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A VERTEBRATE FAUNA SURVEY OF FIVE NATURE RESERVES IN THE SHIRE OF KOJONUP, WESTERN AUSTRALIA.

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For: Department of Conservation

and Land Management

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1.0

This report was commissioned by the Reserve Management Section of the Department of Conservation and Land Management. It presents an inventory of the vertebrate fauna of Reserves 17759, 8617, 17760, 15388 and 2243, all located in the Shire of Kojonup, Western Australia. These reserves were selected for study either because they are small, and therefore vulnerable, or because they are the subject of future management plans. The information gathered during this survey will be used as a baseline resource inventory to facilitate future planning and define management priorities.

1.1 METHODS

The survey took place between March 16 and March 27, 1985 with two days being spent on reconnaissance, three days on trapline establishment and the remainder allocated to intensive sampling of vertebrate fauna. Five field personnel were divided into two teams, each with a four wheel drive vehicle, to allow for efficient and concurrent sampling of the reserves. Data collection centered around Sampling Locations on each reserve, all of which were directly referrable to the major vegetation associations present.

Vegetation - During the reconnaissance period each reserve was visited and the major vegetation associations identified in the course of vehicle boundary transects and a limited number of internal foot transects. Associations were subsequently described using the techniques outlined in Muir, 1977. Unknown dominants were collected for future identification.

Mammals, Reptiles and Amphibians - Traplines were set in all major vegetation associations present in each reserve and were the focus of all vertebrate data collection; they are referred to as Sampling Locations in text and tabulations. Traplines

generally consisted of five plastic-lined pit-traps (50 x 15cm) bisected across the top by an aluminium flywire drift-fence (30m x 20cm). Where soils were shallow or rocky, "witches' hats" or short pits were used. Each pit-trap line was supplemented by 15 Medium Elliott box-traps, 2 Large Elliott box-traps and 1 wire cage-trap. Lines were checked each morning and left in position for a minimum of five to a maximum of seven days. All mammals captured were marked before release.

Hand-foraging for reptiles and recording of diurnally active mammals was carried out each morning by all personnel not involved in checking traps. This activity was restricted to the vegetation associations surrounding the trapline, all animals recorded away from traplines were integrated with the results from the most similar Sampling Locations. One afternoon and evening of intensive sampling involving all personnel was conducted in each reserve. During this period each Sampling Location was visited in rotation and the following activities took place: hand-foraging, recording of all diurnally active species, mist-netting and head-torching for nocturnal species in selected locations. Mist-nets were manned for two hours after sunset, then furled. A bat trap was left in position overnight. Sampling effort for each reserve is tabulated in text.

Birds - During daily trapline checking at individual Sampling Locations one team member concentrated on recording all birds seen or heard. These data were supplemented by opportunistic records gathered by all personnel in the same area. Intensive afternoon and evening sampling at each reserve (as described in the previous section) was also conducted. Birds recorded away from Sampling Locations were integrated with the results from the most similar vegetation associations. Sampling effort for each reserve is tabulated in text.

Taxonomy - Nomenclature follows Storr and Johnstone, 1979 - Birds; Storr, 1983 - Reptiles and amphibians; Strahan, 1983 - Mammals.

2.0

2.1 VEGETATION AND SOILS

Four major vegetation associations were recognized and sampled on this reserve. A brief description of each follows.

LOCATION 1A

Code: Mr.VLr

Description: Open Woodland of <u>Eucalyptus wandoo</u> over native grasses, annuals and Very Open Low Sedges. Scattered <u>E. wandoo</u> saplings and occasional Hakea lissocarpha shrubs.

Litter: Moderate even cover of bark, leaves, twigs and larger debris; some clumping at tree bases.

Soil: Grey/brown sandy clay with some surface lateritic gravel.
Topography: Wide, flat valley floor.

LOCATION 1B

Code: Mi.LAi.SDr.VLr

Description: Woodland of <u>Eucalyptus wandoo</u> over Low Woodland A of <u>E. wandoo</u> saplings with occasional denser regenerating patches over Open Dwarf Scrub D of Plant 7 and <u>Hakea lissocarpha</u> over Very Open Low Sedges, native and exotic grasses.

Litter: Moderate even cover of bark, leaves, twigs and larger debris; some clumping at tree bases.

Soil: Grey/brown sandy loam with clay at deeper levels. Topography: Narrow valley with seasonal watercourse.

LOCATION 1C

Code: Mi.Si.SDr.GLi

Description: Woodland of Eucalyptus marginata with scattered E.

wandoo over <u>Dryandra sessilis</u> Scrub and occasional <u>E.</u>

<u>marginata/E. wandoo</u> saplings over Open Dwarf Scrub of immature <u>D.</u>

<u>sessilis, Allocasuarina humilis, Bossiaea ornata, Plant 1 and</u>

Plant 3 over Open Low Grass.

Litter: Moderate patchy cover of broad leaves, twigs, bark, needles and larger debris.

Soil: Sandy, lateritic gravel with many lateritic cap-rock exposures.

Topography: Upper slope/ridge.

LOCATION 1D

Code: Mi.LBi.SCc

Description: Woodland of <u>Eucalyptus marginata/E. calophylla</u> and scattered <u>E. wandoo</u> over Low Woodland B consisting of saplings of the above plus <u>Dryandra sessilis</u> over Low Heath C of Plant 7, Plant 3, <u>Acacia pulchella</u> and <u>E. calophylla</u> seedlings. Some sedges and exotic grasses.

Litter: Moderately abundant; broad leaves and twigs with some clumping at tree bases; sparse larger debris.

Soil: Deep grey/white sandy loam.

Topography: Wide, flat valley floor.

Table 1 Sampling effort in the vegetation associations of Reserve 17759.

ACTIVITY		LOCAT			
	lA	18	lC	1D	
been over the last time that the man time time time time time that time that the last time time time time time.		TAMES COMES THAT TAKES THAT THE SAME	E trotal street action from many street street	t trint cinis had pad pas was cas cas	
Pit trap	35	35	35	35	
Elliott trap	90	90	90	90	
Large Elliott trap	12	12	12	12	
Cage trap	6	6	6	6	
and the field field field and and and and and and and and and an			error crist rest year wat was com	Prints and wall with first west wash much	
Total no. of trapnights	143	143	143	143	
بالمنا ومنا ومنا ومنا ومنا الماء فنا فنا فنا المنا الم			and making making making making	2000 and with surfacest lead took wat	
Bat trap		Х			
Mist-net		X			
Head-torching		Х		X	
Bird observation (hrs)	3.5	3.5	3.5	3,5	
Reptile foraging (hrs)	3.5	3.5	3.5	3.5	

Plate 1 Sampling locations on Reserve 17759.

Location la



Location lb



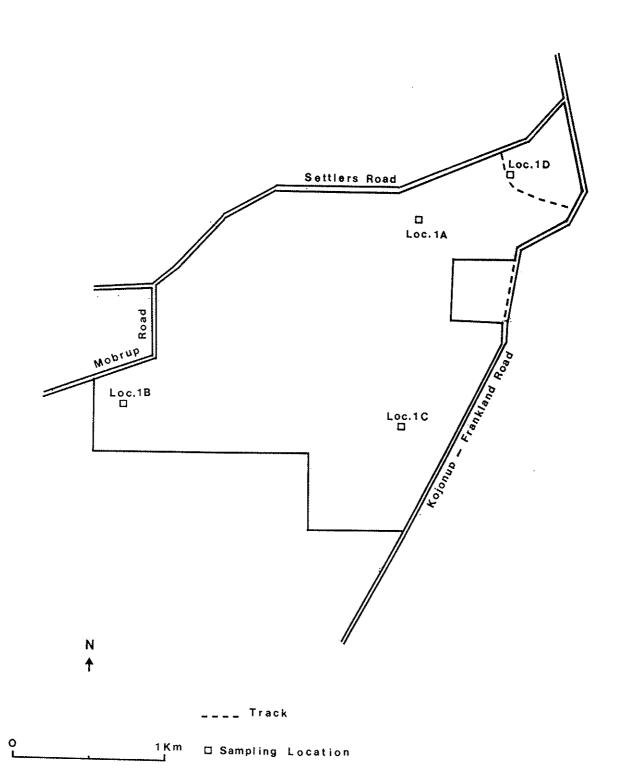
Location lc



Location ld



Figure 1 Reserve 17759 showing position of sampling locations and main features.



2.2 VERTEBRATE RESULTS

Table 2 Bird species recorded in the vegetation associations of Reserve 17759. S = scats

BIRD SPECIES	LOCATION				
	lA	18	10	lD	
CASUARIIDAE			and the second s	a compression and areas compression on the co	
Emu - <u>Dromaius</u> <u>novaehollandiae</u>	s	S		S	
COLUMBIDAE					
Common Bronzewing - Phaps chalcoptera		1		2	
PSITTACIDAE					
Purple-crowned Lorikeet					
- Glossopsitta porphyrocephala	100	35	37	71	
Ring-necked Parrot					
- Platycercus zonarius	11	11	4	6	
Red-capped Parrot - P. spurius	4	8			
Western Rosella - P. icterotis	9	4	4		
Red-tailed Black Cockatoo					
- Calyptorhynchus magnificus	1				
ALCEDINIDAE					
Laughing Kookaburra - <u>Dacelo gigas</u>		4		2	
HIRUNDINIDAE					
Tree Martin - <u>Hirundo</u> nigricans		2			
CAMPEPHAGIDAE					
Black-faced Cuckoo-shrike					
- Coracina novaehollandiae			1		
PACHYCEPHALIDAE					
Scarlet Robin - Petroica multicolor		3	4	4	
Yellow Robin - Eopsaltria australis		7			
Golden Whistler					
- Pachycephala pectoralis		5	3		
Grey Shrike-thrush					
- Colluricincla harmonica	4	2	1		

Table 2 - Cont.

BIRD SPECIES	LOCATION				
	1A	18	1C	lD	
MONARCHIDAE	ng ting didig mag tinak ing		THE AME WHE SHE SHE SHE		
Grey Fantail - Rhipidura fuliginosa	1	10	3	5	
Willie Wagtail - R. leucophrys	1	1			
ACANTHIZIDAE					
Western Flyeater - Gerygone fusca	4	10	2	1.	
Weebill - Smicrornis brevirostris	7	18	3	3	
Broad-tailed Thornbill					
- Acanthiza apicalis		2	1		
Western Thornbill - A. inornata		4	27	6	
Yellow-rumped Thornbill					
- A. chrysorrhoa	2	10	7	4	
MALURIDAE					
Splendid Fairy-wren - Malurus splendens		17		1	
DAPHOENOSITTIDAE					
Australian Sittella					
- Daphoenositta chrysoptera		12		8	
CLIMACTERIDAE					
Rufous Tree-creeper - Climacteris rufa	13	18		5	
PARDALOTIDAE					
Spotted Pardalote					
- Pardalotus punctatus	1	14	1	5	
Striated Pardalote - P. striatus	14	22	1	1.	
ZOSTEROPIDAE					
Grey-breasted White-eye					
- Zosterops <u>lateralis</u>		5	1		
MELIPHAGIDAE					
Brown Honeyeater - Lichmera indistincta	2				
Singing Honeyeater					
- <u>Meliphaga</u> <u>virescens</u>	7	2		3	
Yellow-plumed Honeyeater - M. ornata	1				
Brown-headed Honeyeater					
- Melithreptus brevirostris	3	1			
White-naped Honeyeater - M. lunatus	6	9	2	1	

Table 2 - Cont.

BIRD SPECIES	LOCATION				
	lA	18	10	1D	
New Holland Honeyeater					
- Phylidonyris novaehollandiae	5		25		
Western Spinebill					
- Acanthorhynchus superciliosus	1.	2	4	4	
Little Wattlebird					
- Anthochaera chrysoptera		1	8		
Red Wattlebird - A. carunculata	6		1	3	
GRALLINIDAE					
Magpie-lark - <u>Grallina</u> <u>cyanoleuca</u>	1		1.		
ARTAMIDAE					
Dusky Woodswallow - Artamus cyanopterus	1				
CRACTICIDAE					
Australian Magpie - Cracticus tibicen	16	4	1	2	
CORVIDAE					
Australian Raven - Corvus coronoides			1	5	
Total number of species per location	26	31	24	22	~
Total number of species per reserve	m and pull can rose and	4			فلمنا فلمن خمين فلمنا فلمنا

Table 3 Mammal species recorded in the vegetation associations of Reserve 17759.

S = scats; W = warren; X = scratchings/diggings;

H = hair sample

MAMMAL SPECIES		LOCA				
	1A		lC			
TACHYGLOSSIDAE				a drawn brown wanter strain crawn brown to		
Tachyglossus aculeatus - Echidna PHALANGERIDAE	Х	X	X			
Trichosurus vulpecula						
- Common Brushtail Possum	Н					
MACROPODIDAE						
Macropus irma - Western Brush Wallaby				2		
M. fuliginosus - Western Grey Kangaroo	3	2		2		
VESPERTILIONIDAE						
Nyctophilus major						
- Greater Long-eared Bat		3				
MURIDAE						
Mus musculus - House Mouse	7	13	18	27		
LEPORIDAE						
Oryctolagus cuniculus - Rabbit CANIDAE		1,W	W	1		
Vulpes vulpes - Fox		1				
SUIDAE						
Sus scrofa - Pig	S	nak mada mada konde konde konde konde konde	Jung comp time time letter tring	s brook blokk world drook drook about a	···· ···· ···· ··· ··· ··· ··· ··· ···	
Total number of species per location						
Total number of species per reserve			9	AND DOG THE OVER OVER THE AVEN		

Table 4 Amphibian and reptile species recorded in the vegetation associations of Reserve 17759.

AMPHIBIAN AND REPTILE SPECIES	LOCATION				
	1A	18	10	10	
				STORE COORS CAME CAME JAMES FARME ABOVE STARE CO	
LEPTODACTYLIDAE - Ground Frogs		7		7	
Limnodynastes dorsalis	2	1.		J.	
Heleioporus eyrei	1				
H. inornatus	1				
Pseudophryne guentheri	1.				
GEKKONIDAE - Gekkos					
Diplodactylus granariensis	2	2	2		
Phyllurus milii			3	2	
Phyllodactylus marmoratus		5		1	
PYGOPODIDAE - Legless Lizards					
Aprasia repens				1	
SCINCIDAE - Skinks					
Cryptoblepharus plagiocephalus		3		1	
Egernia napoleonis		2	3	2	
Lerista distinguenda			3	3	
Menetia greyii	1	2	2	2	
Morethia obscura			3	3	
Tiliqua r. rugosa			1		
TYPHLOPIDAE - Blind Snakes					
Ramphotyphlops australis				2	
ELAPIDAE - Front-fanged Snakes					
Rhinoplocephalus gouldii			1	2	
way was way was	nte sua me use mé usa	*******************			
Total number of species per location				11	
Total number of species per reserve			16	norm grow which finall finall finall vivil finall and	

3.0 <u>RESERVE 8617</u>

3.1 VEGETATION AND SOILS

Three major vegetation associations were recognized and sampled on this reserve. A brief description of each follows.

LOCATION 2A

Code: Mc.SAr.GLc

Description: Woodland of <u>Eucalyptus wandoo</u> with scattered <u>E. calophylla</u> over Plant 18 and occasional <u>Macrozamia riedlei</u> over native and exotic Low Grass.

Litter: Sparse, patchy; broad leaves, twigs, bark and larger debris; some clumping at tree bases.

Soil: Grey sandy clay.

Topography: Gently sloping shallow valley.

LOCATION 2B

Code: Mc.SBr.GLi

Description: Forest of Eucalyptus marginata and E. calophylla over Open Low Scrub B of Plant 6, Macrozamia riedlei and Xanthorrhoea spp. over Open Low Grass (native and exotic) and some sedges.

Litter: Moderate, patchy; broad leaves, twigs and some larger debris.

Soil: Grey/white sandy quartz loam.

Topography: Gentle slope near head of valley.

LOCATION 2C

Code: LAc.SAd.SCi.GLc

Description: Low Forest A of Allocasuarina huegeliana with

scattered <u>Eucalyptus marginata</u> and <u>E. calophylla merging with Dense Heath A of <u>Hakea undulata</u>, <u>Xanthorrhoea</u> spp. and <u>A. heugeliana</u> saplings over <u>Hakea lissocarpha</u>, Plant 16 and Plant 7 over native Low Grass and some sedges.</u>

Litter: Moderate; matted needles and seed capsules in places, some broad leaves, twigs and larger debris.

Soil: Grey, coarse-grained, sandy loam.

Topography: Gentle slope at base of granite outcrop.

Table 5 Sampling effort in the vegetation associations of Reserve 8617.

ACTIVITY	L	LOCATION				
	2A	2B	2C			
date and fine rine rine time time time time time and time to the rine rine and fine time time time time.				the party state state unity time used some using state state and		
Pit trap	35	35				
Elliott trap	90	90	140			
Large Elliott trap	6	6				
Cage trap	6	6				
المنا والمنا		s area, tree area was very large large	to which have words words review there were two			
Total no. of trapnights	137	137	140			
والمرافقة ومدا ومدا ومدا ومدار والمرافقة ومدا ومدا ومدار	And and and and the bulk and last	s ared used now prince time when which	the book made cases about the force about the cases and	all field think could study trial from study made made and appearance.		
Bat trap						
Mist-net						
Head-torching	X	Х	X			
Bird observation (hrs)	3.5	3.5	3.5			
Reptile foraging (hrs)	3.5	3.5	3.5			

Plate 2 Sampling locations on Reserve 8617.

Location 2a



Location 2b



Location 2c

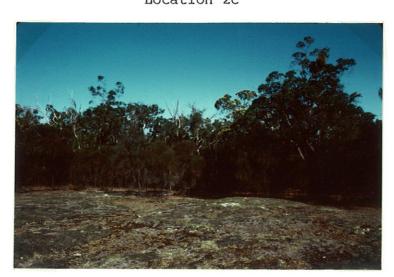
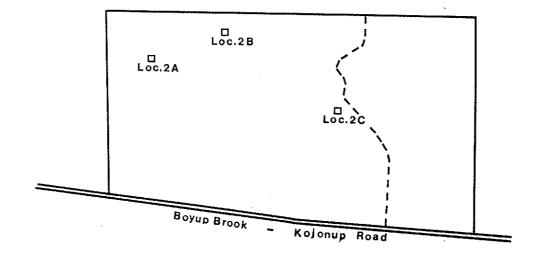
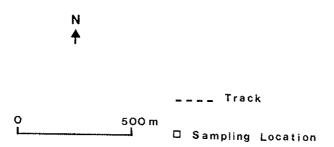


Figure 2 Reserve 8617 showing position of sampling locations and main features.





3.2 **VERTEBRATE RESULTS**

Table 6 Bird species recorded in the vegetation associations of Reserve 8617. S = scats

BIRD SPECIES	LOCATION		
	2A	2В	2C
CASUARIIDAE	radi dradi danik samiji namiji mangi ping	n anne anne anne same anne sam	nd mine tries rives that areas from
Emu - Dromaius novaehollandiae	S		
ACCIPITRIDAE			
Unidentified Hawk - Accipiter sp.			1
TURNICIDAE			
Painted Button-quail - Turnix varia		3	
COLUMBIDAE			
Common Bronzewing - Phaps chalcoptera		2	
PSITTACIDAE			
Purple-crowned Lorikeet			
- Glossopsitta porphyrocephala	36	27	30
Ring-necked Parrot			
- Platycercus zonarius	7	9	6
Red-capped Parrot - P. spurius	7	4	
Western Rosella - P. icterotis	8	1	3
Carnaby's Cockatoo			
- Calyptorhynchus latirostris		40	
Red-tailed Black Cockatoo			
- C. magnificus		14	
STRIGIDAE			
Boobook Owl - Ninox novaeseelandiae			1
PODARGIDAE			
Tawny Frogmouth - Podargus strigoides		1	
AEGOTHELIDAE			
Australian Owlet-nightjar			
- Aegotheles cristatus			1
ALCEDINIDAE			
Laughing Kookaburra - <u>Dacelo gigas</u>	2	3	

Table 6 - Cont.

BIRD SPECIES	LOCATION				
	2A	2B	2C		
HIRUNDINIDAE	sould found every, a very avery very	S WEST SAME STATE WAS AND PARTY AND	g trings stade princip world, write stades at the	THE COME FAIR SHARE WHEN AND WHAT	
Tree Martin - Hirundo nigricans	6				
CAMPEPHAGIDAE					
Black-faced Cuckoo-shrike					
- Coracina novaehollandiae			1		
PACHYCEPHALIDAE					
Red-capped Robin - Petroica goodenovii			1		
Scarlet Robin - P. multicolor	4	1	3		
Yellow Robin - Eopsaltria australis	1	4			
Golden Whistler					
- Pachycephala pectoralis	3	3	3		
Rufous Whistler - P. rufiventris	1				
Grey Shrike-thrush					
- Colluricincla harmonica	2	1.			
MONARCHIDAE					
Grey Fantail - Rhipidura fuliginosa	7	10	5		
Willie Wagtail - R. leucophrys		1			
ACANTHIZIDAE					
Western Flyeater - Gerygone fusca	4	8	4		
Weebill - Smicrornis brevirostris	10		1		
Broad-tailed Thornbill					
- Acanthiza apicalis	1		2		
Western Thornbill - A. inornata	4	8	8		
Yellow-rumped Thornbill					
- A. chrysorrhoa		11			
DAPHOENOSITTIDAE					
Australian Sittella					
- Daphoenositta chrysoptera	20		12		
CLIMACTERIDAE					
Rufous Tree-creeper - Climacteris rufa	12	1			
PARDALOTIDAE					
Spotted Pardalote					
- Pardalotus punctatus	4	3	3		

Table 6 - Cont.

BIRD SPECIES	LOCATION			
	2A	2В	2C	
Striated Pardalote - P. striatus	7	4	1	the time of the color
ZOSTEROPIDAE				
Grey-breasted White-eye				
- Zosterops lateralis		1		
MELIPHAGIDAE				
Brown Honeyeater - <u>Lichmera indistincta</u>		2		
Singing Honeyeater				
- <u>Meliphaga</u> <u>virescens</u>	1			
White-naped Honeyeater				
- Melithreptus <u>lunatus</u>	11	6		
New Holland Honeyeater				
- Phylidonyris novaehollandiae	1			
Red Wattlebird				
- Anthochaera carunculata	1	3	1	
ARTAMIDAE				
Dusky Woodswallow - Artamus cyanopterus	7	4		
CRACTICIDAE				
Australian Magpie - Cracticus tibicen	1	2.6	6	
CORVIDAE				
Australian Rayen - Corvus coronoides		4	9	
Total number of species per location	28	29	21	
Total number of species per reserve	h hinda produk Sudda Jeresh wyedi	42	THE NUMBER OF STREET STREET, S	COME LINE FEAR THOSE THOSE STATE STATE (FINE COME COME AND AN

Table 7 Mammal species recorded in the vegetation associations of Reserve 8617.

S = scats; W = warren; X = scratchings/diggings; T = tracks; C = calling; H = hair sample

MAMMAL SPECIES	LOCATION				
Fig. 1-48 (Fig. 10-4) (Fig. 10	2A		2C		
TACHYGLOSSIDAE	and transf recent actual verify transf		and was one well with one hold the was to	di north north north broad histor dependence an	
Tachyglossus aculeatus - Echidna			X		
MYRMECOBIIDAE					
Myrmecobius fasciatus - Numbat	H				
MACROPODIDAE					
Macropus irma - Western Brush Wallaby		2			
M. fuliginosus - Western Grey Kangaroo	2	5	2		
MOLOSSIDAE					
Tadarida australis					
- White-striped Mastiff-bat			C		
MURIDAE					
Mus musculus - House Mouse	10	14	13		
LEPORIDAE					
Oryctolagus cuniculus - Rabbit	S,W	1	S,X,W		
CANIDAE					
<u>Vulpes</u> <u>vulpes</u> - Fox		\mathbf{T}	S,T		
AND HIGH HIGH HIGH HIGH HIGH HIGH HIGH HIG	g. Crop street schop have resid his	i armit asmir avanit stanit. Asmir	MMI THE BY I SO STORY A STATE OF THE STATE O	s (radi south right would doub routh but	
Total number of species per location	4	5	6		
and the time and the time and time time time and	the transfer of the transfer o			a south count count or a south south south south south	
Total number of species per reserve		8			

Table 8 Amphibian and reptile species recorded in the vegetation associations of Reserve 8617.

AMPHIBIAN AND REPTILE SPECIES	LOCATION		
	2A	2B	2C
LEPTODACTYLIDAE - Ground Frogs		Phode stands would raised orlines strong or	ris form form than the first first first and form the form the first first first first first first first first
Limnodynastes dorsalis		1	
GEKKONIDAE - Gekkos			
Diplodactylus polyophthalmus	1	1	
Phyllodactylus marmoratus	4	17	7
AGAMIDAE			
Ctenophorus ornatus			2
SCINCIDAE - Skinks			
Cryptoblepharus plagiocephalus	3	2	2
Ctenotus impar		1	1.
Egernia napoleonis	1		
Lerista distinguenda	2	3	1.
Morethia obscura		3	
VARANIDAE - Monitors			
Varanus rosenbergi			1
	n real half could real sout r		ng mang viving mang zooda hang samp samp samp samp samp samp samp hang hang hang beng beng beng beng beng beng
Total number of species per location			6
Total number of species per reserve	di pangi sendi sendi kendi sendi se	10	and the same and the same are same and same and same and same and same and same and

RESERVE 17760

4.1 VEGETATION AND SOILS

Five major vegetation associations were recognized and sampled on this reserve. A brief description of each follows.

LOCATION 3A

Code: Mi.LBr.SAr.SCc

Description: Woodland of Eucalyptus marginata over Open Low Woodland B of E. marginata regrowth with occasional Nuytsia floribunda and Plant 9 Mallee over Open Low Scrub of Xanthorrhoea spp. and scattered Macrozamia riedlei over Low Heath C of Plant 6, Plant 7, Plant 8, Plant 10, Plant 2, Acacia pulchella with scattered sedges and grasses in more open areas.

Litter: Sparse, scattered; broad leaves and twigs.

Soil: Deep grey/white sandy loam.

Topography: Small, shallow valley.

LOCATION 3B

Code: LAi.LBi.SBi.SDc

Description: Low Woodland A of Eucalyptus marginata, E. calophylla and scattered E. wandoo over Low Woodland B of saplings of the above over Low Scrub B of Xanthorrhoea spp., Acacia pulchella and Plant 5 over Low Heath D of Plant 6 and Plant 7.

Litter: Sparse, patchy; broad leaves, twigs, some larger debris.

Soil: Deep grey/white sandy loam.

Topography: Gentle slope near broad valley floor.

LOCATION 3C

Code: Mi.LAr.SCi.Pr

Mescription: Woodland of Eucalyptus marginata and E.
wandoo over Open Low Woodland A of E. marginata regrowth and E.
wandoo saplings over Dwarf Scrub C of Hakea undulata, H.
trifurcata and Bossiae ornata over Very Open Mat Plants such as
Dryandra nivea, Astroloma pallidum, A. epacridis and Conostylis
setigera.

Litter: Sparse, scattered; broad leaves and twigs.

Soil: Shallow, brown, sandy lateritic gravel with lateritic caprock exposures.

Topography: Flat upland area.

LOCATION 3D

Code: Mr.Si.SBc.SDi.VLi

Description: Open Woodland of Eucalyptus marginata over Scrub of Dryandra sessilis, regenerating E. marginata and scattered Xanthorrhoea spp. over Heath B of Allocasuarina humilis, Leptospermum erubescens and D. sessilis over Dwarf Scrub D largely consisting of immature species from the above category over Open Low Sedges and native grasses in the more open areas.

Litter: Sparse; broad leaves, bark and twigs, some scattered clumping of Allocasuarina needles under shrubs.

Soil: Shallow red/brown sandy loam with lateritic gravel. Lateritic cap-rock at deeper levels.

Topography: Shallow valley floor.

LOCATION 3E

Code: Mr.LAc.Pc

Description: Open Woodland of <u>Eucalyptus wandoo</u> over occasional patches of Low Forest A of <u>E. wandoo</u> saplings over Mat Plants such as <u>Conostylis</u> <u>setigera</u>, mosses, lichens, native and introduced grasses in more open areas.

Litter: Sparse; broad leaves and twigs, some larger debris; clumping at tree bases.

Soil: Pale brown sandy clay loam with surface lateritic gravel; occasional small granite outcrops.

Topography: Valley floor; headwaters of seasonal stream-zone.

Table 9 Sampling effort in the vegetation associations of Reserve 17760.

ACTIVITY		L	OCATION		
	3A	3B	3C	3D	3E
sale and the the one use the time the time has the me the time of the time time time time time time time.	ente ned soud test and soud tool	to come with some some way way so	s word count come samp word name was	r kang rang sang sang tang tang tang	tions trapp your trans was viving
Pit trap	30	30	30	30	30
Elliott trap	75	75	75	75	75
Large Elliott trap	5	5	5	5	
Cage trap	10	10	10	10	5
THE NAME AND AND THE	TING TANK AND TING NAME AND TANK AND		to delete model strong strong drang serving serving	rate and making and making	And the property and the
Total no. of trapnights	120	120	120	120	110
one and any and the time and the time the time that the time time the time time time time time time time.	0.000 0.000 even 10.000 0.000 even 10.000 even	r Johan Word Josep Ething Public Prince 1994	Entrage complete manual Annale streams and grown streams	Type man home their time come come	
Bat trap					X
Mist-net					X
Head-torching	X				X
Bird observation (hrs)	3.5	3.5	3.5	3.5	3.5
Reptile foraging (hrs)	3.5	3.5	3.5	3.5	3.5

Plate 3a Sampling locations on Reserve 17760.

Location 3a



Location 3b



Location 3c



Plate 3b Sampling locations on Reserve 17760.

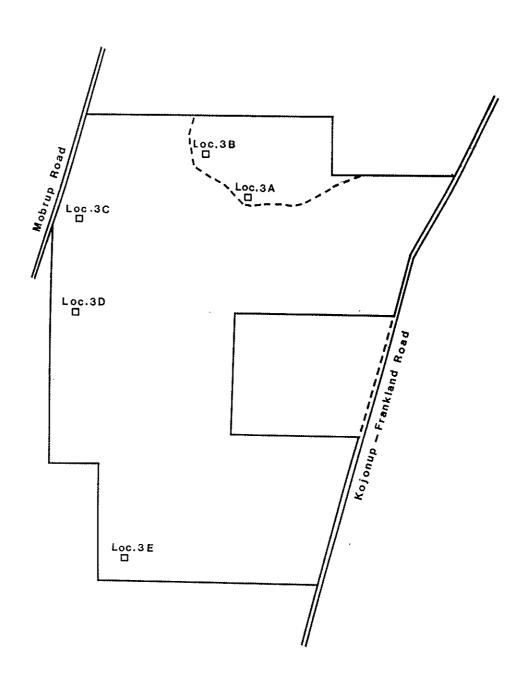
Location 3d



Location 3e



Figure 3 Reserve 17760 showing position of sampling locations and main features.



---- Track O 1Km □ Sampling Location

4.2 VERTEBRATE RESULTS

Table 10 Bird species recorded in the vegetation associations of Reserve 17760. S = scats

BIRD SPECIES	LOCATION				
	ЗА	3В	3C	3D	3E
CASUARIIDAE	g mang, mang) tendi dirink manak medik	vend and fruit fruit with while visit	AND THE SAME SAME SAME SAME	numer utumer from novem (novem), novem	CASE CASE COME FOR THE BUILDING
Emu - <u>Dromaius novaehollandiae</u>				S	
COLUMBIDAE					
Common Bronzewing - Phaps chalcoptera	1	2	4		2
PSITTACIDAE					
Purple-crowned Lorikeet					
- Glossopsitta porphyrocephala	8	13	1	8	6
Ring-necked Parrot					
- Platycercus zonarius	2	1	7		5
Red-capped Parrot - P. spurius					2
CUCULIDAE					
Fan-tailed cuckoo					
- <u>Cuculus</u> <u>flabelliformis</u>					2
PODARGIDAE					
Tawny Frogmouth - Podargus strigoides	1				
AEGOTHELIDAE					
Australian Owlet-nightjar					
- Aegotheles cristatus	1.	1			2
ALCEDINIDAE					
Laughing Kookaburra - <u>Dacelo gigas</u>	1	3			
HIRUNDINIDAE					
Tree Martin - <u>Hirundo</u> <u>nigricans</u>					2
CAMPEPHAGIDAE					
Black-faced Cuckoo-shrike					
- Coracina novaehollandiae	1				
PACHYCEPHALIDAE					
Scarlet Robin - Petroica multicolor	2				

Table 10 - Cont.

BIRD SPECIES	LOCATION				
	3A	3B			3E
Yellow Robin - Eopsaltria australis	2		3		5
Golden Whistler					
- Pachycephala pectoralis	2	1		1	1
Grey Shrike-thrush					
- Colluricincla harmonica		2			2
MONARCHIDAE					
Grey Fantail - Rhipidura fuliginosa	4	3	1		5
ACANTHIZIDAE					
Western Flyeater - Gerygone fusca	2	2	1	1	J.
Weebill - Smicrornis brevirostris	1	2	1		6
Broad-tailed Thornbill					
- Acanthiza apicalis			1		
Western Thornbill - A. inornata	2		1.		10
Yellow-rumped Thornbill					
- A. chrysorrhoa	2	7			5
MALURIDAE					
Splendid Fairy-wren - Malurus splendens	14				
DAPHOENOSITTIDAE					
Australian Sittella					
- Daphoenositta chrysoptera					5
CLIMACTERIDAE					
Rufous Tree-creeper - Climacteris rufa	1	1	1		3
PARDALOTIDAE					
Spotted Pardalote					
- Pardalotus punctatus	1				18
Striated Pardalote - P. striatus	2		1		6
ZOSTEROPIDAE					
Grey-breasted White-eye					
- Zosterops lateralis		1			
MELIPHAGIDAE					
Brown Honeyeater - <u>Lichmera</u> <u>indistincta</u>					1

Table 10 - Cont.

BIRD SPECIES	LOCATION				
	3A	3B	3C	3D	3E
		7000 SOO SOOD SOOD SOOD	eradi ekidi mardi eridi eradi	work and bred and had	t foods grade mode would provid spare se
Singing Honeyeater					
- <u>Meliphaga</u> <u>virescens</u>					3
White-naped Honeyeater					
- Melithreptus lunatus	1		2		5
Tawny-crowned Honeyeater					
- Phylidonyris melanops					1
Western Spinebill					
- Acanthorhynchus superciliosus	3	1	2	1	2
Red Wattlebird					
- Anthochaera carunculata					1
CRACTICIDAE					
Australian Magpie - Cracticus tibicen					3
CORVIDAE					
Australian Raven - Corvus coronoides		5			
		en en en en les en en en	and and and and and and	your and your area was made	
Total number of species per location	21	15	13	5	26
Total number of species per reserve		COMP - COMP , COMP - COMP SOCIAL SOCIAL	35	rende (rinde Volde accede sounde sound	and mid-risk the sections and the

Table 11 Mammal species recorded in the vegetation associations of Reserve 17760.

S = scats; W = warren; X = scratchings/diggings; C = calling

MAMMAL SPECIES	LOCATION				
	ЗА	3B			
TACHYGLOSSIDAE	i kirin kirin kungan men	COMP. SHAME SHAME COMP. COMP.	apturge terrifige hetavige, mininglik hetavige strange	nonali sinut (nite toute nuele sole	in the room areas and the book some some above
Tachyglossus aculeatus - Echidna			X		X
MACROPODIDAE					
Macropus fuliginosus					
- Western Grey Kangaroo			2	1	4
MOLOSSIDAE					
Tadarida Australis					
- White-striped Mastiff-bat	С				
VESPERTILIONIDAE					
Nyctophilus major					
- Greater Long-eared Bat					1
N. geoffroyi - Lesser Long-eared Bat					1
Eptesicus regulus					
- King River Eptesicus					2
MURIDAE					
Mus musculus - House Mouse	8	7	8	9	7
LEPORIDAE					
Oryctolagus cuniculus - Rabbit	W	S			
Total number of species per location	3	2	3	2	6
Total number of species per reserve			8	completely death rough completely	Arial rivale revoluced revolutions desired desired

Table 12 Amphibian and reptile species recorded in the vegetation
 associations of Reserve 17760.
 E = egg observed hatching

AMPHIBIAN AND REPTILE SPECIES	LOCATION				
	ЗА		3C		
LEPTODACTYLIDAE - Ground Frogs	age from the second according to	and acoust numb strong scrang scrang scrang	and true time and one true	- arrang arrang arrang arrang parang parang	County Security Secur
Limnodynastes dorsalis				1	
GEKKONIDAE - Gekkos					
Diplodactylus granariensis					6
Phyllurus milii			1	1	2
Phyllodactylus marmoratus	3	3,E	1		
PYGOPODIDAE - Legless Lizards					
Aprasia repens				2	
SCINCIDAE - Skinks					
Cryptoblepharus plagiocephalus	2			3	1
Ctenotus impar	3				
Egernia napoleonis	1			2	
Lerista distinguenda	2	4	2	3	1
Menetia greyii			1.		
Morethia obscura	4	3	3	2	2
<u>Tiliqua</u> <u>r. rugosa</u>	4	1	1		2
VARANIDAE - Monitors					
Varanus gouldii			1		
Total number of species per location	7	4	7	7	6
Total number of species per reserve	ng Soundy armony recording armony against the	ng mag mag mag rang ang ang	13	name from break strake works works	Area areas made areas areas made seems

RESERVE 15388

VEGETATION AND SOILS 5.1

5.0

Two major vegetation associations were recognized and sampled on this reserve. A brief description of each follows.

LOCATION 4A

Code: Mr.LBi.SAr.SCd

Description: Open woodland of Eucalyptus marginata, E. calophylla and occasional E. wandoo over Low Woodland B of regenerating patches and saplings of the above over Open Low Scrub A of Xanthorrhoea spp. over Dense Low Heath C of Xanthorrhoea spp., Hypocalymma angustifolium, Hakea lissocarpha, H. undulata and Plant 16. Scattered patches of sedges, native and exotic grasses in more open areas.

Litter: Sparse, patchy, leaves and twigs.

Soil: Deep grey sandy loam.

Topography: Gentle slope on upper edge of broad valley.

LOCATION 4B

Code: Mi.LAc.SDi

Description: Woodland of Eucalyptus wandoo with scattered E. calophylla and E. marginata over a Low Forest mainly composed of E. wandoo saplings over Dwarf Scrub D of Hakea lissocarpha, Plant 17, Plant 18 plus patchy native and exotic grasses. Litter: Moderate, scattered; broad leaves, twigs, and some

larger debris; clumping at tree bases.

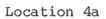
Soil: Red/brown sandy clay with granite fragments; some very small granite exposures.

Topography: Broad, flat valley floor.

Table 13 Sampling effort in the vegetation associations of Reserve 15388.

ACTIVITY	LOCA	TION
	4A	4B
and and use use the risk to any any and the risk of	Walk State health same army army comp	سيد ومد ومد جدد جدد فيد فيد فيد فيد الحدد الحدد الحدد الحدد فيد فيدة فيدة فيد فيد فيد فيد الحدد
Pit trap	30	30
Elliott trap	75	75
Large Elliott trap		
Cage trap	5	
street street country	ting and and and and and and and	سيار وبدار وادار وادار وبدار وبدا وبدار وب
Total no. of trapnights	110	105
data and line and time and time time time time time time time time	MAD Frieds fields county strong brook	ment of the control o
Bat trap		
Mist-net		X
Head-torching	X	x
Bird observation (hrs)	3.5	3.5
Reptile foraging (hrs)	3.5	3.5

Plate 4 Sampling locations on Reserve 15388.

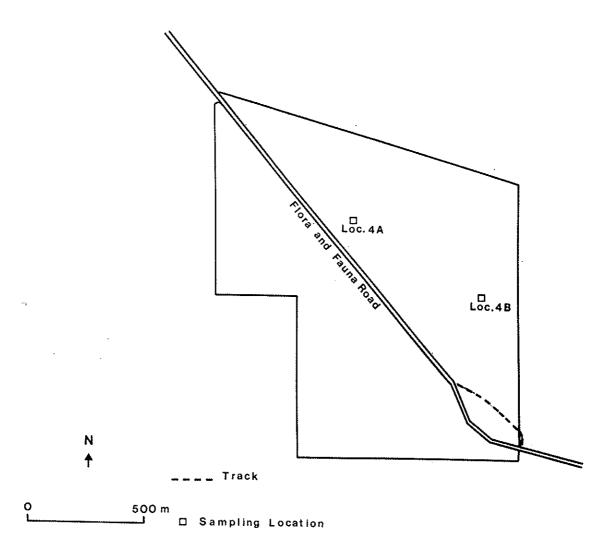




Location 4b



Figure 4 Reserve 15388 showing position of sampling locations and main features.



5.2 **VERTEBRATE RESULTS**

Table 14 Bird species recorded in the vegetation associations of Reserve 15388.

BIRD SPECIES		LOCATION	
	4A	4B	
CASUARIIDAE	S NAME TO SE YOUR TANK TO SEE AND	ng panggapangan nganggapanggapanggapanggapan	
Emu - Dromaius novaehollandiae	3		
FALCONIDAE			
Peregrine Falcon - Falco peregrinus		1	
COLUMBIDAE			
Common Bronzewing - Phaps chalcoptera		1	
PSITTACIDAE			
Purple-crowned Lorikeet			
- Glossopsitta porphyrocephala	20	101	
Regent Parrot - Polytelis anthopeplus		1.	
Ring-necked Parrot			
- Platycercus zonarius	14	18	
Red-capped Parrot - P. spurius	4	2	
Western Rosella - P. icterotis	7	2	
Elegant Parrot - Neophema elegans		2	
Red-tailed Black Cockatoo			
- Calyptorhynchus magnificus	2	5	
AEGOTHELIDAE			
Australian Owlet-nightjar			
- Aegotheles cristatus		3	
ALCEDINIDAE			
Laughing Kookaburra - <u>Dacelo</u> gigas	7		
HIRUNDINIDAE			
Tree Martin - <u>Hirundo</u> <u>nigricans</u>		47	
CAMPEPHAGIDAE			
Black-faced Cuckoo-shrike			
- Coracina novaehollandiae		2	
PACHYCEPHALIDAE			
Scarlet Robin - Petroica multicolor	2	1	

Table 14 - Cont.

BIRD SPECIES	LOCA	TION	
	4A	4B	
ייי עודי מורה מורה מורה מורה מורה מורה מורה מורה	त्वको अन्तको गरको ररका स्टब्स् स्टब्स्	THE THE MAE ARE AVE AN	~~ * *~ ~
Yellow Robin - Eopsaltria australis	6	2	
Golden Whistler			
- Pachycephala pectoralis	6	1	
Rufous Whistler - P. rufiventris		2	
Grey Shrike-thrush			
- Colluricincla harmonica	4	6	
MONARCHIDAE			
Grey Fantail - Rhipidura fuliginosa	6	2	
Willie Wagtail - R. leucophrys		4	
Restless Flycatcher - <u>Myiagra inquieta</u>		4	
ORTHONYCHIDAE			
White-browed babbler			
- Pomatostomus superciliosus		5	
ACANTHIZIDAE			
Western Flyeater - <u>Gerygone fusca</u>	3	3	
Weebill - Smicrornis brevirostris		1	
Broad-tailed Thornbill			
- Acanthiza apicalis	3		
Western Thornbill - A. inornata	10		
Yellow-rumped Thornbill			
- A. chrysorrhoa	8		
MALURIDAE			
Splendid Fairy-wren - Malurus splendens	4		
DAPHOENOSITTIDAE			
Australian Sittella			
- Daphoenositta chrysoptera	7		
CLIMACTERIDAE			
Rufous Tree-creeper - Climacteris rufa		10	
PARDALOTIDAE			
Spotted Pardalote			
- Pardalotus punctatus	2	6	
Striated Pardalote - P. striatus	1	10	

Table 14 - Cont.

BIRD SPECIES	LOCA	TION	
	4A	4B	
and	rel some week owns was and	nist irea conf con con	+
ZOSTEROPIDAE			
Grey-breasted White-eye			
- Zosterops lateralis	1		
MELIPHAGIDAE			
Brown Honeyeater - Lichmera indistincta	2	3	
Singing Honeyeater			
- <u>Meliphaga</u> <u>virescens</u>	l		
Yellow-plumed Honeyeater - M. ornata		15	
White-naped Honeyeater			
- Melithreptus lunatus	1	4	
Tawny-crowned Honeyeater			
- Phylidonyris melanops		1	
Red Wattlebird			
- Anthochaera carunculata	1	2	
ARTAMIDAE			
Dusky Woodswallow - Artamus cyanopterus		41	
CRACTICIDAE			
Australian Magpie - Cracticus tibicen	7		
CORVIDAE			
Australian Rayen - Corvus coronoides		1	
		rand was brus was read to	
Total number of species per location			
Total number of species per reserve	4		

Table 15 Mammal species recorded in the vegetation associations of
 Reserve 15388.
W = warren; X = scratchings/diggings; T = tracks; H = hair

sample

MAMMAL SPECIES	LOCA	ATION	
	4A	4 B	
TACHYGLOSSIDAE	trido etrado princia errenia suanda as		
		Х	
Tachyglossus aculeatus - Echidna		Α	
MYRMECOBIIDAE			
<u>Myrmecobius</u> <u>fasciatus</u> - Numbat		H	
MACROPODIDAE			
Macropus irma - Western Brush Wallaby	1		
M. fuliginosus - Western Grey Kangaroo	10	2	
VESPERTILIONIDAE			
Nyctophilus major			
- Greater Long-eared Bat		1	
MURIDAE			
Mus musculus - House Mouse	17	12	
LEPORIDAE			
Oryctolagus cuniculus - Rabbit	W		
CANIDAE			
Vulpes vulpes - Fox	T		
FELIDAE			
Felis catus - Cat		1	
	·· ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·- ·	-	and provide regard according to the Private State and
Total number of species per location	5	6	
Total number of species per reserve		9	

Table 16 Reptile species recorded in the vegetation associations of Reserve 15388.

REPTILE SPECIES	LOCA	TION	
	4A	4B	
		· · · · · · · · · · · · · · · · · · ·	الله الله الله الله الله الله الله الله
GEKKONIDAE - Gekkos			
Diplodactylus granariensis		5	
Phyllodactylus marmoratus	2	1	
SCINCIDAE - Skinks			
Cryptoblepharus plagiocephalus	1	1	
Ctenotus impar	1		
Hemiergis p. peronii	1		
Lerista distinguenda	4		
Morethia obscura	1		
ور وارد وادن وادن وادن وادن وادن وادن وادن واد		9 1449 1449 1445 1446 and 044	والله والله والله الله والله
Total number of species per location	6	3	
Price 1970 Seek Price 1970 Seek Seek Seek Seek Seek Seek Seek See	* 1500 CAR SAR SAR SAR	I tolk order com from some and	فيق فينه ويدر وده وين ويدر وينز وينز وينز وينز وينز وينز وينز وينز
Total number of species per reserve		7	

RESERVE 2243

6.1 VEGETATION AND SOILS

6.0

Three major vegetation associations were recognized and sampled on this reserve. A brief description of each follows.

LOCATION 5A

Code: LAc.Jr.SAr.VLr.GLr

Description: Low Forest A of Plant 11 over Herbs (Plant 12). This association merges into an Open Low Scrub A of Acacia saligna and Xanthorrhoea spp. with emergent Banksia littoralis, Eucalyptus rudis and E. calophylla over Very Open Low Sedges and native Very Open Low Grass.

Litter: Clumped river debris at tree bases; broad leaves, Melaleuca needles, twigs and larger debris.

Soil: Grey sandy clay near river, ranging to light grey alluvial loam away from banks.

Topography: Incised, narrow river valley.

LOCATION 5B

Code: Mr.LAi.SAr.SCc.SDc.VLr

Description: Open Woodland of Eucalyptus marginata and very occasional E. wandoo over a Low Woodland A of E. marginata and patches of Plant 13 over an Open Low Scrub A of Hakea prostrata, Allocasuarina humilis and Leptospermum erubescens with occasional Banksia grandis, Persoonia longifolia, Xanthorrhoea spp. and E. marginata saplings over Low Heath C of Petrophile serruriae, H. lissocarpha, Bossiae aquifolium, B. ornata and Xanthorrhoea spp. over Low Heath D of Plant 7 and mixed low shrubs over Very Open Low Sedges and very scattered native and introduced grasses. Litter: Moderate, scattered; broad leaves, twigs and occasional

larger debris; some clumping under bushes.

Soil: Yellow/brown deep sandy loam.

Topography: Valley mid-slope.

LOCATION 5C

Code: Mi.SAr.Pr

Description: Woodland of <u>Eucalyptus wandoo</u> over Open Low Scrub A of very sparse <u>Xanthorrhoea</u> spp. <u>Macrozamia riedlei, Hakea</u>

<u>lissocarpha, E. wandoo</u> saplings and occasional thickets of Plant

15 over Very Open Mat Plants including <u>Conostylis setigera</u> and some native and exotic grasses, mosses and lichens.

Litter: Moderate, scattered; broad leaves, twigs, bark and abundant larger debris; clumping at bases of trees.

Soil: Grey/brown sandy clay with some surface and sub-surface laterite.

Topography: Wide, flat valley floor.

Table 17 Sampling effort in the vegetation associations of Reserve 2243.

ACTIVITY	I	COCATION	
	5A	5B	5C
AND THE COLUMN THE COL			عبد وبير ووب وبد وبد وبدر وبدر وبد وبد وبد وبد بهدا وبد بابدا وبد وبدا وبد وبد وبد وبد وبد وبد وبد وبد
Pit trap	25	25	25
Elliott trap	75	75	135
Large Elliott trap	5		
Cage trap	5		
game pang anan may rang rang pang pang rang rang rang rang dang dang dang dang rang rang dang dang dang dang dang dang dang d	de and code may state may be	جها چاد کا	وعدر جسر هند عدد جس عدد وسب بعدر جمير جدد جسب بعدد العدد بعد بعدد بعد بعد عدد بعد العدد بعد عدد عدد
Total no. of trapnights	110	100	160
The case are sent sent sent sent sent sent sent sen		adi siladi atrab zema zemi assab assab casa sa	ישני מוייר פנוני משל מויד מיים מוייר פוייר פוייר קיטר פויד מויד מויד פויד פויד פויד פויד פויד אויר מיינו אויר
Bat trap	X		
Mist-net	X		
Head-torching	X	X	X
Bird observation (hrs)	3.5	3.5	3.5
Reptile foraging (hrs)	3.5	3.5	3.5

Plate 5 Sampling locations on Reserve 2243.

Location 5a



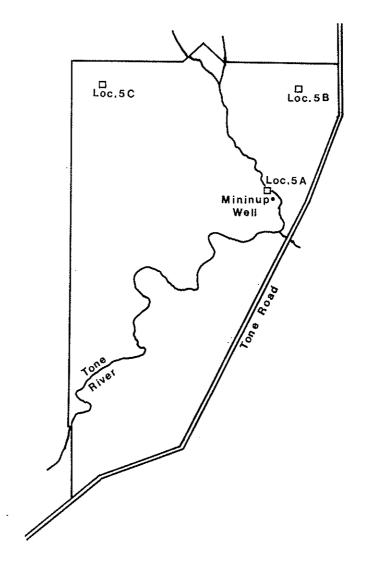
Location 5b



Location 5c



Figure 5 Reserve 2243 showing position of sampling locations and main features.



O 500 m

□ Sampling Location

6.2 VERTEBRATE RESULTS

Table 18 Bird species recorded in the vegetation associations of Reserve 2243.

BIRD SPECIES	L	OCATIO	N			
	5A	5B	5C			
PHALACROCORACIDAE	velik ernek sarih u nek tenek esaak érne			the second control complex control scenar scorage according to the second control cont		
Little Pied Cormorant						
- Phalacrocorax melanoleucus	5					
ARDEIDAE						
White-faced Heron						
- Ardea novaehollandiae	4					
ANATIDAE						
Black Duck - Anas superciliosa	2					
Grey Teal - A. gibberifrons	2					
FALCONIDAE						
Australian Hobby - Falco longipennis	1					
COLUMBIDAE						
Common Bronzewing - Phaps chalcoptera	3		4			
PSITTACIDAE						
Purple-crowned Lorikeet						
- Glossopsitta porphyrocephala	30	10				
Regent Parrot - Polytelis anthopeplus			1			
Ring-necked Parrot						
- Platycercus zonarius	7	3	8			
Red-capped Parrot - P. spurius	3					
Western Rosella - P. icterotis	14	10	5			
Elegant Parrot - <u>Neophema</u> <u>elegans</u>	1.					
CUCULIDAE						
Fan-tailed cuckoo						
- <u>Cuculus</u> <u>flabelliformis</u>		1				

Table 18 - Cont.

BIRD SPECIES	L	OCATIO			
	5A	5B	5C		
AEGOTHELIDAE		THE SUB YES THE THE THE	inda tina maa kina cena naab adab ni	Me wash Areki	
Australian Owlet-nightjar					
- Aegotheles cristatus	1		2		
ALCEDINIDAE					
Laughing Kookaburra - <u>Dacelo gigas</u>	1		2		
HIRUNDINIDAE					
Tree Martin - Hirundo nigricans	10		2		
CAMPEPHAGIDAE					
Black-faced Cuckoo-shrike					
- Coracina novaehollandiae			3		
PACHYCEPHALIDAE					
Jacky Winter - Microeca leucophaea			10		
Scarlet Robin - Petroica multicolor	6	1			
Yellow Robin - <u>Eopsaltria</u> <u>australis</u>		2	3		
White-breasted Robin - E. georgiana	1				
Golden Whistler					
- Pachycephala pectoralis	4		4		
Rufous Whistler - P. rufiventris	2		1		
Grey Shrike-thrush					
- Colluricincla harmonica	2		3		
Crested Shrike-tit					
- Falcunculus frontatus	3		1		
MONARCHIDAE					
Grey Fantail - Rhipidura fuliginosa	11	5	6		
Willie Wagtail - R. leucophrys	6				
Restless Flycatcher - Myiagra inquieta	3		1		
ACANTHIZIDAE					
Western Flyeater - Gerygone fusca	6	1	5		
Weebill - Smicrornis brevirostris	6		5		

Table 18 - Cont.

BIRD SPECIES	L	OCATIO	N	
	5A	5B	5C	
	100 (100 (100 (100 (100 (100 (100 (100			
Broad-tailed Thornbill				
- Acanthiza apicalis	10	3	1	
Western Thornbill - A. inornata	2	9	3	
Yellow-rumped Thornbill				
- A. chrysorrhoa	13		10	
MALURIDAE				
Splendid Fairy-wren - Malurus splendens	11	3	3	
DAPHOENOSITTIDAE				
Australian Sittella				
- Daphoenositta chrysoptera			10	
CLIMACTERIDAE				
Rufous Tree-creeper - Climacteris rufa			19	
PARDALOTIDAE				
Spotted Pardalote				
- Pardalotus punctatus	16	3	5	
Striated Pardalote - P. striatus	3	3	8	
ZOSTEROPIDAE				
Grey-breasted White-eye				
- Zosterops lateralis	3			
MELIPHAGIDAE				
Brown Honeyeater - <u>Lichmera</u> <u>indistincta</u>	1		2	
Singing Honeyeater				
- Meliphaga virescens	6		3	
Yellow-plumed Honeyeater - M. ornata			2	
White-naped Honeyeater				
- Melithreptus lunatus	3		8	
New Holland Honeyeater				
- Phylidonyris novaehollandiae	32			
Western Spinebill				
- Acanthorhynchus superciliosus	1	2		
Little Wattlebird				
- Anthochaera chrysoptera	1			
Red Wattlebird - A. carunculata	7		4	

Table 18 - Cont.

BIRD SPECIES	L	OCATIO	N	
	5A	5B	5C	
plant from the print print and allow that the control print print the control print	ور و درون فرسل هند کارون و درون		we'd cords (1665 think think think think	
CRACTICIDAE				
Australian Magpie - Cracticus tibicen	2	1	1	
Grey Currawong - Strepera versicolor			1	
CORVIDAE				
Australian Raven - Corvus coronoides		4	3	
yeth well said this told this told this told this field will this said with said this told and the told with the told this this told the told with the told				
Total number of species per location	40	16	34	
وروز وجرد وجود فرست وإنها أوسر أوسر وسر وسر وسر وسر وسلم والمار ولمان المان ال			ميدو بحمو سنت يسو وسو تجوي ومين	الجوائز والمالة والمالة والمالة والمالة والمالة المالة المالة
Total number of species per reserve		50		

Table 19 Mammal species recorded in the vegetation associations of Reserve 2243.

S = scats; W = warren; X = scratchings/diggings; T = tracks; C = calling

MAMMAL SPECIES	I	LOCATIO		
	5A	5B	5C	
MACROPODIDAE	100 1100 1100 1100 1100 1100 1100 1100			nang ang com was com was man was 1900 ton the the
Macropus fuliginosus				
- Western Grey Kangaroo	4	S,T	4	
MOLOSSIDAE				
Tadarida australis				
- White-striped Mastiff-bat	C			
VESPERTILIONIDAE				
Nyctophilus major				
- Greater Long-eared Bat	2			
Eptesicus regulus				
- King River Eptesicus	4			
MURIDAE				
Rattus rattus - Black Rat	2			
Mus musculus - House Mouse	8	9	5	
LEPORIDAE				
Oryctolagus cuniculus - Rabbit		l,W	S	
CANIDAE				
Vulpes vulpes - Fox	Х		1	
BOVIDAE				
Ovis aries - Sheep	1			
Total number of species per location	8	3	4	
Total number of species per reserve		9		

Table 20 Amphibian and reptile species recorded in the vegetation associations of Reserve 2243.

F = skeletal fragments

AMPHIBIAN AND REPTILE SPECIES	L			
	5A	5B	5C	
LEPTODACTYLIDAE - Ground Frogs	de and have have the sade due			وها وها وها وها وها الهاد وها الهاد وها وها وها الهاد وها الهاد الهاد الهاد الهاد الهاد الهاد الهاد الهاد الهاد
Limnodynastes dorsalis		1		
GEKKONIDAE - Gekkos		_		
Diplodactylus granariensis			9	
D. polyophthalmus		1		
Phyllodactylus marmoratus			1	
SCINCIDAE - Skinks				
Cryptoblepharus plagiocephalus	1		2	
Ctenotus impar	1	1	1	
Egernia napoleonis	1			
Leiolopisma trilineatum	2			
Menetia greyii	2			
Morethia obscura		1		
Tiliqua r. rugosa	1			
CHELUIDAE				
Chelodina oblonga	F			
And the state of t				***
Total number of species per location				
Total number of species per reserve		12	and the state and and the state and the state and the	ng ang pang ting ting ang ang pang pang dala ang a

DISCUSSION OF RESULTS

7.0

Birds - Sixty-four species of bird were recorded during this survey with the maximum number of species on any one reserve being fifty (Res. 2243) and the minimum thirty-five (Res. 17760). This disparity in results can be attributed to the presence of a river system on Res. 2243 and the lack of large areas of productive Wandoo woodland on Res. 17760. Apart from the four aquatic species and the White-breasted Robin Eopsaltria georgiana on Res. 2243 (Table 18) it is likely that, given more survey effort, the remaining fifty-nine species will be found to be common to all reserves. Several more species which are either migratory, locally uncommon or at the limits of their southern distribution can also be expected. Examples of these are the Sacred Kingfisher Halcyon sancta, Rainbow Bee-eater Merops ornata, Grey Butcherbird Cracticus torquatus, White-cheeked Honeyeater Phylidonyris nigra, Blue-breasted Fairy-wren Malurus pulcherrimus and the Southern Scrub-robin Drymodes brunneopygia.

The presence of the White-breasted Robin <u>Eopsaltria georgiana</u> on Res. 2243 is of note since it represents the most inland known record of this species and aligns well with the results of recent work carried out by the authors in the north-eastern Darling Range where it was found that the vegetation and soils of the eastern headwaters of river systems tend to support an atypical suite of fauna when comparisons are made with the surrounding more arid country. These faunal corridors support elements more typical of the wetter, western Darling Range. This effect appears to be operating on a north-south basis at the Tone River. It is most unlikely that this bird will be present on any of the other reserves since its specialized habitat requirements are not met on them.

Two species of bird, the Crested Shrike-tit <u>Falcunculus frontatus</u> (Res. 2243) and the Peregrine Falcon <u>Falco peregrinus</u> (Res 15388) are gazetted as "rare, or otherwise in need of special protection" (Fisheries and Wildlife, 1983). The former appears to

be fairly common in the <u>Eucalyptus wandoo</u> and <u>E. rudis</u> woodlands of Res. 2243 and the latter is represented by a single bird on the boundary between <u>E. wandoo</u> woodland and farmland on Res. 15388.

Amphibians and Reptiles - Four amphibians and twenty reptiles were recorded during the survey, with Res. 17759 being the richest (16 species) and Res. 15388 being the poorest (7 species). All species should be common to all the reserves with the exception of the skink Leiolopisma trilineatum which prefers wetter habitats such as that present in Res. 2243. The comments made about faunal corridors in the previous section apply to this species; this is also the most inland known record.

Autumn is a comparatively poor season in which to conduct an inventory survey of reptiles and amphibians. As a result, many more species can be expected from the area. Some examples of species which are almost certainly present but were not recorded are the frogs Heleioporus albopunctatus, H. barycragus, H. psammophilus, Ranidella pseudinsignifera, Litoria moorei and the reptiles Pseudonaja a. affinis, Rhinoplocephalus nigriceps, Python spilotus imbricatus, Pogona minor, Delma fraseri and Lialis burtonis.

Mammals - Nine native and seven introduced species were recorded - a fairly poor return considering the sampling effort. Several factors probably account for the lack of native mammals, the most obvious being the small size of the reserves, their isolation in large tracts of farmland, their fire history, the timing of the survey and the presence of large numbers of the House Mouse Mus musculus which would tend to discourage the smaller terrestrial native mammals from entering traps. Given further survey work in a different season (eg. spring) several more mammals could be expected. Examples are: Sminthopsis gilberti, S. crassicaudata,

Antechinus flavipes, Hydromys chrysogaster (both restricted to Res. 2243), Chalinolobus gouldii, Mormopterus planiceps and Pipistrellus tasmaniensis.

The presence of the Common Brushtail Possum Trichosurus vulpecula and the Numbat Myrmecobius fasciatus was confirmed from grooming hairs found in scats of the former and hair found in hollow logs in the case of the latter. The Possum scats appeared to be fresh and were found in an exposed position under a tree; it is therefore reasonable to assume that this species is present in the area in low numbers. The Numbat hair presented some initial difficulties since it did not match precisely with the known reference samples. Since reference samples come from known positions on the animal's body, the range of variation in structure is usually covered adequately. Unknown samples come from anywhere on the body and in fact are usually a mixture, sometimes with other species thrown in for good measure. Further analysis of the hair in terms of its structure, width and length eventually eliminated other species, leaving a hair sample which, while it did not precisely match Numbat, was unlikely to be anything else. The continuing presence of Numbats on Res. 8617 and Res. 15388 should be considered as a remote possibility at this stage since there is no information on how long hair can last in a hollow log. Periodic checking of Wandoo woodland on these reserves by departmental staff could be potentially productive.

Taken as a whole, the results of this survey represent a typical suite of fauna from the inland periphery of the Darling System. Elements of the extreme western and southern portions such as the White-breasted Robin Eopsaltria georgiana and the skink Leiolopisma trilineatum are present, as are species more typical of the drier Wheatbelt such as the reptiles Diplodactylus granariensis, Aprasia repens and the following birds: Regent Parrot Polytelis anthopeplus, Crested Shrike-tit Falcunculus

frontatus, Brown-headed Honeyeater Melithreptus brevirostris, Yellow-plumed Honeyeater Meliphaga ornata. The area can best be described as the interzone between the Darling System and the Wheatbelt.

All the reserves are in fairly good condition and act as valuable conservation areas for a broad range of fauna, especially birds, and are of further note since they lie in the previously mentioned interzone. Reserve 2243 is particularly interesting and deserves special management attention since it is one of the few peripheral Wheatbelt conservation reserves encompassing a river system.

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