



Ironbark Creek Underbridge Replacement

Biodiversity Constraints Assessment

Australian Rail Track Corporation

16 July 2026

→ **The Power of Commitment**



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S4	0	J. Gainsford	S. Brandley		S. Pearce		16/07/2026

GHD Pty Ltd | ABN 39 008 488 373

GHD Tower, Level 3, 24 Honeysuckle Drive

Newcastle, New South Wales 2300, Australia

T +61 2 4979 9999 | **E** ntlmail@ghd.com | **ghd.com**

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Acknowledgement of Country

GHD acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land, water and sky throughout Australia on which we do business. We recognise their strength, diversity, resilience and deep connections to Country. We pay our respects to Elders of the past, present and future, as they hold the memories, knowledges and spirit of Australia. GHD is committed to learning from Aboriginal and Torres Strait Islander peoples in the work we do.



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Glossary

Abbreviation	Term
AOBV	Areas of outstanding biodiversity value
AOO	Area of Occupancy
BAM 2020	Biodiversity Assessment Method 2020
BAM-C	Biodiversity Assessment Method Calculator
BAR	Biodiversity Assessment Report
BC Act	<i>NSW Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BIA	Biologically Important Area
BOS	Biodiversity Offset Scheme
CAMBA (C)	China-Australia Migratory Bird Agreement
Cwlth DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure (NSW)
EEC	Endangered Ecological Community
EIS	Environmental Impact Assessment
EP&A Act	<i>NSW Environmental Assessment and Planning Act 1997</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FM Act	<i>Fisheries Management Act 1995</i>
ha	Hectare – a non-SI metric unit of area equal to a square with 100-metre sides primarily used in the measurement of land
IBRA	Interim Biogeographic Regionalisation for Australia
JAMBA (J)	Japan-Australia Migratory Bird Agreement
KFH	Key Fish Habitat
MNES	Ecological Matters of National Environmental Significance
NSW DCCEEW	New South Wales Department of Climate Change, Energy, the Environment and Water
PCT	Plant community type
PMST	Protected Matters Search Tool
ROKAMBA (K)	Republic of Korea-Australia Migratory Bird Agreement
SAIL	Serious and irreversible impacts
SAIL entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAILs)
SEED	Sharing and Enabling of Environmental Data
SEPP	State Environmental Planning Policy
SSI	State Significant Infrastructure
SVTM	NSW state vegetation type mapping
TEC	Threatened ecological community
WoNS	Weeds of National Significance

1. Introduction

1.1 Background

The Ironbark Creek Underbridge is located on the Main North Line at Hexham in the Hunter Valley, NSW. The Ironbark Creek Underbridge carries two main lines and is a key part of the Hunter Valley rail network, supporting both passenger and freight services and forming an important link for coal traffic moving to and from the Port of Newcastle. The bridge structure is a through Pratt truss steel underbridge spanning approximately 38 metres (m), supported on bearings and timber-piled brick and concrete abutments. Built in the early 1900s, the structure now requires replacement to ensure the network continues to operate safely and efficiently.

The Australian Rail Track Corporation (ARTC) are seeking to replace the Ironbark Creek Underbridge (the project) to ensure its safety and longevity for the long term.

1.2 Purpose of this report

The project is being assessed as State significant infrastructure (SSI) under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Minister for Planning is the approval authority, and the project is to be assessed in accordance with the provisions of Division 5.2 of the EP&A Act. As such, an Environmental Impact Statement (EIS) must be prepared.

The purpose of this report is to assess the biodiversity constraints associated with the project and to confirm the conservation significance of the study area, including the presence of threatened biota listed under the NSW *Biodiversity Conservation Act 2016* (BC Act), *Fisheries Management Act 1995* (FM Act) and Matters of National Environmental Significance (MNES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and their habitats.

1.3 Scope and limitations

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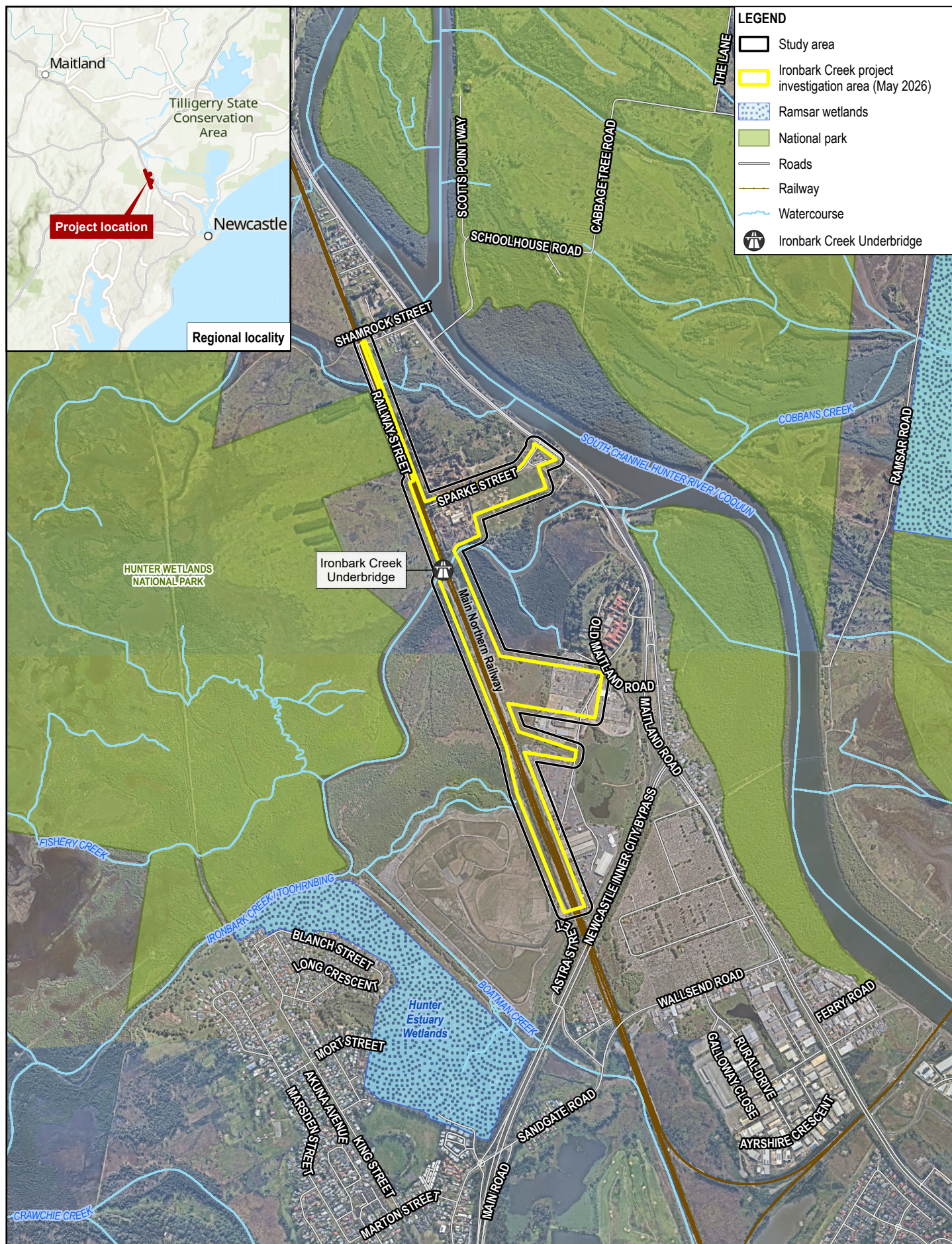
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The assessment of biodiversity values in the investigation area was rapid in nature and may be subject to change and refinement throughout the EIS process.

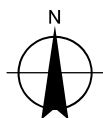
1.4 Terminology

The following terms are used throughout this report.

- ‘Project’ refers to the works proposed to replace Ironbark Creek Bridge, as described in detail in Section 1.1.
- ‘Investigation area’ describes the area within which the project that may be subject to direct impacts associated with the project, including construction areas and construction access (see Figure 1.1).
- ‘Study area’ describes the area that has the highest likelihood of being indirectly impacted by the project and is the subject of relevant database searches. The study area includes the investigation area.
- ‘Locality’ refers to a 10-kilometre radius around the study area.



Paper Size ISO A4
0 100 200 300 400 500 600
Metres



Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 56



Australian Rail Track Corporation
Ironbark Creek Bridge Replacement
Biodiversity Constraints Assessment

Project No. 12682985
Revision No. 0
Date 16/07/2026

Investigation area

FIGURE 1.1

2. Statutory framework

2.1 NSW legislation

2.1.1 Environmental Planning and Assessment Act 1979

The EP&A Act forms the legal and policy platform for project assessment and approval in NSW and aims to, inter alia, 'encourage 'the proper management, development and conservation of the State's natural and other resources'. Development in NSW is assessed in accordance with the provisions of the EP&A Act and Environmental Planning and Assessment Regulation 2021. Under section 5.5 (1) of the EP&A Act, determining authorities must 'examine and take into account matters affecting or likely to affect the environment by reason of that activity'.

The EP&A Act contains several parts that impose requirements for planning approval. Part 4 provides for control of 'local development' that requires development consent from the local council. State Significant Development is also assessed under Part 4 (Division 4.1). Part 5 provides for control of 'activities' that do not require approval or development consent under Part 4, typically where a public authority is the proponent.

2.1.2 State environmental planning policies

The State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) provides for the declaration of State significant development (SSD) and State significant infrastructure (SSI). Clause 2.13(1) of the Planning Systems SEPP provides that development specified in Schedule 3 of the policy is SSI. Schedule 3 includes development for the purpose of rail infrastructure by or on behalf of the ARTC with an estimated development cost exceeding \$50 million. As the estimated development cost of the project is anticipated to exceed this threshold, the project meets the definition of SSI under the Planning Systems SEPP.

Part 5, Division 5.2 of the EP&A Act provides the statutory framework for the declaration, environmental assessment and approval of SSI. The project meets the definition of SSI under section 5.12(2) of the EP&A Act and is therefore subject to the environmental assessment and approval process set out in Division 5.2, Subdivision 2, including the preparation of an environmental impact statement (EIS). Section 2.92(1) of State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) identifies that development for the purpose of a railway or rail infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land. As development permissible without consent, the project is subject to the assessment and approval under Part 5 of the EP&A act. The Minister for Planning (or delegate) would be the approval authority (pursuant to Section 5.19).

Some of the land on which the project is proposed to be carried out is mapped as coastal wetlands under State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP). The Resilience and Hazards SEPP contains provisions which prevail over the Transport and Infrastructure SEPP in some circumstances, with the result that development for railway purposes which might otherwise have been permissible without consent under section 2.92 of the Transport and Infrastructure SEPP requires development consent, and is declared to be designated development, under section 2.7 of the Resilience and Hazards SEPP. However, as part of the project is declared SSI, then the project is wholly SSI and will be permissible without development consent pursuant to clause 2.13(2) of the Planning Systems SEPP.

2.1.3 Biodiversity Conservation Act 2016

The BC Act provides legal status for biota of conservation significance in NSW. The purpose of the BC Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. The BC Act aims to amongst other things, to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations, and to support conservation and threat abatement action to slow the rate of biodiversity loss and conserve threatened species and ecological communities in nature. Under this legislation, there are provisions for the Biodiversity Offsets Scheme (BOS), which includes a framework to avoid, minimise and offset impacts of development on biodiversity.

The BOS applies and a BDAR will be required if:

- The development is likely to significantly impact threatened biota, according to the test of significance (Part 7.3 of the BC Act, see below).
- The development exceeds the BOS threshold (either based on the area of native vegetation to be cleared or if the development involves clearing of native vegetation or prescribed impacts on an area mapped on the biodiversity values map) (note that this threshold relates to Part 4 local development only and not to Part 5.1 activities).
- or
- The development is carried out in a declared area of outstanding biodiversity value.

An application for development consent under Part 7 of the *Biodiversity Conservation Act 2016* applies to approvals under the EP&A Act. Section 7.9 provides that an application for approval of SSI must be accompanied by a BDAR unless the Planning Agency Head and the Environment Agency Head determine the proposed development is not likely to have a significant impact on biodiversity values. A BDAR will be prepared to support the EIS.

The BC Act has been considered in this report through:

- Desktop review to identify the threatened biota that have been previously recorded within the locality of the investigation area and that could occur subject to the habitats present.
- Preliminary field survey to ground-truth vegetation present and its conservation significance, and to assess potential habitat for threatened species listed under the Act.
- Identification of biodiversity constraints based on the conservation significance of the species, communities and environments present.
- Recommendations regarding the biodiversity assessment requirements for SSI pathway.

2.1.4 Fisheries Management Act 1994

The objectives of the FM Act are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. It provides for the listing of threatened species, populations and ecological communities, key threatening processes and requirements or otherwise for the preparation of a SIS. One of the objectives of the FM Act is to 'conserve key fish habitats' which includes aquatic habitats that are important to the maintenance of fish populations generally and the survival and recovery of threatened aquatic species. To assist in the protection of key fish habitats, Department of Primary Industries and Regional Development (DPIRD) has produced the Policy and guidelines for fish habitat conservation and management (DPI, 2013). Note: Under Section 5.23(1) of the EP&A Act, certain approvals are not required for SSI projects. Such approvals include a permit under section 201, 205 or 219 of the Fisheries Management Act 1994.

2.2 Commonwealth legislation

The purpose of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to ensure that actions likely to cause a significant impact on matters of national environmental significance (MNES) undergo an assessment and approval process. An action that 'has, will have or is likely to have a significant impact on a matter of national environmental significance' is deemed to be a 'controlled action' and may not be undertaken without prior approval from the Australian Government Minister for the Environment. MNES of potential relevance to this site include threatened species and ecological communities and migratory species.

3. Methods

3.1 Desktop review

A desktop assessment was undertaken to identify threatened flora and fauna species, populations and ecological communities listed under the BC Act and MNES listed under the EPBC Act that may occur in the study area. Database records pertaining to the study area and locality (i.e. within a 10 km radius of the investigation area and within the last 20 years) were reviewed, along with relevant reports and mapping, including:

- NSW Department of Climate Change, Energy, the Environment and Water Environment (NSW DCCEEW) *NSW BioNet Atlas* database for records of threatened species listed under the BC Act (NSW DCCEEW, 2026a). Accessed on 21 January 2026.
- NSW *BioNet Vegetation Classification* (NSW DCCEEW 2026b) to identify plant community types (PCTs) in the study area.
- NSW DCCEEW *Threatened biodiversity profile search* online database for threatened ecological communities listed under the BC Act (NSW DCCEEW 2026c).
- NSW DCCEEW Areas of Outstanding Biodiversity Value (AOBV) register search online for biodiversity value. (NSW DCCEEW 2026e). Accessed on 10 March 2026.
- NSW DCCEEW Biodiversity Assessment Method (BAM) Important Habitat Maps search online for important habitats for threatened and migratory fauna (NSW DCCEEW 2026g). Accessed on 10 March 2026.
- Commonwealth Department of Climate Change, Energy, the Environment and Water (Cwlth DCCEEW) *Protected Matters Online Search Tool* for MNES listed under the EPBC Act and predicted to occur in the locality (Cwlth DCCEEW, 2026a). Accessed on 21 January 2026 (see Appendix B).
- EPBC Act Species profile and threats database, online profiles (SPRAT) (Cwlth DCCEEW, 2026b).
- Department of Primary Industries (DPI) *Fisheries NSW Spatial Data* for records of threatened species, populations, ecological communities and key fish habitat listed under the FM Act (DPI, 2026a). Accessed on 10 March 2026.
- aerial photographs and satellite imagery of the study area.
- SEED portal for historical aerial photography and additional GIS datasets including soil, topography, geology and riparian lands watercourses (NSW DCCEEW 2026d) and State Vegetation Type Map (SVTM) (DPE 2026).

3.2 Field survey

A one-day site inspection of the study area was undertaken by an ecologist on 25 February 2026. Field survey effort and techniques used for this biodiversity constraints assessment included:

- Vegetation assessment of the investigation area including identification of dominant plant community types (if relevant) and their conservation status.
- Assessment of habitats present for predicted threatened flora species.
- Habitat assessment and identification of resources for fauna (e.g. bird nests or other potential fauna roosts, tree hollows and evidence of use such as worn edges and whitewash).
- Opportunistic searches for threatened flora and fauna/signs of fauna use (e.g. scratches or marks on trees, scats, chewed cones of *Casuarina* species indicating foraging by birds).
- Opportunistic fauna and flora observations.

3.3 Assessment of likelihood of occurrence

Following collation of database records and species and community profiles (NSW DCCEEW 2026c), a 'likelihood of occurrence' assessment was prepared with reference to the habitats contained within the study area. Identification of potential habitat for threatened and migratory species was based on information provided in the species profiles (NSW DCCEEW 2026c; Cwlth DCCEEW 2026b), recovery plans and the GHD staff knowledge of species habitat requirements. The likelihood of occurrence assessment was further refined following the site inspection. The likelihood of threatened and migratory biota occurring in the study area was assessed based on presence of records from the locality, species distribution and habitat preferences, and the suitability of habitat present. The results of this assessment are provided in Appendix A. Threatened and migratory biota known or considered likely to occur are discussed further in Section 5. Table 3.1 shows the key used to determine the likelihood of occurrence for threatened biota.

Table 3.1 Key to likelihood of occurrence for threatened biota

Likelihood	Definition
Recorded	The species or community was observed in the study area during the current survey or is considered present due to important habitat mapping (NSW DCCEEW 2026g).
High	It is highly likely that a species inhabits the study area and is dependent on identified suitable habitat (i.e. for breeding or important life cycle periods such as winter flowering resources), has been recorded recently in the locality (10 km) and is known or likely to maintain resident populations in the study area. Also includes species known or likely to visit the study area during regular seasonal movements or migration.
Moderate	Potential habitat is present in the study area. Species unlikely to maintain sedentary populations, however, may seasonally use resources within the study area opportunistically or during migration. The species is unlikely to be dependent (i.e. for breeding or important life cycle periods such as winter flowering resources) on habitat within the study area, or habitat is in a modified or degraded state. Includes cryptic flowering flora species that were not seasonally targeted by surveys and that have not been recorded.
Low	It is unlikely that the species inhabits the study area and has not been recorded recently in the locality (10 km). It may be an occasional visitor, but habitat similar to the study area is widely distributed in the local area, meaning that the species is not dependent (i.e. for breeding or important life cycle periods such as winter flowering resources) on available habitat. Specific habitat is not present in the study area or the species is a non-cryptic perennial flora species that was specifically targeted by surveys and not recorded.
Nil	Species not previously recorded within a 10 km radius of the study area, suitable habitat not recorded within study area, and/or study area outside species known distribution.

3.4 Constraints and opportunities assessment

Biodiversity constraints in the investigation area are assigned to classes based on conservation significance and sensitivity to impacts arising from development. Constraint classes are outlined below:

- **Low:** developed or cleared land that contain little to no habitat resources of particular value for threatened or migratory species or other native flora and fauna.
- **Moderate:** native vegetation that is not a threatened ecological community that may provide habitat for threatened migratory species or native vegetation that is a threatened ecological community that is in poor condition. This may include areas of planted vegetation, scattered large trees and hollow bearing trees.
- **High:** native vegetation that is a threatened ecological community in moderate to good condition, provides high quality habitat for threatened or migratory biota, and/or the presence of populations of certain threatened species, and/or entities at risk of serious and irreversible impacts (SAIL).

4. Existing environment

4.1 Physical environment

The Ironbark Creek bridge is located on the Main North Line, which spans Ironbark Creek, a tidal tributary of the Hunter River (Figure 4.1). Extending from Shamrock Street, Hexham to Sandgate, the site lies within a landscape characterised by rail infrastructure, tidal waterways and regionally significant wetlands. The Hunter Wetlands National Park is located to the east and west. The Hunter Estuary Wetlands (a listed Ramsar wetland) is comprised of two separate areas, on Kooragang Island about two kilometres east, and Shortland Wetland about one kilometre south of the existing bridge (Pitt and Sherry 2020).

Most of the investigation area was developed for the construction of the Northern Train Line in 1857 and has had ongoing freight and domestic use as a railway since then. Historical imagery shows that the surrounding land use has stayed relatively stable throughout this time, with some industrial development occurring on Sparke Street and off Old Maitland Road (Spatial Services 2026).

The rail corridor itself is dominated by exotic weed species, which occur along the embankments and disturbed margins of the rail alignment. Outside of the rail corridor, the surrounding landscape predominantly comprises coastal wetland vegetation dominated by mangroves and casuarinas.

The Hexham Swamp Rehabilitation Project (MP05-0193) was approved by the then NSW Minister for Planning in 2006, and has been subject to three modifications in 2007, 2011 and 2013. This project essentially entailed the opening of the flood gates which are located downstream of the Ironbark Creek to allow for tidal inundation of the wetlands and restoration of estuarine habitats (WBM, 2005).

The NSW (Mitchell) Landscape of the investigation area is mapped as Lower Hunter Channels and Floodplains (DECC 2008). The Soil Landscape of the investigation area is mapped as; 'Hexham Swamp' which occurs on broad, swampy, estuarine backplains on waterlogged humic clays, 'Millers Forest' which occurs on extensive alluvial plain on imperfectly to poorly drained Prairie Soils and 'Disturbed Terrain'.

Areas of native vegetation around the study area are mapped as having Biodiversity Values on the Biodiversity Values Map (NSW DCCEEW 2026d). The mapped Biodiversity Values include coastal wetlands under the Resilience and Hazards SEPP and threatened species or communities with potential for serious and irreversible impacts.

Much of the investigation is mapped as important habitat for the following migratory shorebirds due to their association with the Hunter Estuary: Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Black-tailed Godwit (*Limosa limosa*), Curlew Sandpiper (*Calidris ferruginea*), Eastern Curlew (*Numenius madagascariensis*), Red Knot (*Calidris canutus*) and Terek Sandpiper (*Xenus cinereus*); NSW DECCEW 2026g. No areas of outstanding biodiversity values (AOBV) occur within the study area (NSW DCCEEW 2026e).

The area surrounding Ironbark Creek is mapped as supporting groundwater dependent ecosystems (Jacobs and Transport for NSW, 2021).

4.2 Vegetation and flora

4.2.1 Flora

A total of 34 flora species were recorded within the study area, comprising 12 native and 22 exotic species. The Poaceae (grasses, 8 species, 2 native) and Asteraceae (daisies, 6 species) were the most diverse families recorded. Characteristic plant species are discussed below in relation to the vegetation zones occurring at the study area.

No threatened flora species were observed during the field surveys; however, targeted surveys would be needed to confirm the absence of species that are considered likely to occur. Threatened flora is discussed further in Section 5.2.

4.2.2 Vegetation zones

The NSW SVTM (NSW DCCEEW, 2026b) identifies five PCTs that may occur within the study area, some of which are commensurate with threatened ecological communities (TECs) (NSW DCCEEW, 2026b) as follows:

- PCT 4091: Grey Mangrove-River Mangrove Forest.
- PCT 4028: Estuarine Swamp Oak Twig-rush Forest.
- PCT 4026: Estuarine Sea Rush Swamp Oak Forest.
- PCT 3083: Lower Hunter Tuckeroo Riparian Rainforest.
- PCT 3962: Coastal Floodplain Phragmites Reedland.

A site inspection conducted by a GHD ecologist on 25 February 2026 identified three plant community types (PCTs) within the investigation area as summarised in Table 4.1 and shown on Figure 4.1. During this assessment, regional vegetation mapping provided in the SVTM was ground-truthed through a rapid assessment that identified dominant native flora species, allowing for high level PCT attribution and mapping. Areas of exotic vegetation that are not commensurate with a PCT were similarly identified and mapped. It is noted that the surveys were not conducted over the full extent of the investigation area and that the provided PCT mapping is high level and will be subject to refinement during the EIS process. A summary of each PCT and their characteristics is provided in Table 4.2, Table 4.3 and Table 4.4.

Table 4.1 Vegetation communities associated with PCTs in the investigation area

Current PCT ID	PCT name	Associated TEC/s	
		BC Act	EPBC Act
4091	Grey Mangrove-River Mangrove Forest	-	-
4026	Estuarine Sea Rush Swamp Oak Forest	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community
3962	Coastal Floodplain Phragmites Reedland	Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community
-	Exotic	-	-
-	Not assessed	-	-

Table 4.2 PCT 4091 – Grey Mangrove-River Mangrove Forest

Category	Description
PCT ID	4091
PCT name	Grey Mangrove River Mangrove Forest
Conservation significance	This PCT is not associated with any TECs under the BC Act or EPBC Act.
Canopy	N/A
Midstorey	A high cover of Grey Mangrove (<i>Avicennia marina</i>).
Ground layer	The ground layer is sparse. It is represented by a low diversity of native and exotic forb and grass species. Native forb species Samphire (<i>Sarcocornia quinqueflora</i>), <i>Sporobolus virginicus</i> (Sand Couch) and <i>Juncus</i> sp. Exotic species include the grasses Kikuyu Grass (<i>Cenchrus clandestinus</i>), <i>Paspalum dilatatum</i> , Cobblers Pegs (<i>Bidens pilosa</i>) and Lamb's Tongue (<i>Plantago lanceolata</i>), most of which occur on the edges of this vegetation community.

Category	Description
Photo 1: A small patch of PCT 4091 in proximity to the northern extent of the existing bridge	

Table 4.3 PCT 3962 Coastal Floodplain Phragmites Reedland

Category	Description
PCT ID	3962
PCT name	Coastal Floodplain Phragmites Reedland
Conservation significance	The following TECs are associated with PCT 3962 (NSW DCCEEW, 2026b): – Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (BC Act) – Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (BC Act) – Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community (EPBC Act) No assessment of whether examples of PCT 3962 in the investigation area are commensurate with the above TECs has been completed as this stage of the project.
Canopy	N/A
Midstorey	A sparse cover of Swamp Oak (<i>Casuarina glauca</i>) occasionally occurs in this community.
Ground layer	The ground layer is comprised by low diversity of native and exotic grass and forb species. The ground cover is dominated by a high cover Common Reed (<i>Phragmites australis</i>) and Broadleaf Cumbungi (<i>Typha orientalis</i>). A low cover of Slender Knotweed (<i>Persicaria decipiens</i>) is also present. Exotic species include Guinea Grass (<i>Megathyrsus maximus</i>), Kikuyu Grass (<i>Cenchrus clandestinus</i>), Hordeum sp., Giant Reed (<i>Arundo donax</i>), Castor Oil Plant (<i>Ricinus communis</i>), Blackberry (<i>Rubus fruticosus</i>), Crofton Weed (<i>Ageratina adenophora</i>), Virginian Peppergrass (<i>Lepidium virginicum</i>) and Stinkweed (<i>Tagetes minuta</i>).

Category	Description
Photo 1: Phragmites wetland with a sparse cover of the associated tree species, Swamp Oak.	

Table 4.4 PCT 4026 Estuarine Sea Rush Swamp Oak Forest

Category	Description
PCT ID	4026
PCT name	Estuarine Sea Rush Swamp Oak Forest
Conservation significance	The following TECs are associated with PCT 4026 (NSW DCCEEW 2026b): – Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions – Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community No assessment of whether examples of PCT 4026 in the investigation area are commensurate with the above TECs has been completed as this stage of the project.
Canopy	A sparse to mid-dense cover of Swamp Oak (<i>Casuarina glauca</i>)
Midstorey	Not native midstorey species were identified. Where disturbed, patches of the exotic species Lantana (<i>Lantana camara</i>) are present.
Ground layer	The ground layer is comprised by low diversity of native grass, sedge and forb species such as <i>Juncus</i> sp., Commelina (<i>Commelina cyanea</i>) and Common Reed (<i>Phragmites australis</i>). Exotic species identified in this PCT include Tobacco Bush (<i>Solanum mauritianum</i>), Guinea Grass (<i>Megathyrsus maximus</i>), Kikuyu Grass (<i>Cenchrus clandestinus</i>), <i>Hordeum</i> sp., Grounzel Bush (<i>Baccharis halimifolia</i>), Castor Oil Plant (<i>Ricinus communis</i>), Blackberry (<i>Rubus fruticosus</i>), Crofton Weed (<i>Ageratina adenophora</i>), Virginian Peppergrass (<i>Lepidium virginicum</i>) and Stinkweed (<i>Tagetes minuta</i>).

Category	Description
Photo 1: A typical example of PCT 4026 within the investigation area, occurring alongside an existing access track.	

4.2.3 Weeds

Weeds made up patches of exotic vegetation in the investigation area as well as the edges of native vegetation in the form of grasses and midstorey species. Six priority weeds for the Newcastle LGA were observed in the investigation area. Of the weeds identified, two species are categorised as Weeds of National Significance (WoNS), Lantana and Blackberry. Management requirements and measures are outlined below in Table 4.5 as defined by NSW WeedWise (DPI, 2026b).

Table 4.5 Priority weeds recorded in the investigation area and management measures

Scientific name	Common name	Management requirements
<i>Ageratina adenophora</i>	Crofton Weed	Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
<i>Arundo donax</i>	Giant Reed	Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
<i>Baccharis halimifolia</i>	Groundsel Bush	Notify local control authority if found. Land managers should eradicate the plant from the land and keep the land free of the plant. A person should not deal with the plant, where dealings include but are not limited to buying, selling, growing, moving, carrying or releasing the plant.
<i>Eragrostis curvula</i>	African Lovegrass	Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.

Scientific name	Common name	Management requirements
<i>Lantana camara</i>	Lantana	Must not be imported into the state, sold, bartered, exchanged or offered for sale. Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.
<i>Rubus fruticosus</i> sp. agg.	Blackberry	Must not be imported into the state, sold, bartered, exchanged or offered for sale. Land managers should mitigate the risk of the plant being introduced to their land. Land managers should mitigate spread of the plant from their land. A person should not buy, sell, move, carry or release the plant into the environment. Land managers should reduce the impact of the plant on assets of high economic, environmental and/or social value.

4.3 Fauna and fauna habitats

Fauna species observed in the study area are typical of urban environments and comprise species capable of persisting despite previous development. Species included the native Australian Raven (*Corvus coronoides*), Magpie-lark (*Grallina cyanoleuca*) and Australian White Ibis (*Threskiornis molucca*). Some smaller woodland birds were also observed in the patches of native vegetation including Grey Fantails (*Rhipidura albiscapa*) and Eastern Yellow Robins (*Eopsaltria australis*). One non-native species was also observed, the Rabbit (*Oryctolagus cuniculus*).

No hollow-bearing trees were observed on site. Nor were any threatened fauna species observed within the investigation area during the site inspection.

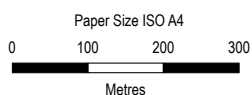
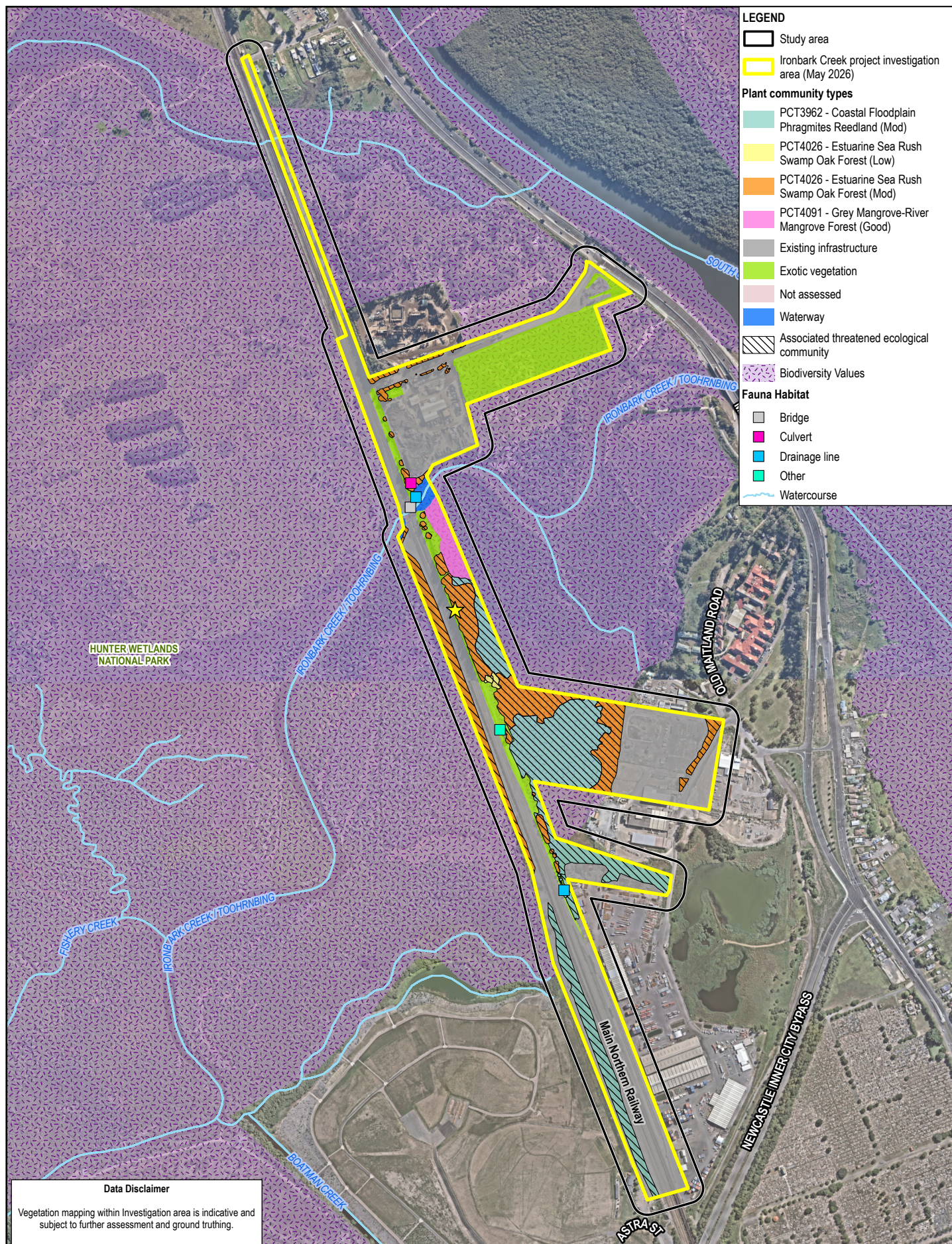
The study area contains a variety of habitats that are likely to be utilised by native fauna. Whilst the exotic and hardstand vegetation areas would provide limited habitat, native vegetation including mangroves, swamp oak and reedlands would provide roosting and foraging habitat for avian fauna, as well as other native fauna species such as frogs and bats.

Ironbark Creek is hydrologically connected to the lower Hunter River, which is adjacent to Kooragang Island, as well as connects to the upper tributaries that flow through the Hunter Wetlands National Park. Hunter Wetlands National Park, the Hunter Estuary Wetlands including Kooragang Island and Shortland Wetland are home to numerous threatened fauna, including migratory waders, Green and Golden Bell Frog (*Litoria aurea*) and bats such as the Southern Myotis (*Myotis macropus*) and Grey-headed Flying-fox (*Pteropus poliocephalus*).

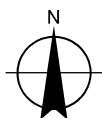
It is possible that voids and crevices beneath Ironbark Creek Bridge and other structures could provide temporary roosting habitat for microbat species, despite the degree of ongoing disturbance resulting from the railway and construction activities during roosting times (i.e. daylight hours), previous site assessments indicate that threatened microbat species may still utilise the existing bridge as roosting habitat (Pitt and Sherry, 2020).

Ironbark Creek and the surrounding tributaries would likely provide foraging habitat for threatened microbat species including the Southern Myotis.

Ironbark Creek is listed as key fish habitat (DPI, 2026a) and may provide habitat for the threatened aquatic biota such as the Black Rockcod (*Epinephelus daemeli*) and the Southern Purple Spotted Gudgeon (*Mogurnda adspersa*).



Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 56



Australian Rail Track Corporation
Ironbark Creek Bridge Replacement
Biodiversity Constraints Assessment

Project No. 12682985
Revision No. 0
Date 16/07/2026

Biodiversity values

FIGURE 4.1

5. Conservation significance

5.1 Threatened ecological communities

Of the three PCTs identified in the investigation area, two are associated with a listed TEC, or multiple TECs, under the BC Act and/or EPBC Act. The following TECs have the potential to occur in the investigation area including:

- Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC (BC Act) which is associated with PCT 4026 and PCT 3962.
- Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC (BC Act) which is associated with PCT 3962.
- Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community EEC (EPBC Act) which is associated with PCT 3962 and PCT 4026.

An assessment of whether the vegetation in the investigation area is commensurate with these TECs has not been completed at this stage of the project.

5.2 Threatened flora species

No threatened flora species were detected during the field survey in the investigation area. Desktop searches identified 31 threatened flora species that had been recorded or had potential habitat for the species in the locality. Of these, four species were considered to have a moderate likelihood of occurrence in the study area including; *Eucalyptus parramattensis* subsp. *decadens* (Earp's Gum), *Cynanchum elegans* (White-flowered Wax Plant), *Zannichellia palustris* and *Maundia triglochoides*. Adjacent to the hardstand and disturbed areas of the rail corridor, good quality vegetation, artificial drainage lines and Ironbark Creek may provide potential habitat for these species.

Portions of the site have also been subject to historical and ongoing disturbance in the soil profile, most notably through the construction of the railway and existing buildings on site. These actions mean parts of the study area lack suitable habitat for predicted threatened flora species. Appendix A presents the full results of the desktop review.

Based on a series of filters and site-based information, the Biodiversity Assessment Method Calculator (BAM-C) generates a list of candidate species credit species predicted to occur in the investigation area (BAM 2020). Targeted surveys are then required to be undertaken for these candidate species to determine presence or absence, and to calculate required offsets under the BOS. For those species with a moderate likelihood of occurrence, the recommended survey periods are outlined in Table 5.1. This table represents an initial and potential summary of surveys required as outlined in the *Surveying threatened plants and their habitats* guidelines (DPIE, 2020a). Additional candidate species identified by the BAM-C will likely require further surveys once a BAM case is initiated for the BDAR.

Table 5.1 Survey timing for moderate likelihood of occurrence flora candidate species credit species

Scientific name	Common name	BC Act status	EPBC Act status	Survey methodology*	Survey timing
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	E	Flora traverses: 5 -10 m spacing (not associated with mapped PCTs).	All year
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>	Earp's Gum	V	V	Flora traverses in PCT 4026: 20 -40 m spacing.	All year

Scientific name	Common name	BC Act status	EPBC Act status	Survey methodology*	Survey timing
<i>Maundia triglochoides</i>	-	V	-	Associated with PCT 3962. Search the appropriate parts of the waterbody using a traverse coverage that equates to the relevant growth form.	November – March
<i>Zannichellia palustris</i>	-	E	-	Associated with PCT 3962. Search the appropriate parts of the waterbody using a traverse coverage that equates to the relevant growth form.	October - January

*Vegetation mapping is incomplete; PCTs are based on initial site findings, and further assessment may reveal additional PCTs linked to these species.

Note: V: vulnerable species, E: endangered species.

5.3 Threatened fauna species

No threatened fauna species were identified during the site visit. The desktop assessment identified 79 threatened fauna species that have been recorded or have the potential to occur in the locality. Of these species, 22 were considered to have a high or moderate likelihood of occurrence, or were considered present, based on important habitat mapping (Appendix C), in the investigation area which are presented in Table 5.2.

Table 5.2 Threatened fauna species with a moderate or high likelihood of occurrence

Scientific name	Common name	BC Act status	EPBC Act status	Likelihood of occurrence
<i>Calidris canutus</i>	Red Knot	V	E, C, J, K	Recorded
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE, C, J, K	Recorded
<i>Limosa lapponica baueri</i>	Alaskan Bar-tailed Godwit	E	V	Recorded
<i>Limosa limosa</i>	Black-tailed Godwit	E	E, C, J, K	Recorded
<i>Numenius madagascariensis</i>	Eastern Curlew	CE	CE, C, J, K	Recorded
<i>Xenus cinereus</i>	Terek Sandpiper	V	V, C, J, K	Recorded
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	High
<i>Epthianura albifrons</i>	White-fronted Chat	V	-	High
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	High
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	High
<i>Myotis macropus</i>	Southern Myotis	V	-	High
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	High
<i>Tyto longimembris</i>	Eastern Grass Owl	V	-	High
<i>Anseranas semipalmata</i>	Magpie Goose	V	-	Moderate
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	Moderate
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V	V, C, J, K	Moderate
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	Moderate
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	Moderate
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	Moderate
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	Moderate
<i>Stictonetta naevosa</i>	Freckled Duck	V	-	Moderate
<i>Tringa nebularia</i>	Common Greenshank	E	E, C, J, K	Moderate

Note: V: vulnerable species, E: endangered species, CE: critically endangered species, C: migratory species listed under China-Australia Migratory Bird Agreement (CAMBA) J: migratory species listed under Japan-Australia Migratory Bird Agreement (JAMBA), K: migratory species listed under Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Native vegetation surrounding the rail corridor is likely to provide habitat for numerous threatened fauna species, including foraging and roosting habitat for bird species including threatened water birds and waders, microbats and frog species such as the Green and Golden Bell Frog. Ironbark Creek bridge and other old buildings may provide roosting habitat for threatened microbats such as the Southern Myotis, Eastern Coastal Free-tailed Bat and the Greater Broad-nosed Bat, as well as the surrounding waterbodies for foraging.

The native trees in the investigation area would provide foraging resources to mobile threatened fauna species such as the Grey-headed Flying-fox and White-fronted Chat, however considering the extensive, higher quality habitat contiguous with the study area at Hunter Wetlands National Park and Kooragang Island, this vegetation is unlikely to support long-term populations. No roost camps for the Grey-headed Flying-fox are known to occur in the study area with the nearest roost camp occurring at Carrington Mangroves approximately 9 km away (McKeown et al. 2026). Further assessment of threatened fauna species with the potential to occur (on a transient basis) is provided in Appendix A.

For those species with a high or moderate likelihood of occurrence as indicated in Table 5.2, the recommended survey periods and methodology are outlined in Table 5.3. This table represents an initial and potential summary of surveys required. Additional candidate species identified by the BAM-C will likely require further surveys once a BAM case is initiated for the BDAR. Survey methodology information was gathered from the TBDC (NSW DCCEE 2026b) and NSW survey guidelines (DPIE 2020b; DPIE 2021).

Table 5.3 Survey timing and methodology for high and moderate likelihood of occurrence fauna candidate species credit species

Scientific name	Common name	Survey timing	Survey methods
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	July - December	-
<i>Litoria aurea</i>	Green and Golden Bell Frog	November - March	Per 500 m transect of suitable breeding habitat or 50 m ² water surface (tadpoles): – Aural/visual searches – 4 repeat surveys for 480 minutes total or – Acoustic recorder – 154 recorder days for 1 x 14 repeat surveys or – Tadpole searches – 10 minutes up to 2 repeat surveys
<i>Lophoictinia isura</i>	Square-tailed Kite	September - January	-
<i>Myotis macropus</i>	Southern Myotis	October - March	Per <2.5 km riparian length of potential habitat: – Harp trap or mist net – 16 nights or – Passive acoustic detection – 16 nights or – Active detection – 4 nights, 8 hours or – Roost search – 30 minutes per structure
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	October - December	For recorded camps or where roosting has been observed or roosting habitat likely to occur: – Daytime camp survey – 2 hours per day, for 3 days total (one per month)

5.4 Migratory species

No migratory species were observed during the site inspection. Results of the desktop search indicate previous records or predicted occurrence of numerous migratory fauna species within the locality. Of the migratory species previously recorded within the locality, 19 species were determined to have a known or moderate likelihood of occurrence as shown in Table 5.4.

Several migratory species have been recorded within relatively close proximity to the investigation area, including the Pacific Golden Plover, Caspian Tern, Red-necked Stint and Crested Tern. Vegetation adjacent to Ironbark Creek and the rail corridor offers suitable foraging and potential roosting habitats for several of these species. An artificial drainage line at the southern end of the investigation area was inundated during the site inspection and observed to have emergent vegetation which could provide habitat value for migratory waders. However, the larger wetland areas within Hunter Wetlands National Park and the Hunter Estuary Wetlands present higher quality habitats for these species.

Six migratory species habitats are mapped under the BOS important habitat mapping within the study area; the Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Black-tailed Godwit (*Limosa limosa*), Curlew Sandpiper (*Calidris ferruginea*), Eastern Curlew (*Numenius madagascariensis*), Red Knot (*Calidris canutus*) and Terek Sandpiper (*Xenus cinereus*). These species are dual credit species, meaning they are assessed for species credits (important habitat map) and ecosystem credits (all other areas the species is likely to occur). Appendix C shows that the mapped important habitat for the six migratory species is overlapping and encompasses the same area in the study area (NSW DCCEEW 2026g)

No survey is required if the study area is on an important habitat map for a species unless the species profile in the TBDC states otherwise. The species is considered present and the part of the study area that is within the important habitat map forms the species polygon used to generate species credits. Any remaining habitat on the study area, e.g. unmapped locations used by these species is assessed for ecosystem credits (NSW DCCEEW 2026c). Further assessment of migratory fauna species with the potential to occur is provided in Appendix A.

Table 5.4 Migratory fauna species with a moderate likelihood of occurrence

Scientific name	Common name	BC Act status	EPBC Act status	Likelihood of occurrence
<i>Calidris canutus</i>	Red Knot	V	E, C, J, K	Recorded*
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE, C, J, K	Recorded*
<i>Limosa limosa</i>	Black-tailed Godwit	E	E, C, J, K	Recorded*
<i>Numenius madagascariensis</i>	Eastern Curlew	CE	CE, C, J, K	Recorded*
<i>Xenus cinereus</i>	Terek Sandpiper	V	V, C, J, K	Recorded*
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V	V, C, J, K	Moderate
<i>Calidris melanotos</i>	Pectoral Sandpiper	-	J, K	Moderate
<i>Calidris ruficollis</i>	Red-necked Stint	-	C, J, K	Moderate
<i>Chlidonias leucopterus</i>	White-winged Black Tern	-	C, J, K	Moderate
<i>Hydroprogne caspia</i>	Caspian Tern	-	J	Moderate
<i>Limosa lapponica</i>	Bar-tailed Godwit	-	C, J, K	Moderate
<i>Motacilla flava</i>	Yellow Wagtail	-	C, J, K	Moderate
<i>Numenius phaeopus</i>	Whimbrel	-	C, J, K	Moderate
<i>Pluvialis fulva</i>	Pacific Golden Plover	-	C, J, K	Moderate
<i>Thalasseus bergii</i>	Crested Tern	-	J	Moderate
<i>Tringa brevipes</i>	Grey-tailed Tattler	-	C, J, K	Moderate
<i>Tringa glareola</i>	Wood Sandpiper	-	C, J, K	Moderate
<i>Tringa nebularia</i>	Common Greenshank	E	E, C, J, K	Moderate
<i>Tringa stagnatilis</i>	Marsh Sandpiper	-	C, J, K	Moderate

*Considered present due to important habitat map for a species occurring in the study area (NSW DCCEEW 2026g).

Note: V: vulnerable species, E: endangered species, CE: critically endangered species, C: migratory species listed under China-Australia Migratory Bird Agreement (CAMBA) J: migratory species listed under Japan-Australia Migratory Bird Agreement (JAMBA), K: migratory species listed under Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

5.5 SAI entities

SAI entities are those species and ecological communities that are most at risk of extinction. Under the BC Act, a determination of whether an impact is serious and irreversible must be made in accordance with the principles in Section 6.7 of the BC Regulation. The principles are aimed at capturing impacts which are likely to contribute significantly to the risk of extinction of a threatened species or ecological community in New South Wales. A set of criteria have been developed and are included in the *DPIE Guidelines to assist a decision-maker to determine a SAI* (DPIE 2019). Threatened biota that meet the criteria are classified as SAI entities.

This assessment has considered the likely presence or occurrence of SAI entities within the investigation area, including threatened species and threatened ecological communities.

Impacts to SAI entities are a key risk to the project as a consent authority may refuse the application because of impacts that they deem unacceptable to an SAI entity, particularly if no attempt to avoid or minimise impacts to that SAI entity is made. For State significant infrastructure or development, a consent authority is able to approve projects that are likely to result in SAI but may determine whether any additional measures that may minimise impacts should be implemented prior to consent being granted. This may impact project feasibility or viability. If a project is approved, consent conditions may also require that a proponent minimise impacts on an SAI entity. A decision as to whether the project would result in a SAI on any SAI entities would be made by the consent authority. The BDAR can only note what the impacts are and does not provide a conclusion or statement on whether the project is likely to result in a SAI.

Of the threatened fauna species identified during the desktop searches, eleven are listed as SAI entities with two species, the Curlew Sandpiper and Eastern Curlew considered present in the investigation area due to the occurrence of important habitat mapping (NSW DCCEEW 2026g). Both species are also listed as critically endangered and migratory under the EPBC Act. Eight threatened flora species identified in the desktop searches are listed as SAI entities however, these species are considered unlikely to occur in the study area due to habitat constraints. Appendix A provides a comprehensive list of all SAI entities recorded in the locality. Targeted surveys would be required for species credit species that are unable to be excluded due to the presence of suitable habitat within the investigation area.

The Eastern Curlew and Curlew Sandpiper are dual credit species, whereby they are assessed for species credits where areas of important habitat are mapped (NSW DCCEEW 2026g). Consequently, the area mapped as important habitat is the area identified as a potential SAI and section 9.1 of the BAM must be addressed for these two species (NSW DCCEEW 2026c) (Appendix C). No definitive statements on the other SAI entities can be made prior to targeted field surveys. For confirmation of the risks associated with this potential key constraint, it is recommended that detailed field surveys be undertaken to confirm the presence and extent of potential SAI species and communities.

Additional SAI entities may be identified following detailed field survey.

Discussion of SAI entities with a known, moderate or high likelihood of occurrence, and their relevance to the current study area and proposed construction activities, is provided in Table 5.5 below.

Table 5.5 SAIL assessment of impacts

SAIL entity	Likelihood of occurrence	Important habitat within study area	Potential impact/s to the SAIL entity	Avoidance and mitigation measures	Uncertainty and precautionary assumptions
Curlew Sandpiper (<i>Calidris ferruginea</i>)	Recorded. 91 records in the locality. Seasonal habitat present for the species in the investigation area and is known to occur in adjacent habitats.	Important habitat for the species is mapped within the study area (Appendix C). The species is associated with PCTs identified within the investigation area including PCTs; 3962, 4026 and 4091.	Potential direct impacts to the Curlew Sandpiper include the removal of known foraging habitat (mapped areas of important habitat) for the species. Similarly, there is potential for indirect impacts to retained intertidal and wetland foraging habitat within the study area. Impacts may include changes to water quality, hydrological regimes and disturbance associated with noise, vibration, and human activity. These impacts are predominantly associated with the construction phase of the project and may affect prey availability and habitat condition, within or proximate to key foraging and roosting areas for the species.	The complete avoidance of impacts to important habitat for the species is not feasible. This is in consideration of the extent of important habitat within the study area, particularly that which occurs where the existing bridge is and where the project activities will be concentrated. Further to this, access to the rail corridor and the need to for heavy machinery for the construction of the bridge will impact areas of mapped important habitat. Where feasible, it is recommended that areas of mapped important habitat for the species be avoided. Any reduction to areas of important habitat for the species is a favourable outcome. The implementation of mitigation measures will be required to reduce the magnitude of impacts to individuals of the species. These measures will be included in the project CEMP and should include timing construction activities outside of the migratory occurrence of the species within Australia (August – March) (Cwlth DCCEEW, 2023a).	Additional vegetation integrity surveys are required to determine the value and condition of habitat within the investigation area for the species. The extent of works and associated habitat removal will be refined in the BDAR, including consideration of mitigation measures.
Eastern Curlew (<i>Numenius madagascariensis</i>)	Recorded. 721 records in the locality. Known along the Hunter River, may utilise the investigation area for foraging on occasion.	Important habitat for the species is mapped within the study area (Appendix C). The species is associated with PCTs identified within the investigation area including PCTs; 3962, 4026 and 4091.	Potential direct impacts to the Eastern Curlew include the removal of known foraging habitat (mapped areas of important habitat) for the species. Similarly, there is potential for indirect impacts to retained intertidal and wetland foraging habitat within the study area, includes changes to water quality, hydrological regimes and disturbance associated with noise, vibration, and human activity. These impacts are predominantly associated with the construction phase of the project and may affect prey availability and habitat condition, within or proximate to key foraging and roosting areas for the species.	The complete avoidance of impacts to important habitat for the species is not feasible. This is in consideration of the extent of important habitat within the study area, particularly that which occurs where the existing bridge is and where the project activities will be concentrated. Further to this, access to the rail corridor and the need to for heavy machinery for the construction of the bridge will impact areas of mapped important habitat. Where feasible, it is recommended that areas of mapped important habitat for the species be avoided. Any reduction to areas of important habitat for the species is a favourable outcome. The implementation of mitigation measures will be required to reduce potential impacts to any individuals that may occur within the study area. These measures will be included in the project CEMP and should include timing construction activities outside of the migratory occurrence of the species within Australia (July – March) (Cwlth DCCEEW, 2023b).	Additional vegetation integrity surveys are required to determine the value and condition of habitat within the investigation area for the species. The extent of works and associated habitat removal will be refined in the BDAR, including consideration of mitigation measures.

5.6 Threatened aquatic biota

One objective of the FM Act is to 'conserve key fish habitats'. Ironbark Creek is listed as Key Fish Habitat (KFH) (DPI, 2026). KFH includes those aquatic habitats that are important to the sustainability of the recreational and commercial fishing industries, the maintenance of fish populations generally, and the survival and recovery of threatened aquatic species.

No threatened aquatic biota were identified during field surveys. PMST desktop searches (Cwlth DCCEEW, 2026a) identified 12 threatened aquatic species that had potential habitat for the species in the locality. Of these species, it includes three species of fish, four species of shark and five species of turtle. DPI searches (DPI, 2026) found one species of fish, the Southern Purple Spotted Gudgeon (*Mogurnda adspersa*) to have a modelled distribution occurring along Ironbark Creek, however this species is known from a few isolated populations in freshwater systems (DPI, 2017).

Ironbark Creek connects to the Hunter River, with both waterways forming part of an estuarine system that provides potential foraging, refuge and movement habitat for aquatic species able to persist in brackish conditions. The creek and adjoining tidal habitats are likely to support a range of habitat features, including shallow margins, submerged and emergent vegetation, mangrove edges, soft sediments, woody debris and tidally influenced pools, which may support prey resources and shelter for fish, turtles and other aquatic fauna. These habitats may also function as movement pathways between the lower Hunter River, adjoining wetlands and upstream tributaries, particularly for species that use estuarine environments opportunistically or during particular life-history stages. However, the habitat value of these systems is constrained by the modified rail corridor, existing bridge infrastructure, historical disturbance, altered hydrology, edge effects, weed invasion and potential water quality impacts associated with runoff, sedimentation and contaminant mobilisation. These constraints limit the extent and condition of suitable habitat within the immediate investigation area and mean that higher-quality aquatic and wetland habitats are likely to occur in the broader Hunter River and Hunter Wetlands. As such, a number of these species were refined based on habitat constraints and BioNet records (NSW DCCEEW, 2026a) within the study area and excluded from further assessment.

Juveniles of the Black Rockcod, listed as vulnerable under the EPBC Act, are found in coastal rock pools and around rocky shores in estuaries (DPI, 2015). There is potential habitat for this species present in Ironbark Creek for the species, however given the largely marine nature of the species and favour of rocky habitats.

6. Key MNES relevant to the project

6.1 Context

MNES are protected under the EPBC Act and include listed threatened species and ecological communities, migratory species and Ramsar wetlands. A desktop assessment was undertaken to identify the suite of MNES that are most likely to be impacted by the project (Cwlth DCCEEW, 2026a).

For certain highly mobile species, including migratory birds, the BAM identifies mapped 'important habitat' representing habitat critical to key lifecycle functions. Important habitat mapping for six MNES occurs within the study area. Under the BAM, species are assumed to occur within these mapped areas for assessment purposes. While this approach is defined under the BC Act, the NSW BOS and BAM are endorsed for use under the EPBC Act and, accordingly, these areas are considered to represent important habitat for the relevant species when assessing impacts on MNES.

The desktop assessment identified 41 threatened fauna species, 27 threatened flora species and 41 migratory species listed under the EPBC Act as having the potential to occur within the locality. For migratory species, this includes six MNES for which important habitat has been mapped within the study area, as described above. Eight TECs were initially identified, however, following refinement during the initial site assessment, with only one TEC listed under the EPBC Act was found to be associated with the PCTs (PCT 3962 and 4026) identified in the investigation area - Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community. Further vegetation surveys are required to confirm the presence of this EPBC Act listed TEC in the study area. Unassessed areas within the project study area may result in the identification of new TECs that have not been considered in the below assessment.

One Wetland of International Importance (Ramsar Wetlands) occurs in the locality, the Hunter Estuary Wetland. Ironbark Creek occurs downstream of the Hunter Estuary Ramsar Wetland section associated with the Shortland Wetland. Hydrological changes to the creek as a result of construction of the bridge, including cessation of the natural flow of water may have the potential to indirectly impact this Ramsar Wetland.

No world heritage properties or national heritage places occur within proximity of the study area. No other MNES were identified within the study area.

6.2 Preliminary assessment

The direct and indirect impacts associated with the project may affect the MNES identified above including threatened biota, migratory species and threatened communities listed under the EPBC Act. A preliminary assessment of the likelihood and significance of potential impacts to MNES that are known to occur or with a moderate or high likelihood of occurrence are detailed in Table 6.2 and Table 6.3. The risk category definitions for the implications for EPBC Act referral decision-making column are outlined in Table 6.1.

As field surveys have not yet been completed across the full extent of the investigation area, the current assessment is based on available field observations and desktop review. Accordingly, the risk rating of MNES relevant to the project may be revised as additional information becomes available during the course of the project.

Table 6.1 *MNES risk category definitions for EPBC Act referral decision-making*

Risk category	Definition
Elevated risk	Entities recorded and/or known from the locality (within a 10 km radius of the investigation area), and/or for which suitable habitat occurs within the investigation area. These entities are likely to occur and may be subject to direct or indirect impacts from the project, including through the removal of habitat resources relied upon by local populations. These impacts are considered substantial and measurable, and are likely to affect the extent, condition, or function of EPBC Act protected matters including: – threatened species (e.g. loss of critical habitat or population-level effects) – threatened ecological communities (e.g. reduction in extent, fragmentation, or decline in integrity) – migratory species (e.g. disruption of important habitat or movement pathways) – Ramsar wetlands (e.g. reduction in extent, fragmentation, or decline in integrity) There is the potential that significant impact criteria would be met, and subsequently potential for a controlled action determination.
Moderate risk	Entities known or predicted to occur within the locality, and potentially suitable habitat occurs at the investigation area. The project may result in direct or indirect impacts on these entities but it unlikely to remove any habitat resources that are relied upon by these matters for their ongoing survival. The potential habitat to removed or modified is of low-moderate quality and/or value relative to extent of alternative habitat within the Area of Occupancy (AOO) of the matter. This includes impacts to potential or marginal habitat for threatened species, localised degradation or small reductions in threatened ecological communities, or temporary disturbance to migratory species habitat. While impacts are unlikely to meet significant impact criteria, this cannot be ruled out, and the potential for a controlled action may occur depending on sensitivity, scale, and uncertainty.
Low risk	Entities may occur within the locality, and broadly suitable habitat occurs at the investigation area. The project may affect these entities but is unlikely to result in tangible direct or indirect impacts on habitat with any particular value for these entities. The potential habitat to removed or modified is of negligible quality and/or value relative to extent of suitable habitat within the AOO of the matter. Significant impact criteria are unlikely to be met, and a controlled action is unlikely for this entity.

Table 6.2 Assessment of potential impacts to threatened species, communities and wetlands of national importance listed under the EPBC Act

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact pathways	Risk rating and implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
TECs							
Coastal Swamp Oak (<i>Casuarina glauca</i>) Forest of New South Wales and South East Queensland ecological community	-	EEC	High. Associated with two PCTs present in the study area (3962 and 4026). Further assessment of associated PCTs within the study area against the condition thresholds for the community is required to confirm whether they meet the criteria for inclusion within this EEC.	Direct impacts: – vegetation clearing. Indirect impacts: – invasion and spread of weeds – hydrological changes – trigger acid sulphate soils leading to fauna kills and vegetation dieback.	Moderate risk. 1.19 ha of associated vegetation currently mapped in the study area. Extent of this community is likely to increase due to the large extent of unassessed vegetation.	Vegetation surveys needed to confirm occurrence of this TEC in the investigation area. This includes conducting vegetation plots that assess vegetation structure and function within relevant PCTs.	Confirm extent of TEC in the study area. Avoid areas of vegetation associated with the TEC, where possible (PCTs 3962 and 4026).
Flora							
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	Moderate. 2 records in the locality. Marginal habitat for the species present in the study area.	Direct impacts: – removal of individuals (should they occur) – removal of suitable habitat for the species. Indirect impacts: – invasion and spread of weeds.	Moderate risk. Potential habitat to removed or modified is of low-moderate quality and/or value relative to large extent of alternative habitat for the species adjacent to the study area.	Targeted surveys required to identify presence of the species in the study area.	Confirm presence or absence of species in investigation area. Where possible, it is recommended that impacts to any individuals (should they be present) be avoided.
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>	Earp's Gum	V	Moderate. 75 records in the locality. Suitable habitat in the investigation area. Readily identifiable species. Species is associated with PCT 4026 in the study area.	Direct impacts: – removal of individuals (should they occur) – removal of suitable habitat for the species. Indirect impacts: – invasion and spread of weeds – spread of potentially harmful pathogens and disease.	Moderate risk. Potential habitat to removed or modified is of low-moderate quality and/or value relative to large extent of alternative habitat for the species adjacent to the study area.	Targeted surveys required to identify presence of the species in the study area.	Confirm presence or absence of species in investigation area. Avoid impact to areas of vegetation associated with the species where possible (PCT 4026). Where possible, it is recommended that impacts to any individuals (should they be present) be avoided.
Fauna							
<i>Litoria aurea</i>	Green and Golden Bell Frog	V	High. 10204 records in the locality. Records are confined to Kooragang Island. Species may use wetland habitat in study area.	Direct impacts: – removal of potential breeding, foraging and movement habitat. This includes aquatic and terrestrial habitat. Indirect impacts: – hydrological changes – spread of diseases such as Chytrid Fungus. The species is highly susceptible to this pathogen – noise impacts, – sedimentation and pollution of wetlands from runoff.	Elevated risk. Should the species occur, habitat for a population may rely on the resources in the investigation area. Known population adjacent to the investigation area. The species is continuing to decline in response to chytrid fungus. The Hunter Wetlands population is considered one of the largest remaining strongholds for the species. Suitable aquatic habitat is relatively abundant within the study area.	Targeted surveys are required to identify the presence of the Green and Golden Bell Frog in the study area. This will form the basis of the avoidance and mitigation framework for the species in the context of the project.	Confirm presence or absence of species in investigation area. Refine investigation area. Avoid areas of habitat for the species where possible, in particular aquatic habitats with emergent vegetation.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	Moderate. 63 records in the locality. May utilise vegetation around creekline for foraging.	Direct impacts: – removal of potential breeding and foraging habitat. Indirect impacts: – hydrological changes – noise impacts – sedimentation and pollution of wetlands from runoff.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Ecosystem credit species, associated with PCTs 3962, 4026 and 4091 in the study area. No targeted surveys required.	Confirm quality and condition of habitat within the study area and unassessed areas.

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact pathways	Risk rating and implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V,C,J,K	Moderate. 46 records in the locality. May utilise vegetation around creekline for foraging.	Direct impacts: – removal of potential foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	No important habitat mapped for the species in the study area. Incomplete TBDC profile with no associated PCTs or credit type classified for the species.	Confirm quality and condition of habitat within the study area and unassessed areas.
<i>Calidris canutus</i>	Red Knot	E,C,J,K	Recorded. 26 records in the locality. May utilise vegetation around creekline for foraging.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species, where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE,C,J,K	Recorded. 91 records in the locality. Seasonal habitat present for the species in the investigation area and is known to occur in adjacent habitats.	Direct impacts: – vegetation removal within mapped important habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Limosa lapponica baueri</i>	Alaskan Bar-tailed Godwit	V	Recorded. No records in the locality. Mapped as important habitat for the species. May be an occasional visitor in the investigation area in wetland habitats.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of habitat from an area of mapped important habitat for the species (NSW DCCEEW 2026g).	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Limosa limosa</i>	Black-tailed Godwit	E,C,J,K	Recorded. 49 records in the locality. Records predominately confined to Kooragang Island, may be an occasional visitor in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of habitat from an area of mapped important habitat for the species (NSW DCCEEW 2026g).	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact pathways	Risk rating and implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Numenius madagascariensis</i>	Eastern Curlew	CE,C,J,K	Recorded. 721 records in the locality. Known along the Hunter River, may utilise the investigation area for foraging on occasion.	Direct impacts: – vegetation removal within mapped important habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Tringa nebularia</i>	Common Greenshank	E,C,J,K	Moderate. 13 records in the locality. Marginal habitat for the species present in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	No important habitat mapped for the species in the study area. Incomplete TBDC profile with no associated PCTs or credit type classified for the species. Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas.
<i>Xenus cinereus</i>	Terek Sandpiper	V,C,J,K	Recorded. 2 records in the locality. Marginal foraging habitat is present in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	High. 240 records in the locality. No roosting habitat present. Suitable foraging habitat present in the investigation area.	Direct impacts: – removal of suitable foraging habitat for the species, including critical food resources. Indirect impacts: – spread and invasion of weeds into new areas, negatively impacting the condition of foraging habitat.	Low risk. No breeding camps are known to occur within the study area. Removal of potential foraging habitat for the species only. The potential habitat to removed or modified is of negligible quality and/or value relative to extent of suitable habitat within the locality. Should a breeding camp be identified in unassessed areas, this would change the risk profile.	Confirmation of whether roosting individuals inhabit unassessed areas is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Refine investigation area. Avoid areas of foraging habitat for the species where possible, and identify the presence of key feed trees in the investigation area (e.g. <i>Corymbia gummifera</i>).
Wetlands of International Importance							
Hunter Estuary Wetlands	-	Ramsar Wetland	Known. Hunter Estuary Wetland is known to occur in the locality in two mapped locations outside the study area at Kooragang Island and Shortland Wetland.	Indirect impact: – change to hydrological regimes causing upstream impacts – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Potential for indirect impacts to a listed Ramsar Wetland.	-	Confirm the impacts to Ironbark Creek and develop appropriate mitigation measures to ensure that indirect impacts to the Hunter Estuary Wetlands Ramsar site, particularly at Shortland Wetland, are avoided.

¹EEC: Endangered Ecological Community, V: vulnerable species, E: endangered species, CE: critically endangered species, C: migratory species listed under China-Australia Migratory Bird Agreement (CAMBA) J: migratory species listed under Japan-Australia Migratory Bird Agreement (JAMBA), K: migratory species listed under Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA)

Table 6.3 Assessment of potential impacts to migratory species listed under the EPBC Act

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact	Implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V,C,J,K	Moderate. 46 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	No important habitat mapped for the species in the study area. Incomplete TBDC profile with no associated PCTs or credit type classified for the species. Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas.
<i>Calidris canutus</i>	Red Knot	E,C,J,K	Recorded. 26 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE,C,J,K	Recorded. 91 records in the locality. Seasonal habitat present for the species in the investigation area and is known to occur in adjacent habitats.	Direct impacts: – vegetation removal within mapped important habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Calidris melanotos</i>	Pectoral Sandpiper	J,K	Moderate. 19 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.
<i>Calidris ruficollis</i>	Red-necked Stint	C,J,K	Moderate. 146 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact	Implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Chlidonias leucopterus</i>	White-winged Black Tern	C,J,K	Moderate. 36 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid foraging habitat for the species where possible, particularly within wetland vegetation.
<i>Hydroprogne caspia</i>	Caspian Tern	J	Moderate. 177 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Low risk. No Biologically Important Areas (BIAs) mapped for the species in the locality (Cwlth DCCEEW, 2025).	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid foraging habitat for the species where possible, particularly within wetland vegetation.
<i>Limosa lapponica</i>	Bar-tailed Godwit	C,J,K	Moderate. 82 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.
<i>Limosa limosa</i>	Black-tailed Godwit	E,C,J,K	Recorded. 49 records in the locality. Records predominately confined to Kooragang Island, may be an occasional visitor in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Motacilla flava</i>	Yellow Wagtail	C,J,K	Moderate. 47 records in the locality. Marginal habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging and roosting habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid roosting and foraging habitat for the species where possible, particularly within mangrove vegetation.

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact	Implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Numenius madagascariensis</i>	Eastern Curlew	CE,C,J,K	Recorded. 721 records in the locality. Known along the Hunter River, may utilise the investigation area for foraging on occasion.	Direct impacts: – vegetation removal within mapped important habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.
<i>Numenius phaeopus</i>	Whimbrel	C,J,K	Moderate. 6 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes, – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within mangrove and wetland vegetation.
<i>Pluvialis fulva</i>	Pacific Golden Plover	C,J,K	Moderate. 368 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.
<i>Thalasseus bergii</i>	Crested Tern	J	Moderate. 47 records in the locality. Marginal habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Low risk. No Biologically Important Areas (BIAs) mapped for the species in the locality (CwIth DCCEEW, 2025).	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid foraging habitat for the species where possible, particularly within wetland vegetation.
<i>Tringa brevipes</i>	Grey-tailed Tattler	C,J,K	Moderate. 4 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.

Scientific name	Common name	EPBC Act status	Likelihood of occurrence	Potential impact	Implications for EPBC Act referral decision-making	Data and survey gaps	Recommendations
<i>Tringa glareola</i>	Wood Sandpiper	C,J,K	Moderate. 17 records in the locality. Marginal habitat for the species present in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.
<i>Tringa nebularia</i>	Common Greenshank	E,C,J,K	Moderate. 13 records in the locality. Marginal habitat for the species present in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species where possible, particularly within wetland vegetation.
<i>Tringa stagnatilis</i>	Marsh Sandpiper	C,J,K	Moderate. 154 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Moderate risk. Temporary disturbance to migratory species habitat, with large extent of better-quality habitat adjacent to the investigation area.	Several rounds of diurnal bird surveys should be undertaken during the migration period.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid habitat for the species, where possible, particularly within wetland vegetation.
<i>Xenus cinereus</i>	Terek Sandpiper	V,C,J,K	Moderate. 2 records in the locality. Marginal foraging habitat is present in the investigation area.	Direct impacts: – removal of suitable foraging habitat. Indirect impacts: – changes to water quality and hydrological regimes – noise and vibration disturbance – runoff, sedimentation, and contaminant mobilisation.	Elevated risk. Removal of known important habitat for the species (NSW DCCEW 2026g). Potential for indirect impacts to adjacent important habitat for the species.	Mapped important habitat within the investigation area automatically prescribes the species as 'confirmed present'. No further survey effort is required.	Confirm quality and condition of habitat within the study area and unassessed areas. Avoid mapped areas of important habitat for the species where possible. All areas of important habitat that are impacted by the project will generate an offset liability under the BC Act as per the bilateral agreement, in lieu of the EPBC Act.

¹V: vulnerable species, E: endangered species, CE: critically endangered species, C: migratory species listed under China-Australia Migratory Bird Agreement (CAMBA) J: migratory species listed under Japan-Australia Migratory Bird Agreement (JAMBA), K: migratory species listed under Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA)

6.3 Concluding statement

Based on the assessment in Table 6.2 and Table 6.3, the likely risk profile has been predominantly identified as moderate to elevated. This is primarily due to the potential impacts on multiple MNES species and communities, including six migratory species for which important habitat is mapped within the study area, and contributes to the overall risk profile. Having regard to this risk profile and the assumptions underpinning the assessment, the likelihood of the project being determined a controlled action is considered high.

It is important to note that this assessment has been prepared based on a number of key assumptions, including the current study area, preliminary field survey data, desktop database records, and the assumption that MNES associated with mapped important habitat are present within the study area. Should any of these assumptions change as the project progresses, including refinement of the disturbance footprint or confirmation of habitat condition and usage, the risk profile and likelihood of a controlled action determination may also change. Furthermore, targeted surveys may identify further MNES that have not been subject to the above assessment.

In addition, a number of data gaps and matters have been identified in the assessment that warrant further investigation to strengthen the overall assessment and provide greater certainty regarding the significance of potential impacts on MNES. These include confirmation of TEC presence and extent, targeted surveys for threatened flora and fauna species, validation of habitat condition within mapped important habitat, and further assessment of hydrological connectivity and potential indirect impacts to the Hunter Estuary Wetlands Ramsar site.

7. Constraints assessment

7.1 Assessment

The site inspection identified the presence of native vegetation within the investigation area which may be commensurate with Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC (BC Act), Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions EEC (BC Act) and Coastal Swamp Oak (*Casuarina glauca*) Forest of New South Wales and South East Queensland ecological community EEC (EPBC Act). An assessment of this vegetation and whether it is commensurate with an associated TEC(s) has not been completed at this stage of the project. Subsequently, all PCTs with an associated TEC have conservatively been assigned as 'high constraint'.

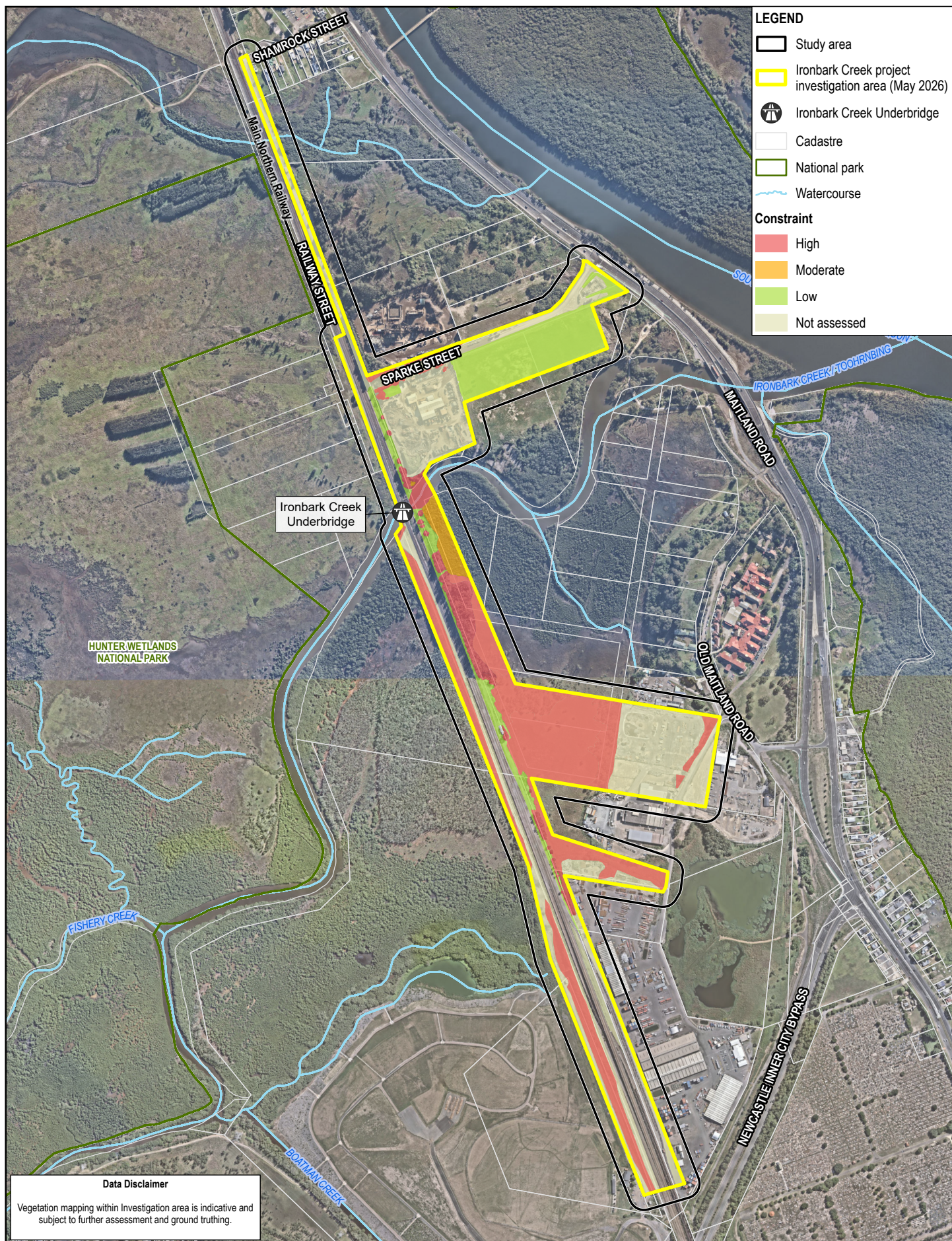
Patches of native vegetation vary in condition and occur in good, moderate and low conditions due to the proximity to historical clearance along the rail corridor and weed influence. Areas of native vegetation around and within the study area are mapped as having Biodiversity Values on the Biodiversity Values Map (NSW DCCEE 2026d). The mapped Biodiversity Values include coastal wetlands under the Resilience and Hazards SEPP and threatened species or communities with potential for serious and irreversible impacts. These areas are considered to have to have a high constraint to development.

The remainder of the investigation area, which contains exotic vegetation, is considered to have a low biodiversity value due to the lack of intact native vegetation, presence of exotic species and existing development that has occurred as a result of the rail corridor and industrial works.

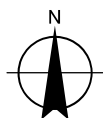
A summary of the biodiversity constraints and their implications for assessment and approval is provided in Table 7.1 and shown on Figure 7.1.

Table 7.1 **Biodiversity constraint classes**

Biodiversity constraint class	Description	Implications for assessment and approval of a development
Low	Areas of low biodiversity value that do not contain any habitat resources of particular value for threatened or migratory species or other native flora and fauna: – Exotic lawns. – Hardstands. – Buildings. – Planted garden beds and exotic species.	Development activities should be concentrated in low constraint areas where possible. Development activities could occur in these areas subject to appropriate environmental impact assessment under relevant approval processes. Detailed biodiversity surveys would generally not be required. Biodiversity offsets are highly unlikely to be required for impacts in low constraint areas.
Moderate	Moderate biodiversity value and conservation significance under relevant legislation, comprising: – Native vegetation that is not a TEC. – Planted local and non-local native trees. – Habitat for threatened ecosystem credit type species or migratory species including large areas of planted vegetation, scattered large and nest trees.	Development activities should aim to avoid or minimise impacts to moderate constraint areas where possible. Development activities may occur in these areas subject to appropriate environmental impact assessment under relevant approval processes. Detailed biodiversity assessment via a BDAR may be required for a SSI or CSSI where there is likely to be a significant impact, including: – Targeted seasonal threatened flora and fauna surveys. – Appropriate measures to avoid and mitigate impacts. – Assessment of significance of impacts on MNES and the requirement for offsets in accordance with the EPBC Act and associated guidelines as required. – Assessment of biodiversity impacts and calculation of the quantum of offsets for removal of native vegetation and prescribed impacts in accordance with the NSW biodiversity offset scheme and BAM. Additional surveys in the form of an SIS or a BDAR and calculation of offsets may be required if the clearing threshold is exceeded. Consultation with the consent authority is recommended once the planning pathway and design option has been determined.
High	High biodiversity value and conservation significance under relevant legislation including TECs listed under the BC Act. This vegetation may also include habitat for a number of threatened flora and fauna species listed under the BC Act and/or EPBC Act. Key Fish Habitat. Extensive areas of mapped important habitat for migratory species occur within the study area. This mapping (refer to Appendix C) represents a high biodiversity constraint; however, it has been excluded from this constraints assessment, and therefore Figure 7.1, as its primary extent cannot be reasonably avoided by the project. This approach is intended to better inform feasible design decision-making. Notwithstanding, areas identified as low or moderate constraint may still intersect with this important habitat mapping, and therefore represent a high risk. Efforts should be taken to avoid mapped important habitat, where possible, as credits will be required for all six migratory species where impacts to important habitat occur.	Development activities should aim to avoid impacts to high constraint areas as far as possible. Development activities could occur in these areas subject to appropriate environmental impact assessment under relevant approval processes. Detailed biodiversity assessment via a BDAR will be required for a SSI, including: – Targeted seasonal threatened flora and fauna surveys. – Appropriate measures to avoid and mitigate impacts. – Assessment of significance of impacts on MNES and the requirement for offsets in accordance with the EPBC Act and associated guidelines as required. – Assessment of biodiversity impacts and calculation of offsets in accordance with the BAM. Development of highly constrained lands are likely to result in significant impacts. As such, an SIS (or BDAR) and calculation of offsets will be required if the clearing threshold is exceeded. Consultation with the consent authority is recommended.



Paper Size ISO A4
0 100 200 300
Metres



Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 56



Australian Rail Track Corporation
Ironbark Creek Bridge Replacement
Biodiversity Constraints Assessment

Project No. 12682985
Revision No. 0
Date 16/07/2026

Constraints mapping

FIGURE 7.1

7.2 Recommendations

Recommendation 1 – Confirm footprint

Prior to commencing the EIS, a design/disturbance footprint should be determined. It is recommended that there is consultation between the design team and suitably qualified ecologists early in the design process. This will serve to minimise impacts on the present TECs and reduce delays with additional reporting and approval processes.

Recommendation 2 – Confirm planning pathway

The type of biodiversity assessment depends on the planning pathway and the amount of vegetation clearing. The following two options are relevant to the project as an SSI:

- SSI projects require a BDAR to assess for impacts on native vegetation. The quantum of biodiversity offsets required for the project would be calculated in the BDAR and biodiversity offsets would be secured according to the NSW BOS.
- If the Planning Agency Head and the Environment Agency Head determine the proposed development is not likely to have a significant impact on biodiversity values, the preparation of a BDAR is not required. If a proponent believes that their state significant project is unlikely to have a significant impact on biodiversity values, they can apply for a BDAR waiver, however given the presence of multiple TECs and areas mapped as coastal wetlands in the investigation area, this option is unlikely to be appropriate.

Recommendation 3 – Develop evidence of how biodiversity values have been avoided

The project is an SSI under the NSW Planning Systems SEPP and therefore a BDAR is required unless significant impacts are not likely. If significant impacts are anticipated a BDAR is required to accompany the EIS under the Biodiversity Offsets Scheme, it is recommended that the proponent documents avoidance of impacts through the planning process and considers how the project may be situated or designed so that it is possible to demonstrate that impacts on biodiversity values have been avoided or minimised. Any evidence of measures taken to avoid impacts on biodiversity values should be presented in the BDAR. A proponent should provide a clear summary of why a proposed site and development project have been selected, and how biodiversity values have been avoided, as per Section 7.1 of the BAM.

Section 7.1.2 of the BAM notes that a BDAR must “document the reasonable measures taken by the proponent to avoid or minimise clearing of native vegetation and threatened species habitat during project design”. Further, s.6.12(c) of the BC Act requires that a BDAR demonstrate the “measures that the proponent of the proposed development, activity or clearing proposes to take to avoid or minimise the impact of the proposed development”.

Development of measures to avoid and minimise biodiversity impacts should be central to the ongoing planning for the project. Detailed design should aim to minimise clearing of native trees, utilising large existing patches of exotic vegetation and hardstand areas where possible.

Recommendation 4 – Consultation with relevant agencies

Once the design is prepared, early consultation with the relevant planning authority is recommended to confirm the approach to the assessment. This would likely comprise the Conservation Planning and Offsets Division (CPO) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) and the NSW Department of Planning, Housing and Infrastructure (DPHI). Consultation should focus on measures taken to avoid and minimise impacts. Consultation with the Commonwealth Department of Climate Change, Energy, the Environment and Water (Cwlth DCCEEW) may also be required for Matters of National Environmental Significance (MNES) and a referral prepared.

Recommendation 5 – Early and strategic planning for offset delivery

If a BDAR is found to be required, the quantum of biodiversity offsets required for the project would be calculated in the BDAR and biodiversity offsets would be secured according to the NSW BOS. Biodiversity offsets for the project could be secured according to the BOS through one or a combination of the following options:

- Purchase of biodiversity credits from a biodiversity stewardship site (BSS).
- Payment to the Biodiversity Credits Supply Fund (the Fund) equivalent to the number and type of credits required.
- Funding of an appropriate conservation action (n.b. this approach is generally only available once all alternative options have been considered).

Measures to avoid or mitigate impacts on biodiversity values early in design development would reduce the quantum and cost of offsets required. Under the BOS offsets are generally required to be secured prior to the start of construction.

Identifying and establishing an appropriate like-for-like BSS is generally the most cost-effective option for securing offsets, particularly if surplus land outside the development footprint for the project has been acquired. Purchase of biodiversity credits from other BSSs is likely to be the next most cost-effective option and, when considered with along with ease and timeliness, a more favourable option. Purchase of existing credits would be subject to availability of 'like for like' credits appropriate to the project's impacts.

Payment to the Fund is the fastest, most certain option available but is likely to be more expensive because Fund payments include administrative costs and a risk premium on top of the assumed value of credits.

Early identification of options for securing offsets and alternatives to paying into the Fund will allow greater flexibility and potential cost savings when meeting offset obligations for the project.

The Nature Markets and Offsets division (NMOD) of NSW DCCEEW operates the Fund, which acquires priority biodiversity credits to deliver an increase in the supply of credits and on-sell them to proponents to support the delivery of these projects, once approved. Proponents can submit an Expression of Interest to the NMOD to get help to source biodiversity credits needed to offset their development (NSW DCCEEW 2026f).

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Appendices

Appendix A

Likelihood of occurrence assessment

Likelihood of occurrence of predicted threatened and migratory species within investigation area

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Flora	<i>Angophora inopina</i>	Charmhaven Apple	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Endemic to the Central Coast of NSW, from Karuah to Toronto. Occurs in four main vegetation communities: <i>Eucalyptus haemastoma</i> - <i>Corymbia gummifera</i> - <i>Angophora inopina</i> woodland/forest; <i>Hakea teretifolia</i> – <i>Banksia oblongifolia</i> wet heath; <i>Eucalyptus resinifera</i> – <i>Melaleuca sieberi</i> – <i>Angophora inopina</i> sedge woodland; and <i>Eucalyptus capitellata</i> – <i>Corymbia gummifera</i> – <i>Angophora inopina</i> woodland/forest. Flowers between December and January.	Species	N	Low. No records in the locality. Only marginal habitat for the species present in the investigation area.
Flora	<i>Asperula asthenes</i>	Trailing Woodruff	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Occurs in scattered locations from Bulahdelah to Kempsey. Some records from Port Stephens/Wallis Lakes area. Occurs in damp sites, often along riverbanks.	Species	N	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Caladenia tessellata</i>	Thick-lipped Spider-orchid	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Occurs from Central Coast NSW to southern Victoria. Mostly coastal but extends inland to Braidwood in southern NSW. In NSW grows in grassy dry sclerophyll woodland on clay loam or sandy soils, and less commonly in heathland on sandy loam soils. Flowers between September and November.	Species	Y	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Callistemon linearifolius</i>	Netted Bottle Brush	V	-	1 record within 10 km (NSW DCCEEW 2026a)	Recorded from the Georges to Hawkesbury Rivers in Sydney, and north to Nelson Bay. There is also a recent record from the northern Illawarra. Grows in dry sclerophyll forest on the coast and adjacent ranges. Flowers from spring to summer.	Species	N	Nil. 1 record in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Commersonia prostrata</i>	Dwarf Kerrawang	E	E	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs on the Southern Highlands and Southern Tablelands (one plant at Penrose State Forest, one plant at Tallong, a small population near the Corang and about 2000 plants at Rowes Lagoon), a larger population in the Thirlmere Lakes area, and on the North Coast (less than 100 plants at the Tomago sandbeds north of Newcastle). Occurs on sandy, sometimes peaty soils in a wide variety of habitats: Snow Gum (<i>Eucalyptus pauciflora</i>) Woodland and Ephemeral Wetland floor at Rowes Lagoon; Blue leaved Stringybark (<i>E. agglomerata</i>) Open Forest at Tallong; and in Brittle Gum (<i>E. mannifera</i>) Low Open Woodland at Penrose; Scribbly Gum (<i>E. haemostoma</i>)/ Swamp Mahogany (<i>E. robusta</i>) Ecotonal Forest at Tomago. Appears to respond positively to some forms of disturbance.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Occurs in coastal areas from East Gippsland to southern Queensland. Habitat preferences not well defined. Grows mostly in coastal heathlands, margins of coastal swamps and sedgeland, coastal forest, dry woodland, and lowland forest. Prefers open areas in the understorey and is often found in association with Large Tongue Orchid and the Bonnet Orchid. Soils include moist sands, moist to dry clay loam and occasionally in accumulated eucalypt leaves. Flowers November-February.	Species	N	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	E	2 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs from Gerroa (Illawarra) to Brunswick Heads and west to Merriwa in the upper Hunter. Most common near Kempsey. Usually occurs on the edge of dry rainforest or littoral rainforest, but also occurs in Coastal Banksia Scrub, open forest and woodland, and Melaleuca scrub. Soil and geology types are not limiting. Flowering occurs between August and May, with the peak in November.	Species	N	Moderate. 2 records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Diuris praecox</i>	Newcastle Doubletail	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Known from between Bateau Bay and Smiths Lake. Grows on hills and slopes of near-coastal districts in open forests which have a grassy to fairly dense understorey. Exists as subterranean tubers most of the year. It produces leaves and flowering stems in winter.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Eucalyptus camaldulensis</i>	Eucalyptus camaldulensis population in the Hunter catchment	E	-	1 record within 10 km (NSW DCCEEW 2026a)	Population occurs on the major floodplains of the Hunter and Goulburn Rivers. Grows in forested wetlands and grassy woodlands, especially in areas where water impoundment occurs after flood. Associated species include Forest Red Gum, Yellow Box, River Oak and Rough-barked Apple.	Species	N	Nil. 1 record in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs from Raymond Terrace to Waterfall, with populations known from Norah Head (Tuggerah Lakes), Peats Ridge, Mt Colah, Elvina Bay Trail (West Head), Terrey Hills, Killara, North Head, Menai and the Royal NP. Occurs in exposed situations on sandstone plateaus, ridges and slopes near the coast, often on the boundary of tall coastal heaths or low open woodland. Grows in shallow sandy soils overlying Hawkesbury sandstone.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Flora	<i>Eucalyptus parramattensis subsp. decadens</i>	Earp's Gum	V	V	75 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Endemic to the Hunter Region of NSW. Generally occupies deep, low-nutrient sands, often those subject to periodic inundation or where water tables are relatively high. Found in dry sclerophyll woodland with dry heath understorey. Also occurs as an emergent in dry or wet heathland. Flowers from November to January. It is restricted to northern Queensland being found in three locations: west of Herberton, north of Mt Garnet and at Mt Mulligan. An occurrence west of Mt Spec (fide Bernie Hyland, Atherton, Qld) requires confirmation with specimens.	Species	N	Moderate. 75 records in the locality. Suitable habitat in the investigation area. Readily identifiable species.
Flora	<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E	V	1 record within 10 km, last recorded 2010 (NSW DCCEEW 2026a)	Known from only three locations in NSW, near Tenterfield, including Bald Rock National Park. Found in open eucalypt forest, woodland and heaths on well-drained granite/rhyolite hilltops, slopes and rocky outcrops, typically at high altitudes. At lower elevations can occur in less rocky soils in damp situations.	Species	Y	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Euphrasia arguta</i>	null	CE	CE	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Recently rediscovered near Nundle on the north-western slopes and tablelands, once known from scattered locations between Sydney, Bathurst and Walcha. Known populations occur in eucalypt forest with a mixed grass/shrub understorey, while previous records are described as occurring in open forest, grassy country and river meadows. Dense stands observed in cleared firebreak areas, suggesting it may respond well to disturbance.	Species	Y	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Grevillea parviflora subsp. parviflora</i>	Small-flower Grevillea	V	V	11 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs between Moss Vale/Bargo and lower Hunter Valley, with most occurrences in Appin, Wedderburn, Picton and Bargo. Broad habitat range including heath, shrubby woodland and open forest on light clay or sandy soils, and often in disturbed areas such as on the fringes of tracks.	Species	N	Nil. 11 records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Grevillea shiressii</i>	null	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Known from only two populations near Gosford namely, Mooney Mooney Creek and Mullet Creek. Grows along creek banks in wet sclerophyll forest with a moist understorey in alluvial sandy or loamy soils. Flowers between July and December.	Species	Y	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Maundia triglochinosides</i>		V		3 records within 10 km (NSW DCCEEW 2026a)	Restricted to coastal NSW current southern limit at Wyong. Grows on heavy clay, low nutrient soil in swamps, lagoons, dams, channels, creeks or shallow freshwater 30-60 cm depth. Associated with wetland species e.g. <i>Triglochin procerum</i> .	Species	N	Moderate. 3 records in the locality. Habitat requirements for the species are present in the investigation area.
Flora	<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Scattered, disjunct populations in coastal areas from Jervis Bay to Port Macquarie, with most populations in the Gosford-Wyong areas. Grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects.	Species/Eco system	N	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Persicaria elatior</i>	Knotweed, Tall Knotweed	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Recorded in south-eastern NSW from Ulladulla to the Victorian border. Known from Raymond Terrace and the Grafton area in northern NSW. Normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance.	Species	N	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Pomaderris brunnea</i>	Brown Pomaderris	E	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area and near Camden. Also occurs near Walcha on the New England tablelands. Grows in moist woodland or forest on clay and alluvial soils of flood plains and creek lines.	Ecosystem	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Prasophyllum sp. Wybong (C. Phelps ORG 5269)</i>	a leek-orchid	-	CE	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Endemic to NSW and known from near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell, Tenterfield, Currabubula and the Pilliga area. Known to occur in open eucalypt woodland and grassland.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Pterostylis gibbosa</i>	Illawarra Greenhood	E	E	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Known from a small number of populations in the Illawarra, Shoalhaven and Hunter regions. Grows in open forest or woodland, on flat or gently sloping land with poor drainage. In the Illawarra region, the species grows in woodland dominated by Forest Red Gum, Woollybutt and Melaleuca decora. Near Nowra, the species grows in an open forest of Spotted Gum, Forest Red Gum and Grey Ironbark. In the Hunter region, the species grows in open woodland dominated by Narrow-leaved Ironbark, Forest Red Gum and Black Cypress Pine.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Flora	<i>Rhizanthella slateri</i>	Eastern Underground Orchid	V	E	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Currently known only from 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra. Habitat requirements are poorly understood and no particular vegetation type has been associated with the species, although it is known to occur in sclerophyll forest. Highly cryptic given that it grows almost completely below the soil surface, with flowers being the only part of the plant that can occur above ground. Therefore usually located only when the soil is disturbed. Flowers September to November.	Species	Y	Low. No records in the locality. Highly cryptic species. General habitat requirements are not present in investigation area however species requirements are not fully understood.
Flora	<i>Rhodamnia rubescens</i>	Scrub Turpentine	CE	CE	2 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs in coastal districts north from Batemans Bay in New South Wales, to areas inland of Bundaberg in Queensland. Populations typically occur in coastal regions and occasionally extend inland onto escarpments up to 600 m a.s.l. in areas with rainfall of 1,000 -1,600 mm. Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. Highly to extremely susceptible to infection by Myrtle Rust.	Species	Y	Nil. 2 records in the locality. Habitat requirements not present in the investigation area.
Flora	<i>Rhodomyrtus psidioides</i>	Native Guava	CE	CE	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs from Broken Bay, approximately 90 km north of Sydney, to Maryborough in Queensland. Populations are typically restricted to coastal and sub-coastal areas of low elevation and also occur up to c. 120 km inland in the Hunter and Clarence River catchments and along the Border Ranges in NSW. Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines. Extremely susceptible to infection by Myrtle Rust.	Species	Y	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Flora	<i>Rutidosia heterogama</i>	Heath Wrinklewort	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Recorded from near Cessnock to Kurri Kurri with an outlying occurrence at Howes Valley. On the Central Coast it is located north from Wyong to Newcastle. There are north coast populations between Wooli and Evans Head in Yuraygir and Bundjalung National Parks. It also occurs on the New England Tablelands from Torrington and Ashford south to Wandsworth south-west of Glen Innes. Grows in heath on sandy soils and moist areas in open forest, and has been recorded along disturbed roadsides.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs in narrow coastal strip from Upper Lansdowne to Conjola State Forest. On the south coast, the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral (coastal) rainforest. On the central coast, it occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities.	Species	N	Low. No records in the locality. Readily identifiable species that was not recorded during the site assessment. Habitat within the investigation area is not generally suitable however this species is commonly planted.
Flora	<i>Tetradlea juncea</i>	Black-eyed Susan	V	V	1 record within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Confined to the northern portion of the Sydney Basin bioregion and the southern portion of the North Coast bioregion in the local government areas of Wyong, Lake Macquarie, Newcastle, Port Stephens, Great Lakes and Cessnock. Usually found in low open forest/woodland with a mixed shrub understorey and grassy groundcover. Also recorded in heathland and moist forest. Majority of populations occur on low nutrient soils associated with the Awaba Soil Landscape.	Species	N	Nil. Whilst 1 record occurs in the locality, no suitable habitat for the species present in the investigation area.
Flora	<i>Thelymitra adorata</i>	Wyong Sun Orchid	CE	CE	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Known from a few localised occurrences in the area bounded by the towns of Wyong, Warnervale and Wyongah on the NSW Central Coast, within the Wyong LGA. Occurs in grassy woodland or occasionally derived grassland in well-drained clay loam or shale derived soils. Associated with Spotted Gum-Ironbark Forest with diverse grassy understory – occasional scattered shrubs.	Species	Y	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Thesium australe</i>	Austral Toadflax, Toadflax	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. Occurs in grassland or grassy woodland, and is often found in association with Kangaroo Grass.	Species	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Flora	<i>Thismia clavarioides</i>	null	-	E	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	<i>Thismia clavarioides</i> is known from two records in New South Wales (NSW). One, at the type locality at Fairy Bower Falls in Morton National Park southeast of Bundanoon and first discovered in 2000, consisting of two clusters of plants c. 50 m apart on loose leaf litter on rocks in temperate rainforest. The second record of the species was made at Barrington Tops National Park in the North Coast region of NSW in 2019. Both subpopulations of the species occur on south to south-east facing slopes and are closely associated with a vegetation class known in NSW as 'Northern warm temperate rainforest'. The species appears to have a preference for loose leaf litter on shallow soils.	N/A	N	Nil. No records in the locality. No suitable habitat for the species present in the investigation area.
Flora	<i>Zannichellia palustris</i>	null	E	-	21 records within 10 km, last recorded 2011 (NSW DCCEEW 2026a)	Known from the Lower Hunter and Sydney Olympic Park. Grows in fresh or slightly saline stationary or slowly flowing water.	Species	N	Moderate. 21 records in the locality, last recorded in 2011. Marginal habitat for the species present in the investigation area.
Amphibia	<i>Mixophyes balbus</i>	Stuttering Frog	E	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Occurs along the east coast of Australia from southern Queensland to north-eastern Victoria. Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Most recent records are from the north of its range, with few records south of Sydney. The Stuttering Frog is an obligate stream breeder. Eggs are deposited in very shallow, slow-flowing riffle sections of the main channel of streams. Tadpoles forage amongst stones and leaf litter in riffle and pool sections of the stream channel and may take up to 12 months for to reach metamorphosis.	Species	Y	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Amphibia	<i>Crinia tinnula</i>	Wallum Froglet	V	-	5 records within 10 km (NSW DCCEEW 2026a)	Found along the coastal margin from Litabella National Park in south-east QLD to Kurnell in Sydney. Found in a wide range of habitats, usually associated with acidic swamps on coastal sand plains. Typically occur in sedgeland and wet heathlands. Also found along drainage lines within other vegetation communities and disturbed areas, and occasionally in swamp sclerophyll forests. Breeds in swamps with permanent water as well as shallow ephemeral pools and drainage ditches. Breeding is thought to peak in the colder months, but can occur throughout the year following rain.	Species	N	Low. 5 records in the locality. Habitat requirements not present in the investigation area. May be an occasional visitor.
Amphibia	<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	10204 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Approximately 50 recorded locations in NSW, most of which are small, coastal, or near coastal populations. Large populations are located around the metropolitan areas of Sydney, Shoalhaven and mid north coast. Only one known population on the NSW Southern Tablelands. Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (<i>Typha</i> spp.) or spikerushes (<i>Eleocharis</i> spp.). Optimal habitat includes water-bodies that are unshaded, free of predatory fish such as Plague Minnow (<i>Gambusia holbrooki</i>), have a grassy area nearby and diurnal sheltering sites available. Also recorded in highly disturbed areas.	Species	N	High. 10204 records in the locality. Records are confined to Kooragang Island. Species may use wetland habitat in study area.
Amphibia	<i>Uperoleia mahonyi</i>	Mahony's Toadlet	E	E	1 record within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Endemic to the mid-north coast of NSW between Kangy Angy and Seal Rocks. Inhabits ephemeral and semi-permanent swamps and swales on the coastal fringe of its range. Known records occur in heath or wallum habitats almost exclusively associated with leached white sand. Commonly associated with acid paperbark swamps, it also is known to occur in wallum heath, swamp mahogany-paperbark swamp forest, heath shrubland and Sydney red gum woodland. Intact vegetation adjacent to and within water bodies is an important habitat feature for this species. Aquatic vegetation at breeding sites includes sedges (<i>Shoenoplectus</i> spp., <i>Baumea</i> spp. and <i>Lepironia articulata</i>) and Broadleaf Cumbungi (<i>Typha orientalis</i>).	Species	N	Nil. 1 record in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Anseranas semipalmata</i>	Magpie Goose	V	-	571 records within 10 km (NSW DCCEEW 2026a)	Still relatively common in the Australian northern tropics, but had disappeared from south-east Australia by 1920 due to drainage and overgrazing of reed swamps used for breeding. Since the 1980s there have been an increasing number of records in central and northern NSW. Vagrants can follow food sources to south-eastern NSW. Inhabits shallow wetlands containing dense rushes or sedges, and nearby dry land used for grazing. Feeds on grasses, bulbs and rhizomes and roosts in tall vegetation within wetland areas. Breeding occurs predominately in monsoonal areas and is unlikely in SE NSW. Nests are formed in trees over deep water.	Ecosystem	N	Moderate. 571 records in the locality. May utilise the investigation area for foraging.

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Aves	<i>Arenaria interpres</i>	Ruddy Turnstone	V	V, Migratory	Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Widespread around the coast of the mainland and off-shore islands of Australia. Breeds on the northern coasts of Europe, Asia and North America. Found on coastlines around the world, when not breeding or on passage. Found singly or in small groups along the coastline and only occasionally inland. Mainly occurs on exposed rocks or reefs, often with shallow pools, and on beaches. In the north, they are found in a wider range of habitats, including mudflats.	Not assigned	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V		3 records within 10 km (NSW DCCEEW 2026a)	Occurs throughout most of NSW, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	Ecosystem	N	Low. 3 records in the locality. Habitat requirements not present in the investigation area. May be an occasional visitor.
Aves	<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E	63 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Widespread but uncommon over south-eastern Australia. Found over most of NSW except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha</i> spp.) and spikerushes (<i>Eleocharis</i> spp.). Hides during the day amongst dense reeds or rushes. May construct feeding platforms over deeper water from reeds trampled by the bird.	Ecosystem	N	Moderate. 63 records in the locality. May utilise vegetation around creek line for foraging.
Aves	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V	V, C, J, K	46 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Most of the population migrates to Australia during non-breeding season, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats. Many inland records are of birds on passage. Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Not assigned	N	Moderate. 46 records in the locality. May utilise vegetation around creek line for foraging.
Aves	<i>Calidris canutus</i>	Red Knot	V	E, C, J, K	26 records within 10km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in northern hemisphere. Occurs in coastal areas around Australia, with important sites in VIC, SA, WA, NT and Qld. Mainly inhabits intertidal mudflats, sandflats and sandy beaches. Occasionally seen in terrestrial saline wetlands but rarely in freshwater wetlands. Forage in soft substrates in intertidal areas.	Species/Eco system	N	Recorded. 26 records in the locality. May utilise vegetation around creek line for foraging.
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	CE	Foraging, feeding or related behaviour likely to occur within area (Cwlth DCCEEW, 2026a)	Mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Only two known key breeding regions remaining in NSW at Capertee Valley and the Bundarra-Barraba region. Very patchy distribution in NSW, mainly confined to the two main breeding areas and surrounding fragmented woodlands. Inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. Key eucalypt species include Mugga Ironbark, Yellow Box, White Box and Swamp Mahogany. Flowering of associated species such as Thin-leaved Stringybark <i>Eucalyptus eugenioides</i> and other Stringybark species, and Broad-leaved Ironbark <i>E. fibrosa</i> can also contribute important nectar flows at times. Nectar and fruit from the mistletoes <i>Amyema miquelii</i> , <i>A. pendula</i> and <i>A. cambagei</i> are also utilised.	Species/Eco system	Y	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Calidris tenuirostris</i>	Great Knot	V	V, C, J, K	2 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Recorded at scattered sites along the coast down to about Narooma in NSW. Also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons and often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.	Species/Eco system	N	Low. 2 records in the locality. Low quality habitat present in the investigation area. May be an occasional visitor.

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Aves	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	E	E	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes in NSW. Occurs regularly in the ACT. It Rare at the extremities of its range, with isolated records known from as far north as Coffs Harbour and as far west as Mudgee. In spring and summer the species is generally found in tall mountain forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. In autumn and winter, the species often moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages, or in dry forest in coastal areas and often found in urban areas.	Species/Eco system	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Calyptorhynchus lathamii lathamii</i>	South-eastern Glossy Black-Cockatoo	V	V	7 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Uncommon although widespread throughout suitable forest and woodland habitats. Occurs from the central Queensland coast to East Gippsland in Victoria, and inland to the southern tablelands and central western plains of NSW, with a small population in the Riverina. Feeds almost exclusively on the seeds of several species of she-oak (Casuarina and Allocasuarina species).	Species/Ecosystem	N	Low. 7 records in the locality. Marginal habitat present for the species in the investigation area.
Aves	<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE, C, J, K	91 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Distributed around most of the Australian coastline. Occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. Inland records are probably mainly of birds pausing for a few days during migration. Migrates to Australia for the non-breeding period, arriving between August and November, and departing between March and mid-April. Generally occupies littoral and estuarine habitats, and is mainly found in intertidal mudflats of sheltered coasts in NSW. Also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland. Forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed.	Species/Eco system	Y	Recorded. 91 records in the locality. Seasonal habitat present for the species in the investigation area and is known to occur in adjacent habitats.
Aves	<i>Charadrius leschenaultii</i>	Greater Sand Plover	-	V, Migratory	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in central Asia from Armenia to Mongolia, moving further south for winter. In Australia the species is commonly recorded in parties of 10-20 on the west coast, with the far northwest being the stronghold of the population. The species is apparently rare on the east coast, usually found singly. In NSW, the species has been recorded between the northern rivers and the Illawarra, with most records coming from the Clarence and Richmond estuaries. The species is almost entirely restricted to coastal areas in NSW, occurring mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks.	N/A	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Charadrius mongolus</i>	Lesser Sand Plover	V	E, C, J, K	3 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in central and north eastern Asia, migrating further south for winter. Found around the entire coast of Australia but is most common in the Gulf of Carpentaria, and along the east coast of Queensland and northern NSW. Rarely recorded south of the Shoalhaven estuary, with only a few inland records. Almost entirely coastal in NSW, favouring the beaches of sheltered bays, harbours and estuaries with large intertidal sandflats or mudflats; occasionally occurs on sandy beaches, coral reefs and rock platforms.	Ecosystem	N	Low. 3 records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Circus assimilis</i>	Spotted Harrier	V	-	36 records within 10 km (NSW DCCEEW 2026a)	Occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including Acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. Found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	Species	N	Low. 36 records in the locality. Habitat requirements not present, only marginal foraging habitat in the investigation area.
Aves	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	The western boundary of the species range runs approximately through Corowa, Wagga Wagga, Temora, Forbes, Dubbo and Inverell. Often found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. Also found in mallee and River Red Gum Forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses. Usually not found in woodlands with a dense shrub layer. Fallen timber is an important habitat component for foraging. Also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.	Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.

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Aves	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-	1 record within 10 km, last recorded 2008 (NSW DCCEEW 2026a)	Sedentary species, inhabits most of mainland Australia except the treeless deserts and open grasslands. Distribution in NSW is nearly continuous from the coast to the far west. Found in eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.	Species	N	Nil. 1 record in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-	187 records within 10 km (NSW DCCEEW 2026a)	Widespread in coastal and subcoastal northern and eastern Australia, as far south as central NSW (although vagrants may occur further south or inland away from breeding areas). Species becomes increasingly uncommon south of the Clarence Valley, and rarely occurs south of Sydney. Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the species. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries.	Ecosystem	N	High. 187 records in the locality. Suitable habitat for the species present in the investigation area.
Aves	<i>Epthianura albifrons</i>	White-fronted Chat	V	-	682 records within 10 km (NSW DCCEEW 2026a)	Found mostly in temperate to arid climates and very rarely sub-tropical areas. Occurs mostly in the southern half of NSW, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. Typically usually found foraging on bare or grassy ground in wetland areas, singly or in pairs.	Ecosystem	N	High. 682 records in the locality. Suitable habitat for the species present in the investigation area.
Aves	<i>Erythroriorchis radiatus</i>	Red Goshawk	E	E	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Very rare in NSW, extending south to about 30°S, with most records north of this, in the Clarence River Catchment, and a few around the lower Richmond and Tweed Rivers. Formerly, it was at least occasionally reported as far south as Port Stephens. Inhabits open woodland and forest, preferring a mosaic of vegetation types, a large population of birds as a source of food, and permanent water, and are often found in riparian habitats along or near watercourses or wetlands. Preferred habitats include mixed subtropical rainforest, Melaleuca swamp forest and riparian Eucalyptus forest of coastal rivers.	Species	Y	Nil. No records in the locality. Marginal habitat present in the investigation area.
Aves	<i>Falco hypoleucos</i>	Grey Falcon	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Sparsely distributed in NSW, chiefly throughout the Murray-Darling Basin, with the occasional vagrant east of the Great Dividing Range. Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	Species	N	Nil. No records in the locality. Marginal habitat present in the investigation area.
Aves	<i>Falco subniger</i>	Black Falcon	V	-	20 records within 10 km (NSW DCCEEW 2026a)	Widely, but sparsely, distributed in NSW, mostly occurring in inland regions. Occurs in plains, grasslands, foothills, timbered watercourses, wetland environs, crops, and occasionally over towns and cities. Breeding occurs along timbered waterways in in land areas.	Ecosystem	N	Low. 20 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Gallinago hardwickii</i>	Latham's Snipe	V	V, J, K	5 records within 10 km, last recorded 2015 (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Non-breeding migrant to the south east of Australia. Breeds in Japan and on the east Asian mainland. Seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. Found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration. Also uses crops and pasture.	Ecosystem	N	Low. 5 records in the locality last recorded in 2015. Marginal foraging habitat present only. May be an occasional visitor.
Aves	<i>Grantiella picta</i>	Painted Honeyeater	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Nomadic species occurring at low densities throughout its range. Most commonly found on the inland slopes of the Great Dividing Range in NSW, where almost all breeding occurs. More likely to be found in the north of its distribution in winter. Inhabits Boree/ Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests. Specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus <i>Amyema</i> .	Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Haematopus longirostris</i>	Pied Oystercatcher	E	-	4 records within 10 km, last recorded 2012 (NSW DCCEEW 2026a)	Thinly scattered along the entire coast of NSW, with fewer than 200 breeding pairs estimated to occur in the State. Favours intertidal flats of inlets and bays, open beaches and sandbanks and forages on exposed sand, mud and rock at low tide, for molluscs, worms, crabs and small fish. Nests mostly on coastal or estuarine beaches although occasionally uses saltmarsh or grassy areas.	Species	N	Nil. 4 records in the locality, last recorded in 2012. Suitable habitat for the species not present in the investigation area.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Aves	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V	-	701 records within 10 km (NSW DCCEEW 2026a)	Widespread along the NSW coast, and along all major inland rivers and waterways. Habitats characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest). Breeding habitat consists of mature tall open forest, open forest, tall woodland, and swamp sclerophyll forest close to foraging habitat.	Species/Ecosystem	N	Moderate. 701 records in the locality. Marginal foraging habitat present in the investigation area. May flyover.
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V	-	37 records within 10 km (NSW DCCEEW 2026a)	Found throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment. Occurs as a single population throughout NSW. Occupies open eucalypt forest, woodland or open woodland. Also found in Sheoak or Acacia woodlands and riparian woodlands of inland NSW. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	Species	N	Low. 37 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V, C, J, K	62 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Migrates to eastern Australia from October to April. Almost exclusively aerial and most often seen before storms, low pressure troughs and approaching cold fronts and occasionally bushfire. Occurs over most types of habitat, but mostly recorded above wooded areas, including open forest and rainforest. May also fly between trees or in clearings, below the canopy. Recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows.	Species	N	Low. 62 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Irediparra gallinacea</i>	Comb-crested Jacana	V	-	1 record within 10 km, last recorded 2008 (NSW DCCEEW 2026a)	Known to occur mainly in coastal and subcoastal regions along the east coast to the Hunter region, with stragglers recorded in south-eastern NSW. Inhabits permanent freshwater wetlands, either still or slow-flowing, with a good surface cover of floating vegetation, especially water-lilies, or fringing and aquatic vegetation.	Species	N	Low. 1 record in the locality, last recorded in 2008. Marginal habitat present in the investigation area at southern extent of range.
Aves	<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	1 record within 10 km (NSW DCCEEW 2026a)	Scattered records along the east coast of NSW, with individuals rarely being recorded south of Sydney or inland. Inhabits both terrestrial and estuarine wetlands, generally in areas of permanent water and dense vegetation. May occur in flooded grassland, forest, woodland, rainforest and mangroves, where permanent water is present.	Ecosystem	N	Moderate. 1 record in the locality. Suitable habitat present in the investigation area.
Aves	<i>Lathamus discolor</i>	Swift Parrot	E	CE	7 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Migrates from Tasmania to south-eastern Australia in the autumn and winter months. Mostly occurs on the coast and south west slopes in NSW. Occurs on the mainland in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany, Spotted Gum, Red Bloodwood, Forest Red Gum, Mugga Ironbark, and White Box.	Species	Y	Nil. 7 records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Limosa lapponica baueri</i>	Alaskan Bar-tailed Godwit	-	E	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Recorded in the coastal areas of all Australian states. Widespread in the Torres Strait and along the east and south-east coasts of Queensland, NSW and Victoria. Regular migrant to Christmas Island, Norfolk Island, Lord Howe Island. During the non-breeding period, distribution is predominately New Zealand, northern and eastern Australia. Mainly occur along the north and east coasts.	Species	N	Recorded. No records in the locality. Mapped important habitat for the species, may be an occasional visitor in the investigation area.
Aves	<i>Limosa limosa</i>	Black-tailed Godwit	E	E, C, J, K	49 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Most frequently recorded at Kooragang Island (Hunter River estuary), with occasional records elsewhere along the coast, and inland in NSW. May occur around any of the large lakes in the western areas during summer, when the muddy shores are exposed. Also recorded within the Murray-Darling Basin, on the western slopes of the Northern Tablelands and in the far north-western corner of the state. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	Species/Eco system	N	Recorded. 49 records in the locality. Records predominately confined to Kooragang Island, may be an occasional visitor in the investigation area.

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Aves	<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	48 records within 10 km (NSW DCCEEW 2026a)	Ranges along coastal and subcoastal areas from south-western to northern Australia. Scattered records throughout NSW indicate that the species is a regular resident in the north, north-east and along the major west-flowing river systems. Summer breeding migrant to the south-east, including the NSW south coast, arriving in September and leaving by March. Found in a variety of timbered habitats including dry woodlands and open forests and shows a particular preference for timbered watercourses. Observed in stony country with a ground cover of chenopods and grasses, open acacia scrub and patches of low open eucalypt woodland in arid north-western NSW.	Species/Eco system	N	Moderate. 48 records in the locality. Marginal foraging habitat present in the investigation area.
Aves	<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin	E	E	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Found throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies picata. Prefers lightly wooded country, usually open eucalypt woodland, Acacia scrub and mallee, often in or near clearings or open areas. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Numenius madagascariensis</i>	Eastern Curlew	CE	CE, C, J, K	721 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs across the entire coast but is mainly found in estuaries such as the Hunter River, Port Stephens, Clarence River, Richmond River and ICOLLs of the south coast. Generally occupies coastal lakes, inlets, bays and estuarine habitats, and is mainly found in intertidal mudflats and sometimes saltmarsh of sheltered coasts in NSW. Rarely seen inland.	Species/Eco system	Y	Recorded. 721 records in the locality. Known along the Hunter River, may utilise the investigation area for foraging on occasion.
Aves	<i>Neophema chrysostoma</i>	Blue-winged Parrot	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	During the non-breeding period, from autumn to early spring, birds are recorded in western NSW, with some reaching south-eastern NSW, particularly on the southern migration. Inhabits a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. Tends to favour grasslands and grassy woodlands, often found near wetlands both near the coast and in semi-arid zones. Sometimes seen in altered environments such as airfields, golf-courses and paddocks. Pairs or small parties forage mainly near or on the ground for seeds of a wide range of native and introduced grasses, herbs and shrubs.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Ninox strenua</i>	Powerful Owl	V	-	16 records within 10 km (NSW DCCEEW 2026a)	Widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains. Inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. Requires large tracts of forest or woodland habitat but can also occur in fragmented landscapes. Breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. Roosts by day in dense vegetation comprising species such as Turpentine, Black She-oak, Blackwood, Rough-barked Apple, Cherry Ballart and a number of eucalypt species.	Species	N	Low. 16 records in the locality. No breeding habitat present in the investigation area.
Aves	<i>Oxyura australis</i>	Blue-billed Duck	V	-	1 record within 10 km, last recorded 2015 (NSW DCCEEW 2026a)	Widespread in NSW, but most common in the southern Murray-Darling Basin area. Disperses during the breeding season to deep swamps up to 300 km away, and generally seen in coastal areas only during summer or in drier years. Prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.	Species	N	Low. 1 record in the locality, last recorded in 2015. Marginal habitat present in the investigation area.
Aves	<i>Parvipsitta pusilla</i>	Little Lorikeet	V	-	71 records within 10 km (NSW DCCEEW 2026a)	Distributed widely across the coastal and Great Divide regions of eastern Australia from Cape York to South Australia. NSW provides a large portion of the species core habitat, with lorikeets found westward as far as Dubbo and Albury. Nomadic movements are common, influenced by season and food availability, although some areas retain residents for much of the year. Forages primarily in the canopy of open Eucalyptus forest and woodland, yet also finds food in Angophora, Melaleuca and other tree species. Riparian habitats are particularly used, due to higher soil fertility and hence greater productivity.	Species	N	Low. 71 records in the locality. No suitable habitat for the species present.
Aves	<i>Petroica phoenicea</i>	Flame Robin	V	-	1 record within 10 km (NSW DCCEEW 2026a)	Breeds in upland areas in NSW and moves to the inland slopes and plains in winter. Likely two separate populations in NSW, one in the Northern Tablelands, and another ranging from the Central to Southern Tablelands. Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys.	Species/Eco system	N	Nil. 1 record in the locality. No suitable habitat for the species present.

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Aves	<i>Pluvialis squatarola</i>	Grey Plover	V	V, C, J, K	4 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds around the Arctic regions and migrates to the southern hemisphere, being a regular summer migrant to Australia, mostly to the west and south coasts. Almost entirely coastal, being found mainly on marine shores, inlets, estuaries and lagoons with large tidal mudflats or sandflats for feeding, sandy beaches for roosting, and also on rocky coasts.	Ecosystem	N	Low. 4 records in the locality. Marginal habitat present in the investigation area. May be an occasional visitor.
Aves	<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V	-	1 record within 10 km, last recorded 2015 (NSW DCCEEW 2026a)	Occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. Also occurs in woodlands in the Hunter Valley and in several locations on the north coast of NSW. Inhabits open Box-Gum Woodlands on the slopes, Box-Cypress-pine and open Box Woodlands on alluvial plains and woodlands on fertile soils in coastal regions.	Species	N	Nil. 1 record in the locality, last recorded in 2015. Suitable habitat for the species not present in the investigation area.
Aves	<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V	-	8 records within 10 km (NSW DCCEEW 2026a)	Occurs along the coast and coastal ranges from the Hunter River in NSW to Cape York Peninsula. Rare south of Coffs Harbour, it used to occur in the Illawarra, though there are no recent records. Occurs in, or near rainforest, low elevation moist eucalypt forest and brush box forests. Feeds on a diverse range of tree and vine fruits and is locally nomadic - following ripening fruit.	Species	N	Nil. 8 records in the locality. No suitable habitat for the species present.
Aves	<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V	-	2 records within 10 km (NSW DCCEEW 2026a)	Occurs from Newcastle north to Cape York, with vagrants occasionally as far south as Victoria. Occur mainly in sub-tropical and dry rainforest and occasionally in moist eucalypt forest and swamp forest, where fruit is plentiful. Thought to be locally nomadic in response to fruit availability.	Ecosystem	N	Low. 2 records in the locality. Low quality habitat present in the investigation area. May be an occasional visitor.
Aves	<i>Pycnoptilus floccosus</i>	Pilotbird	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Endemic to south-east Australia. Upland Pilotbird occurs above 600 m in the Brindabella Ranges in the ACT, and in the Snowy Mountains in NSW and north-east Victoria. Lowland Pilotbird occurs in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne. Habitat critical to the survival of the Pilotbird includes wet sclerophyll forests in temperate zones in moist gullies with dense undergrowth, and dry sclerophyll forests and woodlands occupying dry slopes and ridges.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Rostratula australis</i>	Australian Painted Snipe	E	E	30 records within 10 km, last recorded 2014 (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Many records from the Murray-Darling Basin including the Paroo wetlands, Lake Cowal, Macquarie Marshes, Fivebough Swamp and more recently, swamps near Balldale and Wanganella. Other important locations with recent records include wetlands on the Hawkesbury River, the Clarence and lower Hunter Valleys. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Forages nocturnally on mudflats and in shallow water.	Ecosystem	N	Low. 14 records in the locality, last recorded in 2014. Marginal habitat for the species present
Aves	<i>Stagonopleura guttata</i>	Diamond Firetail	V	V	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Widely distributed in NSW, with a concentration of records from the Northern, Central and Southern Tablelands, the Northern, Central and South Western Slopes and the North West Plains and Riverina. Not commonly found in coastal districts, though there are records from near Sydney, the Hunter Valley and the Bega Valley. Scattered distribution over the rest of NSW, though is very rare west of the Darling River. Found in grassy eucalypt woodlands, including Box-Gum Woodlands and Snow Gum Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities, and often found in riparian areas (rivers and creeks), and sometimes in lightly wooded farmland.	Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Sternula albifrons</i>	Little Tern	-	V, Migratory	Breeding may occur within area (Cwlth DCCEEW, 2026a)	Migrates to NSW from September to November, occurring mainly north of Sydney. Breeds in spring and summer along the entire east coast from Tasmania to northern Queensland, and is seen until May, with only occasional birds seen in winter months. Almost exclusively coastal, preferring sheltered environments; however may occur several kilometres from the sea in harbours, inlets and rivers. Nests in small, scattered colonies in low dunes or on sandy beaches just above high tide mark near estuary mouths or adjacent to coastal lakes and islands.	Species/Eco system	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.

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Aves	<i>Sternula nereis nereis</i>	Australian Fairy Tern	-	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Found on isolated sandy inlets and along the coast from Dampier Archipelago, Western Australia, southward to Tasmania and Victoria, and is only vagrant to the east coast. It is most common in Western Australia and rare in New South Wales. Found on coastal beaches, inshore and offshore islands, sheltered inlets, sewage farms, harbours, estuaries and lagoons. It favours both fresh and saline wetlands and near-coastal terrestrial wetlands, including lakes and salt-ponds.	N/A	N	Low. No records in the locality. Marginal habitat for the species present in the investigation area.
Aves	<i>Stictonetta naevosa</i>	Freckled Duck	V	-	39 records within 10 km (NSW DCCEEW 2026a)	Found primarily in south-eastern and south-western Australia, occurring as a vagrant elsewhere. Breeds in large temporary swamps created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers, and other rivers within the Riverina. Forced to disperse during extensive inland droughts when wetlands in the Murray River basin provide important habitat. May also occur as far as coastal NSW and Victoria during such times. Prefers permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. During drier times they move from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds.	Ecosystem	N	Moderate. 39 records in the locality. Marginal habitat for the species present in the investigation area.
Aves	<i>Tringa nebularia</i>	Common Greenshank	E	E, C, J, K	13 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Common throughout Australia in the summer and recorded in most coastal regions in NSW. Widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north-west regions. Found both on the coast and inland, in estuaries and mudflats, mangrove swamps and lagoons, and in billabongs, swamps, sewage farms and flooded crops.	Ecosystem	N	Moderate. 13 records in the locality. Marginal habitat for the species present in the investigation area.
Aves	<i>Tyto longimembris</i>	Eastern Grass Owl	V	-	34 records within 10 km (NSW DCCEEW 2026a)	More likely to be resident in the north-east of NSW. Numbers can fluctuate greatly, increasing especially during rodent plagues. Found in areas of tall grass, including grass tussocks, in swampy areas, grassy plains, swampy heath, and in cane grass or sedges on flood plains. Always breeds on the ground. Nests are found in trodden grass, and often accessed by tunnels through vegetation.	Ecosystem	N	High. 34 records in the locality. Species is known to occur in the area and suitable foraging habitat is present.
Aves	<i>Tyto novaehollandiae</i>	Masked Owl	V	-	5 records within 10 km (NSW DCCEEW 2026a)	Extends from the coast where it is most abundant to the western plains. Overall records for this species fall within approximately 90% of NSW, excluding the most arid north-western corner. Lives in dry eucalypt forests and woodlands from sea level to 1100 m and often hunts along the edges of forests, including roadsides. Roosts and breeds in moist eucalypt forested gullies, using large tree hollows or sometimes caves for nesting.	Species	N	Nil. 5 records in the locality. No suitable habitat present in the investigation area.
Aves	<i>Xenus cinereus</i>	Terek Sandpiper	V	V, C, J, K	2 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Found in two main sites, the Richmond River estuary and the Hunter River estuary. Recorded on coastal mudflats, lagoons, creeks and estuaries, and favours mudbanks and sandbanks located near mangroves, but may also be observed on rocky pools and reefs, and occasionally up to 10 km inland around brackish pools.	Species	N	Recorded. 2 records in the locality. Marginal foraging habitat is present in the investigation area.
Fish	<i>Epinephelus daemeli</i>	Black Rockcod, Black Cod, Saddled Rockcod	-	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Found in warm temperate/sub-tropical parts of south-western Pacific. Naturally occur along NSW Coast. Adults generally found on rocky reefs. Juveniles found in coastal rock pools and around rocky shores in estuaries.	Species	N	Low. No records in the locality. May use Ironbark Creek to forage.
Mammalia	<i>Dasyurus maculatus</i>	Spotted-tail Quoll	E	E	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Found in eastern NSW, the species has been recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Uses hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites. Females occupy home ranges of 200-500 hectares, while males occupy very large home ranges from 500 to over 4000 hectares. Known to traverse their home ranges along densely vegetated creek lines.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V	-	31 records within 10 km (NSW DCCEEW 2026a)	Found on the south-east coast and ranges of Australia, from southern Queensland to Victoria. Prefers moist habitats, with trees taller than 20 m. Generally roosts in eucalypt hollows but also found under loose bark on trees or in buildings.	Species	N	Low. 31 records in the locality. May utilise the investigation area for foraging.

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Mammalia	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V	-	155 records within 10 km (NSW DCCEEW 2026a)	Found along the east coast from south Queensland to southern NSW. Occurs in dry sclerophyll forest, woodland, swamp forests and mangrove forests east of the Great Dividing Range. Roosts mainly in tree hollows but will also roost under bark or in man-made structures.	Ecosystem	N	High. 155 records in the locality. Suitable habitat for the species present in the investigation area.
Mammalia	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	E	E	2 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Found mainly in areas with extensive cliffs and caves, from Rockhampton to Bungonia in the NSW Southern Highlands. Generally rare with a very patchy distribution in NSW and scattered records from the New England Tablelands and North West Slopes. Roosts in caves, crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features. Found in well-timbered areas containing gullies.	Species	Y	Nil. 2 records in the locality. No suitable habitat for the species present in the investigation area.
Mammalia	<i>Miniopterus australis</i>	Little Bent-winged Bat	V	-	86 records within 10 km (NSW DCCEEW 2026a)	Occurs along the east coast and ranges of Australia from Cape York in Queensland to Wollongong in NSW. Prefers moist eucalypt forest, rainforest, vine thicket, wet and dry sclerophyll forest, Melaleuca swamps, dense coastal forests and banksia scrub. Generally found in well-timbered areas. Roosts in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings during the day. Forages for small insects beneath the canopy of densely vegetated habitats.	Species	Y	Low. 86 records in the locality. May utilise the investigation area for foraging.
Mammalia	<i>Myotis macropus</i>	Southern Myotis	V	-	56 records within 10 km (NSW DCCEEW 2026a)	Mainly coastal but may occur inland along large river systems. Usually associated with permanent waterways at low elevations in flat/undulating country, usually in vegetated areas. Forages over streams and watercourses feeding on fish and insects from the water surface. Roosts in a variety of habitats including caves, mine shafts, hollow-bearing trees, stormwater channels, buildings, under bridges and in dense foliage, typically in close proximity to water.	Species/ Ecosystem	N	High. 56 records in the locality. Potential roosting and foraging habitat for the species present.
Mammalia	<i>Notamacropus parma</i>	Parma Wallaby	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Range confined to the coast and ranges of central and northern NSW from the Gosford district to south of the Bruxner Highway between Tenterfield and Casino. Prefers moist eucalypt forest with thick, shrubby understorey, often with nearby grassy areas, rainforest margins and occasionally drier eucalypt forest.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V	-	43 records within 10 km (NSW DCCEEW 2026a)	Occurs along the east and north-west coasts of Australia. Uses caves as the primary roosting habitat, but also uses derelict mines, storm-water tunnels, buildings and other man-made structures. Hunts in forested areas, catching moths and other flying insects above the tree tops.	Species/ Ecosystem	Y	Low. 43 records in the locality. May utilise the investigation area for foraging.
Mammalia	<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Found throughout the Murray-Darling Basin and the Pilliga Scrub region. Inhabits a variety of vegetation types, including mallee, bullocke <i>Allocasuarina leuhmanni</i> and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation that occurs in a north-south belt along the western slopes and plains of NSW and southern Queensland. Roosts in tree hollows, crevices, and under loose bark.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Petauroides volans</i>	Greater Glider (southern and central)	E	E	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs in eastern Australia, in eucalypt forests and woodlands, where it has a broad distribution from around Proserpine in Queensland, south through NSW and the Australian Capital Territory into Victoria. Feeds exclusively on eucalypt leaves, buds, flowers and mistletoe. Shelter during the day in tree hollows and will use up to 18 hollows in their home range. Occupy a relatively small home range with an average size of 1 to 3 ha.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Petaurus australis</i>	Yellow-bellied Glider (south-eastern)	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria. Occurs in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.	Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	18 records within 10 km (NSW DCCEEW 2026a)	Widely though sparsely distributed in eastern Australia, from northern Queensland to western Victoria. Inhabits mature or old growth Box, Box-Ironbark woodlands and River Red Gum forest west of the Great Dividing Range and Blackbutt-Bloodwood forest with heath understorey in coastal areas. Prefers mixed species stands with a shrub or Acacia midstorey. Require abundant tree hollows for refuge and nest sites.	Species	N	Low. 18 records in the locality. Marginal foraging habitat and no hollow-bearing trees present.

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Mammalia	<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E	V	Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Occurs from the Queensland border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit. Occupies rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north. It typically shelters or basks during the day in rock crevices, caves and overhangs and are most active at night when foraging. Browse on vegetation in and adjacent to rocky areas.	Species	Y	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Phascolarctos cinereus</i>	Koala	E	E	19 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Found on the central and north coasts, southern highlands, southern and northern tablelands, Blue Mountains, southern coastal forests of NSW, with some smaller populations on the plains west of the Great Dividing Range. Inhabits eucalypt woodlands and forests, and feeds on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but will select preferred browse species in any one area.	Species	N	Low. 19 records in the locality. May travel through the investigation area but habitat is unsuitable for foraging.
Mammalia	<i>Potorous tridactylus</i>	Long-nosed Potoroo (northern)	V	V	Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Generally restricted to coastal heaths and forests east of the Great Dividing Range, with an annual rainfall exceeding 760 mm. Inhabits coastal heaths and dry and wet sclerophyll forests. Dense understorey with occasional open areas is an essential part of habitat, and may consist of grass-trees, sedges, ferns or heath, or of low shrubs of tea-trees or melaleucas. A sandy loam soil is also a common feature.	Species	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Mammalia	<i>Pseudomys novaehollandiae</i>	New Holland Mouse	V	V	11 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Largely restricted to the coast of central and northern NSW, with one inland occurrence near Parkes. Known from Royal National Park (NP), the Kangaroo Valley, Kuringai Chase NP, and Port Stephens to Evans Head near the Queensland border. Known to inhabit open heathlands, woodlands and forests with a heathland understorey and vegetated sand dunes. Soil type may be an important indicator of suitability of habitat, with deeper top soils and softer substrates being preferred for digging burrows.	Species	N	Low. 11 records in the locality. No suitable habitat present in the investigation area.
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	240 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Generally found within 200 km of the eastern coast of Australia, from Rockhampton to Adelaide. May be found in unusual locations in times of natural resource shortage. Occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy.	Species/Ecosystem	N	High. 240 records in the locality. No roosting habitat present. Suitable foraging habitat present in the investigation area.
Mammalia	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V	-	5 records within 10 km (NSW DCCEEW 2026a)	Wide-ranging species found across northern and eastern Australia. Rare visitor of south-western NSW in late summer and autumn. Scattered records of this species across the New England Tablelands and North West Slopes. Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. It forages in most habitats across its very wide range, with and without trees.	Ecosystem	N	Low. 5 records in the locality. Marginal foraging habitat present only. May be an occasional visitor.
Mammalia	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-	37 records within 10 km (NSW DCCEEW 2026a)	Found mainly in the gullies and river systems that drain the Great Dividing Range, from north-eastern Victoria to the Atherton Tableland. Extends to the coast over much of its range. Widespread on the New England Tablelands in NSW, however, does not occur at altitudes above 500 m. Found in a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, most commonly found in tall wet forest. Usually roosts in tree hollows but also found in buildings.	Ecosystem	N	Moderate. 37 records in the locality. Foraging habitat present in the investigation area.
Mammalia	<i>Vespadelus trougtoni</i>	Eastern Cave Bat	V	-	9 records within 10 km (NSW DCCEEW 2026a)	Found on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. The western limit appears to be the Warrumbungle Range, and there is a single record from southern NSW, east of the ACT. Cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; recorded roosting in disused mine workings. Occasionally found along cliff-lines in wet eucalypt forest and rainforest. Forage over a small area, but are capable of flying 500 m over clear paddocks.	Species	Y	Low. 9 records in the locality. No suitable habitat present in the investigation area.
Aves	<i>Actitis hypoleucos</i>	Common Sandpiper	-	C, J, K	6 records within 10 km, last recorded 2010 (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Found in Australia during non-breeding season, on all coastlines and in inland areas, but is concentrated in the north and west with important areas in WA, the NT and QLD. Utilises a wide range of coastal and inland wetlands with varying salinity levels.	Species/Ecosystem	N	Low. 6 records in the locality, last recorded in 2010. Marginal foraging habitat for the species present in the investigation area.

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Aves	<i>Apus pacificus</i>	Fork-tailed Swift	-	C, J, K	15 records within 10 km (NSW DCCEEW 2026a), Species or species habitat likely to occur within area (Cwlth DCCEEW, 2026a)	Almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. Many records occur east of the Great Divide; however, a few populations have been found west of the Great Divide. Mostly occur over inland plains but sometimes above foothills or in coastal areas. Mostly found over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. Also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. Sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines. Also found over settled areas, including towns, urban areas and cities.	Ecosystem	N	Low. 15 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Arenaria interpres</i>	Ruddy Turnstone	-	V, Migratory	Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Widespread around the coast of the mainland and off-shore islands of Australia. Breeds on the northern coasts of Europe, Asia and North America. Found on coastlines around the world, when not breeding or on passage. Found singly or in small groups along the coastline and only occasionally inland. Mainly occurs on exposed rocks or reefs, often with shallow pools, and on beaches. In the north, they are found in a wider range of habitats, including mudflats.	Not assigned	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	V	V, C, J, K	46 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Most of the population migrates to Australia during non-breeding season, mostly to the south-east and are widespread in both inland and coastal locations and in both freshwater and saline habitats. Many inland records are of birds on passage. Prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Not assigned	N	Moderate. 46 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Calidris canutus</i>	Red Knot	V	E, C, J, K	26 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in northern hemisphere. Occurs in coastal areas around Australia, with important sites in VIC, SA, WA, NT and Qld. Mainly inhabits intertidal mudflats, sandflats and sandy beaches. Occasionally seen in terrestrial saline wetlands but rarely in freshwater wetlands. Forage in soft substrates in intertidal areas.	Species/Ecosystem	N	Recorded. 26 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Calidris falcinellus</i>	Broad-billed Sandpiper	V	C, J, K	10 records within 10 km, last recorded 2014 (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	In Australia, Broad-billed Sandpipers overwinter on the northern coast, particularly in the north-west, with birds located occasionally on the southern coast. In NSW, the main site for the species is the Hunter River estuary, with birds occasionally reaching the Shoalhaven estuary. There are few records for inland NSW. Broad-billed Sandpipers favour sheltered parts of the coast such as estuarine sandflats and mudflats, harbours, embayments, lagoons, saltmarshes and reefs as feeding and roosting habitat. Occasionally, individuals may be recorded in sewage farms or within shallow freshwater lagoons. Broad-billed Sandpipers roost on banks on sheltered sand, shell or shingle beaches.	Species/Eco system	N	Low. 10 records in the locality, last recorded in 2014. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	CE, C, J, K	91 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Distributed around most of the Australian coastline. Occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. Inland records are probably mainly of birds pausing for a few days during migration. Migrates to Australia for the non-breeding period, arriving between August and November, and departing between March and mid-April. Generally occupies littoral and estuarine habitats, and is mainly found in intertidal mudflats of sheltered coasts in NSW. Also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland. Forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed.	Species/Ecosystem	Y	Recorded. 91 records in the locality. Seasonal habitat present for the species in the investigation area and is known to occur in adjacent habitats.
Aves	<i>Calidris melanotos</i>	Pectoral Sandpiper	-	J, K	19 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Widespread but scattered records across NSW, east of the divide and in the Riverina and Lower Western regions. Prefers shallow fresh to saline wetlands and is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands. Usually in coastal or near-coastal habitats, and prefers wetlands with open mudflats and low emergent or fringing vegetation such as grass or samphire.	N/A	N	Moderate. 19 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area

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Aves	<i>Calidris ruficollis</i>	Red-necked Stint	-	C, J, K	146 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in north-eastern Siberia and northern and western Alaska. Spend the southern summer months in Australia, except in the arid inland. Found on the coast, in sheltered inlets, bays, lagoons, estuaries, intertidal mudflats and protected sandy or coralline shores. May also be seen in saltworks, sewage farms, saltmarsh, shallow wetlands including lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in salt flats, flooded paddocks or damp grasslands. Often seen in dense flocks, feeding or roosting.	N/A	N	Moderate. 146 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Calidris tenuirostris</i>	Great Knot	V	V, C, J, K	2 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Recorded at scattered sites along the coast down to about Narooma in NSW. Also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons and often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.	Species/Eco system	N	Low. 2 records in the locality. Low quality habitat present in the investigation area. May be an occasional visitor.
Aves	<i>Charadrius bicinctus</i>	Double-banded Plover	-	Migratory	Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Found mainly on the east coast and Tasmania. It has been recorded occasionally in Western Australia. It is widespread throughout New Zealand. Found on coastal beaches, mudflats, sewage farms, river banks, fields, dunes, upland tussock grasses and shingle.	Ecosystem	N	Low. No records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Charadrius leschenaultii</i>	Greater Sand Plover	-	V, Migratory	Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in central Asia from Armenia to Mongolia, moving further south for winter. In Australia the species is commonly recorded in parties of 10-20 on the west coast, with the far northwest being the stronghold of the population. The species is apparently rare on the east coast, usually found singly. In NSW, the species has been recorded between the northern rivers and the Illawarra, with most records coming from the Clarence and Richmond estuaries. The species is almost entirely restricted to coastal areas in NSW, occurring mainly on sheltered sandy, shelly or muddy beaches or estuaries with large intertidal mudflats or sandbanks.	N/A	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Charadrius mongolus</i>	Lesser Sand Plover	V	E, C, J, K	3 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds in central and north eastern Asia, migrating further south for winter. Found around the entire coast of Australia but is most common in the Gulf of Carpentaria, and along the east coast of Queensland and northern NSW. Rarely recorded south of the Shoalhaven estuary, with only a few inland records. Almost entirely coastal in NSW, favouring the beaches of sheltered bays, harbours and estuaries with large intertidal sandflats or mudflats; occasionally occurs on sandy beaches, coral reefs and rock platforms.	Ecosystem	N	Low. 3 records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Charadrius veredus</i>	Oriental Plover	-	C, J, K	5 records within 10 km (NSW DCCEEW 2026a)	Non-breeding visitor to Australia, where the species occurs in both coastal and inland areas, mostly in northern Australia. Most records are along the north-western coast, between Exmouth Gulf and Derby in Western Australia. The species spend a few weeks in coastal habitats such as estuarine mudflats and sandbanks, on sandy or rocky ocean beaches or nearby reefs, or in near-coastal grasslands, before dispersing further inland. Usually forage among short grass or on hard stony bare ground, but also on mudflats or among beachcast seaweed on beaches.	Species	N	Low. 5 records in the locality. Marginal foraging habitat present only. May be an occasional visitor.
Aves	<i>Chlidonias leucopterus</i>	White-winged Black Tern	-	C, J, K	36 records within 10 km (NSW DCCEEW 2026a)	Found in the coastal and sub-coastal north, east, and south-east of the Australian mainland, and the north and east of Tasmania. Found in small to large flocks on mostly coastal or sub-coastal wetlands including tidal estuaries, lagoons, grassy swamps, and sewage ponds.	Species	N	Moderate. 36 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Cuculus optatus</i>	Oriental Cuckoo	-	C, J, K	6 records within 10 km (NSW DCCEEW 2026a), Species or species habitat may occur within area (Cwlth DCCEEW, 2026a)	Migrates to northern and eastern Australia in the warmer months. Occurs south to the Shoalhaven area. Occurs in a range of habitats, including monsoon forest, rainforest edges, leafy trees in paddocks, river flats, roadsides and mangroves.	Species	N	Low. 6 records in the locality. Marginal foraging habitat present only. May be an occasional visitor.
Aves	<i>Gallinago hardwickii</i>	Latham's Snipe	V	V, J, K	5 records within 10 km, last recorded 2015 (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Non-breeding migrant to the south east of Australia. Breeds in Japan and on the east Asian mainland. Seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. Found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration. Also uses crops and pasture.	Ecosystem	N	Low. 5 records in the locality last recorded in 2015. Marginal foraging habitat present only. May be an occasional visitor.

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Aves	<i>Gallinago megala</i>	Swinhoe's Snipe	-	Migratory	Roosting likely to occur within area (Cwlth DCCEEW, 2026a)	Few definite records in Australia. Mostly recorded in north Australia, particularly the Kimberley region, from October–April. Non-breeding migrant to Australia and occurs at the edges of wetlands, such as wet paddy fields, swamps and freshwater streams. Also known to occur in grasslands, drier cultivated areas (including crops of rapeseed and wheat) and market gardens.	Species	N	Low. No records in the locality. Marginal roosting habitat for the species present in the investigation area.
Aves	<i>Gallinago stenura</i>	Pin-tailed Snipe	-	Migratory	Roosting likely to occur within area (Cwlth DCCEEW, 2026a)	A single banded bird was reported near West Wyalong in NSW. Occurs most often in or at the edges of shallow freshwater swamps, ponds and lakes with emergent, sparse to dense cover of grass/sedge or other vegetation during non-breeding period. Also found in drier, more open wetlands such as claypans in more arid parts of species' range. Commonly seen at sewage ponds; not normally in saline or inter-tidal wetlands.	Species	N	Low. No records in the locality. Marginal roosting habitat for the species present in the investigation area.
Aves	<i>Gelochelidon nilotica</i>	Gull-billed Tern	-	C	6 records within 10 km (NSW DCCEEW 2026a)	Occurs on all continents except Antarctica. Found in freshwater swamps, brackish and salt lakes, beaches and estuarine mudflats, floodwaters, sewage farms, irrigated croplands and grasslands. Only rarely found over the ocean.	Species	N	Low. 6 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Glareola maldivarum</i>	Oriental Pratincole	-	C, J, K	6 records within 10 km (NSW DCCEEW 2026a)	Non-breeding visitor. Spends most of the non-breeding season in Australia where they usually inhabit open plains, floodplains or short grassland (including farmland or airstrips), often with extensive bare areas. They often occur near terrestrial wetlands, such as billabongs, lakes or creeks, and artificial wetlands such as reservoirs, saltworks and sewage farms, especially around the margins. The species also occurs along the coast, inhabiting beaches, mudflats and islands, or around coastal lagoons. Within Australia the Oriental Pratincole is widespread in northern areas, especially along the coasts of the Pilbara Region and the Kimberley Division in Western Australia, the Top End of the Northern Territory, and parts of the Gulf of Carpentaria. It is also widespread but scattered inland. There are occasional records in southern Australia, at sparsely scattered sites, with records in all states, including an unconfirmed report in Tasmania.	Species	N	Low. 6 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Hirundapus caudacutus</i>	White-throated Needletail	V	V, C, J, K	62 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Migrates to eastern Australia from October to April. Almost exclusively aerial and most often seen before storms, low pressure troughs and approaching cold fronts and occasionally bushfire. Occurs over most types of habitats, but mostly recorded above wooded areas, including open forest and rainforest. May also fly between trees or in clearings, below the canopy. Recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows.	Species	N	Low. 62 records in the locality. Marginal foraging habitat for the species present in the investigation area.
Aves	<i>Hydroprogne caspia</i>	Caspian Tern	-	J	177 records within 10 km (NSW DCCEEW 2026a)	Found in coastal and inland areas. In NSW, widespread east of the divide, mainly in coastal regions as well as the Riverina and Western regions, with occasional records elsewhere. Breeding has been recorded in the Menindee Lakes. Mostly found in sheltered coastal embayments, preferring areas with sandy or muddy margins. Usually forages in open wetlands, including lakes and rivers.	Species	N	Moderate. 177 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Limosa lapponica</i>	Bar-tailed Godwit	-	C, J, K	82 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Recorded in the coastal areas of all Australian states. Widespread along the east and south-east coasts of NSW, including the offshore islands. Few inland records from NSW. Inhabit estuarine mudflats, beaches and mangroves. Common in coastal areas around Australia. Social birds, often seen in large flocks and in the company of other waders.	Species	N	Recorded. 82 records in the locality. Habitat present for the species in the investigation area and is known to occur in adjacent habitats. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Limosa limosa</i>	Black-tailed Godwit	E	E, C, J, K	49 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Most frequently recorded at Kooragang Island (Hunter River estuary), with occasional records elsewhere along the coast, and inland in NSW. May occur around any of the large lakes in the western areas during summer, when the muddy shores are exposed. Also recorded within the Murray-Darling Basin, on the western slopes of the Northern Tablelands and in the far north-western corner of the state. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and/or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	Species/Eco system	N	Recorded. 49 records in the locality. Records predominately confined to Kooragang Island, may be an occasional visitor in the investigation area.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Aves	<i>Motacilla flava</i>	Yellow Wagtail	-	C, J, K	47 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs within Australia in open country habitat with disturbed ground and some water. Recorded in short grass and bare ground, swamp margins, sewage ponds, saltmarshes, playing fields, airfields, ploughed land and town lawns. Breeds in temperate Europe and Asia.	Ecosystem	N	Moderate. 47 records in the locality. Marginal habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Numenius madagascariensis</i>	Eastern Curlew	CE	CE, C, J, K	721 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Occurs across the entire coast but is mainly found in estuaries such as the Hunter River, Port Stephens, Clarence River, Richmond River and ICOLLS of the south coast. Generally occupies coastal lakes, inlets, bays and estuarine habitats, and is mainly found in intertidal mudflats and sometimes saltmarsh of sheltered coasts in NSW. Rarely seen inland.	Species	Y	Recorded. 721 records in the locality. Known along the Hunter River, may utilise the investigation area for foraging on occasion.
Aves	<i>Numenius minutus</i>	Little Curlew	-	C, J, K	5 records within 10 km (NSW DCCEEW 2026a), Roosting likely to occur within area (Cwlth DCCEEW, 2026a)	Widespread in the north of Australia and scattered elsewhere. Recorded in Australia between September and April with few winter records. Most often found feeding in short, dry grassland and sedgeland, including dry floodplains and blacksoil plains, which have scattered, shallow freshwater pools or areas seasonally inundated.	N/A	N	Low. 5 records in the locality. Marginal foraging and roosting habitat for the species present in the investigation area.
Aves	<i>Numenius phaeopus</i>	Whimbrel	-	C, J, K	6 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Regular migrant to Australia and New Zealand, with a primarily coastal distribution. Found in all states but is more common in the north. Found mainly on the coast, on tidal and estuarine mudflats, especially near mangroves. Sometimes found on beaches and rocky shores. Scattered inland records of in all regions.	Species	N	Moderate. 6 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Pandion cristatus</i>	Eastern Osprey	V	Migratory	121 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Found right around the Australian coast line, except for Victoria and Tasmania. Common around the northern coast, especially on rocky shorelines, islands and reefs. Uncommon to rare or absent from closely settled parts of south-eastern Australia. Rare records from inland areas. Favours coastal areas, especially the mouths of large rivers, lagoons and lakes. Breeds in NSW from July to September. Nests are made high up in dead trees or in dead crowns of live trees, usually within one kilometre of the sea.	Species	N	Low. 121 records in the locality. May forage on occasion but habitat in the investigation area is marginal for the species.
Aves	<i>Philomachus pugnax</i>	Ruff	-	C, J, K	13 records within 10 km, last recorded 2014 (NSW DCCEEW 2026a)	Recorded at Kurnell, Tomki, Casino, Ballina, Kooragang Island, Broadwater Lagoon and Little Cattai Creek. Also found around the Riverina, including Windouran Swamp, Wanganella, Fivebough Swamo and the Tullakool Saltworks. Most NSW records come from the Sydney region. Found on generally fresh, brackish of saline wetlands with exposed mudflats at the edges. Found in terrestrial wetlands including lakes, swamps, pools, lagoons, tidal rivers, swampy fields and floodlands. Occasionally seen on sheltered coasts, in harbours, estuaries, seashores and are known to visit sewage farms and saltworks. Sometimes found on wetlands surrounded by dense vegetation including grass, sedges, saltmarsh and reeds.	Species	N	Low. 13 records in the locality, last recorded in 2014. Marginal foraging and roosting habitat for the species present in the investigation area.
Aves	<i>Pluvialis fulva</i>	Pacific Golden Plover	-	C, J, K	368 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds on the Arctic tundra in western Alaska. It winters in South America and islands of the Pacific Ocean to India, Indonesia and Australia. Widespread along the coastline in Australia. Found on muddy, rocky and sandy wetlands, shores, paddocks, saltmarsh, coastal golf courses, estuaries and lagoons.	Species	N	Moderate. 368 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Pluvialis squatarola</i>	Grey Plover	V	V, C, J, K	4 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Breeds around the Arctic regions and migrates to the southern hemisphere, being a regular summer migrant to Australia, mostly to the west and south coasts. Almost entirely coastal, being found mainly on marine shores, inlets, estuaries and lagoons with large tidal mudflats or sandflats for feeding, sandy beaches for roosting, and also on rocky coasts.	Ecosystem	N	Low. 4 records in the locality. Marginal habitat present in the investigation area. May be an occasional visitor.
Aves	<i>Sterna hirundo</i>	Common Tern	-	C, J, K	1 record within 10 km (NSW DCCEEW 2026a)	Regular non-breeding visitor, mainly found along the eastern coast, where they are widespread and common from south-eastern Queensland to eastern Victoria, though less often recorded south of Port Hacking in NSW. Mainly coastal when not breeding and found in offshore waters, ocean beaches, estuaries and large lakes. Occasionally seen in freshwater swamps, floodwaters, sewage farms and brackish and saline lakes.	N/A	N	Low. 1 record in the locality. Marginal habitat present in the investigation area. May be an occasional visitor.

Class	Scientific name	Common name	BC Act status	EPBC Act status	Source	Habitat association	BAM credit type	SAIL entity? (Y/N)	Likelihood of occurrence
Aves	<i>Sternula albifrons</i>	Little Tern	-	V, Migratory	Breeding may occur within area (Cwlth DCCEEW, 2026a)	Migrates to NSW from September to November, occurring mainly north of Sydney. Breeds in spring and summer along the entire east coast from Tasmania to northern Queensland, and is seen until May, with only occasional birds seen in winter months. Almost exclusively coastal, preferring sheltered environments; however may occur several kilometres from the sea in harbours, inlets and rivers. Nests in small, scattered colonies in low dunes or on sandy beaches just above high tide mark near estuary mouths or adjacent to coastal lakes and islands.	Species/ Ecosystem	N	Nil. No records in the locality. Suitable habitat for the species not present in the investigation area.
Aves	<i>Thalasseus bergii</i>	Crested Tern	-	J	47 records within 10 km (NSW DCCEEW 2026a)	Distributed around the Australian coast, it occurs on ocean beaches, estuaries and coastal lagoons and occasionally on salt lakes. Known to rest on sand spits, low points and reefs along coastal beaches and inlets. Rarely flies far from shore out to sea or inland on bodies of fresh water.	Species	N	Moderate. 47 records in the locality. Marginal habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Tringa brevipes</i>	Grey-tailed Tattler	-	C, J, K	4 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	In NSW occurs along the coast from the Queensland border south to Tilba Lake, and has been recorded as far south as Gippsland. Recorded more frequently north of Sydney. Found on sheltered coasts with reefs and rock platforms or with intertidal mudflats. Inland records are rare. Forages in shallow water in intertidal areas. Usually roosts in the branches of mangroves or rocks which may be partly submerged. Also rarely recorded in dense shrubs, on driftwood or sand dunes.	Species	N	Moderate. 4 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Tringa glareola</i>	Wood Sandpiper	-	C, J, K	17 records within 10 km (NSW DCCEEW 2026a)	In NSW, there are records of the species east of the Divide north from Nowra, and inland from the upper and lower Western regions. Uses well-vegetated, shallow, freshwater wetlands and are typically associated with wetlands supporting emergent aquatic plants or grass and taller fringing vegetation such as dense reeds/rushes, shrubs or trees. Also frequent flooded grasslands and irrigated crops. Rarely in brackish wetlands or saltmarsh. Known from artificial wetlands.	Ecosystem	N	Moderate. 17 records in the locality. Marginal habitat for the species present in the investigation area.
Aves	<i>Tringa nebularia</i>	Common Greenshank	E	E, C, J, K	13 records within 10 km (NSW DCCEEW 2026a), Species or species habitat known to occur within area (Cwlth DCCEEW, 2026a)	Common throughout Australia in the summer and recorded in most coastal regions in NSW. Widespread west of the Great Dividing Range, especially between the Lachlan and Murray Rivers and the Darling River drainage basin, including the Macquarie Marshes, and north-west regions. Found both on the coast and inland, in estuaries and mudflats, mangrove swamps and lagoons, and in billabongs, swamps, sewage farms and flooded crops.	Species	N	Moderate. 13 records in the locality. Marginal habitat for the species present in the investigation area.
Aves	<i>Tringa stagnatilis</i>	Marsh Sandpiper	-	C, J, K	154 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Found on coastal and inland wetlands throughout Australia. Recorded in all regions of NSW but especially the central and south coasts and (inland) on the western slopes of Great Divide and western plains. The Hunter River Estuary and the Macquarie Marshes are internationally important sites for this species. Lives in permanent or ephemeral wetlands of varying salinity, including swamps, lagoons, billabongs, salt pans, saltmarshes, estuaries, pools on inundated floodplains, and intertidal mudflats and also regularly at sewage farms and saltworks. Less often recorded at reservoirs, waterholes, soaks, bore-drain swamps and flooded inland lakes. It is a summer migrant to Australia, from about August to April.	Species	N	Moderate. 154 records in the locality. Habitat present for the species in the investigation area. The species is unlikely to be dependent on habitat within the study area
Aves	<i>Xenus cinereus</i>	Terek Sandpiper	V	V, C, J, K	2 records within 10 km (NSW DCCEEW 2026a), Roosting known to occur within area (Cwlth DCCEEW, 2026a)	Found in two main sites, the Richmond River estuary and the Hunter River estuary. Recorded on coastal mudflats, lagoons, creeks and estuaries, and favours mudbanks and sandbanks located near mangroves, but may also be observed on rocky pools and reefs, and occasionally up to 10 km inland around brackish pools.	Species	N	Recorded. 2 records in the locality. Marginal foraging habitat is present in the investigation area.

Note: V: vulnerable species, E: endangered species, CE: critically endangered species, C: migratory species listed under China-Australia Migratory Bird Agreement (CAMBA) J: migratory species listed under Japan-Australia Migratory Bird Agreement (JAMBA), K: migratory species listed under Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA).

Appendix B

EPBC PMST search results



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 21-Jan-2026

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	8
Listed Threatened Species:	107
Listed Migratory Species:	75

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	18
Commonwealth Heritage Places:	1
Listed Marine Species:	103
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	7
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	73
Key Ecological Features (Marine):	None
Biologically Important Areas:	8
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Hunter estuary wetlands	Within Ramsar site	In feature area

Listed Threatened Ecological Communities	[Resource Information]
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For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Central Hunter Valley eucalypt forest and woodland	Critically Endangered	Community may occur within area	In feature area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community	Endangered	Community likely to occur within area	In feature area
Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland	Endangered	Community likely to occur within area	In feature area
Kurri sand swamp woodland of the Sydney Basin bioregion	Endangered	Community may occur within area	In buffer area only
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area	In buffer area only
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	Critically Endangered	Community likely to occur within area	In feature area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In feature area
Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions	Endangered	Community likely to occur within area	In buffer area only

Listed Threatened Species	[Resource Information]
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Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area	In buffer area only
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat known to occur within area	In feature area
Calyptorhynchus lathami lathami South-eastern Glossy Black-Cockatoo [67036]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In feature area
Erythrorhynchus radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area	In buffer area only
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area	In feature area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area	In buffer area only
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In buffer area only
Pycnoptilus floccosus Pilotbird [525]	Vulnerable	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Sternula albifrons Little Tern [82849]	Vulnerable	Breeding may occur within area	In buffer area only
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area	In feature area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area	In feature area
FISH			
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Seriolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat known to occur within area	In buffer area only
FROG			
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat known to occur within area	In feature area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Uperoleia mahonyi Mahony's Toadlet [89189]	Endangered	Species or species habitat known to occur within area	In feature area
MAMMAL			
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Notamacropus parma Parma Wallaby [89289]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Petauroides volans Greater Glider (southern and central) [254]	Endangered	Species or species habitat known to occur within area	In feature area
Petaurus australis australis Yellow-bellied Glider (south-eastern) [87600]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
Potorous tridactylus tridactylus Long-nosed Potoroo (northern) [66645]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area	In feature area
PLANT			
Angophora inopina Charmhaven Apple [64832]	Vulnerable	Species or species habitat known to occur within area	In feature area
Asperula asthenes Trailing Woodruff [14004]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Commersonia prostrata Dwarf Kerrawang [87152]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Cynanchum elegans White-flowered Wax Plant [12533]	Endangered	Species or species habitat known to occur within area	In feature area
Diuris praecox Newcastle Doubletail [55086]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus camfieldii Camfield's Stringybark [15460]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Eucalyptus parramattensis subsp. decadens Earp's Gum, Earp's Dirty Gum [56148]	Vulnerable	Species or species habitat known to occur within area	In feature area
Euphrasia arguta [4325]	Critically Endangered	Species or species habitat may occur within area	In feature area
Grevillea parviflora subsp. parviflora Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area	In feature area
Grevillea shiressii [19186]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Melaleuca biconvexa Biconvex Paperbark [5583]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Persicaria elatior Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pomaderris brunnea Rufous Pomaderris, Brown Pomaderris [16845]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pterostylis gibbosa Illawarra Greenhood, Rufa Greenhood, Pouched Greenhood [4562]	Endangered	Species or species habitat may occur within area	In buffer area only
Rhizanthella slateri Eastern Underground Orchid [11768]	Endangered	Species or species habitat may occur within area	In feature area
Rhodamnia rubescens Scrub Turpentine, Brown Malletwood [15763]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rhodomyrtus psidioides Native Guava [19162]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rutidosis heterogama Heath Wrinklewort [13132]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tetralthea juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area	In feature area
Thelymitra adorata Wyong Sun Orchid [84724]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
Thismia clavarioides [90425]	Endangered	Species or species habitat may occur within area	In buffer area only

REPTILE

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
SHARK			
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anous stolidus Common Noddy [825]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In feature area
Calonectris leucomelas Streaked Shearwater [1077]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea epomophora Southern Royal Albatross [89221]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Phaethon rubricauda Red-tailed Tropicbird [994]		Species or species habitat may occur within area	In buffer area only
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sternula albifrons Little Tern [82849]	Vulnerable	Breeding may occur within area	In buffer area only
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Migratory Marine Species			
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In buffer area only
Carcharias taurus Grey Nurse Shark [64469]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In feature area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Migratory Terrestrial Species			
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris falcinellus as Limicola falcinellus Broad-billed Sandpiper [91731]		Roosting known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area	In buffer area only
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]	Vulnerable	Roosting known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]		Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]	Endangered	Species or species habitat known to occur within area	In feature area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius minutus Little Curlew, Little Whimbrel [848]	Vulnerable	Roosting likely to occur within area	In buffer area only
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In feature area
Pluvialis squatarola Grey Plover [865]	Endangered	Roosting known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area	In feature area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]		
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.		
Commonwealth Land Name	State	Buffer Status
Australian Postal Corporation		
Lot 0 SP21821 [AGPR7127]	NSW	In buffer area only
Lot 1000 DP803086 [AGPR7039]	NSW	In buffer area only
Lot 1 DP221184 [AGPR7141]	NSW	In buffer area only

Commonwealth Land Name	State	Buffer Status
Lot 1 DP771579 [AGPR7147]	NSW	In buffer area only
Lot 1 Section B DP10159 [AGPR7385]	NSW	In buffer area only
Lot 226 DP700272 [AGPR7040]	NSW	In buffer area only
Lot 3 DP830516 [AGPR7376]	NSW	In buffer area only

Commonwealth Scientific and Industrial Research Organisation		
CSIRO Newcastle [AGPR327]	NSW	In buffer area only
CSIRO Newcastle [AGPR326]	NSW	In buffer area only
CSIRO Newcastle [AGPR325]	NSW	In buffer area only

Department of Climate Change, Energy, the Environment and Water		
Fort Wallace [CHL_105335]	NSW	In buffer area only

Department of Defence		
Bullecourt Barracks - Adamstown [DD_0340]	NSW	In buffer area only
Hunter Business Centre - Raymond Terrace [DD_3271]	NSW	In buffer area only
Lot 5 Plan 233358 [AGPR821]	NSW	In buffer area only
Newcastle Training Depot (Adamstown) [AGPR618]	NSW	In buffer area only
Newcastle Training Depot (Adamstown) [AGPR601]	NSW	In buffer area only

Department of Veterans' Affairs		
Lot 128 DP26927 [AGPR6251]	NSW	In buffer area only
Lot 78 DP255476 [AGPR6249]	NSW	In buffer area only

Commonwealth Heritage Places			[Resource Information]
Name	State	Status	Buffer Status
Historic			
Fort Wallace	NSW	Listed place	In buffer area only

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Breeding likely to occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris falcinellus as Limicola falcinellus Broad-billed Sandpiper [91731]		Roosting known to occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area	In buffer area only
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area	In feature area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area	In feature area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area	In feature area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area	In buffer area only
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In feature area
Phaethon rubricauda Red-tailed Tropicbird [994]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Phoebetria fusca Sooty Albatross [1075]		Species or species habitat may occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area	In feature area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area	In buffer area only
Pterodroma cervicalis White-necked Petrel [59642]		Species or species habitat may occur within area	In feature area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area	In buffer area only
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Sterna striata White-fronted Tern [799]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons as Sterna albifrons Little Tern [82849]	Vulnerable	Breeding may occur within area	In buffer area only
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		Species or species habitat known to occur within area overfly marine area	In feature area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche bulleri platei as Thalassarche sp. nov. Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area	In feature area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area	In feature area
Fish			
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area	In buffer area only
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area	In buffer area only
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In buffer area only
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]	Endangered	Species or species habitat may occur within area	In buffer area only
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area	In buffer area only
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]		Species or species habitat likely to occur within area	In buffer area only
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area	In buffer area only
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area	In buffer area only
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area	In buffer area only
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area	In buffer area only
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area	In buffer area only
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In buffer area only
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area	In buffer area only
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area	In buffer area only
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area	In buffer area only
Mammal			
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area	In buffer area only
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area	In buffer area only
Dugong dugon Dugong [28]		Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area

Whales and Other Cetaceans		[Resource Information]	
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area	In buffer area only
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In buffer area only
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Current Scientific Name	Status	Type of Presence	Buffer Status
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In buffer area only
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area	In buffer area only
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In buffer area only
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In buffer area only
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In buffer area only
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Blue Gum Hills	Regional Park	NSW	In buffer area only
Glenrock	State Conservation Area	NSW	In buffer area only
Hexham Swamp	NRS Addition - Gazettal in Progress	NSW	In buffer area only
Hunter Wetlands	National Park	NSW	In feature area
Pambalong	Nature Reserve	NSW	In buffer area only
Tilligerry	State Conservation Area	NSW	In buffer area only
Worimi	Regional Park	NSW	In buffer area only

Regional Forest Agreements

[Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
Lower North East	New South Wales	In feature area

EPBC Act Referrals

[Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
1440- Newcastle Golf Course Alterations	2024/09899		Completed	In buffer area only
Bloomfield Colliery Continuation project	2024/09978		Assessment	In buffer area only
Eastern Rise Offshore Wind Project	2023/09544		Assessment	In buffer area only
Eastern Rise Offshore Wind Project Initial Marine Field Investigations	2023/09555		Completed	In buffer area only
Kurri Kurri Lateral Pipeline Project	2021/9113		Post-Approval	In buffer area only
M1 Motorway extension to Raymond Terrace, NSW	2018/8288		Post-Approval	In buffer area only
Northbank Enterprise Hub	2021/9058		Post-Approval	In buffer area only
Residential development, Hillsborough, NSW	2014/7217		Assessment	In buffer area only
Tomago Battery Energy Storage System (BESS)	2023/09521		Completed	In buffer area only
Controlled action				
Cabbage Tree Road Sand Quarry, Williamtown, NSW	2016/7852	Controlled Action	Post-Approval	In buffer area only
Construction and Sequential Filling of Waste Emplacement Facility	2008/4652	Controlled Action	Post-Approval	In buffer area only
Former Rifle Range Residential Development, Popplewell Road, Fern Bay, NSW	2017/7993	Controlled Action	Proposed Decision	In buffer area only
Gas Transmission Pipeline	2011/5917	Controlled Action	Completed	In feature area
Gloucester Coal Seam Methane Gas Project	2008/4432	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Hunter River Port and Transport Corridor	2001/419	Controlled Action	Completed	In buffer area only
Hunter River south arm dredging	2003/950	Controlled Action	Post-Approval	In buffer area only
Kooragang Island Waste Emplacement Facility - Area 2 Closure Works, NSW	2016/7670	Controlled Action	Post-Approval	In buffer area only
Kooragang Wetland Rehabilitation Project	2007/3220	Controlled Action	Post-Approval	In feature area
Newcastle gas storage facility project	2010/5752	Controlled Action	Post-Approval	In buffer area only
Newcastle inner city bypass Rankin Park to Jesmond NSW	2015/7550	Controlled Action	Post-Approval	In buffer area only
Newcastle LNG export facility	2011/5915	Controlled Action	Completed	In buffer area only
Newcastle Power Station Project, Tomago, NSW	2019/8425	Controlled Action	Post-Approval	In buffer area only
New dual carriageway from F3 Fwy to Branxton Link	2007/3431	Controlled Action	Post-Approval	In buffer area only
Northbank Enterprise Hub, Industrial and Business Park	2010/5660	Controlled Action	Completed	In buffer area only
Port Site and Materials Handling Development	2001/242	Controlled Action	Completed	In feature area
Protech Cold Mill Facility	2001/274	Controlled Action	Post-Approval	In feature area
Queensland Hunter Gas Pipeline, approximately 825 km in length	2008/4483	Controlled Action	Completed	In buffer area only
Remediation Works, Kooragang island waste facility emplacement facility NSW	2011/5920	Controlled Action	Completed	In buffer area only
River Dredging Operations	2001/249	Controlled Action	Completed	In feature area
Rutile and Zircon Mining on Stockton Rifle Range	2000/8	Controlled Action	Post-Approval	In buffer area only
Steel Mill	2001/231	Controlled Action	Completed	In buffer area only
Terminal 4 Coal Export Terminal Project, Kooragang Island	2011/6029	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Tomago Road Industrial Subdivision	2007/3343	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Abel Coal Project	2007/3695	Not Controlled Action	Completed	In buffer area only
Blue Gum Vista Estate Residential development off Minmi Road	2004/1507	Not Controlled Action	Completed	In buffer area only
construction of a hydrological control structure at the mouth of Wader Creek and	2002/780	Not Controlled Action	Completed	In buffer area only
Construction of a Jetty	2002/784	Not Controlled Action	Completed	In buffer area only
Controlling Water Levels in Shortland Wetlands	2010/5468	Not Controlled Action	Completed	In buffer area only
Expansion to Kooragang Coal Terminal	2007/3352	Not Controlled Action	Completed	In buffer area only
Fort Scratchley refurbishment works	2005/2283	Not Controlled Action	Completed	In buffer area only
Fort Scratchley site remediation	2005/2075	Not Controlled Action	Completed	In buffer area only
Freeway North Business Park Sub-division and Industrial Development	2008/4569	Not Controlled Action	Completed	In buffer area only
Geological exploration and historical research of convict coal mines beneath For	2004/1421	Not Controlled Action	Completed	In buffer area only
Green & Golden Bell Frog Habitat Enhancement Project	2004/1795	Not Controlled Action	Completed	In feature area
Hexam Train Support Facility	2012/6285	Not Controlled Action	Completed	In buffer area only
Hexham Relief Roads Project	2012/6309	Not Controlled Action	Completed	In buffer area only
Hunter Natural Gas Pipeline	2004/1902	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Industrial and Residential Subdivision, Minmi and Black Hill, Lower Hunter	2008/4603	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Kooragang Coal Terminal Arrival Roads Stage 2 Upgrade, Newcastle, NSW	2014/7229	Not Controlled Action	Completed	In buffer area only
Nelson Bay Rd and Seaside Blvd intersection development, Nelson Bay, NSW	2019/8433	Not Controlled Action	Completed	In buffer area only
Newcastle Inner City Bypass - Sandgate to Shortland	2007/3633	Not Controlled Action	Completed	In feature area
Northlakes Estate Residential Subdivision	2009/5111	Not Controlled Action	Completed	In buffer area only
Proposed maintenance and manufacturing facility to support industrial activities	2007/3592	Not Controlled Action	Completed	In buffer area only
Queensland Hunter Gas Pipeline, approximately 833 km in length	2008/4620	Not Controlled Action	Completed	In buffer area only
Revised alignment Hunter Natural Gas Pipeline	2005/2470	Not Controlled Action	Completed	In buffer area only
Richmond Vale Rail Trail	2019/8568	Not Controlled Action	Completed	In buffer area only
sale of property located at 96, Hunter Street	2003/1097	Not Controlled Action	Completed	In buffer area only
Sandgate Rail Grade Separation	2005/1948	Not Controlled Action	Completed	In feature area
Shorebird and wader habitat rehabilitation	2001/457	Not Controlled Action	Completed	In buffer area only
Stockpiling of lump coal up to 40,000 tonnes	2003/1304	Not Controlled Action	Completed	In buffer area only
Tomago Aluminium Rod & Conductor Manufacturing Facility	2011/6085	Not Controlled Action	Completed	In buffer area only
Tomago to Tomaree Electricity Supply Upgrade	2003/1023	Not Controlled Action	Completed	In feature area
Tomago Trunk Watermain Upgrade	2008/4049	Not Controlled Action	Completed	In buffer area only
Tomago Wetland Rehabilitation Project	2011/5894	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Fort Wallace Residential Development Proposal, north of Newcastle, NSW	2017/7951	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
Kooragang Island coal export terminal	2006/2987	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Kooragang Island Waste Emplacement Facility Closure Works	2012/6464	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Rehabilitation of Hexham Swamp	2003/1244	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Star of the South Offshore Surveys	2019/8525	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
TransGrid 132kV Power Transmission Line	2002/794	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Wastewater Transfer Scheme	2011/5985	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Referral decision				
Breeding program for Grey Nurse Sharks	2007/3245	Referral Decision	Completed	In buffer area only

Biologically Important Areas			[Resource Information]	
Scientific Name		Behaviour	Presence	Buffer Status
Dolphins				
Tursiops aduncus				
Indo-Pacific/Spotted Bottlenose Dolphin [68418]		Foraging	Known to occur	In feature area

Seabirds				
Ardenna grisea				
Sooty Shearwater [82651]		Foraging	Likely to occur	In buffer area only
Ardenna pacifica				
Wedge-tailed Shearwater [84292]		Foraging	Likely to occur	In buffer area only
Ardenna tenuirostris				
Short-tailed Shearwater [82652]		Foraging	Likely to occur	In buffer area only

Sharks				
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Scientific Name	Behaviour	Presence	Buffer Status
Carcharias taurus			
Grey Nurse Shark [64469]	Foraging	Known to occur	In buffer area only

Whales			
Eubalaena australis			
Southern Right Whale [40]	Migration		In buffer area only
Eubalaena australis			
Southern Right Whale [40]	Reproduction		In buffer area only
Megaptera novaeangliae			
Humpback Whale [38]	Migration (north and south)	Known to occur	In buffer area only

Bioregional Assessments			[Resource Information]
SubRegion	BioRegion	Website	Buffer Status
Hunter	Northern Sydney Basin	BA website	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

Appendix C

BOS important habitat mapping



Important habitat mapping in blue for the six migratory species: Alaskan Bar-tailed Godwit (*Limosa lapponica baueri*), Black-tailed Godwit (*Limosa limosa*), Curlew Sandpiper (*Calidris ferruginea*), Eastern Curlew (*Numenius madagascariensis*), Red Knot (*Calidris canutus*) and Terek Sandpiper (*Xenus cinereus*). Yellow polygon represents the rail corridor lot within the investigation area (NSW DCCEEW, 2026g).

