu	11	22/05/2019	VBA	Occupies a ranges of wetland habitats both inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated. Usually frequents shallow waters.	High
Fauna	Eastern Quoll	*Dasyurus viverrinus*	EN en	1	01/01/1899	VBA	Found in a variety of habitats including dry sclerophyll forest, scrub, heathland, alpine areas. Also found in dry grassland and forest bounded by agricultural land.	Negligible
Aquatic fauna	Flinders Pygmy Perch	*Nannoperca sp. 1*	vu	4	30/10/1990	VBA	Slow or still waters with abundant aquatic vegetation, including lakes, ponds and slow-flowing rivers and creeks.	Low-Moderate
Fauna	Gang-gang Cockatoo	*Callocephalon fimbriatum*	EN en	18	14/04/2020	VBA	In summer: found in tall mountain forests and woodlands, with dense shrubby understoreys. In winter: lower altitudes into drier, more open forests and woodlands.	Moderate
Fauna	Glossy Grass Skink	*Pseudemoia rawlinsonii*	en	N/a	N/a	VBA	Dense graminoid vegetation in and surrounding wet environments, including wetlands, drainage lines and swamps, typically dominated by sedges, rushes and grasses.	Moderate
Fauna	Greater Glider	*Petauroides volans*	EN en	N/a	N/a	EPBC	Forest dependent and prefer older tree age classes in moist forest types, utilising hollow-bearing trees for shelter and nesting.	Low
Fauna	Green and Golden Bell Frog	*Litoria aurea*	VU	N/a	N/a	EPBC	Occupies habitats with little human disturbance. Breeds in permanent and ephemeral ponds.	Low

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Grey Falcon	*Falco hypoleucos*	VU vu	N/a	N/a	EPBC	Typically shrubland, grassland and wooded watercourses of arid and semi-arid regions. Occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	Low
Fauna	Grey Goshawk	*Accipiter novaehollandiae*	en	1	22/06/2004	VBA	Favours tall, wet forests, particularly in gullies, for roosting and hunting. Depends on mature forests for breeding.	Low
Fauna	Grey-headed Flying-fox	*Pteropus poliocephalus*	VU vu	N/a	N/a	EPBC	Wide-ranging species that typically seeks food resources in urban areas, including gardens and orchards. Also feeds on flowering Eucalypts in woodlands and forests.	Low-Moderate
Fauna	Growling Grass Frog	*Litoria raniformis*	VU vu	14	15/09/1968	VBA	Wetland habitats including creeks, dams and freshwater wetlands. Prefers sites with a good cover of floating and submerged vegetation.	Low
Fauna	Hardhead	*Aythya australis*	vu	36	31/07/2019	VBA	Prefers open wetland habitats, particularly lakes and lagoons.	Moderate
Fauna	Hooded Robin	*Melanodryas cucullata*	EN vu	2	1/01/1977	VBA	Eucalypt forest, woodlands, scrubs with fallen logs. Inland environments, including mallee, mulga, cleared paddocks with stumps and dead trees or re-growth. Banksia dominated coastal scrubs (Pizzey & Knight).	Low
Fauna	Latham's Snipe	*Gallinago hardwickii*	VU	9	12/01/2019	VBA	Wetland habitats sewerage farms and ephemeral lakes, dams, usually with areas of vegetated muflats and with dense low vegetation.	Moderate
Fauna	Little Eagle	*Hieraaetus morphnoides*	vu	1	1/01/1977	VBA	Flying over woodland, forest and open country, extending into the arid zone. It tends to avoid rainforest and heavy forest	Low-Moderate

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Little Egret	*Egretta garzetta*	en	1	9/07/2020	VBA	Wetland habitats, including freshwater and coastal wetlands.	Low
Fauna	Long -nosed Potoroo	*Potorous tridactylus trisulcatus*	VU vu	N/a	N/a	EPBC	Found in wet and dry sclerophyll forest, coastal heath and coastal woodland, prefers thick understory.	Negligible
Aquatic fauna	Macquarie Perch	*Macquaria australasica*	EN en	1	9/11/1929	VBA	Macquarie Perch occur in waters with lots of cover such as aquatic vegetation, snags, boulders and overhanging banks. Spawning occurs above riffles (shallow running water), where eggs are deposited among small boulders, pebbles and gravel.	Negligible
Fauna	Martin's Toadlet	*Uperoleia martini*	EN cr	N/a	N/a	EPBC	Recroded in dry forest, woodlands, shrublands, grasslands and disturbed areas. Usually found near still water. Usually found where woodland or coastal shrubs border the water body.	Negligible
Fauna	Musk Duck	*Biziura lobata*	vu	1	1/01/1977	VBA	Prefers open wetlands such as lakes and lagoons.	Low-Moderate
Fauna	Painted Honeyeater	*Grantiella picta*	VU vu	N/a	N/a	EPBC	Dry open forests and woodlands. Is associated with mistletoe	Low
Fauna	Pilotbird	*Pycnoptilus floccosus*	VU vu	2	1/01/1977	VBA	Rainforest and other wet forest habitats from the tops of the ranges to the coast. In some coastal locations they also occur along the moist margins of creeks extending out into heathland.	Low
Fauna	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard	*Aprasia parapulchella*	VU en	N/a	N/a	EPBC	Generally occurs in areas where there are rocky outcrops or scattered partly buried rocks. It occurs under rocks in grassland and woodland in south-east Australia.	Negligible

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Platypus	*Ornithorhynchus anatinus*	vu	2	19/07/1979	VBA	Freshwater rivers and streams.	Low
Fauna	Regent Honeyeater	*Anthochaera phrygia*	CR cr	3	1/01/1977	VBA	Woodland habitats, primarily box-ironbark forests of Victoria and NSW	Negligible
Fauna	Sharp-tailed Sandpiper	*Calidris acuminata*	Migratory Marine	N/a	N/a	EPBC	Intertidal mud-flats, coastal areas, such as estuaries, bays, inlets and lagoons. Also sewerage farms and ephemeral lakes, dams, usually with bare muddy banks.	Low
Fauna	Smoky Mouse, Konoom	*Pseudomys fumeus*	EN en	N/a	N/a	EPBC	Heath and dry sclerophyll forest, especially along ridgetops with a heath understorey, and occasionally adjacent wetter habitats such as fern gullies.Typically with a floristically diverse shrub layer with members of the plant families Epacridaceae, Fabaceae and Mimosaceae.	Negligible
Fauna	South-eastern Glossy Black-Cockatoo	*Calyptorhynchus lathami lathami*	VU	N/a	N/a	EPBC	Prefers coastal woodlands and drier forest areas, open inland woodlands or timbered watercourses. Requires old growth eucalypt hollows for nesting and breeding. Feeds on she-oak.	Negligible
Fauna	Southern Brown Bandicoot	*Isoodon obesulus obesulus*	EN en	N/a	N/a	EPBC	Known to inhabit a variety of habitats including heathland, shrubland, sedgeland, heathy open forest and woodland. Typically inhabit areas of dense ground cover.	Low
Fauna	Spot-tailed Quoll	*Dasyurus maculatus maculatus (SE mainland population)*	EN en	N/a	N/a	EPBC	Has been recorded in a wide range of forest and woodland habitats but has a preference for mature wet forest habitat, particularly long undisturbed.	Negligible
Fauna	Striped Legless Lizard	*Delma impar*	VU en	N/a	N/a	EPBC	Grasslands, particularly on the Volcanic Plains	Negligible

Discipline	Common Name	Scientific Name	Cons. Status	Count	Date (Last)	Source	Habitat	Likelihood of Occurrence
Fauna	Swamp Skink	*Lissolepis coventryi*	EN en	N/a	N/a	EPBC	Dense graminoid vegetation in swampy environments, particularly swamp scrub or riparian thicket, comprising Melaleuca and leptospermum species, sedges, rushes and grasses, and saltmarshes.	Moderate
Fauna	Swift Parrot	*Lathamus discolor*	CR cr Marine	N/a	N/a	EPBC	Migrates from Tasmania to the mainland between autumn and spring. Recorded widely in a range of habitats wherever nectar-rich food plants occur, including Yellow Gum and Ironbark forest and woodland, eucalypt plantations and urban gardens.	Low
Fauna	White-bellied Sea-Eagle	*Haliaeetus leucogaster*	en	7	19/08/2020	VBA	Primarily coastal, but also far inland on river systems and terrestrial wetlands.	Low
Fauna	White-throated Needletail	*Hirundapus caudacutus*	VU vu	4	20/11/1998	VBA	Aerial species that rarely lands.	Low
Fauna	Yellow Ochre Butterfly	*Trapezites luteus luteus*	en	60	5/02/1972	VBA	Eucalypt woodlands and grasslands; subalpine woodland; open woodland.	Low
Fauna	Yellow-bellied Glider	*Petaurus australis*	VU vu	1	1/01/1983	VBA	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils	Negligible