

# Appendix E

## Likelihood of occurrence

The following tables present the likelihood of occurrence assessments for species listed under the EPBC Act which appeared in searches of the PMST and WildNet. The first table presents the threatened species, the second table presents the migratory species.

For the purpose of this assessment pelagic, Antarctic species (petrels, albatross), and vagrants have been excluded. A total of 80 threatened species (27 flora, three amphibians, 31 birds, one crustacean, four fish, one insect, 10 mammals, and three reptiles) and 17 migratory species (all birds) listed under the EPBC Act have been captured and assessed below. The search results are presented in Appendix D (updated 4 July 2025).

The habitat assessments for the species have been derived from the SPRAT, Atlas of Living Australia, or other relevant databases. The likelihood of occurrence was initially created through desktop assessment. These have been updated in line with the observations made during the site assessments. Relevant information is presented in the reasoning column of the tables.

## Threatened species

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<b>Amphibian</b>					
<i>Litoria olongburensis</i>	Wallum sedge frog	Vulnerable	Found in ephemeral, seasonal and permanent wetlands with emergent reeds, ferns and/or sedges, in undisturbed coastal wallum swamps, restricted to acidic soils (pH 3-6) and wetlands.	Unlikely	No suitable habitat present within the disturbance footprint
<i>Mixophyes fleayi</i>	Fleay's frog	Endangered	Associated with montane rainforest and open forest communities adjoining rainforest. The species occurs along stream habitats from first to third order streams (i.e. small streams close to their origin through to permanent streams with grades of 1 in 50) and is not found in ponds or ephemeral pools. Adults may be found in leaf litter and along watercourses in rainforest and adjoining wet sclerophyll forests.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Mixophyes iteratus</i>	Giant barred frog	Vulnerable	Occurs in rainforests and wet sclerophyll forests in upper to lower catchment areas, below 610 m altitude. They prefer a closed forest canopy with a relatively light cover of vegetation at ground level.	Unlikely	No suitable habitat for the species within the disturbance footprint
<b>Bird</b>					
<i>Anthochaera phrygia</i>	Regent honeyeater	Critically Endangered	As of June 2020 their range covers from north-east Victoria up to around the Sunshine Coast, Queensland, but the population is now scattered. The Regent Honeyeater is most commonly associated with box-ironbark eucalypt woodland and dry sclerophyll forest, but also inhabits riparian vegetation and lowland coastal forest. It can be found in a range of other habitats including remnant trees in farmland, roadside reserves and travelling stock routes, and in planted vegetation in parks and gardens. Essentially a canopy bird, it is reliant on select species of eucalypt and mistletoe which provide rich nectar flows. Regent honeyeaters may use different areas in different years depending on food resources.	Unlikely	No suitable habitat for the species within the disturbance footprint. Lack of mistletoe observed during the site assessments.
<i>Ardenna grisea</i>	Sooty shearwater	Vulnerable, Migratory	The species is found in the southern hemisphere during summer, breeding around New Zealand, southern Australia and southern South America. The Australian breeding population is around 6,500 on islands off New South Wales and Tasmania. The species may occupy a range of oceanic habitat types. Key Biodiversity Areas for the Sooty shearwater include: Cabbage Tree and Boondelbah Islands, Macquarie Island, Tasman Island and Hippolyte Rocks.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Arenaria interpres</i>	Ruddy turnstone	Vulnerable, Migratory	In Australasia, the Ruddy Turnstone is mainly found on coastal regions with exposed rock coast lines or coral reefs. In north Australia it is known to occur in a wide variety of habitats, and may prefer wide mudflats.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Botaurus poiciloptilus</i>	Australasian bittern	Endangered	Occurs mainly in freshwater wetlands and, rarely, in estuaries or tidal wetlands. It favours wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate	Unlikely	No suitable habitat present within the disturbance footprint
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	Vulnerable, Migratory	In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Calidris canutus</i>	Red knot	Endangered, Migratory	Inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Calidris ferruginea</i>	Curlew sandpiper	Critically Endangered, Migratory	Occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters	Unlikely	No suitable habitat present within the disturbance footprint
<i>Calidris tenuirostris</i>	Great knot	Critically Endangered, Migratory	In Australasia, the species typically prefers sheltered coastal habitats, with large intertidal mudflats or sandflats.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Calyptorhynchus lathami lathami</i>	South-eastern glossy black-cockatoo	Vulnerable	<p>South-eastern glossy black-cockatoos rely on nine species of sheoaks (<i>Allocasuarina</i> spp. and <i>Casuarina</i> spp.) for feeding, with species used varying depending on the region. Birds often only feed on one or two species in one region. In South East Queensland and north-east New South Wales, they show preference for black sheoak (<i>A. littoralis</i>) and forest sheoak (<i>A. torulosa</i>), although there are also records of them feeding on stringybark sheoak (<i>A. inophloia</i>), coastal sheoak (<i>C. equisetifolia</i>), and to a lesser extent river sheoak (<i>C. cunninghamiana</i>) and swamp sheoak (<i>C. glauca</i>) during limited times of the year (Glossy Black Conservancy 2010).</p> <p><b>Distribution</b></p> <p>South-eastern glossy black-cockatoos are uncommon but widespread. They can be found from Mitchell, Queensland, through eastern New South Wales to East Gippsland, Victoria. Their distribution is continuous through the forested parts of the Great Dividing Range but becomes more scattered inland, to as far west as the Riverina in New South Wales.</p> <p>One record exists of the South-eastern glossy black-cockatoo occurring within Caloundra, dated January 1980. The distribution of the species is recorded to be predominately inland, with high occurrence records within the Glass House Mountains National Park, Conondale National Park and Mapleton National Park.</p>	Potential	Suitable habitat present within the disturbance footprint.

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
			<p><b>Abundance</b></p> <p>The South-eastern glossy black-cockatoo population has undergone a substantial reduction (30-50%) in the last three generations, due to bushfires and historical and ongoing habitat loss. In 2021, the estimated total number of mature individuals was 7,500.</p> <p>Due to the lack of occurrence records in Caloundra, the abundance of the species in this area is likely to be low.</p> <p>Specific habitat mapping criteria for this species can be found in Section 3.9</p>		
<i>Charadrius leschenaultii</i>	Greater sand plover	Vulnerable, Migratory	In the non-breeding grounds in Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Charadrius mongolus</i>	Lesser sand plover	Endangered, Migratory	In non-breeding grounds in Australia, this species usually occurs in coastal littoral and estuarine environments. It inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	Vulnerable	Brown treecreepers (south-eastern) occupy dry open eucalypt forests and woodlands. The subspecies mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species	Unlikely	Subspecies present within the broader region is likely <i>Climacteris picumnus picumnus</i> and not <i>Climacteris picumnus victoriae</i>
<i>Cyclopsitta diophthalma coxeni</i>	Coxen's Fig-Parrot	Critically Endangered	Lowland subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, sub-littoral mixed scrub, riparian corridors in woodland, and across cleared, urbanised and agricultural areas with fig trees ( <i>Ficus</i> spp).	Unlikely	Following field work it was determined that the extent of the rainforest habitat previously noted in the desktop assessment does not appear to extend into the disturbance footprint
<i>Erythrotriorchis radiatus</i>	Red goshawk	Endangered	The Red goshawk is distributed along the east coast of Queensland, Cape York Peninsula and across into northern regions of Australia. It is estimated the species population is limited to the bioregions of the Wet Tropics, Cape York Peninsula and Mount Isa in Queensland. The Red goshawk typically occurs in both coastal and sub-coastal areas, in wooded and forested lands of tropical and warm-temperate Australia. Riverine forests are also used frequently. The Red goshawk nests in large trees, frequently the tallest and largest in a stand, which are typically within one kilometre of a permanent water source. This species typically avoids very dense, and very open habitats. The species occupies large home ranges estimated to be up to 120 km <sup>2</sup> (females) and 200 km <sup>2</sup> (males). Preferred habitat requirements are extensive tracts or remnant woodlands/forests on fertile soils with a mosaic of vegetation types, access to permanent water, and large populations of birds.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Falco hypoleucos</i>	Grey Falcon	Vulnerable	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.	Unlikely	No suitable habitat present within the disturbance footprint
<i>Gallinago hardwickii</i>	Latham's snipe	Vulnerable, Migratory	Latham's snipe is a non-breeding visitor to southeastern Australia, a passage migrant through northern Australia i.e. it travels through northern Australia to reach non-breeding areas located further south. The species has been recorded along the east coast of Australia from Cape York Peninsula, through to southeastern South Australia.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable, Migratory	In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1,000 m above the ground	Unlikely	While the species may be observed overhead, they are unlikely to be utilising the habitat within the disturbance footprint
<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered	<p>Flowering woodlands and forests. Location varies with food availability as the feed on psyllid lerps, seeds and fruit.</p> <p><b>Distribution</b></p> <p>The swift parrot breeds in Tasmania during the summer and the entire population migrates north to mainland Australia for the winter. They occupy habitats across all tenures, with the majority of habitats occurring outside formal conservation reserves. The breeding range of the swift parrot is largely restricted to the east and south-east coast of Tasmania and closely mirrors the distribution of blue gum (<i>Eucalyptus globulus</i>).</p> <p>Whilst on the mainland the swift parrot disperses widely to forage on flowers and <i>psyllid</i> lerps in <i>Eucalyptus</i> species, with the majority being found in Victoria and New South Wales. Small numbers of swift parrots are observed in the Australian Capital Territory and in south-eastern Queensland on a regular basis.</p> <p>There are currently no records of the swift parrot occurring in Caloundra or surrounding areas within the last 20 years.</p> <p><b>Abundance</b></p> <p>In 2011, the population estimate for the swift parrot was 2,000 birds and was considered to be declining. There are no recent estimates of the number of swift parrots in the wild. As the previous estimate was made in 2011 and the population was thought to be declining then, the population is now likely considerably less than 2,000 birds.</p> <p>Given the lack of records of occurrence in Caloundra, abundance of the species in this area is likely to be low.</p> <p>Specific habitat mapping criteria for this species can be found in Section 3.9</p>	Potential	Suitable feeding and dispersal habitat present within the disturbance footprint. Breeding habitat is absent, species breeds in Tasmania.
<i>Limnodromus semipalmatus</i>	Asian Dowitcher	Vulnerable, Migratory	The species is only a regular visitor to coastal areas between Broome and Port Headland and the Port McArthur tidal wetlands in the Gulf of Carpentaria. Elsewhere, occurrence is sporadic and rare, typically only to the northern and eastern Australian coastline. The species feeds on inter-tidal mudflats. During the non-breeding season, the bird roosts in sheltered coastal environments such as estuarine and intertidal mudflats, lagoons, creeks and saltworks.	Unlikely	Required coastal habitat not present within the disturbance footprint

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Limosa lapponica baueri</i>	Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit	Endangered	Occurs mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has also been recorded in coastal sewage farms and saltworks, salt lakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Limosa limosa</i>	Black-tailed godwit	Endangered, Migratory	Has a primarily coastal habitat environment. The species is commonly found in sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats, or spits and banks of mud, sand or shell-grit; occasionally recorded on rocky coasts or coral islets	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Numenius madagascariensis</i>	Eastern curlew	Critically endangered, Migratory	Within Australia, the Eastern curlew has a primarily coastal distribution and is found in all state and territories. The Eastern curlew can be found foraging and roosting in sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass ( <i>Zosteraceae</i> ). The species is known to inhabit ocean beaches, coral reefs, rock platforms, rocky islets, coastal saltworks and sewage farms. They are often recorded in saltmarshes and near mangrove forests.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	Vulnerable	The burrows of fairy prions (southern) are usually in crevices, in hollows beneath cushions of <i>Colobanthus muscoides</i> (a perennial herb that can form dense mats or cushions up to 250 mm thick and sometimes up to several metres across) or in burrows in peaty soil held together by a thick cover of <i>Cotula plumosa</i> (a short, feathery perennial herb)	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Pluvialis sqatarola</i>	Grey plover	Vulnerable, Migratory	Grey Plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embayment's, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Rostratula australis</i>	Australian painted snipe	Endangered	The Australian painted snipe has been recorded at wetlands in all states and territories of Australia but is most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland. The species generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. The species has also been observed to use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains.	Unlikely	Field surveys found no suitable habitat present within the disturbance footprint
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	Diamond firetails occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover.	Unlikely	Generally, Eucalypt habitat does occur but not in the densities favoured by the species.
<i>Sternula albifrons</i>	Little tern	Vulnerable, Migratory marine	In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Strenula nereis nereis</i>	Australian fairy tern	Vulnerable	Sheltered sandy beaches, spits and banks above high tide lines. Roosts on beaches at night.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Tringa nebularia</i>	Common greenshank	Endangered, Migratory	The Common greenshank habitats include embayment's, harbours, river estuaries, deltas, lagoons, tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats. It will also use artificial wetlands including sewage farms, saltworks, dams, inundated rice crops and bores.	Unlikely	No suitable habitat present within the disturbance footprint
<i>Turnix melanogaster</i>	Black-breasted Buttonquail	Vulnerable	Areas that receive 800 to 1,200 mm annual rainfall with vine thicket rainforests that have a largely closed canopy and deep litter layer.	Unlikely	Suitable habitat present within the disturbance footprint, however annual rainfall is approximately 1580 mm, which is too wet for the species.
<i>Xenus cinereus</i>	Terek sandpiper	Vulnerable, Migratory	The Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayment's, harbours or lagoons. The species has also been recorded on islets, mudbanks, sandbanks and spits, and near mangroves and occasionally in samphire ( <i>Halosarcia spp.</i> )	Unlikely	Required coastal habitat not present within the disturbance footprint
<b>Crustacean</b>					
<i>Cherax robustus</i>	Sand yabby	Vulnerable	The species is restricted to the sandy, lowland coastal areas of Southeast Queensland often referred to as "wallum". Within coastal wallum, the species is primarily found in sedgelands, wet heaths and fens within woodlands/open forests dominated or co-dominated by broad-leafed paperbark. These habitats have low nutrient, siliceous sand soils and low pH ground water. <b>Distribution</b> Within Southeast Queensland, the species is best known on the large sand islands, namely K'gari (Fraser), Bribie, Moreton, North Stradbroke. However, there have been varying reports on the status of the species on the mainland, where it has been reported extinct, or nearly so. On the mainland, it has persisted in the Tin Can Bay area, the Cooloola section of the Great Sandy National Park, and the northern and southern Sunshine Coast. There is one record of the species occurring in Caloundra, dated January 2016. <b>Abundance</b> There is currently insufficient data available to determine a robust estimate of the number of mature individuals. Due to the lack of records of the species occurring in Caloundra, abundance in this area is likely to be low.	Unlikely	No habitat for the species is present within the disturbance footprint.

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<b>Fish</b>					
<i>Epinephelus daemeli</i>	Black rockcod	Vulnerable	The black cod's entire range includes warm temperate and subtropical waters of the south-western Pacific. The species inhabits near-shore rocky and offshore coral reefs at depths down to 50 m. In coastal waters adult black cod are found in rock caves, rock gutters and on rock reefs. Settled juveniles are often found in coastal rock pools while slightly older juveniles are often found in estuary systems. The use of estuaries may be an important part of the ecology of juvenile black cod. Larger juvenile black cod appear to move into adult habitats but hide in rock structures and remain highly cryptic until at least 40 cm in length. There is a general progression to deeper waters as black cod increase in size	Unlikely	Field surveys found no suitable habitat present within the disturbance footprint
<i>Mordacia praecox</i>	Non-parasitic lamprey, Precocious lamprey	Endangered	Unlike most parasitic lamprey species, the precocious lamprey is entirely a freshwater species, completing its life cycle in rivers and never migrating to brackish or marine systems. Consequently, it is restricted to individual river basins. Within each river system, specimens of the precocious lamprey have only been reported relatively close to the coast (< 50 km).	Unlikely	Although the species occurs in the disturbance footprint, no suitable river basins or systems exist in the disturbance footprint
<i>Nannoperca oxleyana</i>	Oxleyan pygmy perch	Endangered	Confined to dystrophic, acidic (p<7), freshwater systems draining through sandy coastal lowlands "wallum" ecosystems. Wallum country is characterised by <i>Banksia</i> dominated heath vegetation growing on siliceous sands. Only found in oligotrophic, slow-flowing pools and backwaters of river channels and tributaries, wetlands, lakes, ponds, and dams. The habitat ranges from low conductivity, clear waters (pH 6 to 6.5) to darkly stained acidic waters (pH 4 to 6), over siliceous sands. Structural habitat is important, including vegetation such as beds of emergent or submergent plants, undercut banks, semi-submerged branches, rootlets, leaf litter and woody debris.	Unlikely	Field surveys found no suitable habitat present within the disturbance footprint
<i>Pseudomugil mellis</i>	Honey blue eye	Endangered	Typically inhabits slightly acidic (pH 4.4-6.8) dune lakes, coastal heath wetlands, and streams with dense aquatic vegetation. Can also be found in clear waterbodies such as creeks and can tolerate water temperatures ranges from 11 to 38 degrees Celsius and clear or tannin-stained water with very low levels of dissolved mineral salts. Typically found in permanent waters with little or no flow and with sandy or muddy substrate. Emergent and submerges aquatic vegetation is essential for shelter, foraging and reproduction.	Unlikely	Field surveys found no suitable habitat present within the disturbance footprint
<b>Insect</b>					
<i>Argynnis hyperbius inconstans</i>	Australian fritillary	Critically Endangered	The Australian fritillary has been recorded in scattered locations across south-eastern Queensland and north-eastern New South Wales. The subspecies appears to have had a core distribution between Gympie in Queensland and Port Macquarie in NSW, although there are historical records which extend beyond this range. The subspecies has been recorded as far north as Mt Bellenden Ker in Queensland, and as far south as the Hunter Valley in NSW. The Australian fritillary was, at times, considered to have been common at certain locations. It was reported to be abundant around Gympie at intervals between 1977 and 1994, and around Port Macquarie in 1977, 1985 and 1994. However, the subspecies experienced declines throughout the 1980s and 1990s. In 1994, Dunn et al. estimated that the subspecies' distribution had contracted by 80 percent. The Australian fritillary is restricted to areas where its larval food plant, <i>Viola betonicifolia</i> (the arrowhead violet), occurs.	Unlikely	Limited suitable habitat present within the disturbance footprint, and while the food plant <i>Viola benonicifolia</i> has the potential to occur within Melaleuca forests it was not observed during the site assessments.
<b>Mammal</b>					
<i>Chalinolobus dwyeri</i>	Large-eared pied bat	Endangered	The former and current distribution of the Large-eared pied bat is poorly known. Records for current distribution exist from Shoalwater Bay and inland to Carnarvon in Queensland, through to Ulladulla, in NSW. This species require a combination of sandstone cliffs/escarpments to provide roosting habitat that is adjacent to higher fertility sites (particularly box gum woodlands or river/rainforest corridors which are used for foraging). They have been observed in disused mine shafts, caves, overhangs and disused Fairy martin ( <i>Hirundo ariel</i> ) nests for shelter and to raise young. This species possibly also roosts in tree hollows, within dry and wet sclerophyll forest, Cyprus-pine dominated forest, tall open eucalypt forest with a rainforest sub-canopy, sub-alpine woodland, Brigalow and sandstone outcrop country. In southeast Queensland, the species has primarily been recorded from higher altitude, among moist tall open forest adjacent to rainforest.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Dasyurus hallucatus</i>	Northern quoll	Endangered	Known Queensland populations occur as far south as Gracemere and Mt Morgan, to Weipa in the north and west into central Queensland near Carnarvon Range National Park. The Northern quoll can be found in various habitats across its range including rocky areas, eucalypt forest and woodlands, sandy lowlands and beaches, rainforests, shrubland, grasslands and desert. They tend to require a habitat with some form of rocky area for denning purposes and surrounding vegetation used for foraging and dispersal. They are also known to inhabit areas around human dwellings and campgrounds.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Dasyurus maculatus maculatus</i>	Spot-tailed quoll, Spotted-tail quoll, Tiger quoll (southeastern mainland population)	Endangered	Has a preference for mature wet forest habitat, especially in areas with rainfall 600 mm/year. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Macroderma gigas</i>	Ghost bat	Vulnerable	The current distribution of Ghost bat occurs in disjunct colonies that are genetically distinct both regionally and locally. In eastern Queensland they occur from Cape York to near Rockhampton. Habitats occupied across their range include tropical savanna woodlands to rainforest. Day time roosts include caves, rock crevices and old mines that provide a stable temperature and humidity.	Unlikely	No suitable habitat for the species within the disturbance footprint

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Petauroides volans</i>	Greater glider	Endangered	Tall, moist Eucalypt forests and woodlands with relatively old trees and abundant hollows. Tall, moist Eucalypt forests and woodlands with relatively old trees and abundant hollows. The species is largely restricted to eucalypt forests and woodlands. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows, but the distribution may be patchy even in suitable habitat. The greater glider favours forests with a diversity of eucalypt species, due to seasonal variation in its preferred tree species. They tend to prefer more open woodlands with larger spaces between trees, so they have room to glider. The Greater Glider has been reported to feed upon the following species: <i>Eucalyptus tereticornis</i> , <i>Eucalyptus latisinensis</i> , <i>Eucalyptus fibrosa</i> , <i>Eucalyptus moluccana</i> , <i>Corymbia citriodora</i> , <i>Corymbia intermedia</i> , <i>Eucalyptus drepanophylla</i> , <i>Corymbia trachyphloia</i> with lesser amounts of <i>Melaleuca quinquenervia</i> . There is no evidence the species forages on Poplar box ( <i>E. populnea</i> ).	Unlikely	Hollows suitable for the Greater glider were not observed during habitat assessments within the disturbance footprint. However, as noted by the conservation advice for the Greater glider, tree hollows can be difficult to detect from ground-based surveys and trees with a diameter at breast height over 30 cm can be used as a proxy for tree hollows for the species (DCCEEW, 2022b). There were some suitable eucalypt species within the disturbance footprint with a diameter at breast height over 30 cm, therefore assumed to provide potential breeding spaces. However, with further ecological considerations to the small patch size, location of disturbance contained to the edge of vegetation patches, previous fragmentation, threats to the species and lack of historical records within the area, the disturbance footprint is unlikely to provide potential breeding habitat for hollow obligate species of this size (a head and body length of 24 to 31 cm or more).  The Greater glider is considered unlikely to be present within the disturbance footprint due to the paucity of records (known records >20 km for the Greater glider and the lack of habitat suitable for the species, and this was confirmed with DCCEEW during a meeting held on 19 December 2024.
<i>Petaurus australis australis</i>	Yellow-bellied glider (south-eastern)	Vulnerable	Eucalypt-dominate, Eucalypt-dominated woodlands and forests, including both wet and dry sclerophyll forests. Abundance is highly dependent on habitat suitability, which is in turn determined by forest age and floristics. The subspecies shows a preference for large patches of mature old growth forest that provide suitable trees for foraging and shelter.	Unlikely	Hollows suitable for the Yellow-bellied glider were not observed during habitat assessments within the disturbance footprint. There were some suitable eucalypt species within the disturbance footprint with a diameter at breast height over 30 cm, therefore assumed to provide potential breeding spaces. However, with further ecological considerations to the small patch size, location of disturbance contained to the edge of vegetation patches, previous fragmentation, threats to the species and lack of historical records within the area, the disturbance footprint is unlikely to provide potential breeding habitat for hollow obligate species of this size (a head and body length of 24 to 31 cm or more).  The Yellow-bellied glider is considered unlikely to be present within the disturbance footprint due to the paucity of records (known records >40 km for the Yellow-bellied glider) and the lack of habitat suitable for the species, and this was confirmed with DCCEEW during a meeting held on 19 December 2024.

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Phascolarctos cinereus</i>	Koala	Endangered	<p>Koala habitat can be broadly defined as any environment containing Koala food tree species (<i>Eucalyptus</i> spp., <i>Corymbia</i> spp., <i>Angophora</i> spp. and <i>Lophostemon</i> spp.) or shelter trees. Preferred food and shelter trees are naturally abundant on fertile clayey soils.</p> <p><b>Distribution</b></p> <p>The general distribution of the koala is along the east coast of Australia. In Queensland, the distribution extends across several bioregions, encompassing a great diversity of habitats with the greatest concentration on southeast Queensland.</p> <p>To determine the distribution and occupancy of the species within the disturbance footprint, several survey methods were utilised including bioacoustics, detection dogs and thermal drone surveys. No individuals or evidence of recent use (e.g. scats, scratchings) was detected during the surveys.</p> <p>Historic records from KoalaBase, the State Government's Koala hospital database for public reporting of injured Koalas, indicate that there is unlikely to be resident populations present at the surveyed sites. However, due to the presence of suitable habitat and historic Koala records approximately 2 km away, there is potential for Koalas to distribute into the area in the future. Population density and distribution will vary over time in response to anthropogenic and natural environmental influences such as development, bushfire and extreme weather events.</p> <p><b>Abundance</b></p> <p>In 2012, it was estimated that there were 79,264 koalas in Queensland distributed across 8 bioregional areas. The highest population estimates were reported for three bioregions: Brigalow Belt North (15,179), Mulga Lands (15,286) and South East Queensland (15,821).</p> <p>No resident populations or individuals were recorded within the disturbance footprint during the targeted surveys. Koala abundance within the disturbance footprint is likely to be low based on the results of the surveys and lack of historical records of occurrence.</p> <p>Specific mapping criteria for this species can be found in Section 3.9</p>	Potential	<p>Suitable habitat present within the disturbance footprint and the habitat meets the requirements for habitat critical for the species however no recent Koala occurrence records have been noted. The closest record is 2 km away from 2006.</p> <p>The University of Sunshine Coast completed Koala occupancy surveys in February 2025 within and surrounding the disturbance footprint and Ben Bennet Bushland Park. The surveys included bioacoustics and Koala scat detection dog methodologies. No Koala scats or signs were detected (Appendix J).</p> <p>Endeavour Veterinary Ecology completed a drone survey in 2023 to assess the presence of Koalas in Ben Bennett Bushland Park. No Koalas were detected during the surveys (Appendix K).</p> <p>The Department of Transport and Main Roads have not received reports of Koalas (dead, injured or alive) on Nicklin Way (DTMR pers comms 2025).</p>
<i>Potorous tridactylus tridactylus</i>	Long-nosed potoroo (northern)	Vulnerable	<p>Occurs in a range of vegetation types from coastal scrub and heathy woodland to wet sclerophyll forest and rainforest.</p> <p><b>Distribution</b></p> <p>In general, the long-nosed potoroo has a broad and fragmented distribution. It occurs between sea level and generally up to 800 m above sea level and is restricted to habitats receiving an annual rainfall greater than 760 mm.</p> <p>In Queensland, a few populations of the northern long-nosed potoroo exist in lowland heath and coastal habitats (Wide Bay Military Reserve in Tin Can Bay and nearby K'gari (Fraser Island). Most other known Queensland populations occur further inland and at a higher altitude in forested ranges.</p> <p>There are no records of occurrence of the species in Caloundra. The ALA records suggest a scattered distribution of the species within Beerburum East State Forest, Bellthorpe National Park and Conondale National Park.</p> <p><b>Abundance</b></p> <p>In 2012, the number of mature individuals was estimated to be less than 10,000. During this time, projections estimated a 30% decline over 9–12 years (since 2012). A 30% decline is 250 individuals per year, leaving an estimate of 7,750 individuals in 2021.</p> <p>Long-nosed potoroo abundance within the disturbance footprint is likely to be low, due to a lack of historical records of occurrence.</p> <p>Specific mapping criteria for this species can be found in Section 3.9</p>	Potential	Suitable habitat present within the disturbance footprint
<i>Pteropus poliocephalus</i>	Grey-headed flying-fox	Vulnerable	<p>The Grey-headed flying-fox is a canopy-feeding species that eats fruit and nectar. This species utilises a range of vegetated habitats, including rainforests, open forests, closed and open woodlands, <i>Melaleuca</i> swamps and <i>Banksia</i> woodlands. In an urban setting, this species is known to feed on commercial fruit crops, and on introduced tree species. Roost sites are generally located near water bodies. This species is known to roost in vegetation ranging from rainforest, Melaleuca stands, mangroves and riparian vegetation. The species has a high level of roost site fidelity, although new sites have been known to be colonised.</p> <p><b>Distribution</b></p> <p>The general distribution of the Grey-headed flying-fox occurs across the coastal belt of Eastern Australia, typically ranging from Rockhampton in central Queensland to Melbourne in Victoria.</p> <p>A review of the National Flying-fox Viewer identified two Nationally Important Roost sites in proximity to the Project:</p> <ul style="list-style-type: none"> <li>■ Palmwoods, Jubilee Drive (789), approximately 20 km north-west</li> <li>■ Maroochydore, Stella Maris CS (390), approximately 16 km north</li> </ul> <p><b>Abundance</b></p> <p>In 2014, it was estimated that the total population size of the species was 495,852 (+/- 168, 590) individuals.</p> <p>The population size of the Palmwoods, Jubilee Drive (789) camp was estimated to range from 2,500-9,999 individuals between 2017 and 2018, and 1-499 individuals as of August 2018.</p> <p>The population size of the Maroochydore, Stella Maris CS (390) camp was estimated to range between 1-499 individuals between November 2015 and November 2019.</p> <p>Specific mapping criteria for this species can be found in Section 3.9</p>	Known	Suitable habitat present within the disturbance footprint

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Xeromys myoides</i>	Water mouse	Vulnerable	The species is generally found within mangroves and associated saltmarsh, sedgeland, clay pens, heathlands and freshwater wetlands.	Unlikely	No suitable habitat present within the disturbance footprint
<b>Reptile</b>					
<i>Coeranoscincus reticulatus</i>	Three-toed Snake-tooth Skink	Vulnerable	<p>The Three-toed Snake-tooth Skink has been found in loose, well mulched friable soil, in and under rotting logs, in forest litter, under fallen hoop pine bark and under decomposing cane mulch. Projected foliage cover was estimated at 70–80% at two sites. In the Cooloolo and Fraser Island area, the species is found in forest that grows on silica sand; in upland areas, the species is found in forests occurring on basalt derived soils. In Queensland, the Three-toed Snake-tooth Skink has been recorded in rainforest, closed forest, wet sclerophyll forest, tall open Blackbutt (<i>Eucalyptus pilularis</i>) forest, tall layered open eucalypt forest and closed Brush Box (<i>Lophostemon confertus</i>) forest. It has also been recorded from extensive regrowth in heavily logged areas.</p> <p><b>Distribution</b></p> <p>The Three-toed Snake-tooth Skink occurs from Crescent Head in north-east NSW to Fraser Island in south-east Queensland. In Queensland, it occurs at Binna Burra, Emuvale, Tambourine Mountain, Beechmont, Lamington, and Cunningham's Gap National Park and Cooloolo State Forest.</p> <p>There are no records of the species occurring in Caloundra. The nearest recorded distribution of the species is within and surrounding areas of Maleny, approximately 30 km west from the disturbance footprint.</p> <p><b>Abundance</b></p> <p>Given its cryptic habit, there are no population estimates for the Three-toed Snake-tooth Skink.</p> <p>The abundance of the species within the disturbance footprint is likely to be low, due to the lack of historical records of occurrence.</p> <p>Specific mapping criteria for this species can be found in Section 3.9</p>	Potential	Suitable habitat present within the disturbance footprint
<i>Delma torquata</i>	Collared delma	Vulnerable	The Collared Delma is endemic to southeast Queensland. The known distribution of the species occurs at Lockyer Forest Reserves, Western Creek near Millmerran, the Toowoomba Range eastward to Moggill on the western outskirts of Brisbane. The species typically inhabits Eucalypt-dominated woodlands and open-forests in Queensland RE Land Zones 3, 9 and 10. Recent studies indicate that the species is most frequently associated with open Eucalyptus crebra woodland (canopy cover between 10 to 30%) located on northwest facing slopes. The Collared Delma has been recorded from rocky areas associated with dry open forests, open Eucalypt and acacia woodland with an understorey of native grasses and loose rocks, eucalypt woodland adjacent to semi-evergreen vine thicket. Rocks, fallen timber, leaf litter and in soil cracks provide refuge.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Hemiaspis damelii</i>	Grey snake	Endangered	Cracking clay soils supported by woodlands with water bodies or in areas with small gullies and ditches. Shelters in soil cracks and under rocks, logs and debris.	Unlikely	No suitable habitat for the species within the disturbance footprint
<b>Plant</b>					
<i>Acacia attenuata</i>	NCN	Vulnerable	Occurs on flat coastal lowland plains, at altitudes of lower than 30 m above sea level. Across this range <i>A. attenuata</i> typically occurs in seasonally waterlogged areas of wet heathland or heathland margins, open forest and woodland communities, and specifically on sandy poorly drained soils or peat swamps which are infertile	Unlikely	No suitable habitat. Site footprint is below 30 m elevation.
<i>Acronychia littoralis</i>	Scented acronychia	Endangered	Occurs in coastal areas (<2 km from the sea) in sub-littoral rainforest, usually in transitional zones between littoral rainforest and swamp sclerophyll forest, littoral and coastal cypress pine communities or on the margin of littoral forest and cleared land	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Allocasuarina emuina</i>	Emu mountain sheoak, Mt Emu she-oak	Endangered	Grows in open and closed heath on fine-grained rhyolite rocky slopes (Mt Peregian) and in wallum heath on undulating coastal plain	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Allocasuarina thalassoscopica</i>	NCN	Endangered	The heathland community where <i>A. thalassoscopica</i> is found is floristically diverse. Common species include <i>Leptospermum microcarpum</i> , <i>Melaleuca nodosa</i> and <i>Xanthorrhoea latifolia</i> , with <i>A. thalassoscopica</i> occurring as a significant component of the vegetation. This montane heath habitat is confined to a small number of rocky outcrops in the Sunshine Coast region.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Arthraxon hispidus</i>	Hairy-joint grass	Vulnerable	Found in or on the edges of rainforest and in wet eucalypt forest, often near creeks or swamps	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.
<i>Bosistoa transversa</i>	Three-leaved bosistoa	Vulnerable	<i>Bosistoa transversa</i> grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 300 m in altitude. Associated vegetation includes <i>Argyrodendron trifoliolatum</i> , <i>Syzygium hodgkinsoniae</i> , <i>Endiandra pubens</i> , <i>Dendrocnide photinophylla</i> , <i>Acmena ingens</i> , <i>Diploglottis australis</i> and <i>Diospyros mabacea</i> .	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Cryptocarya foetida</i>	Stinking cryptocarya, Stinking laurel	Vulnerable	Restricted to coastal sands, or if not, then close to the coast, occurring in littoral rainforest on old sand dunes and subtropical rainforests over slate	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Cryptostylis hunteriana</i>	Leafless tongue-orchid	Vulnerable	Occurs in a wide variety of habitats including heathlands, heathy woodlands, sedgeland, <i>Xanthorrhoea spp.</i> plains, dry sclerophyll forests (shrub/grass sub-formation and shrubby sub-formation), forested wetlands, freshwater wetlands, grasslands, grassy woodlands, rainforests and wet sclerophyll forests	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.
<i>Cupaniopsis shirleyana</i>	Wedge-leaf tuckeroo	Vulnerable	Occurs in a variety of dry rainforest vegetation types, including vine thicket communities on hillsides, stream beds and along riverbanks at altitudes up to 550 m above sea level. This species is also likely to occur on the margins of native vegetation in scrubby urbanised areas	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Eucalyptus conglomerata</i>	Swamp Stringybark	Endangered	Occurs on coastal flats up to 30 m above sea level and mostly in the ecotone between wet heath (wallum) and tall open forest communities	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Macadamia integrifolia</i>	Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak	Vulnerable	Grows in remnant rainforest, preferring partially open areas such as rainforest edges	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Macadamia ternifolia</i>	Small-fruited Queensland Nut, Gympie Nut	Vulnerable	The Small-fruited Queensland Nut's remaining habitat is fragmented and found within lowland warm complex notophyll vine forest and Araucarian notophyll vine forest on basic and intermediate volcanic soils and alluvia in higher rainfall areas of South East Queensland	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut, Macadamia Nut, Rough-shelled Macadamia, Rough-leaved Queensland Nut	Vulnerable	Occurs in subtropical rainforest and complex notophyll vine forest, at the margins of these forests and in mixed sclerophyll. It occurs in restricted habitat, growing on moderate to steep hillslopes on alluvial soils at well-drained sites	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Phaius australis</i>	Lesser swamp-orchid	Endangered	Associated with coastal wet heath/sedgeland wetlands, swampy grassland or swampy forest and often where Broad-leaved Paperbark or Swamp Mahogany are found	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.
<i>Phaius bernaysii</i>	Yellow swamp orchid	Endangered	<i>Phaius bernaysii</i> is known to grow along the margins between open forest/woodland and closed sedgeland, along the perimeter of a swamp, often in a fairly shady environment in <i>Melaleuca quinquenervia</i> – <i>Eucalyptus robusta</i> open forest in sandy or peaty soil. This species occurs within the South East Queensland Natural Resource Management Region.	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.
<i>Planchonella eerwah</i>	Shiny-leaved condoo, Black plum, Wild apple	Endangered	Grows in subtropical rainforest, dry rainforest and Hoop Pine	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Plectranthus omissus</i>	NCN	Endangered	Grows on rock outcrops in eucalypt open forest and adjacent to vine forest	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Prasophyllum wallum</i>	Wallum leek-orchid	Vulnerable	Grows in wallum communities and on stabilised dunes	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Rhodamnia rubescens</i>	Scrub turpentine, Brown malletwood	Critically Endangered	<i>Rhodamnia rubescens</i> commonly occurs in all rain forest subforms except cool temperate rainforest. The species occupies a range of volcanically derived and sedimentary soils and is a common pioneer species in eucalypt forests. Populations and individuals of <i>R. rubescens</i> are often found in wet sclerophyll associations in rainforest transition zones (including open forest of <i>Eucalyptus tereticornis</i> and <i>E. bosistoana</i> in the Sydney region) and creekside riparian associations.	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Rhodomyrtus psidioides</i>	Native guava	Critically Endangered	Subtropical Rainforests, Warm Temperate Rainforests, Littoral Rainforest, and Wet Sclerophyll Forests. The species may be found in the adjoining margins of sclerophyll vegetation associated with any of these rainforest formations.	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Romnaldia strobilacea</i>	NCN	Vulnerable	Occurs in complex notophyll rainforest as a tufted perennial among the ground flora. Distribution is sporadic and often clumped, with the species showing a marked preference for moist gully or stream bank situations and level to steeply inclined slopes where the soil is nutrient rich.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Samadera bidwillii</i>	Quassia	Vulnerable	Occurs in lowland rainforest or on rainforest margins, but it can also be found in other forest types, such as open forest and woodland	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Sophora fraseri</i>	Brush sophora	Vulnerable	Grows in moist habitats, often in hilly terrain at altitudes from 60–660 m on shallow soils along rainforest margins in eucalypt forests or in large canopy gaps in closed forest communities	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.
<i>Syzygium hodkinsoniae</i>	Smooth-bark rose apple	Vulnerable	Grows in riverine subtropical or gallery rainforest on deep rich alluvial and basalt soils at altitudes of up to 300 m above sea level.	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Thesium australe</i>	Austral toadflax, Toadflax	Vulnerable	Occurs in subtropical, temperate and subalpine climates over a wide range of altitudes	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Triunia robusta</i>	Glossy spice bush	Endangered	Notophyll vine forest, or mixed tall open forest developing a rainforest understorey in the absence of fire. Most populations occur within 25 m of streams.	Unlikely	No suitable habitat present within the disturbance footprint, and no species were observed to occur after extensive surveys.

Scientific name	Common name	EPBC Act status	Ecology and habitat	Likelihood following desktop and field assessments	Reasoning (desktop and field)
<i>Zieria exsul</i>	Banished stink bush	Critically Endangered	Restricted to lowland wallum woodland and open forest on sandy substrates that are often seasonally waterlogged. Dominant canopy species include <i>Corymbia intermedia</i> , <i>Eucalyptus racemosa</i> , <i>E. robusta</i> , <i>Syncarpia glomulifera</i> , with the mid and under storeys usually quite dense with a high diversity of wallum species. Individuals of <i>Z. exsul</i> have been usually found in ecotonal areas between continuously moist areas and higher better drained habitats.	Unlikely	Suitable habitat present within the disturbance footprint, but no species were observed to occur after extensive surveys.

## Migratory species

Scientific name	Common name	EPBC Act status	Suitable habitat	Likelihood	Reasoning (desktop and field)
<i>Actitis hypoleucos</i>	Common sandpiper	Migratory marine	<p>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.</p> <p><b>Distribution</b></p> <p>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. Areas of national importance in Queensland include South-eastern Gulf of Carpentaria and Cairns Foreshore.</p> <p>There are 2 recent records of the species occurring along Golden Beach, approximately 1 km south of the disturbance footprint. A greater distribution of the species is recorded on the coastlines between Bribie Island and the mainland (approximately 20 km south of the disturbance footprint) and extending further south towards Nudgee Beach and the Port of Brisbane.</p> <p><b>Abundance</b></p> <p>In 2016, the East Asian-Australasian Flyway population was estimated to be 190,000. Individuals within Australia during the non-breeding period is estimated to be approximately 3000.</p> <p>Given the low records of species occurrence in Caloundra, the abundance is likely to be low within the disturbance footprint.</p>	Potential	Suitable habitat present within the disturbance footprint
<i>Apus pacificus</i>	Fork-tailed swift	Migratory marine	<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 sometimes occur above rainforests, wet sclerophyll forest or open forest or plantations of pines.</p>	Unlikely	While the species may be observed overhead, they are unlikely to be utilising the habitat within the disturbance footprint
<i>Calidris alba</i>	Sanderling	Migratory marine	<p>In Australia, the species is almost always found on the coast, mostly on open sandy beaches exposed to open sea-swell, and also on exposed sandbars and spits, and shingle banks, where they forage in the wave-wash zone and amongst rotting seaweed.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Calidris ruficollis</i>	Red-necked stint	Migratory marine	<p>In Australasia, the Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Charadrius bicinctus</i>	Double-banded plover	Migratory marine	<p>The Double-banded Plover is found on littoral, estuarine and fresh or saline terrestrial wetlands and also saltmarsh, grasslands and pasture. It occurs on muddy, sandy, shingled or sometimes rocky beaches, bays and inlets, harbours and margins of fresh or saline terrestrial wetlands such as lakes, lagoons and swamps, shallow estuaries and rivers.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Fregata ariel</i>	Lesser frigatebird	Migratory marine	<p>Coastal islands, with brooding location known near Weipa</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Fregata minor</i>	Great frigatebird	Migratory marine	<p>Coastal islands, with brooding location known near Weipa</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Limosa lapponica</i>	Bar-tailed godwit	Migratory	<p>The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Numenius minutus</i>	Little curlew	Migratory marine	<p>The Little Curlew is most often found feeding in short, dry grassland and sedgeland, including dry floodplains and black soil plains, which have scattered, shallow freshwater pools or areas seasonally inundated.</p>	Unlikely	No suitable habitat for the species within the disturbance footprint
<i>Numenius phaeopus</i>	Whimbrel	Migratory marine	<p>The Whimbrel is often found on the intertidal mudflats of sheltered coasts. It is also found in harbours, lagoons, estuaries and river deltas, often those with mangroves, but also open, unvegetated mudflats.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Pandion haliaetus</i>	Osprey	Migratory marine	<p>The Osprey frequent a variety of wetland habitats including inshore waters, beaches, estuaries, mangrove swamps, broad rivers, reservoirs and large lakes and waterholes. They may occur over atypical habitats such as heath, woodland or forest when travelling to and from foraging sites.</p> <p><b>Distribution</b></p> <p>The Osprey occurs almost entire along the coast of Australia and occasionally inland. The distribution of the species around the northern coast appears continuous except for a possible gap at Eighty Mile Beach. Typically, they are found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia.</p> <p>The species is known to occur within and surrounding the disturbance footprint as it was directly observed during field assessments. Numerous recent records of occurrence are documented of the species in the disturbance footprint on ALA, between 2012 and 2024.</p> <p><b>Abundance</b></p> <p>The species is most abundant in northern Australia, where high population densities occur in remote areas. The species is rare to uncommon in southern Western Australia and occurs in low numbers in South Australia (~52 pairs in 2005), and NSW (~100 pairs in 1996). There is a lack of information on most populations in Australia.</p> <p>Record of occurrence of the species in Caloundra suggest that the Osprey primarily clusters on the coastal edge of the area, with fewer occurrences recorded further inland. However, given that the species was observed directly during field assessments and high records of recent sighting, the Osprey is likely to be abundant within the disturbance footprint.</p>	Known	The species was observed both visually and acoustically over disturbance footprint during the field assessments
<i>Plegadis falcinellus</i>	Glossy ibis	Migratory marine	<p>In Australia the Glossy ibis is found in all states and territories, but typically east of the Kimberley in Western Australia, and east of the Eyre Peninsula in South Australia. The species prefer aquatic habitats including water marshes at the edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields, and cultivated land with irrigation. Occasionally, Glossy ibis occur in coastal habitats (e.g. estuaries, deltas, saltmarshes and lagoons), and has been recorded within mangroves during breeding periods. During periods of drought, this species may retreat to permanent wetlands and/or coastal areas. Glossy ibis typically roost in canopy or shrubs, typically nearby water bodies.</p>	Unlikely	Suitable habitat present within the disturbance footprint
<i>Pluvialis fulva</i>	Pacific golden plover	Migratory marine	<p>This species usually forages on sandy or muddy shores (including mudflats and sandflats) or margins of sheltered areas such as estuaries and lagoons, though it also feeds on rocky shores, islands or reefs.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint

Scientific name	Common name	EPBC Act status	Suitable habitat	Likelihood	Reasoning (desktop and field)
<i>Tringa brevipes</i>	Grey-tailed tattler	Migratory marine	The Grey-tailed Tattler is often found on sheltered coasts with reefs and rock platforms or with intertidal mudflats. It can also be found at intertidal rocky, coral or stony reefs as well as platforms and islets that are exposed at low tide.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Tringa glareola</i>	Wood sandpiper	Migratory marine	Inhabit a variety of freshwater wetlands, including lakes, ponds, marshes, and grassy areas, both during their breeding season and when migrating or wintering. They prefer open areas with shallow water and emergent vegetation like reeds and grasses.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Tringa incana</i>	Wandering tattler	Migratory marine	The Wandering Tattler is generally found on rocky coasts with reefs and platforms, points, spits, piers, offshore islands and shingle beaches or beds.	Unlikely	Required coastal habitat not present within the disturbance footprint
<i>Tringa stagnatilis</i>	Marsh sandpiper	Migratory marine	<p>The Marsh Sandpiper 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.</p> <p><b>Distribution</b></p> <p>The Marsh Sandpiper is found on coastal and inland wetlands throughout Australia. The species is widespread in coastal Queensland, but few records exist north of Cooktown.</p> <p>There are no records of the Marsh sandpiper occurring in Caloundra within the last 20 years. The distribution of the species is primarily recorded on the coastlines between Bribie Island and the mainland, approximately 20 km south of the disturbance footprint.</p> <p><b>Abundance</b></p> <p>In 2016, the Marsh Sandpiper had an estimated East Asian-Australasian Flyway population of 130,000. The global population is estimated at 186,000 – 1,242,000.</p> <p>Given the lack of recent occurrence records in Caloundra, the abundance of the species within the disturbance footprint is likely to be low.</p>	Unlikely	Required coastal habitat not present within the disturbance footprint