



Western  
Australian  
Wildlife  
Authority

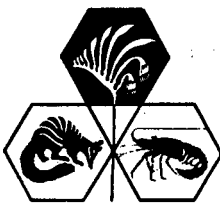
**ANNUAL  
REPORT  
1980**



COVER:

Part of Two Peoples Bay Nature Reserve -  
a Nature Reserve vested in the  
Western Australian Wildlife Authority.

Photo: Ian G. Crook



DEPARTMENT OF FISHERIES AND WILDLIFE  
108 Adelaide Terrace, Perth  
Western Australia.

**Western Australian  
Wildlife Authority**

**ANNUAL REPORT  
1980**

Published by the Director of Fisheries and Wildlife, Perth, under the authority of  
the Hon. Minister for Fisheries and Wildlife


DEPARTMENT OF FISHERIES AND WILDLIFE

108 Adelaide Terrace,  
Perth, W.A.

The Honourable G.E. Masters  
Minister for Fisheries and Wildlife

Sir,

In accordance with the requirements of Sub-section (5) of Section 7 of the Wildlife Conservation Act, I have pleasure in submitting to you my report on the proceedings and work of the Western Australian Wildlife Authority for the period ending June 30, 1980, together with comments relating to the administration of this Act.

  
(B.K. Bowen)  
CHAIRMAN

Western Australian Wildlife Authority

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DEPARTMENT OF FISHERIES AND WILDLIFE  
WESTERN AUSTRALIAN WILDLIFE AUTHORITY

1 WESTERN AUSTRALIAN WILDLIFE AUTHORITY AND COMMITTEES

1. MEMBERSHIP

Names and Organisations

*Ex officio* Members -

Chairman - B.K. Bowen, Director, Department of  
Fisheries and Wildlife

Mr A.J. Mearns - Conservator of Wildlife, Department  
of Fisheries and Wildlife

Mr B.J. Beggs - Conservator of Forests  
Deputy - Mr P.J. McNamara, Deputy Conservator

Mr A.R. Tomlinson - Chief Agriculture Protection  
Officer, Agriculture Protection Board

Appointed Members -

Mr R. Aitken - Retired School Teacher

Mr N.A. Beeck - Farmer

Dr S.J.J. Davies - Zoologist - Officer in Charge -  
CSIRO, Division of Wildlife Research

Dr J.W. Green - Botanist - Curator, Western Australian  
Herbarium

Mr H.G. Hall - Farmer

Dr D. Kitchener - Curator of Mammals, Western Australian  
Museum

Professor A.R. Main - Zoologist, University of  
Western Australia

Executive Officer

Mr D.W. Arnold - Administrative Officer,  
Department of Fisheries and Wildlife

Names of Committees

Reserves Committee

Bird Committee

Flora Committee

Membership

Reserves Committee -

Chairman - Mr B.K. Bowen - Director, Department of  
Fisheries and Wildlife



Mr A.J. Mearns - Deputy Chairman, Conservator of  
Wildlife, Department of Fisheries and Wildlife  
Mr R.J. Powell, Executive Secretary, Department of  
Fisheries and Wildlife  
Mr N.A. Beeck - Authority Member  
Dr A.A. Burbidge - Senior Research Officer, Western  
Australian Wildlife Research Centre  
Dr E. Hopkins - Forests Department  
Deputy - Mr F. Batini  
Dr D. Kitchener - Curator of Mammals, Western  
Australian Museum  
Mr N.L. McKenzie - Research Officer, Western Australian  
Wildlife Research Centre

Bird Committee -

Chairman - Mr D.W. Arnold - Administrative  
Officer, Department of Fisheries and Wildlife  
Mr N.S. Press - Executive Secretary, Department of  
Fisheries and Wildlife (Vice. D.L. Jennings)  
Mr N.A. Beeck - Authority Member  
Mr B.A. Carmichael - Chief Wildlife Officer,  
Department of Fisheries and Wildlife  
Dr S.J.J. Davies - Officer in Charge, CSIRO, Division  
of Wildlife Research, Helena Valley  
Deputy - Mr I. Rowley  
Mr H.G. Hall - Authority Member  
Mr J.A.K. Lane - Research Officer, Western Australian  
Wildlife Research Centre  
Mr J.R. Masters - Farmer (Ornithologist)  
Dr D.L. Serventy - Zoologist  
Mr T. Spence - Director, South Perth Zoological  
Gardens  
Dr G.M. Storr - Curator of Birds and Reptiles,  
Western Australian Museum  
Mr A.R. Tomlinson - Chief Agriculture Protection  
Officer, Agriculture Protection Board  
Deputies - Mr A.J. Oliver  
Mr J. Long

Flora Committee -

Chairman - Mr B.K. Bowen - Director, Department of  
Fisheries and Wildlife  
Mr A.J. Mearns - Conservator of Wildlife, Department  
of Fisheries and Wildlife  
Mr B. Martin - Executive Secretary, Department of  
Fisheries and Wildlife  
Mr D.W. Arnold - Administrative Officer, Department  
of Fisheries and Wildlife  
Mr R. Aitken - Retired School Teacher  
Mr B.J. Beggs - Conservator of Forests  
Mrs M. Blackwell - Botanist  
Dr J. Green - Botanist - Curator, Western Australian  
Herbarium



Mr P.N. Hewett - Forest Department  
Deputy - Mr F. Batini  
Mr A.J. Hopkins - Research Officer, Western Australian  
Wildlife Research Centre  
Dr N. Marchant - Botanist - Western Australian  
Herbarium  
Professor J.S. Pate - Officer in Charge, Department of  
Botany, University of Western Australia  
Mr R. Shaw - Main Roads Department  
Dr P.R. Wycherley - Director, Kings Park Board

#### Secretariat

Mr A.J. Goadby and Mr P. Kelly carried out the secretarial functions for the Authority and its various committees.

## 2. MEETINGS -

### The Western Australian Wildlife Authority

The Authority met on five occasions during 1979/80

### Committees

Reserves Committee - met on two occasions during 1979/80.

Bird Committee - met on four occasions during 1979/80

Flora Committee - met on two occasions during 1979/80

## II THE FAUNA

### 1. NUMBER OF INDIGENOUS SPECIES OF:

Birds	475
Marsupials	63
Other Mammals	63
Reptiles	349
Amphibia	62
TOTAL	1 012

### 2. LIST OF UNPROTECTED INDIGENOUS SPECIES AS AT 30.6.80

#### Mammals

Wild Dog (Dingo) *Canis familiaris dingo*

#### Reptiles

Common Death Adder	<i>Acanthophis antarcticus</i>
Desert Death Adder	<i>Acanthophis pyrrhus</i>
Black Whip-snake	<i>Demansia atra</i>
Spotted-headed Snake	<i>Demansia olivacea</i>
Papuan Whip-snake	<i>Demansia papuana</i>
Green Whip-snake	<i>Demansia reticulata</i>
Rosen's Snake	<i>Denisonia fasciata</i>
Little Spotted Snake	<i>Denisonia punctata</i>
Gould's Snake	<i>Denisonia gouldii</i>
Northern White-Lipped Snake	<i>Denisonia suta</i>
Monk (or Hooded) Snake	<i>Denisonia monachus</i>
Crowned Snake or Werr	<i>Drysdalia coronata</i>
Bardick	<i>Echiopsis curta</i>
Tiger Snake	<i>Notechis ater</i>
Mulga (or King Brown) Snake	<i>Pseudechis australis</i>
Dugite	<i>Pseudonaja affinis</i>
Gwardar	<i>Pseudonaja nuchalis</i>
Five-ringed Snake	<i>Pseudonaja modesta</i>
All Sea Snakes of the Family Hydrophiidae.	

### 3. LIST OF SPECIES RARE OR OTHERWISE IN NEED OF SPECIAL PROTECTION AS AT 30.6.80

#### Birds

		<u>Government Gazette</u>
Red-tailed Tropic-bird	<i>Phaethon rubricauda</i>	3.2.78
White (Mute) Swan	<i>Cygnus olor</i>	"
Freckled Duck	<i>Stictonetta naevosa</i>	"
Cape Barren Goose	<i>Cereopsis novaehollandiae</i>	"
Burdekin Duck	<i>Tadorna radjah</i>	"
Crested Hawk	<i>Aviceda subcristata</i>	"

Birds (cont'd)Government  
Gazette

Red Goshawk	<i>Accipiter radiatus</i>	3.2.78
Peregrine Falcon	<i>Falco peregrinus</i>	"
Grey Falcon	<i>Falco hypoleucos</i>	"
Scrub Fowl	<i>Megapodius freycinet</i>	"
Lesser Noddy	<i>Anous tenuirostris</i>	"
Red-crowned Pigeon	<i>Ptilinopus regina</i>	"
Green-winged Pigeon	<i>Chalcophaps indica</i>	"
Partridge Pigeon	<i>Geophaps smithii</i>	"
Mangrove Kingfisher	<i>Halcyon chloris</i>	"
Alexandra (Princess) Parrot	<i>Polytelis alexandrae</i>	"
Naretha Bluebonnet	<i>Psephotus haematogaster narethae</i>	"
Ground Parrot	<i>Pezoporus wallicus</i>	"
Night Parrot	<i>Geopsittacus occidentalis</i>	"
Grass Owl	<i>Tyto longimembris</i>	"
Rufous Owl	<i>Ninox rufa</i>	"
Noisy Scrub-bird	<i>Atrichornis clamosus</i>	"
Cicadabird	<i>Coracina tenuirostris</i>	"
Western Whip-bird	<i>Psophodes nigrogularis</i>	"
Purple-crowned Wren	<i>Malurus coronatus</i>	"
Thick-billed Grass- Wren	<i>Amytornis textilis</i>	"
Rufous Bristle-bird	<i>Dasyornis broadbenti</i>	"
Brown Bristle-bird	<i>Dasyornis brachypterus</i>	"
Lemon-breasted Flycatcher	<i>Microeca flavigaster</i>	"
White-browed (Buff- sided) Robin	<i>Poecilodryas superciliosa</i>	"
Rufous Fantail	<i>Rhipidura rufifrons</i>	"
Shrike-Tit	<i>Falcunculus frontatus</i>	"
Red-eared Firetail	<i>Emblema oculata</i>	"
Yellow-rumped Finch	<i>Lonchura flaviprymna</i>	"
Major Mitchell	<i>Cacatua leadbeateri</i>	"

Mammals

Barrow Island Euro	<i>Macropus robustus isabellinus</i>	"
Crescent Nail-tailed Wallaby	<i>Onychogalea lunata</i>	"
Spectacled Hare- Wallaby	<i>Lagorchestes conspicillatus</i>	"
Western Hare-Wallaby	<i>Lagorchestes hirsutus</i>	"
Banded Hare-Wallaby	<i>Lagostrophus fasciatus</i>	"
Brush-tailed Rock Wallaby	<i>Petrogale penicillata</i>	"
Woolie	<i>Bettongia penicillata</i>	"
Boodie	<i>Bettongia lesueur</i>	"
Broad-faced Potoroo	<i>Potorous playtops</i>	"
Gilbert's Potoroo	<i>Potorous tridactylus gilberti</i>	"
Rock-haunting Ringtail	<i>Petropseudes dahli</i>	"
Marl	<i>Perameles bougainville</i>	"
Pig-footed Bandicoot	<i>Chaeropus ecaudatus</i>	"
Dalgyte	<i>Macrotis lagotis</i>	"

Mammals (cont'd)Government  
Gazette

Rusty Numbat	<i>Myrmecobius fasciatus rufus</i>	3.2.78
Dibbler	<i>Antechinus apicalis</i>	"
Long-tailed Dunnart	<i>Sminthopsis longicaudata</i>	"
Ingram's Planigale	<i>Planigale ingrami</i>	"
Pygmy Marsupial-Mouse	<i>Planigale maculata</i>	"
Big-eared Hopping-Mouse	<i>Notomys megalotis</i>	"
Long-tailed Hopping Mouse	<i>Notomys longicaudatus</i>	"
Dusky Hopping Mouse	<i>Notomys fuscus</i>	"
Stick-Nest Rat	<i>Leporillus conditor</i>	"
White-tipped Stick- Nest Rat	<i>Leporillus apicalis</i>	"
Shark Bay Mouse	<i>Pseudomys praeconis</i>	"
Gould's Native Mouse	<i>Pseudomys gouldii</i>	"
Shortridge's Native Mouse	<i>Pseudomys shortridgei</i>	"
Dugong	<i>Dugong dugon</i>	"

Reptiles

Salt-water Crocodile	<i>Crocodylus porosus</i>	"
Fresh-water Crocodile	<i>Crocodylus johnstoni</i>	"
Western Swamp (Short- necked) Tortoise	<i>Pseudemydura umbrina</i>	"
Leathery Turtle	<i>Dermochelys coriacea</i>	"
Lancelin Island Skink	<i>Ctenotus lancelini</i>	"
Linked Skink	<i>Lerista lineata</i>	"
Carpent Snake	<i>Python spilatus</i>	"

Amphibians

Round Frog	<i>Arenophryne rotunda</i>	"
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## 4. OPEN SEASONS

Open Seasons declared in 1979/80:	<u>Gazetted</u>
Finch Trapping Season - September 8 to November 15, 1979.	17.8.79
Finch Trapping Season - September 8 to November 15, 1980.	2.5.80
Waterfowl Hunting Season - Kimberley, North-west and Eastern Land Divisions. January 1 to December 31, 1980.	14.12.79

OPEN SEASONS (cont.)

Existing Open Seasons:	<u>Gazetted</u>
Management of populations of Red Kangaroo ( <i>Megaleia rufa</i> ) and Euro ( <i>Macropus robustus</i> ).	17.4.70 1.5.70
Hunting Season - Brown Quail ( <i>Synoicus ypsilophorus</i> ) and Stubble Quail ( <i>Coturnix pectoralis</i> ). January 1 to June 30 each year.	25.6.71
Management of populations of Grey Kangaroo ( <i>Macropus fuliginosus</i> ).	23.7.71 30.6.72
Management of populations of Emu ( <i>Dromaius novaehollandiae</i> ).	26.1.73
Management of Little Corellas ( <i>Cacatua sanguinea</i> )	16.6.78
Management of Sulphur-crested Cockatoos (Eastern sub-species) ( <i>Cacatua galerita queenslandica</i> , <i>Cacatua galerita rosinae</i> , <i>Cacatua galerita melvillensis</i> , <i>Cacatua galerita interjecta</i> )	16.6.78
Management of Black Cormorants ( <i>Phalacrocorax carbo</i> ) and Pied Cormorants ( <i>Phalacrocorax varius</i> )	16.6.78
Management of Agile Wallabies ( <i>Macropus agilis</i> )	13.8.76

### III THE FLORA

List of classes of flora declared to be protected flora as at  
June 30 1980:

*Pteridophyta* (ferns and fern allies)  
*Gymnosperms* (conifers and cycads)  
*Angiosperms* (flowering plants)

Protected throughout the whole of Western Australia (*Government  
Gazette* April 18, 1980).

## IV NATURE RESERVES

### 1. INTRODUCTION

The Wildlife Conservation Act defines a nature reserve as "an area of land which is vested in the Crown and which the Governor, subject to such conditions and limitations as he thinks fit, reserves to Her Majesty or disposes of in the public interest pursuant to the provisions of paragraph (g) of sub-section (1) of section twenty-nine of the Land Act, 1933, for the conservation of indigenous flora or fauna".

Prior to the Act being amended in 1975, nature reserves were known as wildlife sanctuaries and included only reserves set aside for the conservation of fauna.

### 2. TABLE OF RESERVES

Year 30 June	Total Number	Area (ha)	Vested in the W.A. Wildlife Authority	
			No.	Area (ha)
1969	278	2 342 966	127	818 442
1970	315	2 100 318	156	867 362
1971	359	4 955 893	213	4 415 595
1972	404	5 077 224	242	4 533 944
1973	440	5 013 287	265	4 607 266
1974	454	5 033 935	281	4 626 617
1975	491	5 103 037	320	4 713 482
1976	918	5 339 947	351	4 747 403
1977	946	7 520 839	385	6 927 627
1978	995	8 398 648	412	8 086 314
1979	1016	8 536 654	493	8 205 197
1980	1036	9 065 634	555	8 805 310



3. SUMMARY OF NATURE RESERVES - JUNE 30, 1980.

As at June 30, 1979	1016 reserves	8 536 654.2090 ha
New Reserves 1979/80	30 reserves	+533 084.5816 ha
Amendments 1979/80	29 reserves	+ 18 189.1578 ha
Cancelled Reserves 1979/80	10 reserves	- 4 104.2083 ha
TOTAL	1036 reserves	= 9 083 823.7401 ha

4. NATURE RESERVES VESTED IN WESTERN AUSTRALIAN WILDLIFE AUTHORITY - JUNE 30, 1980.

As at June 30, 1979	493 reserves	8 205 197.4184 ha
New reserves 1979/80	20 reserves	506 906.0002 ha
Amendments 1979/80	13 reserves	16 043.1315 ha
Existing reserves vested 1979/80	42 reserves	93 207.1009 ha
TOTAL	555 reserves	= 8 821 353.6510 ha

5. NEW RESERVES 1979/80

NO.	NAME	AREA (ha)	VESTING	GAZETTED
36183		357.5296	W.A.W.A.	20.07.79
16235		1329.0000	W.A.W.A.	17.08.79
1431		546.9468	Min. for Water	31.08.79
36271	Yeo Lake	321 946.0000	W.A.W.A.	14.09.79
36208		153 293.0000	W.A.W.A.	28.09.79
22199		300.8468	W.A.W.A.	12.10.79
36334		61.5892	W.A.W.A.	26.10.79
A.36093		882.0000	W.A.W.A.	09.11.79
36388	Wandana	25 976.0000	W.A.W.A.	07.12.79
15386		92.7672	W.A.W.A.	21.12.79
A.36419		1 405.6961	N.P.A.	21.12.79
36433		9667 sq. m.	Shire of Serpentine/ Jarrahdale	21.12.79
36445		22 797.0000		21.01.80
2218		56.6560	W.A.W.A.	15.02.80
16904		247. 7865	Min. for Water	15.02.80
36448		12.0883	Min. for Water	15.02.80
4070		17.4138	W.A.W.A.	29.02.80
36203		608.2425	W.A.W.A.	29.02.80
36519		58.4671	W.A.W.A.	29.02.80

cont'd...

NO.	NAME	AREA (ha)	VESTING	GAZETTED
A.36526		1 015.9301	W.A.W.A.	29.2.80
13057		140.4259	W.A.W.A.	14.3.80
16200		17.0676	Min. for Water	14.3.80
18340		83.6687	W.A.W.A.	14.3.80
36550		174.0938	W.A.W.A.	14.3.80
36558		217.1063	W.A.W.A.	28.3.80
14566		121.4057	W.A.W.A.	11.4.80
9474		255.3390	Min. for P.W.D.	23.5.80
36642		4.5398	Shire of Northampton	23.5.80
14907		174.8242	W.A.W.A.	6.6.80
30324		891.1506	W.A.W.A.	20.6.80
TOTAL : 30 New Reserves 533,084.5816 ha				
TOTAL of New Reserves Vested in W.A.W.A. = 20				
TOTAL Area of New Reserves Vested in W.A.W.A. = 506,906.0002 ha				

6. OTHER CHANGES

(i) Amendments to Area 1979/80

NO.	NAME	VESTING	OLD AREA	NEW AREA	DIFFERENCE	DATE
29977			18.2109	71.7741	+53.5632	6.7.79
A.13594			40.4686	40.8732	+4046	17.8.79
A.15677			886.5398	742.6653	-143.8745	17.8.79
A.20610	Boyagin N.R.	W.A.W.A.	4 043.0000	4 781.2805	+738.2805	17.8.79
15815		Shire of Meekatharra	3 175.8471	3 173.0196	-2.8275	14.9.79
16346	Prince Regent	W.A.W.A.	44.6393	40.5873	-4.0520	14.9.79
27164	River Reserve	W.A.W.A.	633 333.0000	634 951.7425	+1 618.7425	12.10.79
24789		W.A.W.A.	9 948.4760	20 751.8529	+10 803.3769	12.10.79
28558	Namning Lake		5 285.1945	5 411.3388	+126.1443	12.10.79
16896		Min. for Water	5.0580	4.2567	- .8013	26.10.79
35594			54.9527	55.7173	+ .7643	26.10.79
11043	Kokerbin Hill		90.2449	91.2683	+1.0234	9.11.79
A.15231	Woody Lake	W.A.W.A.	522.8723	564.9752	+42.1029	9.11.79
24789		W.A.W.A.	20 751.8529	10 751.8529	-10 000.0000	7.12.79
24496			71 242.6577	70 012.6577	-1 230.000	21.12.79
A.28395		W.A.W.A.	7 174.2675	19 825.0000	+12 650.7325	21.12.79
9237		Min. for Water	129.4994	81.8758	-47.6236	18.1.80
10351			80.9371	299.9166	+218.9795	15.2.80
7615		W.A.W.A.	36.3805	46.4274	+10.0469	29.2.80
17055	Martinup Lake	W.A.W.A.	93.0777	90.8407	-2.2370	29.2.80
A.25062			297.1936	1 149.1935	+851.9999	29.2.80
A.25555	Tutanning N.R.	W.A.W.A.	2066.1267	2 039.0139	-27.1128	29.2.80
15815		Shire of Meekatharra	3 173.0196	3 171.9735	-1.0461	14.3.80
B.4244	Dowerin		160.0000	147.0000	-13.0000	28.3.80
15815		Shire of Meekatharra	3 171.9735	3 171.2731	- .7004	11.4.80

cont'd...

NO.	NAME	VESTING	OLD AREA	NEW AREA	DIFFERENCE	DATE
26442			68.1415	1400.0000	+1332.0000	9.5.80
15815	Shire of Meekatharra		3 171.2731	3 161.4735	-10.0000	9.5.80
7615	W.A.W.A.		46.4274	40.4274	-6.0000	23.5.80
35066	Alfred Cove	W.A.W.A.	7.0000	7.2716	+.2716	6.6.80
			Total -	= -10 259.2752		
			Total +	= +28 448.4330		
			Total area amended	= +18 189.1578		
			Total 13 W.A.W.A. Reserves amended	= +16 043.1315		

(ii) Existing Reserves Vested 1979/80

NO.	NAME	VESTING	AREA (ha)	DATE
A.36128		W.A.W.A.	32 096.7336	3.8.79
10719		W.A.W.A.	11.7359	17.8.79
25112		W.A.W.A.	95.9940	17.8.79
30903		W.A.W.A.	11.4324	17.8.79
976		W.A.W.A.	58.2747	14.9.79
978		W.A.W.A.	40.4686	14.9.79
16104		W.A.W.A.	107.9853	14.9.79
23201	Wyening	W.A.W.A.	80.7727	14.9.79
25884		W.A.W.A.	752.1512	14.9.79
26841		W.A.W.A.	53.0138	14.9.79
30969		W.A.W.A.	283.0043	14.9.79
26196	Wilroy	W.A.W.A.	331.0607	28.9.79
27452		W.A.W.A.	39.4973	28.9.79
13306		W.A.W.A.	16.8931	12.10.79
23665		W.A.W.A.	105.2183	12.10.79
24789		W.A.W.A.	20 751.8529	12.10.79
22792		W.A.W.A.	227.5208	12.10.79
36324		W.A.W.A.	387.9319	12.10.79
27108		W.A.W.A.	231.7382	26.10.79
29184		W.A.W.A.	1 309.3124	9.11.79
A.28395		W.A.W.A.	19 825.0000	21.12.79
28558	Namming Lake	W.A.W.A.	5 411.3388	1.2.80
10351		W.A.W.A.	299.9166	15.2.80
26663		Tree Soc. & W.A.W.A.	6 889.5203	15.2.80
35453		W.A.W.A.	621.4181	15.2.80
7615		W.A.W.A.	46.4274	29.2.80
A.25386		W.A.W.A.	329.7100	29.2.80
24897		W.A.W.A.	696.6766	14.3.80
7765		W.A.W.A.	42.9347	28.3.80
29303		W.A.W.A.	194.2491	9.5.80
28317		W.A.W.A.	26.4134	9.5.80
15570		W.A.W.A.	40.4686	9.5.80
10121		W.A.W.A.	59.8378	23.5.80
24179		W.A.W.A.	11.8851	23.5.80
27521	Mt. Cramphorne	Min. for Water	333.4610	23.5.80
28318		W.A.W.A.	55.5102	23.5.80
28319		W.A.W.A.	40.4762	23.5.80
31629	Cookinbin	W.A.W.A.	376.7623	23.5.80
A.9754		W.A.W.A.	687.9656	6.6.80
16412		W.A.W.A.	46.6653	6.6.80
A.29977		W.A.W.A.	71.7741	6.6.80
A.30705		W.A.W.A.	117.7736	6.6.80
32663		W.A.W.A.	321.7850	6.6.80

TOTAL = 43 Reserves = 93 540.5619 ha

TOTAL = 42 W.A.W.A. Reserves = 93 207.1009 ha

(iii) Existing Reserves Made Class "A" or "B"

NO.	NAME	VESTING	AREA (ha)	GAZETTED
A.20610	Boyagin	W.A.W.A.	4 781.2805	17.8.79
A.3345		W.A.W.A.	258.9988	28.9.79
A.36271	Yeo Lake	W.A.W.A.	321 946.0000	17.12.79
A.28395		W.A.W.A.	19 825.0000	21.12.79
A.28415	East Yuna	W.A.W.A.	270.3022	11.4.80
A.29231	East Yuna	W.A.W.A.	1 466.5960	11.4.80
A.30844	Bindoo Hill	W.A.W.A.	485.6228	11.4.80
A.25984		W.A.W.A.	47.4038	23.5.80
A.9754		W.A.W.A.	687.9656	6.6.80
A.29977		W.A.W.A.	71.7741	6.6.80
A.30705		W.A.W.A.	117.7736	6.6.80

TOTAL Made Class "A" = 11 reserves = 349 958.7204

(iv) Existing Reserves, Change of Purpose 1979/80

NO.	NAME	VESTING	FROM	TO	AREA	GAZETTED
10719		W.A.W.A.	Flora	Cons. of Flora & Fauna	11.7359	17.8.79
11024			Flora	Cons. of Flora & Fauna	21.8530	17.8.79
25112		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	95.9940	17.8.79
30903		W.A.W.A.	Flora	Cons. of Flora & Fauna	11.4324	17.8.79
20218			Cons. of Flora	Cons. of Flora & Fauna	1 190.5042	31.8.79
976		W.A.W.A.	Prot. of Indig. Flora	Cons. of Flora & Fauna	58.2747	14.9.79

cont'd...

NO.	NAME	VESTING	FROM	TO	AREA	GAZETTED
978		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	40.4686	14.9.79
16104		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	107.9853	14.9.79
23201	Wyening	W.A.W.A.	Prot. of Flora & Fauna	Cons. of Flora & Fauna	80.7727	14.9.79
25884		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	752.1512	14.9.79
26841		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	53.0138	14.9.79
30969		W.A.W.A.	Prot. of Flora	Cons. of Flora & Fauna	283.0043	14.9.79
27452		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	34.4973	28.9.79
26196	Wilroy	W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	331.0607	28.9.79
13306		W.A.W.A.	Flora	Cons. of Flora & Fauna	16.8931	12.10.79
23665		W.A.W.A.	Flora	Cons. of Flora & Fauna	105.2183	12.10.79
22792		W.A.W.A.	Flora	Cons. of Flora & Fauna	227.5208	12.10.79
27108		W.A.W.A.	Flora	Cons. of Flora & Fauna	231.7382	26.10.79
29184		W.A.W.A.	Flora	Cons. of Flora & Fauna	1 309.3124	9.11.79
A.28395		W.A.W.A.	Prot. of Flora	Cons. of Flora & Fauna	19 825.0000	21.12.79
10351		W.A.W.A.	Water & Cons. of Flora	Cons. of Flora & Fauna	299.9166	15.2.80
26663		Tree Soc. & W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	6 889.5203	15.2.80

cont'd...



NO.	NAME	VESTING	FROM	TO	AREA	GAZETTED
35453		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	621.4181	15.2.80
7615		W.A.W.A.	Govt. Req. & Cons. of Flora	Cons. of Flora & Fauna	46.4274	29.2.80
A.13594		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	40.8732	29.2.80
A.25062			Cons. of Flora	Cons. of Flora & Fauna	1 149.1935	29.2.80
A.27595			Ecol. Purposes & Pres. of Flora	Cons. of Flora & Fauna	124.4333	29.2.80
24897		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	696.6766	14.3.80
7765		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	42.9347	28.3.80
28317		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	26.4134	9.5.80
26442		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	1 400.0000	9.5.80
15570		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	40.4686	9.5.80
24179		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	11.8851	23.5.80
28318		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	55.5102	23.5.80
28319		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	40.4762	23.5.80
A.9754		W.A.W.A.	Pres. of Timber & Flora	Cons. of Flora & Fauna	687.9656	6.6.80
16412		W.A.W.A.	Flora & Fauna	Cons. of Flora & Fauna	46.6653	6.6.80
A.29977		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	71.7741	6.6.80
A.30705		W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	117.7736	6.6.80

(v) Existing Reserves Cancelled 1979/80

RESERVE NO.	PREVIOUS PURPOSE	AREA (ha)	DATE GAZETTED
27532	Preservation of Flora	86.7216	28.9.79
24507	Conservation of Flora	803.3769	12.10.79
26802	Conservation of Flora	1 559.2538	21.12.79
16288	Conservation of Flora	4.0469	29.2.80
25979	Conservation of Flora	851.9999	29.2.80
19138	Conservation of Flora	80.9371	14.3.80
28565	Conservation of Flora	669.1452	9.5.80

TOTAL Reserves cancelled = 7  
area = 4 055.4814

(vi) Existing Reserves Purpose Changed to Outside Interests  
1979/80.

RESERVE NO.	PURPOSE CHANGED TO	AREA (ha)	DATE GAZETTED
17420	Recreation	30.3514	23.11.79
26199	Park	9.6682	21.12.79
30446	Parkland and Recreation	8.7083	11.4.80

TOTAL of Existing Reserves Purpose Changed  
to Outside Interests = 3  
Area = 48.7279

# MAP OF WESTERN AUSTRALIA

Scale 1 Inch to 50 Miles



Department of Fisheries & Wildlife  
Geographical Names Authority  
Australian Government Printing Office



SHOWING LOCAL AUTHORITY BOUNDARIES

As at June 1972

DEPT OF FISHERIES & WILDLIFE

◊◊◊◊◊ ha    ◊◊◊◊◊ ha

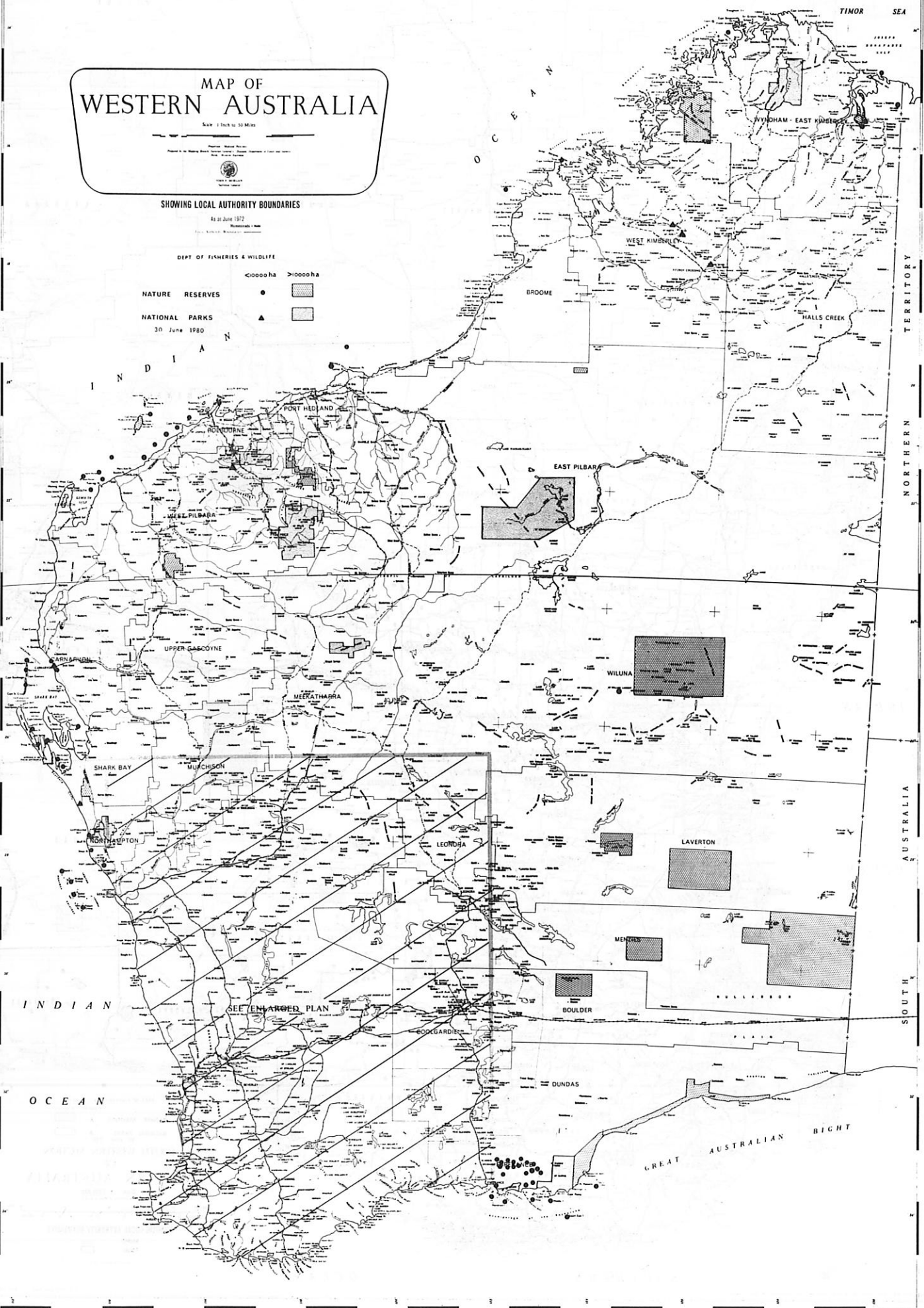
NATURE RESERVES



NATIONAL PARKS



30 June 1980



INDIAN

OCEAN

SEE ENLARGED PLAN

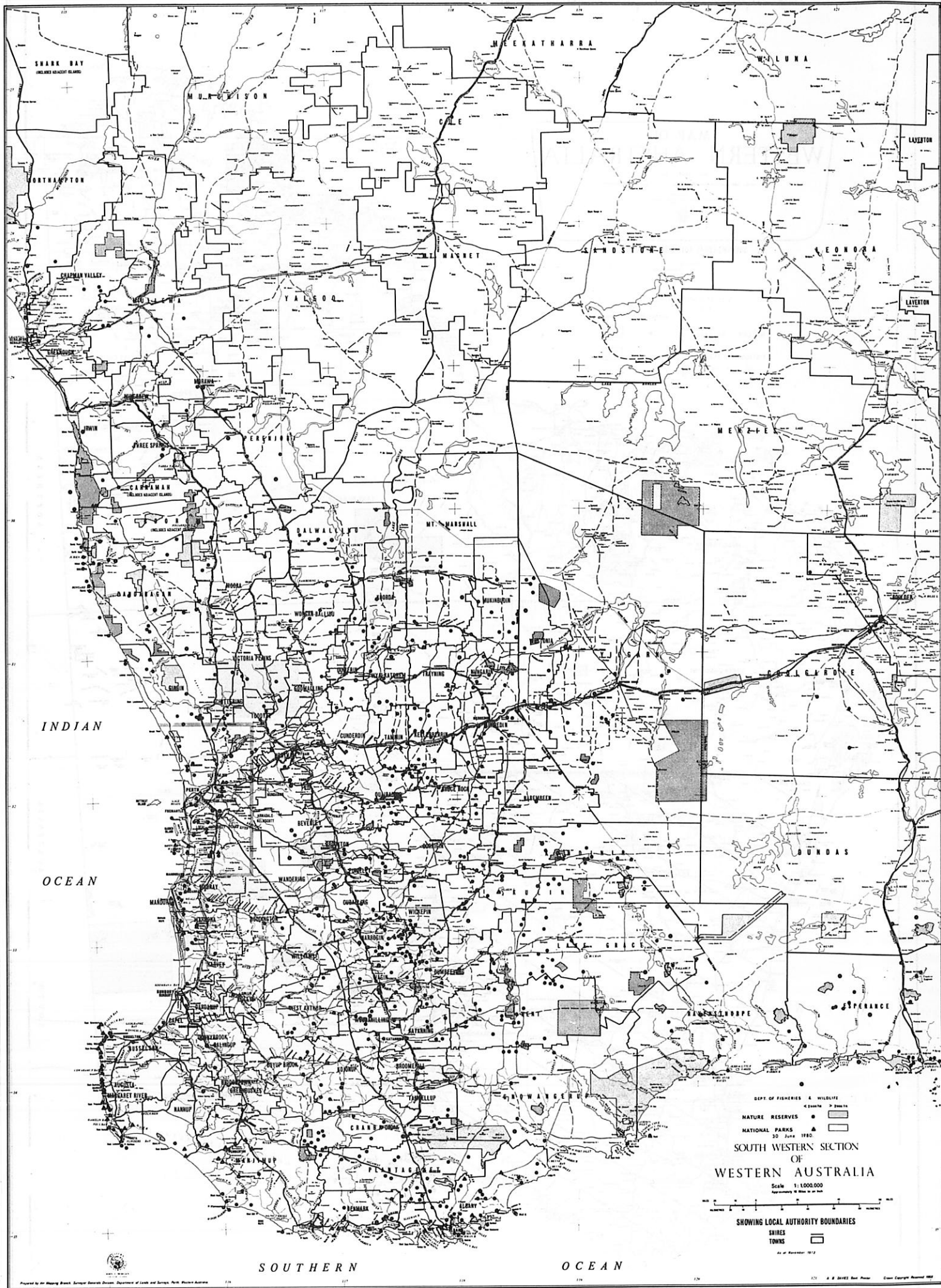
GREAT AUSTRALIAN BIGHT

TIMOR SEA

NORTHERN TERRITORY

AUSTRALIA

SOUTH



DEPT OF FISHERIES & WILDLIFE  
 30 June 1982  
**SOUTH WESTERN SECTION  
 OF  
 WESTERN AUSTRALIA**  
 Scale 1:1,000,000  
 (Representing 10 Miles to 16 Km)

SHOWING LOCAL AUTHORITY BOUNDARIES  
 SHIRES  
 TOWNS  
 1:1,000,000

SOUTHERN OCEAN

## V RESERVE MANAGEMENT

### 1. INTRODUCTION

A major step forward occurred this year with the appointment of a Reserve Management Officer (Planning) to prepare and coordinate working plans for Nature Reserves. The Authority has decided to involve the public in planning as much as possible and a process has been developed to promote this aim.

The delay in the appointment of additional rural-based Nature Reserve Management Teams has caused some serious problems. The appointment of three teams was approved by Government in 1976 and the first team, based in Pingelly, was fully operational by 1978. Unfortunately, the appointment of further teams has been delayed because of limitations to the growth of the Public Service and this has led to the questioning of the Department's ability to manage the nature reserve system in the South-west. Inadequate liaison with Local Government, Bush Fire Control Officers and adjoining landholders will continue to cause the Authority concern until these teams are appointed.

### 2. MANAGEMENT PLANNING

The Wildlife Conservation Act (Section 12D (1)) requires that the Wildlife Authority shall...

"...in respect of each nature reserve that is classified or reclassified pursuant to Section Twelve A of this Act or any area of land of which the Authority is the owner, cause to be prepared a detailed written scheme of operations that the Authority proposes to undertake on or in relation to the area for such period, not exceeding ten years, as is specified in the scheme."

The objects of such "schemes of operations" are set out in Section 12D(2):

"(2) The objects of the scheme shall be the maintenance, study, care and restoration of the natural environment, the protection and care of fauna, or indigenous flora, the propagation thereof, the promotion of the study of fauna or indigenous flora to which the scheme relates and such other objects relating to the conservation and protection

of fauna or indigenous flora as the Authority recommends and the Minister approves."

The Act requires that "schemes of operations" be approved in writing by the Minister of Fisheries and Wildlife whereupon the "scheme of operations" becomes a "working plan" for the Reserve.

During this year a management planning process has been designed for nature reserves which fulfils the requirements of the Act and which allows for the greatest possible participation in the planning by interested parties outside the Department.

The process involves publication of a "Draft Management Plan" (DMP) for a nature reserve or group of nature reserves (usually all those nature reserves within a particular Local Authority district). At the time of publication copies of the DMP are sent to all known interested parties (including Government agencies, Local Government Authorities, conservation groups and reserve neighbours) and its publication is advertised, particularly in the district in which the reserve is situated, inviting submissions and comments.

After a reasonable period of time (6-8 weeks), during which meetings and consultation between reserve management staff and interested parties are actively sought and encouraged, submissions and comments received are reviewed in an "Audit of Public Submissions". This "Audit" and the DMP, amended or revised as required, form the basis of the proposed "scheme of operations" for that nature reserve or group of nature reserves, the papers being introduced to the Wildlife Authority through the Reserves Committee for consideration and final adoption.

Once adopted the "scheme of operations" is submitted to the Minister of Fisheries and Wildlife for his written approval as is required by the Wildlife Conservation Act.

During this year three Draft Management Plans have been published and submissions received as follows:

DMP No.	Reserve or Group of Reserves	Publication Date	Submissions Written	Rec'd Oral
1	"Avon Valley" Reserve No. A.30191	March 1980	19	4
2	Thompson Lake Reserve No. A.15556	March 1980	15	8
3	Nature Reserves of the Shire of Serpentine-Jarrahdale	April 1980	6	0

Submissions have been reviewed, "Audits of Public Submissions" prepared and each of the three DMPs revised or amended as required for submission to the Wildlife Authority.

These three plans represent a pilot series designed to test the management planning process that has been developed. Community participation is regarded as a key feature of the process, and the different amounts and kinds of public response received from the three plans indicate differences of approach to the question of public involvement. However, the pilot series has revealed a large degree of public interest in the management of nature reserves. The management planning process will be further developed in future plans to take advantage of this interest and to actively involve the community at a variety of levels.

### 3. WANNEROO AND OTHER DISTRICTS

#### (i) Firebreaks

During the past year work continued on firebreak construction and maintenance. The total length of firebreaks to be maintained now exceeds 3 000 km.

#### NEW CONSTRUCTION

Reserve No.	Name	Length (km)	Local Authority
14739	Bokarup Swamp	8.0	Cranbrook
35168	-	19.2	Plantagenet
30618	-	9.6	Gingin
31211	Mokine	6.4	Northam
14429	Mollerin	12.8	Koorda
27525	Overshot Hill	12.0	Ravensthorpe
A.18739	Millbrook	19.2	Albany Shire
4667	-	2.2	Tammin
10313	Nooriying Lake	2.4	Tammin
A.6549	Galamup	9.6	Cranbrook
24891	Marbellup	5.0	Albany Shire
32204	Moojebing	4.0	Katanning
31880	Lake Muir	19.0	Manjimup
	Total	129.4	

#### UPGRADING

Reserve No.	Name	Length (km)	Local Authority
A.27621	Twin Swamps	5.0	Swan
31880	Lake Muir	13.5	Manjimup



## MAINTENANCE

Approximately 500 km of breaks were ploughed and maintained by contracting adjacent landholders. Some 140 km were maintained by the Wanneroo management team.

### (ii) Wildfires

In common with other organisations a fairly quiet season prevailed until late Autumn. At this time extensive unstable atmospheric conditions meant that a number of fires lit under permit escaped. More education is needed to prevent fires being lit under unstable conditions when variable winds and "willie-willies" make control extremely difficult.

Wildfires on nature reserves were as follows:

- (a) Lake Magenta Nature Reserve (Kent Shire). Cause: lightning strike in adjacent vacant Crown land. Attended and extinguished by Departmental staff from Wanneroo and Pingelly.
- (b) Thompson Lake Nature Reserve (Cockburn City Council). Cause: escape from burning off by a neighbouring householder. Attended by the Wanneroo management team and the Jandakot and Wattle Grove Bush Fire Brigades. After initial suppression was complete the Management Team completed mopping up work.
- (c) Wongamine Nature Reserve (Shire of Toodyay). Two fires. Cause: escape from burning off on adjacent private land. Attended by Wanneroo team, Toodyay and Irish Town Bush Fire Brigades and local farmers. Mopping up done by Management Team on both occasions.
- (d) Mokine Nature Reserve. Cause: escape from burning off operations. Attended by Wanneroo Team.

### (iii) Prescribed Burning Programme

The fourth year of the six year burning programme at Two Peoples Bay Nature Reserve resulted in compartments seven and four being successfully burnt.

The fourth year of the Kojonup five year burning plan was the most successful we have experienced since the inception of the plan. The results were mainly due to unusually warmer conditions and some slight modifications to the original prescription. Temperatures averaged 20-25°C compared to past conditions of 14-18°C.

Assistance from local residents was again minimal due to the annual clash of occupation. This was mainly due to the prescription providing that burning does not commence until after the opening rains have

commenced - a time when farmers are conducting seeding operations.

(iv) Other Projects

Wanjarri Nature Reserve. The annual programme of upgrading buildings had to be abandoned when heavy rains closed all roads in the district during the time programmed for this work.

Eyre Bird Observatory. A truck and trailer load of old wire netting was transported to Eyre from Perth and Koorda. The wire is to be used for stabilising the sand dunes which threatened to engulf the buildings. About 100 fence posts were carted from Twilight Cove to Eyre, along the beach. High tides and heavy rain made this operation extremely difficult.

4. PINGELLY

Data on Nature Reserves within the Pingelly Management District are continually changing, however at April 1980 the District contained 245 Nature Reserves with an area of approximately 142 000 ha. The most significant addition to the reserve system within the last twelve months have been the Lake Cronin Nature Reserve and a 22 000 ha Reserve (unvested) in the Lake Grace Shire. Lake Cronin is a relatively permanent, freshwater lake lying east of Hyden in the Kondinin Shire.

(i) Biological Survey

In the past year nine areas of bushland were surveyed. Of these, one, a Nature Reserve, was recommended for vesting in the Western Australian Wildlife Authority, and of the remainder seven were either recommended as Nature Reserves or for inclusion into adjoining Nature Reserves. Biological data for a number of existing Nature Reserves was also collected during the year.

(ii) Firebreak Construction

65 km of new firebreaks were constructed during the year. Firebreak construction was carried out on the following Reserves.

Reserve No.	Name	Length (km)	Shire
30563	Staunton	4	Wandering
21229	-	2.5	Narrogin
19122	-	3	Narrogin
29617	-	27	Lake Grace

Reserve No.	Name	Length (km)	Shire
32046	-	13	Lake Grace
32448	Mooradung	11	Boddington
Minor work		4	-
	Total	65 km	

(iii) Firebreak Maintenance

Approximately 650 km of firebreaks were maintained under contract and 125 km were ploughed by the Pingelly Management Team.

(iv) Wildfires

Two wildfires were attended on Nature Reserves during the 1979/80 fire season. The Pingelly team assisted the Wanneroo Team at one of these fires (Lake Magenta), and the remaining fire on one of the Dongolocking Reserves resulted from an escape from a clearing burn.

(v) Prescribed Burns

Part of one buffer strip on the Boyagin Nature Reserve was control burnt in May 1980. Assistance was also given to the Wanneroo team with control burns at Kojonup and the Pingelly Team attended a number of clearing burns adjacent to Nature Reserves during the Restricted Fire Season.

(vi) Other Activities

A wide variety of activities were undertaken by the Pingelly Team during the year, including liaison with Local Government, farmers and other government departments; erosion control works; maintenance of the Tutanning Research Station; recommendations with regard to proposed activities on Reserves e.g. gravel removal, dam construction, land excision; and liaison with research workers. The Reserve Management Officer is at present writing sections of an Operations Manual intended as a reference work for management staff.

5. GENERAL

Activities undertaken by the Reserve Management Officer based in Perth have been diverse and include a number of matters relating to nature reserves.

- (i) Proposed alterations and extensions to reserve boundaries have been discussed with land-owners adjoining the following Nature Reserves: Barbalin, Lake Toolibin, Wildhorse Swamp, Gingillup Swamps and Goonaring and Belaring Springs.

- (ii) The Shire of Kent is examining the possibility of building a 20 km road through the Lake Magenta Nature Reserve. The road has the potential of seriously disturbing this reserve and strategies are being developed to minimise this impact.
- (iii) In the Shire of Bruce Rock a rubbish dump has been sited in a Nature Reserve. Negotiations to resolve this situation are continuing.
- (iv) Negotiations with the Shire of Tammin have led to the closure and rehabilitation of gravel pits on the Yorkrakine Rock Nature Reserve.
- (v) The Public Works Department is to construct a water reservoir on the Toompup Nature Reserve to supplement water supplies at Ongerup. Liaison with Public Works Department has ensured the selection of the most appropriate site.
- (vi) Supervision of the tourist concession on Woody Island, off Esperance, has continued.
- (vii) A workshop on the future management of Benger Swamp, 90% of which has now been purchased as a Nature Reserve, was conducted in March 1980.
- (viii) Since Lake Booragoon has been artificially charged with underground water by Melville City Council, it has become an obviously valuable nesting rookery for three cormorant species (Black, Little Black and Little Pied). Permanently high water throughout the year appears to be the reason for a significantly extended nesting season at Booragoon, much longer than the usual winter season. Cormorant nestlings have been observed as early as March and flightless fledglings have been observed as late as January.
- (ix) There have been no flow events of surface water during the past several years into Lake Toolibin which in a normal winter is usually filled with high quality fresh water. Such a deficiency has not caused any neglect to the management of that reserve and to other nearby reserves in the Arthur River headwaters that are threatened by salting. Control of salinity and management of the lake and its surrounds continue to be investigated by a committee comprising representatives of the Departments of Public Works, Mines, Forests, Agriculture and Fisheries and Wildlife.

## VI WILDLIFE RESEARCH

### 1. BIOLOGICAL SURVEY

The integrated survey of the eastern Goldfields continued with field trips to Mt Manning/Mt Elvire (July 1979), Black Flag/Kurnalpi (October 1979), Coolgardie/Jilbadji (February 1980) and Wanjarri/Erlistoun (May 1980). All sample sites have now been visited once and one cell has been re-visited. Field work associated with this 3-year survey is about 40 percent completed.

The ongoing survey of desert regions in Western Australia continued. Work at a site on the Ankatell Ridge in March 1980 confirmed the presence of a population of Rabbit-eared Bandicoots in the Great Sandy Desert. Further work was carried out in June 1980 in the north-eastern corner of this desert. A variety of Kimberley species are now known to intrude into northern areas of the Great Sandy Desert.

### 2. ANIMAL ECOLOGY

#### (i) Kangaroo Management Programmes

Monitoring of the commercial red kangaroo harvest as required by the Kangaroo Management Advisory Committee was continued.

The prevailing downward trend in shooter' success in taking male red kangaroos continued during the latter half of 1979, thus indicating further drought induced depletion of field stocks as expected. The resultant increased harvesting of females compensated in part for the greater scarcity of male kangaroos during 1979. Thus, the total number of red kangaroos harvested during 1979 was similar to that obtained in 1978. However, this result was only achieved because of an increase in the number of currently licensed shooters during the year, and an increase in the total harvest effort expended.

The continued reduction in field stocks of the red kangaroo during 1979, the fourth year of a statewide drought, was permitted in the interests of conservation of the State's rangeland ecosystem. Reversal of this situation is dependent on events which follow the breaking of the drought in the pastoral areas of the State by widespread heavy rainfall in the second quarter of 1980.

Work on analysis of patterning in previous red kangaroo harvest data obtained from archives dating

back to 1915 has shown that prediction of short term future harvest levels is possible. This information should provide a firmer basis for setting of annual harvest quotas. However, there is now a pressing need for census of the presently depleted field stocks of the red kangaroo so that the detailed information gained from shooters' returns may be placed in proper perspective. The field situation is now ideal for the successful completion of this task. It is to be hoped that the job will be done before summer 1980-81.

The Government of the United States of America commenced their five year review of internal legislation banning the importation of kangaroo products in early 1980. Dr David R. Anderson, Leader of the Utah Cooperative Wildlife Research Unit undertook preparation of the review paper for the U.S. Fish and Wildlife Service, and visited Australia in early March, 1980. Further information concerning this State's kangaroo management programmes was passed to Dr Anderson during his visit to Perth on March 7. The U.S. Government has since announced its intention to relax their importation ban for a trial period of two years.

Further developments related to reestablishment of export game meat markets have not yet occurred in Western Australia, although processors in other States have commenced testing their local market demand.

The Western Grey Kangaroo programme has been continued as before, but larger numbers were harvested during the first 6 months of 1980, in comparison with the corresponding period in 1979.

Agile Wallaby populations in the West Kimberley area appeared to have declined from natural causes prior to the planned involvement of commercial trade in management. Consequently, commercial exploitation did not proceed.

(ii) Wheatbelt Rock Wallaby Project

Research on the rock wallaby (RW) populations (*Petrogale lateralis*) persisting in low numbers on nature reserves and private lands has continued. Problems associated with trapping were resolved by the design and construction of a new trap. The trap was field tested with excellent results; it is planned to publish a description of it.

From historical records and evidence gathered to date, it is clear that the RW populations are well below the carrying capacity of the habitat. The reasons

for this situation are not known; a number of factors are being investigated or considered. These are:

- 1) Nutritional stress - no evidence to date. Weight losses are minor and occur, rather surprisingly, during winter. This year may be the exception as the area has been declared drought affected.
- 2) Environmental stress e.g. heat and water stresses - no evidence to date.
- 3) Predation by foxes and feral cats - this is being tested by a field experiment; success of the experiment will depend on our ability to control predators. Methods have been devised to assess the effectiveness of predator control techniques and it is hoped that control methods will be perfected in 1980.
- 4) Genetic Factors - electrophoretic analyses indicates that the RW population is severely inbred, but the implications and consequences of this with respect to RW conservation is not clear. What is clear nonetheless is that when the population is compared to other wild populations of animals and plants, the lack of variability is striking. This situation is under study with the long term view of introducing variability into the population.

(iii) Dampier Archipelago Rock Wallaby Project

Three islands of the Dampier Archipelago support populations of Rothschild's Rock Wallaby (*Petrogale rothschildii*). Enderby and Rosemary Islands carry thriving populations while the larger Dolphin Island carries a population of a much lower density. The reasons for this difference have not been established, but it is possibly significant that Dolphin Island carries foxes and feral cats while the other two islands do not.

This was the situation as of June 1979; in May 1980 additional surveys of Dolphin confirmed that RW were scarce in all areas but no signs of foxes were evident; this suggests that foxes have died out or migrated back to the mainland.

Attempts are now being made to keep Dolphin Island free of foxes by keeping the fox population low on the nearby mainland i.e. the tip of Burrup Peninsula, thus minimising the tendency of foxes to cross the narrow strait of water separating Dolphin Island from the mainland. If the island can be kept free of foxes for a significant period the effect (if any) on RW abundance can be measured.



In May 1980 surveys on Enderby Island were made to select a suitable study site in order to evaluate the importance of sand plain areas as Rock Wallaby habitat. These lime-sands are held under lease by Hamersley Iron. A study area was selected and research will begin when radio-tracking equipment is received. Hamersley Iron has agreed to contribute funds and to allocate staff to the project.

(iv) Dorre Island

The nutritional and physiological analyses of the 3 macropodid species found on Dorre Island were completed. All species are ruminant-like in their digestive physiology.

Monocot and dicot ratios were determined on stomach contents. The Boodie (*Bettongia lesueur*) is distinctive and restricted to a limited number of plant species. The dietary preferences of the Banded and Western Hare-wallabies are not as clear-cut and will require more detailed analyses. The study will be extended to Bernier Island where it is planned to determine the extent of nutritional overlap between all herbivore species including the feral goat.

A study of the energy and water metabolism of the Boodie was completed and is to be submitted for publication soon. The Woylie (*B. pennicillata*) was also studied; both species are well adapted to an arid environment.

(v) Numbat

An extensive and systematic survey of the known habitat of the numbat was carried out during the period August 1979 to January 1980. The survey confirmed that numbats are now scarce throughout the State.

The effort made involved an estimated 750 km of survey on foot and 2 600 km by vehicle. This effort yielded only 3 sightings by the survey team.

A total of 154 interviews were conducted with individuals reporting sightings of numbats from various locations in the State. From these reports, it was concluded that at least 10-15 numbats are known to exist.

It is clear that numbats still persist in W.A. but at very low densities. Whatever the cause(s) the population decline has been relatively sudden and dramatic; the species was thought to be secure and

sightings were consistently high until about 1975 when the population crashed.

The causes are not known; it is conceivable that numbats are now at a low point in a natural population cycle; fox and feral cat predation is another factor as is drought and habitat destruction e.g. land clearing and current burning programmes.

Research is to continue; a staff member will be assigned to the project.

(vi) Banded Hare Wallaby Reintroduction Programme - Dirk Hartog I.

Further trapping to check recruitment and dispersal of the field release group planned for May-June 1980, had to be postponed. This work is now scheduled to be completed before the end of September, 1980. A progress report for publication will be prepared after this visit. The project status will then be reviewed, and future action planned according to the results available.

Testing of '1080' tolerance of the Banded Hare Wallaby was undertaken on our behalf by research officers of the Agriculture Protection Board. This wallaby is now known to be extremely tolerant of '1080', so poison baiting for feral cat control remains available for future use if needed.

(vii) Dugong

No further survey work was undertaken by Departmental officers during the past year.

Weather conditions during July 1979 continued to hamper the research project being undertaken in Shark Bay by Professor Paul Anderson. Nevertheless, much valuable information was obtained, and Shark Bay was confirmed as a major dugong habitat on a world-wide basis. Two research papers have been prepared as a result of this work, and Professor Anderson has indicated a desire to extend his research work in this area during 1981.

Editing and programme compilation using the ABC-TV Wildlife film footage covering the above has also reached an advanced stage. A half hour documentary will result.

(viii) Western Hare-wallaby

Following a reported sighting of this species during the 1979 Great Sandy Desert biological survey of 1979

a trip was made to the Lake Gregory area. The wallaby present proved to be the Northern Nail-tail Wallaby, a species not uncommon in the Kimberley.

A visit was made to the only known mainland colonies of the Western Hare-Wallaby in the Tanami Desert, Northern Territory and information derived there will enable plans to be made for further searches for this extremely rare animal in Western Australia.

(ix) Waterbird and Wetland Research

- (a) Installation of depth gauges on selected Wetland Nature Reserves continued during the 1979-80 year. The total number of lakes now gauged is eighty-three (83). Monitoring of these lakes for depth and salinity is conducted every two (2) months. Information obtained will provide valuable records on water quality, variations and depth fluctuations. The data will also enable a more accurate assessment of predicted water loss during summer months in respect to determining the duration of duck hunting seasons.
- (b) Annual ground and aerial surveys were conducted in October and November. Findings from these surveys together with data compiled from rainfall records were presented in the 1979-80 Waterfowl and Wetland Review. The report was submitted to the Bird Committee of the Western Australian Wildlife Authority in support of a recommendation for no duck hunting season.
- (c) Wetlands which are under application to lease for mining in the Lake Muir area were monitored for water quality in accordance with the conditions of the agreement between the Department of Mines, Department of Fisheries and Wildlife and Magnet Industries Pty Ltd. Liaison and monitoring of current peat mining operations at Cowerup Swamp were also maintained through the year.
- (d) The programme for culling of exotic duck species which was initiated in January 1978 was deferred this year due to insufficient manpower resources. Culling will continue on a two-yearly rather than annual basis.
- (e) 1979 saw the formation of the W.A. Wader Study Group. Departmental staff assisted the group in its banding activities on the Swan River and Lakes Thompson and Forrestdale.

- (f) Surveys of salinity, permanence and waterbird usage of Wetland Nature Reserves continued. More than 130 of the 250 Wetland Nature Reserves in the south-west of the State have now been visited at least once, and it is anticipated that a further 100 will be visited during 1980-81. A preliminary classification of Wetland Nature Reserves will then be attempted.
- (g) Aerial photography was used to determine the area of wetland included in Wetland Nature Reserves of the south-west. This work will be completed during the forthcoming year and results will be incorporated in the preliminary classification referred to above.
- (h) Survey of important unprotected wetlands was given high priority and, as a result, reservation of several of these is imminent.

(x) Western Swamp (Short-necked) Tortoise

Work on the Western Swamp Tortoise continued. During the 1979 winter 6 animals were captured at Twin Swamps Nature Reserve and 3 at Ellen Brook Nature Reserve. The latest estimates of population size (for 1978) are: Twin Swamps 13 to 45 (mean 24), Ellen Brook 10 to 45 (mean 21).

Because of the grave situation in the wild experimental captive breeding has commenced using both Perth Zoo and wild caught animals.

A scientific paper on the Western Swamp Tortoise was accepted for publication by *Australian Wildlife Research*.

(xi) Pesticides and the thinning of birds' eggs

In 1978 data on Western Australian Peregrine Falcon eggs were collected for a study of eggshell thinning by an officer of CSIRO Division of Wildlife Research in Canberra. This study showed significant thinning of Peregrine Eggs in South-east Australia but none in W.A.

Following this work it was decided that the W.A. Wildlife Research Centre would take part in a joint study with CSIRO of eggs of other possibly susceptible birds - 15 species of eagles, hawks and falcons and one species of owl. All eggs in Western Australian collections have now been weighed and measured and the data are being analysed.

(xii) The Dibbler (*Antechinus apicalis*)

This rare species is only known from a very small area at Cheyne Beach, east of Albany. Despite extensive searching elsewhere along the south-coast no animals have been trapped elsewhere. Two specimens have been obtained in recent years from Jerdacuttup; one was brought into a farmhouse by a cat and the other was picked up dead in a paddock.

Trapping was carried out by Wildlife Research Centre personnel at Cheyne Beach during March 1979 and November 1979 in order to test various trapping techniques. No Dibblers were caught.

(xiii) Mangrove Bats

Research into mangrove communities is timely considering proposed industrial developments along the Pilbara coastline. Collections of bats have now been made at 16 sites in mangroves between Exmouth and Cambridge Gulf in Western Australia. Seventeen bat species have been recorded so far. Sites sampled during the past year: Nicole Bay (July 1979); Gales Bay, Point Samson, Cape Keraudren (July 1979, March 1980); Cambridge Gulf (August 1979).

(xiv) Bat Taxonomy

Material was borrowed for examination from the Queensland Museum in connection with a study of the taxonomy and zoogeography of species of Free-tailed Bats, genus *Tadarida* subgenus *Mormopterus*.

3. PLANT ECOLOGY

(i) Fire Ecology

Two more blocks of the strategic fire buffer at Two Peoples Bay Nature Reserve were burnt in September 1979. To date two study plots have been established in the buffer to monitor regeneration of the vegetation following different regimes of fire. Quadrats from one plot were harvested in October 1979. Material from all harvests (1976-1979) has now been sorted, dried and weighed, and data have been prepared for analysis.

Collection of data from reserves in the central Wheatbelt continued with an emphasis on comprehensive sampling of the 316 systematic grid points at Tutanning Nature Reserve. About 40% of the reserve has now been surveyed on this basis. Further plant collections were made and incorporated into the herbarium.

A computerised resource inventory and predictive fire modelling system for Tutanning Nature Reserve was constructed in collaboration with Dr Stephen Kessell of Montana, U.S.A. Basic resource data (elevation aspect, type of landform, soil, vegetation structure and cover, fire history, etc.) were recorded on a hectare by hectare basis for the whole reserve. A floristic vegetation classification based on results of initial vegetation sampling and those measurable environmental factors was linked to the inventory, together with models of fire fuels accumulations and fire behaviour. The system has the potential to predict the movement of a fire in the reserve under prevailing meteorological conditions. Further development work will be carried out over the next few years.

(ii) Eneabba

The results of the detailed ecological survey of the kwongan (sandplain) vegetation south of Eneabba have been written up and submitted for publication. A report detailing impacts of harvesting the vegetation for use in rehabilitation of areas mined for heavy mineral sand has been prepared. Results of the study of vegetation of lateritic uplands from Jurien to Arrowsmith River are currently being prepared for publication. This study was extended and expanded to the Cockleshell Gully-Mt Lesueur area in 1979 and data are currently being analysed.

(iii) Middle Island

Progress has been made towards completing the report on all studies on Middle Island. A further visit is programmed for late 1980 but it is not proposed to delay publication to incorporate those additional data.

(iv) Lake King

The report on the study of effects of fire on the vegetation east of Lake King has been completed and accepted for publication.

(v) Dorre Island

No further field work was undertaken during the year. Formal reports covering earlier work have yet to be completed.

#### 4. FLORA CONSERVATION

(i) Census and Atlas of Commercially Exploited W.A. Plants

A report was published giving the names, distribution

maps and commercial uses (for cut flowers, seed or nursery plants) of 1119 wildflower species known to have been sold in the trade over the period 1977-1979. Most of these species were found to be widespread, but 200 had restricted geographical ranges and need investigation to see if controls of commercial harvesting are needed. Areas around Perth and Albany have the greatest concentration of commercially used species.

(ii) Atlas of the W.A. Flora - Pilot Programme

The W.A. Native Orchid Study and Conservation Group was contacted and agreed to become involved in the pilot programme. Field sight record sheets were drafted, tested and amended. The pilot programme will commence late in 1980. An intensive effort was made in designing appropriate computer programmes to allow for interactive use of the data base. Unforeseen changes in policy by the Computer Policy Committee of the Treasury have delayed completion of this aspect of the pilot programme.

(iii) Conservation Status and Biology of Rare Species

In 1979, two publications appeared dealing with rare Western Australian plants. "Australian Plants at Risk" (*Aust. Nat. Pks. Wildl. Serv. Occ. Pap. No. 3*), by W. Hartley and J. Leigh, listed 936 W.A. species as being rare or endangered. "Poorly Collected and Presumably Rare Vascular Plants of Western Australia". (*Kings Park Res. Notes No. 5*), by N.G. Marchant and G.J. Keighery, listed 124 species as rare, and a total of 2022 species as being rare, restricted or poorly collected (1544 were placed in the latter category).

Both these publications indicate the magnitude of the problem of rare species in W.A. and both highlight the need for systematic biological surveys on rare taxa.

The approach adopted thus far in coming to terms with the rare species problem has been largely one of data collation. Moreover, field surveys on selected species were continued and expanded over the past year. These species included *Eucalyptus caesia*, *E. crucis*, *E. pendens*, *E. axilis*, *E. johnsoniana*, *E. roycei*, *Anigozanthos kalbarriensis*, *Grevillea rogersoniana*, *Newcastelia chrysophylla*, undescribed species of *Banksia*, *Conostylis*, *Calothamnus* and *Verticordia*, *Eremaea purpurea*, *Banksia goodii*, *Lambertia rariflora*, *Rhizanthella gardneri* and several tuberous geophytes.

A number of these species are turning out to be locally common and geographically restricted rather

than rare. However, a nucleus of rare and endangered species has emerged in light of these surveys.

Studies on geographical variation in *Eucalyptus caesia* have been illuminating. Although now known from several widely scattered granite rocks in the central wheatbelt, and most populations appear to be morphologically uniform (the large and small forms are now recognised as distinct subspecies), an analysis of enzyme variation has demonstrated that each population has a unique genetic makeup. This implies that if the gene pools of W.A. species that have insular population structures are to be conserved, then the majority of populations of each species will need to be protected by reservation. The situation in species with more continuous distributions appears to allow for the inclusion of fewer populations in reserves from the viewpoint of conserving gene pools.

Now that the magnitude and approximate limits of the rare species problem have been defined, detailed surveys and biological studies on particular species have commenced. Work on rare species is seen as a major priority for the next few years at least.

(iv) Biology of Kangaroo Paws and *Conostylis*

Three brief papers dealing with the horticulture, hybridization and taxonomy of the kangaroo paws were written and published in the journal *Australian Plants*.

A paper on experimental hybridization in the kangaroo paws was written and submitted to the *Australian Journal of Botany*.

A survey of the distribution of *Anigozanthos kalbarriensis* in Kalbarri National Park was undertaken. Opportunistic field observations on several species of kangaroo paws and *Conostylis* were made in the course of routine field work on other projects.

A paper describing *Conostylis neocymosa* sp. nov. was published in the journal *Botaniska Notiser*.

In preparation for a taxonomic revision of *Conostylis*, label details on the ca. 3 000 specimens in the Western Australian Herbarium were transcribed and distribution maps were compiled for all species. Measurements of leaves and flowering stems were also made on all recognised taxa for a planned multivariate morphometric analysis.

(v) Pollination Ecology

A substantial number of original observations of honeyeaters and honey possums feeding on flowers



were made. These, together with published observations and numerous personally communicated records from interested colleagues have been collated in draft form for a proposed departmental report.

A study of the comparative feeding ecology of nectarivorous birds and mammals at Cheyne Beach was undertaken. This study established that contrary to popular belief, honey possums (*Tarsipes spencerae*) are not strictly nocturnal. They will feed in full daylight when it's cloudy and cool. Consequently, it was possible to actually observe free-living animals feed on *Banksia* and eucalypt flowers and obtain data directly comparable to that obtained in standard honeyeater studies. These data are not yet analysed.

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## VII ENFORCEMENT

### 1. ACTIVITIES

On April 28, 1980, the Wildlife Conservation Act Amendment Act came into operation. This Act repealed the Native Flora Protection Act 1935-1938, which effectively transferred control of native flora from the Forests Department to the Department of Fisheries and Wildlife.

Western Australia has been richly endowed with native flora, particularly the South West Land Division. One thousand one hundred (1 100) species are eagerly sought after by commercial operators. Wildlife Officers will become increasingly involved with inspection duties and protection of flora. Many species are in grave danger of becoming extinct throughout Australia.

The Australian National Parks and Wildlife Service "Occasional Paper No. 3" entitled "Australian Plants at Risk" lists 2 053 species as being actually or potentially at risk throughout Australia; 936 of these (approximately 45%) occur in Western Australia, and of these, about 820 occur in the South West Land Division.

More attention is now being given to illegal dealing and trafficking in protected fauna. Investigations are constantly being carried out in respect to trafficking and illegal sale of crocodiles, cockatoos, parrots, birds of prey and reptiles. With the opening up of mining towns in new geographic areas, and with better roads, increased concern is felt for illegal collecting, exchanging and trading in reptiles and other fauna from these remote areas.

Recent apprehensions by Customs officers at Perth International Airport involving smuggling of galahs out of Australia, were initiated by Wildlife enforcement officers of this Department, which resulted in combined investigation and surveillance, leading to apprehension of the offenders prior to their overseas departure.

### 2. RESERVES

The number of nature reserves under the control of the Western Australian Wildlife Authority continue to increase throughout the State (see separate data). Without suitable increases in enforcement staff, Wildlife Officers are unable to adequately police these areas. Patrols are carried out wherever possible and apprehensions have been made and persons prosecuted for dumping of rubbish and picking of flora from the reserves. Many illegally erected fences and other structures, together with straying cattle and persons illegally occupying land on nature

reserves, are currently being investigated by enforcement officers.

### 3. MANAGEMENT PROGRAMME

#### Grey and Red Kangaroos

Both management programmes are constantly policed by Wildlife Officers. Tight controls are enforced and many illegal operators have been apprehended. Illegal processing operations and illegal private shooting cause the most concern. Licensed meat and skin processors are regularly inspected in both the metropolitan and country areas.

#### Finch Trapping

The 1979 Finch Trapping Season resulted in 16 800 finches being trapped. Although 3 000 more than in 1978, the figures are not as good as 1977, for instance, when over 26 000 finches were taken. There are not as many trappers operating these days. Eight were licensed this year. It is generally felt that there is less effort being made by trappers in recent years, resulting in lower catches. Rains during the season dispersed many birds and this also was responsible for an "only average" season.

#### Duck Shooting Season

Because of continuing drought conditions in many areas, the consequential poor breeding and the need to protect existing duck populations, an "open season" did not occur during this year.

4. PROSECUTIONS - JULY 1, 1979 TO JUNE 30, 1980

Various offences against the Wildlife Conservation Act and Regulations occurred throughout the year. Of these, some 49 were considered to be of a less serious nature and warning letters were sent. In addition, in many instances, verbal warnings given by the Wildlife Officer were considered sufficient.

Details of prosecutions are recorded as follows:-

DISTRICT NO. 1 WYNDHAM Prosecutions - Nil	
DISTRICT NO. 2 KARRATHA Prosecutions - 5	Fines \$150.00 Costs \$54.90 2 cases pending
DISTRICT NO. 3 MT MAGNET Prosecutions - Nil	
DISTRICT NO. 4 CARNARVON Prosecutions - 1	Fines \$40.00 Costs \$24.10
DISTRICT NO. 5 GERALDTON Prosecutions - 14	Fines \$855.00 Costs \$248.20 1 case pending
DISTRICT NO. 6 MOORA Prosecutions - 3	Fines \$200.00 Costs \$4.00 2 cases pending
DISTRICT NO. 7 WONGAN HILLS Prosecutions - Nil	
DISTRICT NO. 8 WAROONA Prosecutions - 9	Fines \$440.00 Costs \$187.80 1 case pending
DISTRICT NO. 9 PINGELLY Prosecutions - 2	Fines \$230.00 Costs \$43.20
DISTRICT NO. 10 KALGOORLIE Prosecutions - 1	Fines \$40.00 Costs \$4.10
DISTRICT NO. 11 BUSSELTON Prosecutions - 1	Fines \$25.00 Costs \$19.10
DISTRICT NO. 12 ALBANY Prosecutions - 4	Fines \$130.00 Costs \$57.40
DISTRICT NO. 13 PERTH METROPOLITAN AREA Prosecutions - 49	Fines \$2 310.00 Costs \$740.80 12 cases pending
DISTRICT NO. 14 MANJIMUP Prosecutions - Nil	
DISTRICT NO. 15 ESPERANCE Prosecutions - Nil	
GRAND TOTALS Prosecutions - 88	Fines \$4 420.00 Costs \$1 383.60 18 cases pending

Breach Details Overleaf....

Section of Act Or Regulation	No.	Description	(Total)	
			Fines	Costs
DISTRICT NO. 2 KARRATHA				
Sect. 16(1)	3	Taking of protected fauna (kangaroos)	150.00	54.90
Sect. 16(1)	1	Taking of protected fauna (kangaroos)	Case pending	
Sect. 17A(a)	1	Processing of fauna for sale without a license	Case pending	
DISTRICT NO. 4 CARNARVON				
Reg. 6(11)	1	Transporting kangaroo carcasses without duly affixed tags	40.00	24.10
DISTRICT NO. 5 GERALDTON				
Reg. 45(1)	1	Taking a dog onto a nature reserve	25.00	19.10
Sect. 16(1)	1	Taking of protected fauna (ducks)	50.00	24.10
Sect. 16(1)	2	Taking of protected fauna (kangaroos)	160.00	28.20
Sect. 16A(1)	5	Possession of protected fauna (kangaroos)	420.00	90.50
Reg. 50(1)(a)	2	Selling fauna without a license	100.00	58.20
Reg. 50(1)(b)	2	Transporting fauna without a duly affixed tag	100.00	28.10
Sect. 17A(1)	1	Processing fauna for sale without a license	Case pending	
DISTRICT NO. 6 MOORA				
Sect. 16(1)	1	Taking protected fauna (galahs)	200.00	4.00
Sect. 16A(1)	2	Possession of protected fauna (kangaroos)	Case pending	
DISTRICT NO. 8 WAROONA				
Sect. 16(1)	5	Taking protected fauna (kangaroos)	290.00	115.50
Sect. 16(1)	1	Taking protected fauna (kangaroos)	Case pending	
Sect. 16A(1)	3	Possession of protected fauna (kangaroos)	150.00	72.30
DISTRICT NO. 9 PINGELLY				
Reg. 46(b)	1	Removing timber from a nature reserve	200.00	24.10
Reg. 44(1)	1	Dumping rubbish on a nature reserve	30.00	19.10
DISTRICT NO. 10 KALGOORLIE				
Sect. 16A(1)	1	Possession of protected fauna (ducks)	40.00	4.10

Section of Act or Regulation	No.	Description	Fines	(Total) Costs
			\$	\$
DISTRICT NO. 11 BUSSELTON				
Reg. 52	1	Taking fauna not fully fledged	25.00	19.10
DISTRICT NO. 12 ALBANY				
Sect. 16A(1)	1	Possession of protected fauna (kangaroos)	50.00	19.10
Reg. 48(2)	2	Driving a car on a limited access area of a nature reserve	40.00	24.20
Reg. 45(1)	1	Taking a dog onto a nature reserve	40.00	14.10
DISTRICT NO. 13 PERTH METROPOLITAN AREA				
Sect. 16(1)	17	Taking of protected fauna (kangaroos)	1 030.00	274.70
Sect. 16(1)	1	Taking of protected fauna (wild turkey)	80.00	19.10
Sect. 16(1)	2	Taking of protected fauna (parrots)	80.00	38.20
Sect. 16(1)	2	Taking of protected fauna (kangaroos)	Case pending	
Sect. 16(1)	1	Taking of protected fauna (emus)	Case pending	
Sect. 16(1)	1	Taking of protected fauna (Black Swan)	Case pending	
Sect. 16(1)	1	Taking of protected fauna (Grey Teal Duck)	Case pending	
Sect. 16A(1)	3	Possession of protected fauna (Kangaroos)	80.00	67.30
Sect. 16A(1)	1	Possession of protected fauna (Maned Goose)	15.00	14.10
Sect. 16A(1)	1	Possession of protected fauna (Jewel Beetles)	Case pending	
Sect. 16A(1)	5	Possession of protected fauna (kangaroos)	Case pending	
Sect. 16A(2)	5	Possession of skins with tags not duly affixed	300.00	130.50
Sect. 16A(2)	1	Possession of carcass with tag not duly affixed	Case pending	
Sect. 17(2)(e)	3	Selling fauna without a license	400.00	77.30
Sect. 17(2)(g)	2	Processing fauna without a license	200.00	48.20
Sect. 17(3)(a)	1	Using illegal device to take fauna	75.00	23.20
Reg. 44(1)	1	Depositing rubbish on a nature reserve	30.00	24.10
Reg. 46(b)	1	Removing timber from a nature reserve	20.00	24.10

## VIII LICENSING

The keeping of or dealing in fauna not in its natural environment is controlled under the licensing system. During the twelve months ending June 30, 1980 the following licenses were issued:

### 1. SCIENTIFIC PURPOSES - REGULATION 17

These licenses were issued mainly to official organisations or their employees. Sixty two licenses were issued to take fauna for general scientific purposes.

### 2. EDUCATIONAL AND PUBLIC PURPOSES - REGULATION 15

There were 27 licenses issued for the following purpose:-

Care of derelict fauna	8
Collection and Study	6
Study and Display	1
Educational	5
Photography	3
Miscellaneous purposes	4

### 3. AVICULTURE

(i) Licenses to Keep and Breed Fauna in Captivity - Regulation 12

6 702 licenses were issued, mainly to aviculturists.

(ii) Licenses to Deal in Avian Fauna - Regulation 13

74 were issued.

(iii) Licenses to Trap Avian Fauna - Regulation 11

14 were issued.

List of Parrots Trapped

Twenty-eight	1 092
Western Rosella	879
Western King	513
Galahs	6

List of Finches Trapped

Longtail	5 210
Masked	2 306
Star	4 000
Gouldian	1 139
Blood	579
Double Bar	1 316
Chestnut	559
Pictorella	1 723



4. GAME

Licenses to Take Game

32 quail shooters' licenses were issued.  
184 duck shooters' licenses were issued.

5. KANGAROOS

Licenses to Take Red Kangaroos for Sale -  
Regulation 6

101 licenses were issued throughout the year .

Licenses to Deal in Kangaroo Carcasses -  
Regulation 8

17 licenses were issued.

Licenses to Deal in Kangaroo Skins - Regulation 10

15 licenses were issued.

Licenses to Process Fauna - Regulation 7

24 licenses were issued to process kangaroos.

6. IMPORTS AND EXPORTS OF FAUNA

The Wildlife Conservation Regulations provide that no fauna shall be imported or exported from this State without a license.

(i) Export Interstate

Finches:-

Blood	199
Chestnut	105
Double Bar	353
Gouldian	215
Longtail (Blackheart)	3 384
Masked	1 275
Zebra	82
Pictorella	892
Star	2 452
Painted	20
African Fire Finch	130

Parrots:-

Twenty-eight	1 290
Rosella - Western	876
Budgerygah	1 651

Western King	634
Lovebirds - Peach-faced	253
- Masked	154
Eastern Rosella	1
Nyassa	93
Scarlet-chested	22
Red-collared Lorikeet	14
Purple-crowned Lorikeet	8
Elegant	120
Pale-headed Rosella	4
Bourke	8
Red-winged	1
Crimson Rosella	1
Little Lorikeet	2
Cockatoos:-	
Red-tailed Black	3
White-tailed Black	2
Galah	14
Short-billed Corella	2
Long-billed Corella	2
Sulphur Crested	3
Canaries:-	261
Other Species:-	
Senegal Turtle Dove	24
Coot	6
King Quail	2
Black Winged Stilt	10
Java Sparrow	20
Barbary Doves	62
Splendid Wrens	4
Purple Swamp Hen	8
Brown Quail	3
Stone Curlew	2
Mammals :-	
Quokkas	1
Ash-grey Mice	2
Wallaby	1
Honey Possums	19
Little Northern Native Cat	1
Western Grey Kangaroo	1
Kultarr	5
Douglas little Bat	1
Reptiles and Amphibians:-	
Crowned Snake	1
Black-headed Snake	1
None Skinks	7
Labillard's Skinks	5
Broad-banded Skink	1

Marbled Gecko	41
Bob-tailed Skink	20
Bardick	1
Dugite	2
Dtella	35
Thick-tailed Gecko	27
Bindes Gecko	15
Whip Snake	1
Little Brown Snake	1
Frogs ( <i>Arenophryne</i> )	5
Frogs ( <i>Crinia georgiana</i> )	40
Green Gold Bell Frogs	21
Turtle Frogs	10

(ii) Import Interstate

Finches:-

African Firetail	45
Aurora	66
Cordon Bleu	158
Cuban	24
Blue Cap Wax Bill	2
Cut Throat	16
Canaries	672
Melba	107
Orange-breasted Waxbill	196
Plumhead	12
Yellow Star	24
Red Star	2
Gouldian	11
Black Hearted (Longtail)	28
Jackarine	45
Red faced Parrot	23
Blue faced Parrot	3
Painted	4
Red Cardinal	108
Star	116
Zebra	2
Chestnut-breasted	50

Parrots:-

Alexandra (Princess)	97
Blue Bonnet	7
Yellow vented	1
Red vented	7
Budgerygah	728
Cockatiel (Weero)	176
Crimson Wing	91
Eastern King	51
Hooded	37
Mallee Ringneck	8
Rainbow Lorikeet	16

Scaly-breasted Lorikeet	2
Red-rumped	10
Rosella - Adelaide	4
- Crimson	29
- Eastern	22
- Pale Headed	35
- Yellow	5
Red Collar Lorikeet	6
Alexandrine	19
Indian Ringneck	2
Superb Parrot	18
Elegant	2
Regent	1
Varied Lorikeet	4
Cloncurry Ringneck	2
Green Rosella	1
Purple Crowned Lorikeet	4
Golden Shouldered	1

Cockatoos:-

Short-billed Corella	444
Galah	1 452
Sulphur-crested	2
Major Mitchell	7
Red-tailed Black	1

Birds - General:-

Bleeding-heart Pigeon	2
Cattle Egret	4
King Quail	34
Diamond Dove	57
Silver Gull	100
Blue faced Honey Eater	4
Rose Crowned Pigeon	4
Burdekin Duck	3
Buln Buln	4
Singing Honey Eater	20
Green Cat Bird	2
Satin Bower Bird	2

Mammals:-

Black stripe Wallaby	2
Tammar Wallabies	178
Antelopine Kangaroo	1
Southern Bush Rat	32
Bush Rat	20
Hopping Mice	30
Western Chestnut	
Native Mice	6
Little Native Mice	6
Eastern Mice	6

Reptiles and Others :-

Snails ( <i>Partula</i> )	2 450
Estuarine Crocodile	1
Little Brown Snake	1

(iii) Export Overseas

Birds :-

Galah	36
Budgerygah	10
Long-billed Corella	1
Cockatiel	1
Short-billed Corella	9
Pelicans	2
Black Swan	6
Canary	2
Twenty-eight	1
King Penguin	1
Kookaburra	4
Tawny Frogmouth	2
Barn Owl	4
Boobook Owl	4
Red-tailed Black Cockatoo	2
Black-tailed Native Hen	4
Banded Land-Rail	4

Mammals :-

Western Grey Kangaroo	9
Red Kangaroo	10
Agile Wallabies	18
Euros	3
Dingo	2
Spotted Planigale	2
Planigale	2
Fat-tailed Dunnart	2

Reptiles and Amphibians :-

Shingle Back	10
Short-Limbed Skink	5
Gidgee Skink	6
Velvet Gecko	10
Spiny-tailed Gecko	10
Thick-tailed Gecko	4

7. EXPORT LICENSES ISSUED TO OVERSEAS INSTITUTIONS

11 licenses were issued.

- (i) The Wildfowl Trust, Gloucester, U.K.
- (ii) Harvard University, Massachusetts, U.S.A.  
(Three)

- (iii) University of Colorado, Colorado, U.S.A.
- (iv) Duke University, North Carolina, U.S.A.
- (v) American University of Natural History,  
New York, U.S.A. (two)
- (vi) Field Museum of Natural History, Illinois  
U.S.A.
- (vii) Universite de Paris, Paris, France.
- (viii) The Max-Planck Institut Jur Hinntorschung  
Frankfurt, W. Germany.

8. LICENSES TO KEEP FAUNA - REGULATION 16

24 issued in the year.

9. EMUS

License to Process Fauna - Regulation 7

4 licenses were issued to process Emu eggshells.

10. FLORA

The following licenses were issued in the two month period between the date of proclamation of the Wildlife Conservation Amendment Act 1976, and June 30, 1980:

Commercial Purposes License:

71 licenses were issued authorising the taking of protected flora for sale from Crown Land only.

Commercial Producer's License:

36 licenses issued authorising the taking of protected flora for sale from Private land only.

Scientific or Prescribed Purposes License:

18 licenses issued authorising the taking of protected flora (except whole plants or roots of plants) from Crown land for the following purposes: scientific, educational, hobby, propogation, personal enjoyment. Holders of this license are not permitted to sell flora taken.

## IX LEGISLATION

### 1. WILDLIFE CONSERVATION ACT AMENDMENTS

The Wildlife Conservation Act Amendment Act 1976 was proclaimed on April 2, 1980 to be effective from April 28, 1980. The proclamation was published in *Government Gazette* Number 27 on April 18, 1980. The amendments, *inter alia*, repealed the Native Flora Protection Act 1935-1938 and encompassed responsibility for the conservation of flora within the principal act.

The name of the Trust Fund was altered to the 'Wildlife Conservation Trust Fund' and provision is made for fees from licenses issued for the taking and selling of protected flora to be credited to the Trust Fund.

### 2. WILDLIFE CONSERVATION REGULATIONS AMENDMENTS

The Wildlife Conservation Regulations were amended to give effect to the provisions of the principal act in relation to its responsibilities for this State's flora. The amending regulations were published in *Government Gazette* Number 27 on April 18, 1980.

## X RADIO COMMUNICATIONS

Maintenance of departmental radio equipment was carried out as required throughout the year. Wherever possible, such maintenance was performed by the Radio Communications Officer.

Following the upgrading of single side band radio equipment on the Department's patrol vessels, three 100-watt transceivers previously fitted on vessels have been reassigned to vehicles used by District Wildlife Officers. Currently, four vehicles of the Wildlife Enforcement Section are equipped with VHF transceivers.

Radio Communications Officer, Mr H. Schneiker resigned in August 1979 and was replaced by Mr R. Taylor.



## XI STAFF

### 1. ADMINISTRATION

The Wildlife Conservation Act is administered by Mr B.K. Bowen Director of the Department of Fisheries and Wildlife and Chairman of the Western Australian Wildlife Authority; Mr A.J. Mearns, Secretary and Conservator of Wildlife; Mr D.W. Arnold, Administrative Officer of the Department of Fisheries and Wildlife and Executive Officer of the Western Australian Wildlife Authority; and clerical staff of the Department of Fisheries and Wildlife.

### 2. ENFORCEMENT

Wildlife Officers - New Positions Created - Nil

Retirements:

R.F. Dear

Resignations:

B. Masters - District Wildlife Officer, Busselton

Transfers

<u>NAME</u>	<u>FROM</u>	<u>TO</u>
P. Lambert	Wildlife Officer Pingelly	Wildlife Officer Busselton
L. Silvester	Wildlife Officer Kalgoorlie	Wildlife Officer Pingelly
R. Piggot	Wildlife Officer Mt. Magnet	Wildlife Officer Kalgoorlie
P. Collins	Trainee Wildlife Officer, Perth	Wildlife Officer Mt. Magnet
J. Neal	Wildlife Officer Manjimup	Wildlife Officer (Kangaroo Control) Perth
P. Roberts	Wildlife Officer Flora	Wildlife Officer Wongan Hills

Disposition of Wildlife Officers June 30, 1980

Perth:	Chief Wildlife Officer	B.A. Carmichael
	Supervising Wildlife Officer	A.R. Marshall
	Senior Wildlife Officer	J. Wilson

Metropolitan Wildlife Officer	G. Hanley
Wildlife Officer (Special Investigations)	M. Osborn
Wildlife Officer (Kangaroo Control)	J. Neal
Wildlife Officer (Flora)	B. Haberley
Wildlife Officer (Flora)	S. Hancocks
Wildlife Officer (Relieving)	M. Mahoney
Wildlife Officer (Relieving)	J. Quinn
Wildlife Officer	R.M. Fitzgerald
Wildlife Officer	T. Walley
Trainee Wildlife Officer (Temporary)	Vacant
Trainee Wildlife Officer (Temporary)	Vacant

Districts

Wyndham	Wildlife Officer	D. Noble
Karratha	Wildlife Officer	P. Pennings
Mt. Magnet	Wildlife Officer	P. Collins
Carnarvon	Wildlife Officer	K. Marshall
Geraldton	Wildlife Officer	D. Mell
Moora	Wildlife Officer	K. Miller
Wongan Hills	Wildlife Officer	P. Roberts
Pingelly	Wildlife Officer	L. Silvester
Waroona	Wildlife Officer	R. Coughran
Busselton	Wildlife Officer	P. Lambert
Manjimup	Wildlife Officer	Vacant
Albany	Wildlife Officer	R. Smith

Albany	Wildlife Officer	L. Coyne
Esperance	Wildlife Officer	I. Cooke
Kalgoorlie	Wildlife Officer	R. Piggot

### 3. RESEARCH AND RESERVE MANAGEMENT

No professional officers joined the branch during the year.

Mr A.E. Williams was appointed as Technical Officer, Reserves Management at Wanneroo, on 21 August 1979 to replace Mr D. Clemky who resigned.

Two other Technical Officers resigned during the year: Miss M. Colreavy and Mr C. Robinson who was promoted to a position with the Kings Park Board.

The item occupied by Miss Colreavy has been re-classified to permit appointment of a professional officer to investigate the sharp decline in the Numbat.

## XII EXTENSION AND PUBLICITY

Liaison with the media during the past year, kept the public informed on important matters relating to wildlife and habitat preservation in Western Australia.

Public involvement in wildlife conservation continued to expand with an increasing level of written and verbal requests from teachers, students, and the general public being met.

Demand by conservation associations, wildlife institutions and libraries in Australia and throughout the world for inclusion on the mailing list for Department Reports, Bulletins and Journal continued.

Departmental reports on Wildlife conservation published during the year were:-

Departmental Report No. 39  
Wildlife of the proposed Toolonga nature reserve, Shark Bay Shire, Western Australia.

Departmental Report No. 40  
Commercially exploited vascular plants native in Western Australia: Census, atlas and preliminary assessment of conservation status.

Some Nature Reserves of the Western Australian Wheatbelt  
- an unpublished series -

Part 15 Nungarin Shire	B.G. Muir
Part 16 Trayning Shire	B.G. Muir
Part 17 Dowerin Shire	B.G. Muir
Part 18 Goomalling Shire	B.G. Muir
Part 19 Northam Shire	B.G. Muir
Part 20 Kondinin Shire	B.G. Muir
Part 21 Corrigin Shire	B.G. Muir
Part 22 Quairading Shire	B.G. Muir
Part 23 York Shire	B.G. Muir
Part 24 Beverley Shire	B.G. Muir
Part 25 Pingelly Shire	B.G. Muir
Part 26 Williams Shire	B.G. Muir
Part 27 Cuballing Shire	B.G. Muir
Part 28 Narrogin Shire	B.G. Muir

Special booklets released for information to the public were:-

"Two Peoples Bay Nature Reserve" reprinted.  
"Magpies and how to live with them."  
"Protecting our Flora" - A guide to the recently introduced Flora legislation.

Three draft management plans and audit reports on nature reserves were also produced.

Stocks of brochures, leaflets and general student project material were maintained; several of these publications being

updated and re-written.

The State Wildlife Advisory News Service Journal was published twice during the last year. Various demands made upon the Extension and Publicity Office by organisations and members of the Public, continued to increase the activities of the section and curtailed the regular publication of this quarterly Journal. The 1979 Annual report of the Western Australian Wildlife Authority was collated and published.

## XIII FINANCE

### 1. WILDLIFE CONSERVATION ACT

The demands on this Department to continually expand its involvement in areas of wildlife conservation, research and enforcement, and the requirement to maintain existing activities, require increased expenditure each year from the Consolidated Revenue Fund. This trend has continued in 1979/80.

### 2. WILDLIFE CONSERVATION TRUST FUND

A financial statement as at June 30, 1980 is is presented on the following page.

## WILDLIFE CONSERVATION TRUST FUND

STATEMENT OF RECEIPTS AND PAYMENTS FOR THE PERIOD JULY 1, 1979 TO JUNE 30, 1980

RECEIPTS

Balance brought forward on July 1, 1979	\$68 487.16
Game License Fees	2 783.00
Gifts and Bequests	40.00
Other (Interest etc.)	1 313.88

PAYMENTS

Feral Cats Research Prog.	\$2 800.00	\$13 267.52
Aboriginal	30.00	
Tooliban/Taarblin	2 962.30	
Needonga/Chittering	2 000.50	
Numbat Survey	5 474.72	

Balance carried forward at June 30, 1980 59 356.52

\$72 624.04

\$72 624.04

61

Amount of \$2 800 incorrectly met from WR/NUM/414  
 \$700.00 transferred to correct item WR/PRO/429 (Reserve Management)  
 \$2 100 transferred to correct item WT/LKS/414 (Artificial Islands on Lakes)  
 Amount of \$2 500 incorrectly met from WR/NUM/414  
 has been transferred to correct item WT/LKS/414 (Artificial Islands on Lakes)

N.B. Investments from this Fund total \$22 525.00 and are lodged in R&I Savings Bank Account No. 35/94203

October 1, 1980

H. Wrankmore  
 A/ACCOUNTANT  
 STATE HEALTH SERVICES

B.K. Bowen  
 DIRECTOR  
 DEPARTMENT OF FISHERIES AND WILDLIFE