SUMMARY OF VERTEBRATE FAUNA VALUES OF THE AREA BETWEEN DAWESVILLE AND BINNINGUP, SOUTHERN SWAN COASTAL PLAIN

Report prepared for:

Environmental Protection Authority

November 2009

John Dell and Bridget Hyder, Department of Environment and Conservation

Photos clockwise from top left corner: Bridget Hyder – Splendid Fairy-wren, Coastal heath White Hill Road, Rosenberg's Monitor, Western Ringtail Possum scats; Shaun Molloy – Western Ringtail Possum; Bridget Hyder - Banksia woodland near Myalup; Gary Porter – Pelicans; Bridget Hyder - Bobtail tracks, and centre Coastal heath White Hill Road.

INTRODUCTION

In 2008 the EPA requested that a review of the Dawesville to Binningup area be undertaken to clarify the environmental values of the region and the state of current knowledge and scientific data about these values. This review will enable the EPA to provide strategic advice to guide future directions for both environmental protection and planning for development in the area. The Department of Environment and Conservation on behalf of the EPA considered that a series of fauna surveys should be undertaken to determine the fauna values of the Dawesville to Binningup study area. Due to limited resources not all fauna groups could be surveyed, so only herpetofauna, avifauna and mammals were identified for survey. Of those fauna groups identified for study, groups more easily sampled and considered able to provide better information on natural values of the study area were selected for detailed sampling. The Department of Environment and Conservation commissioned the Western Australian Museum to undertake a herpetofauna survey (How *et al*. 2009) and Bat Call WA to undertake an echolocation-based survey of bat (volant mammals) activity (Bullen 2009). The herpetofauna and bat surveys were funded by the South West Catchment Council (WALGA) and Enviro Planning (Department of Planning and Infrastructure) respectively. Other fauna groups studied were avifauna (Dell and Hyder 2009) and non-volant mammals (Hyder and Dell 2009). The overall objective of the surveys was to assist in providing technical advice to the EPA on the natural values of the area and to enable the EPA to determine the likely impact of development on the biodiversity values of the region.

The vertebrate fauna values of the Dawesville to Binningup study area are provided in a series of reports covering herpetofauna (How *et al*. 2009), avifauna (Dell and Hyder 2009), non-volant mammals (Hyder and Dell 2009) and bats (Bullen 2009). The study area is bounded by Tim's Thicket Road to the north, Buffalo Road to the south, and from the coast inland to the Old Coast Road (Figure 1). The study area includes Yalgorup National Park including major internationally significant lakes (Lake Clifton and Lake Preston) and other wetlands, regionally significant Tuart woodlands, as well as patches of

uncleared vegetation, semi-cleared farmlands and the coastal townships of Preston Beach, Myalup and Binningup.

This report summarises the vertebrate fauna values of the study based on the vertebrate fauna reports listed above. A summary of the values of the study area for each of these faunal groups is presented below together with a consideration of the overall significance of the study area for vertebrate fauna.

SUMMARY OF VERTEBRATE FAUNA VALUES

Herpetofauna

The terrestrial herpetofauna assemblage of the Dawesville to Binningup study area is surprisingly rich and diverse and comprises at least 8 frogs and 39 reptiles comprising one freshwater turtle, 3 geckoes, 5 legless lizards, 2 dragons, 16 skinks, 2 monitors, one blind snake, one python and 8 front-fanged snakes. One gazetted species of Specially Protected Fauna, the Carpet Python (*Morelia spilota imbricata*) and one DEC Priority 4 listed species, the Perth Lined Lerista (*Lerista lineata*), are recorded from the study area. A number of species are regionally significant as they are known to be at or near the southern limits of their distribution. These include the Side-barred Delma (*Delma grayii*), Western Heath Dragon (*Rankinia adelaidensis*), Perth Lined Lerista (*Lerista lineata*), Line-spotted Robust Lerista (*Lerista lineopunctulata*), Reticulated Whip Snake (*Demansia psammophis reticulata*). The population of *Ctenotus labillardieri* in the study area is likely to be genetically distinct from populations on the Darling Scarp and Range and is more likely to be the Schedule 1 Threatened Lancelin Island Skink (*Ctenotus lancelini*). The Ticking Frog (*Geocrinia leai*) represents the most northerly known population on western side of the Swan Coastal Plain.

Although the survey was conducted outside the optimal season, it recorded 24 species of reptile and 5 amphibians of the 8 frogs and 39 reptiles known from the region. It is likely

that further species will be recorded from the study area when additional sampling is undertaken at a time of the year more conducive to herpetofauna activity.

It is highly probable that the reptile and frog fauna of the study area represent important contiguous distributions of populations that have been subjected to major fragmentation, alteration and extinctions further north on the Swan Coastal Plain. Suitable habitats of sufficient size and spatial representation remain within the study area. Retention of these areas will enable species to survive major perturbations such as fire and to persist in the longer-term.

Avifauna

The Dawesville to Binningup study area has a rich and diverse avifauna comprising at least 174 species which includes 124 species of non-passerines in 31 families, and 50 species of passerines in 21 families. Among the non-passerines the most species-rich families are those associated with wetland habitats, viz. 11 species of ducks, 7 species of herons and egrets, 7 species of crakes and rails, 10 species of plovers and dotterels, and 17 species of sandpipers. Other rich non-passerine families are the eagles, kites and hawks with 11 species and the parrots and cockatoos with 6 species. Among the passerines the most species-rich family is the honeyeaters with 11 species. Small insectivorous families are well-represented with several species of fairy-wrens, thornbills and whistlers.

The study area is Internationally significant for wetland and shore birds. The wetlands are part of the Ramsar Peel-Yalgorup System, one of the largest and most diverse estuarine/wetland complexes in Western Australia. These areas are internationally important as a habitat and refuge site for waterbird species protected by JAMBA, CAMBA and ROKAMBA agreements. Over one hundred wetland dependent species of birds have been recorded making this the most regionally significant wetland site for birds in Western Australia.

The extensive natural vegetation in the study area is also of National and State significance for bushland birds including four Nationally and State listed species, three DEC Priority listed species, and 45 regionally conservation significant species which have reduced distributions or populations on the Swan Coastal Plain.

The richness and diversity of the avifauna of the study area is exemplified by the fact that the total of 174 species comprises more than half of the 311 species known from the entire Swan Coastal Plain between the Moore River and Dunsborough. Such a rich and diverse assemblage of regionally significant bushland bird species has not been documented anywhere else on the Swan Coastal Plain. The study area is the most significant area known on the Swan Coastal Plain for the conservation of wetland and bushland bird species with International, National and State significance.

Mammals

Seven insectivorous microbat species were recorded within the study area including one Priority 4 species Western False Pipistrelle (*Falsistrellus mckenziei*). The presence of this species is significant considering its apparent recent range contraction. The continuing presence of this species in the study area is considered to be closely linked to the combination of healthy and extensive open woodland stands in conjunction with permanent fresh water sources.

Seven native non-volant mammal species have recently been recorded within the study area. Of these three species are of conservation significance: Western Ringtail Possum Vulnerable (EPBC Act 1999), Schedule 1; Western Brush Wallaby DEC Priority 4 and Quenda DEC Priority 5. Fifteen other native non-volant mammal species are known from or likely to occur in the study area most of which are regionally significant; it is likely that a comprehensive survey would record some of these species.

Habitats within the Dawesville to Binningup study area are of regional significance for mammals, particularly for those species and assemblages that have greatly reduced distributions or have declined in abundance elsewhere on the Swan Coastal Plain. These

habitats also have values for potential reintroductions of species which have become locally or regionally extinct. This is exemplified by the successful reintroduction of Western Ringtail Possums in the northern part of the study area.

CONCLUSION

The vertebrate fauna within the Dawesville to Binningup study area is regionally significant and dependent on the remnants and wetlands that were once part of a vegetation continuum that covered the study area. The fauna requires particular habitat types of sufficient size, spatial replication and connectivity across the region. Further fragmentation or loss of vegetation will result in the reduction of the abundance, diversity, geographic distribution and productivity and hence the long-term survival of fauna throughout the study area.

REFERENCES

Bullen, R.D. 2009. *Binningup Bat Survey 2009. Echolocation Survey of Bat Activity in the Lake Clifton and Lake Preston Localities on the Swan Coastal Plain.* Prepared for Department of Environment and Conservation by Bat Call WA. Hillarys, Western Australia.

Dell, J. and Hyder, B. 2009. *An Assessment of the Avifauna of the area between Dawesville and Binningup, Southern Swan Coastal Plain.* Report prepared for Environmental Protection Authority, Perth.

How, R. A., Maryan, B. and Stevenson, C. A. 2009. *An Assessment of Herpetofauna on Near-Coastal Landforms between Dawesville and Binningup, Southern Swan Coastal Plain.* Prepared for Department of Environment and Conservation. Welshpool, Western Australia.

Hyder, B. and Dell, J. 2009. *An Assessment of the Non-volant Mammal Fauna of the area between Dawesville and Binningup, Southern Swan Coastal Plain.* Report prepared for Environmental Protection Authority, Perth.