

Attachment 2 – Likelihood of Occurrence assessments

Table 1: Threatened Flora

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Study area
<i>Androcalva procumbens</i>		V	Grows in sandy sites, often along roadsides, mainly confined to the Dubbo-Mendooran-Gilgandra region, but also in the Pilliga and Nymagee areas Recorded in Eucalyptus dealbata and Eucalyptus sideroxylon communities, Melaleuca uncinata scrub, under mallee eucalypts with a Calytrix tetragona understorey, and in a recently burnt Ironbark and Callitris area	Unlikely. No records have been found in the locality which is largely outside of the known areas of occurrence. Associated species/communities are also largely absent within the Study area
<i>Asperula asthenes</i>	Trailing Woodruff	V	This species is found in scattered locations from Bulahdelah north to near Kempsey, with several records from the Port Stephens / Wallis Lakes area / Forster (including Myall Lakes NP, New England NP, Wallingat NP and Darawnk NR). Occurs in damp sites, often along river banks	Unlikely. No records have been found in the locality and associated habitats are largely absent from the study area

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Study area
<i>Cryptostylis hunteriana</i>		V	The Leafless Tongue-orchid has been reported to occur in a wide variety of habitats including heathlands, heathy woodlands, sedgelands, Xanthorrhoea spp. plains, dry sclerophyll forests (shrub/grass sub-formation and shrubby sub-formation), forested wetlands, freshwater wetlands, grasslands, grassy woodlands, rainforests and wet sclerophyll forests (grassy sub-formation). Soils are generally considered to be moist and sandy, however, this species is also known to grow in dry or peaty soils.	Unlikely. No records have been found in the locality which is largely outside of the known areas of occurrence.
<i>Cynanchum elegans</i>	White-flowered Wax Plant	E	Occurs on the edge of dry rainforest vegetation. Other associated vegetation types include littoral rainforest; Coastal Tea-tree <i>Leptospermum laevigatum</i> – Coastal Banksia <i>Banksia integrifolia</i> subsp. <i>integrifolia</i> coastal scrub; Forest Red Gum <i>Eucalyptus tereticornis</i> aligned open forest and woodland; Spotted Gum <i>Corymbia maculata</i> aligned open forest and woodland; and Bracelet Honeymyrtle <i>Melaleuca armillaris</i> scrub to open scrub	Unlikely. No records have been found in the locality and suitable habitat (ie dry rainforest vegetation) is largely absent from the Study area.

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Study area
<i>Dichanthium setosum</i>	bluegrass	V	Associated with heavy basaltic black soils and red-brown loams with clay subsoil. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. Associated species include <i>Eucalyptus albens</i> , <i>Eucalyptus melliodora</i> , <i>Eucalyptus viminalis</i> , <i>Aristida ramosa</i> , <i>Themeda triandra</i> , <i>Poa sieberiana</i> , <i>Bothriochloa ambigua</i> and <i>Austrodanthonia</i> , <i>Dichopogon</i> , <i>Brachyscome</i> , <i>Vittadinia</i> , <i>Wahlenbergia</i> and <i>Psoralea</i> species	Unlikely. No records have been found in the locality. Although some associated species are present within the Study area, appropriate soils for this species are not present.
<i>Eucalyptus glaucina</i>	Slaty Red Gum	V	The Slaty Red Gum is only found on the north coast of NSW in two separate districts. It is found near Casino where it is locally common and further south from Taree to Broke and west of Maitland. It has been observed in a variety of habitats including shallow soils or stony hillsides, but not on poor sandstones; grassy woodlands on deep, moderately fertile and well watered soil; and gentle slopes near drainage lines in alluvial and clayey soils	Possible. The species has been recorded in the wider locality and associated vegetation communities are present within the study area. Presence to be determined via targeted surveys
<i>Euphrasia arguta</i>		CE	<i>Euphrasia arguta</i> has only been recorded from relatively few places within an area extending from Sydney to Bathurst and north to Walcha. records of the species noted the following habitats: 'in the open forest country around Bathurst in sub humid places', 'on the grassy country near Bathurst', and 'in meadows near rivers'	Unlikely. No records have been found in the locality which is outside of the known areas of occurrence. Known habitats are absent within the Study area

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Study area
<i>Haloragis exalata</i> <i>subsp. velutina</i>		V	This species occurs on the north coast of NSW and southeastern Queensland. It is plentiful in inaccessible areas of the upper Macleay River. Grows in damp places near watercourses but also occurs in woodland on the steep rocky slopes of gorges	Unlikely. No records have been found in the locality which is outside of the known areas of occurrence. Known habitats are absent within the Study area
<i>Ozothamnus tesselatus</i>		V	Restricted to a few locations in an east-west zone south of Bunnan and between west Bylong and east Ravensworth. Grows in eucalypt woodland	Unlikely. No records have been found in the locality in the last 10 years. The site is just outside of the known areas of occurrence. Known habitats are absent within the Study area
<i>Prasophyllum</i> sp. <i>Wybong</i>	a leek-orchid	CE	Endemic to NSW, it is known from near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell, Tenterfield, Currabubula and the Pilliga area. The distribution of this species overlaps with the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland EPBC Act-listed threatened ecological community	Unlikely. White Box-Yellow Box-Blakely's Red Gum Grassy Woodland occurs within the Study area but no records are present for the locality. Study area is outside of the known distribution/populations
<i>Pterostylis gibbosa</i>	Pouched Greenhood	E	Known from a small number of populations in the Hunter region (Milbrodale), the Illawarra region (Albion Park and Yallah) and the Shoalhaven region (near Nowra). Grows in open forest or woodland, on flat or gently sloping land with poor drainage. In the Hunter region, the species grows in open woodland dominated by Narrow-leaved Ironbark, Forest Red Gum and Black Cypress Pine	Unlikely. No records are present for the locality which is outside of the known areas of occurrence. Woodland areas in the study area are not dominated by the associated species.

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Study area
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	V	The Magenta Lilly Pilly is found only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest. On the central coast Magenta Lilly Pilly occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities	Unlikely. No records have been found in the locality which is just outside of the known areas of occurrence. Known habitats are absent within the Study area
<i>Thesium australe</i>	Austral Toadflax	V	Found in very small populations scattered across eastern NSW. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. Often found in association with Kangaroo Grass (<i>Themeda triandra</i>).	Low - no records for the locality but the associated species <i>Themeda triandra</i> is also present within derived native grasslands within the Study area. Presence to be determined via targeted surveys
<i>Tylophora linearis</i>		E	Majority of records occur in the central western region. Grows in dry scrub and open forest. Recorded from low-altitude sedimentary flats in dry woodlands of <i>Eucalyptus fibrosa</i> , <i>Eucalyptus sideroxylon</i> , <i>Eucalyptus albens</i> , <i>Callitris endlicheri</i> , <i>Callitris glaucophylla</i> and <i>Allocasuarina luehmannii</i> . Also grows in association with <i>Acacia hakeoides</i> , <i>Acacia lineata</i> , <i>Melaleuca uncinata</i> , <i>Myoporum</i> species and <i>Casuarina</i> species.	Unlikely. No records have been found in the locality and associated species are largely absent from the study area

Table 2: Threatened Fauna

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
Amphibians				
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	<p>The Giant Burrowing Frog is distributed in south eastern NSW and Victoria, and appears to exist as two distinct populations: a northern population largely confined to the sandstone geology of the Sydney Basin extending as far south as Ulladulla, and a southern population occurring from north of Narooma through to Walhalla, Victoria.</p> <p>This species is generally found in heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based.</p>	Unlikely. No records have been found in the locality which is largely outside of the known areas of occurrence. Suitable habitat is largely absent from the subject site
<i>Litoria aurea</i>	Green and Golden Bell Frog	V	<p>The Green and Golden Bell Frog occurs mainly along coastal lowland areas of eastern NSW and Victoria. Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (<i>Typha</i> spp.) or spikerushes (<i>Eleocharis</i> spp.).</p> <p>Optimum 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.</p>	Unlikely. No records have been found in the locality in the last 10 years. Site is largely outside of the known areas of occurrence. Suitable habitat is largely absent from the subject site

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Litoria booroolongensis</i>	Booroolong Frog	E	Live along permanent streams with some fringing vegetation cover such as ferns, sedges or grasses. Adults occur on or near cobble banks and other rock structures within stream margins	Unlikely. Suitable habitat with appropriate vegetation and structures are absent
<i>Mixophyes balbus</i>	Stuttering Frog	V	The Stuttering Frog is restricted to the eastern slopes of the Great Divide, from the Cann River catchment in far East Gippsland, Victoria, to tributaries of the Timbarra River near Drake, New South Wales. The species occurs over an altitudinal range of 20 to over 1400 m, generally lower in the south and higher in the north. This species is found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Outside the breeding season adults live in deep leaf litter and thick understorey vegetation on the forest floor.	Unlikely. No records have been found in the locality in the last 10 years. Suitable habitat is largely absent from the subject site
Birds				

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Anthochaera phrygia</i>	Regent Honeyeater	CE	In NSW the distribution is very patchy and 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, that 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	Low. No records in the locality and study area is outside the main breeding areas. However, species is highly mobile and some key foraging species are present within the study area
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (<i>Typha</i> spp.) and spikerushes (<i>Eleocharis</i> spp.)	Unlikely. No suitable wetland habitat is present
<i>Calidris ferruginea</i>	Curlew Sandpiper	CE	Generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. Inland records in wetland and estuaries are likely of birds pausing during migration	Unlikely. Estuarine, littoral and intertidal habitats are absent
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E	Habitat for central and southern populations is characterised by dense, low vegetation including heath and open woodland with a heathy understorey. In northern NSW the habitat occurs in open forest with dense tussocky grass understorey and sparse mid-storey near rainforest ecotone; all of these vegetation types are fire prone.	Unlikely, heath and heathy understorey habitats are absent

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Erythrotriorchis radiatus</i>	Red Goshawk	V	Inhabit open woodland and forest, preferring a mosaic of vegetation types, a large population of birds as a source of food, and permanent water. Are often found in riparian habitats along or near watercourses or wetlands. Preferred habitats in NSW include mixed subtropical rainforest, Melaleuca swamp forest and riparian Eucalyptus forest of coastal rivers	Unlikely. Preferred habitats for this species are largely absent and there are no records for the locality
<i>Grantiella picta</i>	Painted Honeyeater	V	Inhabits Boree/ Weeping Myall (<i>Acacia pendula</i>), Brigalow (<i>A. harpophylla</i>) and Box-Gum Woodlands and Box-Ironbark Forests. A specialist feeder on the fruits of mistletoes with a preference for the genus <i>Amyema</i>	Unlikely. Some habitat present but vegetation largely lacks the requisite mature trees and mistletoe. No records in the locality
<i>Hirundapus caudacutus</i>	White-throated Needletail	V	Is almost exclusively aerial in Australia. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest and less commonly recorded above woodland	Possible. Individuals have been recorded in the locality and the species is highly mobile

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Lathamus discolor</i>	Swift Parrot	CE	<p>Occur in mainland areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations.</p> <p>Favoured feed trees include winter flowering species such as <i>Eucalyptus robusta</i>, <i>Corymbia maculata</i>, <i>C. gummifera</i>, <i>E. sideroxylon</i>, and <i>E. albens</i>. Commonly used lerp infested trees include <i>E. microcarpa</i>, <i>E. moluccana</i> and <i>E. pilularis</i>.</p>	Possible. Some favoured feed trees present and there are records in the locality. Occurrence is likely to be limited to fly-throughs as part of a wider migratory range
<i>Numenius madagascariensis</i>	Eastern Curlew	CE	Has a primarily coastal distribution across all states but is curlews are rarely recorded inland.	Unlikely. Suitable habitat is absent.
<i>Rostratula australis</i>	Australian Painted Snipe	E	<p>Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber.</p> <p>Forages nocturnally on mud-flats and in shallow water</p>	Unlikely. Suitable habitat is absent.
Mammals				

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin. Found in well-timbered areas containing gullies.	Likely. Potential calls were recorded on ultrasonic detectors at four locations during surveys by Cumberland Ecology (awaiting specialist verification at time of preparation of referral). Scattered records for individuals have been recorded in the locality and the species is highly mobile. Breeding/roosting habitat is absent from the study area but species is likely to utilise habitats as part of a wider foraging range
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	E	Occurs in wide variety of habitats; rainforest, open forest, woodland, coastal heath and riparian forest. Uses hollows in trees, logs and rock crevasses as den sites.	Possible. Several records are present for the locality and the species is relatively mobile with males occupying very large home ranges from 500 to over 4000 hectares. Den sites are limited within the study area but species may utilise habitats as part of a wider range

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	V	Inhabits a variety of vegetation types, including mallee, bulloke <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. Roosts in tree hollows, crevices, and under loose bark. The species' stronghold is in the Pilliga Scrub region of the Murray-Darling Basin	Unlikely. Although some marginal habitat is present, there are no records in the locality and the Project lies outside the known distribution for this species.
<i>Petauroides volans</i>	Greater Glider	V	Is typically found in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows	Unlikely. Suitable habitat is absent and there are limited to no records in the locality in the last 10 years
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	V	Occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north. Shelter or bask during the day in rock crevices, caves and overhangs	Unlikely. Suitable habitat is absent and there are no records in the locality
<i>Phascolarctos cinereus</i>	Koala	V	Inhabits eucalypt woodlands and forests, feeding on the leaves of <i>Eucalyptus</i> species. They feed on the foliage of more than 70 <i>Eucalypt</i> species and 30 non-eucalypt species.	Low. Known feed trees are present and recent records are present for the locality. However the distribution between patches with food trees is fragmented by large grassland areas that limit movement.

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Potorous tridactylus tridactylus</i>	Long-nosed Potoroo	V	The Long-nosed Potoroo (SE Mainland) is sparsely distributed along the coast and Great Dividing Range of south-east Queensland through NSW It can be found in wet eucalypt forests to coastal heaths and scrubs. The main factors would appear to be access to some form of dense vegetation for shelter and the presence of an abundant supply of fungi for food.	Unlikely. Suitable habitat is absent and there are no records in the last 10 years. Older records in the locality are largely limited to National Parks areas and other conserved lands
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	V	Known to inhabit open heathland, open woodland with a heathland understorey and vegetated sand dunes	Unlikely. Suitable habitat is limited to woodland areas which have limited understorey and there are no records in the locality for the last 10 years. Older records in the locality are largely limited to National Parks areas and other conserved lands
<i>Pseudomys oralis</i>	Hastings River Mouse,	E	A patchy distribution spanning the Great Dividing Range from the Hunter Valley, south of Mt Royal, north to the Bunya Mountains near Kingaroy in south-east Queensland. Species occurs in a variety of dry open forest types with dense, low ground cover and a diverse mixture of ferns, grass, sedges and herbs. Species requires access to seepage zones, creeks and gullies as well as permanent shelter such as rocky outcrops and fallen logs.	Unlikely. Suitable habitat is absent and there are no records in the locality

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Commonly found in gullies, close to water, in vegetation with a dense canopy.	Low. No known roosting camps are present within daily foraging range for this species and limited records are present for the locality. May occasionally pass through the site as part of a wider foraging range
Reptiles				
<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V	The Pink-tailed Legless Lizard is only known from the Central and Southern Tablelands, and the South Western Slopes. There is a concentration of populations in the Canberra/Queanbeyan Region. Other populations have been recorded near Cooma, Yass, Bathurst, Albury and West Wyalong. This species inhabits sloping, open woodland areas with predominantly native grassy groundlayers, particularly those dominated by Kangaroo Grass (<i>Themeda australis</i>). Sites are typically well-drained, with rocky outcrops or scattered, partially-buried rocks.	Unlikely. While associated habitat features are present, the site is not within the known distribution range of the species

Table 3: Migratory Species

Scientific Name	Common name	EPBC Act Status	Habitat Requirements	Likelihood of Occurrence within Project Boundary
Migratory Marine Birds				
Apus pacificus	Fork-tailed Swift	M	<p>The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. They sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines. They forage aerially, up to hundreds of metres above ground, but also less than 1 m above open areas or over water. They often occur in areas of updraughts, especially around cliffs.</p>	<p>Low to unlikely. No records in the locality but some potential foraging habitat is present</p>

Haliaeetus leucogaster	White-bellied Sea-Eagle	M	Habitats are 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.	Low to unlikely. Records are present for the locality but habitats within the site are limited and sub-optimal. May pass through the area as part of a movement route
Merops ornatus	Rainbow Bee-eater		Inhabit healthland, open forests and woodlands, shrublands, and various cleared or semi-cleared habitats, including farmland and areas of human habitation. Often occur in open, cleared or lightly-timbered areas located in close proximity to permanent water.	Possible. Habitats are present within the study area. Occurrence is likely to largely comprise fly-overs as part of a larger migratory path
Migratory Terrestrial Species				
Cuculus optatus	Oriental Cuckoo		The species is found in forest canopy, open wooded areas and orchards, often in hill country, also in coniferous forest and in birch (Betula) above the tree-line. It is a brood parasite, mainly using the nests of small warblers of the Phylloscopus genus. It winters in the Malay Peninsula and Philippines and south through Sumatra, Java, Borneo, Sulawesi, Moluccas, Lesser Sundas and New Guinea, to the coastal parts of northern and eastern Australia	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range

Hirundapus caudacutus	White-throated Needletail	V, M	Is almost exclusively aerial in Australia. Although they occur over most types of habitat, they are probably recorded most often above wooded areas, including open forest and rainforest and less commonly recorded above woodland	Possible. Individuals have been recorded in the locality and the species is highly mobile
Monarcha melanopsis	Black-faced Monarch	M	Mainly occurs in rainforest ecosystems, including regrowth rainforest. Sometimes found in nearby open eucalypt forests (mainly wet sclerophyll forests) especially in gullies.	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range
Monarcha trivirgatus	Spectacled Monarch	M	Mainly occurs in dense rainforests and moist eucalypt forests of eastern and north-eastern Australia but sometimes also inhabits mangroves and other densely vegetated habitats. The species occurs at all strata of the forest, but stays mostly in the middle to lower levels	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range
Motacilla flava	Yellow Wagtail	M	Found in well-watered open grasslands and the fringes of wetlands. Roosts in mangroves and other dense vegetation	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range
Myiagra cyanoleuca	Satin Flycatcher	M	Particularly common in tall wet sclerophyll forest, often in gullies or along water courses. In woodlands they prefer open, grassy woodland types. During migration the species is recorded in most wooded habitats	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range

Rhipidura rufifrons	Rufous Fantail	M	Mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallow-wood (<i>Eucalyptus microcorys</i>), Mountain Grey Gum (<i>E. cypellocarpa</i>), Narrow-leaved Peppermint (<i>E. radiata</i>), Mountain Ash (<i>E. regnans</i>), Alpine Ash (<i>E. delegatensis</i>), Blackbutt (<i>E. pilularis</i>) or Red Mahogany (<i>E. resinifera</i>); usually with a dense shrubby understorey often including ferns. They also occur in subtropical and temperate rainforests. When on passage, they are sometimes recorded in drier sclerophyll forests and woodlands, including Spotted Gum (<i>Eucalyptus maculata</i>), Yellow Box (<i>E. melliodora</i>), ironbarks or stringybarks, often with a shrubby or heath understorey.	Low to unlikely. Preferred habitat is absent/limited but may pass through the Project Boundary as part of a wider migratory range
Migratory Wetland Species				

Actitis hypoleucos	Common Sandpiper	M	Found along all coastlines of Australia and in many areas inland, the Common Sandpiper is widespread in small numbers. The population when in Australia is concentrated in northern and western Australia. The species utilises a wide range of coastal wetlands and some inland wetlands, with varying levels of salinity, and is mostly found around muddy margins or rocky shores and rarely on mudflats. The Common Sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties	Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species
Calidris acuminata	Sharp-tailed Sandpiper	M	The Sharp-tailed Sandpiper spends the non-breeding season in Australia with small numbers occurring regularly in New Zealand. Most of the population migrates to Australia, 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. They are widespread in most regions of New South Wales (NSW), especially in coastal areas	Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species
Calidris ferruginea	Curlew Sandpiper	M	Generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. Inland records in wetland and estuaries are likely of birds pausing during migration	Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species

Calidris melanotos	Pectoral Sandpiper	M	<p>In New South Wales (NSW), the Pectoral Sandpiper is widespread, but scattered. Records exist east of the Great Divide, from Casino and Ballina, south to Ulladulla. West of the Great Divide, the species is widespread in the Riverina and Lower Western regions. It 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. It prefers wetlands that have open fringing mudflats and low, emergent or fringing vegetation, such as grass or samphire. The species has also been recorded in swamp overgrown with lignum.</p>	<p>Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species</p>
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Gallinago hardwickii	Latham's Snipe	M	<p>Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. The species has been recorded along the east coast of Australia from Cape York Peninsula through to south-eastern South Australia. The range extends inland over the eastern tablelands in south-eastern Queensland (and occasionally from Rockhampton in the north), and to west of the Great Dividing Range in New South Wales. In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level and usually inhabits open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies) They can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity.</p>	<p>Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species</p>
Numenius madagascariensis	Eastern Curlew	M	<p>Has a primarily coastal distribution across all states but are rarely recorded inland. It is found on intertidal mudflats and sandflats, often with beds of seagrass, on sheltered coasts, especially estuaries, mangrove swamps, bays, harbours and lagoons.</p>	<p>Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species</p>

Pandion haliaetus	Osprey	M	<p>Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia. They require extensive areas of open fresh, brackish or saline water for foraging and frequent a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes</p>	<p>Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species</p>
Tringa nebularia	Common Greenshank	M	<p>The species has been recorded in most coastal regions. It is 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. It is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity and occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms.</p>	<p>Unlikely. Wetland habitats within the study area are limited to small farm dams that do not provide suitable habitat for this species</p>

Table 4: Vegetation Communities

Common name	EPBC Act Status	Mapped within Study Area
Central Hunter Valley eucalypt forest and woodland	CE	Yes
Hunter Valley Weeping Myall (<i>Acacia pendula</i>) Woodland	CE	No
Lowland Rainforest of Subtropical Australia	CE	No
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CE	Yes