

Annexure C

Results of Fauna Survey

Annexure to EPA Assessment No. 1403

Lot 4 Underwood Avenue, Shenton Park Response to
Public Submissions 2007

RESULTS OF ATA ENVIRONMENT FAUNA SURVEY CONDUCTED NOVEMBER 2003

A total of 111 species of vertebrate fauna are considered possible inhabitants of the site. This is based on the size and range of habitat available, surveys of similar habitats in Lemnos Street bushland and Bold Park and the known distribution and habitat of species. This list consists of 3 amphibians, 28 reptiles and 80 birds. Twenty-two birds, 7 reptiles and no amphibian species were caught during the site survey.

No priority or threatened fauna were recorded in the study area. An assessment of the vertebrate fauna likely to occur on the study site is based on studies conducted at nearby Bold Park (How and Dell, 1990) and a study undertaken in the Lemnos Street Bushland in 1997 and 1998 (Berry and Berry, 1998).

Avifauna

Eighty species of avifauna are considered likely to inhabit the woodlands at the site, 42 of which were recorded during surveys of Bold Park between 1986-89 (How and Dell, 1990). Site investigations revealed that a nest occupied by a pair of Little Eagles (*Heiraaetus morphnoides*) occurs on the site in a Eucalypt tree in the central upland region. Species observed during the site inspection and expected to occur are listed in Table 1. Twenty-two species were observed during the site inspection and a further 14 have been recorded on this site and the nearby Lemnos Street bushland.

A number of bushland-dependent species were recorded. These include the Weebill, Yellow-rumped Thornbill, Varied Sitella, Grey Butcherbird, Grey Fantail and raptors such as the Brown Goshawk. These are all species that are unable to survive in the matrix of urban land and are dependent on native vegetation for feeding and breeding. All of these species with the exception of the Grey Butcherbird are listed in Bush Forever (Government of WA, 2000) as being wide-ranging species with reduced populations on the Swan Coastal Plain or locally extinct or habitat specialists with a reduced distribution on the Swan Coastal Plain. These species would utilise a network of native vegetation including Lemnos Street bushland, Shenton Bushland, Bold Park and Kings Park for dispersal and to ensure regional persistence and survival.

Amphibians

No amphibians were found in this survey. Of the three frogs listed as expected to occur in the area, only the Turtle Frog (*Myobatrachus gouldii*), the Moaning Frog (*Heleioporus eyrei*) and Pobblebonk or Banjo Frog (*Limnodynastes dorsalis*) may occur at the site provided suitable breeding sites are available in the surrounding area.

Reptiles

A total of 28 reptiles are listed as possible for the site. A Varanid burrow was recorded in the eastern region of the site and is thought to belong to a Gould's goanna (*Varanus gouldii*). The occurrence of this species has been confirmed at nearby bushland areas such as Bold Park bushland (S. Thompson pers. obs. 2001, 2004). Bobtails (*Tiliqua rugosa*) were common throughout the bushland and seven pairs were seen together over the week. A large dugite (*Pseudonaja affinis*) was also regularly seen in the area. Table 2 details reptiles caught during the trapping program.

Mammals

No native mammals were found or considered likely to inhabit the Underwood Ave bushland. Only the Common Brushtail Possum was recorded in Bold Park during surveys between 1986 and 1989 (How and Dell, 1990) in *Eucalyptus rudis* and *E. gomphocephala* woodlands, a habitat which does not occur within the study area. The presence of the White-striped Free-tail Bat (*Tadarida australis*) was suspected at Bold Park during the same surveys but was not confirmed. No additional bat species were detected at Perry

Lakes and Bold Park during netting and call monitoring with ultra-sonic detectors in 1990-91 (Wykes pers. comm.).

House mice (*Mus musculus*) were found at sites 3 (1 individual) and 6 (2 individuals); this is a new record for the area but could have been anticipated. Cat tracks were found in the soft sand each morning. It is most likely these are from domestic cats from nearby houses. A fox den was also found in the south-west corner of the site.

Summary of Results

All fauna recorded in the Underwood Ave bushland are typical of Banksia Woodlands within the Perth Metropolitan area. No priority or threatened species of fauna were found in the area.

Most species trapped were common and abundant across the different habitat types within the study area and should be suitable for relocation into the 12ha Conservation Area before clearing.

Most of the reptiles that were commonly trapped in the Shenton Bushland are fossorial or litter inhabitants. They rely on dense 'mats' of leaf litter and soft soil for cover and for food. For example, *Ctenotus fallens* and *Morethia obscura* were both commonly caught during the survey period. They are diurnal skinks that eat a variety of invertebrates that are found in leaf litter.

For recolonisation of terrestrial vertebrates to be successful in the rehabilitated portion of the Conservation Area it is crucial that the habitat created resembles the habitats that already exist in the adjacent 'undisturbed' areas.

TABLE 1
Amphibian and reptile species that were observed or are expected to occur in the Underwood Avenue Bushland

	Site							
	1	2	3	4	5	6	7	8
AMPHIBIANS								
MYOBATRACHIDAE (AUSTRALASIA GROUND FROGS)								
Moaning Frog								
<i>Heleioporus eyrei</i>								
Western Banjo Frog/Pobblebonk								
<i>Limnodynastes dorsalis</i>								
Turtle Frog								
<i>Myobatrachus gouldii</i>								
REPTILES								
GEKKONIDAE (GECKOS)								
<i>Phyllodactylus marmoratus</i>								
<i>Strophurus spinigerus</i>								
PYGOPODIDAE (LEGLSS LIZARDS)								
<i>Aprasia repens</i>	1							
<i>Delma fraseri</i>								
<i>Delma grayii</i>								
<i>Lialis burtonis</i>								
AGAMIDAE (DRAGONS)								

	<i>Pogona minor</i>							
	<i>Tympanocryptis adelaidensis</i>							
VARANIDAE (GOANNAS)								
	<i>Varanus gouldii</i>							
	<i>Varanus rosenbergi</i>							
SCINCIDAE (SKINKS)								
	<i>Cryptoblepharus plagiocephalus</i>			1	3			
	<i>Ctenotus fallens</i>	3	3		3	2	1	
	<i>Ctenotus australis</i>							
	<i>Hemiergus quadrilineata</i>	1				1	1	3
	<i>Lerista elegans</i>							
	<i>Lerista lineopuctulata</i>							
	<i>Lerista praepedita</i>							
	<i>Menetia greyii</i>							
	<i>Morethia lineocellata</i>							
	<i>Morethia obscura</i>	2	1	4		1	2	
	<i>Tiliqua rugosa</i>	2	2			1	1	1
TYPHLOPIDAE (BLIND SNAKES)								
Southern Blind Snake	<i>Ramphotyphlops australis</i>						1	
ELAPIDAE (ELAPID SNAKES)								
Black Naped Snake	<i>Neelaps bimaculatus</i>							
Black Striped Snake	<i>Neelaps calonotus</i>							
Dugite	<i>Pseudonaja affinis</i>							
Jan's Banded Snake	<i>Simoselaps bertholdi</i>							
Narrow Banded Snake	<i>Simoselaps fasciolatus</i>							
Southern Half Girdled Snake	<i>Simoselaps semifasciatus</i>							

TABLE 2

Bird species that were observed or are expected to occur in the Underwood Avenue Bushland. The observed column indicates species observed during the field assessment (+) or on previous visits (X).

Species	Observed ATA Nov 2003	Species recorded during previous visits or from nearby bushland
ANATIDAE (DUCKS, GEESE AND SWANS)		
Australian Shelduck <i>Tadorna tadornoides</i>	+	
Pacific Black Duck <i>Anas superciliosus</i>		X
Australian Wood Duck <i>Chenonetta jubata</i>		X
PHASIANIDAE (PHEASANTS AND QUAILS)		
Stubble Quail <i>Coturnix pectoralis</i>		
PLATALEIDAE (IBIS AND SPOONBILLS)		
Australian White Ibis <i>Threskiornis molucca</i>		X
Straw-necked Ibis <i>Threskiornis spinicollis</i>		
ACCIPITRIDAE (KITES, HAWKS AND EAGLES)		
Black-shouldered Kite <i>Elanus axillaris</i>		X
Square-tailed Kite <i>Lophoictinia isura</i>		
Whistling Kite <i>Haliastur sphenurus</i>		
Brown Goshawk <i>Accipiter fasciatus</i>	+	
Collared Sparrowhawk <i>Accipiter cirrhocephalus</i>		X
Wedge-tailed Eagle <i>Aquila audax</i>		
Little Eagle <i>Hieraaetus morphnoides</i>		X
FALCONIDAE (FALCONS)		
Peregrine Falcon <i>Falco peregrinus</i>		X
Australian Hobby <i>Falco longipennis</i>		X
Brown Falcon <i>Falco berigora</i>		
Nankeen Kestrel <i>Falco cenchroides</i>		X
TURNICIDAE (BUTTON-QUAILS)		
Painted Button-quail <i>Turnix varia</i>		X
CHARADRIIDAE (LAPWINGS AND PLOVERS)		
Banded Lapwing <i>Vanellus tricolor</i>		
COLUMBIDAE (PIGEONS AND DOVES)		

Species	Observed ATA Nov 2003	Species recorded during previous visits or from nearby bushland
Rock Dove (Domestic Pigeon) <i>Columba livia</i> (I)		
Spotted Turtle-Dove <i>Streptopelia chinensis</i> (I)	+	
Laughing Turtle-Dove <i>Streptopelia senegalensis</i> (I)	+	
Common Bronzewing <i>Phaps chalcoptera</i>		
CACATUIDAE (COCKATOOS)		
Carnaby's Black-Cockatoo <i>Calyptorhynchus latirostris</i>		X
Galah <i>Cacatua roseicapilla</i>	+	
Corella <i>Cacatua</i> spp. (I)		X
PSITTACIDAE (LORIKEETS AND PARROTS)		
Rainbow Lorikeet <i>Trichoglossus haematodus</i> (I)	+	
Purple-crowned Lorikeet <i>Glossopsitta porphyrocephala</i>		
Red-capped Parrot <i>Purpureicephalus spurius</i>		X
Australian Ringneck <i>Barnardius zonarius</i>	+	
Elegant Parrot <i>Neophema elegans</i>		
CUCULIDAE (CUCKOOS)		
Pallid Cuckoo <i>Cuculus pallidus</i>		
Fan-tailed Cuckoo <i>Cuculus pyrrhophanus</i>		
Horsfield's Bronze-Cuckoo <i>Chrysococcyx basalis</i>		
Shining Bronze-Cuckoo <i>Chrysococcyx lucidus</i>		
STRIGIDAE (HAWK-OWLS)		
Southern Boobook Owl <i>Ninox novaeseelandiae</i>		
TYTONIDAE (BARN OWLS)		
Barn Owl <i>Tyto alba</i>		X
PODARGIDAE (FROGMOUTHS)		
Tawny Frogmouth <i>Podargus strigoides</i>		X
AEGOTHELIDAE (FROGMOUTHS)		
Australian Owlet-nightjar <i>Aegotheles cristatus</i>		
APODIDAE (SWIFTS)		
Fork-tailed Swift <i>Apus pacificus</i>		
HALCYONIDAE (FOREST KINGFISHERS)		
Laughing Kookaburra <i>Dacelo novaeguineae</i> (I)	+	

Species	Observed ATA Nov 2003	Species recorded during previous visits or from nearby bushland
Sacred Kingfisher <i>Todiramphus sanctus</i>		X
MEROPIIDAE (BEE-EATERS)		
Rainbow Bee-eater <i>Merops ornatus</i>	+	
MALURIDAE (FAIRY-WRENS)		
Variiegated Fairy-wren <i>Malurus lamberti</i>		X
PARDALOTIDAE (PARDALOTES)		
Spotted Pardalote <i>Pardalotus punctatus</i>		
Striated Pardalote <i>Pardalotus striatus</i>	+	
Weebill <i>Smicrorhis brevisrostris</i>	+	
Western Gerygone <i>Gerygone fusca</i>	+	
Inland Thornbill <i>Acanthisa apicalis</i>		
Western Thornbill <i>Acanthisa inornata</i>		
Yellow-rumped Thornbill <i>Acanthisa chrysorrhoa</i>	+	
MELIPHAGIDAE (HONEYEATERS)		
Red Wattlebird <i>Anthochaera carunculata</i>	+	
Western Wattlebird <i>Anthochaera lunulata</i>		
Singing Honeyeater <i>Lichenostomus virescens</i>	+	
White-naped Honeyeater <i>Melithreptus lunatus</i>		
Brown Honeyeater <i>Lichmera indistincta</i>	+	
New Holland Honeyeater <i>Phylidonyris novaehollandiae</i>		
White-checked Honeyeater <i>Phylidonyris nigra</i>		X
Western Spinebill <i>Acanthorhynchus superciliosus</i>		X
White-fronted Chat <i>Ephianura albifrons</i>		
NEOSITTIDAE (SITTELLAS)		
Varied Sittella <i>Daphoenositta chrysoptera</i>		X
PACHYCEPHALIDAE (WHISTLERS)		
Rufous Whistler <i>Pachycephala rufiventris</i>	+	
Grey Shrike-thrush <i>Colluricincla harmonica</i>		
DICRURIDAE (FLYCATCHERS)		
Restless Flycatcher <i>Myiagra inquieta</i>		
Magpie-lark <i>Grallina cyanoleuca</i>		

Species	Observed ATA Nov 2003	Species recorded during previous visits or from nearby bushland
Grey Fantail <i>Rhipidura fuliginosa</i>		X
Willie Wagtail <i>Rhipidura leucophrys</i>	+	
CAMPEPHAGIDAE (CUCKOO-SHRIKES)		
Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>	+	
White-winged Triller <i>Lalage sueurii</i>		
ARTAMIDAE (WOODSWALLOWS)		
Black-faced Woodswallow <i>Artamus cinereus</i>		
Dusky Woodswallow <i>Artamus cyanopterus</i>		
Grey Butcherbird <i>Cracticus torquatus</i>	+	
Australian Magpie <i>Gymnorhina tibicen</i>		X
CORVIDAE (RAVENS AND CROWS)		
Australian Raven <i>Corvus coronoides</i>	+	
MOTACILLIDAE (PIPITS AND TRUE WAGTAILS)		
Richard's Pipit <i>Anthus novaeseelandiae</i>		
DICAEIDAE (FLOWER-PECKERS)		
Mistletoebird <i>Dicaeum hirundinaceum</i>		
HIRUNDINIDAE (SWALLOWS)		
White-backed Swallow <i>Cheramoeca leucosternus</i>		
Welcome Swallow <i>Hirundo neoxena</i>		X
Tree Martin <i>Hirundo nigricans</i>		X
ZOSTEROPIDAE (WHITE-EYES)		
Silvereye <i>Zosterops lateralis</i>	+	