

Kirby's Road Environmental Reserve Fauna Survey Report



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O2 Ecology Pty Ltd t/as O2 Ecology ABN 98 153 475 382


Originating Office – Sunshine Coast

Suite 6, 8 Grebe St Peregrine Beach Qld

PO Box 199, Peregrine Beach Qld 4573

T 61 7 5448 3288 | F 61 7 5302 6680 | info@o2ecology.com.au

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1. Introduction

O2 Ecology were engaged by Sunshine Coast Regional Council (SCRC) to conduct a baseline survey of vertebrate fauna within Kirby's Road Environmental Reserve, formally described as Lot 176 on MCH798 and Lot 178 on MCH865 (herein referred to as the Study Area). The Study Area is located at the end of Kirby's Road, Obi Obi, in the Sunshine Coast hinterland.

An ecological assessment in the form of two fauna surveys was carried out. A wet season fauna survey was conducted between the 9th and 14th January 2012 and a post-wet season fauna survey was conducted between the 4th and 8th June 2012. This report contains the survey results, providing SCRC with on-ground ecological information to assist with future planning and management of both Lots.

1.1. Description of Study Area

The Study Area is bordered by Kondalilla National Park to the east, Maleny National Park to the west and large grazing acreages to the north and south containing patches of cleared areas and remnant vegetation.

Mapleton Falls National Park is approximately six (6) km to the north east of the Study Area and is connected to the site by vegetation. Conondale National Park is located approximately 14 km west of the Study Area, although some large patches of cleared grazing land is situated between the National Park and the Study Area.

Vegetation in the Study Area is mapped as Of Concern or Least Concern Regional Ecosystem (RE), non-remnant (cleared), or high value regrowth (Of Concern or Least Concern status).

A high voltage powerline and easement divides the northern Lot 178 on MCH865 from the south-eastern corner up towards the north-western corner of the Lot.

There are several stands of native forestry plantations within the Study Area.

2. Methodology

The methods adopted for the ecological investigation involved two stages:

1. Review of desktop data (mainly government databases and mapping).
2. Two replicated field surveys conducted during wet and post-wet seasons.

2.1. Desktop Study

A desktop review of available databases, studies and literature was undertaken in order to collate existing information and investigate characteristics of the Study Area. Databases or information reviewed include:

- Commonwealth Department of Sustainability, Environment, Water, Population and Community's (DSEWPC) protected matters search tool (PMST). The PMST is a predictive database based on bioclimatic modelling that identifies *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed ecological communities, flora species and fauna species that may occur in a defined search area. This was used to identify Matters of National Environmental Significance listed under the EPBC Act that may occur within a one (1) km buffer of the Study Area;
- Department of Environment and Heritage Protection's (DEHP) Wildlife Online database for fauna species records. This was used to identify all flora and fauna species, including those listed under the Commonwealth EPBC Act or the Queensland *Nature Conservation Act 1992* (NC Act), that have previously been recorded within the Study Area or surrounds. Records were compiled for a search area within a five (5) km buffer of a central point (-26.6719 ° South, 152.8144 ° East);
- Birddata online database, which provides access to Birds Australia data including the Atlas of Australian Birds and Nest Record Scheme. This was used to identify all bird species that have previously been recorded within the Study Area or surrounds. Records were compiled for a search area within a one-degree (latitude/longitude) square that contains the coordinate -26.6769°South, 152.8141°East;
- DEHP's watercourse and wetland mapping, which was queried to determine if any significant wetlands occur within the Study Area;
- DEHP's RE, essential habitat and high value regrowth mapping. This was examined to determine the extent and type of remnant or regrowth vegetation within the Study Area. The essential habitat mapping defines areas of habitat that have been designated as essential habitat for species listed as threatened under the NC Act;
- available aerial photography; and
- threatened species profiles and field guides, where available.

An assessment was initially undertaken of the likelihood of occurrence for threatened species identified through desktop searches. The site investigation further informed and verified this likelihood of occurrence assessment. The DSEWPC and DEHP do not have prescriptive likelihood of occurrence guidelines within their policies but rather clarify the scale of assessment required to determine the level of impact (e.g. level of assessment, previous record searches, and distribution maps). The below criteria have been developed with the aim of considering this scale of assessment in order to identify the likelihood of occurrence and subsequent potential level of impact for threatened species:

- **low potential to occur** – the species has not been previously recorded on-site and there is no suitable habitat for it on-site;
- **moderate potential to occur** – the species has not been previously recorded on-site despite the presence of potential or suitable habitat;
- **high potential to occur** – the species has been previously recorded at the site (e.g. lands adjacent the site) and there is suitable habitat for it within the site; or

- **known to occur** – the species has been recorded on-site in the recent past (i.e. last 5-10 years) and the site provides suitable habitat for it.

2.2. Fauna Field Survey

The wet season fauna survey was conducted between 9th and 14th January 2012 and post-wet season fauna survey was conducted between 4th and 8th June 2012 across the Study Area. Seasonal surveys are conducted to detect seasonal changes in species and abundance.

There were two (2) survey sites on Lot 178 and six (6) survey sites on Lot 176 as shown in the Site Map in **Appendix A**.

The ecological surveys aimed to collect the following information across the Study Area:

- fauna species present, including observations of any introduced or threatened species;
- locations of fauna breeding places and other habitat features; and
- likelihood of targeted threatened species to occur in habitat present in the Study Area.

In conjunction with the desktop review and assessment, the terrestrial fauna values were assessed using the following field survey techniques:

- general habitat assessment for all vertebrate fauna and semi-aquatic species;
- assessment of habitats for potential occurrence of threatened species;
- opportunistic daytime searches for all vertebrates (mammals, birds, reptiles and amphibians);
- nocturnal searches (spotlighting) for fauna in selected habitats;
- one (1) motion sensor infrared camera;
- bird surveys at each site at dawn and dusk and throughout the day;
- systematic trapping (seven (7) sites during the wet season and five (5) sites post-wet season) with 20 Elliot A traps, 10 cages, eight (8) funnels and two (2) pitfalls at each site;
- unmanned recording of bird, frog and bat calls using a Song Meter (SM2BAT); and
- targeted survey for bats using acoustic Anabat detectors and a harp trap.

2.2.1. General Habitat Assessment

Habitat assessments were conducted to describe the extent and types of terrestrial fauna habitats in the Study Area. This involved walking through the Study Area documenting the structural characteristics of vegetation and other features, and potential opportunities for fauna. Areas with similar vegetation structure were classified into distinct habitat types. The ecological value of each habitat type was then evaluated on the basis of the ecological characteristics noted.

For each habitat, the following parameters were considered:

- structural complexity of vegetation (i.e. tree density, canopy cover, vertical structural complexity, ground cover);
- complexity of ground-level microhabitats (i.e. substrate type, vegetation cover, leaf litter, woody debris, presence of rocks);
- habitat / forage resources (i.e. hollows, fallen logs, nests, water bodies);
- sources of disturbance (i.e. adjacent land-use, feral animal evidence, predation, weed infestation); and

- wider landscape features and habitat context (i.e. connectivity, movement corridors, fragment size, barriers).

Photographs with built-in GPS locations were taken across the Study Area, including significant ecological/environmental features.

2.2.2. Threatened Species Habitat Assessment

While conducting the general habitat assessment for fauna within the Study Area, specific attention was given to the potential for habitats to support the threatened species with a moderate or high likelihood of occurrence based on the desktop assessment.

2.2.3. Spotlighting

Ecologists searched for nocturnal fauna within the Study Area on the 11th January 2012 and the 5th and 7th of June 2012.

Spotlighting for mammals (including fruit bats), birds, reptiles and amphibians was carried out using a combination of high-powered spotlights and head torches.

Effort was made during nocturnal searches to detect the presence of listed threatened species that may inhabit the Study Area.

2.2.4. Opportunistic Fauna Observations

Opportunistic observations were made throughout the Study Area over the five (5) days of surveying (including nocturnal surveys) during the wet-season and post-wet season. Observations of fauna species identified by sight and/or sound, and signs of terrestrial vertebrate presence (i.e. scratches, feed scars on trees, scats, tracks, diggings, nests or dreys, feathers, bones, pellets) were recorded.

Opportunistic observations increase the likelihood of detecting threatened species, which have unique habitat requirements and may not be captured/detected using systematic techniques. Thus, while searches were non-systematic, there was a focus on detecting species of conservation significance (e.g. koala).

2.2.5. Systematic Trapping

Systematic trapping was undertaken at each of the survey sites. This involved a 5-day, 4-night survey of each site using cages, Elliott A traps, an infrared camera and funnel/pitfall traps and drift fences. These trapping methods comply with the former DERM's recommended guidelines for ecological surveys.

At each site, traps were set in a single linear transect of 20 Elliott A traps and 10 cage traps within optimal microhabitats. Four (4) drift fence and funnel/pit fall trap complexes were placed at each site in areas with suitable microhabitat adjacent to the linear transects. Traps were set and checked each morning for four (4) consecutive nights. The trap configuration comprised:

- **Funnel / pitfall traps and drift fence:** eight (8) funnel traps were established at each site. Each funnel trap complex consisted of a seven (7) m long, 30 cm high aluminium flywire drift fence with two nylon mesh funnels set along the centre of the fence line (**Plate 1**). The funnels were covered with vegetation to provide shade and protection and contained wet sponges for moisture. A pitfall trap was placed in every second fence line (two (2) per site). A wet sponge, vegetative debris and piece of polystyrene foam was placed in each pitfall to prevent fauna dehydration or drowning (in extreme conditions);
- **Elliott box traps:** each site comprised 20 Elliott A traps located in shady areas or covered with vegetation to minimise heat exposure to animals (**Plate 2**) and baited with universal bait. Research has indicated

that peanut butter with oats is an excellent general purpose bait for detecting small to medium-sized mammals (Paull, 2011). We use a mixture of peanut butter, rolled oats, sardines and honey;

- **Cage traps:** 10 cage traps were interspersed with the Elliott traps along linear transects at each site. Cages were baited with universal bait and covered with hessian sacks to provide shade and cover (Plate 2); and
- **Harp trap:** one (1) harp trap was set up over a creek within the Study Area for three (3) nights during the post-wet season survey (Plate 3). The location was selected based on habitat type, its expected use by bats, and the potential bat “flyway” along the creek.



Plate 1 Example of funnel / pitfall trap with drift fence (left) and Infrared camera (right)



Plate 2 Example of cage trap (left) and Elliot trap (right)



Plate 3 Example of harp trap in flyway

2.2.6. Bird Surveys

Bird surveys were undertaken in the early morning and late afternoon in clear conditions. Bird species seen or heard were recorded at each site. Opportunistic observations made in the Study Area were recorded throughout the day.

2.2.7. Permits

All surveys were undertaken under the O2 Ecology's DEEDI Scientific Users Registration Certificate (Registration Number 428), DERM Scientific Purposes Permit (Permit Number WISP10259411) and DEEDI Animal Ethics Permits (Permit Number CA2011/10/562) by appropriately qualified ecologists.

2.3. Nomenclature

For the purposes of consistency, scientific and common names for vegetation communities and terrestrial flora and fauna follow those used in the following sources:

- RE descriptions follow those of the Regional Ecosystem Description Database (REDD, version 6.0);
- Field Guide to Mammals of Australia (Menkhorst and Knight, 2004);
- A Complete Guide to Reptiles of Australia (Wilson and Swan, 2008);
- A Field Guide to the Birds of Australia (Simpson and Day, 2004);
- A Field Guide to the Frogs of Australia (Tyler and Knight, 2009); and
- A Wild Australia Guide: Freshwater Fishes (Schmida, 2008).

2.4. Survey Limitations

Detailed aquatic surveys were not included in the scope of work for this survey.

3. Fauna Survey Results

3.1. Desktop Assessment

A search of DEHP's Wildlife Online database identified a total of 289 vertebrate species previously recorded within a five (5) km radius from the Study Area. This includes 23 amphibian, 208 bird, 14 bony fish, 26 mammal and 18 reptile species.

Seventeen (17) species of the 289 vertebrates are listed as threatened under Queensland's NC Act and/or the Commonwealth EPBC Act (five (5) amphibian, seven (7) bird, two (2) bony fish, one (1) mammal and two (2) reptile species). One (1) platypus has previously been observed within five (5) km radius from the Study Area. Platypus are listed as special least concern under the Queensland's NC Act.

A further 21 fauna species listed under the EPBC Act (one (1) amphibian, 11 bird (including migratory species), five (5) mammal and four (4) reptile species) are predicted to occur or have habitat occurring within a one (1) km buffer of the Study Area (as indicated by the PMST report in **Appendix D**). It should be noted that the PMST predicts the occurrence of species on the basis of bioclimatic modelling and, as such, species have not necessarily been observed within the Study Area.

The Birddata search identified a total of 316 bird species within the Obi Obi region.

Potentially occurring threatened fauna species are listed in **Table 1** with an account of their likelihood of presence within the Study Area. Refer to **Appendix D** for Wildlife Online, EPBC Act (PMST) and Birddata search results.

Not all of the threatened species indicated through desktop information are expected to occur within the Study Area, due to the absence of suitable habitat for some species. On the basis of habitats present (refer to **Table 3** in Section 3.2), threatened species that are considered to have the greatest potential to occur within, and have an association with (excluding fly-overs), the Study Area are:

- mammals (2): Koala (*Phascolarctos cinereus*) and Grey-headed Flying-fox (*Pteropus poliocephalus*);
- birds (6): Glossy Black-cockatoo (*Calyptorhynchus lathami lathami*) (eastern subspecies), Grey Goshawk (*Accipiter novaehollandiae*), Plumed frogmouth (*Podargus ocellatus plumiferus*), Sooty owl (*Tyto tenebricosa tenebricosa*), Powerful Owl (*Ninox strenua*), Black-necked Stork (*Ephippiorhynchus asiaticus*);
- reptiles (2): Elf Skink (*Erotoscincus graciloides*) and *Saproscincus rosei*;
- amphibians (4): Cascade Tree Frog (*Litoria pearsoniana*), Tusked Frog (*Adelotus brevis*), Pouched Frog (*Assa darlingtoni*), Giant Barred Frog (*Mixophyes iteratus*);

Table 1 - Likelihood of Occurrence - Fauna

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
BIRDS				
<i>Tyto tenebricosa tenebricosa</i> Sooty Owl	-	NT	Prefers tall, wet eucalypt forests on coastal ranges, particularly steep, heavily vegetated gullies (Morcombe, 2003).	Known to occur This species was recorded near the northern portion of Lot 176 during the post-wet season survey by O2 Ecology.

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
				One previous record within five (5) km of the Study Area (DEHP, 2012).
<i>Podargus ocellatus plumiferus</i> Plumed frogmouth	-	V	Prefers subtropical rainforest, particularly in deep, wet, sheltered gullies along creek lines and often containing stands of Bangalow Palms or ferns. (DSEWPC, 2012).	High Potential to occur Two previous records within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	-	NT	Habitats diverse but often wetlands and their vicinity. Prefers freshwater environs, including the margins of billabongs, swamps, shallow flood waters over grassland, wet heath, watercourse pools, sewage farms, dams, adjacent grassland and savannah woodland. (PDA Solutions, 2012).	High potential to occur One previous record within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists around the farm dams and lowland creeks.
<i>Accipiter novaehollandiae</i> Grey Goshawk	-	NT	Rainforest, gallery forest, mangroves, eucalypt forest, woodland, river edge forest. Prefers mature forest with open understorey that suits hunting technique. (PDA Solutions, 2012).	High potential to occur 11 previous records within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Calyptorhynchus lathami lathami</i> (eastern subspecies) Glossy Black-cockatoo	-	V	Occurs in eucalypt woodland and forest where <i>Allocasuarina/Casuarina spp.</i> present. Known to also utilise brigalow in south-eastern Queensland.	High potential to occur Three records have previously been reported within five (5) km of the Study Area (DEHP, 2012). Presence of suitable habitat (casuarina woodlands) within the south-east portion of Lot 176 on MCH798.
<i>Cyclopsitta diophthalma coxeni</i> Coxen's fig parrot	E	E	In rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, and vine forest. Fig-parrot is likely to favour alluvial areas that support figs and other trees with fleshy fruits, in particular, habitats that have a high diversity of fig species, and that have a fruiting season that is staggered across moisture and altitudinal gradients (DSEWPC, 2012).	Moderate potential to occur One previous record within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Dasyornis brachypterus</i>	E	E	Inhabits low dense vegetation in a broad range of habitat types including sedgeland,	Moderate potential to occur

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
Eastern Bristlebird			<p>heathland, swampland, shrubland, sclerophyll forest and woodland, and rainforest.</p> <p>Eastern Bristlebird is found in habitats with a variety of species compositions, but are defined by a similar structure of low, dense, ground or understorey vegetation.</p>	<p>No previous records within or adjacent to Study Area.</p> <p>Suitable habitat exists within the Study Area.</p>
<i>Erythrorhynchus radiatus</i> Red Goshawk	V	E	<p>Occurs in coastal and sub-coastal areas in riverine, wooded and forested lands of tropical and warm-temperate Australia.</p> <p>Known to prefer forest and woodland with a mosaic of vegetation types, large prey populations (birds), and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest, and rainforest margins (DSEWPC, 2012).</p>	<p>Moderate potential to occur</p> <p>No previous records within or adjacent to Study Area.</p> <p>Suitable habitat exists within the Study Area.</p>
<i>Rostratula australis</i> Australian Painted Snipe	V	V	<p>Variety of habitats but generally requires presence of water. Generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and clay pans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains (DSEWPC, 2011).</p>	<p>Moderate potential to occur</p> <p>No previous records within or adjacent to Study Area.</p> <p>Latham's Snipe was observed, which utilises similar suitable habitat.</p>
<i>Turnix melanogaster</i> Black-breasted Button-quail	V		<p>Restricted to rainforests and forests, mostly in areas with 770-1200 mm rainfall per annum. They prefer drier, low closed forests, particularly semi-evergreen vine thicket, low microphyll vine forest, araucarian microphyll vine forest and araucarian notophyll vine forest (DSEWPC, 2012).</p>	<p>Low - moderate potential to occur</p> <p>No previous records within or adjacent to Study Area.</p> <p>Suitable habitat exists within the Study Area.</p>
<i>Botaurus poiciloptilus</i> Australian Bittern	E	-	<p>Occurs predominantly in densely vegetated freshwater wetlands (rarely estuarine). Queensland population considered to be mostly confined to a few coastal swamps.</p>	<p>Low potential to occur</p> <p>No previous records within or adjacent to Study Area.</p> <p>Lack of suitable habitat.</p>
<i>Menura alberti</i> Albert's lyrebird	-	NT	<p>Feed on the ground, usually where there is a deep, moist layer of leaf-litter, and fallen logs (DSEWPC, 2012).</p> <p>Is known to have one of the smallest distribution ranges of any bird in Australia. Reports of this species within the area are suspected of being misidentified calls of Satin Bowerbirds (DSEWPC, 2012).</p>	<p>Low potential to occur</p> <p>One previous record within five (5) km of the Study Area (DEHP, 2012).</p> <p>Suitable habitat exists although low potential to occur on the basis of current known distribution range.</p>

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
MAMMALS				
<i>Phascolarctos cinereus</i> Koala	V	V	Occurs in sclerophyll forest and woodlands (Menkhorst et al, 2004).	Known to occur 24 previous records within five (5) km of the Study Area (DEHP, 2012). One (1) Koala was observed by O2 Ecology on Lot 176 on MCH798 during the post-wet season survey and have previously been observed at the northern boundary of Lot 178 on MCH865 (the front gate) by SCRC staff.
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	V	-	A canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands (DSEWPC, 2012). Roost sites are typically located near water, such as lakes, rivers or the coast.	Known to occur Grey-headed Flying-foxes were observed roosting within the Study Area near the south dam.
<i>Potorous tridactylus tridactylus</i> Long-nosed Potoroo	V	V	There is no consistent pattern to the habitat of the Long-nosed Potoroo (SE Mainland); 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 (Curtis et al., 2012).	Moderate potential to occur No previous records within or adjacent to Study Area. Suitable habitat exists within the Study Area.
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat, Large Pied Bat	V	NT	Little is known about the roosting and habitat requirements of the large-eared pied bat, however natural roosts may depend on sandstone outcrops (Menkhorst and Knight, 2004). Populations occur where suitable roosts are present. Records from south-east Queensland suggest that rainforest and moist eucalypt forest habitats on other geological substrates (volcanic rock) at high elevation are of high importance to the species (DSEWPC, 2012).	Low - moderate potential to occur No previous records within or adjacent to Study Area. Suitable habitat (i.e. rainforest / moist eucalypt habitat in close proximity to high volcanic rock substrates) is present, particularly on the eastern boundary escarpment on Lot 178 on MCH865.
<i>Dasyurus hallucatus</i> Northern Quoll	E	E	Utilises a diversity of habitats across its range, which includes rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grasslands and desert (DSEWPC, 2012).	Low potential to occur No previous records within or adjacent to Study Area. Potential suitable habitat exists along around the rocky

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
				escarpments.
<i>Dasyurus maculatus maculatus</i> Spotted-tail Quoll	E	E	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. This subspecies has been recorded from a wide range of habitats. Prey-rich (small mammals (including possums), birds, reptiles, frogs) habitats are preferable (DSEWPC, 2012).	Low – moderate potential to occur No previous records within or adjacent to Study Area. Potential suitable habitat exists along around the rocky escarpments.
AMPHIBIANS				
<i>Adelotus brevis</i> Tusked Frog		V	Breeds in ponds and slow-moving sections of streams in rainforests, wet sclerophyll forests and, less commonly, dry open forest. Usually is found under logs, stones or leaf litter near puddles, creeks and ponds (Curtis et al., 2012).	High potential to occur Nine previous records within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Assa darlingtoni</i> Pouched Frog	-	NT	Occurs in moss and damp leaf litter in temperate rainforest.	High potential to occur Two previous records within five (5) km from the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Litoria pearsoniana</i> Cascade Treefrog	-	V	Occurs along streams in temperate and subtropical rainforest and wet sclerophyll forest from near sea level to over 1,000 m (Curtis et al, 2012).	High potential to occur Five previous records within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.
<i>Mixophyes iteratus</i> Giant Barred Frog	E	E	Occurs in uplands and lowlands in rainforest and wet sclerophyll forest, including farmland from Belli Creek near Eumundi, south-east Queensland, south to Warrimoo, mid-eastern NSW (DSEWPC, 2012).	Moderate potential to occur No previous records within or adjacent to Study Area. Suitable habitat exists within the Study Area.
REPTILES				
<i>Erotoscincus graciloides</i> Elf Skink	-	NT	Occurs in vine thickets, wet sclerophyll forest and rainforest from Fraser Island to Ipswich. Shelters beneath damp leaf litter, logs and stones, foraging in shaded, moist situations	Known to occur Four individuals recorded during the O2 Ecology wet season survey within riparian

Species	Status		Habitat	Likelihood
	EPBC Act	NC Act		
			(Wilson, 2008).	vine forest leaf litter. Two previous records within five (5) km of the Study Area (DEHP, 2012).
<i>Saproscincus rosei</i>	-	NT	Occurs in coastal ranges in south-east Queensland and northern NSW. Shelters, basks and forages among fallen logs, leaf litter and rocks (Wilson, 2008).	High potential to occur Two previous records within five (5) km of the Study Area (DEHP, 2012). Suitable habitat exists within the Study Area.

Table 2 - EPBC Act Migratory Species Likelihood of Occurrence

Species	Migratory Status	Habitat	Likelihood
<i>Gallinago hardwickii</i> Latham's Snipe, Japanese Snipe	Wetlands	Summer migrant (October – April). Occurs in low vegetation around wetlands in shallows, sedges, reeds, heaths, salt marsh and irrigated crop lands (Morcombe, 2003).	Known to Occur Two previous records within five (5) km of the Study Area (DEHP, 2012). Observed in the creek line at the entrance to the Reserve.
<i>Merops ornatus</i> Rainbow Bee-eater	Terrestrial	Summer migrant (September – April) although in northern Australia they remain and breed. Occurs in open woodlands, semi-arid scrub, grasslands, clearing in heavier forests, farmlands and coastal areas. Avoids heavy forests due to hindrance to feeding (i.e. Catching insects) (Morcombe, 2003).	Known to occur Rainbow Bee-eaters were observed in and adjacent to the cleared areas within the Study Area during the post-wet season survey by o2 Ecology. 44 previous records within five (5) km of the Study Area (DEHP, 2012).
<i>Monarcha trivirgatus</i> Spectacled Monarch	Terrestrial	Occurs in thick understoreys of rainforests and wet gullies (Simpson et al, 2004).	Known to occur 61 previous records within five (5) km radius of Study Area. This species was observed by O2Ecology within the riparian vine forests.
<i>Rhipidura rufifrons</i> Rufous Fantail	Terrestrial	Occurs in rainforest, wet woodlands and mangroves. Known to prefer wetter, shaded forest (Simpson et al, 2004).	Known to occur 29 previous records within five (5) km radius of Study

Species	Migratory Status	Habitat	Likelihood
			Area. This species was observed by O2Ecology within the riparian vine forests.
<i>Ardea alba (modesta)</i> Great Egret, White Egret	Marine, Wetlands	Occurs in wetlands, flooded pastures, dams, estuarine mudflats, mangroves and reefs (Morcombe, 2003).	High potential to occur Six previous records within five (5) km of the Study Area (DEHP, 2012). Potential habitat in flooded pastures.
<i>Ardea ibis</i> Cattle Egret	Marine, Wetlands	Occurs in moist pastures with tall grass, shallow open wetlands and margins and also mudflats (Morcombe, 2003).	High potential to occur 50 previous records within five (5) km of the Study Area (DEHP, 2012). Potential habitat in flooded pastures.
<i>Haliaeetus leucogaster</i> White-bellied Sea-eagle	Terrestrial	Occurs in predominantly coastal areas although also occurs far inland on large pools of rivers. Mostly over islands, reefs, headlands, beaches and estuaries. Known to occur on seasonally inundated swamps, lagoons and floodplains (Morcombe, 2003).	High potential to occur Three previous records within five (5) km of the Study Area (DEHP, 2012). Potential habitat exists within the Study Area.
<i>Nettapus coromandelianus albigenis</i> Australian Cotton Pygmy-goose	Wetlands	Occurs in coastal wetlands, preferring deep permanent pools or swamps with abundant aquatic grasses. Known to move out to floodplain during wet seasons as the swamps and pools fill.	Low potential to occur No previous records within or adjacent to Study Area. No suitable habitat exists within the Study Area..
<i>Rostratula benghalensis s. lat.</i> (this species is no longer considered a subspecies of <i>R. benghalensis</i> and is now recognised as a full species, <i>Rostratula australis</i>) (DSEWPC, 2012) Australian Painted Snipe	Wetlands (vulnerable), NCA - vulnerable	Variety of habitats but generally requires presence of water. Generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains (DSEWPC, 2012).	Low potential to occur No previous records Unlikely to occur however small amount of marginal habitat around the creeks and farm dams.



3.2. Fauna Habitat Assessment



Four (4) distinct fauna habitat types were identified:

- native forest plantations;
- eucalypt woodlands;
- riparian vine forests; and
- open paddocks adjacent to regrowth vine forests or regrowth eucalypt woodlands.

These habitats as they were observed on site are described in **Table 3**.

Table 3 - Sites and habitats within the Study Area

Site #	Habitat Type	Description and Location	Value for Wildlife	Photo
1	Native forest plantations Gympie Messmate (<i>Eucalyptus cloeziana</i>) and Blue Gums (<i>E. tereticornis</i>)	<p>Approximately 10 years old.</p> <p>Thick groundcover of grasses.</p> <p>No hollow-bearing logs or hollows in trees.</p> <p>No shrub layer.</p> <p>Low structural diversity.</p>	<p>Low value for fauna.</p> <p>Grass provides reasonable groundcover for small mammals, reptiles and birds.</p>	
2 and 6	Riparian vine forest	<p>Contains Of Concern status RE 12.12.1.</p> <p>Thick leaf litter and abundant amount of fallen rotting woody debris.</p> <p>Very good canopy vegetation.</p> <p>Tree hollows and log hollows evident.</p>	<p>High value for fauna.</p> <p>Likely to support a range of birds, mammals, reptiles and amphibians. Potential to be used by threatened fauna species (e.g. Elf Skink (<i> Erotoscincus graciloides</i>), <i>Saproscincus rosei</i>) and Pouched Frog (<i>Assa darlingtoni</i>)).</p>	

Site #	Habitat Type	Description and Location	Value for Wildlife	Photo
3 and 5	Eucalyptus Woodland	<p>Contains Least Concern status woodland RE 12.12.15.</p> <p>Some large fallen woody debris and leaf litter.</p> <p>Tree hollows and log hollows.</p> <p>Some large rocks / boulders present.</p>	<p>Habitat is of high value and likely to support a range of birds, mammals and reptiles.</p> <p>Potential to be used by threatened fauna species such as Grey Goshawk and Koala.</p>	
2A, 4 and 7	Grassy paddock next to regrowth riparian vine thicket or regrowth Eucalyptus woodland	<p>Some permanent pools and streams.</p> <p>Thick grass cover.</p> <p>Becomes inundated / water logged during heavy rainfall events.</p>	<p>Habitat is of moderate to high value and likely to support a range of birds, mammals, reptiles, amphibians and fish.</p> <p>Potential to be used by threatened fauna species such as the migratory Latham's Snipe.</p>	

3.3. Site Assessment

A total of 133 vertebrate fauna species were recorded within the Study Area during the two field surveys. This included 26 mammal species, 84 birds, 13 reptiles, 10 amphibians and two (2) fish. Of the 133 species, six (6) were non-native species (five (5) mammals and one (1) amphibian). **Appendix B** contains a list of all species detected.

3.3.1. Birds

Eighty-four (84) bird species were observed and/or recorded acoustically in the Study Area.

Four (4) EPBC Act listed terrestrial migratory bird species were detected during the site survey. Spectacled Monarch (*Symposiachrus trivirgatus*) (site 2 wet), Rufous Fantail (*Rhipidura rufifrons*) (site 7 wet, site 2A post-wet), Rainbow Bee-eater (Site 1, 2A and 6 post-wet) and Latham's Snipe (site 4 post-wet) were observed at (locations shown in **Appendix A**).

The Sooty Owl is listed as near threatened under the *Nature Conservation (Wildlife) Regulation 2006* and was heard calling from site 1 and site 2A during the post-wet season survey.

All of the other birds detected are common, native species.

3.3.2. Mammals (excluding insectivorous bats)

Thirteen (13) native mammal species were observed within the Study Area and are presented in **Table 4**.

Table 4 - Native mammals detected within the Study Area

Scientific Name	Common Name	Detected
<i>Antechinus flavipes</i>	Yellow-Footed Antechinus	post-wet
<i>Antechinus stuartii</i>	Brown Antechinus	wet, post-wet
<i>Antechinus subtropicus</i>	Subtropical Antechinus	wet
<i>Isodon macrourus</i>	Northern Brown bandicoot	wet
<i>Macropus parryi</i>	Whiptail Wallaby	wet
<i>Macropus rufogriseus</i>	Red-Necked Wallaby	post-wet
<i>Melomys burtoni</i>	Grassland Melomys	wet
<i>Melomys cervinipes</i>	Fawn-Footed Melomys	wet, post-wet
<i>Perameles nasuta</i>	Long-Nosed Bandicoot	post-wet
<i>Phascogale cinereus</i>	Koala	post-wet
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	post-wet
<i>Pteropus poliocephalus</i>	Grey-headed Flying-Fox	post-wet
<i>Rattus fuscipes</i>	Bush Rat	wet, post-wet
<i>Rattus lutreolus</i>	Swamp Rat	wet, post-wet

The Koala (*Phascogale cinereus*) and Grey-headed Flying-Fox (*Pteropus poliocephalus*) are both listed as Vulnerable under the Commonwealth EPBC Act. Both are also listed in the Sunshine Coast Biodiversity Strategy.

A house cat was observed during the wet season survey. Two (2) cows from a neighbouring property were found and removed from the Study Area during the post-wet survey. A black rat was caught at Site 1 (post-wet) and house mice were caught at Sites 1 and 2A (post-wet). At least one (1) fox was photographed by

the infrared camera and fresh tracks, scat and evidence of fox activity along the trap lines was evident during both surveys.

3.3.3. Microchiropteran Bats

At least eight (8) microbat species were recorded during the surveys with positive identifications presented in **Table 5**.

Table 5 - Microbat species detected within the Study Area

Scientific Name	Common Name	Detected
<i>Austronomus australis</i>	White-striped Freetail Bat	Wet
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Wet
<i>Miniopterus australis</i>	Little Bentwing Bat	Wet, Post-Wet
<i>Miniopterus orianae oceanensis</i>	Eastern Bentwing Bat	Wet, Post-Wet
<i>Mormopterus ridei</i>	Eastern Freetail Bat	Wet
<i>Myotis macropus</i>	Large-footed Myotis	Post-Wet
<i>Rhinolophus megaphyllus</i>	Eastern Horseshoe Bat	Wet
<i>Vespadelus pumilus</i>	Eastern Forest Bat	Wet, Post-Wet

Gould's Wattled Bat (*Chalinolobus gouldii*) and White-striped Freetail Bat (*Austronomus australis*) are listed in the Sunshine Coast Biodiversity Strategy.

The full microbat interpretation report is provided in **Appendix C**.

3.3.4. Reptiles

Thirteen (13) reptile species were observed during surveys and are presented in **Table 6**.

Table 6 - Reptile species detected within the Study Area

Scientific Name	Common Name	Detected
<i>Dendrelaphis punctulata</i>	Green Tree Snake	wet
<i>Erotoscincus graciloides</i>	Elf Skink	wet
<i>Eulamprus martini</i>		wet
<i>Eulamprus quoyii</i>	Eastern Water Skink	wet
<i>Lampropholis amacula</i>		wet
<i>Lampropholis delicata</i>	Garden Skink	wet, post-wet
<i>Lialis burtonis</i>	Burton's Snake-lizard	wet
<i>Morelia spilota</i>	Carpet Python	wet
<i>Oedura tryoni</i>	Southern Spotted Velvet Gecko	wet
<i>Physignathus lesueurii</i>	Water Dragon	wet
<i>Rhinoplocephalus nigrescens</i>	Eastern Small-Eyed Snake	post-wet
<i>Tropidechis carinatus</i>	Rough-scaled Snake	wet
<i>Varanus varius</i>	Lace Monitor	wet

The Elf Skink (*Eroticoscincus graciloides*) is listed as near threatened under the NC Act. Elf skinks were recorded at Sites 2 and 6 (riparian vine forest).

3.3.5. Amphibians

The nine (9) native amphibian species detected during the surveys are presented in **Table 7**.

Table 7 - Amphibian species detected within the Study Area

Scientific Name	Common Name	Detected
<i>Limnodynastes peronii</i>	Striped Marsh Frog	wet, post-wet
<i>Litoria chloris</i>	Red-Eyed Tree Frog	wet
<i>Litoria fallax</i>	Eastern Dwarf Tree Frog	wet
<i>Litoria gracilentia</i>	Dainty Tree Frog	wet
<i>Litoria latopalmata</i>	Broad-palmed Frog	wet
<i>Litoria peronii</i>	Peron's Tree Frog	wet
<i>Litoria rubella</i>	Ruddy Treefrog	post-wet
<i>Litoria wilcoxii</i>	Wilcox's Frog	wet
<i>Mixophyes fasciolatus</i>	Great Barred Frog	wet

The introduced cane toad (*Rhinella marinus*) was also observed.

4. Conclusion & Recommendations

Koala's are listed as Vulnerable under Queensland's NC Act and the Commonwealth's EPBC Act. In South-east Queensland populations have declined due to habitat clearing (from urban expansion) and issues associated with urban expansion such as road kills and dog attacks. Inappropriate fire regimes and disease have also contributed to declines in koala populations (Curtis et al, 2012). The Kirby's Road Environmental Reserve offers good quality habitat with good connectivity through the landscape. As with any known population of threatened species, it is important to monitor existing populations to determine any changes and causes of population change over time.

As koala's have been confirmed to be present during this survey, it is recommended that monitoring koala's on Kirby's Road Environmental Reserve continues.

Although no confirmed sightings of threatened frog species was recorded during the 2012 surveys, there is a high potential for at least three (3) species of threatened frogs (Tusked Frog (*Adelotus brevis*), Cascade Tree Frog (*Litoria pearsoniana*), Pouched Frog (*Assa darlingtoni*)) to occur within Kirby's Road Environmental Reserve. Further frog surveys are recommended during optimal conditions to determine presence and densities of threatened frog species.

Due to the presence and likely presence of threatened species within the Study Area, it is highly recommended that an Environmental Management Plan (EMP) be developed for the Study Area and implemented in full.

The key issues to address in the EMP include (but are not limited to):

- Repair and maintain fences to exclude cattle;
- a feral animal control program to control cats, dogs, foxes and pigs;
- avoiding degradation of water quality in creek lines;
- a weed management program to monitor, target and eradicate declared pests and locally significant environmental weeds, particularly any infestations within important habitat areas;
- monitor existing terrestrial and aquatic populations to detect changes in population size and habitat/water quality, which may be affected by adjacent land uses; and
- ensure managers within Council are aware of the species on-site and their requirements for survival.

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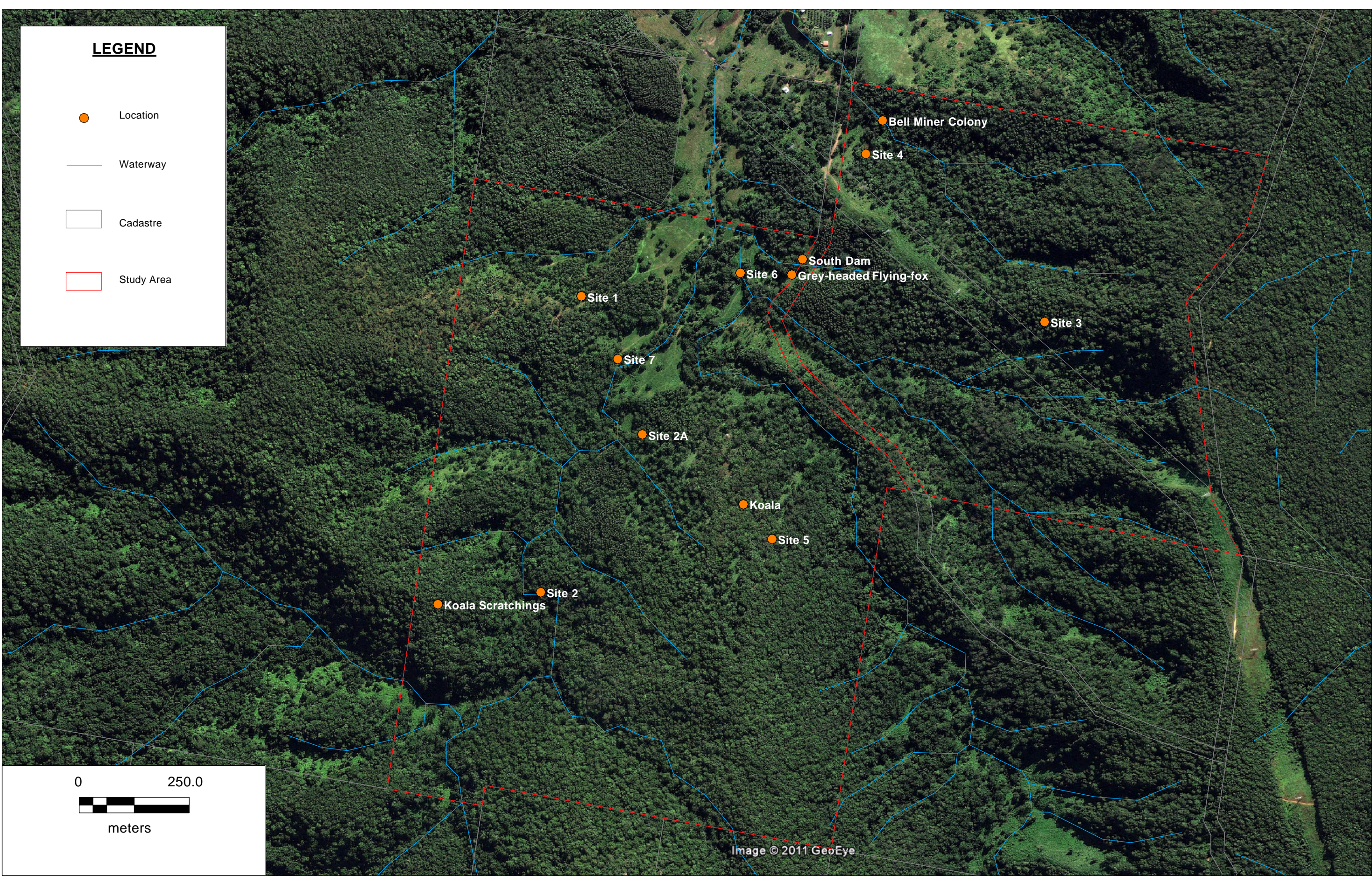
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6. Glossary

DEHP	Queensland Department of Environment and Heritage Protection
DERM	Department of Environment and Resource Management
DSEWPC	Commonwealth Department of Sustainability, Environment, Water, Population and Community
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
NC Act	<i>Nature Conservation Act 1992</i>
PMST	Protected Matters Search Tool
RE	Regional Ecosystem
SCRC	Sunshine Coast Regional Council



SUNSHINE COAST
8 Grebe Street
Peregian Beach, QLD, 4566
t (07) 5448 3288
www.o2ecology.com.au

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Site Map
Lot 176 on MCH798/Lot 178 on MCH865

Sunshine Coast Regional Council

date	July 2012
job #	ECOSC11-0008
drawing	1

Appendix B Fauna Species Detected

Wet Season Fauna Survey Results, Kirby's Road Environmental Reserve, Obi Obi

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Amphibians						
Hylidae	<i>Litoria latopalmata</i>	Broad-palmed Frog	Opportunistic			
Hylidae	<i>Litoria peronii</i>	Peron's Tree Frog	Opportunistic			
Hylidae	<i>Litoria fallax</i>	Eastern Dwarf Tree Frog	Opportunistic			
Hylidae	<i>Litoria wilcoxii</i>	Wilcox's Frog	Opportunistic			
Hylidae	<i>Litoria gracilenta</i>	Dainty Tree Frog	Opportunistic			
Hylidae	<i>Litoria chloris</i>	Red-Eyed Tree Frog	Opportunistic			
Limnodynastidae	<i>Limnodynastes peronii</i>	Striped Marsh Frog	Opportunistic, Funnels, Pitfalls			
Myobatrachidae	<i>Mixophyes fasciolatus</i>	Great Barred Frog	Opportunistic			
Bufonidae	<i>Rhinella marinus</i>	Cane toad	Opportunistic, Funnels, Pitfalls			
Mammals						
Dasyuridae	<i>Antechinus subtropicus</i>	Subtropical Antechinus	Elliot			
Dasyuridae	<i>Antechinus stuartii</i>	Brown Antechinus	Elliot			
Peramelidae	<i>Isoodon macrourus</i>	Northern Brown bandicoot	Cage			
Macropodidae	<i>Macropus parryi</i>	Whiptail Wallaby	Opportunistic			
Muridae	<i>Melomys burtoni</i>	Grassland Melomys	Elliot			
Muridae	<i>Melomys cervinipes</i>	Fawn-footed Melomys	Elliot			
Muridae	<i>Rattus fuscipes</i>	Bush Rat	Cage, elliot			
Muridae	<i>Rattus lutreolus</i>	Swamp rat	Elliot			
Canidae	<i>Vulpes vulpes</i>	Red Fox	Camera, opportunistic			
Felidae	<i>Felis catus</i>	House Cat	Opportunistic			
Rhinolophidae	<i>Rhinolophus megaphyllus</i>	Eastern Horseshoe Bat	Anabat			
Vespertilionidae	<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	Anabat			
Vespertilionidae	<i>Vespadelus pumilus</i>	Eastern Forest Bat	Anabat			
Vespertilionidae	<i>Miniopterus australis</i>	Little Bentwing Bat	Anabat			
Vespertilionidae	<i>Miniopterus orianae oceanensis</i>	Eastern Bentwing Bat	Anabat			
Molossidae	<i>Austronomus australis</i>	White-striped Freetail Bat	Anabat			Yes
Molossidae	<i>Mormopterus ridei</i>	Eastern Freetail Bat	Anabat			
Reptiles						
Gekkonidae	<i>Oedura monilis</i>	Ocellated Velvet Gecko	Funnel			
Pygopodidae	<i>Lialis burtonis</i>	Burton's Snake-lizard	Funnel			
Scincidae	<i>Lampropholis delicata</i>	Garden Skink	Funnel			
Scincidae	<i>Lampropholis amicula</i>		Opportunistic			
Scincidae	<i>Erotoscincus graciloides</i>	Elf Skink	Funnel, pitfall		R	
Scincidae	<i>Eulamprus martini</i>		Opportunistic			
Scincidae	<i>Eulamprus quoyii</i>	Eastern Water Skink	Opportunistic, pitfall			
Agamidae	<i>Physignathus lesueurii</i>	Water Dragon	Opportunistic			
Varanidae	<i>Varanus varius</i>	Lace Monitor	Opportunistic			
Pythonidae	<i>Morelia spilota</i>	Carpet Python	Opportunistic			
Colubridae	<i>Dendrelaphis punctulata</i>	Green Tree Snake	Opportunistic			
Elapidae	<i>Tropidechis carinatus</i>	Rough-scaled Snake	Opportunistic			
Birds						
Columbidae	<i>Geopelia humeralis</i>	Bar-shouldered Dove	Opportunistic			
Meliphagidae	<i>Manorina melanophrys</i>	Bell Miner	Opportunistic			
Campephagidae	<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Opportunistic			

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Columbidae	<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove	Opportunistic			
Acanthizidae	<i>Gerygone mouki</i>	Brown Gerygone	Opportunistic			
Meliphagidae	<i>Lichmera indistincta</i>	Brown Honeyeater	Opportunistic			
Phasianidae	<i>Coturnix ypsilophora</i>	Brown Quail	Opportunistic			
Acanthizidae	<i>Acanthiza pusilla</i>	Brown Thornbill	Opportunistic			
Megapodidae	<i>Alectura lathamii</i>	Australian Brush-turkey	Opportunistic			
Campephagidae	<i>Coracina tenuirostris</i>	Cicadabird	Opportunistic			
Corvidae	<i>Corvus orru</i>	Torresian Crow	Opportunistic			
Columbidae	<i>Chalcophaps indica</i>	Emerald Dove	Opportunistic			
Cuculidae	<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	Opportunistic			
Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian Figbird	Opportunistic			
Halcyonidae	<i>Todiramphus macleayii</i>	Forest Kingfisher	Opportunistic			
Pachycephalidae	<i>Pachycephala pectoralis</i>	Golden Whistler	Opportunistic			
Rhipiduridae	<i>Rhipidura albiscapa</i>	Grey Fantail	Opportunistic			
Pachycephalidae	<i>Colluricincla harmonica</i>	Grey Shrike-thrush	Opportunistic			
Cuculidae	<i>Eudynamys orientalis</i>	Eastern Koel	Opportunistic			
Halcyonidae	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Opportunistic			
Monarchidae	<i>Myiagra rubecula</i>	Leaden Flycatcher	Opportunistic			
Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Opportunistic			
Cuculidae	<i>Chalcites minutillus</i>	Little Bronze-Cuckoo	Opportunistic			
Monarchidae	<i>Grallina cyanoleuca</i>	Magpie-lark	Opportunistic			
Meliphagidae	<i>Philemon corniculatus</i>	Noisy Friarbird	Opportunistic			
Meliphagidae	<i>Manorina melanocephala</i>	Noisy Miner	Opportunistic			
Oriolidae	<i>Oriolus sagittatus</i>	Olive-backed Oriole	Opportunistic			
Psittacidae	<i>Platycercus adscitus</i>	Pale-headed Rosella	Opportunistic			
Cuculidae	<i>Centropus phasianinus</i>	Pheasant Coucal	Opportunistic			
Artamidae	<i>Cracticus nigrogularis</i>	Pied Butcherbird	Opportunistic			
Artamidae	<i>Strepera graculina</i>	Pied Currawong	Opportunistic			
Psittacidae	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet	Opportunistic			
Maluridae	<i>Malurus melanocephalus</i>	Red-backed Fairy-wren	Opportunistic			
Estrildidae	<i>Neochmia temporalis</i>	Red-browed Finch	Opportunistic			
Rhipiduridae	<i>Rhipidura rufifrons</i>	Rufous Fantail	Opportunistic	M		
Pachycephalidae	<i>Pachycephala rufiventris</i>	Rufous Whistler	Opportunistic			
Ptilonorhynchidae	<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird	Opportunistic			
Psittacidae	<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet	Opportunistic			
Dicruridae	<i>Dicrurus bracteatus</i>	Spangled Drongo	Opportunistic			
Monarchidae	<i>Symposiachrus trivirgatus</i>	Spectacled Monarch	Opportunistic	M		
Pardalotidae	<i>Pardalotus punctatus</i>	Spotted Pardalote	Opportunistic			
Campephagidae	<i>Lalage leucomela</i>	Varied Triller	Opportunistic			
Accipitridae	<i>Aquila audax</i>	Wedge-tailed Eagle	Opportunistic			
Hirundinidae	<i>Hirundo neoxena</i>	Welcome Swallow	Opportunistic			
Psophodidae	<i>Psophodes olivaceus</i>	Eastern Whipbird	Opportunistic			
Accipitridae	<i>Haliastur spenurus</i>	Whistling Kite	Opportunistic			
Monarchidae	<i>Carternornis leucotis</i>	White-eared Monarch	Opportunistic			Yes
Campephagidae	<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	Opportunistic			
Acanthizidae	<i>Sericornis frontalis</i>	White-browed Scrubwren	Opportunistic			
Meliphagidae	<i>Phylidonyris niger</i>	White-cheeked Honeyeater	Opportunistic			
Meliphagidae	<i>Melithreptus albogularis</i>	White-throated Honeyeater	Opportunistic			
Climacteridae	<i>Cormobates leucophaea</i>	White-throated Treecreeper	Opportunistic			

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Meliphagidae	<i>Lichenostomus chrysops</i>	Yellow-faced Honeyeater	Opportunistic			
Fish						
Melanotaeniidae	unidentified rainbow fish	unidentified	Opportunistic			
Plotosidae	Unidentified eel-tailed catfish		Opportunistic			

Post-wet Season Fauna Survey Results, Kirby's Road Environmental Reserve, Obi Obi

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Amphibians						
Limnodynastidae	<i>Limnodynastes peronii</i>	Striped Marshfrog	Funnel		0	
Bufo	<i>Rhinella marinus</i>	Cane toad	Opportunistic			
Hylidae	<i>Litoria rubella</i>	Ruddy Treefrog	Opportunistic		0	
Mammals						
Muridae	<i>Rattus rattus</i>	Black Rat	Elliot			
Dasyuridae	<i>Antechinus stuartii</i>	Brown Antechinus	Elliot			
Muridae	<i>Rattus fuscipes</i>	Bush Rat	Elliot, Cage		0	
Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum	Opportunistic		0	
Muridae	<i>Melomys cervinipes</i>	Fawn-Footed Melomys	Elliot, Cage		0	
Muridae	<i>Mus musculus</i>	House Mouse	Elliot			
Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	Opportunistic	V	V	IUCN
Canidae	<i>Vulpes vulpes</i>	Red Fox	Opportunistic			
Macropodidae	<i>Macropus rufogriseus</i>	Red-Necked Wallaby	Opportunistic		0	
Muridae	<i>Rattus lutreolus</i>	Swamp Rat	Cage		0	
Dasyuridae	<i>Antechinus flavipes</i>	Yellow-Footed Antechinus	Elliot		0	
Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed Flying-Fox	Opportunistic	V	C	
Peramelidae	<i>Perameles nasuta</i>	Long-Nosed Bandicoot	Cage		C	
Vespertilionidae	<i>Myotis macropus</i>	Large-footed Myotis	Anabat			
Vespertilionidae	<i>Vespadelus pumilus</i>	Eastern Forest Bat	Anabat		0	
Vespertilionidae	<i>Miniopterus australis</i>	Little Bent-Wing Bat	Anabat		0	
Vespertilionidae	<i>Miniopterus orianae oceanensis</i>	Eastern Bentwing Bat	Anabat			
Reptiles						
Scincidae	<i>Lampropholis delicata</i>	Garden Skink	Funnel, Pitfall		C	
Serpentes	<i>Rhinoplocephalus nigrescens</i>	Eastern Small-Eyed Snake	Funnel			
Birds						
Oriolidae	<i>Sphecotheres vieillotii</i>	Australasian Figbird	Opportunistic		0	
Psittacidae	<i>Alisterus scapularis</i>	Australian King-Parrot	Opportunistic		0	
Columbidae	<i>Geopelia humeralis</i>	Bar-Shouldered Dove	Opportunistic		0	
Meliphagidae	<i>Manorina melanophrys</i>	Bell Miner	Opportunistic		0	
Campephagidae	<i>Coracina novaehollandiae</i>	Black-Faced Cuckoo-Shrike	Opportunistic		0	
Columbidae	<i>Macropygia amboinensis</i>	Brown Cuckoo-Dove	Opportunistic		0	
Estrildidae	<i>Lonchura castaneothorax</i>	Chestnut-Breasted Mannikin	Opportunistic		0	
Psittacidae	<i>Platycercus elegans</i>	Crimson Rosella	Opportunistic		0	
Meliphagidae	<i>Myzomela obscura</i>	Dusky Honeyeater	Opportunistic		0	
Cuculidae	<i>Eudynamys orientalis</i>	Eastern Koel	Opportunistic		0	
Psophodidae	<i>Psophodes olivaceus</i>	Eastern Whipbird	Opportunistic		0	
Petroicidae	<i>Eopsaltria australis</i>	Eastern Yellow Robin	Opportunistic		0	

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Cuculidae	<i>Cacomantis flabelliformis</i>	Fan-Tailed Cuckoo	Opportunistic		0	
Halcyonidae	<i>Todiramphus macleayii</i>	Forest Kingfisher	Opportunistic		0	
Pachycephalidae	<i>Pachycephala pectoralis</i>	Golden Whistler	Opportunistic		0	
Artamidae	<i>Cracticus torquatus</i>	Grey Butcherbird	Opportunistic		0	
Rhipiduridae	<i>Rhipidura albiscapa</i>	Grey Fantail	Opportunistic		0	
Pachycephalidae	<i>Colluricincla harmonica</i>	Grey Shrike-Thrush	Opportunistic		0	
Scolopacidae	<i>Gallinago hardwickii</i>	Latham's Snipe	Opportunistic	M	0	JAMBA/CAMBA/ROKAMBA
Halcyonidae	<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Opportunistic		0	
Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Opportunistic		0	
Pachycephalidae	<i>Colluricincla megarhyncha</i>	Little Shrike-Thrush	Opportunistic		0	
Monarchidae	<i>Grallina cyanoleuca</i>	Magpie-Lark	Opportunistic		0	
Meliphagidae	<i>Manorina melanocephala</i>	Noisy Miner	Opportunistic		0	
Oriolidae	<i>Oriolus sagittatus</i>	Olive-Backed Oriole	Opportunistic		0	
Psittacidae	<i>Platycercus adscitus</i>	Pale-Headed Rosella	Opportunistic		0	
Artamidae	<i>Strepera graculina</i>	Pied Currawong	Opportunistic		0	
Phasianidae	<i>Coturnix ypsilophora</i>	Quail	Opportunistic			
Meropidae	<i>Merops ornatus</i>	Rainbow Bee-Eater	Opportunistic	M	0	
Maluridae	<i>Malurus melanocephalus</i>	Red-Backed Fairy-Wren	Opportunistic		0	
Estrildidae	<i>Neochmia temporalis</i>	Red-Browed Finch	Opportunistic		0	
Petroicidae	<i>Petroica goenenovii</i>	Red-Capped Robin	Opportunistic			
Petroicidae	<i>Petroica rosea</i>	Rose Robin	Opportunistic		0	
Columbidae	<i>Ptilinopus regina</i>	Rose-Crowned Fruit-Dove	Opportunistic		0	
Rhipiduridae	<i>Rhipidura rufifrons</i>	Rufous Fantail	Opportunistic	M	0	
Pachycephalidae	<i>Pachycephala rufiventris</i>	Rufous Whistler	Opportunistic		0	
Psittacidae	<i>Trichoglossus chlorolepidotus</i>	Scaly-Breasted Lorikeet	Opportunistic		0	
Meliphagidae	<i>Myzomela sanguinolenta</i>	Scarlet Honeyeater	Opportunistic		0	
Cuculidae	<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo	Opportunistic		0	
Timaliidae	<i>Zosterops lateralis</i>	Silvereye	Opportunistic		0	
Tytonidae	<i>Tyto tenebricosa tenebricosa</i>	Sooty Owl	Opportunistic		0	R
Dicruridae	<i>Dicrurus bracteatus</i>	Spangled Drongo	Opportunistic		0	
Pardalotidae	<i>Pardalotus striatus</i>	Striated Pardalote	Opportunistic		0	
Maluridae	<i>Malurus cyaneus</i>	Superb Fairy-Wren	Opportunistic		0	
Podargidae	<i>Podargus strigoides</i>	Tawny Frogmouth	Opportunistic		0	
Columbidae	<i>Lopholaimus antarcticus</i>	Topknot Pigeon	Opportunistic		0	
Corvidae	<i>Corvus orru</i>	Torresian Crow	Opportunistic		0	
Neositidae	<i>Daphoenositta chrysoptera</i>	Varied Sittella	Opportunistic		0	
Campephagidae	<i>Lalage leucomela</i>	Varied Triller	Opportunistic		0	
Maluridae	<i>Malurus lamberti</i>	Variegated Fairy-Wren	Opportunistic		0	
Acanthizidae	<i>Smicronis brevirostris</i>	Weebill	Opportunistic		0	
Hirundinidae	<i>Hirundo neoxena</i>	Welcome Swallow	Opportunistic		0	
Accipitridae	<i>Haliastur sphenurus</i>	Whistling Kite	Opportunistic		0	
Acanthizidae	<i>Sericornis frontalis</i>	White-Browed Scrubwren	Opportunistic		0	
Columbidae	<i>Columba leucomela</i>	White-Headed Pigeon	Opportunistic		0	
Acanthizidae	<i>Gerygone albogularis</i>	White-Throated Gerygone	Opportunistic		0	
Meliphagidae	<i>Melithreptus albogularis</i>	White-Throated Honeyeater	Opportunistic		0	
Climacteridae	<i>Cormobates leucophaea</i>	White-Throated Treecreeper	Opportunistic		0	
Rhipiduridae	<i>Rhipidura leucophrys</i>	Willie Wagtail	Opportunistic		0	
Columbidae	<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	Opportunistic		0	
Columbidae	<i>Leucosarcia picata</i>	Wonga Pigeon	Opportunistic		0	

Family	Scientific Name	Common Name	Method of Capture	Status		
				EPBC Act	NC Act	SCRC
Acanthizidae	<i>Acanthiza nana</i>	Yellow Thornbill	Opportunistic		0	
Cacatuidae	<i>Calyptorhynchus funereus</i>	Yellow-Tailed Black-Cockatoo	Opportunistic		0	

Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*

CD	Conservation Dependent
CE	Critically Endangered
E	Endangered
EX	Extinct
XW	Extinct in the Wild
V	Vulnerable
M	Migratory

Queensland conservation status of each taxon under the *Nature Conservation Act 1992*

PE	Extinct in the Wild
E	Endangered
V	Vulnerable
NT	Near Threatened
C	Least Concern
	Not Protected

Sunshine Coast Biodiversity Strategy 2010-2020

E	endangered
V	vulnerable
R	rare
N	northern limit
S	southern limit
EPBC	Environment Protection and Biodiversity Conservation Act (2000)
NCA	Nature Conservation Act (1992)
IUCN	International Union for Conservation of Nature and Natural Resources
BONN	Convention on the Conservation of Migratory Species of Wild Animals
JAMBA	Japan - Australia Migratory Bird Agreement
CAMBA	China - Australia Migratory Bird Agreement
ROKAMBA	Republic of Korea - Australia Migratory Bird Agreement

Appendix C Anabat Interpretation Reports

Microbat Echolocation Call Analysis

Client: O2Ecology

Contact: Paul Fox

Job no.: O2E-1203

Survey Location & Period: Obi Obi, 4-7 June 2012

Data format and call identification methods

Bat calls were recorded over four consecutive nights (4th to 7th June, 2012) using the Anabat system (Titley Scientific, Brisbane).

The Anabat data file submitted for analysis (SN 82050 120419-0800 120608-0953.dat) was processed with *CFCread* (Corben 2011) to produce 359 Anabat sequence files (zero-crossing analysis format); however the majority of these (280 files) were recorded on 19th and 20th April 2012 and were excluded from the analysis.

Call interpretation for the remaining 79 sequence files was undertaken using AnalookW (Corben 2009). Calls with fewer than three clearly-recognisable pulses were excluded from the analysis. Species were identified by comparing calls with reference calls from southern Queensland and/or with published call descriptions (Reinhold et al 2001).

Determination of species' identity was refined by considering probability of occurrence based on distributional information presented in Churchill (2008) and van Dyck & Strahan (2008). Point records obtained from the WildNet database (DERM 2012) and/or Queensland Museum database (QM 2008) were also reviewed in an attempt to narrow down occurrence probabilities for some species.

Reporting standard

The format and content of this report complies with nationally accepted standards for the interpretation and reporting of Anabat data (Reardon 2003); latest version available from the Australasian Bat Society on-line at <http://www.ausbats.org.au/>.

Species nomenclature

Species names used in this report follow Churchill (2008).

Results

At least five microbat species were recorded during this survey, although many of the calls recorded were from species that share call characteristics and can be difficult to reliably identify. It is possible, therefore, that the calls recorded represent up to eight different species (see Table 1).

A breakdown of species recorded on each night is provided in Table 1. Call similarities, identification reliability and likelihood of species' occurrence are discussed in the "Notes" section, below.

Table 1 Bat species recorded with Anabat at Obi Obi, 4-7 June 2012.

Date	4-Jun	5-Jun	6-Jun	7-Jun
No. of sequence files	21	5	18	34
No. calls identified	16	2	13	28
<i>Myotis macropus</i> or <i>Nyctophilus</i> sp.	✓			
<i>Vespadelus pumilus</i> or <i>V. troughtoni</i>	✓		✓	✓
<i>Miniopterus australis</i>	✓		✓	✓
<i>Miniopterus orianae oceanensis</i>	✓	✓		✓
<i>Mormopterus norfolkensis</i> or <i>M. ridei</i>	✓			

Microbat Echolocation Call Analysis

Client: O2Ecology

Contact: Paul Fox

Job no.: O2E-1203

Survey Location & Period: Obi Obi, 4-7 June 2012

Notes - species / calls not reliably identified

Myotis macropus and *Nyctophilus* species

These bats generally have weak calls with almost vertical and more-or-less linear pulse shape. They are usually easy to distinguish from other bats, but differentiation between *M. macropus* and *Nyctophilus* spp is very difficult. The calls recorded in this survey, however, were all from a detector that was set up over a creek, so it is considered highly probable that the calls were from *M. macropus* rather than *Nyctophilus* spp.

Vespadelus pumilus and *V. troughtoni*

Calls from these two species are almost identical: steep, broad-band pulses with distinctive cup-shaped body and characteristic frequency (Fc) between 50-55kHz. Most of the calls from this survey had somewhat erratic changes in pulse frequency throughout each call sequence, which is a feature more typical of *V. pumilus*. The survey locality and habitats also points to this being the species more likely responsible for the calls.

Mormopterus norfolkensis and *V. ridei*

These species generally produce calls with almost-flat pulses and characteristic frequency around 30-35kHz. Some calls from *M. norfolkensis* have a distinctive pattern of alternating pulse frequency, whereas *M. ridei* calls are generally more uniform. One call sequence from 4th June was attributable to a *Mormopterus* species. There was weak evidence of alternation, but the call was too brief to be certain which species was responsible.

References:

- Churchill, S. (2008). *Australian Bats*. Jacana Books, Allen & Unwin; Sydney.
- Corben, C. (2009). *AnalookW* Version 3.7w. Software for bat call analysis using ZCA data.
- Corben, C. (2011). *CFCread Storage ZCAIM interface* Version 4.3s; 26 April 2011.
- DERM (2012). *WildNet* database extract: *Vespadelus baverstocki* & *Vespadelus vulturnus*. Department of Environment and Resource Management, Mackay. Extracted May 2012.
- QM (2008). Queensland Museum Specimen Register database extract: *Vespertilionidae*. Queensland Museum, South Bank, brisbane. Extracted January 2008.
- Reardon, T. (2003). Standards in bat detector based surveys. *Australasian Bat Society Newsletter* **20**, 41-43.
- Reinhold, L., Law, B., Ford, G. and Pennay, M. (2001). *Key to the bat calls of south-east Queensland and north-east New South Wales*. Department of Natural Resources and Mines, Brisbane.
- van Dyck, S. and Strahan, R. (ed.) (2008). *The Mammals of Australia* (Third Edition); New Holland; Sydney.

Microbat Echolocation Call Analysis

Client: O2Ecology

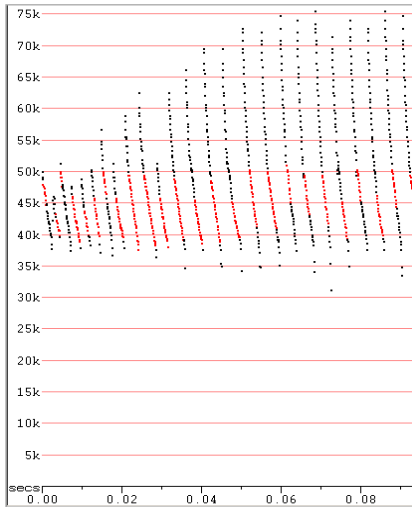
Contact: Paul Fox

Job no.: O2E-1203

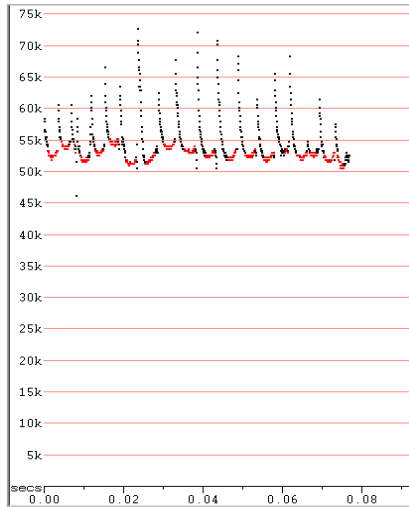
Survey Location & Period: Obi Obi, 4-7 June 2012

Sample calls extracted from the survey data

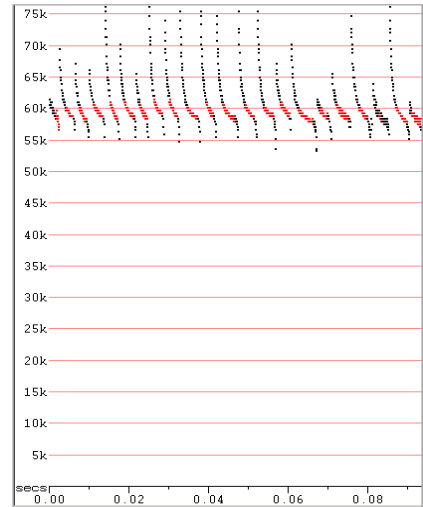
Scale: 10 msec per tick; time between pulses removed
(AnalogW F7 compressed mode)



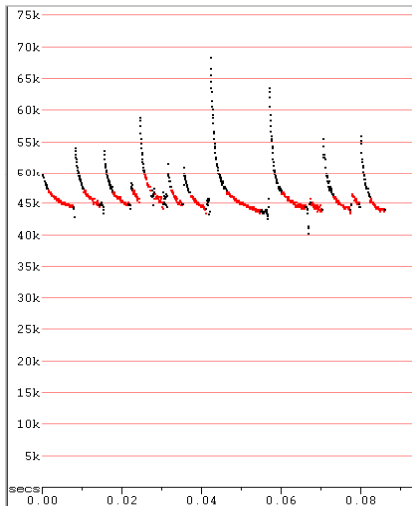
Myotis macropus or *Nyctophilus* sp.



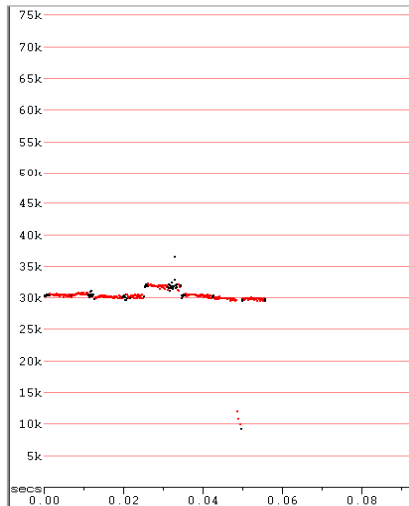
Vespadelus pumilus or *V. troughtoni*



Miniopterus australis



Miniopterus orianae oceanensis



Mormopterus norfolkensis or *M. ridei*

Anabat echolocation data interpretation summary

Client: O2 Ecology

Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

Data received for analysis

Data received included some 1450 Anabat sequence files, recorded over five nights, using two detectors.

All data was of reasonably good quality, allowing reliable identification for most calls.

The results are presented in two data tables:

Table 1 simply presents a list of species with indication of presence (definite or probable) for each site/detector session;

Table 2 shows the number of calls attributed to each species or species group (for those calls not positively identified).

Species nomenclature:

Species names used in this summary follow Churchill (2008).

Call identification & reporting standard:

Call identification was based on published call descriptions for south-east Queensland (Reinhold *et al.* 2001) and/or NSW (Pennay *et al.* 2004) and on reference calls collected from central and/or southern Queensland.

Determination of species' identification was further refined by considering probability of occurrence based on distributional information presented in Churchill (2008) and van Dyck & Strahan (2008).

The format and content of this report complies with nationally accepted standards for the interpretation and reporting of Anabat data (Reardon 2003); latest version available from the Australasian Bat Society on-line at <http://www.ausbats.org.au/>.

Literature cited:

Churchill, S. (2008). *Australian Bats*. Jacana Books, Allen & Unwin; Sydney.

Pennay, M., Law, B. and Reinhold, L. (2004). *Bat Calls of New South Wales*. Department of Environment and Conservation, Hurstville.

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Reinhold, L., Law, B., Ford, G. and Pennay, M. (2001). *Key to the bat calls of south-east Queensland and north-east New South Wales*. Department of Natural Resources and Mines, Brisbane.

van Dyck, S. and Strahan, R. (ed.) (2008). *The Mammals of Australia* (Third Edition); New Holland; Sydney.

Anabat echolocation data interpretation summary

Client: O2 Ecology

Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

CALL IDENTIFICATION RESULTS

Table 1 - Species presence

✓ Denotes species definitely present and positively identified from call data

? Denotes species probably present, but not confirmed because calls similar to one or more other species

Refer to "Reliability of call identification" section for discussion on probability of occurrence for these species

Detector	SN04539					SN80953					
	Date	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan
	Site	2	1	6	7	front dam	4	4	5	south dam	3
<i>Rhinolophus megaphyllus</i>		✓					✓		✓		✓
<i>Chalinolobus gouldii</i>		✓	✓			✓				✓	✓
<i>Chalinolobus morio</i>			?	?	?	?	?				?
<i>Myotis macropus</i>		?		?	?	?			?	?	?
<i>Nyctophilus species</i>		?		?	?	?			?	?	?
<i>Phoniscus papuensis</i>		?		?							
<i>Scoteanax rueppellii</i>					?	?				?	
<i>Scotorepens orion</i>					?	?				?	
<i>Vespadelus pumilus</i>		✓	✓	✓	✓	✓	?		✓	✓	✓
<i>Vespadelus troughtoni</i>			?	?	?	?	?				?
<i>Miniopterus australis</i>			✓	✓	?	?			✓	✓	?
<i>Miniopterus orianae oceanensis</i>					✓						
<i>Austronomus australis</i>			✓	✓		✓				✓	✓
<i>Mormopterus ridei</i>				✓						✓	

Anabat echolocation data interpretation summary

Client: O2 Ecology

Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

CALL IDENTIFICATION RESULTS

Table 2 - Call counts

Numbers in columns refer to number of calls attributed to a species for a given night/site. Please note that these **numbers do not imply relative abundance** of the various species recorded. They may, however, be construed to represent relative differences in activity levels between the species.

Detector/site DATE Site NO. OF ANABAT FILES NO. OF BAT CALLS	SN04539					SN80953				
	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan
	2	1	6	7	front dam	4	4	5	south dam	3
	35	35	72	141	576	58	8	149	317	59
	35	32	42	137	417	3	0	13	341	40
Calls/species POSITIVELY identified										
<i>Rhinolophus megaphyllus</i>	1					1		3		1
<i>Chalinolobus gouldii</i>	3	1			312				141	2
<i>Nyctophilus</i> species or <i>Myotis macropus</i>	12		2	16	2			4	3	6
<i>Vespadelus pumilus</i>	18	14	8	88	15			3	29	15
<i>Miniopterus australis</i>		6	1					2	1	
<i>Miniopterus orianae oceanensis</i>				6						
<i>Austronomus australis</i>		2	1		4				38	1
<i>Mormopterus ridei</i>			2						73	
Calls/species NOT positively identified										
<i>Phoniscus papuensis</i>	1		1							
<i>Chalinolobus gouldii</i> or <i>Mormopterus ridei</i>			12	1	65				46	5
<i>Chalinolobus morio</i> or <i>Vespadelus</i> species		2	2	2	3	1				2
<i>Scotorepens orion</i> or <i>Scoteanax rueppellii</i>				1	4				2	
<i>Vespadelus pumilus</i> or <i>Miniopterus australis</i>		4	3	13	2			1		2
Unidentified bat calls		3	10	10	10	1			8	6

Anabat echolocation data interpretation summary

Client: O2 Ecology

Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

Reliability of species ID:

Chalinolobus gouldii or Mormopterus ridei

Calls from these species overlap in frequency around 30-33kHz. *C. gouldii* was positively identified from numerous calls with characteristic steep pulses that alternate in frequency. A number of calls with predominantly flat pulses (mostly >33kHz) were positively attributed to *M. ridei*. Many calls, however, lacked clear alternation and had intermediate pulse shapes and these could have been from either species.

C. morio or Vespadelus species

The characteristic frequency of *C. morio* calls (Fc=49-53kHz) overlaps significantly with that of several *Vespadelus* spp., including *V. troughtoni* (Fc=48-53kHz), *V. vulturnus* (Fc=45-50kHz) and *V. pumilus* (F=51-58kHz). The few calls attributed to this group for this survey had predominantly curved pulse bodies, with Fc=51-52kHz, and were most likely from *V. troughtoni*. Some pulses, however, had less-curved bodies, suggesting *C. morio* may have been responsible.

Nyctophilus species or Myotis macropus

These species' calls have weak linear pulses that sweep from around 70 to 40kHz, and are very difficult to differentiate using Anabat data. It is highly likely that both *Nyctophilus* and *M. macropus* were recorded during the present survey, the latter species particularly on those sites with surface water. At least three *Nyctophilus* species potentially occur in the area: *N. bifax*, *N. geoffroyi* and *N. gouldi*.

Phoniscus papuensis

This species produces weak calls with linear pulses, similar to those of *Nyctophilus* and *M. macropus*, but at a higher frequency (sweeping from ca. 100-60kHz). Two very brief and weak calls were possibly attributable to this species, one at Site 2 and the other at Site 6; however, the confidence level for this identification is very low.

Scotorepens orion or Scotenax rueppellii

These two species are difficult to differentiate, both producing calls with curved pulses and Fc around 33-37kHz. It is likely that both species occur in the study area, so both were listed as possible for the few calls recorded.

Vespadelus pumilus or Miniopterus australis

Most calls from this survey were reliably attributed to one or other of these species based on call differential (*V. pumilus* <57kHz and *M. australis* >59kHz); however, a few calls in the overlap zone (57-58kHz) could have been from either species.

Unidentified bat calls

Some calls were too brief and/or weak and/or noisy for identification purposes. All such calls had frequency ranges and pulse shapes similar to one or more of the species otherwise listed in the table and are unlikely to represent additional species for the surveys.

Anabat Data Analysis Summary

Client: O2 Ecology

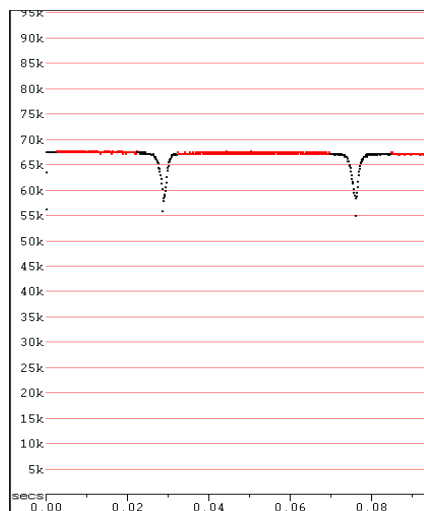
Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

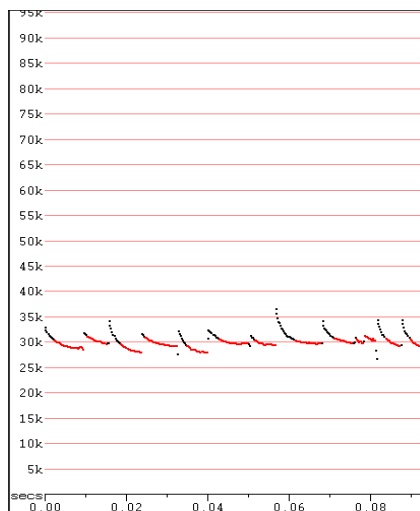
Sample calls extracted from the survey data.

Scale: 10 msec per tick; time between pulses removed
(AnalogW F7 compressed mode)

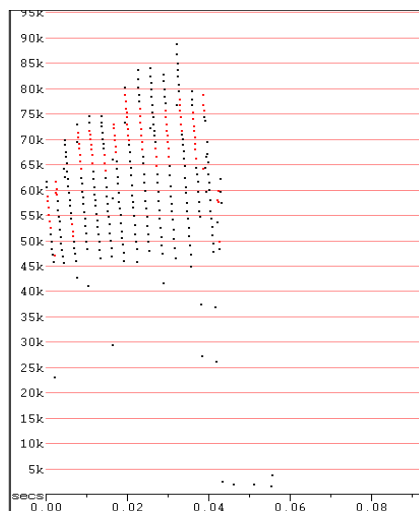
Species positively identified



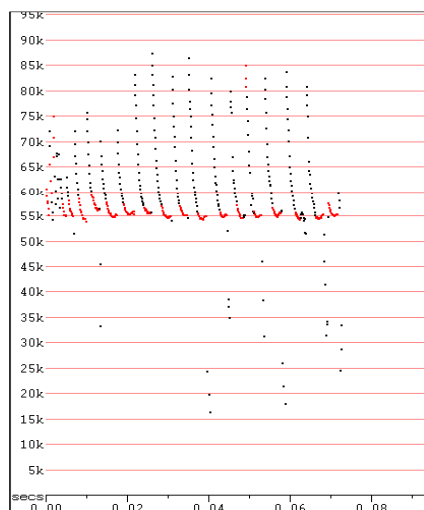
Rhinolophus megaphyllus



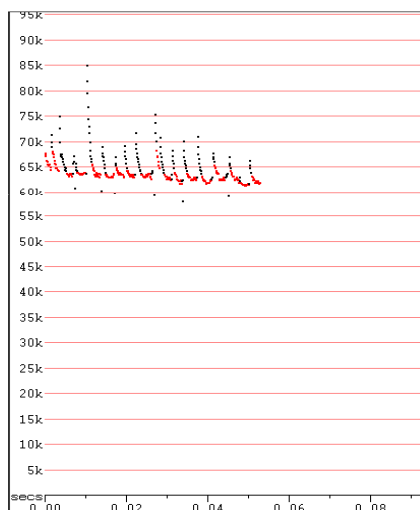
Chalinolobus gouldii



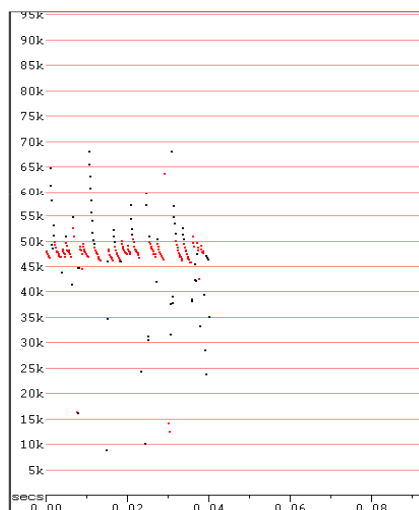
Nyctophilus species or *M. macropus*



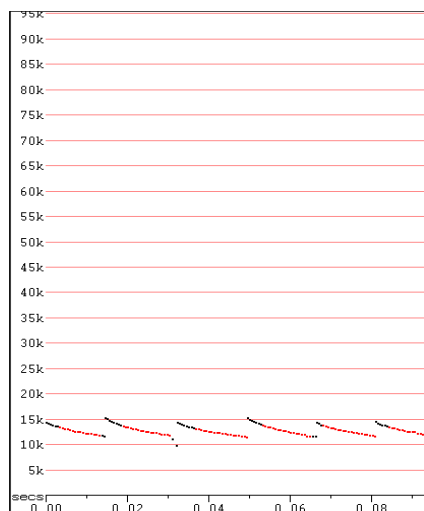
Vespadelus pumilus



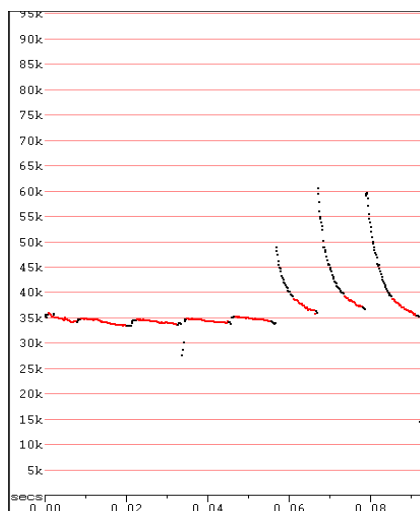
Miniopterus australis



Miniopterus orianae oceanensis



Austronomus australis



Mormopterus ridei

Anabat Data Analysis Summary

Client: O2 Ecology

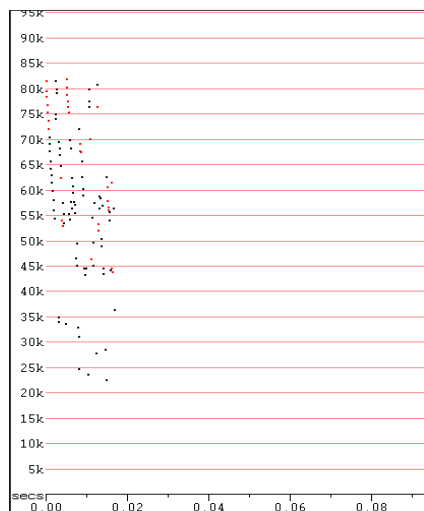
Balance Job no.: O2E-1201

Project name/location: Obi Obi, SE Qld, 9-13 January 2012

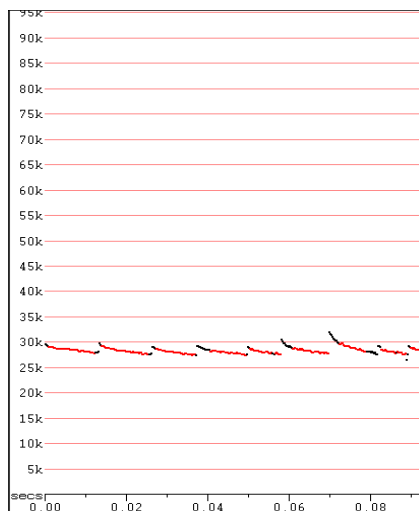
Sample calls extracted from the survey data.

Scale: 10 msec per tick; time between pulses removed
(AnalogW F7 compressed mode)

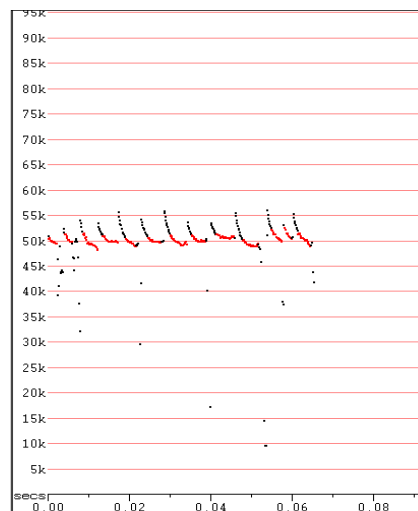
Calls NOT positively identified



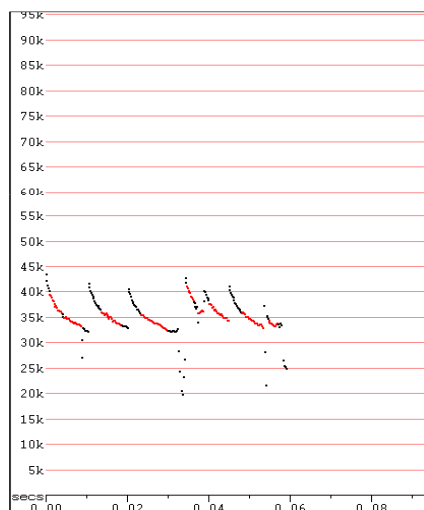
Possibly *Phoniscus papuensis*



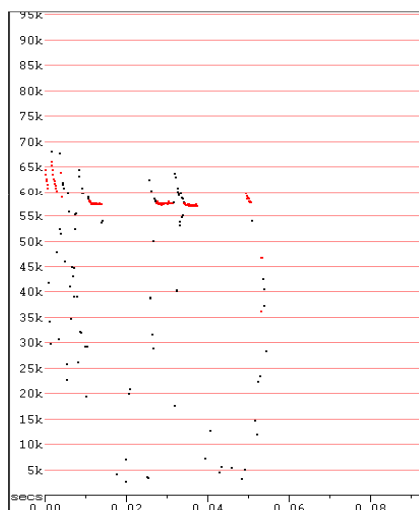
C. gouldii or *M. ridei*



Chalinolobus morio or *Vespadelus* sp



S. orion or *Sx. rueppellii*



V. pumilus or *M. australis*

Appendix D Database Searches



Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: Animals
Type: All
Status: All
Records: All
Date: All
Latitude: 26.6719
Longitude: 152.8144
Distance: 5
Email: paul.fox@o2ecology.com.au
Date submitted: Wednesday 14 Dec 2011 16:44:23
Date extracted: Wednesday 14 Dec 2011 16:46:02

The number of records retrieved = 304

Disclaimer

As the DERM is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	<i>Rhinella marina</i>	cane toad	Y			20
animals	amphibians	Hylidae	<i>Litoria sp.</i>					1
animals	amphibians	Hylidae	<i>Litoria fallax</i>	eastern sedgefrog		C		18
animals	amphibians	Hylidae	<i>Litoria nasuta</i>	striped rocketfrog		C		1
animals	amphibians	Hylidae	<i>Litoria dentata</i>	bleating treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria peronii</i>	emerald spotted treefrog		C		4
animals	amphibians	Hylidae	<i>Litoria chloris</i>	orange eyed treefrog		C		3
animals	amphibians	Hylidae	<i>Litoria tyleri</i>	southern laughing treefrog		C		2
animals	amphibians	Hylidae	<i>Litoria rubella</i>	ruddy treefrog		C		1
animals	amphibians	Hylidae	<i>Litoria wilcoxii</i>	eastern stony creek frog		C		9
animals	amphibians	Hylidae	<i>Litoria lesueuri sensu lato</i>	stony creek frog		C		8
animals	amphibians	Hylidae	<i>Litoria pearsoniana</i>	cascade treefrog		V		5
animals	amphibians	Hylidae	<i>Litoria latopalmata</i>	broad palmed rocketfrog		C		3
animals	amphibians	Hylidae	<i>Litoria gracilentia</i>	graceful treefrog		C		4
animals	amphibians	Hylidae	<i>Litoria caerulea</i>	common green treefrog		C		5
animals	amphibians	Limnodynastidae	<i>Adelotus brevis</i>	tusked frog		V		9
animals	amphibians	Limnodynastidae	<i>Limnodynastes peronii</i>	striped marshfrog		C		4
animals	amphibians	Limnodynastidae	<i>Limnodynastes salmini</i>	salmon striped frog		C		1
animals	amphibians	Limnodynastidae	<i>Limnodynastes terraereginae</i>	scarlet sided pobblebonk		C		1
animals	amphibians	Myobatrachidae	<i>Assa darlingtoni</i>	pouched frog		NT		2
animals	amphibians	Myobatrachidae	<i>Crinia signifera</i>	clicking froglet		C		1
animals	amphibians	Myobatrachidae	<i>Taudactylus diurnus</i>	southern dayfrog		E	EX	3
animals	amphibians	Myobatrachidae	<i>Mixophyes fasciolatus</i>	great barred frog		C		18
animals	amphibians	Myobatrachidae	<i>Rheobatrachus silus</i>	southern gastric brooding frog		E	EX	4/1
animals	birds	Acanthizidae	<i>Acanthiza nana</i>	yellow thornbill		C		6
animals	birds	Acanthizidae	<i>Acanthiza pusilla</i>	brown thornbill		C		95
animals	birds	Acanthizidae	<i>Gerygone mouki</i>	brown gerygone		C		31
animals	birds	Acanthizidae	<i>Acanthiza lineata</i>	striated thornbill		C		19
animals	birds	Acanthizidae	<i>Gerygone albogularis</i>	white-throated gerygone		C		22
animals	birds	Acanthizidae	<i>Acanthiza chrysorrhoa</i>	yellow-rumped thornbill		C		2
animals	birds	Acanthizidae	<i>Sericornis citreogularis</i>	yellow-throated scrubwren		C		1
animals	birds	Acanthizidae	<i>Smicornis brevirostris</i>	weebill		C		4
animals	birds	Acanthizidae	<i>Sericornis magnirostra</i>	large-billed scrubwren		C		56
animals	birds	Acanthizidae	<i>Sericornis frontalis</i>	white-browed scrubwren		C		80
animals	birds	Accipitridae	<i>Aquila audax</i>	wedge-tailed eagle		C		8
animals	birds	Accipitridae	<i>Haliastur indus</i>	brahmny kite		C		1
animals	birds	Accipitridae	<i>Elanus axillaris</i>	black-shouldered kite		C		13
animals	birds	Accipitridae	<i>Aviceda subcristata</i>	Pacific baza		C		13
animals	birds	Accipitridae	<i>Accipiter novaehollandiae</i>	grey goshawk		NT		11
animals	birds	Accipitridae	<i>Accipiter cirrocephalus</i>	collared sparrowhawk		C		5
animals	birds	Accipitridae	<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle		C		3
animals	birds	Accipitridae	<i>Haliastur sphenurus</i>	whistling kite		C		5
animals	birds	Accipitridae	<i>Accipiter fasciatus</i>	brown goshawk		C		6
animals	birds	Aegothelidae	<i>Aegotheles cristatus</i>	Australian owl-nightjar		C		2
animals	birds	Alcedinidae	<i>Ceyx azureus</i>	azure kingfisher		C		7/1
animals	birds	Anatidae	<i>Anas gracilis</i>	grey teal		C		7

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Anatidae	<i>Anas platyrhynchos</i>	northern mallard	Y			1
animals	birds	Anatidae	<i>Chenonetta jubata</i>	Australian wood duck		C		39
animals	birds	Anatidae	<i>Aythya australis</i>	hardhead		C		3
animals	birds	Anatidae	<i>Anas superciliosa</i>	Pacific black duck		C		78
animals	birds	Anhingidae	<i>Anhinga novaehollandiae</i>	Australasian darter		C		4
animals	birds	Anseranatidae	<i>Anseranas semipalmata</i>	magpie goose		C		4
animals	birds	Apodidae	<i>Apus pacificus</i>	fork-tailed swift		C		3
animals	birds	Apodidae	<i>Hirundapus caudacutus</i>	white-throated needletail		C		12
animals	birds	Ardeidae	<i>Ardea ibis</i>	cattle egret		C		50
animals	birds	Ardeidae	<i>Egretta novaehollandiae</i>	white-faced heron		C		57
animals	birds	Ardeidae	<i>Nycticorax caledonicus</i>	Nankeen night-heron		C		2
animals	birds	Ardeidae	<i>Egretta garzetta</i>	little egret		C		6
animals	birds	Ardeidae	<i>Ardea modesta</i>	eastern great egret		C		6
animals	birds	Ardeidae	<i>Ardea intermedia</i>	intermediate egret		C		7
animals	birds	Ardeidae	<i>Ardea pacifica</i>	white-necked heron		C		4
animals	birds	Artamidae	<i>Cracticus tibicen</i>	Australian magpie		C		111
animals	birds	Artamidae	<i>Artamus leucorhynchus</i>	white-breasted woodswallow		C		22
animals	birds	Artamidae	<i>Cracticus nigrogularis</i>	piebald butcherbird		C		62
animals	birds	Artamidae	<i>Cracticus torquatus</i>	grey butcherbird		C		59
animals	birds	Artamidae	<i>Artamus personatus</i>	masked woodswallow		C		2
animals	birds	Artamidae	<i>Strepera graculina</i>	piebald currawong		C		128
animals	birds	Burhinidae	<i>Burhinus grallarius</i>	bush stone-curlew		C		2
animals	birds	Cacatuidae	<i>Cacatua galerita</i>	sulphur-crested cockatoo		C		59
animals	birds	Cacatuidae	<i>Eolophus roseicapillus</i>	galah		C		33
animals	birds	Cacatuidae	<i>Calyptorhynchus lathami</i>	glossy black-cockatoo		V		3
animals	birds	Cacatuidae	<i>Calyptorhynchus funereus</i>	yellow-tailed black-cockatoo		C		68
animals	birds	Cacatuidae	<i>Calyptorhynchus banksii</i>	red-tailed black-cockatoo		C		2
animals	birds	Cacatuidae	<i>Nymphicus hollandicus</i>	cockatiel		C		1
animals	birds	Cacatuidae	<i>Cacatua sanguinea</i>	little corella		C		4
animals	birds	Campephagidae	<i>Coracina lineata</i>	barred cuckoo-shrike		C		6
animals	birds	Campephagidae	<i>Lalage leucomela</i>	varied triller		C		44
animals	birds	Campephagidae	<i>Coracina papuensis</i>	white-bellied cuckoo-shrike		C		2
animals	birds	Campephagidae	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike		C		70
animals	birds	Campephagidae	<i>Coracina tenuirostris</i>	cicadabird		C		47
animals	birds	Charadriidae	<i>Vanellus miles</i>	masked lapwing		C		34
animals	birds	Charadriidae	<i>Elseya melanops</i>	black-fronted dotterel		C		1
animals	birds	Charadriidae	<i>Vanellus miles novaehollandiae</i>	masked lapwing (southern subspecies)		C		37
animals	birds	Ciconiidae	<i>Ephippiorhynchus asiaticus</i>	black-necked stork		NT		1
animals	birds	Cisticolidae	<i>Cisticola exilis</i>	golden-headed cisticola		C		30
animals	birds	Climacteridae	<i>Climacteris picumnus</i>	brown treecreeper		C		1
animals	birds	Climacteridae	<i>Cormobates leucophaea</i>	white-throated treecreeper		C		48
animals	birds	Climacteridae	<i>Cormobates leucophaea metastasis</i>	white-throated treecreeper (southern)		C		21
animals	birds	Columbidae	<i>Ptilinopus magnificus</i>	wompoo fruit-dove		C		35
animals	birds	Columbidae	<i>Ptilinopus superbus</i>	superb fruit-dove		C		1
animals	birds	Columbidae	<i>Leucosarcia picata</i>	wonga pigeon		C		22
animals	birds	Columbidae	<i>Geopelia humeralis</i>	bar-shouldered dove		C		70

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Columbidae	<i>Chalcophaps indica</i>	emerald dove		C		16
animals	birds	Columbidae	<i>Ptilinopus regina</i>	rose-crowned fruit-dove		C		34
animals	birds	Columbidae	<i>Ocyphaps lophotes</i>	crested pigeon		C		52
animals	birds	Columbidae	<i>Columba leucomela</i>	white-headed pigeon		C		49
animals	birds	Columbidae	<i>Geopelia striata</i>	peaceful dove		C		6
animals	birds	Columbidae	<i>Lopholaimus antarcticus</i>	topknot pigeon		C		34
animals	birds	Columbidae	<i>Streptopelia chinensis</i>	spotted dove	Y			24
animals	birds	Columbidae	<i>Macropygia amboinensis</i>	brown cuckoo-dove		C		87
animals	birds	Coraciidae	<i>Eurystomus orientalis</i>	dollarbird		C		16
animals	birds	Corvidae	<i>Corvus orru</i>	Torresian crow		C		160
animals	birds	Corvidae	<i>Corvus coronoides</i>	Australian raven		C		5
animals	birds	Cuculidae	<i>Cuculus optatus</i>	oriental cuckoo		C		1
animals	birds	Cuculidae	<i>Scythrops novaehollandiae</i>	channel-billed cuckoo		C		17
animals	birds	Cuculidae	<i>Chalcites minutillus minutillus</i>	little bronze-cuckoo		C		4
animals	birds	Cuculidae	<i>Cacomantis flabelliformis</i>	fan-tailed cuckoo		C		43
animals	birds	Cuculidae	<i>Chalcites lucidus</i>	shining bronze-cuckoo		C		51
animals	birds	Cuculidae	<i>Eudynamys orientalis</i>	eastern koel		C		41
animals	birds	Cuculidae	<i>Cacomantis variolosus</i>	brush cuckoo		C		22
animals	birds	Cuculidae	<i>Centropus phasianinus</i>	pheasant coucal		C		54
animals	birds	Cuculidae	<i>Cacomantis pallidus</i>	pallid cuckoo		C		4
animals	birds	Cuculidae	<i>Chalcites basal</i>	Horsfield's bronze-cuckoo		C		6
animals	birds	Dicruridae	<i>Dicrurus bracteatus</i>	spangled drongo		C		60
animals	birds	Estrildidae	<i>Neochmia temporalis</i>	red-browed finch		C		51
animals	birds	Estrildidae	<i>Taeniopygia bichenovii</i>	double-barred finch		C		15
animals	birds	Estrildidae	<i>Lonchura castaneothorax</i>	chestnut-breasted mannikin		C		14
animals	birds	Falconidae	<i>Falco longipennis</i>	Australian hobby		C		3
animals	birds	Falconidae	<i>Falco cenchroides</i>	nankeen kestrel		C		5
animals	birds	Falconidae	<i>Falco peregrinus</i>	peregrine falcon		C		15
animals	birds	Falconidae	<i>Falco berigora</i>	brown falcon		C		3
animals	birds	Halcyonidae	<i>Dacelo leachii</i>	blue-winged kookaburra		C		1
animals	birds	Halcyonidae	<i>Todiramphus macleayi</i>	forest kingfisher		C		17
animals	birds	Halcyonidae	<i>Todiramphus sanctus</i>	sacred kingfisher		C		16
animals	birds	Halcyonidae	<i>Dacelo novaeguineae</i>	laughing kookaburra		C		115
animals	birds	Hirundinidae	<i>Hirundo neoxena</i>	welcome swallow		C		85
animals	birds	Hirundinidae	<i>Petrochelidon nigricans</i>	tree martin		C		17
animals	birds	Hirundinidae	<i>Cheramoeca leucosterna</i>	white-backed swallow		C		1
animals	birds	Hirundinidae	<i>Petrochelidon ariel</i>	fairy martin		C		11
animals	birds	Jacanidae	<i>Irediparra gallinacea</i>	comb-crested jacana		C		7
animals	birds	Maluridae	<i>Malurus cyaneus</i>	superb fairy-wren		C		1
animals	birds	Maluridae	<i>Malurus melanocephalus</i>	red-backed fairy-wren		C		42
animals	birds	Maluridae	<i>Malurus splendens melanotis</i>	splendid fairy-wren (black-backed subspecies)		C		2
animals	birds	Maluridae	<i>Malurus leucopterus</i>	white-winged fairy-wren		C		1
animals	birds	Maluridae	<i>Malurus lamberti</i>	variegated fairy-wren		C		38
animals	birds	Megaluridae	<i>Megalurus grammineus</i>	little grassbird		C		2
animals	birds	Megaluridae	<i>Megalurus timoriensis</i>	tawny grassbird		C		14

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Megapodiidae	<i>Alectura lathamii</i>	Australian brush-turkey		C		46
animals	birds	Meliphagidae	<i>Manorina melanophrys</i>	bell miner		C		5
animals	birds	Meliphagidae	<i>Manorina melanocephala</i>	noisy miner		C		56
animals	birds	Meliphagidae	<i>Melithreptus lunatus</i>	white-naped honeyeater		C		12
animals	birds	Meliphagidae	<i>Philemon corniculatus</i>	noisy friarbird		C		15
animals	birds	Meliphagidae	<i>Myzomela sanguinolenta</i>	scarlet honeyeater		C		84
animals	birds	Meliphagidae	<i>Anthochaera chrysoptera</i>	little wattlebird		C		23
animals	birds	Meliphagidae	<i>Lichmera indistincta</i>	brown honeyeater		C		32
animals	birds	Meliphagidae	<i>Phylidonyris niger</i>	white-cheeked honeyeater		C		2
animals	birds	Meliphagidae	<i>Entomyzon cyanotis</i>	blue-faced honeyeater		C		27
animals	birds	Meliphagidae	<i>Caligavis chrysops</i>	yellow-faced honeyeater		C		36
animals	birds	Meliphagidae	<i>Meliphaga lewinii</i>	Lewin's honeyeater		C		155
animals	birds	Meliphagidae	<i>Myzomela obscura</i>	dusky honeyeater		C		25
animals	birds	Meliphagidae	<i>Phylidonyris novaehollandiae</i>	New Holland honeyeater		C		23
animals	birds	Meliphagidae	<i>Acanthorhynchus tenuirostris</i>	eastern spinebill		C		7
animals	birds	Meliphagidae	<i>Melithreptus albogularis</i>	white-throated honeyeater		C		35
animals	birds	Meliphagidae	<i>Philemon citreogularis</i>	little friarbird		C		7
animals	birds	Menuridae	<i>Menura alberti</i>	Albert's lyrebird		NT		1
animals	birds	Meropidae	<i>Merops ornatus</i>	rainbow bee-eater		C		44
animals	birds	Monarchidae	<i>Myiagra inquieta</i>	restless flycatcher		C		32
animals	birds	Monarchidae	<i>Grallina cyanoleuca</i>	magpie-lark		C		76
animals	birds	Monarchidae	<i>Carterornis leucotis</i>	white-eared monarch		C		5
animals	birds	Monarchidae	<i>Symposiarchus trivirgatus</i>	spectacled monarch		C		61
animals	birds	Monarchidae	<i>Monarcha melanopsis</i>	black-faced monarch		C		24
animals	birds	Monarchidae	<i>Myiagra cyanoleuca</i>	satin flycatcher		C		1
animals	birds	Monarchidae	<i>Myiagra rubecula</i>	leaden flycatcher		C		27
animals	birds	Motacillidae	<i>Anthus novaeseelandiae</i>	Australasian pipit		C		2
animals	birds	Nectariniidae	<i>Dicaeum hirundinaceum</i>	mistletoebird		C		46
animals	birds	Neosittidae	<i>Daphoenositta chrysoptera</i>	varied sittella		C		8
animals	birds	Oriolidae	<i>Oriolus sagittatus</i>	olive-backed oriole		C		21
animals	birds	Oriolidae	<i>Sphecotheres vieilloti</i>	Australasian figbird		C		95
animals	birds	Orthonychiidae	<i>Orthonyx temminckii</i>	Australian logrunner		C		32
animals	birds	Pachycephalidae	<i>Falcunculus frontatus</i>	crested shrike-tit		C		10
animals	birds	Pachycephalidae	<i>Colluricincla megarhyncha</i>	little shrike-thrush		C		74
animals	birds	Pachycephalidae	<i>Colluricincla harmonica</i>	grey shrike-thrush		C		87
animals	birds	Pachycephalidae	<i>Pachycephala rufiventris</i>	rufous whistler		C		22
animals	birds	Pachycephalidae	<i>Pachycephala pectoralis</i>	golden whistler		C		113
animals	birds	Paradisaeidae	<i>Ptiloris paradiseus</i>	paradise riflebird		C		1
animals	birds	Pardalotidae	<i>Pardalotus striatus</i>	striated pardalote		C		60
animals	birds	Pardalotidae	<i>Pardalotus punctatus</i>	spotted pardalote		C		57
animals	birds	Passeridae	<i>Passer domesticus</i>	house sparrow	Y			1
animals	birds	Pelecanidae	<i>Pelecanus conspicillatus</i>	Australian pelican		C		1
animals	birds	Petroicidae	<i>Petroica rosea</i>	rose robin		C		12
animals	birds	Petroicidae	<i>Eopsaltria australis</i>	eastern yellow robin		C		96
animals	birds	Petroicidae	<i>Microeca fascians</i>	jacky winter		C		4
animals	birds	Petroicidae	<i>Tregellasia capito</i>	pale-yellow robin		C		36

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Phalacrocoracidae	<i>Phalacrocorax carbo</i>	great cormorant		C		1
animals	birds	Phalacrocoracidae	<i>Phalacrocorax varius</i>	pied cormorant		C		9
animals	birds	Phalacrocoracidae	<i>Microcarbo melanoleucos</i>	little pied cormorant		C		33
animals	birds	Phalacrocoracidae	<i>Phalacrocorax sulcirostris</i>	little black cormorant		C		19
animals	birds	Phasianidae	<i>Coturnix ypsilophora</i>	brown quail		C		17
animals	birds	Pittidae	<i>Pitta versicolor</i>	noisy pitta		C		9
animals	birds	Podargidae	<i>Podargus strigoides</i>	tawny frogmouth		C		6
animals	birds	Podargidae	<i>Podargus ocellatus marmoratus</i>	marbled frogmouth		C		1
animals	birds	Podargidae	<i>Podargus ocellatus plumiferus</i>	plumed frogmouth		V		2
animals	birds	Podicipedidae	<i>Tachybaptus novaehollandiae</i>	Australasian grebe		C		27
animals	birds	Psittacidae	<i>Platycercus elegans</i>	crimson rosella		C		23
animals	birds	Psittacidae	<i>Alisterus scapularis</i>	Australian king-parrot		C		68
animals	birds	Psittacidae	<i>Glossopsitta pusilla</i>	little lorikeet		C		3
animals	birds	Psittacidae	<i>Platycercus eximius</i>	eastern rosella		C		2
animals	birds	Psittacidae	<i>Platycercus adscitus</i>	pale-headed rosella		C		102
animals	birds	Psittacidae	<i>Aprosmictus erythropterus</i>	red-winged parrot		C		1
animals	birds	Psittacidae	<i>Cyclopsitta diophthalma coxeni</i>	Coxen's fig-parrot		E	E	1
animals	birds	Psittacidae	<i>Trichoglossus haematodus moluccanus</i>	rainbow lorikeet		C		135
animals	birds	Psittacidae	<i>Platycercus adscitus paliceps</i>	pale-headed rosella (southern form)		C		1
animals	birds	Psittacidae	<i>Trichoglossus chlorolepidotus</i>	scaly-breasted lorikeet		C		41
animals	birds	Psittacidae	<i>Glossopsitta concinna</i>	musk lorikeet		C		1
animals	birds	Psophodidae	<i>Psophodes olivaceus</i>	eastern whipbird		C		142
animals	birds	Ptilonorhynchidae	<i>Ailuroedus crassirostris</i>	green catbird		C		40
animals	birds	Ptilonorhynchidae	<i>Sericulus chrysocephalus</i>	regent bowerbird		C		15
animals	birds	Ptilonorhynchidae	<i>Ptilonorhynchus violaceus</i>	satin bowerbird		C		57
animals	birds	Rallidae	<i>Fulica atra</i>	Eurasian coot		C		4
animals	birds	Rallidae	<i>Porphyrio porphyrio</i>	purple swamphen		C		29
animals	birds	Rallidae	<i>Gallirallus philippensis</i>	buff-banded rail		C		5
animals	birds	Rallidae	<i>Gallinula tenebrosa</i>	dusky moorhen		C		33
animals	birds	Recurvirostridae	<i>Himantopus himantopus</i>	black-winged stilt		C		1
animals	birds	Rhipiduridae	<i>Rhipidura albiscapa</i>	grey fantail		C		105
animals	birds	Rhipiduridae	<i>Rhipidura leucophrys</i>	willie wagtail		C		86
animals	birds	Rhipiduridae	<i>Rhipidura rufifrons</i>	rufous fantail		C		29
animals	birds	Scolopacidae	<i>Gallinago hardwickii</i>	Latham's snipe		C		2
animals	birds	Strigidae	<i>Ninox boobook</i>	southern boobook		C		10
animals	birds	Strigidae	<i>Ninox connivens</i>	barking owl		C		2
animals	birds	Sturnidae	<i>Sturnus tristis</i>	common myna	Y			2
animals	birds	Sturnidae	<i>Sturnus vulgaris</i>	common starling	Y			7
animals	birds	Threskiornithidae	<i>Platalea regia</i>	royal spoonbill		C		6
animals	birds	Threskiornithidae	<i>Platalea flavipes</i>	yellow-billed spoonbill		C		3
animals	birds	Threskiornithidae	<i>Threskiornis molucca</i>	Australian white ibis		C		38
animals	birds	Threskiornithidae	<i>Threskiornis spinicollis</i>	straw-necked ibis		C		67
animals	birds	Timaliidae	<i>Zosterops lateralis</i>	silveryeye		C		50
animals	birds	Turdidae	<i>Zoothera sp.</i>					4/4
animals	birds	Turdidae	<i>Zoothera heinei</i>	russet-tailed thrush		C		15
animals	birds	Turdidae	<i>Zoothera lunulata</i>	Bassian thrush		C		3

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Turnicidae	<i>Turnix varius</i>	painted button-quail		C		1
animals	birds	Tytonidae	<i>Tyto javanica</i>	eastern barn owl		C		2
animals	birds	Tytonidae	<i>Tyto tenebricosa tenebricosa</i>	sooty owl		NT		1
animals	bony fish	Anguillidae	<i>Anguilla reinhardtii</i>	longfin eel				2
animals	bony fish	Atherinidae	<i>Craterocephalus marjoriae</i>	silverstreak hardyhead				1/1
animals	bony fish	Atherinidae	<i>Craterocephalus stercusmuscarum</i>	flyspecked hardyhead				1/1
animals	bony fish	Ceratodontidae	<i>Neoceratodus forsteri</i>	Australian lungfish			V	1
animals	bony fish	Clupeidae	<i>Nematalosa erebi</i>	bony bream				1
animals	bony fish	Eleotridae	<i>Philypnodon grandiceps</i>	flathead gudgeon				1
animals	bony fish	Melanotaeniidae	<i>Melanotaenia duboulayi</i>	crimsonspotted rainbowfish				2
animals	bony fish	Mugilidae	<i>Mugil cephalus</i>	sea mullet				1
animals	bony fish	Percichthyidae	<i>Macquaria ambigua</i>	golden perch				2
animals	bony fish	Percichthyidae	<i>Maccullochella mariensis</i>	Mary River cod			E	2/1
animals	bony fish	Plotosidae	<i>Tandanus tandanus</i>	freshwater catfish				2
animals	bony fish	Pseudomugilidae	<i>Pseudomugil signifer</i>	Pacific blue eye				1/1
animals	bony fish	Retropinnidae	<i>Retropinna semoni</i>	Australian smelt				2/1
animals	bony fish	Terapontidae	<i>Leiopotherapon unicolor</i>	spangled perch				2
animals	insects	Lycaenidae	<i>Zizina labradus labradus</i>	common grass-blue (Australian subspecies)				4
animals	insects	Nymphalidae	<i>Vanessa kershawi</i>	Australian painted lady				2
animals	insects	Nymphalidae	<i>Tirumala hamata hamata</i>	blue tiger				1
animals	insects	Nymphalidae	<i>Danaus plexippus plexippus</i>	monarch				8
animals	insects	Nymphalidae	<i>Junonia villida calybe</i>	meadow argus				1
animals	insects	Nymphalidae	<i>Acraea andromacha andromacha</i>	glasswing				2
animals	insects	Nymphalidae	<i>Polyura sempronius sempronius</i>	tailed emperor				1
animals	insects	Papilionidae	<i>Papilio aegaeus aegaeus</i>	orchard swallowtail (Australian subspecies)				2
animals	insects	Papilionidae	<i>Graphium sarpedon choredon</i>	blue triangle				3
animals	insects	Pieridae	<i>Pieris rapae</i>	cabbage white				2
animals	insects	Pieridae	<i>Catopsilia pomona pomona</i>	lemon migrant				3
animals	insects	Pieridae	<i>Belenois java teutonia</i>	caper white				1
animals	insects	Pieridae	<i>Delias nigrina</i>	black jezebel				1
animals	mammals	Canidae	<i>Canis familiaris</i>	dog	Y			1
animals	mammals	Dasyuridae	<i>Antechinus flavipes</i>	yellow-footed antechinus		C		1
animals	mammals	Dasyuridae	<i>Antechinus subtropicus</i>			C		1
animals	mammals	Leporidae	<i>Lepus capensis</i>	brown hare	Y			2
animals	mammals	Macropodidae	<i>Wallabia bicolor</i>	swamp wallaby		C		1
animals	mammals	Macropodidae	<i>Macropus rufogriseus</i>	red-necked wallaby		C		1
animals	mammals	Molossidae	<i>Mormopterus sp. 2</i>	eastern freetail bat		C		1
animals	mammals	Molossidae	<i>Tadarida australis</i>	white-striped freetail bat		C		1
animals	mammals	Molossidae	<i>Mormopterus norfolkensis</i>	east coast freetail bat		C		1
animals	mammals	Muridae	<i>Mus musculus</i>	house mouse	Y			3
animals	mammals	Muridae	<i>Rattus fuscipes</i>	bush rat		C		26
animals	mammals	Muridae	<i>Rattus lutreolus</i>	swamp rat		C		1
animals	mammals	Muridae	<i>Melomys cervinipes</i>	fawn-footed melomys		C		3
animals	mammals	Muridae	<i>Melomys burtoni</i>	grassland melomys		C		2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	mammals	Ornithorhynchidae	<i>Ornithorhynchus anatinus</i>	platypus		C		1
animals	mammals	Peramelidae	<i>Perameles nasuta</i>	long-nosed bandicoot		C		1
animals	mammals	Peramelidae	<i>Isoodon macrourus</i>	northern brown bandicoot		C		1
animals	mammals	Petauridae	<i>Petaurus breviceps</i>	sugar glider		C		1
animals	mammals	Phalangeridae	<i>Trichosurus caninus</i>	short-eared possum		C		1
animals	mammals	Phascolarctidae	<i>Phascolarctos cinereus</i> (southeast Queensland bioregion)	koala (southeast Queensland bioregion)		V		24
animals	mammals	Pseudocheiridae	<i>Pseudocheirus peregrinus</i>	common ringtail possum		C		2
animals	mammals	Pteropodidae	<i>Pteropus scapulatus</i>	little red flying-fox		C		1
animals	mammals	Vespertilionidae	<i>Nyctophilus sp.</i>					1
animals	mammals	Vespertilionidae	<i>Vespadelus pumilus</i>	eastern forest bat		C		2
animals	mammals	Vespertilionidae	<i>Miniopterus australis</i>	little bent-wing bat		C		1
animals	mammals	Vespertilionidae	<i>Vespadelus trougtoni</i>	eastern cave bat		C		1
animals	reptiles	Agamidae	<i>Intellagama lesueurii</i>	eastern water dragon		C		2
animals	reptiles	Boidae	<i>Morelia spilota</i>	carpet python		C		1
animals	reptiles	Colubridae	<i>Boiga irregularis</i>	brown tree snake		C		1/1
animals	reptiles	Colubridae	<i>Dendrelaphis punctulata</i>	common tree snake		C		2
animals	reptiles	Elapidae	<i>Pseudonaja textilis</i>	eastern brown snake		C		1/1
animals	reptiles	Scincidae	<i>Carlia vivax</i>			C		1
animals	reptiles	Scincidae	<i>Ctenotus robustus</i>			C		1
animals	reptiles	Scincidae	<i>Eulamprus martini</i>			C		1
animals	reptiles	Scincidae	<i>Saproscincus rosei</i>			NT		2
animals	reptiles	Scincidae	<i>Lygisaurus foliorum</i>			C		1
animals	reptiles	Scincidae	<i>Ctenotus taeniolatus</i>	copper-tailed skink		C		1
animals	reptiles	Scincidae	<i>Lampropholis amicula</i>			C		2
animals	reptiles	Scincidae	<i>Lampropholis couperi</i>			C		1
animals	reptiles	Scincidae	<i>Lampropholis delicata</i>			C		1
animals	reptiles	Scincidae	<i>Cyclodomorphus gerrardii</i>	pink-tongued lizard		C		1
animals	reptiles	Scincidae	<i>Erotoscincus graciloides</i>			NT		2
animals	reptiles	Scincidae	<i>Cryptoblepharus pulcher pulcher</i>	elegant snake-eyed skink		C		1
animals	reptiles	Varanidae	<i>Varanus varius</i>	lace monitor		C		5
animals	uncertain	Indeterminate	<i>Indeterminate</i>	Unknown or Code Pending		C		2

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

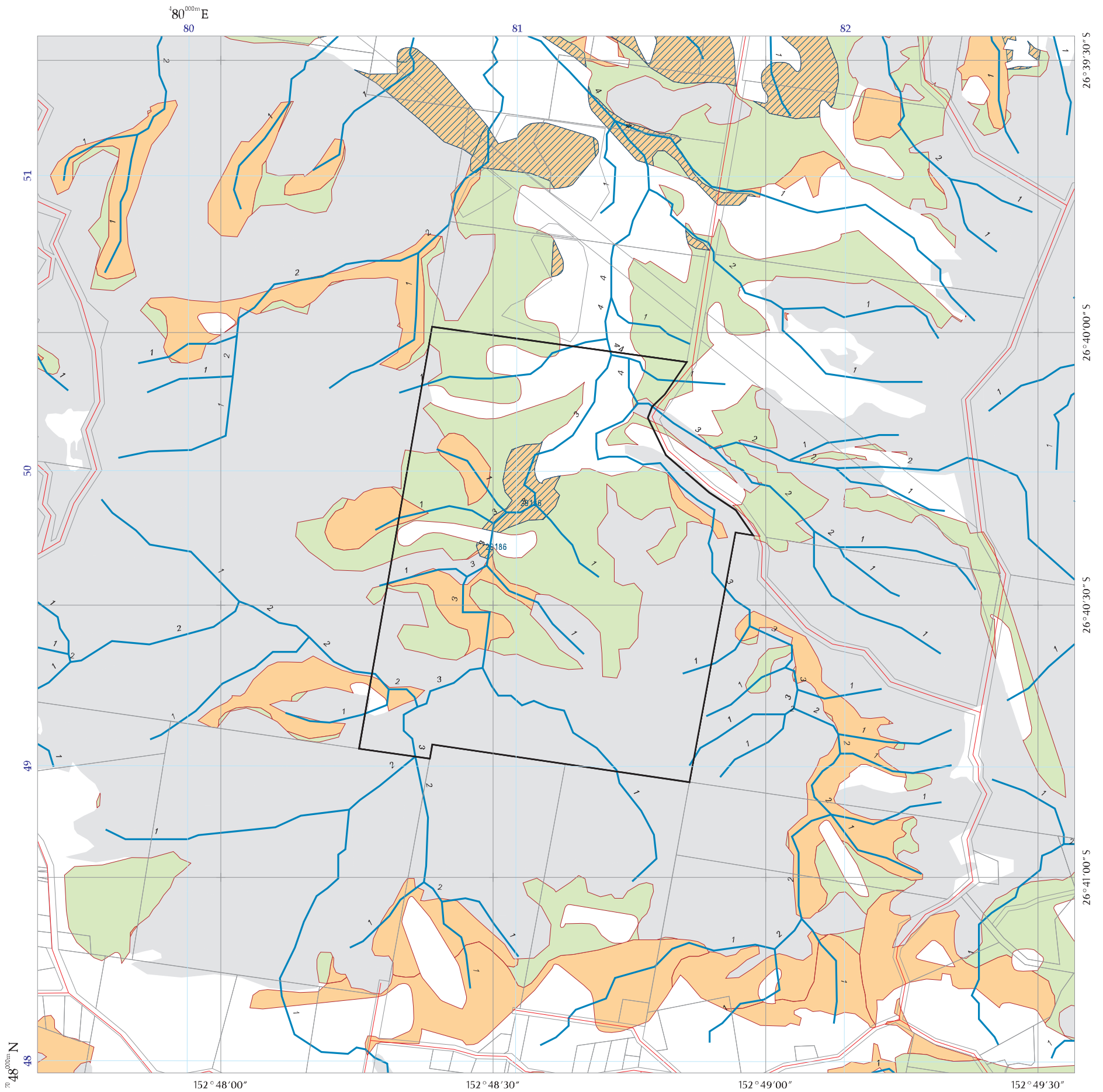
Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.

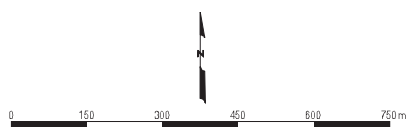
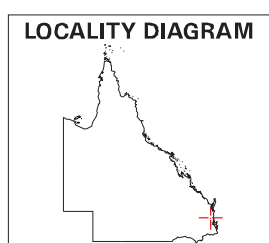


REGROWTH VEGETATION MAP - Version 2.1

- Vegetation Management Act Essential Regrowth Habitat with example label number
 - Great Barrier Reef Wetland Protection Area
 - High value regrowth vegetation containing Endangered regional ecosystems
 - High value regrowth vegetation containing Of Concern regional ecosystems
 - High value regrowth vegetation that is a Least Concern regional ecosystem
 - Remnant Vegetation (Refer to the Vegetation Management Act Regional Ecosystem and Remnant Map also available from the Department of Environment and Resource Management website for further information on these areas)
 - Non-remnant
 - PMAV Category X area
 - Regrowth watercourse (Stream order shown as black number against stream)
 - Other watercourse (Stream order shown as black number against stream where available)
 - Subject Lot
 - Roads
 - Cadastral line
 - Towns
- © Pitney Bowes Business Insight 2011
- Property boundaries shown are provided as a locational aid only.

Requested By: PAUL.FOX@O2ECOLOGY.COM.AU
Date: 22 Nov 11 Time: 16.35.26

Centered on Lot on Plan:
176 MCH798



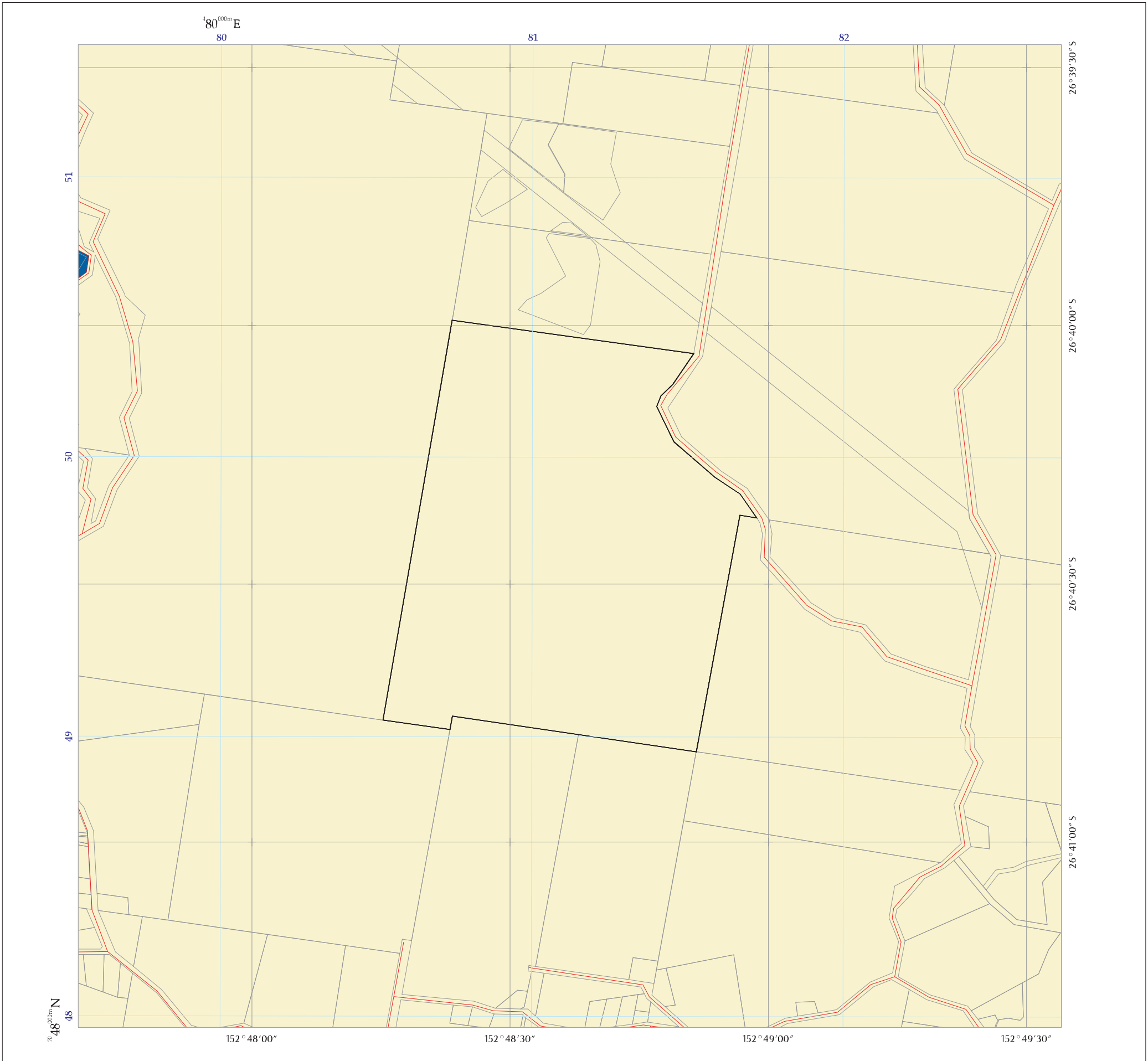
Labels for Vegetation Management Act Essential Regrowth Habitat are centred on the subject lot.
Labels correlate to the label field in the attached essential regrowth habitat database.

The high value regrowth, regrowth watercourse, other watercourse, Great Barrier Reef wetland protection area and essential regrowth habitat data shown on this map are representations of the preliminary data.

Some watercourse lines are derived from GeoScience Australia 1:250 000 mapping.

For further information go to the website:
<http://www.derm.qld.gov.au> or contact Vegetation Management, Department of Environment and Resource Management.

Areas covered by a Property Map of Assessable Vegetation (PMAV) are represented on the map attached as Page 2 to this Regrowth Vegetation Map and provided with it.



Property Maps of Assessable Vegetation (PMAVs)

Requested By: PAUL.FOX@O2ECOLOGY.COM.AU
Date: 22 Nov 11 Time: 16.35.28

Centered on Lot on Plan:
176 MCH798

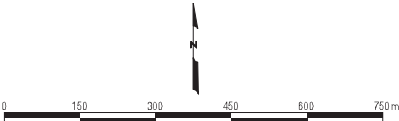
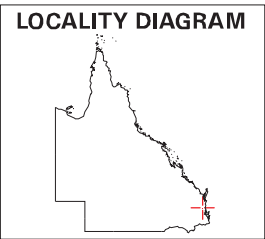
The PMAV data shown on this map are a representation of the data used to create certified PMAVs. Variations may occur between PMAV boundaries and cadastral boundaries. PMAV data incorporates cadastral boundary data as at the time of certification of the PMAV. The cadastral boundaries shown on this map may have shifted relative to the PMAV boundaries as more accurate cadastral boundary data have become available.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

For further information go to the website:
<http://www.derm.qld.gov.au/vegetation/index.html>
or contact Vegetation Management, Department of Environment and Resource Management.

Property Map of Assessable Vegetation Vegetation Category Area

- Category A area
- Category B area
- Category C area
- Category X area
- Area that is subject to other PMAVs or, if no PMAV exists, a regional ecosystem map, remnant map or regrowth vegetation map
- Subject Lot
- Roads
- © Pitney Bowes Business Insight 2011
- Cadastral line
- Property boundaries shown are provided as a locational aid only.
- Towns





Vegetation Management Act Regional Ecosystem and Remnant Map-Version 6.1

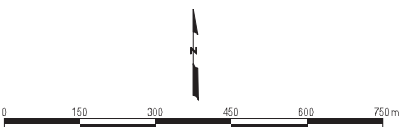
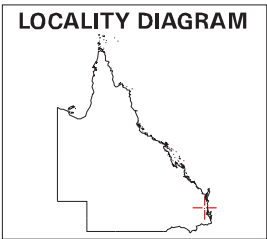
Based on 2006 Landsat TM imagery

Requested By: PAUL.FOX@O2ECOLOGY.COM.AU
Date: 22 Nov 11 Time: 15.31.37

Centered on Lot on Plan:
176 MCH798

Bioregion: Southeast Queensland

- Remnant vegetation containing endangered regional ecosystems
- Remnant vegetation containing of concern regional ecosystems
- Remnant vegetation that is a least concern regional ecosystem
- Remnant vegetation under Section 20AH of the VMA
- Non-remnant
- Plantation Forest
- Dam or Reservoir
- Remnant Vegetation
- PMAV Category X area
- Great Barrier Reef Wetlands
- Vegetation Management Act Essential Habitat
For further information on VMA Essential Habitat, please see the attached VMA Essential Habitat map.
- Subject Lot
- Watercourse (Stream order shown as black number against stream where available)
- Bioregion boundary
- Roads
© Pitney Bowes Business Insight 2011
- National Park, Conservation Area State Forest and other reserves
- Cadastral line
Property boundaries shown are provided as a locational aid only.
- Towns



A remnant map covers areas not covered by a regional ecosystem map.

Defined map areas are labelled with the regional ecosystem (RE) code along with the percentage breakdown if more than one RE occurs within the area. Detailed definitions of regional ecosystems are available from www.derm.qld.gov.au/REDD. Defined map areas smaller than 5ha may not be labelled.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by the Statewide Landcover and Trees Study (SLATS), Department of Environment and Resource Management (DERM)).

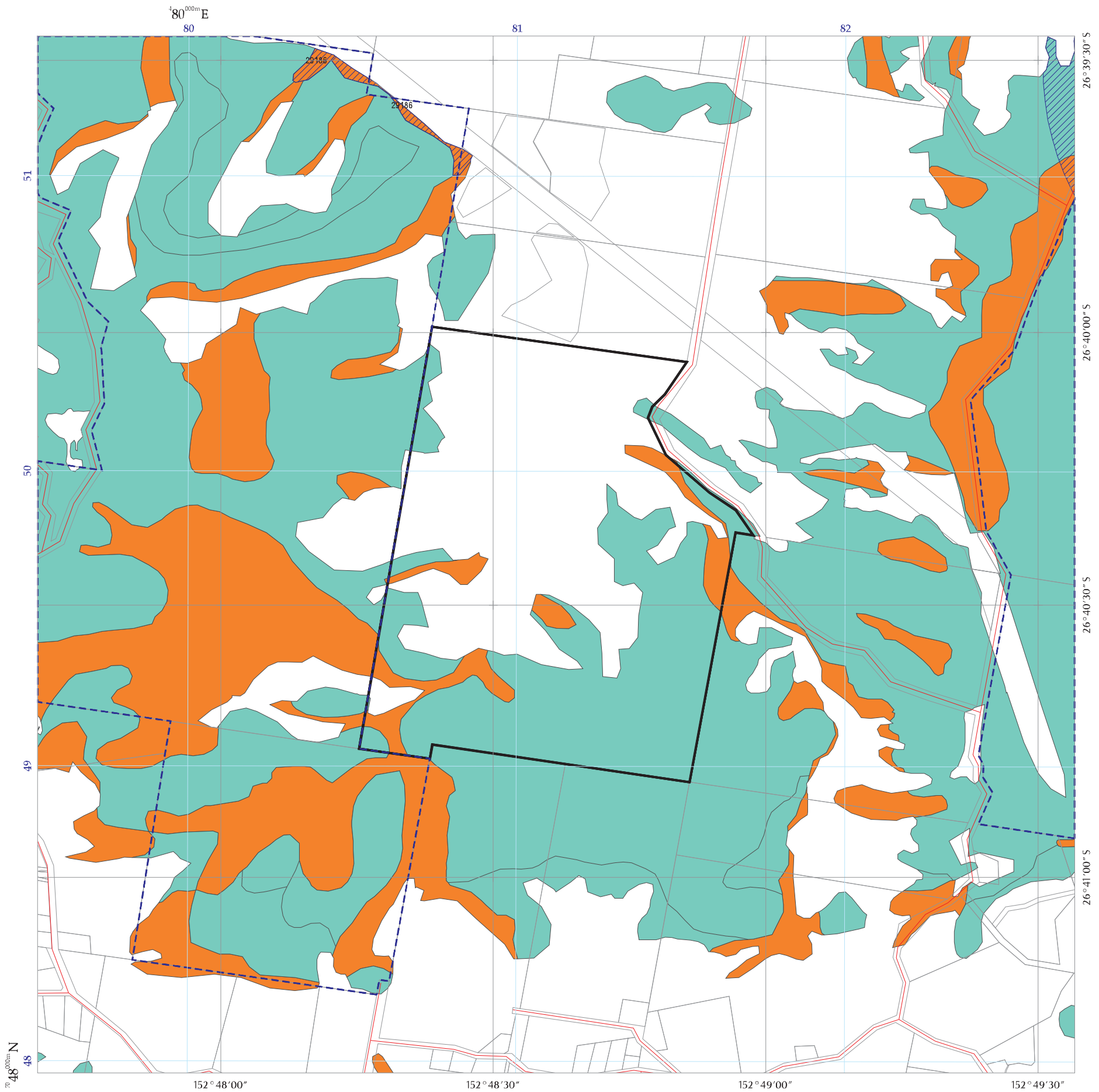
Some watercourse lines are derived from GeoScience Australia 1:250 000 mapping.

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDDATA or from DERM for larger areas.

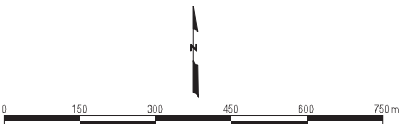
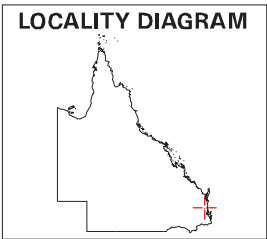


Vegetation Management Act Essential Habitat Map Version 3.1

- Remnant vegetation containing endangered regional ecosystems
- Remnant vegetation containing of concern regional ecosystems
- Remnant vegetation that is a least concern regional ecosystem
- Remnant vegetation under Section 20AH of the VMA
- Non-remnant
- Plantation Forest
- Dam or Reservoir
- Remnant Vegetation
- PMAV Category X area
- Vegetation Management Act Essential Habitat
- Vegetation Management Act Essential Habitat Species Records
- Subject Lot
- Roads
- © Pitney Bowes Business Insight 2011
- National Park, Conservation Area State Forest and other reserves
- Cadastral line
- Property boundaries shown are provided as a locational aid only.
- Towns

Requested By: PAUL.FOX@O2ECOLOGY.COM.AU
Date: 22 Nov 11 Time: 15.31.40

Centered on Lot on Plan:
176 MCH798



Labels for the Vegetation Management Act Essential Habitat are centred on the subject lot (1.1km surrounding and including a Lot on Plan). Labels correlate to the label field in the attached essential habitat database.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/-100 metres. The extent of remnant regional ecosystems as of 2006, depicted on this map is based on rectified 2006 Landsat TM imagery (supplied by SLATS, Department of Environment and Resource Management).

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Environment and Resource Management and MapInfo Australia Pty Ltd, makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

All datasets are updated as they become available to provide the most current information as of the date shown on this map.

Additional information is required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.derm.qld.gov.au/vegetation or contact the Department of Environment and Resource Management.

Digital regional ecosystem data is available in shapefile format, for Lot on Plans from www.derm.qld.gov.au/REDATA or from DERM for larger areas.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Report created: 14/12/11 16:48:52

[Summary](#)

[Details](#)

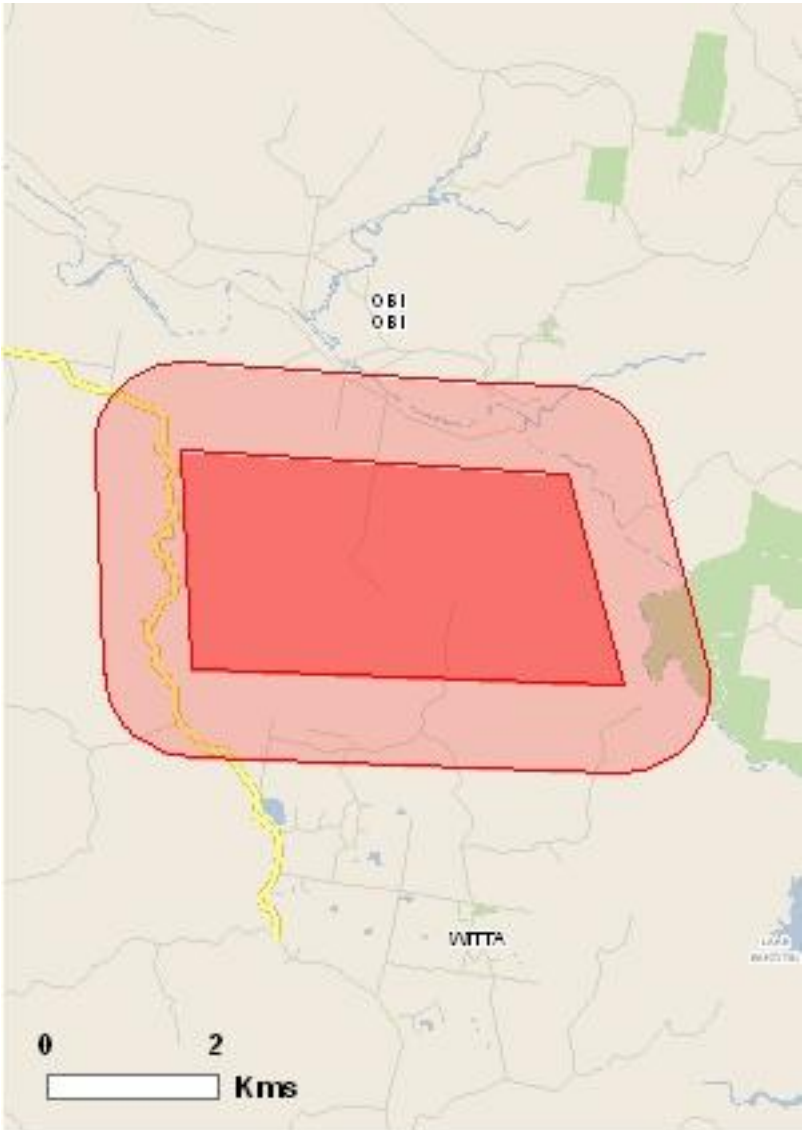
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 1.0Km](#)



Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	36
Migratory Species:	17

Other Matters Protected by the EPBC Act

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

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

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

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov>.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	15
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

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

Place on the RNE:	1
State and Territory Reserves:	3
Regional Forest Agreements:	None
Invasive Species:	13
Nationally Important Wetlands:	1

Details

Matters of National Environmental Significance

Wetlands of International Significance (RAMSAR)		[Resource Information]
Name		Proximity
Great sandy strait		Upstream from Ramsar
Threatened Species		[Resource Information]
Name	Status	Type of Presence
BIRDS		
Anthochaera phrygia		
Regent Honeyeater [82338]	Endangered	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat likely to occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Vulnerable	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Maccullochella peelii mariensis Mary River Cod [64680]	Endangered	Species or species habitat known to occur within area
Neoceratodus forsteri Australian Lungfish, Queensland Lungfish [67620]	Vulnerable	Species or species habitat likely to occur within area
FROGS		
Mixophyes iteratus Giant Barred Frog, Southern Barred Frog [1944]	Endangered	Species or species habitat likely to occur within area
INSECTS		
Phyllodes imperialis (southern subsp. - ANIC 3333) Pink Underwing Moth [67453]	Endangered	Species or species habitat likely to occur within area
MAMMALS		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll [331]	Endangered	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known

Name	Status	Type of Presence
to occur within area		
PLANTS		
Arthraxon hispidus Hairy-joint Grass [9338]	Vulnerable	Species or species habitat likely to occur within area
Bosistoa selwynii Heart-leaved Bosistoa [13702]	Vulnerable	Species or species habitat likely to occur within area
Bosistoa transversa Three-leaved Bosistoa [16091]	Vulnerable	Species or species habitat likely to occur within area
Cryptocarya foetida Stinking Cryptocarya, Stinking Laurel [11976]	Vulnerable	Species or species habitat likely to occur within area
Floydia praealta Ball Nut, Possum Nut, Big Nut, Beefwood [15762]	Vulnerable	Species or species habitat likely to occur within area
Lepidium peregrinum Wandering Pepper-cress [14035]	Endangered	Species or species habitat may occur within area
Macadamia ternifolia Small-fruited Queensland Nut, Gympie Nut [7214]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat likely to occur within area
Phebalium distans Mt Berryman Phebalium [81869]	Critically Endangered	Species or species habitat may occur within area
Planchonella eerwah Shiny-leaved Condoo, Black Plum, Wild Apple [17340]	Endangered	Species or species habitat likely to occur within area
Plectranthus torrenticola [55728]	Endangered	Species or species habitat likely to occur within area
Romnalda strobilacea [5948]	Vulnerable	Species or species habitat likely to occur within area
Taeniophyllum muelleri Minute Orchid, Ribbon-root Orchid [10771]	Vulnerable	Species or species habitat likely to occur within area
Triunia robusta [14747]	Endangered	Species or species habitat likely to occur within area
REPTILES		
Coeranoscincus reticulatus Three-toed Snake-tooth Skink [59628]	Vulnerable	Species or species habitat may occur within area
Delma torquata Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Elusor macrurus Mary River Turtle, Mary River Tortoise [64389]	Endangered	Species or species habitat likely to occur within area
Furina dunmalli Dunmall's Snake [59254]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat may occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Cyclopsitta diophthalma coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Breeding may occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Breeding likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Breeding may occur within area
Xanthomyza phrygia Regent Honeyeater [430]	Endangered*	Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Nettapus coromandelianus albigennis Australian Cotton Pygmy-goose [25979]		Species or species habitat may occur within area
Rostratula benghalensis s. lat. Painted Snipe [889]	Vulnerable*	Species or species habitat may occur within

Name	Threatened	Type of Presence area
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Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Anseranas semipalmata Magpie Goose [978]	Endangered	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat may occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat may occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Breeding may occur within area
Monarcha trivirgatus Spectacled Monarch [610]	Vulnerable*	Breeding likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Breeding likely to occur within area
Nettapus coromandelianus albipennis Australian Cotton Pygmy-goose [25979]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Breeding may occur within area
Rostratula benghalensis s. lat. Painted Snipe [889]		Species or species habitat may occur within area

Extra Information

Places on the RNE [Resource Information]

Note that not all Indigenous sites may be listed.

Name	State	Status
Natural		
Kondalilla National Park Extension	QLD	Indicative Place

State and Territory Reserves [Resource Information]

Name	State
Jilumbar	QLD
Kondalilla	QLD
Maleny	QLD

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit,

Name	Status	Type of Presence
Frogs		
Bufo marinus		
Cane Toad [1772]		Species or species habitat likely to occur within area

Mammals

Felis catus	
Cat, House Cat, Domestic Cat [19]	Species or species habitat likely to occur within area

Oryctolagus cuniculus	
Rabbit, European Rabbit [128]	Species or species habitat likely to occur within area

Sus scrofa	
Pig [6]	Species or species habitat likely to occur within area

Vulpes vulpes	
Red Fox, Fox [18]	Species or species habitat likely to occur within area

Plants

Cabomba caroliniana	
Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]	Species or species habitat likely to occur within area

Chrysanthemoides monilifera	
Bitou Bush, Boneseed [18983]	Species or species habitat may occur within area

Hymenachne amplexicaulis	
Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]	Species or species habitat likely to occur within area

Lantana camara	
Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]	Species or species habitat likely to occur within area

Parthenium hysterophorus	
Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]	Species or species habitat likely to occur within area

Prosopis spp.	
Mesquite, Algaroba [68407]	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtiji		
Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta		
Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Nationally Important Wetlands		[Resource Information]
Name	State	
Obi Obi Creek	QLD	

Coordinates

-26.65787 152.7954,-26.66038 152.83599,-26.68269 152.84192,-26.68102 152.79647,
-26.65787 152.7954,-26.65787 152.7954

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Acknowledgements

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

- [Department of Environment, Climate Change and Water, New South Wales](#)
- [Department of Sustainability and Environment, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment and Natural Resources, South Australia](#)
- [Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [Environmental and Resource Management, Queensland](#)
- [Department of Environment and Conservation, Western Australia](#)
- [Department of the Environment, Climate Change, Energy and Water](#)

- [-Birds Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-SA Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [-State Forests of NSW](#)
- Other groups and individuals

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

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

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[Department of Sustainability, Environment, Water, Population and Communities](#)

GPO Box 787

Canberra ACT 2601 Australia

+61 2 6274 1111