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A VERTEBRATE FAUNA SURVEY OF RESERVES 19085,  
19091, 20069, 20070 IN THE SHIRE OF DUMBLEYUNG,  
WESTERN AUSTRALIA

Prepared for: Department of Conservation  
and Land Management

By: Ninox Wildlife Consulting

March 1987

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## 1.0

I N T R O D U C T I O N

This report was commissioned by the Department of Conservation and Land Management and details a vertebrate fauna survey of four Nature Reserves in the Shire of Dumbleyung, Western Australia. These are Reserves 19085, 19091, 20069 and 20070. The reserves were selected for study either because they are small and therefore vulnerable, or because they are subject to future management plans. The information gathered during this survey will act as a baseline resource inventory to facilitate future planning and define management priorities.

## 1.1 STUDY OBJECTIVES

The study was planned to:

1. assess all vegetation formations in the reserves for vertebrates;
2. provide a vegetation formation/association description for each location surveyed;
3. prepare a vertebrate species list for each vegetation formation/association;
4. discuss and compare the results of this survey with other fauna work conducted in the Wheatbelt, highlight any unusual records;
5. prepare a short conclusion assessing individual reserves.

## M E T H O D S

The survey took place between March 16 and March 24, 1987 in a period of very variable weather ranging from hot days and cool nights to wet windy mornings and afternoon thunderstorm activity. The first four days of the survey were primarily set aside for reconnaissance and trapline establishment and the remainder allocated to intensive sampling of vertebrate fauna. Four field personnel were used and were divided into two teams, each with a four-wheel drive vehicle to allow for efficient and concurrent sampling of the reserves.

As all the reserves were fairly close to one another it was decided that they could be regarded as a continuum rather than discrete units, in order to most efficiently utilise resources and maximise results. This allowed the greatest number of different vegetation associations to be sampled, instead of repeating the same habitats on different reserves. The main criteria governing the choice of a habitat were that it was:

1. large enough to be considered a major unit;
2. represented on most reserves such that extrapolation from one reserve to another was possible;
3. poorly represented in the system but had the possibility of supporting fauna with specialised habitat requirements or a restricted geographical distribution.

Data collection centered on a series of Sampling Locations on each reserve (Figs. 1, 2, 3, 4) all of which are directly referable to the major vegetation associations described in Backshall, 1985.

## 2.1 MAMMAL, REPTILE AND AMPHIBIAN SAMPLING

Trapline structure was variable but consisted of a minimum of 5 plastic lined pit-traps (50 x 15 cm) bisected across the top by an aluminium flywire drift-fence (30 m x 20 cm). Where the substrate consisted of very hard clay or rock, shorter pits were used. A minimum of 5 and a maximum of 20 Medium Elliott box-traps and 1 wire cage-trap were set at each Sampling Location, checked each morning, and left in position for a minimum of 4 and a maximum of 6 days. Extra trapping effort was concentrated in habitats likely to support species such as the Red-tailed Wambenger Phascogale calura, e.g. Sampling Location 1/5, Reserve 19085.

Diurnal hand foraging for reptiles and recording of active mammals plus signs such as tracks, scats and diggings was carried out each morning by all personnel and restricted to the vegetation associations surrounding each trapline; ecotones were avoided. All animals recorded outside Sampling Locations were integrated with the results from the most similar vegetation association. One full afternoon and evening of intensive sampling involving all personnel was conducted in each reserve. During this period all Sampling Locations were visited in rotation and the following activities carried out: hand foraging, recording all active species, headtorching and vehicle spotlight traverses along reserve boundaries.

Reserve 20070 was selected for intensive bat sampling. A bat trap was left in position for 4 days and 3 mist nets were manned for 2 hours after dark for 2 nights.

## 2.2 BIRD SAMPLING

During daily trapline checking one team member concentrated on recording all birds seen or heard within the Sampling Location. These data were supplemented by records gathered by all personnel during morning, afternoon and nocturnal sampling periods. A minimum of 2 hours bird sampling was conducted in each Sampling Location and was supplemented by additional records from the most similar vegetation associations outside Sampling Locations.

TABLE 1 Trapnight sampling effort for Reserves 19805, 19091, 20069, 20070 in March 1987.

Reserve no.	Trapline no.	Pit- trap	Elliott	Cage	Vegetation code (Backshall, 1985)
19085	1/1	25	50	5	M-Sc <sub>1</sub> (Mallee-scrub)
	1/2	25	50	5	M-H <sub>2</sub> (Mallee-heath)
	1/3	25	50	5	W <sub>3</sub> (Woodland)
	1/4	25	50	5	W <sub>1</sub> ..
	1/5	20	100	0	W <sub>2</sub> ..
19091	4/1	25	50	5	W <sub>2</sub> -M (Woodland-Mallee)
	4/2	25	50	5	F <sub>1</sub> (Low forest)
	4/3	25	50	5	M-H <sub>1</sub> (Mallee-heath)
20069	3/1	25	25	5	Sc-H <sub>1</sub> (Scrub-heath)
	3/2	25	25	0	Sc-H <sub>3</sub> ..
	3/3	25	25	5	W <sub>2</sub> (Woodland)
20070	2/1	30	60	6	W <sub>4</sub> ..
	2/2	25	50	5	F <sub>1</sub> (Low forest)
	2/3	25	50	5	H <sub>2</sub> (Heath)

## 2.3 TAXONOMY

Nomenclature in this report follows Blakers et al., 1984 - Birds; Strahan, 1983 - Mammals; Storr et al., 1981, 1983, 1986 - Reptiles; Tyler et al. 1984 - Amphibians.

## 2.4 PERSONNEL

K. Youngson - Coordination, field sampling, report drafting

J. Henry - .. .. .

A. Sanders - Field sampling

G. Harold - .. ..

3.0

V E R T E B R A T E   R E S U L T S

3.1 RESERVE 19085

## VEGETATION AND SOILS

Five major vegetation formations were chosen for intensive sampling. A description extracted from Backshall (1985) for each Sampling Location follows:

Sampling Location 1/1

Open mallee-scrub (M-Sc<sub>1</sub>).

Description: Open shrub mallee of Eucalyptus eromophila, E. uncinata over scrub including Melaleuca uncinata, Regelia inops, Gastrolobium spinosum, over dwarf scrub C of Hakea lehmanniana, Isopogon teretifolius.

Soil is a light brown (10 yr 6/3) clayey sand.

Sampling Location 1/2

Open mallee-heath (M-H<sub>2</sub>).

Description: Very open shrub mallee of Eucalyptus eromophila, E.? falcata, E. gardneri, E. incrassata, E. uncinata, over heath A including Dryandra nobilis, D. armata, Melaleuca pungens, Beaufortia incana, Melaleuca uncinata, over dwarf scrub C including Adenanthos argyreus, Thysanotus dicotomus, Acacia lasiocarpa, Isopogon teretifolius, Gastrolobium spinosum, Banksia sphaerocarpa var sphaerocarpa, Glischrocaryon? aureum, Petrophile striata, P. heterophylla, over very open low sedges.

Soil is a light yellow brown (10 yr 6/4) sandy loam with lateritic gravel.



Sampling Location 1/3

Banksia attenuata low woodland (W<sub>3</sub>).

Description: Open low woodland of Banksia attenuata, Nuytsia floribunda, Dryandra sessilis, over heath A, including Allocasuarina thuyiodes, Petrophile ericifolia, Eremaea pauciflora, over dwarf scrub C of Allocasuarina humilis, Melaleuca scabra, Stirlingia latifolia, over dwarf scrub D of Isopogon villosus, Calytrix fraseri, Verticordia densiflora, over open low sedges Caustis dioica, Loxocarya fasciculata, Lyginia barbata, sp. D.U. 8551, sp. D.U. 8552.

Soil description not available.

Sampling Location 1/4

Eucalyptus wandoo - E. longicornis woodland (W<sub>1</sub>).

Description: Similar woodland to Loc. 1, 3, including tall shrubs Santalum acuminatum, Choretrum glomeratum.

Soil description not available.

Sampling Location 1/5

Eucalyptus wandoo open woodland (W<sub>2</sub>).

Description: Open woodland of Eucalyptus wandoo over low woodland A of Allocasuarina huegeliana, Acacia acuminata, over open low sedges Loxocarya cinerea, Lepidosperma viscidum, L. gracile, Lepidobolus preissianus, over very open low herbs including Stipa hemipogon, Stipa sp., Waitzia acuminata, Stypandra imbricata.

Soil is a dark yellowish brown (10 yr 4/4) sandy loam.

FIGURE 1 Diagram of Reserve 19085 showing Sampling Locations and vegetation associations surveyed for vertebrates.

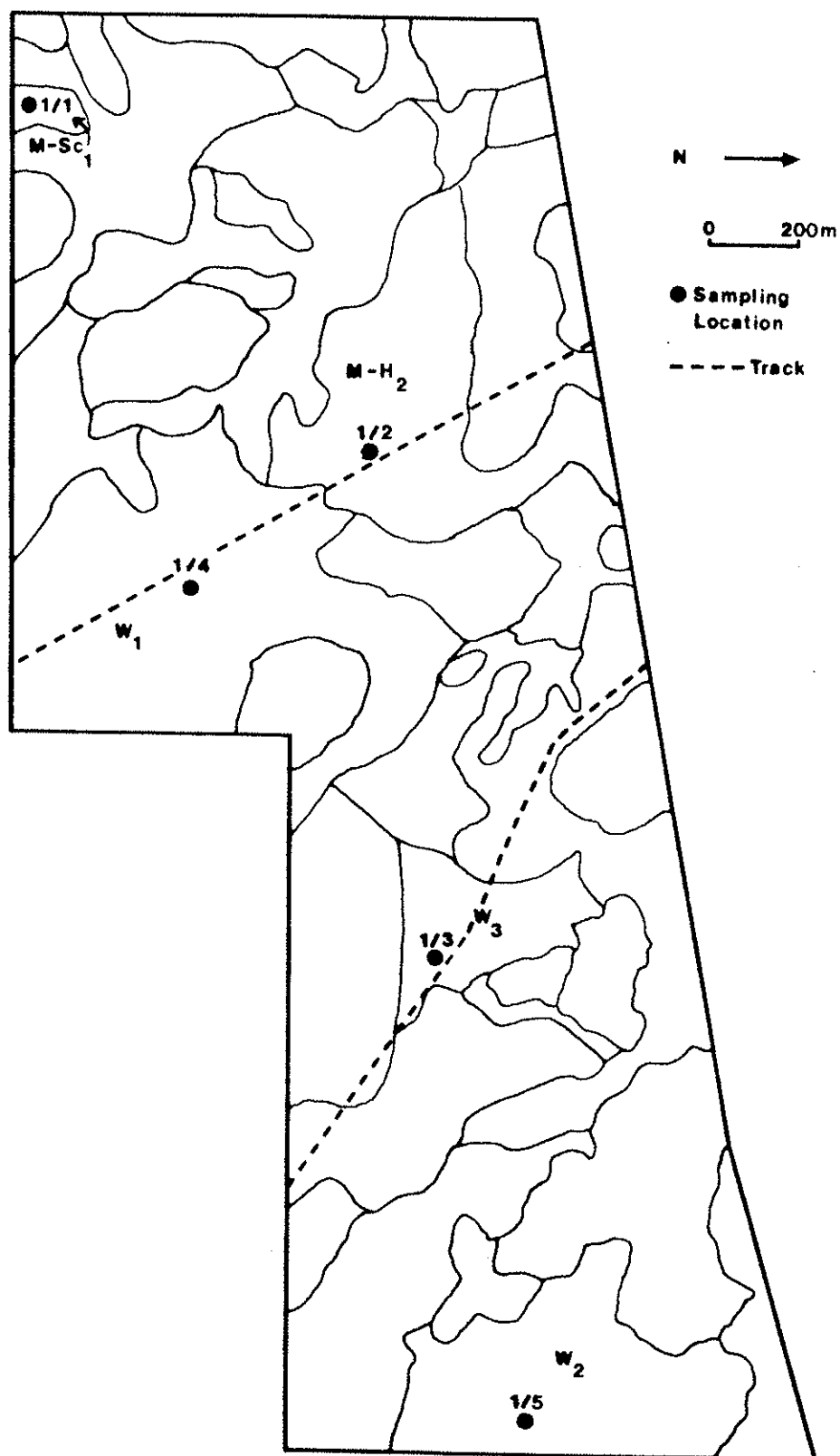


TABLE 2      Birds, mammals, amphibians and reptiles recorded in the vegetation associations of Reserve 19085.

N = unused nest;    S = scats;    D = diggings

VEGETATION CODE	M-Sc <sub>1</sub>	M-H <sub>2</sub>	W <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>
SAMPLING LOCATION	1/1	1/2	1/3	1/4	1/5
BIRD SPECIES					
<hr/>					
ANATIDAE					
<u>Tadorna tadornoides</u> , Australian Shelduck				1	
ACCIPITRIDAE					
<u>Aquila audax</u> , Wedge-tailed Eagle				1	
COLUMBIDAE					
<u>Phaps chalcoptera</u> , Common Bronzewing		1	1	1	
<u>Ocyphaps lophotes</u> , Crested Pigeon			1		1
LORIIDAE					
<u>Glossopsitta porphyrocephala</u> , Purple-crowned Lorikeet		6		14	
PLATYCERCIDAE					
<u>Barnadius zonarius</u> , Port Lincoln Ringneck		1		20	3
CUCULIDAE					
<u>Cuculus pyrrhophanus</u> , Fan-tailed Cuckoo				1	
AEGOTHELIDAE					
<u>Aegotheles cristatus</u> , Australian Owlet-nightjar			2	1	
ALCEDINIDAE					
<u>Dacelo novaeguineae</u> , Laughing Kookaburra				1	
HIRUNDINIDAE					
<u>Cecropis nigricans</u> , Tree Martin		15		7	

TABLE 2      Cont.

VEGETATION CODE	M-Sc <sub>1</sub>	M-H <sub>2</sub>	W <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>
SAMPLING LOCATION	1/1	1/2	1/3	1/4	1/5
BIRD SPECIES					
CAMPEPHAGIDAE					
<u>Coracina novaehollandiae</u> , Black-faced Cuckoo-shrike		1			
MUSCICAPIDAE					
<u>Petroica goodenovii</u> , Red-capped Robin					2
<u>Microeca leucophaea</u> , Jacky Winter				2	
<u>Pachycephala pectoralis</u> , Golden Whistler		1			
<u>P. rufiventris</u> , Rufous Whistler				2	2
<u>Colluricincla harmonica</u> , Grey Shrike-thrush		1	1	1	
<u>Myiagra inquieta</u> , Restless Flycatcher				2	
<u>Rhipidura leucophrys</u> , Willie Wagtail		1	3	2	1
TIMALIIDAE					
<u>Pomatostomus superciliosus</u> , White-browed Babbler				1	5
ACANTHIZIDAE					
<u>Sericornis frontalis</u> , White-browed Scrubwren	4		6		
<u>S. cautus</u> , Shy Hylacola	2	1			
<u>S. fuliginosus</u> , Calamanthus			1		
<u>Smicrornis brevirostris</u> , Weebill	2		2	18	1
<u>Gerygone fusca</u> , Western Gerygone				2	2
<u>Acanthiza apicalis</u> , Inland Thornbill			4	5	1
<u>A. uropygialis</u> , Chestnut-rumped Thornbill		5			1
<u>A. chrysorrhoa</u> , Yellow-rumped Thornbill				2	
CLIMACTERIDAE					
<u>Climacteris rufa</u> , Rufous Treecreeper				5	

TABLE 2 Cont.

VEGETATION CODE	M-Sc <sub>1</sub>	M-H <sub>2</sub>	W <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>
SAMPLING LOCATION	1/1	1/2	1/3	1/4	1/5
BIRD SPECIES					
MELIPHAGIDAE					
<u>Anthochaera carunculata</u> , Red Wattlebird				2	
<u>Lichenostomus virescens</u> , Singing Honeyeater			1		3
<u>L. leucotis</u> , White-eared Honeyeater	1		1	1	1
<u>L. ornatus</u> , Yellow-plumed Honeyeater				4	
<u>Melithreptus brevirostris</u> , Brown-headed Honeyeater				3	
<u>Lichmera indistincta</u> , Brown Honeyeater			1		2
<u>Phylidonyris nigra</u> , White-cheeked Honeyeater		1	14		
<u>Acanthorhynchus superciliosus</u> , Western Spinebill					1
EPHIANURIDAE					
<u>Epthianura albifrons</u> , White-fronted Chat		2			
PARDALOTIDAE					
<u>Pardalotus striatus</u> , Striated Pardalote		1		12	1
ZOSTEROPIDAE					
<u>Zosterops lateralis</u> , Silvereye			2	10	6
CRACTICIDAE					
<u>Cracticus torquatus</u> , Grey Butcherbird					1
<u>Gymnorhina tibicen</u> , Australian Magpie		12		1	2
<u>Strepera versicolor</u> , Grey Currawong		1		2	3
CORVIDAE					
<u>Corvus coronoides</u> , Australian Raven		5		1	6

TABLE 2     Cont.

VEGETATION CODE	M-Sc <sub>1</sub>	M-H <sub>2</sub>	W <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>
SAMPLING LOCATION	1/1	1/2	1/3	1/4	1/5
MAMMAL SPECIES					
TACHYGLOSSIDAE					
<u>Tachyglossus aculeatus</u> , Short-beaked Echidna	D			D	
PHALANGERIDAE					
<u>Trichosurus vulpecula</u> , Common Brushtail Possum					S
TARSIPEDIDAE					
<u>Tarsipes rostratus</u> , Honey Possum		2			
MACROPODIDAE					
<u>Macropus fuliginosus</u> , Western Grey Kangaroo	S		S	2	3
MURIDAE					
<u>Mus musculus</u> , House Mouse					1
LEPORIDAE					
<u>Oryctolagus cuniculus</u> , Rabbit		S	S		S,D
CANIDAE					
<u>Vulpes vulpes</u> , Fox		S	S		S,D
AMPHIBIANS AND REPTILES					
LEPTODACTYLIDAE                      Ground Frogs					
<u>Heleioporus albopunctatus</u>					7
<u>Limnodynastes dorsalis</u>			4		1
GEKKONIDAE                              Geckos					
<u>Crenadactylus ocellatus</u>		1		1	
<u>Diplodactylus maini</u>				8	
<u>D. spinigerus</u>		2			

TABLE 2      Cont.

VEGETATION CODE	M-Sc <sub>1</sub>	M-H <sub>2</sub>	W <sub>3</sub>	W <sub>1</sub>	W <sub>2</sub>
SAMPLING LOCATION	1/1	1/2	1/3	1/4	1/5
AMPHIBIANS    AND    REPTILES					
<u>D. granariensis</u>				17	
<u>Oedura reticulata</u>				3	
<u>Phyllodactylus marmoratus</u>			2	2	
PYGOPODIDAE                      Legless Lizards					
<u>Delma australis</u>		1	2	1	
AGAMIDAE                          Dragon Lizards					
<u>Pogona m. minor</u>		1			
SCINCIDAE                          Skinks					
<u>Cryptoblepharus plagiocephalus</u>				3	
<u>Lerista distinguenda</u>		1		4	3
<u>Morethia obscura</u>		3	7	1	
<u>Tiliqua r. rugosa</u>		1			
VARANIDAE                          Monitors					
<u>Varanus gouldii</u>			1		
TYPHLOPIDAE                      Blind Snakes					
<u>Ramphotyphlops australis</u>					1

## 3.2 RESERVE 19091

## VEGETATION AND SOILS

Three major vegetation formations were chosen for intensive sampling. A description extracted from Backshall (1985) for each Sampling Location follows:

Sampling Location 4/1

Open woodland - mallee ( $W_2$ ).

Description: An open low woodland of Eucalyptus astringens mixed (patchily) with a shrub mallee of E. transcontinentalis, E. uncinata, E. celastroides sp. nov. with a patchy and variable tall shrub understorey, including Leptospermum erubescens, Dodonaea bursarifolia, Melaleuca acuminata, M. spicigera, M. adnata, M. uncinata, Acacia glaucoptera, Dodonaea amblyophylla, Phebalium filifolium, Daviesia benthammi ssp. benthammi.

Soil is a brown (10 yr 5/3) sandy clay.

Sampling Location 4/2

Low forest ( $F_1$ ).

Description: Low forest A of Eucalyptus astringens (dominant) with E. gardnera and occasional E. falcata. Understorey is sparse or absent.

No soil description available.



Sampling Location 4/3

Mallee-heath (M-H<sub>1</sub>).

Description: Very open shrub mallee of Eucalyptus foecunda, E. albida, over low heath C, that includes Hakea incrassata, Hakea aff erinaceae, Melaleuca pentagona, M. cuneata, Dodonaea amblyophylla, Dryandra cirsioides, Calytrix leshenaultii, Chorizema asciculare, over open sedges Lepidosperma drummondii, L. (Unnamed taxa D.U. 8553), Harperia lateriflora, Restio sphacelata.

Soil is clayey sand.

FIGURE 2 Diagram of Reserve 19091 showing Sampling Locations and vegetation associations surveyed for vertebrates.

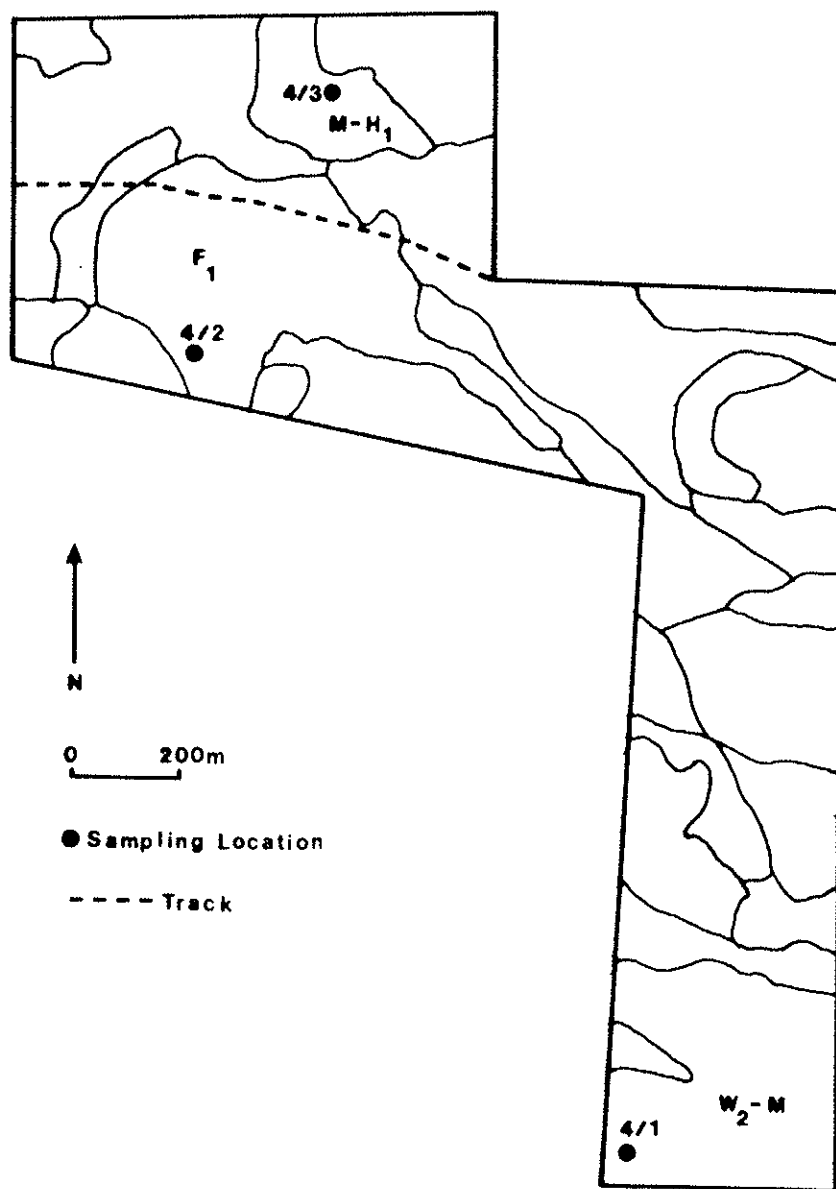


TABLE 3     Birds, mammals, amphibians and reptiles recorded in the vegetation associations of Reserve 19091.

N = unused nest;    S = scats;    D = diggings

VEGETATION CODE	W <sub>2</sub> -M	F <sub>1</sub>	M-H <sub>1</sub>
SAMPLING LOCATION	1/1	1/2	1/3
BIRD SPECIES			
-----			
COLUMBIDAE			
<u>Phaps chalcoptera</u> , Common Bronzewing		1	
<u>Ocyphaps lophotes</u> , Crested Pigeon			1
LORIIDAE			
<u>Glossopsitta porphyrocephala</u> , Purple-crowned Lorikeet	12		2
POLYTELITIDAE			
<u>Nymphicus hollandicus</u> , Cockatiel			16
PLATYCERCIDAE			
<u>Barnadius zonarius</u> , Port Lincoln Ringneck	1	14	5
STRIGIDAE			
<u>Ninox novaeseelandiae</u> , Southern Boobook		1	
AEGOTHELIDAE			
<u>Aegotheles cristatus</u> , Australian Owlet-nightjar		1	1
HIRUNDINIDAE			
<u>Cecropis nigricans</u> , Tree Martin		4	
MUSCICAPIDAE			
<u>Pachycephala pectoralis</u> , Golden Whistler		1	
<u>Colluricincla harmonica</u> , Grey Shrike-thrush		1	
<u>Rhipidura leucophrys</u> , Willie Wagtail	1	1	

TABLE 3 Cont.

VEGETATION CODE	W <sub>2</sub> -M	F <sub>1</sub>	M-H <sub>1</sub>
SAMPLING LOCATION	1/1	1/2	1/3
BIRD SPECIES			
TIMALIIDAE			
<u>Pomatostomus superciliosus</u> , White-browed Babbler	1,N		
ACANTHIZIDAE			
<u>Smicrornis brevirostris</u> , Weebill	3	3	7
<u>Acanthiza uropygialis</u> , Chestnut-rumped Thornbill			9
<u>A. chrysorrhoa</u> , Yellow-rumped Thornbill			4
NEOSITTIDAE			
<u>Daphoenositta chrysoptera</u> , Varied Sittella			3
MELIPHAGIDAE			
<u>Lichenostomus virescens</u> , Singing Honeyeater			2
<u>L. leucotis</u> , White-eared Honeyeater	2	1	1
<u>L. ornatus</u> , Yellow-plumed Honeyeater		1	
<u>Phylidonyris melanops</u> , Tawny-crowned Honeyeater			1
PARDALOTIDAE			
<u>Pardalotus punctatus</u> , Spotted Pardalote		5	
<u>P. striatus</u> , Striated Pardalote	3	1	2
ZOSTEROPIDAE			
<u>Zosterops lateralis</u> , Silvereye		2	
ARTAMIDAE			
<u>Artamus cyanopterus</u> , Dusky Woodswallow			1

TABLE 3     Cont.

VEGETATION CODE	W <sub>2</sub> -M	F <sub>1</sub>	M-H <sub>1</sub>
SAMPLING LOCATION	1/1	1/2	1/3
BIRD SPECIES			
-----			
CRACTICIDAE			
<u>Cracticus torquatus</u> , Grey Butcherbird		1	2
<u>Gymnorhina tibicen</u> , Australian Magpie	1	10	3
<u>Strepera versicolor</u> , Grey Currawong		1	1
CORVIDAE			
<u>Corvus coronoides</u> , Australian Raven	1	1	1
MAMMAL SPECIES			
-----			
TACHYGLOSSIDAE			
<u>Tachyglossus aculeatus</u> , Short-beaked Echidna		D	
MACROPODIDAE			
<u>Macropus fuliginosus</u> , Western Grey Kangaroo	S	2	8
CANIDAE			
<u>Vulpes vulpes</u> , Fox	S		S
AMPHIBIANS AND REPTILES			
-----			
GEKKONIDAE	Geckos		
<u>Diplodactylus granariensis</u>	4	1	
<u>Oedura reticulata</u>	3		
<u>Phyllodactylus marmoratus</u>	2		

TABLE 3     Cont.

VEGETATION CODE	W <sub>2</sub> -M	F <sub>1</sub>	M-H <sub>1</sub>
SAMPLING LOCATION	1/1	1/2	1/3
AMPHIBIANS   AND   REPTILES			
-----			
SCINCIDAE	Skinks		
<u>Cryptoblepharus plagiocephalus</u>	1		1
<u>Tiliqua r. rugosa</u>		1	

## 3.3 RESERVE 20069

## VEGETATION AND SOILS

Three major vegetation formations were chosen for intensive sampling. A description extracted from Backshall (1985) for each Sampling Location follows:

Sampling Location 3/1

Scrub-heath (Sc-H<sub>1</sub>).

Description: Low scrub A of Leptospermum erubescens, Hakea baxteri, H. corymbosa, over low heath D including Melaleuca cuneata, M. pentagona, Calytrix sp. Allocasuarina humilis, A. microstachya, over open low sedges Restio sphacelata, Harperia lateriflora, sp. D.U. 8542.

Soil is a light brownish grey (10 yr 6/2) sand.

Sampling Location 3/2

Scrub-heath (Sc-H<sub>3</sub>).

Description: Low scrub A including Xanthorrhoea reflexa, Banksia sphaerocarpa var sphaerocarpa, Dryandra armata, over low heath C, including Melaleuca cuneata, Beaufortia micrantha, Isopogon teretifolius, over dwarf scrub D, with Synaphea polymorpha, Stirlingia tenuifolia, Glischrocaryon? aureum, over very open low sedges Mesomelaena stygia, Lepidobolus preissianus.

Soil is a brownish yellow (10 yr 6/6) clay loam with gravel and emergent stones.

Sampling Location 3/3

Eucalyptus longicornis - E. wandoo woodland (W<sub>2</sub>).

Description: Woodland of Eucalyptus longicornis, E. wandoo over open sedges.

Soil is a brown clay loam.



FIGURE 3 Diagram of Reserve 20069 showing Sampling Locations and vegetation associations surveyed for vertebrates.

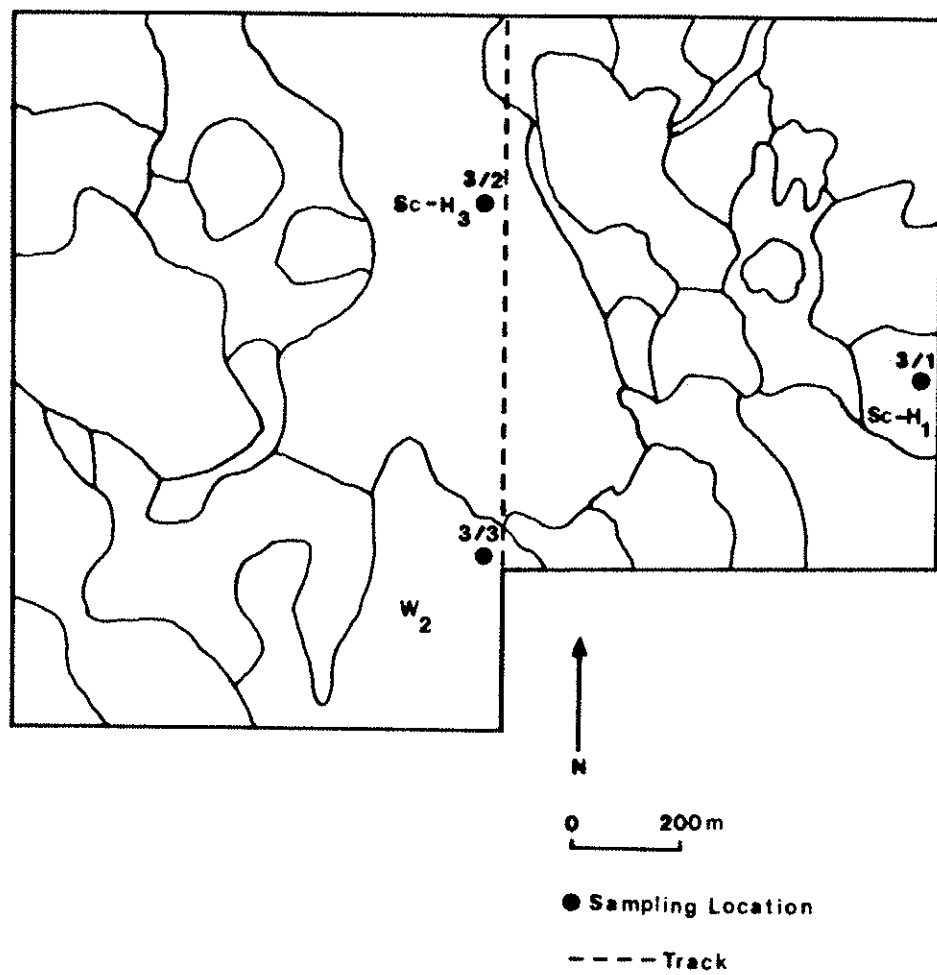


TABLE 4      Birds, mammals, amphibians and reptiles recorded in the vegetation associations of Reserve 20069.

N = unused nest;   S = scats;   D = diggings

VEGETATION CODE	Sc-H <sub>1</sub>	Sc-H <sub>3</sub>	W <sub>2</sub>
SAMPLING LOCATION	3/1	3/2	3/3
BIRD SPECIES			
-----			
ACCIPITRIDAE			
<u>Aquila audax</u> , Wedge-tailed Eagle			N
PHASIANIDAE			
<u>Coturnix novaezealandiae</u> , Stubble Quail			1
COLUMBIDAE			
<u>Phaps chalcoptera</u> , Common Bronzewing			2
LORIIDAE			
<u>Glossopsitta porphyrocephala</u> , Purple-crowned Lorikeet			39
PLATYCERCIDAE			
<u>Barnadius zonarius</u> , Port Lincoln Ringneck	6		8
AEGOTHELIDAE			
<u>Aegotheles cristatus</u> , Australian Owlet-nightjar		2	1
ALCEDINIDAE			
<u>Dacelo novaeguineae</u> , Laughing Kookaburra			2
HIRUNDINIDAE			
<u>Cecropis nigricans</u> , Tree Martin			11
MUSCICAPIDAE			
<u>Petroica goodenovii</u> , Red-capped Robin	2		
<u>Microeca leucophaea</u> , Jacky Winter			3

TABLE 4 Cont.

VEGETATION CODE	Sc-H <sub>1</sub>	Sc-H <sub>3</sub>	W <sub>2</sub>
SAMPLING LOCATION	3/1	3/2	3/3
BIRD SPECIES			
<u>Pachycephala rufiventris</u> , Rufous Whistler			1
<u>Colluricincla harmonica</u> , Grey Shrike-thrush			1
<u>Myiagra inquieta</u> , Restless Flycatcher			1
TIMALIIDAE			
<u>Pomatostomus superciliosus</u> , White-browed Babbler			2,N
ACANTHIZIDAE			
<u>Sericornis frontalis</u> , White-browed Scrubwren	1	2	
<u>Smicrornis brevirostris</u> , Weebill	1	1	4
<u>Acanthiza apicalis</u> , Inland Thornbill	1	2	
<u>A. chrysorrhoa</u> , Yellow-rumped Thornbill	10		
CLIMACTERIDAE			
<u>Climacteris rufa</u> , Rufous Treecreeper			6
MELIPHAGIDAE			
<u>Lichenostomus virescens</u> , Singing Honeyeater			1
<u>L. leucotis</u> , White-eared Honeyeater		1	
<u>L. ornatus</u> , Yellow-plumed Honeyeater			35
<u>Lichmera indistincta</u> , Brown Honeyeater			1
<u>Phylidonyris nigra</u> , White-cheeked Honeyeater		7	4
PARDALOTIDAE			
<u>Pardalotus punctatus</u> , Spotted Pardalote			2
<u>P. striatus</u> , Striated Pardalote			7

TABLE 4 Cont.

VEGETATION CODE	Sc-H <sub>1</sub>	Sc-H <sub>3</sub>	W <sub>2</sub>
SAMPLING LOCATION	3/1	3/2	3/3
BIRD SPECIES			
-----			
GRALLINIDAE			
<u>Grallina cyanoleuca</u> , Australian Magpie-lark			1
ARTAMIDAE			
<u>Artamus cyanopterus</u> , Dusky Woodswallow			4
CRACTICIDAE			
<u>Gymnorhina tibicen</u> , Australian Magpie	1		8
<u>Strepera versicolor</u> , Grey Currawong			2
CORVIDAE			
<u>Corvus coronoides</u> , Australian Raven			3
MAMMAL SPECIES			
-----			
TACHYGLOSSIDAE			
<u>Tachyglossus aculeatus</u> , Short-beaked Echidna		D	D
PHALANGERIDAE			
<u>Trichosurus vulpecula</u> , Common Brushtail Possum			1
BURRAMYIDAE			
<u>Cercartetus concinnus</u> , Western Pygmy-possum			1
TARSIPEDIDAE			
<u>Tarsipes rostratus</u> , Honey Possum		1	

TABLE 4     Cont.

VEGETATION CODE	Sc-H <sub>1</sub>	Sc-H <sub>3</sub>	W <sub>2</sub>
SAMPLING LOCATION	3/1	3/2	3/3
MAMMAL SPECIES			
MACROPODIDAE			
<u>Macropus irma</u> , Western Brush Wallaby		1	
<u>M. fuliginosus</u> , Western Grey Kangaroo	6	4	S
LEPORIDAE			
<u>Oryctolagus cuniculus</u> , Rabbit	S	1	
CANIDAE			
<u>Vulpes vulpes</u> , Fox		S	1
BOVIDAE			
<u>Bos taurus</u> , Domestic Cattle	3		
AMPHIBIANS AND REPTILES			
LEPTODACTYLIDAE                      Ground Frogs			
<u>Heleioporus albopunctatus</u>	1		
GEKKONIDAE                              Geckos			
<u>Crenadactylus ocellatus</u>			1
<u>Diplodactylus maini</u>			2
<u>D. spinigerus</u>	1		
<u>D. granariensis</u>			1
<u>Phyllodactylus marmoratus</u>			4
SCINCIDAE                              Skinks			
<u>Cryptoblepharus plagiocephalus</u>			2
VARANIDAE                              Monitors			
<u>Varanus gouldii</u>	1		

## 3.4 RESERVE 20070

## VEGETATION AND SOILS

Three major vegetation formations were chosen for intensive sampling. A description extracted from Backshall (1985) for each Sampling Location follows:

Sampling Location 2/1

Eucalyptus wandoo woodland (W<sub>4</sub>).

No detailed description is available in Backshall (1985), but the following information for W<sub>1</sub> (Loc. 3) in Reserve 19085, the most similar vegetation formation to that under consideration, is relevant:

Eucalyptus wandoo - E. longicornis woodland (W<sub>1</sub>).

Description: Woodland of Eucalyptus wandoo - E. longicornis over open scrub of Allocasuarina huegeliana, Acacia acuminata, over open low scrub of Gastrolobium crassifolium, over very open low sedges Borya (unnamed taxa) Lepidosperma gracile.

No soil description available.

Sampling Location 2/2

Eucalyptus astringens low forest (F<sub>1</sub>).

Description: A low forest dominated by Eucalyptus astringens, understorey very sparse or absent. E. gardneri (mallet) occurs near periphery of stands or on erosion slopes.

Soils are sands or loamy sands with laterite exposed or near-surface.

Sampling Location 2/3

Heath (H<sub>2</sub>).

Description: A heath B of Leptospermum erubescens, Eremaea pauciflora, Dryandra armata, over low heath C including Daviesia juncea, Banksia sphaerocarpa var sphaerocarpa, B. baueri, Petrophile ericifolia, P. squamata, Hakea corymbosa, over low heath D of Microcarys lenticularis, Phylota gracilis, Isopogon villosus, Hakea incrassata, Calytrix sp. over open low sedges Caustis dioica, Lyginia barbata, Mesomelaena preissii, sp. D.U. 8542.

Soil is pale brown (10 yr 6/3) fine sand.

FIGURE 4 Diagram of Reserve 20070 showing Sampling Locations and vegetation associations surveyed for vertebrates.

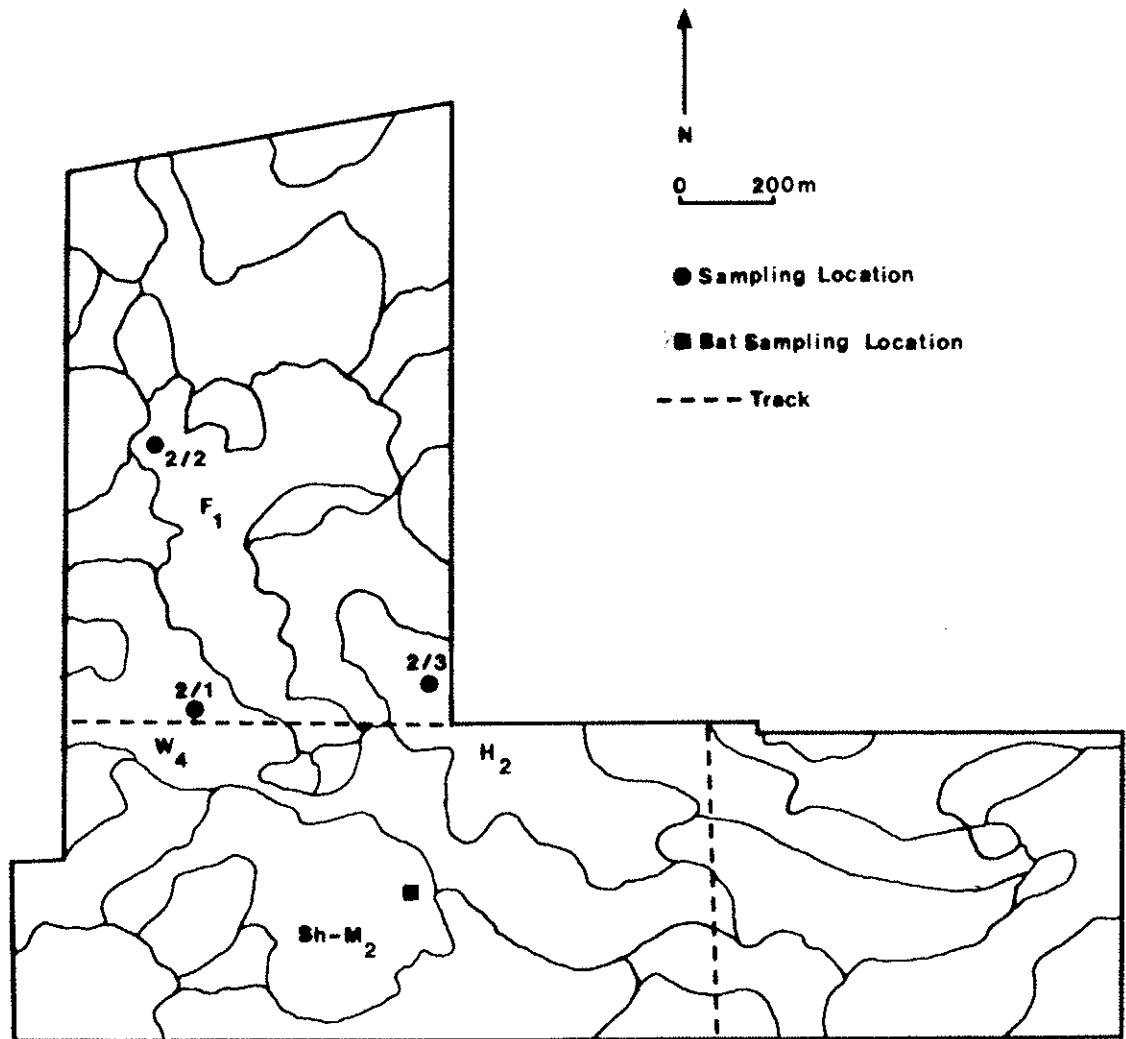




TABLE 5      Birds, mammals, amphibians and reptiles recorded in the vegetation associations of Reserve 20070.

N = unused nest;    S = scats;    D = diggings

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
BIRD SPECIES				
-----				
ACCIPITRIDAE				
<u>Aquila audax</u> ,    Wedge-tailed Eagle	1			
COLUMBIDAE				
<u>Phaps chalcoptera</u> ,    Common Bronzewing			1	2
<u>Ocyphaps lophotes</u> ,    Crested Pigeon	4			
CACATUIDAE				
<u>Cacatua roseicapilla</u> ,    Galah	7	2		
LORIIDAE				
<u>Glossopsitta porphyrocephala</u> , Purple-crowned Lorikeet	16	3		
PLATYCERCIDAE				
<u>Platycercus icterotis</u> , Western Rosella	2	2		
<u>Barnadius zonarius</u> , Port Lincoln Ringneck	14	18	3	2
<u>Neophema elegans</u> ,    Elegant Parrot	1			
PODARGIDAE				
<u>Podargus strigoides</u> ,    Tawny Frogmouth	3	1		1
AEGOTHELIDAE				
<u>Aegotheles cristatus</u> , Australian Owlet-nightjar	1	2	1	
ALCEDINIDAE				
<u>Dacelo novaeguineae</u> , Laughing Kookaburra		1		

TABLE 5 Cont.

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
BIRD SPECIES				
HIRUNDINIDAE				
<u>Cecropis nigricans</u> , Tree Martin	3	5		
CAMPEPHAGIDAE				
<u>Coracina novaehollandiae</u> , Black-faced Cuckoo-shrike	2			
MUSCICAPIDAE				
<u>Petroica multicolor</u> , Scarlet Robin	1			
<u>P. goodenovii</u> , Red-capped Robin	2	1	1	1
<u>Microeca leucophaea</u> , Jacky Winter	4	1		
<u>Pachycephala pectoralis</u> , Golden Whistler	2			
<u>P. rufiventris</u> , Rufous Whistler	4			
<u>Colluricincla harmonica</u> , Grey Shrike-thrush	1			
<u>Myiagra inquieta</u> , Restless Flycatcher	2	2		
<u>Rhipidura fuliginosa</u> , Grey Fantail	1	1		
<u>R. leucophrys</u> , Willie Wagtail		1		1
TIMALIIDAE				
<u>Pomatostomus superciliosus</u> , White-browed Babbler	4			
ACANTHIZIDAE				
<u>Sericornis frontalis</u> , White-browed Scrubwren				2
<u>Smicrornis brevirostris</u> , Weebill	13	4	1	
<u>Gerygone fusca</u> , Western Gerygone	2	5		
<u>Acanthiza apicalis</u> , Inland Thornbill		2		
<u>A. uropygialis</u> , Chestnut-rumped Thornbill	5			
<u>A. chrysorrhoa</u> , Yellow-rumped Thornbill	12	10		

TABLE 5     Cont.

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
BIRD SPECIES				
NEOSITTIDAE				
<u>Daphoenositta chrysoptera</u> , Varied Sittella	6			
CLIMACTERIDAE				
<u>Climacteris rufa</u> , Rufous Treecreeper		1		
MELIPHAGIDAE				
<u>Anthochaera carunculata</u> , Red Wattlebird	13	3	7	
<u>Lichenostomus virescens</u> , Singing Honeyeater	5			
<u>L. leucotis</u> , White-eared Honeyeater	4			
<u>L. ornatus</u> , Yellow-plumed Honeyeater		31		
<u>Melithreptus brevirostris</u> , Brown-headed Honeyeater	11			
<u>Lichmera indistincta</u> , Brown Honeyeater	13	4		
<u>Phylidonyris nigra</u> , White-cheeked Honeyeater				4
DICAEDIDAE				
<u>Dicaeum hirundinaceum</u> , Mistletoebird	1			
PARDALOTIDAE				
<u>Pardalotus punctatus</u> , Spotted Pardalote	3			
<u>P. striatus</u> , Striated Pardalote	9	1		
ZOSTEROPIDAE				
<u>Zosterops lateralis</u> , Silvereye	4	6		4
GRALLINIDAE				
<u>Grallina cyanoleuca</u> , Australian Magpie-lark			2	

TABLE 5 Cont.

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
BIRD SPECIES				
ARTAMIDAE				
<u>Artamus cyanopterus</u> , Dusky Woodswallow		6		
CRACTICIDAE				
<u>Cracticus torquatus</u> , Grey Butcherbird	5			
<u>Gymnorhina tibicen</u> , Australian Magpie	7		5	
<u>Strepera versicolor</u> , Grey Currawong	8	1	2	
CORVIDAE				
<u>Corvus coronoides</u> , Australian Raven	13		6	
MAMMAL SPECIES				
TACHYGLOSSIDAE				
<u>Tachyglossus aculeatus</u> , Short-beaked Echidna		D	D	
PHALANGERIDAE				
<u>Trichosurus vulpecula</u> , Common Brushtail Possum	2	3		
BURRAMYIDAE				
<u>Cercartetus concinnus</u> , Western Pygmy-possum	1			
MACROPODIDAE				
<u>Macropus irma</u> , Western Brush Wallaby				1
<u>M. fuliginosus</u> , Western Grey Kangaroo	1		2	1

TABLE 5 Cont.

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
MAMMAL SPECIES				
VESPERTILIONIDAE				
<u>Nyctophilus geoffroyi</u> , Lesser Long-eared Bat		5		
<u>Chalinolobus morio</u> , Chocolate Wattled Bat		1		
<u>Eptesicus regulus</u> , King River Eptesicus		5		
LEPORIDAE				
<u>Oryctolagus cuniculus</u> , Rabbit	S			S
CANIDAE				
<u>Vulpes vulpes</u> , Fox				S
AMPHIBIANS AND REPTILES				
LEPTODACTYLIDAE Ground Frogs				
<u>Heleioporus albopunctatus</u>				24
<u>Limnodynastes dorsalis</u>				12
<u>Neobatrachus</u> sp.				4
<u>Ranidella pseudinsignifera</u>				1
GEKKONIDAE Geckos				
<u>Crenadactylus ocellatus</u>		5	2	
<u>Diplodactylus maini</u>	2	11		
<u>D. spinigerus</u>			1	
<u>D. granariensis</u>	7	14	5	
<u>Oedura reticulata</u>	1		1	
<u>Phyllodactylus marmoratus</u>		1		
<u>Phyllurus milii</u>		9		

TABLE 5     Cont.

VEGETATION CODE	W <sub>4</sub>	W <sub>1</sub> W <sub>3</sub>	F <sub>1</sub>	H <sub>2</sub>
SAMPLING LOCATION	3/1		3/2	3/3
AMPHIBIANS    AND    REPTILES				
-----				
PYGOPODIDAE                      Legless Lizards				
<u>Delma australis</u>	1			
<u>D. fraseri</u>				1
SCINCIDAE                                      Skinks				
<u>Cryptoblepharus plagiocephalus</u>	3	3		
<u>Lerista distinguenda</u>	1			1
<u>Morethia obscura</u>	1			2
<u>Tiliqua r. rugosa</u>	3	2	5	
VARANIDAE                                      Monitors				
<u>Varanus gouldii</u>				1

4.0

D I S C U S S I O N

## 4.1 A LOCAL PERSPECTIVE

A combined total of 64 species of bird, 13 native and 4 introduced mammals, 4 amphibians and 16 reptiles were recorded on the reserves and the immediately adjacent farmland. Considering that sampling did not take place at the optimum period, the survey was fairly productive.

Comparisons can be made with the nearby series of 4 contiguous reserves (19096, 19083, 19082, 10473 - total area 1061 ha) sampled by the Western Australian Museum in September/October 1974 and April 1975 (Kitchener et al., 1978).

**Birds**

The Museum surveys recorded 82 species of bird, 23 of which were not recorded by us in Reserves 19085, 19091, 20069, 20070 (total area 888 ha). While the size and separation of these reserves may have some bearing on their individual lists (Kitchener et al., 1982a) it is more likely that seasonal effects and the secretive habits of some birds have caused the discrepancy between the surveys. For example, 17 of the 23 species recorded only by the Museum team were listed for spring 1974 and represent seasonal migrants unlikely to be recorded during the current survey (Dell, 1978). The remaining species are listed as uncommon. Dell (1978) records 7 raptors not seen by us; the relative abundance of the House Mouse Mus musculus partially accounts for this, since this prey species was very common during the Museum surveys but scarce during the present one.

The CALM survey has added a further 5 species to the area list: Stubble Quail, Crested Pigeon, Cockatiel, Shy Hylacola and Mistletoebird. The Southern Scrub-robin was not listed by us but

a series of short calls possibly attributable to this bird was heard in the mallee scrub association on reserve 19085 (Sampling Location 1/1). Further survey work should confirm this provisional record.

### **Mammals**

Mammal results were typically poor. Three species recorded during the Museum surveys were not located by us: Red-tailed Wambenger, White-tailed Dunnart and Gould's Wattled Bat. There is no apparent reason why at least some of the reserves should not support these species.

Three further mammals have been added to the area list: Chocolate Wattled Bat, Lesser Long-eared Bat, European Fox. The presence of the Common Brushtail Possum on at least 3 reserves is of interest since, although not entirely relevant to the Wheatbelt, the Ninox team has not recorded this species in six years' survey work in the eastern Darling Range. Their presence in the Wheatbelt reserves is of some conservation importance to the Western Australian population of this species.

### **Amphibians and reptiles**

Very few reptiles were seen diurnally active, suggesting that the prevailing weather conditions had some adverse effect on trapline and foraging results. The Museum list contains 11 amphibians and reptiles not recorded by us; some of these are a direct result of a further Museum survey period in spring while others can be related to the vagaries of sampling. We believe that all species listed for the Museum surveys should be found on all or most of the reserves.

Two further species have been added: Ranidella pseudinsignifera and Phylurus milii. The latter was found only on small granite exposures on Reserve 20070 and is probably restricted to this type of habitat on all reserves (G. Harold, pers. comm.).



In total the combined list of vertebrates from the reserves represents a typical suite of Wheatbelt fauna with no unusual inclusions or significant extensions of geographic range. Further survey effort in a different season should extend the number of species substantially.

#### 4.2 ASSESSMENT OF INDIVIDUAL RESERVES

The results of the survey show that Reserve 20070 with 73 vertebrates (excluding bats) was the richest area, followed in descending order of species richness by Reserve 19085 (65 species), Reserve 20069 (47 species) and Reserve 19091 (35 species). This was a short duration, single season survey and was not conducted systematically in the strictest sense. However, there appears to be a correlation between reserve area and number of vertebrates recorded. Table 6 lists the reserves in descending order of area, and the numbers of species present of the various faunal groups.

TABLE 6 Number of vertebrate species in each reserve tabulated against reserve area and number of vegetation formations. (Bats and stock animals excluded.)

RESERVE #	20070	19085	20069	19091
Area (ha)	275	275	199	139
Formations	16	19	12	12
Birds	48	43	31	28
Mammals	7	8	8	2
Amphibians	4	2	1	0
Reptiles	14	12	7	5
Total species	73	65	47	35

A trend towards lower numbers of species in reserves of smaller area is apparent. The mammal data does not seriously contradict this since due to sampling difficulties it is likely to be incomplete. A further influence on species richness may be the amount of open mixed Eucalypt woodland present. Backshall (1985) maps this formation as being much more extensive in Reserves 20070 and 19085 - the two with the highest bird species count (Tables 2, 5, 6). Kitchener et al. (1982a) state that woodland formations in the Wheatbelt are the most important areas for resident and transient bird species. They also consider that the number of lizard species correlates highly with the numbers of plant associations present; data from the present survey supports this (Table 6). Similarly they show that, although other variables affect different bird species groups, reserve area is the most important determinant of the numbers of bird species present.

All the reserves surveyed were smaller than 1500 ha, the minimum reserve area required to conserve a local avifauna (Kitchener et al. 1980a). However, these authors believe that a reserve of 80 ha can be an important avifaunal sanctuary in the Wheatbelt. For lizards and mammals 30 ha can act as an important refuge (Kitchener et al. 1980a, 1980b). The main importance of the four reserves surveyed is that three of them, at least, are in close proximity, not only to one another, but to the series of contiguous reserves to the north. Reserve 19091 is also close to several other reserves. This linked system is of importance to birds, and between them the reserves have the capacity to support a large proportion of the total vertebrate fauna of the Wheatbelt.

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6.0

APPENDICES

APPENDIX 1 Combined vertebrate fauna list for Reserves 19085, 19091, 20069, 20070 and adjacent cleared land.

RESERVE NO./CLEARED LAND Location code	19085 1	19091 4	20069 3	20070 2	Cleared land
-----					
BIRD SPECIES					
-----					
ANATIDAE					
<u>Tadorna tadornoides</u> , Australian Shelduck	X				X
<u>Chenonetta jubata</u> , Maned Duck					X
ACCIPITRIDAE					
<u>Aquila audax</u> , Wedge-tailed Eagle	X		X	X	X
FALCONIDAE					
<u>Falco berigora</u> , Brown Falcon					X
PHASIANIDAE					
<u>Coturnix novaezealandiae</u> , Stubble Quail			X		X
COLUMBIDAE					
<u>Phaps chalcoptera</u> , Common Bronzewing	X	X	X	X	X
<u>Ocyphaps lophotes</u> , Crested Pigeon	X	X		X	X
CACATUIDAE					
<u>Cacatua roseicapilla</u> , Galah				X	X
LORIIDAE					
<u>Glossopsitta porphyrocephala</u> , Purple-crowned Lorikeet	X	X	X	X	
POLYTELITIDAE					
<u>Nymphicus hollandicus</u> , Cockatiel		X			
PLATYCERCIDAE					
<u>Platycercus icterotis</u> , Western Rosella				X	
<u>Barnadius zonarius</u> , Port Lincoln Ringneck	X	X	X	X	X
<u>Neophema elegans</u> , Elegant Parrot			X	X	

## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND	19085	19091	20069	20070	Cleared
Location code	1	4	3	2	land
-----					
BIRD SPECIES					
-----					
CUCULIDAE					
<u>Cuculus pyrrhophanus</u> , Fan-tailed Cuckoo	X				
STRIGIDAE					
<u>Ninox novaeseelandiae</u> , Southern Boobook		X			
PODARGIDAE					
<u>Podargus strigoides</u> , Tawny Frogmouth				X	
AEGOTHELIDAE					
<u>Aegotheles cristatus</u> , Australian Owlet-nightjar	X	X	X	X	
ALCEDINIDAE					
<u>Dacelo novaeguineae</u> , Laughing Kookaburra	X		X	X	
<u>Halcyon sancta</u> , Sacred Kingfisher					X
HIRUNDINIDAE					
<u>Cecropis nigricans</u> , Tree Martin	X	X	X	X	
MOTACILLIDAE					
<u>Anthus novaeseelandiae</u> , Richard's Pipit					X
CAMPEPHAGIDAE					
<u>Coracina novaehollandiae</u> , Black-faced Cuckoo-shrike	X			X	
MUSCICAPIDAE					
<u>Petroica multicolor</u> , Scarlet Robin				X	
<u>P. goodenovii</u> , Red-capped Robin	X		X	X	
<u>Microeca leucophaea</u> , Jacky Winter	X		X	X	X
<u>Pachycephala pectoralis</u> , Golden Whistler	X	X		X	
<u>P. rufiventris</u> , Rufous Whistler	X		X	X	

## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND Location code	19085 1	19091 4	20069 3	20070 2	Cleared land
-----					
BIRD SPECIES					
-----					
<u>Colluricincla harmonica</u> ,					
Grey Shrike-thrush	X	X	X	X	
<u>Myiagra inquieta</u> ,					
Restless Flycatcher	X		X	X	
<u>Rhipidura fuliginosa</u> , Grey Fantail				X	
<u>R. leucophrys</u> , Willie Wagtail	X	X		X	X
TIMALIIDAE					
<u>Pomatostomus superciliosus</u> ,					
White-browed Babbler	X	X	X	X	X
ACANTHIZIDAE					
<u>Sericornis frontalis</u> ,					
White-browed Scrubwren	X		X	X	
<u>S. cautus</u> , Shy Hylacola	X				
<u>S. fuliginosus</u> , Calamanthus	X				
<u>Smicrornis brevirostris</u> , Weebill	X	X	X	X	
<u>Gerygone fusca</u> , Western Gerygone	X			X	
<u>Acanthiza apicalis</u> , Inland Thornbill	X		X	X	
<u>A. uropygialis</u> ,					
Chestnut-rumped Thornbill	X	X		X	
<u>A. chrysorrhoa</u> ,					
Yellow-rumped Thornbill	X	X	X	X	
NEOSITTIDAE					
<u>Daphoenositta chrysoptera</u> ,					
Varied Sittella		X		X	
CLIMACTERIDAE					
<u>Climacteris rufa</u> , Rufous Treecreeper	X		X	X	
MELIPHAGIDAE					
<u>Anthochaera carunculata</u> ,					
Red Wattlebird	X			X	X
<u>Manorina flavigula</u> ,					
Yellow-throated Miner					X
<u>Lichenostomus virescens</u> ,					
Singing Honeyeater	X	X	X	X	
<u>L. leucotis</u> , White-eared Honeyeater	X	X	X	X	

## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND Location code	19085 1	19091 4	20069 3	20070 2	Cleared land
-----					
BIRD SPECIES					
-----					
<u>L. ornatus</u> ,					
Yellow-plumed Honeyeater	X	X	X	X	
<u>Melithreptus brevirostris</u> ,					
Brown-headed Honeyeater	X			X	
<u>Lichmera indistincta</u> ,					
Brown Honeyeater	X		X	X	
<u>Phylidonyris nigra</u> ,					
White-cheeked Honeyeater	X		X	X	
<u>P. melanops</u> ,					
Tawny-crowned Honeyeater		X			
<u>Acanthorhynchus superciliosus</u> ,					
Western Spinebill	X				
EPHIANURIDAE					
<u>Epthianura albifrons</u> ,					
White-fronted Chat	X				X
DICAEDIDAE					
<u>Dicaeum hirundinaceum</u> , Mistletoebird				X	
PARDALOTIDAE					
<u>Pardalotus punctatus</u> ,					
Spotted Pardalote		X	X	X	
<u>P. striatus</u> , Striated Pardalote	X	X	X	X	
ZOSTEROPIDAE					
<u>Zosterops lateralis</u> , Silvereye	X	X		X	
GRALLINIDAE					
<u>Grallina cyanoleuca</u> ,					
Australian Magpie-lark			X	X	X
ARTAMIDAE					
<u>Artamus cinereus</u> ,					
Black-faced Woodswallow					X
<u>A. cyanopterus</u> , Dusky Woodswallow		X	X	X	X



## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND	19085	19091	20069	20070	Cleared
Location code	1	4	3	2	land

## BIRD SPECIES

## CRACTICIDAE

Cracticus torquatus,

Grey Butcherbird

X	X		X	X
---	---	--	---	---

Gymnorhina tibicen,

Australian Magpie

X	X	X	X	X
---	---	---	---	---

Strepera versicolor, Grey Currawong

X	X	X	X	X
---	---	---	---	---

## CORVIDAE

Corvus coronoides, Australian Raven

X	X	X	X	X
---	---	---	---	---

Total number of species

43	28	31	48
----	----	----	----

## MAMMAL SPECIES

## TACHYGLOSSIDAE

Tachyglossus aculeatus,

Short-beaked Echidna

X		X	X
---	--	---	---

## PHALANGERIDAE

Trichosurus vulpecula,

Common Brushtail Possum

X		X	X
---	--	---	---

## BURRAMYIDAE

Cercartetus concinnus,

Western Pygmy-possum

X		X	X
---	--	---	---

## TARSIPEDIDAE

Tarsipes rostratus, Honey Possum

X		X
---	--	---

## MACROPODIDAE

Macropus irma,

Western Brush Wallaby

	X	X
--	---	---

M. fuliginosus,

Western Grey Kangaroo

X	X	X	X
---	---	---	---

## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND	19085	19091	20069	20070	Cleared
Location code	1	4	3	2	land

## MAMMAL SPECIES

## VESPERTILIONIDAE

Nyctophilus geoffroyi,

Lesser Long-eared Bat

X

Chalinolobus morio,

Chocolate Wattled Bat

X

Eptesicus regulus,

King River Eptesicus

X

## MURIDAE

Mus musculus, House Mouse

X

## LEPORIDAE

Oryctolagus cuniculus, Rabbit

X

X

X

## CANIDAE

Vulpes vulpes, Fox

X

X

X

X

## BOVIDAE

Bos taurus, Domestic Cattle

X

Total number of species

8

2

9

10

## AMPHIBIANS AND REPTILES

## LEPTODACTYLIDAE

## Ground Frogs

Heleioporus albopunctatus

X

X

X

Limnodynastes dorsalis

X

X

Neobatrachus sp.

X

Ranidella pseudinsignifera

X

## GEKKONIDAE

## Geckos

Crenadactylus ocellatus

X

X

X

Diplodactylus maini

X

X

D. spinigerus

X

X

X

## APPENDIX 1 Cont

RESERVE NO./CLEARED LAND	19085	19091	20069	20070	Cleared
Location code	1	4	3	2	land
-----					
AMPHIBIANS AND REPTILES					
-----					
<u>D. granariensis</u>	X	X	X	X	
<u>Oedura reticulata</u>	X	X		X	
<u>Phyllodactylus marmoratus</u>	X	X	X	X	
<u>Phyllurus milii</u>				X	
PYGOPODIDAE					
Legless Lizards					
<u>Delma australis</u>	X			X	
<u>D. fraseri</u>				X	
AGAMIDAE					
Dragon Lizards					
<u>Pogona m. minor</u>	X				
SCINCIDAE					
Skinks					
<u>Cryptoblepharus plagiocephalus</u>	X	X	X	X	
<u>Lerista distinguenda</u>	X			X	
<u>Morethia obscura</u>	X			X	
<u>Tiliqua r. rugosa</u>	X	X		X	
VARANIDAE					
Monitors					
<u>Varanus gouldii</u>			X	X	
TYPHLOPIDAE					
Blind Snakes					
<u>Ramphotyphlops australis</u>	X				
-----					
Total number of species	14	5	8	18	

APPENDIX 2      Contents of 7 Wedge-tailed Eagle casts found under a  
nest at Sampling Location 3/3, Reserve 20069.

Rabbit Oryctolagus cuniculus - jaw, teeth, fur.

Sheep Ovis aries - wool, teeth.

Brush Wallaby Macropus irma - partial skull, fur.

Common Brushtail Possum Trichosurus vulpecula - jaw, fur.

Australian Raven Corvus coronoides - feathers, feet.

Port Lincoln Ringneck Barnardius zonarius - beaks, feathers.

APPENDIX 3      Location of capped pit-traps left in position for future surveys.

All traplines are marked with blue and green tags on both sides of the firebreak or track.

RESERVE 20070

Km

- 0.0 Enter reserve at north-west corner, turn south.
- 1.2 Turn east along internal firebreak.
- 1.55 Sampling Location 2/1 - 80 m north of firebreak. Wandoo woodland.
- 2.1 Turn north.
- 2.2 Sampling Location 2/3 - 20 m west of firebreak. Heath.
- 3.4 Exit from reserve.

RESERVE 20069

Km

- 0.0 Enter reserve at eastern boundary farm gate and turn north.
- 0.8 Turn west along boundary.
- 1.6 Turn south along internal firebreak.
- 1.95 Sampling Location 3/2 - 5 m west of firebreak. Heath.
- 2.55 Sampling Location 3/3 - 50 m west of firebreak. Morrel woodland.
- 2.6 Turn east.
- 3.3 Turn north.
- 3.55 Exit at entry point.

RESERVE 19085

Km

- 0.0 Enter reserve at north-eastern corner and travel south.
- 1.1 Turn west.
- 1.6 Turn north-west on to internal firebreak.
- 2.2 Sampling Location 1/3 - 5 m west of firebreak. Banksia woodland.
- 2.9 Turn west.

- 3.6 Turn south on to internal firebreak.
- 3.9 Sampling Location 1/2 - 15 m west of firebreak. Mallee heath.
- 4.4 Sampling Location 1/4 - 120 m east of firebreak. Wandoo woodland.
- 4.9 Turn west.
- 6.3 Turn north.
- 7.3 Exit from reserve.

#### RESERVE 19091

##### Km

- 0.0 Enter reserve at north-eastern corner and travel west.
- 0.6 Turn north.
- 1.1 Turn west.
- 1.35 Sampling Location 4/3 - 120 m south of firebreak. Mallee heath.
- 2.0 Turn south.
- 2.25 Cross central firebreak.
- 2.6 Turn east.
- 2.95 Sampling Location 4/2 - 55 m north of firebreak. Mallet forest.
- 3.8 Turn north.
- 4.95 Sampling Location 4/1 - 25 m east of firebreak. Mallee woodland.
- 5.0 Turn east.
- 5.45 Exit from reserve.

Sampling Location 1/5, the Allocasuarina/Banksia forest on Reserve 19085 has not been left in position. We believe that this is typical Phascogale calura habitat and should be trapped intensively with Elliott traps.

Opportunistic bird sampling at Sampling Location 1/1, Mallee scrub, should confirm the presence of the Southern Scrub Robin on Reserve 19085 (see Section 4.1).