Jandakot Airport Precincts 6 & 6A:

Review of Conservation Significant Fauna, 2013

Prepared for: Jandakot Airport Holdings Pty Ltd

Prepared by: Western Wildlife
8 Ridgeway Pl
Mahogany Creek WA 6072
Ph: 0427 510 934

August 2013

Executive Summary

Jandakot Airport Holdings (JAH) propose to clear and develop the Precinct 6 and 6A area (53 ha) according to their approved Master Plan 2009 and draft Master Plan 2014. In order to inform a referral under the EPBC Act, JAH requested Western Wildlife to undertake a review of relevant fauna information to identify the fauna of conservation significance that potentially occur in Precinct 6 and 6A.

Bushland in Jandakot Airport is adjacent to Jandakot Regional Park and Ken Hurst Park. The two fauna habitats present in Precinct 6 and 6A are *Banksia* woodland and dampland, with the majority of the area comprising *Banksia* woodland.

Species were considered to be conservation significant if listed under the *Environment Protection and Biodiversity Conservation Act 1999*, the *Western Australian Wildlife Conservation Act 1950*, under international agreements on Migratory species, as Priority by the Department of Parks and Wildlife (DPAW) or if considered locally significant, e.g. as in significant species listed in Bush Forever.

The conservation significant species potentially occurring in Precinct 6 and 6A was compiled with reference to various sources, including fauna surveys carried out at Jandakot Airport in 2002 and 2009, various studies on conservation significant species at Jandakot Airport carried out in 2011 and databases such as the DPAW Threatened and Priority Fauna Database.

A total of 51 conservation significant fauna species have been identified as known to occur or potentially occurring in Precinct 6 and 6A. The three EPBC listed threatened species are:

- Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*)
- Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*)
- Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*)

The two EPBC listed Migratory species that may potentially occur are:

- Rainbow Bee-eater (*Merops ornatus*)
- Fork-tailed Swift (*Apus pacificus*)

Only one Schedule 4 (Specially Protected Fauna) species potentially occurs:

- Peregrine Falcon (*Falco peregrinus*)

The eight Priority species that potentially occur are:

- Perth Lined Lerista (*Lerista lineata*)
- Jewelled Ctenotus (*Ctenotus gemmula*)
- Black-striped Snake (*Neelaps calonotos*)
- Western False Pipistrelle (*Falsistrellus mackenziei*)
- Western Brush Wallaby (*Macropus irma*)
- Quenda (*Isoodon obesulus fusciventer*)
- Graceful Sun-moth (*Synemon gratiosa*)
- Bush Cricket (*Throscodectes xiphos*)

The locally significant species that potentially occur include one mammal, 26 birds and ten reptiles.

The main impacts on fauna of developing Precinct 6 and 6A are:

- Loss of habitat for conservation significant fauna and other fauna.
- Increase in habitat fragmentation impeding movements of smaller ground-dwelling fauna.
- Direct mortality of fauna while clearing.
- Habitat degradation of remaining bushland.

The impacts are likely to be negligible for species that only visit the area on occasion, or species for which the habitat is not ideal. These include Baudin's Black-Cockatoo, the Forest Red-tailed Black-Cockatoo, Fork-tailed Swift and the Peregrine Falcon. The impacts on very common, widespread species, such as the Rainbow Bee-eater, are also likely to be low.

For species that are highly likely to be present, the impact of habitat loss may be high, at least on a local scale. On a regional scale, the development will increase the fragmentation of the remaining native vegetation in the area, and increased habitat fragmentation is likely to affect the long-term persistence of fauna in suburban settings. Fauna most at risk from habitat fragmentation are those that do not disperse well over cleared or urban land. These include ground-dwelling small reptiles such as the Perth Lined Lerista, Jewelled Ctenotus and Black-striped Snake, as well as small mammals (e.g. Quenda and Honey Possum) and invertebrates (e.g. Graceful Sun-moth).

The other impact related to habitat fragmentation is habitat degradation of remaining patches of bushland adjacent to Precinct 6 and 6A. Smaller patches of remnant bushland have more 'edge', and from these edges weeds and exotic predators, such as cats and foxes, can invade. The edges of patches can also experience more disturbance from noise and light spill when adjacent to human activities, which may discourage fauna from using otherwise suitable habitat.

The EPBC-listed threatened fauna of most concern is Carnaby's Black-Cockatoo. Precinct 6 and 6A has over 52 ha of foraging habitat for Carnaby's Black-Cockatoo.

Table of Contents

Figures & Plates

1. Introduction

Jandakot Airport Holdings (JAH) propose to clear and develop the Precinct 6 and 6A area according to their approved Master Plan 2009 and draft Master Plan 2014. In order to inform a referral under the EPBC Act, JAH requested Western Wildlife to undertake a review of relevant fauna information to identify the fauna of conservation significance that potentially occur in Precinct 6 and 6A.

The aims of this review are to:

- Describe the fauna habitats present in Precinct 6 and 6A.
- Compile a list of conservation significant fauna that are likely to occur in Precincts 6 and 6A.
- For each conservation significant species, discuss their distribution, population size, habitat requirements, likely use of Precinct 6 and 6A and the potential impacts of developing Precinct 6 and 6A.

2. The Study Area – Context and Description

The study area consists of Precincts 6 (43 ha) and 6A (10 ha) at Jandakot Airport (Figure 1). The area is native bushland, consisting mainly of *Banksia* woodland, and constitutes part of Bush Forever Site 388 (Government of Western Australia 2000). Bushland in Jandakot Airport is adjacent to Jandakot Regional Park and the distance between the park and Precincts 6 and 6A are less than 1km. Ken Hurst Park is adjacent to the northeast corner of the airport, and about 2.5km from Precincts 6 and 6A.

The study area is within the Swan Coastal Plain subregion of the Swan Coastal Plain Bioregion according to the Interim Biogeographic Regionalisation for Australia (IBRA) (DEWHA 2004). The Swan Coastal Plain subregion is characterised by a Warm Mediterranean climate, with around 600 to 1000mm of rain annually (Mitchell *et al*. 2002). The primary land-uses are diverse, namely dry-land agriculture, conservation, unallocated Crown land, Crown reserves, urban, rural residential, cultivation (irrigated horticulture, agriculture and plantations), plantation forestry, roads and other infrastructure and grazing on improved pastures (Mitchell *et al*. 2002).

Natural vegetation of the subregion consists generally of heath or Tuart woodland on limestone, Banksia or Jarrah/Banksia woodlands on Quaternary dune systems and Marri on colluvial or alluvial soils. The subregion also includes seasonal wetlands and islands such as Rottnest Island (Mitchell *et al*. 2002).

3. Methods

3.1 Personnel

Ms Jenny Wilcox (*BSc.Biol./Env.Sci., Hons.Biol.*) of Western Wildlife carried out this review.

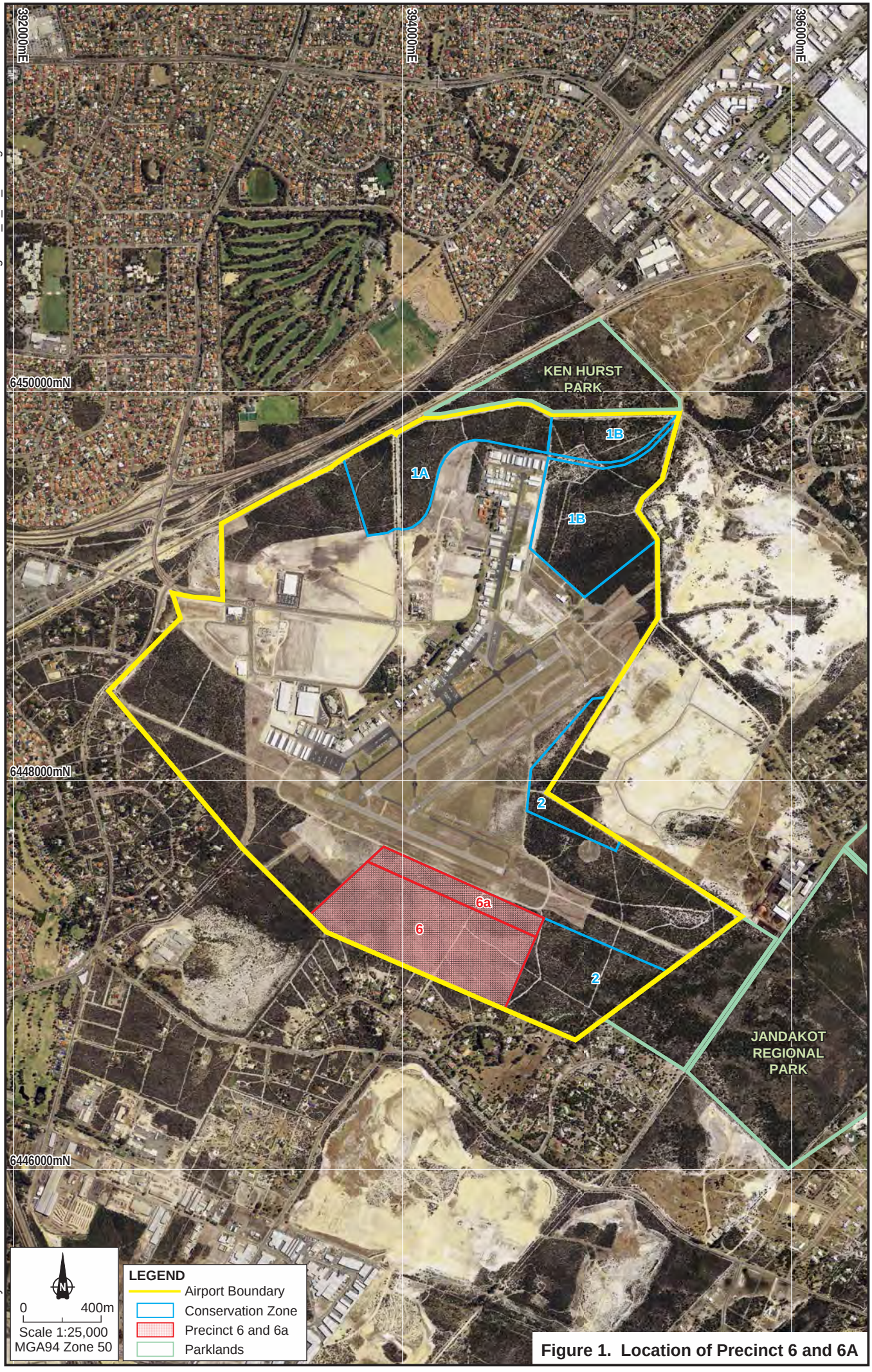


Figure 1. Location of Precinct 6 and 6A

Author: Jenny Wilcox - Western Wildlife- Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Dec 2012 ~ Rev: B ~ CAD Reference: g1893_6_6a_F01.dgn

3.2 Definition of Conservation Significant Fauna

For the purposes of this report, fauna species were considered to be of conservation significance if they met one of the following criteria:

- Listed as Threatened under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- Listed as Migratory under the EPBC Act.
- Listed under the Schedules 1, 3 or 4 of the *Western Australian Wildlife Conservation Act 1950* (WA Wildlife Conservation Act).
- Listed under the Japan – Australia Migratory Bird Agreement (JAMBA).
- Listed under the China – Australia Migratory Bird Agreement (CAMBA).
- Listed under the Republic of Korea – Australia Migratory Bird Agreement (ROKAMBA).
- Listed as Priority by the Department of Parks and Wildlife (DPAW), formerly the Department of Environment and Conservation (DEC).
- Considered significant on the Swan Coastal Plain in Bush Forever (Government of Western Australia 2000) or generally known to be uncommon on the Swan Coastal Plain.

3.3 Literature Review

The conservation significant species potentially occurring in Precinct 6 and 6A was compiled with reference to various sources, including fauna surveys carried out at Jandakot Airport in 2002 and 2009, various studies on conservation significant species at Jandakot Airport carried out in 2011, databases and general texts on fauna. Several field surveys and literature reviews targeting fauna have been carried out at Jandakot Airport.

- Jandakot Airport Fauna Survey (ENV Australia 2009)
- Fauna Survey of Jandakot Airport (Bamford Consulting Ecologists 2003)
- Pitfall trapping by Dave Robinson in 2001 (unpublished data, referred to in Bamford Consulting Ecologists (2003))
- Carnaby's Black Cockatoo Habitat Survey 2011 (Western Wildlife 2011a)
- *Throscodectes xiphos* Literature Review 2011 (Western Wildlife 2011c)
- Quenda Survey 2011 (Western Wildlife 2012)
- Graceful Sun-moth Survey 2011 (Western Wildlife 2011b)
- Western Brush Wallaby Survey 2011 (Western Wildlife 2011d)

The DPAW Threatened and Priority Fauna Database was consulted for records of conservation significant fauna in the 5km radius surrounding Precinct 6/6A, using 50K 393931 E, 6447370 N as a centre point. The NatureMap database (DEC 2007-), which includes records from the Western Australian Museum, Birds Australia Atlas Database and Fauna Returns Database, was searched for the same area. The EPBC Protected Matters Search Tool was also searched for the same area, in order to derive a list of EPBC-listed species and species habitat that may be present in the study area. The results of the database searches are given in Appendices 1 – 3).

In order to ensure that all relevant conservation significant species likely to occur were identified, a review of the relevant literature was also carried out. These included publications that provide information on habitat use and general patterns of distribution of frogs (Tyler and Doughty 2009), reptiles (Storr *et al*. 1983, 1990, 1999 and 2002, Wilson and Swan 2010), birds (Barrett *et al*. 2003; Johnstone and Storr 1998; Johnstone and Storr 2004) and mammals (Churchill 1998, Menkhorst and Knight 2011; Van Dyck and Strahan 2008).

In addition, the vegetation at Jandakot Airport has been described in the following documents.

- Vegetation Mapping of the Jandakot Lease Area (Mattiske Consulting 2001)
- Vegetation Mapping of the Jandakot Lease Area (Mattiske Consulting 2012)

3.4 Field Studies

No field studies were undertaken as part of this review. However, several field surveys targeting fauna have been carried out at Jandakot Airport, as listed above.

4. Fauna Habitats of Precinct 6 & 6A

Two main fauna habitats occur within Precinct 6 and 6A (Figure 2). The majority of the area (about 52 ha), consists of *Banksia* woodland (Plates 1 - 3). According to Mattiske Consulting (2012), within Precinct 6 and 6A, this habitat is made up of two vegetation types:

- Low open woodland of *Banksia attenuata* and *Banksia menziesii* over *Allocasuarina humilis*, *Lyginia barbata*, *Stirlingia latifolia* and *Melaleuca seriata* on white to grey sand on slopes and ridges.

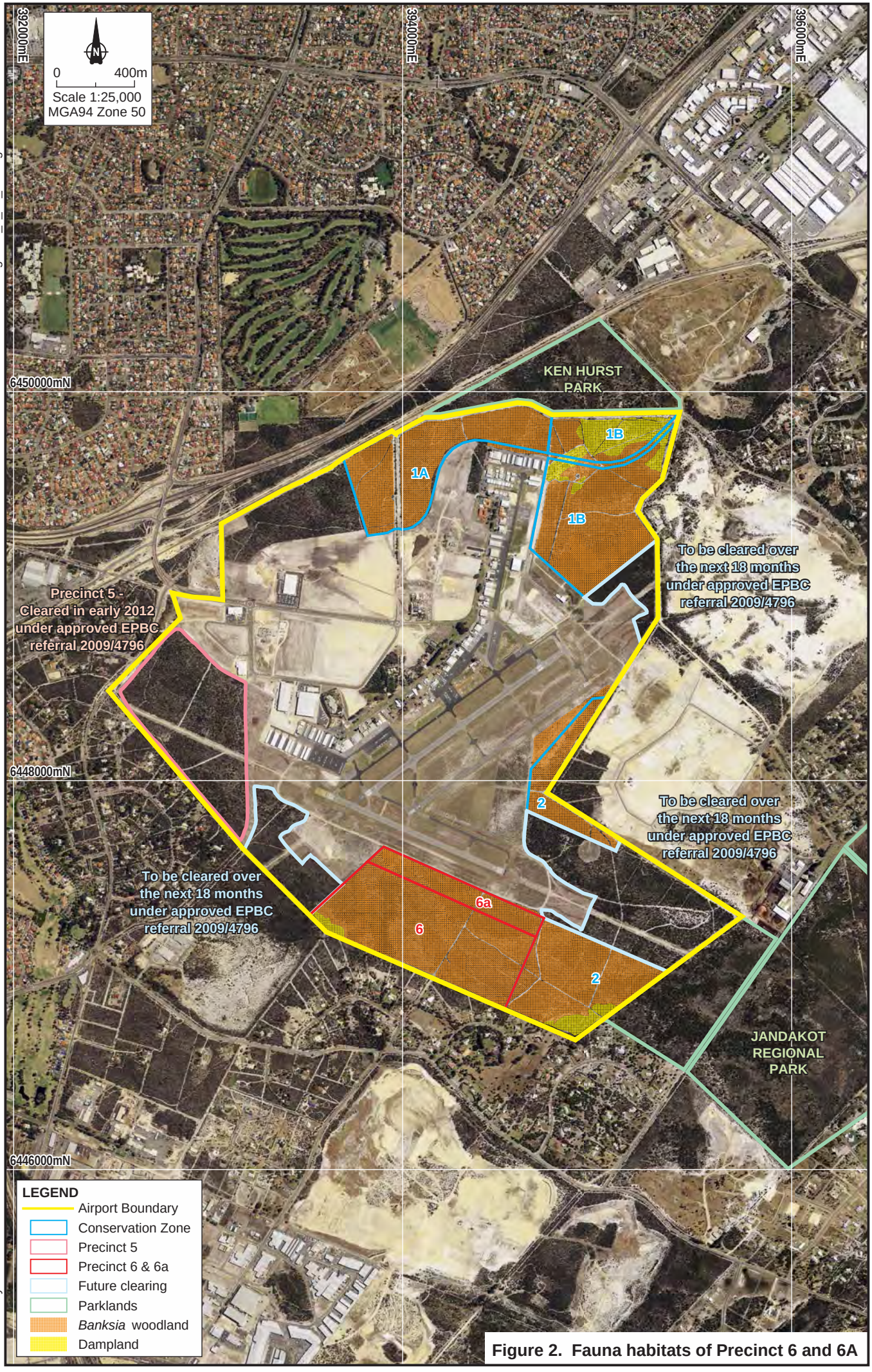
- Low open woodland of *Banksia ilicifolia, Banksia menziesii* and *Banksia attenuata* over *Xanthorrhoea preissii*, *Lyginia barbata*, *Patersonia occidentalis* and *Dasypogon bromeliifolius* on grey to brown sand on lower slopes, flats and depressions.

The remaining area (less than 1 ha) of is in a low-lying area of dampland (Plate 4). Within Precinct 6 and 6A, this habitat is also made up of two vegetation types according to Mattiske Consulting (2012):

- Low open woodland of *Melaleuca preissiana* with some *Banksia ilicifolia* over *Regelia ciliata* and *Hypocalymma angustifolium* on white to grey sand on low lying areas.

- Open to closed heath of *Regelia ciliata, Hypocalymma angustifolium* and *Astartea scoparia* with emergent *Melaleuca preissiana* on white to grey sand on low-lying winter wet areas.

The remainder of Jandakot Airport is also made up of these two habitats, with *Banksia* woodland being the dominant habitat type (Figure 2). Several areas in Figure 2 have not been designated as habitat, as they are already cleared or have approval to be cleared in the next 18 months. The vegetation in Precinct 5 was cleared in early 2012 under approved EPBC referral 2009/4796, and other areas of vegetation at Jandakot Airport outside of designated Precincts 1A, 1B, 2, 6A and 6B have been, or are in the process of being, cleared for development under EPBC 2009/4796.



Author: Jenny Wilcox - Western Wildlife - Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F02.dgn

Figure 2. Fauna habitats of Precinct 6 and 6A

Plate 1. *Banksia* woodland.

Plate 2. *Banksia* woodland.

Plate 3. *Banksia* woodland.

Plate 4. Dampland.

4. Conservation Significant Fauna

4.1 EPBC-listed Threatened species

A total of 11 EPBC-listed threatened species may occur in the 5km area surrounding Precinct 6/6A according to the EPBC Protected Matters Search Tool (Appendix 1). Of these, the three species likely to occur in Precinct 6/6A have been discussed below. Three of the remainder are wetland species, Painted Snipe (*Rostratula benghalensis*), Fairy Tern (*Sternula nereis nereis*) and Australian Bittern (*Botaurus poiciloptilus*), so would not occur due to lack of suitable habitat. The other five species are locally extinct on the Swan Coastal Plain in the Perth region – Malleefowl (*Leipoa ocellata*) Chuditch (*Dasyurus geoffroii*), Red-tailed Phascogale (*Phascogale calura*), Western Ringtail Possum (*Psueudecheirus occidentalis*) and Quokka (*Setonix brachyurus*).

No other EPBC-listed threatened species are considered likely to occur based on a review of the available literature.

4.1.1 Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*)

Conservation status

Carnaby's Black-Cockatoo is listed as Threatened (Endangered) under the EPBC Act and under Schedule 1 of the WA Wildlife Conservation Act.

Distribution and population

Carnaby's Black-Cockatoo is endemic to the southwest of Western Australia, occurring mostly in the wheatbelt but also on the Swan Coastal Plain and wetter southwest (Johnstone and Storr 1998). The population size is estimated to be 60,000 birds (Garnett and Crowley 2000) and the Swan Coastal Plain population is thought to have declined by 40% between 2010 and 2012 (Kabat *et al*. 2012).

Habitat

Carnaby's Black-Cockatoo forage on the seeds of a range of plant species, but are particularly attracted to proteaceous heaths, *Banksia* and *Eucalyptus* woodlands and pine plantations (Johnstone and Storr 1998). On the Swan Coastal Plain, important food plants include *Banksia attenuata*, *B. menziesii*, *B. grandis*, *B. ilicifolia*, *B. sessilis*, *B. prionotes*, Marri (*Corymbia calophylla*) and Jarrah (*Eucalyptus marginata*) (Shah 2006). Between February and September, large flocks of birds aggregate in feeding flocks on the northern Swan Coastal Plain (Johnstone *et al*. 2011). These birds are foraging mainly in heaths, *Banksia* woodlands and pine plantations, and can be in large numbers of up to 7,000 birds (Johnstone e*t al*. 2011). On the southern Swan Coastal Plain flocks are smaller (200 – 1,200 birds) and these birds forage on vegetation over a wide area (Johnstone *et al*. 2011).

Carnaby's Black-Cockatoo generally roosts in tall native or introduced eucalypts or pines in riparian habitats or near permanent water (DSEWPaC 2012a). Shah (2006) found that of 16 Carnaby's Black-Cockatoo roost sites she identified on the Swan Coastal Plain, all but one were in *Pinus* or *Eucalyptus* species. In 2010, it was similarly found that at 29 roosts for which the tree species were recorded were in *Pinus* or *Eucalyptus* species (Burnham *et al*. 2010).

Typically, Carnaby's Black-Cockatoo breeds in the wheatbelt region of Western Australia, nesting in large hollows in smooth-barked eucalypts such as the Salmon Gum (*Eucalyptus salmonophloia)* and Wandoo (*Eucalyptus wandoo*). However, it has also started breeding in areas further west and south than its traditional breeding range, including areas in the Darling Range and on the Swan Coastal Plain (Johnstone *et. al*. 2005, Johnstone *et al*. 2011). Breeding has been recorded from areas such as Baldivis, Lake Clifton, Yanchep and near Bunbury, with these nests always in Tuart (*Eucalyptus gomphocephala*) (Johnstone *et al*. 2011). Carnaby's Black-Cockatoo is also known to nest in Jarrah, Marri and Flooded Gum (*Eucalyptus rudis*) (DSEWPaC 2012a).

Records

Carnaby's Black-Cockatoo has been recorded roosting at Jandakot Airport (ENV Australia 2009), using the tall introduced eucalypts on Eagle Drive (Figure 3). Flocks of over 100 birds were also recorded in 2002, flying over the northeast and southeast corners of the airport (Bamford Consulting Ecologists 2003, Appendix 4). There are several nearby records of Carnaby's Black-Cockatoo on the DPAW Threatened and Priority Fauna Database (Appendix 2). These include records from Ken Hurst Park in 2002, 2003 and 2006, as well as from the Melville Glades Golf Club in 2000 and 2001.

Likely use of Precincts 6 & 6A

Carnaby's Black-Cockatoo are likely to be a regular seasonal visitor to the *Banksia* woodlands in Precinct 6 and 6A (Figure 3), as well as *Banksia* woodlands throughout the remainder of Jandakot Airport. The *Banksia* woodlands provide foraging habitat for this species, and birds are likely to feed on the seeds and flowers of *Banksia menzeisii*, *B. attenuata* and *B. ilicifolia*. There is unlikely to be any breeding habitat present given the general lack of eucalypts, and Precinct 6 and 6A are unlikely to be of particular importance for roosting as it lacks stands of tall trees.

Potential impact of development

The development of Precinct 6 and 6A is likely to result in the loss of about 52 ha of *Banksia* woodland foraging habitat for Carnaby's Black-Cockatoo. According to the referral guidelines for threatened black-cockatoos, clearing more than 1ha of quality foraging habitat has a high risk of a significant impact, and should be referred under the EPBC Act (DSEWPaC 2012a). Development is not likely to result in the loss of breeding habitat, and as Carnaby's Black-Cockatoo is a large, mobile bird, it is unlikely to succumb to direct mortality during clearing. It's mobility also makes it likely that the increased habitat fragmentation is unlikely to be a major impact.

4.1.2 Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*)

Conservation status

The Forest Red-tailed Black-Cockatoo is listed as Threatened (Vulnerable) under the EPBC Act and under Schedule 1 of the WA Wildlife Conservation Act.

Distribution and population

The Forest Red-tailed Black-Cockatoo is endemic to the southwest of Western Australia, where it is patchily distributed through its range (Johnstone and Storr 1998). The population size is estimated to be 15,000 birds (Johnstone and Kirkby 1999).

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F03.dgn

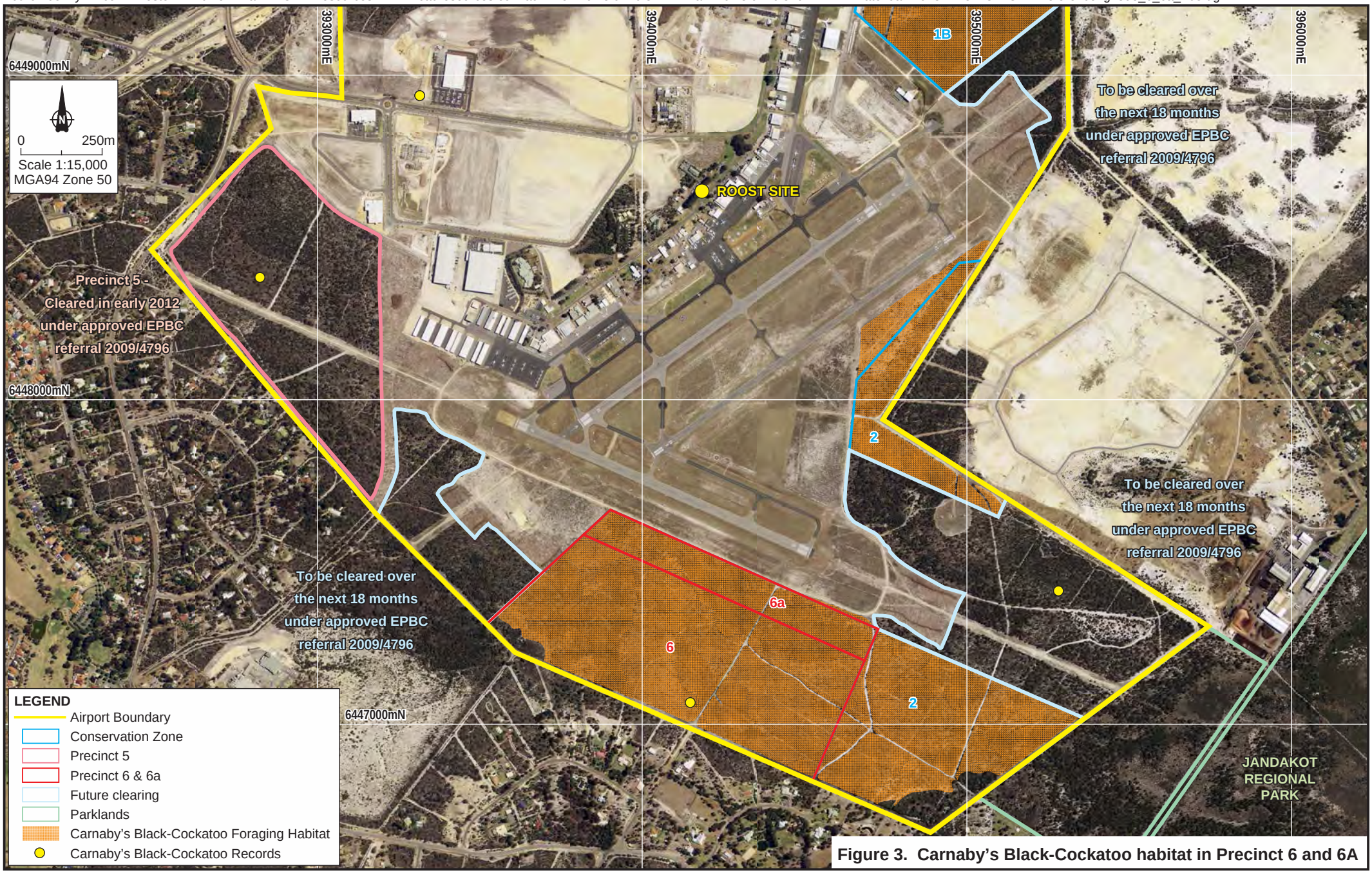


Figure 3. Carnaby's Black-Cockatoo habitat in Precinct 6 and 6A

Habitat

The Forest Red-tailed Black-Cockatoo inhabits the Jarrah, Marri and Karri forests of the southwest, where the annual rainfall is on average 600mm or more. It may also occur in other woodlands, including Tuart, Wandoo and Flooded Gum (*Eucalyptus rudis*) (Johnstone and Kirkby 1999). It also ranges irregularly onto the Swan Coastal Plain to feed on the seeds of the introduced Cape Lilac (*Melia azerdarach*) (Johnstone and Kirkby 1999).

Forest Red-tailed Black Cockatoos feed primarily on the seeds of Marri and Jarrah (Johnstone and Storr 1998), so forests or woodlands containing these species are of primary importance for this species. They also feed on the seeds of Blackbutt (*Eucalyptus patens*), Forest Sheoak (*Allocasuarina fraseriana*), Snottygobble (*Persoonia longifolia*) and Cape Lilac (Johnstone and Storr 1998).

Groups of up to 50 birds roost in trees overnight, dispersing into smaller flocks when ranging out to forage during the day. Roosts may be on roadsides, paddocks or forested areas (Johnstone and Kirkby 1999).

The Forest Red-tailed Black Cockatoo nests in hollows in Karri (*Eucalyptus diversicolor*), Marri, Jarrah, Bullich (*Eucalyptus megacarpa*) and Wandoo (*Eucalyptus wandoo*) (Johnstone and Storr 1998, DSEWPaC 2012a).

Records

The Forest Red-tailed Black-Cockatoo has been recorded at Jandakot Airport during a fauna survey (ENV Australia 2009) and there is an undated record for Jandakot Airport on the DPAW Threatened and Priority Fauna Database (Appendix 2). Other nearby database records are from Leeming in 2009, Canning Vale (undated) and Banjup (undated).

Likely use of Precincts 6 & 6A

The Forest Red-tailed Black-Cockatoo may be an occasional non-breeding visitor to Precinct 6 and 6A, but there is not likely to be significant foraging habitat present for this species. The Forest Red-tailed Black-Cockatoo would not breed in Precinct 6 and 6A, and no breeding habitat is located nearby.

Potential impact of development

The impact of the development of Precinct 6 and 6A on the Forest Red-tailed Black-Cockatoo is likely to be low. The area is not likely to be favoured foraging habitat due to the lack of Marri trees, and birds are only likely to be present on occasion.

4.1.3 Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*)

Conservation status

Baudin's Black-Cockatoo is listed as Threatened (Vulnerable) under the EPBC Act and under Schedule 1 of the WA Wildlife Conservation Act.

Distribution and population

Baudin's Black-Cockatoo is endemic to the southwest of Western Australia and is more common in the deep south-west (Johnstone and Storr 1998). The population size is estimated to be 15,000 birds (Johnstone and Kirkby 2008).

Habitat

Baudin's Black-Cockatoos breed in forests of Karri, Marri and Jarrah in the deep southwest, where the annual rainfall is on average more than 750mm. Breeding occurs in late winter to spring (about August to November), using a large hollow in a eucalypt, generally in Karri, Marri or Wandoo (Johnstone and Storr 1998). The hollows used are usually 30 - 40cm in diameter and more than 30cm deep. Breeding occurs as far north as Lowden (near Donnybrook), with an isolated breeding record from Serpentine (Johnstone and Kirkby 2008).

Outside of the breeding season Baudin's Black-Cockatoo may gather into large foraging flocks. In the non-breeding season this species ranges more widely, foraging primarily in habitats that contain Marri, and their distribution is probably defined by where Marri trees occur. Roosting habitat is generally in the tallest trees in riparian habitats, near permanent water or in sheltered gullies (DSEWPaC 2012, Johnstone and Kirkby 2008).

Baudin's Black-Cockatoos feed mainly on the seeds of eucalypts, with the majority of their diet consisting of Marri seeds. They also feed on seeds from other plants (e.g. Jarrah, *Banksia*, *Hakea* or commercial orchard crops such as apples and pears) and take some invertebrate material by stripping bark from trees (Johnstone and Storr 1998, Johnstone *et al*., 2005).

Records

There are no nearby records of Baudin's Black-Cockatoo (Appendix 2).

Likely use of Precincts 6 & 6A

Baudin's Black-Cockatoo may be a very occasional non-breeding visitor to Precinct 6 and 6A, where it may forage on *Banksia* spp.

Potential impact of development

The impact of the development of Precinct 6 and 6A on Baudin's Black-Cockatoo is likely to be low. The area is not likely to be favoured foraging habitat due to the lack of Marri trees, and birds are only likely to be present on occasion.

4.2 EPBC-listed Migratory species

A total of 15 EPBC-listed Migratory species may occur in the 5km area surrounding Precinct 6/6A according to the EPBC Protected Matters Search Tool (Appendix 1). Of these, the two species likely to occur in Precinct 6/6A have been discussed below. The majority of the remainder are wetland species or shorebirds, so would not occur due to lack of suitable habitat. The species listed are the Great Egret (*Ardea alba*), Cattle Egret (*Ardea ibis*), White-bellied Sea-Eagle (*Haliaeetus leucogaster*), Sharp-tailed Sandpiper (*Calidris acuminata*), Red Knot (*Calidris canutus*), Curlew Sandpiper (*Calidris ferruginea*), Red-necked Stint (*Calidris ruficollis*), Bar-tailed Godwit (*Limosa lapponica*), Black-tailed Godwit (*Limosa limosa*), Painted Snipe (*Rostratula benghalensis*), Wood Sandpiper (*Tringa glareola*), Marsh Sandpiper (*Tringa stagnatilis*). The remaining species, the Malleefowl, is locally extinct on the Swan Coastal Plain.

4.2.1 Rainbow Bee-eater (*Merops ornatus*)

Conservation status

The Rainbow Bee-eater is listed as Migratory under the EPBC Act.

Distribution and population

The Rainbow Bee-eater occurs across much of the better-watered parts of Australia as well as eastern Indonesia to Papua New Guinea (Johnstone and Storr 1998, Birdlife International 2012). Although the global population size for the Rainbow Bee-eater has not been estimated, it is considered to be large given reporting rates for the species (DSEWPaC 2012b). While probably resident in the north, populations of bee-eaters that breed in the south move northward over winter (DSEWPaC 2012b).

Habitat

The Rainbow Bee-eater inhabits a range of habitats, but favours lightly wooded areas near water (Johnstone and Storr 1998, DSEWPaC 2012b). South of the Tropic of Capricorn, breeding usually occurs between October and December, with the eggs laid in a burrow (Johnstone and Storr 1998). The burrow is dug on flat or angled sandy ground, including alongside tracks and roads (Johnstone and Storr 1998).

Records

The Rainbow Bee-eater has been recorded at Jandakot Airport in 2002 (Bamford Consulting Ecologists 2003), and there are multiple records of this species in Canning Vale, Leeming, Cockburn Central and Jandakot on the DPAW Threatened and Priority Fauna Database (Appendix 2).

Likely use of Precincts 6 & 6A

The Rainbow Bee-eater is likely to forage throughout Precinct 6 and 6A, using both Banksia woodland and dampland habitats (Figure 4). This species may breed in sandy areas in Precinct 6 and 6A, such as alongside tracks.

Potential impact of development

The development of Precinct 6 and 6A is likely to result in the loss of foraging habitat and potentially breeding habitat. Clearing during the breeding season may result in direct mortality of chicks in burrows, but adults are unlikely to be vulnerable to direct mortality. As a widespread, common and mobile species, the population status of the Rainbow Bee-eater is unlikely to be impacted due to the development, except on a very local scale.

4.2.2 Fork-tailed Swift (*Apus pacificus*)

Conservation status

The Fork-tailed Swift is listed as Migratory under the EPBC Act and is also listed under JAMBA and CAMBA.

Distribution and population

The Fork-tailed Swift occurs as a non-breeding visitor to Australia. It also occurs throughout southeast Asia and Russia. Although no global population estimate exists, the species is considered to have a large, stable population (Birdlife International 2012).

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F05.dgn

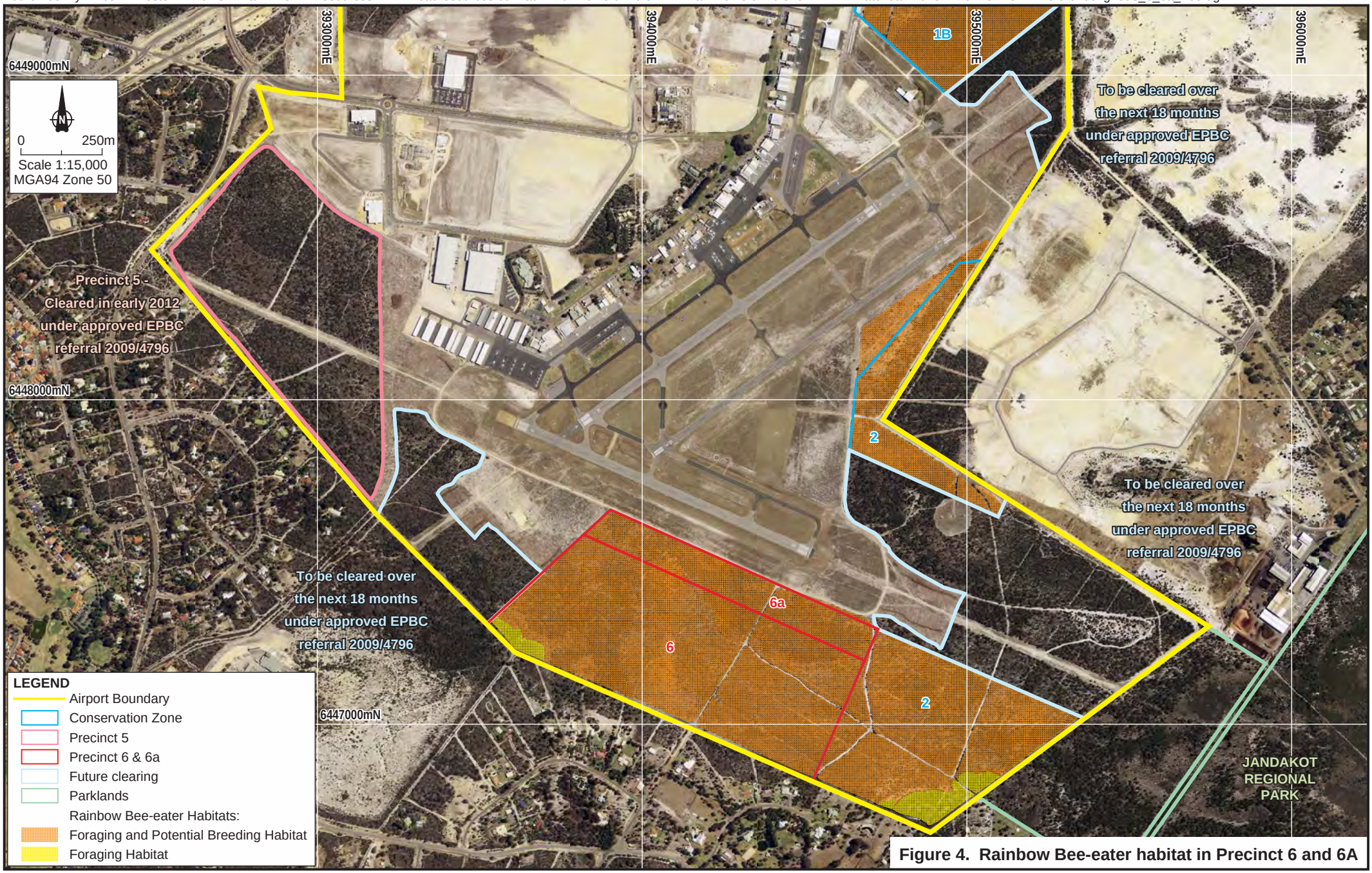


Figure 4. Rainbow Bee-eater habitat in Precinct 6 and 6A

Habitat

The Fork-tailed Swift is a summer visitor to southwest Western Australia, returning northwards to Asia to breed (Johnstone and Storr 1998). Largely aerial in Australia, the Fork-tailed Swift rarely comes to land. The bird is primarily observed foraging for insects in proximity to cyclonic weather (Boehm 1962).

Records

There are no nearby records of the Fork-tailed Swift.

Likely use of Precincts 6 & 6A

The Fork-tailed Swift may overfly Precinct 6 and 6A, but the habitats are unlikely to be significant for this species.

Potential impact of development

The potential impact on the Fork-tailed Swift of the development of Precinct 6 and 6A is likely to be negligible.

4.3 Specially Protected and Priority species

The following species are not listed under the EPBC Act, but are listed under Schedule 4 (Specially Protected Fauna) of the WA Wildlife Conservation Act or as Priority species by DPAW. Some species have been listed in previous reports for Jandakot Airport (e.g. Bamford *et al*. 2002 and ENV 2009), but have not been discussed here if they are considered locally extinct in the area.

4.3.1 Peregrine Falcon (*Falco peregrinus*)

Conservation status

The Peregrine Falcon is listed under Schedule 4 (Specially Protected Fauna) of the WA Wildlife Conservation Act.

Distribution and population

The Peregrine Falcon occurs throughout mainland Australia and Tasmania, and has a broad international distribution. The global population is estimated at over a million individuals (Birdlife International 2012).

Habitat

This species is widespread throughout Australia, occurring mainly in ranges and on cliffs along rivers and coasts (Johnstone and Storr 1998). The Peregrine Falcon nests mainly on ledges on cliffs, rock outcrops and quarries, but may also nest in hollow trees in wetlands or on old nests of other bird species (Johnstone and Storr 1998).

Records

The Peregrine Falcon has not been recorded at Jandakot Airport during fauna surveys (Bamford Consulting Ecologists 2003, ENV Australia 2009). There is a nearby record at Lake Yangebup in 1998 on the DPAW Threatened and Priority Fauna Database (Appendix 2).

Likely use of Precincts 6 & 6A

The Peregrine Falcon may occur at Precinct 6 and 6A as a foraging visitor, though this species is likely to favour more open habitats in which to forage. The low woodlands present are unlikely to provide breeding habitat.

Potential impact of development

Unless the Peregrine Falcon was found to be nesting at Precinct 6 and 6A (which is not likely due to the lack of tall trees), the development of the area is only likely to have a negligible impact on this species.

4.3.2 Perth Lined Lerista (*Lerista lineata*)

Conservation status

The Perth Lined Lerista is listed as Priority 3 by DPAW.

Distribution and population

The Perth Lined Lerista is endemic to Western Australia, where it is mainly restricted to the coastal plain from the southern suburbs of Perth south to Binningup (Bush *et al*. 2010). There is no population information available for this species, but it is likely to be common within suitable habitat.

Habitat

The Perth Lined Lerista inhabits coastal dunes and *Banksia* woodlands where it shelters in leaf litter and loose surface soil (Bush *et al*. 2010).

Records

In 2002, there were several captures of the Perth Lined Lerista from sites throughout the bushland at Jandakot Airport (Bamford Consulting Ecologists 2003), as shown in Figure 5 (Appendix 4). The Perth Lined Lerista has also been recorded at Jandakot Airport in 2001 on the DPAW Threatened and Priority Fauna Database (Appendix 2). Other database records are from Ken Hurst Park (adjacent to Jandakot Airport), the Fiona Stanley Hospital site in Murdoch and Yangebup Lake.

Likely use of Precincts 6 & 6A

The Perth Lined Lerista is likely to occur throughout the *Banksia* woodlands of Precinct 6 and 6A (Figure 5). It is also likely to occur in adjacent areas of *Banksia* woodland.

Potential impact of development

The development of Precinct 6 and 6A is highly likely to result in some habitat loss for the Perth Lined Lerista. As this species is a small ground-dwelling skink, the development is also likely to impede its movement between remaining native bushland in Precinct 2 and on private properties to the southwest, increasingly isolating any populations in remnant bushland. The Perth Lined Lerista is also vulnerable to direct mortality while clearing, as it is too small to move away from heavy machinery.

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F06.dgn

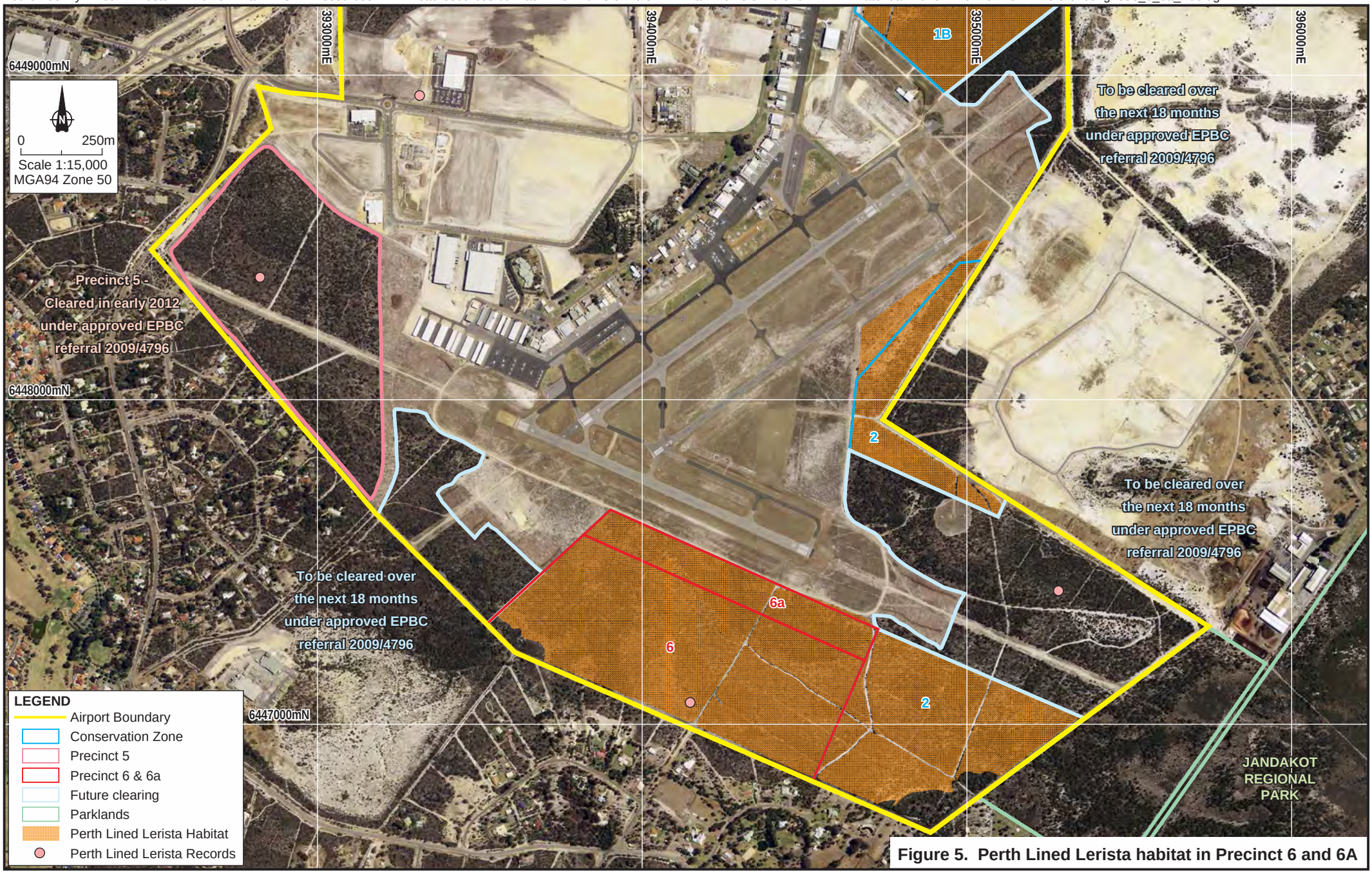


Figure 5. Perth Lined Lerista habitat in Precinct 6 and 6A

4.3.3 Jewelled Ctenotus (*Ctenotus gemmula*)

Conservation status

The Swan Coastal Plain population of the Jewelled Ctenotus is listed as Priority 3 by DPAW.

Distribution and population

The Jewelled Ctenotus is endemic to Western Australia, and in the Perth region it is restricted to the Swan Coastal Plain (Bush *et al*. 2010). There is no population information available for this species, but Bush *et al*. (2010) report this species as being very uncommon on the Swan Coastal Plain.

Habitat

The Jewelled Ctenotus inhabits low vegetation in *Banksia* woodlands where it shelters in leaf litter under trees and shrubs and abandoned stick-ant nests (Bush *et al*. 2010).

Records

There are no nearby records of this species on the DPAW Threatened and Priority Fauna Database, and it has not been recorded in the fauna surveys at Jandakot Airport. However, there is a record within 5km on NatureMap (Appendix 3).

Likely use of Precincts 6 & 6A

If present, the Jewelled Ctenotus will inhabit the *Banksia* woodland in Precinct 6 and 6A. However, this species has not yet been recorded at Jandakot Airport despite three surveys using pitfall traps in 2001, 2002 and 2009.

Potential impact of development

If the Jewelled Ctenotus is present in Precincts 6 and 6A, the development is likely to result in some habitat loss. As this species is a medium-sized ground-dwelling skink, the development is also likely to impede its movement between remaining native bushland in Precinct 2 and on private properties to the southwest, increasingly isolating any populations in remnant bushland. The Jewelled Ctenotus is also vulnerable to direct mortality while clearing, as it is too small to move away from heavy machinery.

4.3.4 Black-striped Snake (*Neelaps calonotos*)

Conservation status

The Black-striped Snake is listed as Priority 3 by DPAW and as Near Threatened on the IUCN Red List (Australasian Reptile & Amphibian Specialist Group 1996).

Distribution and population

The Black-striped Snake is endemic to Western Australia, where it is mainly restricted to the coastal plain from Mandurah to Lancelin (Bush *et al*. 2010). No population estimates exist for this species.

Habitat

The Black-striped Snake inhabits coastal dunes and *Banksia* woodlands where it shelters in leaf litter under trees and shrubs, loose surface soil and abandoned stick-ant nests (Bush *et al*. 2010).

Records

The Black-striped Snake has been recorded at Jandakot Airport (Bamford *et al*. 2002), with the single record shown in Figure 6. There are no nearby records of this species on the DPAW Threatened and Priority Fauna Database.

Likely use of Precincts 6 & 6A

The Black-striped Snake potentially occurs in *Banksia* woodland in Precinct 6 and 6A (Figure 6).

Potential impact of development

The development of Precinct 6 and 6A is likely to result in some habitat loss for the Black-striped Snake. As this species is a small fossorial snake, the development is also likely to impede its movement between remaining native bushland in Precinct 2 and on private properties to the southwest, increasingly isolating any populations in remnant bushland. The Black-striped Snake is also vulnerable to direct mortality while clearing, as it is likely to hide rather than move away from heavy machinery.

4.3.5 Western False Pipistrelle (*Falsistrellus mackenziei*)

Conservation status

The Western False Pipistrelle is listed as Priority 4 by DPAW and as Near Threatened on the IUCN Red List of Threatened Species.

Distribution and population

The Western False Pipistrelle is endemic to the southwest of Western Australia (Van Dyck and Strahan 2008). The Western False Pipistrelle, although locally common, appears to be rare in the north of its range, possibly due to habitat degradation (McKenzie and Readon 2008), but no overall population estimate exists.

Habitat

The Western False Pipistrelle inhabits high rainfall forests including Karri forests, the wetter parts of the Jarrah forest and Tuart woodlands on the Swan Coastal Plain (Van Dyck and Strahan 2008, McKenzie and Readon 2008). This species roosts in colonies in tree hollows or hollow logs, and have been found in groups of 5 to 30 bats (Churchill 1998, Van Dyck and Strahan 2008).

Records

There is an unconfirmed record of the Western False Pipistrelle at Jandakot Airport (Bamford *et al*. 2002). There are no nearby records of this species on the DPAW Threatened and Priority Fauna Database.

Likely use of Precincts 6 & 6A

The Western False Pipistrelle has possibly been recorded at Jandakot Airport (Bamford *et al*. 2002) so potentially occurs in Precinct 6 and 6A, but the habitats present are not likely to be significant for this species. Precinct 6 and 6A generally lacks suitable hollows for roosting, and on the Swan Coastal Plain it is likely to favour Tuart woodlands over *Banksia* woodlands.

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F07.dgn

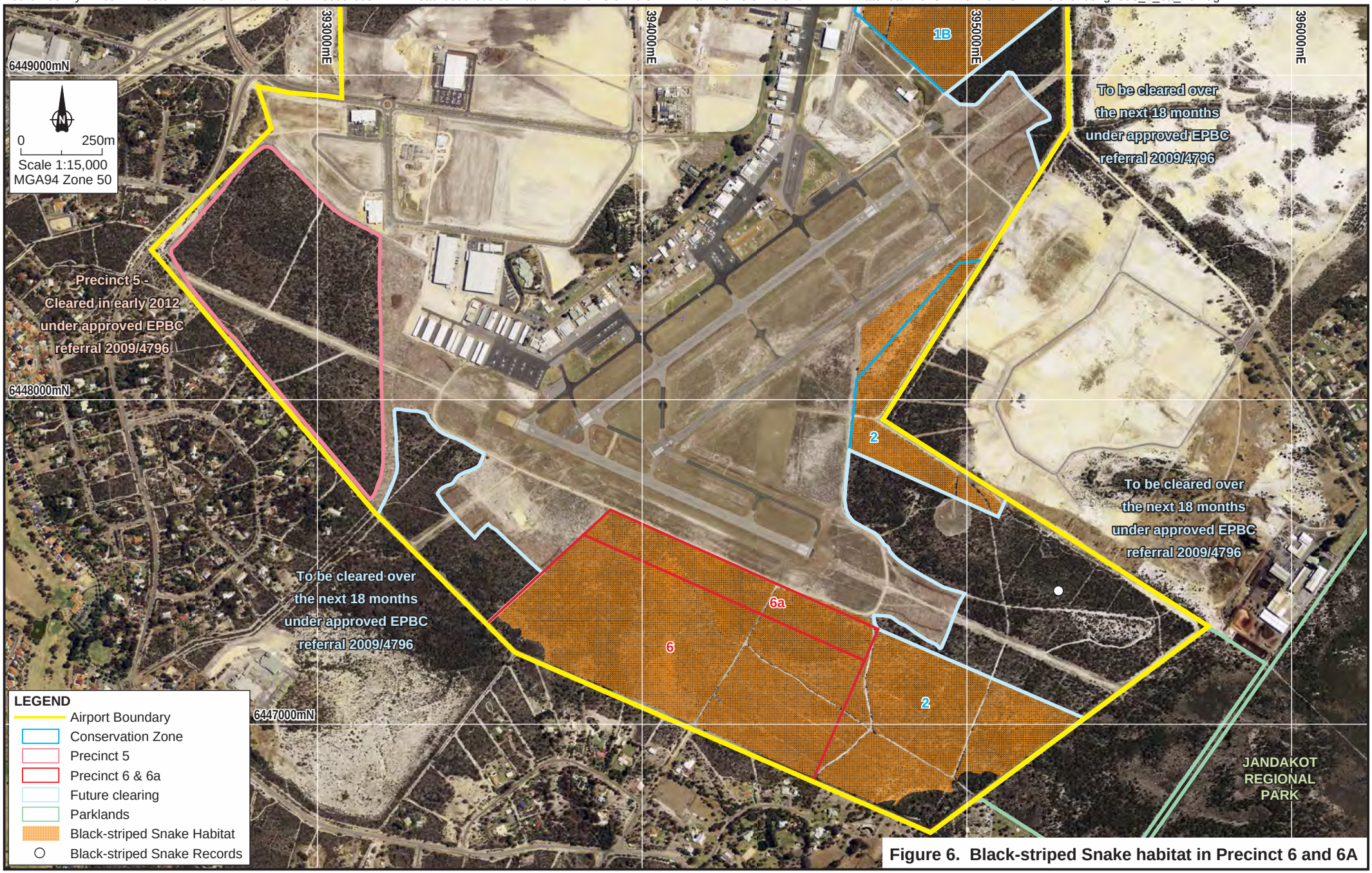


Figure 6. Black-striped Snake habitat in Precinct 6 and 6A

Potential impact of development

If present in Precinct 6 and 6A, the development will likely result in some loss of foraging habitat for the Western False Pipistrelle. There is unlikely to be any loss of roosting habitat as the study area lacks hollow-bearing eucalypts. If not roosting in the study area, this species is also not likely to be vulnerable to direct mortality when clearing.

4.3.6 Western Brush Wallaby (*Macropus irma*)

Conservation status

The Western Brush Wallaby is listed as Priority 4 by DPAW.

Distribution and population

The Western Brush Wallaby is endemic to the south-west of Western Australia (Van Dyck and Strahan 2008). The global population of this species is thought to be about 100,000 (Morris et al. 2008).

Habitat

The Western Brush Wallaby is endemic to the south-west of Western Australia. The Western Brush Wallaby favours open forest and woodland, as well as seasonally wet flats with grasses and thickets (Van Dyck and Strahan 2008). It doesn't seem to require open water for drinking (Van Dyck and Strahn 2008, Bamford and Bamford 1999). The Western Brush Wallaby is active mostly in the early morning and late afternoon, and during the day it shelters in the shade (Van Dyck and Strahan 2008).

Records

The Western Brush Wallaby has been recorded at Jandakot Airport in fauna surveys (Bamford Consulting Ecologists 2003, ENV Australia 2009) and targeted wallaby surveys (Western Wildlife 2011d) (Appendix 4). There are multiple records of Western Brush Wallaby at Jandakot Airport on the DPAW Threatened and Priority Fauna Database (Appendix 2), all of which appear to be from the 2011 wallaby survey.

Likely use of Precincts 6 & 6A

The Western Brush Wallaby has been recorded in and around Precinct 6 and 6A (Figure 7). It is likely to forage throughout the Precinct 6 and 6A area, as well as ranging out onto the low cropped vegetation adjacent to the runways to forage. When resting, the Western Brush Wallaby is likely to shelter in dense vegetation.

Potential impact of development

The development of Precinct 6 and 6A is likely to result in some habitat loss for the Western Brush Wallaby, and increasingly isolate the remaining wallaby population in Precinct 2. However, Western Brush Wallabies have been observed traversing the low-cropped areas adjacent to airport runways, so habitat fragmentation on this scale is not likely to be critical for this species. The progressive loss of habitat within the airport fence is likely to result in this trapped wallaby population becoming unviable in the long-term, with too few individuals present to maintain genetic diversity. As a large, mobile mammal, the Western Brush Wallaby is unlikely to succumb to direct mortality when clearing, as long as clearing is occurring towards remaining native vegetation and wallabies are not trapped along the fence.

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F08.dgn

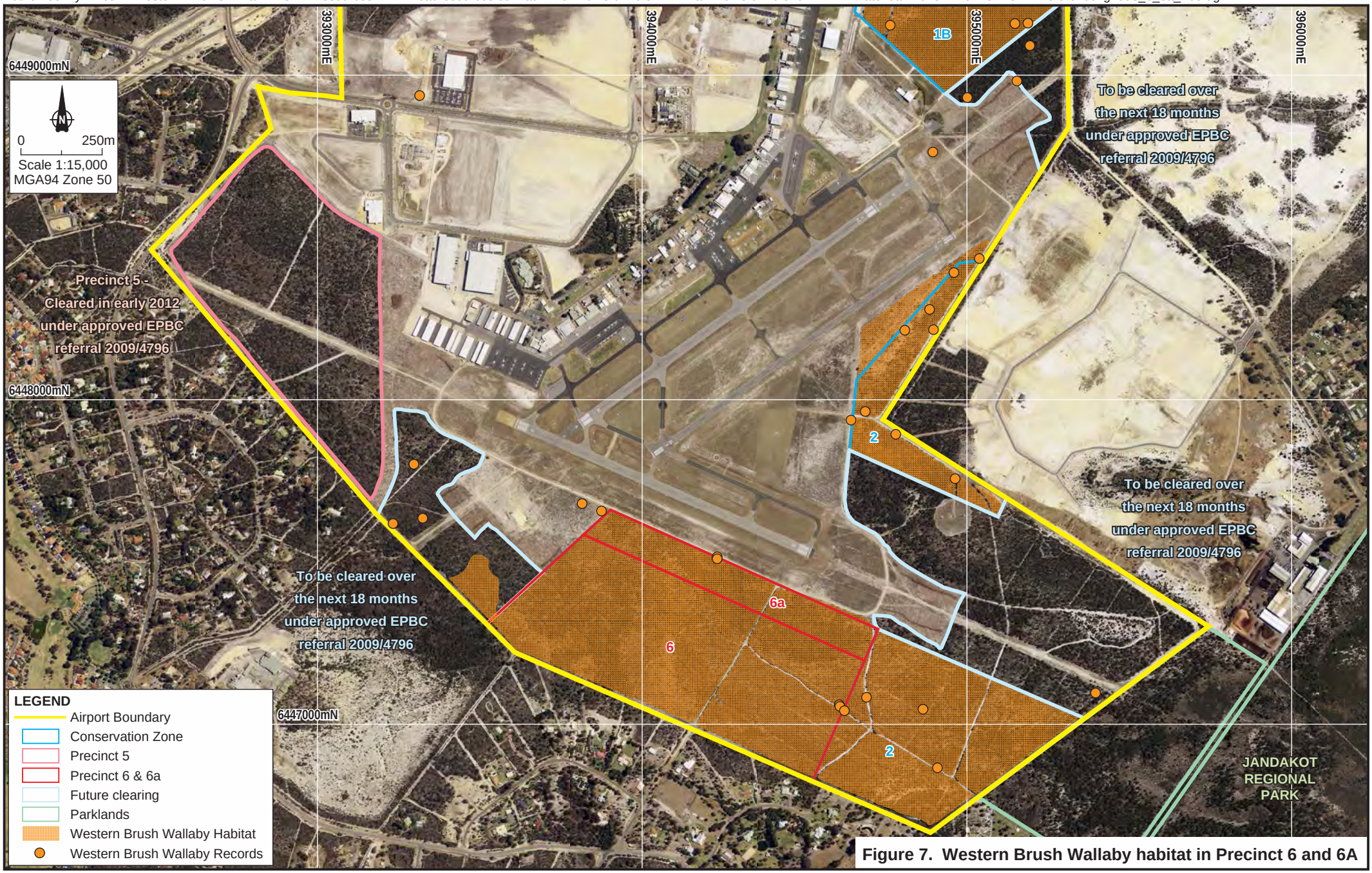


Figure 7. Western Brush Wallaby habitat in Precinct 6 and 6A

4.3.7 Quenda or Southern Brown Bandicoot (*Isoodon obesulus fusciventer*)

Conservation status

The Quenda is listed as Priority 5 by DPAW.

Distribution and population

The Quenda occurs across southern Australia and Tasmania, with the subspecies *I.o.fusciventer* endemic to the southwest of Western Australia (Van Dyck and Strahan 2008). Although a population estimate has not been made, it is common within suitable habitat.

Habitat

The Quenda inhabits a variety of habitats including forests, woodlands, shrublands and heathlands (Van Dyck and Strahan 2008). The main habitat requirement is for dense cover at ground level (Maxwell *et al*. 1996, Van Dyck and Strahan 2008). Quenda shelter in a nest constructed amongst dense vegetation such as among Grasstrees (Van Dyck and Strahan 2008), and may also use the burrows of other species or construct their own burrows (Long 2009).

Records

The Quenda is very common at Jandakot Airport and has been recorded in fauna surveys (Bamford Consulting Ecologists 2003, ENV Australia 2009) and targeted Quenda surveys (Western Wildlife 2012) (Appendix 4). Records at the airport are shown on Figure 8. There are multiple records of Quenda at Jandakot Airport on the DPAW Threatened and Priority Fauna Database, and records for nearby areas including the Fiona Stanley Hospital site in Murdoch, and along the Roe Highway in Leeming.

Likely use of Precincts 6 & 6A

The Quenda has been recorded in and is likely to occur throughout Precinct 6 and 6A. It may forage anywhere in the area, and is likely to shelter in low dense vegetation in the *Banksia* woodland understorey and in the dampland area (Figure 8).

Potential impact of development

The development of Precinct 6 and 6A is likely to result in some habitat loss for the Quenda, and increasingly isolate Quenda populations in Precinct 2. However, Quenda are unlikely to be contained within the airport fence, and the Precinct 2 population is likely to be continuous with the population in Jandakot Regional Park. During clearing there is the potential for direct mortalities of adult and juvenile Quenda.

4.3.8 Graceful Sun-moth (*Synemon gratiosa*)

Conservation status

The Graceful Sun-moth is listed as Priority 4 by DPAW. Until recently, this species was listed under Schedule 1 of the WA Wildlife Conservation Act, but it was downgraded to a Priority 4 in November 2012. In January 2013, this species was removed from its listing as Threatened (Endangered) under the EPBC Act

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F09.dgn

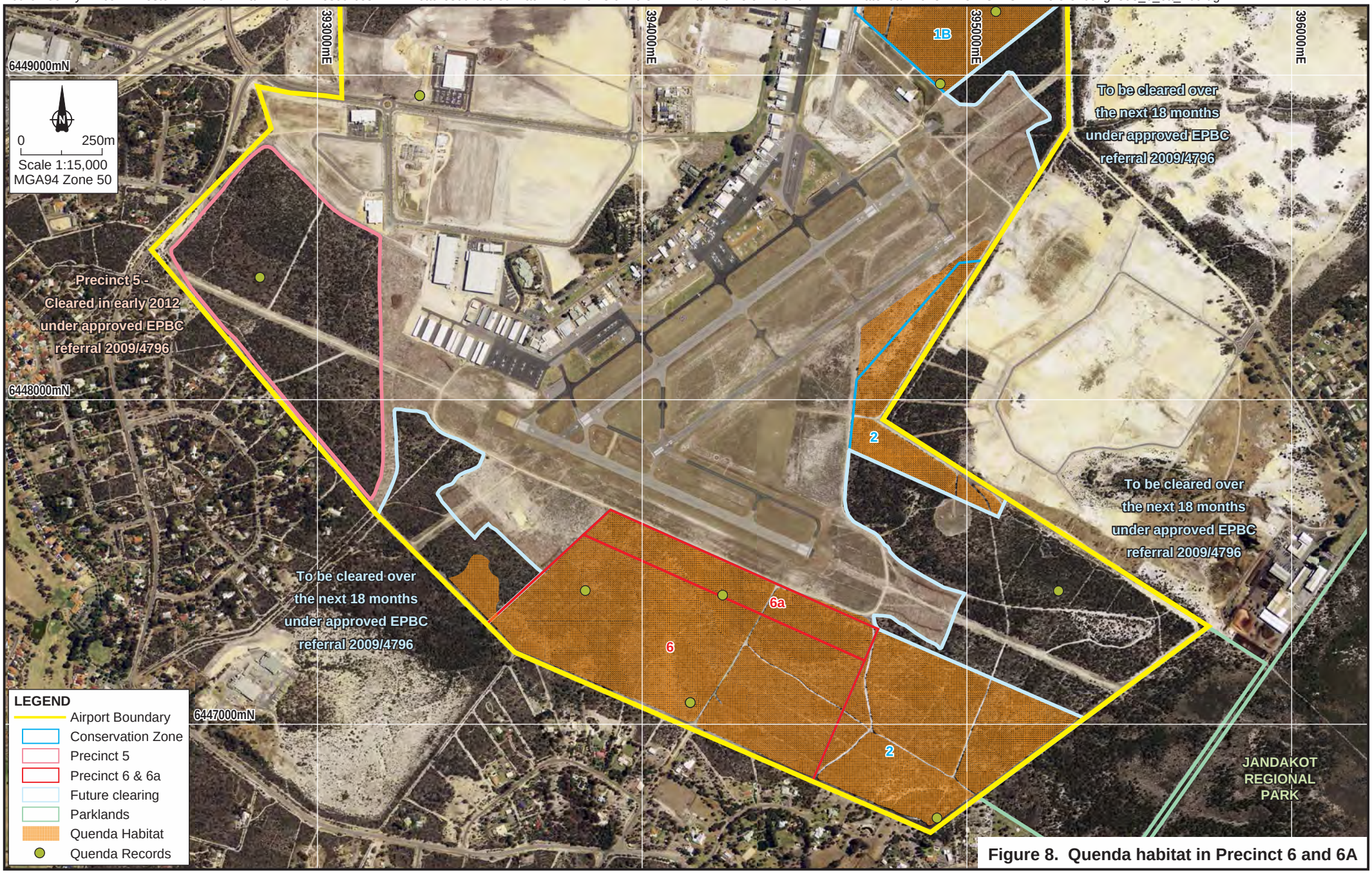


Figure 8. Quenda habitat in Precinct 6 and 6A

Distribution and population

The Graceful Sun-moth is endemic to southwest Western Australia, with most of the population occurring on the Swan Coastal Plain. The extent of the Graceful Sun-moth's occurrence is thought to be 2015km^2, with the maximum area of occupancy estimated at 42.6km^2, with a possible unconfirmed addition of 76.3km^2 of coastal habitat (DEC 2011).

Habitat

The Graceful Sun-moth is known to inhabit coastal dunes and *Banksia* woodlands (DEC 2011). Populations in coastal dunes are usually more numerous and dense than those in *Banksia* woodlands (DEC 2011). The larvae of the Graceful Sun-moth feed on *Lomandra maritima* in coastal dune, or *Lomandra hermaphrodita* in Banksia woodland, and adult moths are usually found in close proximity to breeding areas (Bishop *et al*. 2010, DEC 2011). The adult moths fly between late February and early April, with the male moths establishing territories in open areas, including along tracks and firebreaks. Female moths are harder to observe and after mating tend to be found near the patches of *Lomandra* that are breeding areas (Bishop *et al*. 2010).

Records

There are three records of the Graceful Sun-moth at Jandakot Airport in 2011 (Western Wildlife 2011b, Appendix 4), which are also listed on the DPAW Threatened and Priority Fauna Database (Appendix 2). Two of these records are within the Precinct 6 and 6A area, and the other is within 250m (Figure 9).

Likely use of Precincts 6 & 6A

The Graceful Sun-moth is known to occur in Precinct 6 and 6A. It is likely to occur in *Banksia* woodland, breed where *Lomandra hermaphrodita* is present and use open areas, including sandy tracks, for displaying (Figure 9).

Potential impact of development

The development of Precinct 6 and 6A is likely to result in some habitat loss for the Graceful Sun-moth, and increasingly isolate the sun-moth population in Precinct 2 and any potential populations in Jandakot Regional Park or adjacent private property. During clearing there is the potential for direct mortalities of adult moths if it is within their active period, or of lavae.

4.3.9 Katydid or Bush Cricket (*Throscodectes xiphos*)

Conservation status

The Katydid *Throscodectes xiphos* is listed as Priority 1 by DPAW.

Distribution and population

T. xiphos is known only from a few records in the Jandakot area, and there is no further information available on its distribution or population size.

Habitat

The specific habitat of *T. xiphos* is not known, except that it was collected from heathland in Jandakot. Members of family Tettigoniinae, of which *T. xiphos* is one, may be found in any terrestrial habitat (Rentz 2010), but most Australian Tettigoniinae in temperate areas are associated with heathland habitats (Rentz 1985).

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: B ~ CAD Reference: g1893_6_6a_F04.dgn

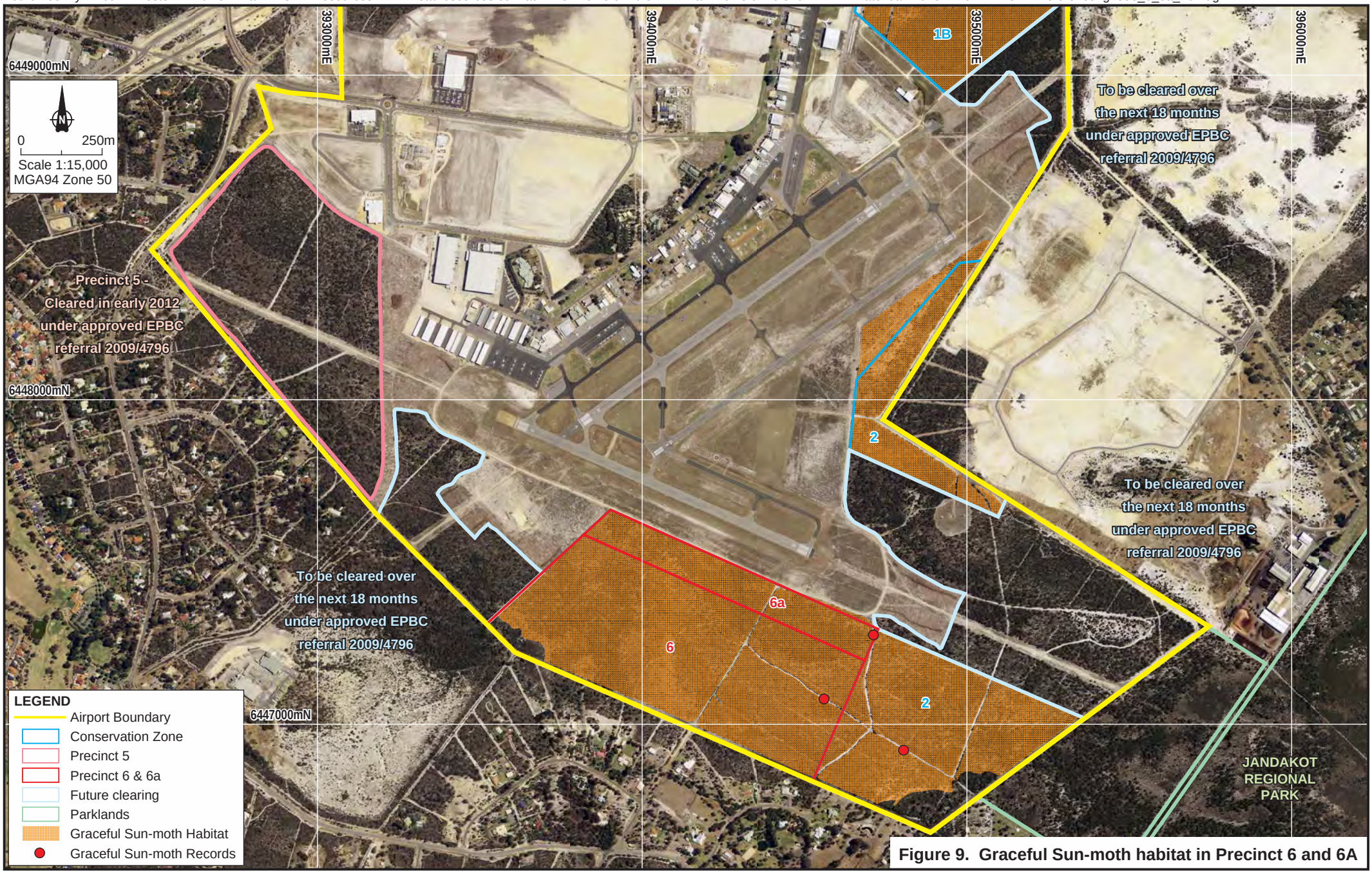


Figure 9. Graceful Sun-moth habitat in Precinct 6 and 6A

Records

This species has not been recorded at Jandakot Airport. The only records are from 1981, from Cutler Rd in Jandakot (Appendix 2).

Likely use of Precincts 6 & 6A

If present at Jandakot Airport, it may occur in areas with a heath understorey, potentially in the understorey of the *Banksia* woodland (Figure 10). However, as this species is virtually unknown, its habitat preferences are an extrapolation from the general preferences of the Tettigoniinae subfamily.

Potential impact of development

The potential impacts of development of Precinct 6 and 6A on *T. xiphos* is difficult to ascertain, given the lack of information on this species. If the species is present in the study area, development may result in some direct mortality of adults or nymphs while clearing, some habitat loss and habitat fragmentation.

Author: Jenny Wilcox - Western Wildlife~ Drawn: CAD Resources ~ www.cadresources.com.au ~ Tel: +61 8 9246 3242 ~ Fax: +61 8 9246 3202 ~ A4 ~ Date: Jan 2013 ~ Rev: C ~ CAD Reference: g1893_6_6a_F10.dgn

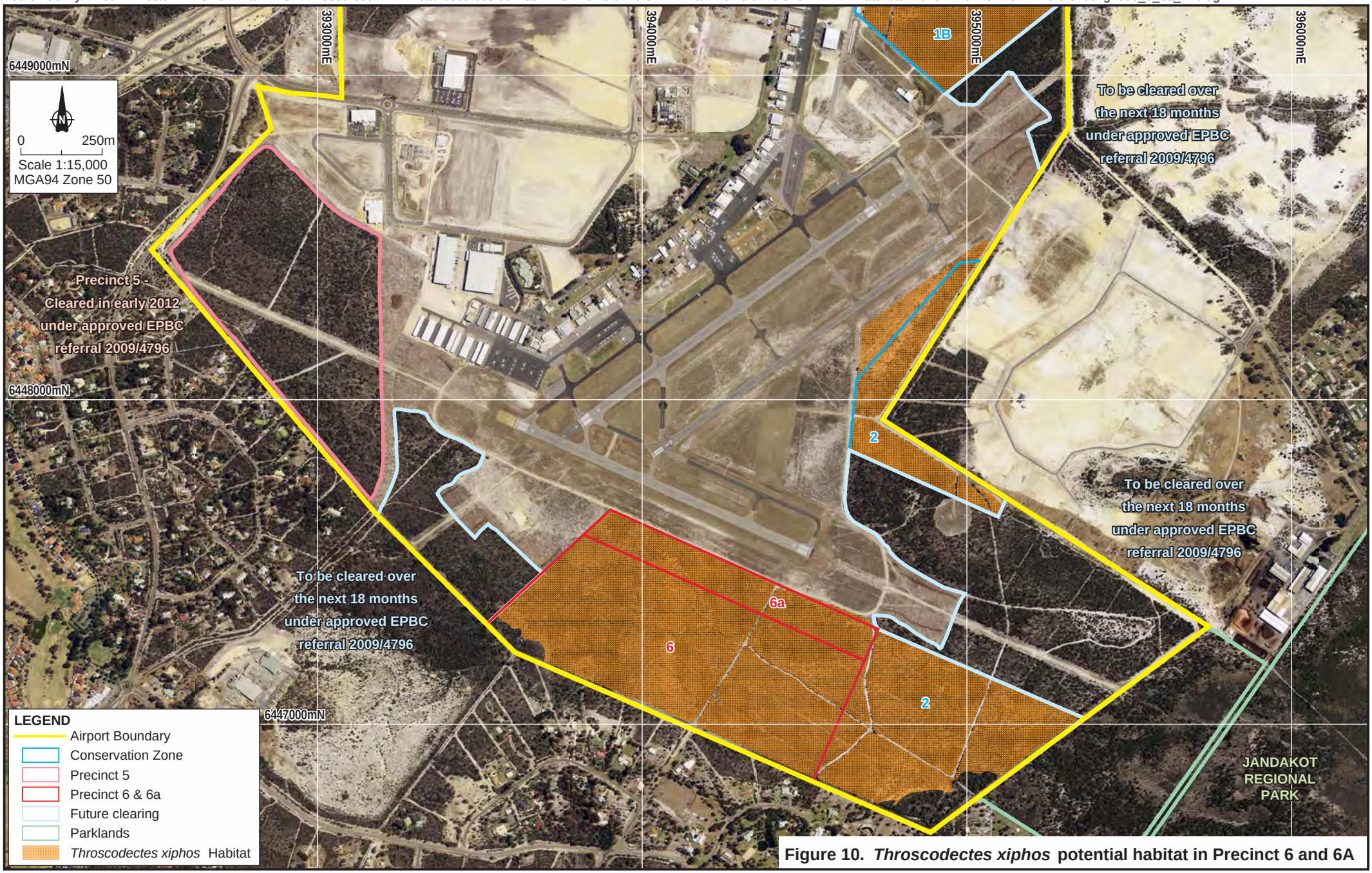


Figure 10. *Throscodectes xiphos* potential habitat in Precinct 6 and 6A

4.4 Locally significant species

One mammal that is known to occur at Jandakot Airport is considered of local significance, as listed below. Where it has been recorded in bushland at Jandakot Airport is indicated with 'ENV' for species recorded in 2009 by ENV Australia (2009) and with 'BCE' for species recorded in 2002 by Bamford Consulting Ecologists (2003).

Locally Significant Mammals that potentially occur in Precinct 6 & 6A

• Honey Possum (*Tarsipes rostratus*)	BCE	ENV

The Honey Possum only persists at a few larger bushland remnants on the Swan Coastal Plain (Government of Western Australia 2000). It is known to occur at Jandakot Airport (Bamford Consulting Ecologists 2003, ENV Australia 2009) and is likely to occur in *Banksia* woodland in Precinct 6 and 6A. The Honey Possum is a small marsupial that feeds on nectar and pollen (Van Dyck and Strahan 2008). It sleeps in a temporary shelter during the day, and forages at night. As it relies on a year-round supply of flowering plants it requires large well-connected areas of bushland so it can move between areas in flower, and the population at the airport is likely to be continuous with that in Ken Hurst Park, Jandakot Regional Park and other adjacent areas of bushland. Development of Precinct 6 and 6A increases the fragmentation of the remaining bushland at Jandakot Airport and may impede the movement of this species between remaining areas of bushland.

The Bush Forever document identifies significant birds of the Swan Coastal Plain portion of the Perth Metropolitan Area (Government of Western Australia 2000). These birds include species that are habitat specialists with a reduced distribution on the Swan Coastal Plain, as well as more wide-ranging species with a reduced population on the Swan Coastal Plain (Government of Western Australia 2000).

About 40% of non-passerines have declined on the Swan Coastal Plain, including waterbirds, birds of prey and habitat specialists such as the Painted Button-quail (*Turnix varia*). Nearly 50% of passerines have decreased in abundance, with most insectivorous and nectarivorous species declining due to habitat loss (Government of Western Australia 2000). Some passerines are locally extinct in parts of their former range on the Swan Coastal Plain (Government of Western Australia 2000).

The following is a list of 26 locally significant bird species likely to occur or recorded at Jandakot Airport, and likely to occur in Precinct 6 and 6A. Where species have been recorded in bushland at Jandakot Airport is indicated with 'ENV' for species recorded in 2009 by ENV Australia (2009) and with 'BCE' for species recorded in 2002 by Bamford Consulting Ecologists (2003).

Locally Significant Birds that potentially occur in Precinct 6 & 6A

• Square-tailed Kite (*Hamirostra isura*)			
• Brown Goshawk (*Accipiter fasciatus*)	BCE		NM
• Collared Sparrowhawk (*Accipiter cirrocephalus*)	BCE	ENV	NM
• Little Eagle (*Aquila morphnoides*)	BCE	ENV	
• Wedge-tailed Eagle (*Aquila audax*)	BCE		NM
• Brown Falcon (*Falco berigora*)	BCE		
• Painted Button-quail (*Turnix varia*)	BCE		
• Common Bronzewing (*Phaps chalcoptera*)	BCE	ENV	NM
• Splendid Fairy-wren (*Malurus splendens*)	BCE	ENV	NM
• White-browed Scrubwren (*Sericornis frontalis*)			NM
• Weebill (*Smicrornis brevirostris*)	BCE		NM
• Inland Thornbill (*Acanthiza apicalis*)	BCE		NM
• Western Thornbill (*Acanthiza inornata*)	BCE		NM
• Yellow-rumped Thornbill (*Acanthiza chrysorrhoa*)	BCE	ENV	NM
• Western White-naped Honeyeater (*Melithreptus chloropsis*)			NM
• New Holland Honeyeater (*Phylidonyris novaehollandiae*)	BCE	ENV	NM
• White-cheeked Honeyeater (*Phylidonyris nigra*)	BCE	ENV	NM
• Tawny-crowned Honeyeater (*Phylidonyris melanops*)	BCE		
• Western Wattlebird (*Anthochaera lunulata*)	BCE	ENV	NM
• Hooded Robin (*Petroica cucullata*)	BCE		
• Scarlet Robin (*Petroica multicolor*)	BCE		
• Varied Sittella (*Daphoenositta chrysoptera*)	BCE		NM
• Golden Whistler (*Pachycephala pectoralis*)	BCE	ENV	
• Grey Shrike-thrush (*Colluricincla harmonica*)	BCE	ENV	NM
• Black-faced Woodswallow (*Artamus cinereus*)	BCE		NM
• Dusky Woodswallow (*Artamus cyanopterus*)			NM

The development of Precinct 6 and 6A will result in some habitat loss for locally significant bird species. Large, mobile species such as birds of prey, are unlikely to be affected by increased habitat fragmentation, but the movement of small insectivorous species, such as thornbills and fairy-wrens, may be impeded.

The following is a list of ten locally significant reptile species likely to occur or recorded at Jandakot Airport, and potentially occurring in Precinct 6 and 6A. Where species have been recorded in bushland at Jandakot Airport is indicated with 'ENV' for species recorded in 2009 by ENV Australia (2009), 'BCE' for species recorded in 2002 by Bamford Consulting Ecologists (2003) and 'DR' for species recorded by Dave Robinson in 2001 (Bamford Consulting Ecologists 2003). These species include large predatory reptiles, such as goannas, that have been negatively impacted by urbanisation (Government of Western Australia 2000) and species that are uncommon or at the edge of their range on the southern Swan Coastal Plain.

Locally Significant Reptiles that potentially occur in Precinct 6 & 6A

•	Keeled Legless Lizard (*Pletholax gracilis*)		DR		NM
•	Heath Dragon (*Ctenophorus adelaidensis*)		DR		NM
•	Rosenberg's Goanna (*Varanus rosenbergi*)				
•	Black-headed Tree Goanna (*Varanus tristis*)				
•	Southern Cool Skink (*Acritoscincus trilineatum*)	BCE	DR	ENV	NM
•	Worm Lerista (*Lerista praepedita*)				
•	Western Bluetongue (*Tiliqua occipitalis*)	BCE	DR		NM
•	Yellow-faced Whipsnake (*Demansia psammophis*)	BCE	DR	ENV	NM
•	Crowned Snake (*Elapognathus coronatus*)				NM
•	Gould's Snake (Parasuta gouldii)		DR		NM

The locally significant reptile species all potentially occur in *Banksia* woodland, and the Black-headed Tree Goanna, Rosenberg's Goanna and Crowned Snake may also occur in damplands (Bush *et al*. 2010). Development of Precinct 6 and 6A will result in some habitat loss for these species and impede movement, particularly of smaller species, between bushland either side of Precinct 6 and 6A.

There are no locally significant frog species likely to occur in Precinct 6 and 6A.

5. Summary and Conclusions

Precinct 6 and 6A is comprised mostly of Banksia woodland with a small area of dampland. A total of 51 conservation significant fauna species have been identified as known to occur or potentially occurring in Precinct 6 and 6A. This is made up of four mammals, 30 birds, 13 reptiles and two invertebrates. The three EPBC listed threatened species are:

- Carnaby's Black-Cockatoo
- Forest Red-tailed Black-Cockatoo
- Baudin's Black-Cockatoo

The two EPBC listed Migratory species that may potentially occur are:

- Rainbow Bee-eater
- Fork-tailed Swift

Only one Schedule 4 (Specially Protected Fauna) species potentially occurs:

- Peregrine Falcon

The eight Priority species that potentially occur are:

- Perth Lined Lerista
- Jewelled Ctenotus
- Black-striped Snake
- Western False Pipistrelle
- Western Brush Wallaby
- Quenda
- Graceful Sun-moth
- Bush Cricket (*Throscodectes xiphos*)

The locally significant species that potentially occur include one mammal, 26 birds and ten reptiles.

The main impacts on fauna of developing Precinct 6 and 6A are:

- Loss of habitat for conservation significant fauna and other fauna.
- Increase in habitat fragmentation impeding movements of smaller ground-dwelling fauna.
- Direct mortality of fauna while clearing.
- Habitat degradation of remaining bushland.

The impacts are likely to be negligible for species that only visit the area on occasion, or species for which the habitat is not ideal. These include Baudin's Black-Cockatoo, the Forest Red-tailed Black-Cockatoo, Fork-tailed Swift and the Peregrine Falcon. The impacts on very common, widespread species, such as the Rainbow Bee-eater, are also likely to be low.

For species that are highly likely to be present, the impact of habitat loss may be high, at least on a local scale. On a regional scale, the development will increase the fragmentation of the remaining native vegetation in the area, and increased habitat fragmentation is likely to affect the long-term persistence of fauna in suburban settings. Fauna most at risk from habitat fragmentation are those that do not disperse well over cleared or urban land. These include ground-dwelling small reptiles such as the Perth Lined Lerista, Jewelled Ctenotus and Black-striped Snake, as well as small mammals (e.g. Quenda and Honey Possum) and invertebrates (e.g. Graceful Sun-moth).

The other impact related to habitat fragmentation is habitat degradation of remaining patches of bushland adjacent to Precinct 6 and 6A. Smaller patches of remnant bushland have more 'edge', and from these edges weeds and exotic predators, such as cats and foxes, can invade. The edges of patches can also experience more disturbance from noise and light spill when adjacent to human activities, which may discourage fauna from using otherwise suitable habitat.

The EPBC-listed threatened fauna of most concern is Carnaby's Black-Cockatoo. Precinct 6 and 6A has over 52 ha of foraging habitat for Carnaby's Black-Cockatoo.

6. References

Australasian Reptile & Amphibian Specialist Group (1996). *Simoselaps calonotus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. URL: www.iucnredlist.org.

Bamford, M.J. and Bamford, A.R. (1999). *A Study of the Brush or Black-gloved Wallaby Macropus irma (Jourdan 1837) in Whiteman Park*. Whiteman Park Technical Series No.1, Western Australia.

Bamford Consulting Ecologists (2003*). Fauna Survey of Jandakot Airport*. Unpublished Report to Jandakot Airport Holdings, Perth, Western Australia.

Barrett, G., Silcocks, A., Barry, S., Cunningham, R. and Poulter, R. (2003). *The New Atlas of Australian Birds*. Royal Australasian Ornithologists Union, Victoria.

BirdLife International (2012). IUCN Red List for Birds. URL: http://www.birdlife.org.

Bishop, C., Williams, M., Mitchell, D. and Gamblin, T. (2010). *Survey Guidelines for the Graceful Sun-moth & site habitat assessments Version 1.2*. Department of Environment and Conservation, Kensington, Western Australia.

Boehm, E.F. (1962). Some habits of the Fork-tailed Swift. *Emu* 61(4) 281-282.

Burnham, Q, Barrett, G., Blythman, M. and Scott, R. (2010). *Carnaby's Cockatoo (Calyptorhynchus latirostris) identification of nocturnal roost sites and the 2010 Great Cocky Count*. Report prepared for the WA Department of Environment and Conservation by Birds Australia and DEC, Western Australia.

Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. (2010). Field Guide to Reptiles and Frogs of the Perth Region. Western Australian Museum, Kew St, Welshpool.

Churchill, S. (1998). *Australian Bats*. Reed New Holland, Sydney.

DEC (2007 –) *NatureMap: Mapping Western Australia's Biodiversity*. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/

DEC (2011). Conservation Advice for *Synemon gratiosa* (graceful sun-moth) – January 2011.

DSEWPaC (2012a). *EPBC Act Referral Guidelines for three threatened Black Cockatoo Species: Carnaby's Cockatoo (Calyptorhynchus latirostris), Baudin's Cockatoo (Calyptorhynchus baudinii) and Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii naso).* Commonwealth of Australia 2012.

DSEWPaC (2012b). Merops ornatus *in Species Profile and Threats (SPRAT) database*. URL: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=670.

DEWHA (Department of the Environment, Water, Heritage and the Arts) (2004). Interim Biogeographic Regionalisation for Australia (IBRA), Version 6.1.

ENV Australia (2009). *Jandakot Airport Fauna Survey*. Unpublished report to Jandakot Airport Holdings, Perth, Western Australia.

Government of Western Australia (2000). *Bush Forever – Keeping the Bush in the City. Volume 1: Policies, Principles and Processes.* Perth, WA.

Johnstone, R.E., Johnstone, C.E. and Kirkby, T. (2011). *Black Cockatoos on the Swan Coastal Plain*. Report to the Department of Planning, Western Australia.

Johnstone, R.E. and Kirkby, T. (1999). Food of the Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* in south-west Western Australia. *Western Australian Naturalist*. 22:167-177.

Johnstone, R., Kirkby, T., Stone, P. and Minton, C. (2005) *White-tailed Black-Cockatoos: Identification challenges and changes in distribution and status, and links with a community program – Cockatoo Care.* In: Conserving Carnaby's Black-Cockatoo: Future Directions, Proceedings from a conservation symposium, Edited by C. Gole, Perth, Western Australia.

Johnstone, R.E. & Storr, G.M. (1998). *Handbook of Western Australian Birds. Volume 1: Nonpasserines (Emu to Dollarbird)*. Western Australian Museum, Perth.

Johnstone, R.E. & Storr, G.M. (2004). *Handbook of Western Australian Birds. Volume 2: Passerines (Blue-winged Pitta to Goldfinch)*. Western Australian Museum, Perth.

Kabat, A.P., Scott R., Kabat, T. and Barrett, G. (2012) *2011 Great Cocky Count: Population estimates and identification of roost sites for the Carnaby's Cockatoo (Calyptorhynchus latirostris)*. Report prepared by BirdLife Australia for the WA Department of Environment and Conservation. February 2012. Floreat, Western Australia.

Long, K. 2009). Burrowing bandicoots – and adaptation to life in a fire-prone environment? *Australian Mammology* 31(1) 57 – 59.

Mattiske Consulting (2001). *Vegetation Mapping of the Jandakot Lease Area*. Unpublished report to Jandakot Airport Holdings Pty Ltd, Perth, Western Australia.

Mattiske Consulting (2012). *Vegetation Mapping of the Jandakot Lease Area*. Unpublished report to Jandakot Airport Holdings Pty Ltd, Perth, Western Australia.

Maxwell S., Burbidge A.A, Morris K. (1996). *The 1996 Action Plan for Australian Marsupials and Monotremes*. Wildlife Australia, Canberra.

McKenzie, N. and Reardon, T. (2008). *Falsistrellus mackenziei*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. URL: www.iucnredlist.org.

Mitchell, D., Williams, K. and Desmond, A. (2002). Swan Coastal Plain 2 *(SWA2 – Swan Coastal Plain subregion).* In: *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002.* Ed by J.E. May and N.L. McKenzie. Dept. of Conservation and Land Management, Western Australia.

Morris, K., Friend, T. and Burbidge, A. (2008). *Macropus irma*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. URL: www.iucnredlist.org.

Rentz, D.C. (1985). *A monograph of the Tettigoniidae of Australia, Volume 1: The Tettigoniinae*. CSIRO Australia, Melbourne.

Rentz, D. (2010). A guide to the Katydids of Australia. CSIRO Publishing, Melbourne.

Shah, B. (2006). *Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia* Project Report, Birds Australia Western Australia, Perth.

Storr, G.M., Smith, L.A. and Johnstone, R.E. (1983). *Lizards of Western Australia. II. Dragons and Monitors*. W.A. Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone, R.E. (2002). *Snakes of Western Australia*. W.A. Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone, R.E. (1990). *Lizards of Western Australia. III. Geckoes and Pygopods*. W.A. Museum, Perth.

Storr, G.M., Smith, L.A. and Johnstone, R.E. (1999). *Lizards of Western Australia. I. Skinks*. 2nd edition. W.A. Museum, Perth.

Tyler, M.J., and Doughty, P. (2009). Field Guide to *Frogs of Western Australia*. W.A. Museum, Perth.

Van Dyck, S. and Strahan, R. (2008). *Mammals of Australia*. 3rd Edition. Reed New Holland, Sydney.

Western Wildlife (2011a). *Jandakot Airport Conservation Areas: Carnaby's Black-Cockatoo Habitat Survey 2011*. Unpublished report to Jandakot Airport Holdings.

Western Wildlife (2011b). *Jandakot Airport Conservation Areas: Graceful Sun-moth Survey 2011*. Unpublished report to Jandakot Airport Holdings.

Western Wildlife (2011c). *Jandakot Airport Conservation Areas: Throscodectes xiphos Literature Review 2011*. Unpublished report to Jandakot Airport Holdings.

Western Wildlife (2011d). *Jandakot Airport Conservation Areas: Western Brush Wallaby Survey 2011*. Unpublished report to Jandakot Airport Holdings.

Western Wildlife (2012). *Jandakot Airport Conservation Areas: Quenda Survey 2011*. Unpublished report to Jandakot Airport Holdings.

Wilson, S., and Swan, G. (2010). *A Complete Guide to the Reptiles of Australia*. 4th Edition. New Holland Publishers Australia Pty Ltd, Sydney.

Appendix 1. EPBC Protected Matters Search Tool Results.

Results for the 5km area surrounding Precinct 6 and 6A (50K, 393931 E, 6447370N), excluding listed Marine species.

Species	Status	Author's Comment
Botaurus poiciloptilus Australasian Bittern	Endangered	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo	Vulnerable	Recorded near study area and likely to occur on occasion.
Calyptorhynchus baudinii Baudin's Black-Cockatoo	Vulnerable	May possibly occur on occasion.
Calyptorhynchus latirostris Carnaby's Black-Cockatoo	Endangered	Recorded near study area and likely to occur.
Leipoa ocellata Malleefowl	Vulnerable & migratory	Locally extinct in the Jandakot area.
Rostratula australis Australian Painted Snipe	Vulnerable & migratory	Highly unlikely to occur in study area due to disturbance and lack of suitable habitat.
Sternula nereis nereis Fairy Tern	Vulnerable	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Dasyurus geoffroii Chuditch	Vulnerable	Locally extinct in the Jandakot area.
Phascogale calura Red-tailed Phascogale	Endangered	Locally extinct in the Jandakot area.
Pseudocheirus occidentalis Western Ringtail Possum	Vulnerable	Locally extinct in the Jandakot area.
Setonix brachyurus Quokka	Vulnerable	Locally extinct in the Jandakot area.
Fork-tailed Swift *Apus pacificus*	Migratory (marine)	May occur in study area.
Great Egret *Ardea alba*	Migratory (wetland & marine)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Cattle Egret *Ardea ibis*	Migratory (wetland & marine)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
White-bellied Sea-Eagle *Haliaeetus leucogaster*	Migratory (terrestrial)	Coastal and wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Rainbow Bee-eater *Merops ornatus*	Migratory (terrestrial)	Recorded near study area and likely to occur.
Calidris acuminata Sharp-tailed Sandpiper	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Calidris canutus Red Knot	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Calidris ferruginea Curlew Sandpiper	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.

Appendix 1. (cont.)

Species	Status	Author's Comment
Calidris ruficollis Red-necked Stint	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Limosa lapponica Bar-tailed Godwit	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Limosa limosa Black-tailed Godwit	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Tringa glareola Wood Sandpiper	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.
Tringa stagnatilis Marsh Sandpiper	Migratory (wetland)	Wetland species. No suitable habitat in Precinct 6 & 6A, therefore not likely to occur.

Appendix 2. DPAW Threatened and Priority Database Search Results.

Results for the 5km area surrounding Precinct 6 and 6A (50K, 393931 E, 6447370N).

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Actitis hypoleucos	IA	Yangebup Lake	2001	YANGEBUP
Ardea modesta	IA	Bibra Lake	2001	BIBRA LAKE
Ardea modesta	IA	Lake Bibra	2000	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	2000	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1998	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	2002	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1999	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1999	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	2000	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1998	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	2001	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1998	BIBRA LAKE
Ardea modesta	IA	Bibra Lake east	1999	BIBRA LAKE
Ardea modesta	IA	Bibra Lake east	1998	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1998	BIBRA LAKE
Ardea modesta	IA	Bibra Lake	1999	BIBRA LAKE
Ardea modesta	IA	Little Rush Lake, Yangebup	1998	YANGEBUP
Ardea modesta	IA	Yangebup Lake	2001	YANGEBUP
Ardea modesta	IA	Yangebup Lake	2002	YANGEBUP
Ardea modesta	IA	Yangebup Lake	2002	COCKBURN CENTRAL
Ardea modesta	IA	Yangebup Lake	1999	COCKBURN CENTRAL
Calidris acuminata	IA		1951	YANGEBUP
Calidris ferruginea	IA	Yangebup Lake	2001	YANGEBUP
Calidris ferruginea	IA	South Lake 6164	2005	SOUTH LAKE
Calidris ruficollis	IA	Yangebup Lake	2001	YANGEBUP
Calidris ruficollis	IA	Yangebup Lake	1999	COCKBURN CENTRAL
Calyptorhynchus banksii subsp. naso	T	Harper Road, Banjup WA 6164		BANJUP
Calyptorhynchus banksii subsp. naso	T	6	2010	JANDAKOT
Calyptorhynchus banksii subsp. naso	T	6	2010	JANDAKOT
Calyptorhynchus banksii subsp. naso	T	Jandakot Airport, bushland		JANDAKOT
Calyptorhynchus banksii subsp. naso	T	Beresford Place, Leeming	2009	LEEMING
Calyptorhynchus banksii subsp. naso	T	reserve between Fraser Rd, Canning Vale and Nicholson Rd		CANNING VALE
Calyptorhynchus latirostris	T	Bibra Lake	1998	BIBRA LAKE
Calyptorhynchus latirostris	T	Harper Road, Banjup WA 6164		BANJUP
Calyptorhynchus latirostris	T	Bush vicinity of Jandakot Caravan Park, Hammond Rd (Robyn Pickering)		SUCCESS
Calyptorhynchus latirostris	T	Hammond rd, in the small pine plantation (Mark Blythman 23/02/10), success		SUCCESS
Calyptorhynchus latirostris	T	Bush vicinity of Jandakot Caravan Park, Hammond Rd (Robyn Pickering)		SUCCESS
Calyptorhynchus latirostris	T	Bush vicinity of Jandakot Caravan Park, Hammond Rd (Robyn Pickering)		SUCCESS
Calyptorhynchus latirostris	T	Hammond rd, in the small pine plantation (Mark Blythman 23/02/10), success		SUCCESS
Calyptorhynchus latirostris	T	Hammond rd, in the small pine plantation (Mark Blythman 23/02/10), success		SUCCESS
Calyptorhynchus latirostris	T	Bush vicinity of Jandakot Caravan Park, Hammond Rd (Robyn Pickering)		SUCCESS
Calyptorhynchus latirostris	T	Bush vicinity of Jandakot Caravan Park, Hammond Rd (Robyn Pickering)		SUCCESS

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Calyptorhynchus latirostris	T	Site 6	2009	JANDAKOT
Calyptorhynchus latirostris	T	6	2010	JANDAKOT
Calyptorhynchus latirostris	T	Melville Glades Golf Club, Leeming	2000	LEEMING
Calyptorhynchus latirostris	T	Ken Hurst Park	2006	LEEMING
Calyptorhynchus latirostris	T	Ken Hurst Park, Leeming	2003	LEEMING
Calyptorhynchus latirostris	T	Melville Glades Golf Club, Leeming	2000	LEEMING
Calyptorhynchus latirostris	T	Between Jandakot Airport and Melville Glades Golf Course		LEEMING
Calyptorhynchus latirostris	T	Between Jandakot Airport and Melville Glades Golf Course		LEEMING
Calyptorhynchus latirostris	T	Melville Glades Golf Club, Leeming	2001	LEEMING
Calyptorhynchus latirostris	T	Ken Hurst Park	2002	LEEMING
Calyptorhynchus latirostris	T	Melville Glades Golf Club, Leeming	2000	LEEMING
Calyptorhynchus latirostris	T	Caladenia Gardens	2005	CANNING VALE
Calyptorhynchus latirostris	T	Rubbish Tip Bushland	2003	CANNING VALE
Calyptorhynchus latirostris	T	Clifton Buffer	2004	CANNING VALE
Calyptorhynchus latirostris	T	Rubbish Tip Bushland	2004	CANNING VALE
Calyptorhynchus latirostris	T	Clifton Buffer	2004	CANNING VALE
Calyptorhynchus latirostris	T	South Lake 6164	2005	SOUTH LAKE
Charadrius dubius	IA	Bibra Lake east	1998	BIBRA LAKE
Falco peregrinus	S	Lake Yangebup, City of Cockburn	1998	YANGEBUP
Isoodon obesulus	5	east side of Bibra Lake, opposite Bibra Lake Primary School.		BIBRA LAKE
Isoodon obesulus	5	BERRIGAN DRIVE	2005	YANGEBUP
Isoodon obesulus	5	Jandakot		YANGEBUP
Isoodon obesulus	5	NICHOLSON ROAD	1987	PIARA WATERS
Isoodon obesulus	5	Armadale Rd - Between Fraser Rd and Metrobrick Quarry		BANJUP
Isoodon obesulus	5	Harper Road, Banjup WA 6164		BANJUP
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Princep Rd, Jandakot (PR1)		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	Jandakot Airport, bushland. Trapsite 2		JANDAKOT
Isoodon obesulus	5	Princep Rd, Jandakot (PR2)		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Site 6	2009	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Jandakot Airport		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Isoodon obesulus	5	JandakotAirport	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Jandakot Airport, bushland. Trapsite 1		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Site 6	2009	JANDAKOT
Isoodon obesulus	5	Princep Rd, Jandakot. In lowland area including trapline PR5.		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Site 6	2009	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Kwinana Freeway about 50m south of railway overpass, Jandakot	1997	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Jandakot Airport, bushland. Trapsite 3		JANDAKOT
Isoodon obesulus	5	Jandakot Airport.		JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Jandakot Airport	2011	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	6	2010	JANDAKOT
Isoodon obesulus	5	Wetland in Ti-Tree Close bushland (cnr of Kwinana Fwy and Beeliar Rd)		COCKBURN CENTRAL
Isoodon obesulus	5	seen dead on Roe Highway, 1.4km east of the Karel Ave overpass	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe Hwy stage 7 (Between Karel Ave and Kwinana Fwy)		LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe Hwy stage 7 (Between Karel Ave and Kwinana Fwy)		LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe Hwy stage 7 (Between Karel Ave and Kwinana Fwy)		LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe Hwy stage 7 (Between Karel Ave and Kwinana Fwy)		LEEMING
Isoodon obesulus	5	BRENTWOOD.,POST OFFICE	1961	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	5	2010	LEEMING
Isoodon obesulus	5	Roe_Kwinana_Interchange	2012	LEEMING
Isoodon obesulus	5	Ranford Rd, Canning Vale.		CANNING VALE
Isoodon obesulus	5	Canning Vale WA		CANNING VALE
Isoodon obesulus	5	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Isoodon obesulus	5	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Isoodon obesulus	5	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Isoodon obesulus	5	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Isoodon obesulus	5	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Lerista lineata	3	YANGEBUP LAKE		YANGEBUP
Lerista lineata	3	YANGEBUP LAKE	2004	YANGEBUP
Lerista lineata	3	YANGEBUP LAKE	2004	YANGEBUP
Lerista lineata	3	Jandakot Airport		JANDAKOT
Lerista lineata	3	Jandakot Airpot		JANDAKOT
Lerista lineata	3	Jandakot Airport		JANDAKOT
Lerista lineata	3	KEN HEARST PARK	1992	JANDAKOT
Lerista lineata	3	JANDAKOT AIRPORT	2001	JANDAKOT
Lerista lineata	3	6	2010	JANDAKOT
Lerista lineata	3	JANDAKOT AIRPORT	2001	JANDAKOT
Lerista lineata	3	Site 6	2009	JANDAKOT
Lerista lineata	3	Jandakot Airport		JANDAKOT
Lerista lineata	3	Bull Creek		BULL CREEK
Lerista lineata	3	Ken Hurst Park, Leeming		LEEMING
Lerista lineata	3	BULLCREEK, PERTH	1984	LEEMING
Lerista lineata	3	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Lerista lineata	3	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Lerista lineata	3	Proposed Fiona Stanley Hospital, Murdoch		MURDOCH
Limosa limosa	IA	South Lake 6164	2005	SOUTH LAKE
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT

Appendix 2. (cont.)

SCIENTIFIC NAME	CC*	SITE NAME	YEAR	LOCALITY
Macropus irma	4	Jandakot Airport		JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Macropus irma	4	Jandakot Airport, bushland		JANDAKOT
Macropus irma	4	Jandakot Airport	2011	JANDAKOT
Merops ornatus	IA	Bibra Lake	1999	BIBRA LAKE
Merops ornatus	IA	Bibra Lake	2001	BIBRA LAKE
Merops ornatus	IA	Bibra Lake east	1998	BIBRA LAKE
Merops ornatus	IA	Bibra Lake	1998	BIBRA LAKE
Merops ornatus	IA	Bibra Lake	1998	BIBRA LAKE
Merops ornatus	IA	Yangebup Lake	2001	YANGEBUP
Merops ornatus	IA	Kraemer Reserve East	2005	BANJUP
Merops ornatus	IA	Fraser Road, Banjup	2000	BANJUP
Merops ornatus	IA	Site 6	2009	JANDAKOT
Merops ornatus	IA	Site 6	2009	JANDAKOT
Merops ornatus	IA	Yangebup Lake	2002	COCKBURN CENTRAL
Merops ornatus	IA	Tea Tree Swamp, Jandakot	2001	COCKBURN CENTRAL
Merops ornatus	IA	Yangebup Lake	2002	COCKBURN CENTRAL
Merops ornatus	IA	Ken Hurst Park	2003	LEEMING
Merops ornatus	IA	Melville Glades Golf Club, Leeming	2001	LEEMING
Merops ornatus	IA	Melville Glades Golf Club, Leeming	2000	LEEMING
Merops ornatus	IA	Melville Glades Golf Club, Leeming	2000	LEEMING
Merops ornatus	IA	Melville Glades Golf Club, Leeming	2000	LEEMING
Merops ornatus	IA	Ken Hurst Park	2003	LEEMING
Merops ornatus	IA	Dudley Hartree Park	2005	LEEMING
Merops ornatus	IA	Ken Hurst Park	2006	LEEMING
Merops ornatus	IA	Leeming State High School	1998	LEEMING
Merops ornatus	IA	Clifton Buffer	2003	CANNING VALE
Merops ornatus	IA	Clifton Buffer	2004	CANNING VALE
Merops ornatus	IA	Clifton Buffer	2004	CANNING VALE
Merops ornatus	IA	Rubbish Tip Bushland	2004	CANNING VALE
Merops ornatus	IA	Rubbish Tip Bushland	2003	CANNING VALE
Myrmecobius fasciatus	T	Jandakot Airport		JANDAKOT
Myrmecobius fasciatus	T	Forrest Rd, 400m east of Prinsep Rd		COCKBURN CENTRAL
Synemon gratiosa	T	Jandakot Airport	2011	JANDAKOT
Synemon gratiosa	T	Jandakot Airport	2011	JANDAKOT
Synemon gratiosa	T	Jandakot Airport	2011	JANDAKOT
Throscodectes xiphos	1	Cutler Road, Jandakot		JANDAKOT
Throscodectes xiphos	1	Across the road from 'Putter Green' golf course, Jandakot		JANDAKOT
Throscodectes xiphos	1	Cutler Road, Jandakot		JANDAKOT
Throscodectes xiphos	1	Cutler Road, Jandakot		JANDAKOT
Tringa glareola	IA	Yangebup Lake	2002	YANGEBUP
Tringa nebularia	IA	South Lake 6164	2005	SOUTH LAKE
Tringa stagnatilis	IA		1950	YANGEBUP

* CC = Conservation code. IA = International Agreement, T = Threatened, S = Schedule 4, 5 = Priority 5, 4 = Priority 4, 3 = Priority 3, 1 = Priority 1.

Appendix 3. NatureMap (DEC 2007-) Search Results.

Results for the 5km area surrounding Precinct 6 and 6A (50K, 393931 E, 6447370N).

Amphibian		Status
Crinia glauerti	Clicking Frog	
Crinia insignifera	Squelching Froglet	
Heleioporus eyrei	Moaning Frog	
Limnodynastes dorsalis	Western Banjo Frog	
Litoria adelaidensis	Slender Tree Frog	
Litoria moorei	Motorbike Frog	
Myobatrachus gouldii	Turtle Frog	
Pseudophryne guentheri	Crawling Toadlet	
8 species, 77 records		

Bird		Status
Acanthiza apicalis	Broad-tailed Thornbill	
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	
Acanthiza inornata	Western Thornbill	
Acanthorhynchus superciliosus	Western Spinebill	
Accipiter cirrocephalus	Collared Sparrowhawk	
Accipiter fasciatus	Brown Goshawk	
Acrocephalus australis	Australian Reed Warbler	
Actitis hypoleucos	Common Sandpiper	**IA**
Anas gracilis	Grey Teal	
Anas platyrhynchos	Mallard	
Anas rhynchotis	Australasian Shoveler	
Anas superciliosa	Pacific Black Duck	
Anthochaera carunculata	Red Wattlebird	
Anthochaera lunulata	Western Little Wattlebird	
Aquila audax	Wedge-tailed Eagle	
Ardea pacifica	White-necked Heron	
Artamus cinereus	Black-faced Woodswallow	
Artamus cyanopterus	Dusky Woodswallow	
Aythya australis	Hardhead	
Biziura lobata	Musk Duck	
Cacatua pastinator	Western Long-billed Corella	
Cacatua roseicapilla	Galah	
Cacatua sanguinea	Little Corella	
Calidris ferruginea	Curlew Sandpiper	**IA**
Calidris ruficollis	Red-necked Stint	**IA**
Calyptorhynchus banksii subsp. naso	Forest Red-tailed Black-Cockatoo	**EPBC**
Calyptorhynchus latirostris	Carnaby's Cockatoo (short-billed black-cockatoo)	**EPBC**
Charadrius dubius	Little Ringed Plover	**IA**
Charadrius ruficapillus	Red-capped Plover	
Chenonetta jubata	Australian Wood Duck	
Circus approximans	Swamp Harrier	
Cladorhynchus leucocephalus	Banded Stilt	
Colluricincla harmonica	Grey Shrike-thrush	
* Columba livia	Domestic Pigeon	
Coracina novaehollandiae	Black-faced Cuckoo-shrike	
Corvus coronoides	Australian Raven	
Cracticus tibicen	Australian Magpie	
Cracticus tibicen subsp. dorsalis	White-backed Magpie	
Cracticus torquatus	Grey Butcherbird	
Cygnus atratus	Black Swan	
* Dacelo novaeguineae	Laughing Kookaburra	
Daphoenositta chrysoptera	Varied Sittella	
Dicaeum hirundinaceum	Mistletoebird	
Epthianura albifrons	White-fronted Chat	
Erythrogonys cinctus	Red-kneed Dotterel	
Falco cenchroides	Australian Kestrel	
Falco longipennis	Australian Hobby	

Appendix 3. (cont.)

Bird (cont.)		Status
Falco peregrinus subsp. macropus	Australian Peregrine Falcon	**Schedule 4**
Fulica atra	Eurasian Coot	
Gallinula tenebrosa	Dusky Moorhen	
Gallirallus philippensis	Buff-banded Rail	
Gerygone fusca	Western Gerygone	
Grallina cyanoleuca	Magpie-lark	
Haliastur sphenurus	Whistling Kite	
Himantopus himantopus	Black-winged Stilt	
Hirundo neoxena	Welcome Swallow	
Hirundo nigricans	Tree Martin	
Lichenostomus virescens	Singing Honeyeater	
Lichmera indistincta	Brown Honeyeater	
Limosa limosa	Black-tailed Godwit	**IA**
Lonchura castaneothorax	Chestnut-breasted Mannikin	
Malacorhynchus membranaceus	Pink-eared Duck	
Malurus splendens	Splendid Fairy-wren	
Megalurus gramineus	Little Grassbird	
Melithreptus brevirostris	Brown-headed Honeyeater	
Melithreptus chloropsis	Western White-naped Honeyeater	
Merops ornatus	Rainbow Bee-eater	**IA**
Neophema elegans	Elegant Parrot	
Ninox connivens	Barking Owl	
Ninox novaeseelandiae	Boobook Owl	
Nycticorax caledonicus	Rufous Night Heron	
Ocyphaps lophotes	Crested Pigeon	
Oxyura australis	Blue-billed Duck	
Pachycephala rufiventris	Rufous Whistler	
Pardalotus punctatus	Spotted Pardalote	
Pardalotus striatus	Striated Pardalote	
Pelecanus conspicillatus	Australian Pelican	
Phalacrocorax carbo	Great Cormorant	
Phalacrocorax sulcirostris	Little Black Cormorant	
Phalacrocorax varius	Pied Cormorant	
Phaps chalcoptera	Common Bronzewing	
Phylidonyris nigra	White-cheeked Honeyeater	
Phylidonyris novaehollandiae	New Holland Honeyeater	
Platalea flavipes	Yellow-billed Spoonbill	
Platycercus spurius	Red-capped Parrot	
Platycercus zonarius	Australian Ringneck	
Platycercus zonarius subsp. semitorquatus	Twenty-eight Parrot	
Podargus strigoides	Tawny Frogmouth	
Podiceps cristatus	Great Crested Grebe	
Poliocephalus poliocephalus	Hoary-headed Grebe	
Polytelis anthopeplus	Regent Parrot	
Porphyrio porphyrio	Purple Swamphen	
Porzana pusilla	Baillon's Crake	
Porzana tabuensis	Spotless Crake	
Recurvirostra novaehollandiae	Red-necked Avocet	
Rhipidura leucophrys	Willie Wagtail	
Sericornis frontalis	White-browed Scrubwren	
Smicrornis brevirostris	Weebill	
* Streptopelia chinensis	Spotted Turtle-Dove	
* Streptopelia senegalensis	Laughing Turtle-Dove	
Tachybaptus novaehollandiae	Australasian Grebe	
Tadorna tadornoides	Australian Shelduck	
Threskiornis molucca	Australian White Ibis	
Threskiornis spinicollis	Straw-necked Ibis	
Todiramphus sanctus	Sacred Kingfisher	

Appendix 3. (cont.)

Bird (cont.)		Status
Trichoglossus haematodus	Rainbow Lorikeet	
Tringa nebularia	Common Greenshank	**IA**
Tyto alba subsp. delicatula	Barn Owl	
Vanellus tricolor	Banded Lapwing	
Zosterops lateralis	Grey-breasted White-eye	
114 species, 2505 records		

Invertebrate		Status
Aname mainae		
Aname tepperi		
Araneus senicaudatus		
Artoria flavimana		
Artoria linnaei		
Artoria taeniifera		
Ballarra longipalpus		
Cormocephalus aurantiipes		
Cormocephalus rubriceps		
Cryptoerithus quobba		
Cyrtophora parnasia		
Dingosa serrata		
Eodelena convexa		
Erythracarus decoris		
Hogna crispipes		
Idiosoma sigillatum		
Isopeda leishmanni		
Lycosa gilberta		
Mituliodon tarantulinus		
Mitzoruga insularis		
Pinkfloydia harveii		
Raveniella cirrata		
Raveniella peckorum		
Scolopendra laeta		
Simaetha tenuior		
Steatoda capensis		
Synemon gratiosa	Graceful Sunmoth	**EPBC**
Throscodectes xiphos	cricket	**Priority 1**
Urodacus novaehollandiae		
Venator immansueta		
30 species, 98 records		

Mammal		Status
Chalinolobus gouldii	Gould's Wattled Bat	
Isoodon obesulus subsp. fusciventer	Quenda, Southern Brown Bandicoot	**Priority 5**
Macropus fuliginosus	Western Grey Kangaroo	
Macropus irma	Western Brush Wallaby	**Priority 4**
* Mus musculus	House Mouse	
Myrmecobius fasciatus	Numbat	**Schedule 1**
Nyctophilus geoffroyi	Lesser Long-eared Bat	
* Oryctolagus cuniculus	Rabbit	
* Rattus rattus	Black Rat	
Vespadelus regulus	Southern Forest Bat	
10 species, 258 records		

Reptile		Status
Acritoscincus trilineatus		
Aprasia repens		
Brachyurophis semifasciatus		
Chelodina oblonga	Oblong Turtle	
Christinus marmoratus	Marbled Gecko	
Cryptoblepharus buchananii		
Ctenophorus adelaidensis	Southern Heath Dragons	

Appendix 3. (cont.)

Reptile (cont.)		Status
Ctenotus australis		
Ctenotus fallens		
Ctenotus gemmula	Jewelled South-west Ctenotus, skink	**Priority 3**
Ctenotus impar		
Delma fraseri	Fraser's Legless Lizard	
Demansia psammophis subsp. reticulata		
Egernia napoleonis		
Elapognathus coronatus	Crowned Snake	
Hemiergis quadrilineata		
Lerista elegans		
Lerista lineata	Perth Slider, Lined Skink	**Priority 3**
Lialis burtonis		
Menetia greyii		
Notechis scutatus	Tiger Snake	
Parasuta gouldii		
Pletholax gracilis	Keeled Legless Lizard	
Pletholax gracilis subsp. gracilis		
Pogona minor		
Pogona minor subsp. minor		
Pseudonaja affinis subsp. affinis	Dugite	
Pygopus lepidopodus	Common Scaly Foot	
Ramphotyphlops australis		
Simoselaps bertholdi	Jan's Banded Snake	
Tiliqua occipitalis	Western Bluetongue	
Tiliqua rugosa subsp. rugosa		
32 species, 213 records		

EBPC = listed under the EPBC Act, **IA** = subject to international agreement.

Appendix 4. Fauna records used for Figures 3 – 10.

Species	Source	Date	Zone	Easting	Northing	Count
Calyptorhynchus latirostris	BCE (2003), Site 4	Mar-02	50	394148	6447067	3
Calyptorhynchus latirostris	BCE (2003), Site 5	Dec-02	50	395282	6447411	2
Calyptorhynchus latirostris	BCE (2003), Site 5	Oct-02	50	395282	6447411	13
Calyptorhynchus latirostris	BCE (2003), Site 5	Aug-02	50	395282	6447411	3
Calyptorhynchus latirostris	BCE (2003), Site 3	Mar-02	50	392823	6448377	1
Calyptorhynchus latirostris	ENV Australia (2009) - roost location	Sep-08	50	394319	6448858	100
Calyptorhynchus latirostris	BCE (2003), Site 1	Mar-02	50	393315	6448937	1
Calyptorhynchus latirostris	BCE (2003), Site 1	Oct-02	50	393315	6448937	34
Isoodon obesulus fusciventer	Western Wildlife (2012), Site 5	Oct-11	50	394908	6446711	1
Isoodon obesulus fusciventer	Western Wildlife (2012), Site 6	Oct-11	50	393825	6447412	2
Isoodon obesulus fusciventer	BCE (2003), Site 4	Mar-02	50	394148	6447067	3
Isoodon obesulus fusciventer	BCE (2003), Site 5	Mar-02	50	395282	6447411	7
Isoodon obesulus fusciventer	BCE (2003), Site 4	Dec-02	50	394148	6447067	4
Isoodon obesulus fusciventer	BCE (2003), Site 5	Dec-02	50	395282	6447411	9
Isoodon obesulus fusciventer	ENV Australia (2009), Site 2	Sep-08	50	394248	6447398	3
Isoodon obesulus fusciventer	BCE (2003), Site 3	Mar-02	50	392823	6448377	6
Isoodon obesulus fusciventer	BCE (2003), Site 3	Dec-02	50	392823	6448377	8
Isoodon obesulus fusciventer	ENV Australia (2009), Site 1	Sep-08	50	394918	6448973	4
Isoodon obesulus fusciventer	BCE (2003), Site 1	Mar-02	50	393315	6448937	6
Isoodon obesulus fusciventer	BCE (2003), Site 1	Dec-02	50	393315	6448937	8
Isoodon obesulus fusciventer	Western Wildlife (2012), Site 2	Oct-11	50	395089	6449196	4
Lerista lineata	BCE (2003), Site 4	Mar-02	50	394148	6447067	1
Lerista lineata	BCE (2003), Site 5	Mar-02	50	395282	6447411	2
Lerista lineata	BCE (2003), Site 4	Dec-02	50	394148	6447067	3
Lerista lineata	BCE (2003), Site 5	Dec-02	50	395282	6447411	2
Lerista lineata	BCE (2003), Site 3	Dec-02	50	392823	6448377	4
Lerista lineata	BCE (2003), Site 1	Mar-02	50	393315	6448937	2
Macropus irma	BCE (2003), Site 1	Mar-02	50	393315	6448937	1
Macropus irma	Western Wildlife (2011d)	1/03/11	50	394781	6447893	1
Macropus irma	Western Wildlife (2011d)	2/03/11	50	394895	6448763	1
Macropus irma	Western Wildlife (2011d)	2/03/11	50	394809	6448214	1
Macropus irma	Western Wildlife (2011d)	2/03/11	50	394909	6446866	1
Macropus irma	Western Wildlife (2011d)	2/03/11	50	393324	6447635	1
Macropus irma	Western Wildlife (2011d)	7/03/11	50	394607	6447060	1
Macropus irma	Western Wildlife (2011d)	7/03/11	50	394609	6447055	1
Macropus irma	Western Wildlife (2011d)	7/03/11	50	394687	6447964	1
Macropus irma	Western Wildlife (2011d)	7/03/11	50	395154	6448982	1
Macropus irma	Western Wildlife (2011d)	7/03/11	50	394897	6448216	1
Macropus irma	Western Wildlife (2011d)	16/03/11	50	393297	6447801	1
Macropus irma	Western Wildlife (2011d)	16/03/11	50	395396	6447096	1
Macropus irma	Western Wildlife (2011d)	16/03/11	50	395038	6448435	1
Macropus irma	Western Wildlife (2011d)	16/03/11	50	394964	6447757	1

Appendix 4. (cont.)

Species	Source	Date	Zone	Easting	Northing	Count
Macropus irma	Western Wildlife (2011d)	23/03/11	50	393233	6447618	1
Macropus irma	Western Wildlife (2011d)	23/03/11	50	394623	6447042	1
Macropus irma	Western Wildlife (2011d)	23/03/11	50	393815	6447680	1
Macropus irma	Western Wildlife (2011d)	23/03/11	50	393875	6447657	1
Macropus irma	Western Wildlife (2011d)	6/04/11	50	394231	6447516	1
Macropus irma	Western Wildlife (2011d)	6/04/11	50	394231	6447510	1
Macropus irma	Western Wildlife (2011d)	6/04/11	50	394643	6447937	1
Macropus irma	Western Wildlife (2011d)	6/04/11	50	394764	6449154	1
Macropus irma	Western Wildlife (2011d)	19/04/11	50	394691	6447083	1
Macropus irma	Western Wildlife (2011d)	19/04/11	50	395001	6448931	1
Macropus irma	Western Wildlife (2011d)	19/04/11	50	395188	6449160	1
Macropus irma	Western Wildlife (2011d)	19/04/11	50	394960	6448392	1
Macropus irma	Western Wildlife (2011d)	21/04/11	50	395194	6449091	1
Macropus irma	Western Wildlife (2011d)	21/04/11	50	395148	6449159	1
Macropus irma	Western Wildlife (2011d)	21/04/11	50	394885	6448278	1
Macropus irma	Western Wildlife (2011d)	21/04/11	50	394865	6447046	1
Neelaps calonotos	Dave Robinson unpublished data (cited in Bamford et al. 2003)	2001	50	395282	6447411	2
Synemon gratiosa	Western Wildlife (2011b)	Mar-11	50	394712	6447275	1
Synemon gratiosa	Western Wildlife (2011b)	Mar-11	50	394805	6446920	1
Synemon gratiosa	Western Wildlife (2011b)	Mar-11	50	394560	6447078	1