

DEPARTMENT OF FISHERIES AND WILDLIFE, 108 ADELAIDE TERRACE, PERTH

# Western Australian Wildlife Authority

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

# 1977 ANNUAL REPORT



Numbat or Banded Anteater (Myrmecobius fasciatus)

Western Australia

# DEPARTMENT OF FISHERIES AND WILDLIFE

108 Adelaide Terrace, Perth, W.A.

The Honourable G.C. MacKinnon 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, 1977, together with comments relating to the administration of this Act.

(B.K. Bowen)
CHAIRMAN'S

Western Australian Wildlife Authority

# TABLE OF CONTENTS

		Page
1	WESTERN AUSTRALIAN WILDLIFE AUTHORITY AND COMMITTEES	
	1. MEMBERSHIP 2. MEETINGS 3. POLICY	1 3 3
11	THE FAUNA	
	<ol> <li>NUMBER OF INDIGENOUS SPECIES</li> <li>LIST OF UNPROTECTED INDIGENOUS SPECIES</li> <li>LIST OF RARE AND ENDANGERED SPECIES</li> <li>OPEN SEASONS</li> </ol>	4 4 5 7
111	THE FLORA	8
<b>1</b> V	NATURE RESERVES	
	<ol> <li>INTRODUCTION</li> <li>TABLE OF RESERVES</li> <li>SUMMARY OF NATURE RESERVES</li> </ol>	9 9 10
	4. NATURE RESERVES VESTED IN WESTERN AUSTRALIAN WILDLIFE AUTHORITY 5. NEW RESERVES 6. OTHER CHANGES	10 10 12
	7. PROHIBITED AREAS 8. ENFORCEMENT MAPS	17 17 18 & 1
٧	WORK ON RESERVES	*
	1. FIRE CONTROL 2. OTHER PROJECTS 3. RESOURCE MANAGEMENT	20 21 22
V1	WILDLIFE RESEARCH	
	1. BIOLOGICAL SURVEY 2. MACROPODS 3. ESTUARINE BIRDLIFE 4. WATERFOWL RESEARCH AND GAME MANAGEMENT 5. PLANT ECOLOGY 6. PESTICIDES AND WILDLIFE 7. RESERVE MANAGEMENT 8. MISCELLANEOUS 9. PUBLICATIONS	26 27 28 29 30 31 31 32

		Page
V11	ENFORCEMENT	
	1. MANAGEMENT PROGRAMMES 2. SPECIAL INVESTIGATIONS 3. PROSECUTIONS	34 35 35
V111	LICENSING	
	<ol> <li>SCIENTIFIC PURPOSES</li> <li>EDUCATIONAL AND PUBLIC PURPOSES</li> <li>AVICULTURE</li> <li>GAME</li> <li>KANGAROOS</li> <li>IMPORTS AND EXPORTS OF BIRDS AND MAMMALS</li> <li>LICENSES TO KEEP FAUNA</li> <li>EMUS</li> </ol>	40 40 41 41 41 46 46
IX	LEGISLATION	
	1. WILDLIFE CONSERVATION ACT AMENDMENTS 2. FAUNA CONSERVATION REGULATIONS	47 47
X X1	RADIO COMMUNICATIONS STAFF	48
	1. ADMINISTRATION 2. ENFORCEMENT 3. RESEARCH AND RESERVE MANAGEMENT	50 50 51
X11	EXTENSION AND PUBLICITY	53
X111	FINANCE	
••	1. WILDLIFE CONSERVATION ACT 2. FAUNA CONSERVATION TRUST FUND STATEMENT OF RECEIPTS AND PAYMENTS	54 54 55

# DEPARTMENT OF FISHERIES AND WILDLIFE WESTERN AUSTRALIAN WILDLIFE AUTHORITY

# I WESTERN AUSTRALIAN WILDLIFE AUTHORITY AND COMMITTEES

### MEMBERSHIP

# Names and Organisations

Ex Officio Members:-

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

Conservator of Wildlife - Department of Fisheries and Wildlife - Mr H.B. Shugg

Conservator of Forests - Mr B.J. Beggs

Deputy - Mr W.H. Eastman, Assistant Conservator of Forests

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

Deputies - Mr C.D. Gooding Mr A.J. Oliver

# Appointed Members

Dr J.W. Green - Curator, W.A. Herbarium - Botanist
Professor A.R. Main - University of W.A. - Zoologist
Dr S.J.J. Davies - CSIRO, Division of Wildlife Research Zoologist

Dr B.R. Wilson - W.A. Museum

Mr N.A. Beeck - Farmer

Mr H.G. Hall - Farmer

Mr W.H.B. Lacy - Farmer

Mr R.A. Aitken appointed to the Western Australian Wildlife Authority on June 1, 1977 under Section 10 of the Wildlife Conservation Act which states that one of the eight appointed members "shall have a wide and practical knowledge of the indigenous flora of the State".

Mr Aitken's appointment follows the 1976 Amendment to the Wildlife Conservation Act which made provision for the protection and conservation of flora.

# Executive Officer

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

# Names of Committees

Reserves Committee Bird Committee

# Membership

Reserves Committee:-

Mr B.K. Bowen - Chairman

Mr H.B. Shugg - Deputy Chairman

Mr D.W. Arnold - Executive Officer

Mr N.A. Beeck - Authority Member

Mr W.H.B. Eastman - Assistant Conservator of Forests

Dr D. Kitchener - Curator of Mammals, W.A. Museum

Dr A.A. Burbidge - Senior Research Officer, Wildlife Research Branch

Mr N.L. McKenzie - Research Officer, Wildlife Research Branch

# Bird Committee:-

Mr H.B. Shugg - Chairman

Mr D.W. Arnold - Executive Officer

Dr G.M. Storr - Curator of Birds and Reptiles, W.A. Museum

Dr D.L. Serventy - Zoologist

Dr S.J.J. Davies - CSIRO Division of Wildlife Research, Helena Valley

Deputy - Mr I. Rowley

Mr T. Spence - Director, South Perth Zoological Gardens

Mr N.A. Beeck - Authority Member

Mr H.G. Hall - Authority Member

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

Deputies - Mr A.J. Oliver Mr J. Long

Mr J.R. Masters - Farmer (Ornithologist)

Mr J.A.K. Lane - Research Officer, Wildlife Research Branch

Mr S.W. Bowler - Supervising Wildlife Officer

On June 30, 1977 Dr T.L. Riggert resigned from the Department of Fisheries and Wildlife and his position on Bird Committee was taken by Mr J.A.K. Lane, a Wildlife Research Officer from the Western Australian Wildlife Research Centre.

# Secretariat

Mr L.W. Marrable and Mr A.J. Goadby carried out the secretarial functions for the Authority and its various standing committees.

### 2. MEETINGS

# Western Australian Wildlife Authority

The Authority met on four occasions during 1976/77.

# Standing Committees

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Reserves Committee - met on three occasions during 1976/77.

Bird Committee - met on three occasions during 1976/77.

Letter Tell 1

# 3. POLICY

The Western Australian Wildlife Authority in 1976/77 made the following policy recommendations -

It recommended that research workers who had commenced research studies overseas on one particular species and were considering continuing their research using the same species in Western Australia should be notified of the rules and regulations governing the importation of animals from overseas prior to making application.

It recommended the establishment of an Authority sub-committee to be known as the Flora Committee to provide basic information and advice on flora conservation to the Authority.

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Committee to the second and also

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# II THE FAUNA

# 1. NUMBER OF INDIGENOUS SPECIES OF:

The second secon		Numbers of Species				
	Recorded in W.A.	Pro- tected	Not pro- tected	Open Season	Rare & En- dangered	
Andrew process deligation that a stronger of accomplishment of the stronger of		450	1 0	21	15	
Birds	464	450	15			
Marsupials	61	60	1	3	27	
Other Mammals	60	57	3	_	7	
Reptiles	299	271	28	-	3	
Amphibia	50	50	_	<u>-</u>	<b></b>	
Totals	932	886	47	24	52	

# 2. LIST OF UNPROTECTED INDIGENOUS SPECIES

<u>Mammals</u>	
Dingo	Canis familiaris dingo
Birds	
Cormorants -	
Black Cormorant	Phalacrocorax carbo
Birds of Prey -	
Australian Goshawk Collared Sparrowhawk Wedge-tailed Eagle	Accipiter fasciatus Accipiter cirrocephalus Aquila audax
Parrots and Cockatoos -	
White-tailed Black Cockatoo Galah Red-capped (King) Parrot Port Lincoln Parrot or Twenty-eight Western Rosella Budgerygah	Calyptorhynchus baudinii Kakatoe roseicapilla Purpureicephalus spurius Barnardius zonarius Platycercus icterotis Melopsittacus undulatas

# Birds (Cont'd)

Perching or Song Birds 
Western Silvereye Zosterops gouldi
Australian Raven Corvus coronoides
Little Crow Corvus bennetti
Australian Crow Corvus orru Little Crow Australian Crow

# Reptiles

Front-fanged Snakes (Family Elapidae)

Large Venomous Snakes -

Dugite Gwardar Mulga Snake
Whip Snake or Wyree
Spotted-headed Snake
Western Tiger Snake or Norne

Demansia australis
Demansia psammophis
Demansia olivacea
Notechis scutatus

Demansia affinis Demansia nuchalis versitere same en skull occidentalis propiet

# Small Venomous Snakes -

Common Death Adder Desert Death Adder Rosen's Snake Ringed Snake Bandy Bandy

Northern Bandy Bandy

Half-ringed Snake Red-naped Snake Yellow-naped Snake Little Brown Snake Mueller's Snake Bardich

Acanthopis antarcticus Acanthopis pyrrhus Denisonia fasciata Vermicella annulata Rhynchoelaps bertholdi bertholdi

estrope of partition of a term of

Rhynchoelaps bertholdi anomalus Half-ringed Snake
Narrow-banded Snake
Five-ringed Snake
Little Whip Snake
Black-naped Snake
Black-striped Snake
Allied Bandy Bandy
Crowned Snake or Werr
White-lipped Snake
Northern White-lipped Snake
Red-naped Snake
Red-naped Snake

Brachymorphus semifasciatus
Rhynchoelaps fasciolatus
Pseudonaja modesta
Denisonia gouldii
Vermicella bimaculata
Vermicella calonota
Ryhnchoelaps approximans
Denisonia coronata
Denisonia coronoides
Denisonia punctata
Denisonia suta
Aspidomorphus diadema Brachymorphus semifasciatus Aspidomorphus diadema Aspidomorphus christieanus Elapognathus minor Rhinhoplocephalus bicolor Denisonia curta

# LIST OF RARE AND ENDANGERED SPECIES

			Government
<u>Birds</u>		Company of the second	Gazette
Noisy Scrub Bird	Atrichornis clamosus		23. 6.72
Bristle-bird	Dasyornis brachypterus		11
Rufous Bristle-bird	Dasyornis broadbenti		ti -
Black Grass Wren	Amytornis housei Removed	11. 8.76	11
Western Whipbird	Psophodes nigrogularis		. 10

		Government
Birds (Cont'd)		<u>Gazette</u>
Ground Parrot	Pezoporus wallicus	23. 6.72
Night Parrot	Geopsittacus occidentalis	11
Naretha Blue Bonnet	Psephotus haematogaster narethae	11
Cape Barren Goose	Cereopsis novae-hollandiae	s
Freckled Duck	Stictonetta naevosa	8. 2.72
Partridge Pigeon	Geophaps smithii	9. 2.73
Burdekin Duck	Tadorna radjah	II .
Red-tailed Tropic		
Bird	Phaethon rubricauda	u
Peregrine Falcon	Falco peregrinus	11
Princess Parrot	Polytelis alexandrae	n n
Grass Owl	Ty to longimembris	11
GLASS OWI	1 g vo vong vmembi ve	
Mammals		
Manunais		
Barrow Island Euro	Macropus robustus isabellinus	2. 5.73
Crescent Nail-tailed	Macropus robustus toubettounus	2. 3.73
	Onychogalea lunata	n
Wallaby	ongenogatea tunata	
Spectacled Hare	Taganahaataa aananiai 11 atus	er e
Wallaby	Lagorchestes conspicillatus Lagorchestes hirsutus	n .
Western Hare Wallaby	•	11
Banded Hare Wallaby	Lagostrophus fasciatus	
Brush-tailed Rock	Dotmonala nomaillata	
Wallaby	Petrogale pencillata	
Rothschild's Rock	Datmarda mathachildi	If
Wallaby	Petrogale rothschildi	n
Woilie	Bettongia penicillata	11
Boodie	Bettongia lesueur	91
Broad-faced Potoroo	Potorous platyops	11
Gilbert's Potoroo	Potorous tridactylus gilberti	
Little Barred	D	11
Bandicoot (Marl)	Perameles bougainville	. 11
Big-footed Bandicoot	Chaeropus ecaudatus	
Dalgyte (Rabbit-	7 1 1 1 1	11
eared Bandicoot)	Macrotis lagotis	11
Rusty Numbat	Myrmecobius fasciatus rufus	
Dibbler	Antechinus apicalis	
Little Red	A., t 1,	11
Antechinus	Antechinus rosamondae	11
Long-tailed Dunnart	Sminthopsis longicaudata	11
White-tailed Dunnart	Sminthopsis granulipes	
Narrow-nosed	Diaminata tamainataia	. 11
Planigale	Planigale tenuirostris	tt
Kimberley Planigale	Planigale subtilissima	
Rock-haunting Ring-	Dotmononidos dali	et .
tail	Petropseudes dahli	11
Troughton's Dunnart	Sminthopsis murina ooldea	11
Scaly-tailed Possum	Wyulda squamicaudata	
Big-eared Hopping	Notomus magalotic	TI .
Mouse	Notomys megalotis	
Long-tailed Hopping	Notomia longiamidatus	11
Mouse	Notomys longicaudatus	11
Dusky Hopping Mouse	Notomys fuscus	11
Stick-nest Rat	Leporillus conditor	
White-tipped Stick-	Innamillue anicalia	
nest Rat	Leporillus apicalis	ł¥

	Mammals (cont'd)			Government Gazette
	Western Mouse Shark Bay Mouse Gould's Native	Pseudomys occidentalis Pseudomys praedomys		2.5.73
	Mouse Shortridge's Native	Pseudomys gouldii		n
	Mouse Dugong	Pseudomys shortridgei Dugong dugon		11 11
	Reptiles			
	Western Swamp (Short-necked) Tortoise Saltwater Crocodile Freshwater Crocodile	Pseudemydura umbrina Crocodylus porosus Crocodylus johnstoni		11 11
4.	OPEN SEASONS			Gazetted
	Open Seasons declared	in 1976/77.		
	Finch Trapping Season 1976.	- September 1 to November 15,		13. 8.76
	Management of Agile W	allabies (Macropus agilis).		13. 8.76
		son - south-west and Eucla Lander 18, 1976 to January 16, 1977.		10.12.76
		son - Kimberley north-west and sions. January 1 to December 31	•	10.12.76
	Existing Open Seasons			
	Management of population $rufa$ and Euro (Ma	ions of Red Kangaroo (Megalia acropus robustus)	and	17. 4.70 1. 5.70
		n Quail (Synoicus ypoilophorus) (Coturuia pectoralis). 30 each year.		25. 6.71
	Management of populating fuliginosus)	ions of Grey Kangaroo (Macropus	and	23. 7.71 30. 6.72
	Management of population hollandiae)	ions of Emus (Dromaius novae-		26. 1.73
	Management of Little (	Corellas (Cacatua sanguinea) -		
	in Kimberle in Shire of	ey Land Division - E Coorow -		4. 5.73 18. 5.73

# III THE FLORA

For the time being, the protection of flora has remained the responsibility of the Forests Department: the existing Native Flora Protection Act requires that it be administered by the Conservator of Forests. The Wildlife Conservation Act Amendment Act (No. 86 of 1976) was passed to repeal the Native Flora Protection Act. The amendment also introduced a new provision for the Act to bind the Crown in respect of flora. Other provisions update the laws in relation to protection, conservation, utilization and management and give the Minister flexible authority to meet various situations in different parts of the State.

Provision for additional professional, clerical and enforcement staff has also been made in the Departmental staff and finance budgets.

The new provisions will give the Government greater opportunities to protect and conserve the native flora. The Department of Fisheries and Wildlife is seeking some additional staff and funds in its 1977/78 budget to take advantage of those opportunities.

# 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 (l) 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	Total Area		Vested in the W.A. Wildlife Authorit		
30 June	Number	(ha)	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	

# 3. SUMMARY OF NATURE RESERVES - JUNE 30, 1977

As at June 30, 1976	918	reserves	5	339	947.4797	ha
New reserves 1976/77	31	reserves	2	180	974.7652	ha
Amendments 1976/77	18	reserves	+	1.	033.6589	ha
Cancelled reserves						
1976/77	3	reserves		1	083.6823	ha

# 4. NATURE RESERVES VESTED IN WESTERN AUSTRALIAN WILDLIFE AUTHORITY - JUNE 30, 1977

As at June 30, 1976	351	reserves	4 747	403.0150	ha
New reserves 1976/77	20	reserves	2 178	699.6880	ha
Amendments 1976/77	4	reserves	+	68.5454	ha
Existing reserves vested 1976/77	16	reserves	2	744.0141	ha
Cancelled reserves 1976/77	2	reserves	1	524.7896	ha

# 5. NEW RESERVES 1976/77

NO.	NAME	AREA (ha)	VESTING	GAZETTED
22096		386.0701	W.A.W.A.	23.7.76
34136		49.6540	W.A.W.A.	6.8.76
34140		12.9781		6.8.76
34197		637.4387	W.A.W.A.	20.8.76
34257	Swan Ils.	29.0322	W.A.W.A.	17.9.76
18342		.4629	W.A.W.A.	1.10.76
34288		.2342	Ravensthorpe	1.10.76
			Shire	T.TO.10
34290		.2364		1.10.76
34295		929.0621		1.10.76
26264	Mailalup	768.1844	W.A.W.A.	29.10.76
971		404.6856		29.10.76
34385	Nembudding	14.1613	Wyalkatchem	19.11.76
			Shire	13.11.10
26158		4.8258		10.12.76
34442		1895.6332	W.A.W.A.	24.12.76
687	Namalcatching	258.9988		28.1.77
	Well			
2393		40.4686	W.A.W.A.	4.2.77
		and the second s		

cont'd...

NO.	NAME	AREA (ha)	a) VESTING GAZE	
34522 34523	Lake Ace	1403.7402 909.8800	W.A.W.A. W.A.W.A.	18.2.77 18.2.77
34527 34571		133.0935 6.0450	W.A.W.A.	4.3.77
A.11039 A.17258	Lake	127.4760 42.6750	W.A.W.A. W.A.W.A.	1.4.77
	Wardering			
A.34560	Little Rocky Island	4.6452	W.A.W.A.	1.4.77
A.34578	North Turtle Island	51 (approx)	W.A.W.A.	1.4.77
34585 16405	Point Spring	302.9906 619.0172	W.A.W.A. Water Supply	1.4.77 22.4.77
A.34604	Mungilli Claypan	3 635.8307	W.A.W.A.	22.4.77
A.34605	Plumridge	308 990.0 (approx)	W.A.W.A.	22.4.77
A.34606	Browne Range	1 859 286.0 (approx)	W.A.W.A.	22.4.77
20878 25919		24.8327 5.4127	W.A.W.A.	20.5.77 17.6.77

6. OTHER CHANGES

(i) Amendments to Area 1976/77

DATE	3.7.7	•	7.9.7	9.10.7	9.10.7	9.11.7	4.12.7	4.12.	4.12.7	.2.77	8.2.	.3.77	.3.7	m.	18.3.77		4.7	3.6.77	.6.7
DIFFERENCE	-4.6024	8448	4.046	1099.	.177	.9510	.001	4.677	1.698	34.	.432	80.93	.6122	-0.4565	+0.4163		6.714	-183,7177	155.001
NEW AREA	36.90	•	.148	101.78	81.30	0000	3.095	436.91	79.168	183.8614	05.939	25,343	58.38	.7320	4.0585		30.878	297.8582	73.212
OLD AREA	41.51	16.1874	.101.	002.36	81.482	0.0700	02.096	741.58	30.866	18.0	09.371	25,262	58.99	.188	3.6422		37.59	.575	8.210
VESTING	W.A.W.A.				W.A.W.A.							W.A.W.A.	W.A.W.A.	Kalamunda	Mundaring	R.B.			
NAME	Andersons Lake	Chapman River		Pt. D'Entrecasteaux	Thevenard Island					Beaufort Bridge	Sanford Rocks	Nuytsland W.L.Sanct.	Wild Horse Swamp						
NO.	25194	893	32178	A.30523	33174	24789	26001	32864	32865	1736	1432	A.27632	1740	30142	20765		27277	14493	68767

TOTAL AREA AMENDED + 1033.6589 ha.

AREA TO BE ADDED TO W.A.W.A. RESERVES 68.5454 ha.

# (ii) Existing Reserves Vested 1976/77

NO.	NAME	VESTING	AREA	DATE
2023 11372 20069 27871 27872 A.11144 19900 A.13145 30306 25809 A.25808 A.687	Dongalocking  Boyagin Rock  Rifle Range  Lake Powell  Namalcatching	W.A.W.A. W.A.W.A. W.A.W.A. W.A.W.A. W.A.W.A.	40.4686 29.1374 199.1053 206.2708 202.2871 121.8104 87.2097 133.6105 39.2039 185.7507 199.6358 258.9988	1.10.76 12.11.76 19.11.76 19.11.76 19.11.76 10.12.76 21.1.77 4.2.77 4.2.77 4.3.77 11.3.77 18.3.77
A.11047 27216 A.11048 A.24792 15388	Well Mt. Caroline Mt. Stirling	W.A.W.A. Dandaragan Shire W.A.W.A. W.A.W.A.	351.6718 1575.8459 224.9571 306.8782 157.0180	1.4.77 1.4.77 1.4.77 22.4.77 20.5.77

TOTAL W.A.W.A. = 16 RESERVES. Area 2744.0141

# (iii) Existing Reserves Made Class "A"

NO.	NAME	VESTING	AREA (ha)	GAZETTED
A.31634	Sugar Loaf	W.A.W.A.	.8094	9.7.76
A.16379	Buntine	Min. for Water Supply	1370	11.3.77
A.29860	Lake Pallarup	W.A.W.A.	3248.1159	11.3.77
A.29864	One Mile Rocks	W.A.W.A.	864.8613	11.3.77
A.29857	Tarin Rock North	W.A.W.A.	1415.5094	11.3.77
A.33530	Wongan Hills	W.A.W.A.	417.4942	11.3.77
A.23187	Nangeen Hill	W.A.W.A.	176.4429	11.3.77
A.25808		W.A.W.A.	199.6358	11.3.77
A.11047	Mt. Caroline	W.A.W.A.	351.6718	1.4.77
A.11048	Mt. Stirling	W.A.W.A.	224.9571	1.4.77
A.18803	Chinocup	Min. for Water Supply	979.3393	22.4.77
A.24792		W.A.W.A.	306.8782	22.4.77
A.33811	Bedout Island	W.A.W.A.	30.7116	22.4.77

TOTAL MADE CLASS "A" = 13 RESERVES. Area 9586.4269

# (iv) Existing Reserves, Change of Purpose 1976/77

NO.	NAME	VESTING	FROM	TO	AREA	DATE
2023	-	W.A.W.A.	Stopping place & Flora	Cons. of Flora & Fauna	40.4686	1.10.76
11372		W.A.W.A.	Water & Cons. of Flora & Fauna	Cons. of Flora & Fauna	29.1374	12.11.76
27872	<b>-</b>	W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	202.2871	19.11.76
27871	_		Cons. of Flora	Cons. of Flora & Fauna	206.2708	19.11.76
19900	-	W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	87.2097	21.1.77
30306	-	W.A.W.A.	Cons. of Flora	Cons. of Flora & Fauna	39.2039	4.2.77
A.25808	y <del>-</del>	W.A.W.A.	Ecological Purposes & Cons. of Flora	Cons. of Flora & Fauna	199.6358	11.3.77
A.24792		W.A.W.A.	Cons. of Flora	Recreat- ion & Cons. of	306.8782	22.4.77
No. 1. Sec.		n i san tulki. Tamban kaling		Flora & Fauna	e de la composition della comp	
15388	-	W.A.W.A.	Protection of Native Flora & Fauna	Cons. of Flora & Fauna	157.0180	20.5.77

PURPOSE CHANGED = 9 RESERVES. Area 1268.1095 ha.

# (v) Existing Reserves Cancelled 1976/77

RESERVE NO.	VESTING	AREA	DATE GAZETTED
26643 31378 28479	W.A.W.A. W.A.W.A.	168.7539 914.9284 32.3749	11.3.77 1.4.77 17.6.77

# (vi) Existing Reserves Vestings Changed 1976/77

RESERVE	NO.	NAME	PREVIOUS VESTING	NEW VESTING	AREA(ha)	GAZETTED
		· ·				
A.24392	N	illstream Mational Park	W.A.W.A.	National Parks Authority	441.1073	1.4.77

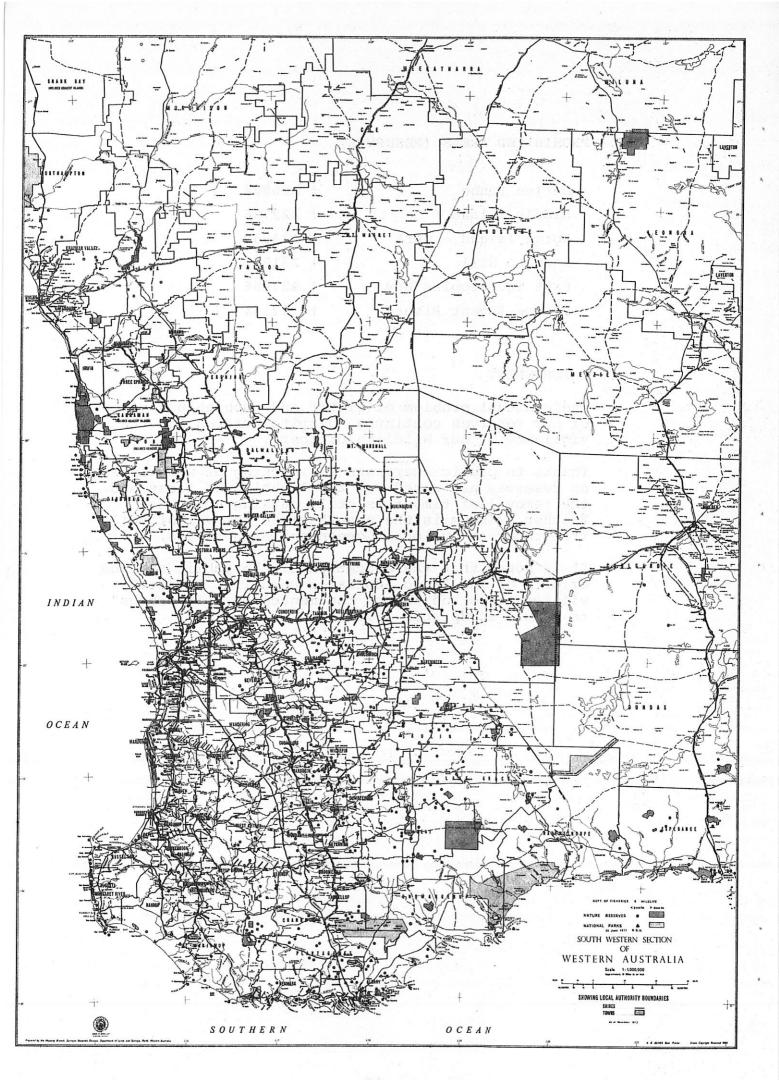
# 7. PROHIBITED AREAS (RESERVES)

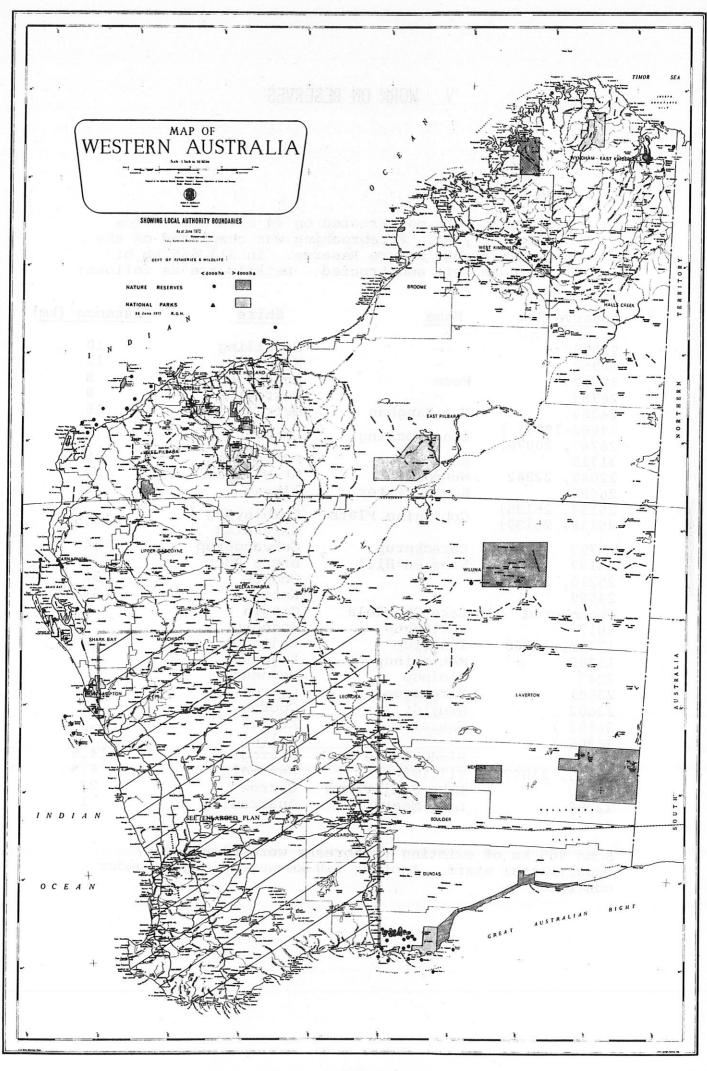
### 8. ENFORCEMENT

The constant problem of litter and rubbish pollution of our reserves continues, despite notices and the vigilance of our Wildlife Officers.

Thanks to public awareness the picking of wildflowers on reserves has eased but the lighting of fires and the removal of timber is still causing concern. Another problem is the unauthorized removal of soil from reserves by local Government authorities.

It is hoped that the education of the public and the efforts of the "Keep Australia Beautiful Council" will continue and reduce the menace of "litterbugs" to a more acceptable level.





# V WORK ON RESERVES

# 1. FIRE CONTROL

Firebreaks were constructed on 44 nature reserves during the year. Firebreaking was completed on the Lake Pinjarrega Nature Reserve. In all 665 km of firebreaks were constructed. Details are as follows:

Reserve No.	Name	<u>Shire</u>	Distance (km)
21056 18952		Cuballing Wickepin	10 12
29322 26787	Weam	Brookton Narrogin	8 8
24367	T.A.Maughan	Merredin	16
19082-19091 ) 26787, 20070)	Dongolocking	Dumbleyung	112
31715 22082, 22262 26688	Barbalin Wundowlin South Sister	Mukinbudin Mt Marshall Albany	8 32 26
25134, 25135) 25136, 25137)	Coblinine Flats	Dumbleyung ) Katanning )	110.5
26793	Corackerup	Gnowangerup Bruce Rock	54 6
23187 25210, 23601	Nangeen Hill	Coorow	52
24589 Unnumbered	- Lake Chandala	Kent Gingin	53 5
8617 17759, 17760	Narlingup Towerlup	Kojonup) Kojonup)	44
15388 2243	Mettabinup Mininup	Kojonup) Kojonup)	
23601 23602	Marchagee Gunyidi	Coorow )	21.5
26692 ) 26905 )	Gnarming	Kulin) Kulin)	38
19120 17115, 21067	Birdwhistle Rock Yilliminning	Narrogin Narrogin	14.5 6.5
25210 12398	Lake Pinjarrega Lake Mears	Corrow Quairading	27 1
		and the second s	

Some 408 km of existing firebreaks were ploughed by Departmental staff. Another 610 km were ploughed under contract.

# Prescribed Burning

Compartment 15 of the Tutanning Nature Reserve and Compartment 9 at the Wildlife Research Centre were burnt in July 1976; a total of about 100 ha. Due to the very dry conditions prevailing abnormally high scorch heights were experienced.

In September 1976 a new programme was successfully commenced at Two Peoples Bay Nature Reserve. The Kojonup fire plans were put into operation on June 1, 1977.

# Wildfires

During the 1976/77 summer wildfires were numerous. Reserve Management staff carried out suppression on Thompsons Lake, Lake Muir, Quarram.

### 2. OTHER PROJECTS

From May 12 to 22, 1977, four staff members transferred 18 tonnes of equipment and materials to Cocklebiddy and 20 km south over a four-wheel drive track to the old Eyre Telegraph Station to assist in the restoration of that building.

Also during this month materials and equipment were purchased to construct a fence and cattle grids around the Point Spring Nature Reserve, near Kununurra. This material was despatched on State Ship M.V. "Boogalla" and the actual construction will be supervised by the District Wildlife Officer.

# 3. RESOURCE MANAGEMENT

This section is divided into two major parts. The first is a statement of policy which has guided this year's programmes; the second is a short description of the year's main activities.

The State's natural resources include Nature (i) Reserves and all other relatively natural areas. Natural resources are being subjected to ever increasing environmental pressures because of the rapid increase in populations. Consequently, the attention to a variety of resource management problems has been focused in the south-west where the concentration of populations is Here, natural resources are providing increasing. opportunities for many people to enjoy outdoor environments: this is especially true in the metropolitan area where some open spaces still survive. Collectively, such areas could have value as a metropolitan nature reserve system which could compatibly accommodate people, provided that uses were passive, and provided that the system's management could be adequately financed.

Many nature reserves are not large enough to withstand the disturbances to which they are subjected. This can also apply to relatively large reserves. All are prone to be affected by disturbances even from outside because reserves are islands separated by a sea of development, whether it is rural, urban or industrial. Today, reserves support biological systems that in the past have obviously been able to cope with natural disturbances. Unfortunately, today's technology can accelerate environmental processes to such a rate that organisms cannot evolve quickly enough to adapt. Consequently, some management programmes have been aimed at manipulating the environmental processes so that disturbances can be buffered.

These small islands sustain organisms that have been generated by past environmental regimes. If one of these islands should ever be destroyed by a disaster, such as an uncontrolled bushfire, then it might never be regenerated to its original condition because those past environments which generated it no longer exist. For these reasons, some reserves are being protected from hazards of accumulated bushfire fuels by means of hazard-reduction burning.

Many reserves are not large enough to be ecologically viable and they are surrounded by land marginal for any use other than nature conservation. The boundaries of such reserves should be extended to

appropriate landscape features such as streams and ridge crests. Such features can be chosen so as to enclose a complete habitat system and to form effective reserve boundaries.

Two consecutive years of poor rainfall have been detrimental to wetland conservation and this has heightened the need to use efficiently what water is available on wetlands. On some south-western swamps, the Public Works Department has maintained structures which were once used for the sole purpose of drainage. Working in co-operation with the Department of Fisheries and Wildlife, the Public Works Department is now utilising these structures for the dual purpose of drainage and wetland conservation.

Some complex problems warrant joint approaches by several authorities if they are to be solved within acceptable periods of time. If a given problem is not resolved quick enough, ever changing circumstances can mould a new problem, sometimes unrelated to the first. Consequently, approaches to resource management problem solving are, in some cases, involving other authorities such as the Department of Mines, Public Works, Lands and Surveys, Agriculture and Forests, and in one case, Busselton Shire Council.

(ii) A short description of the year's main activities follows:

Broadwater Reserve (†27080) and Wonnerup/Vasse Estuaries -

Many rivers that flow into these refuges are a certain source of water over winter. Consequently, these areas are ideal winter waterbird breeding refuges. Here, swans are being used as an indicator group in the evolution of management regimes. Artificial nests for swans are being maintained on the Broadwater Reserve. Artificial nests are not needed in the estuaries because in contrast to the Broadwater, adequate nest building vegetation grows there.

The needs of waterbirds, as well as those of the farmers, are being catered for by the establishment of flood patterns on the Broadwater.

The Public Works Department is manipulating water levels around swan nests to permit their use by swans. On the other hand, in the Wonnerup and Vasse estuaries, excepting a northern section of

the Wonnerup Estuary, precise water level control is impossible because of an environmental regime involving significant water level fluctuations over the nesting season. However, a scheme has been evolved that could control water levels within acceptable ranges throughout the winter nesting season. A relatively steady water level is necessary for the nesting success of waterbirds.

At Busselton, the Shire Council's recently adopted town planning scheme has given consideration to local wetlands and conservation. The scheme takes into account that flood prone lands cannot accommodate many developments, but can be suitable for farming and wetland conservation. Therefore, an objective of the scheme is to accommodate wetlands on those privately owned farmlands which are flood prone and which lie within the town boundary by establishing a land use category defined as a landscape protection area. The area encloses several thousand hectares of the Busselton wetlands.

# Benger Swamp -

Sixty-three percent has now been purchased for nature reserve purposes. Landscape features have been used to establish a boundary of the future wetland reserve of approximately 600 hectares and the swamp has been aerially photographed. Photography is being used to monitor the swamp's vegetation. Bulrush thrives there, and tends to intrude into open water. The latter contributes to waterfowl nursery habitat. It is therefore necessary to maintain open water free of bulrush by cultivating particular areas. This is being effected by farmers who are cultivating swamp land when the swamp is dry during summer.

Recherche Archipelago (†A22796) -

Woody Island is subject to tourist use. Supervision and installation of tourist amenities are on-going needs.

Lake Dumbleyung Reserve (†2664 and †5999) -

Many ingredients of conflict are associated with the lake. Recreation competes with conservation; agricultural use competes with both. On-going programmes aim to harmonise all uses. To such ends the lake's foreshores continue to be investigated. This is necessary for two reasons. First, development of the lake's surrounds to accommodate some recreational uses is being negotiated with Dumbleyung Shire Council. Second, the lake's foreshores are generally unsuitable for agricultural uses but they are suitable for conservational uses. Much of the foreshores are on private property. Where this is the case, acquisition is being negotiated with landowners.

# The Wongan Hills -

In response to an E.P.A. recommendation, vegetation on private land in the Wongan Hills is being monitored. Such land surrounds two nature reserves. The indigenous vegetation is comprised of five vegetative communities, i.e. high shrubland, open scrub, closed scrub, low woodland and low open forest. These communities are spread over several farming properties. Aerial photography already suggests that each property is subject to a particular land use regime. Objectives of monitoring are to quantify changes in vegetation, and to detect any environmental deterioration before the point of irreversibility is reached. Monitoring has commenced using aerial colour photography. A vegetation map has been superimposed on a mosaic constructed from the photographs. These photographs can be used also for monitoring the development or deterioration of the vegetated ridges.

A brochure on the Hills' ecology will be available shortly.

# The Northern Arthur River -

An interdepartmental committee of five Departments (Fisheries and Wildlife, Mines, Agriculture, Forests and Public Works) is investigating the feasibility of maintaining the ecological integrity and the rehabilitation of the waterways of the Arthur River. This is an investigation of a salting problem which is common throughout the wheatbelt. The committee has met twice. Already some work has been completed and piezometers have been installed. A great part of the Northern Arthur River is being photographed from the air and these will be contoured by the Department of Lands and Surveys. The investigation aims initially at developing salt and water budgets for some lakes. Measuring devices are being purchased and will be installed first in Lake Toolibin.

# 1. BIOLOGICAL SURVEY

The ongoing biological survey of the Kimberley Region continued with a shift in emphasis from the high rainfall areas to the more arid South Kimberley. As with previous surveys in this region, staff from the Western Australian Museum, the Western Australian Herbarium and C.S.I.R.O. Division of Entomology participated in the field work and will contribute papers, in their areas of specialization, in the survey publication.

An area of vacant Crown Land at the southern limits of the Kimberley Division was the subject of a biological survey in August 1976. The area includes the Edgar Range, an outlying scarp of the Fitzroy Valley. An extant population of the Rabbit-eared Bandicoot (Macrotis lagotis) was recorded.

In April 1977, a biological survey of the Coulomb Point Nature Reserve and the vacant Crown Land between Pender Bay and Cygnet Bay was carried out. Both areas are on the Dampier Peninsular, north of Broome.

Also relevant to the Kimberley regional survey was the joint Western Australian Museum - Chicago Field Museum of Natural History survey of the Mitchell Plateau area, undertaken in October 1976. A research officer from the Department of Fisheries and Wildlife participated.

Publications on these surveys are in various stages of preparation. Contributing papers have been submitted for a Wildlife Research Bulletin on the Islands of the North-west Kimberley.

The ongoing biological survey of the desert regions of Western Australia continued. Papers for a Wildlife Research Bulletin on the November 1975 and March 1976 desert surveys were called from contributing authors. The mammal paper was finalized following critical reading by selected referees and includes a review of the current status of desert mammals in Western Australia. The paper concludes with the recommendation that further surveys be undertaken to find and conserve extant populations of desert wallabies and bandicoots.

Following this recommendation, a reconnaissance of the Warburton Region was conducted during June 1977.

Mammal trapping was undertaken in the Jameson and Blackstone Ranges and in the Schwerin Mural Crescent.

During this trip, and during a preliminary trip in January 1977, various groups of aborigines were interviewed concerning the mammals of the region. A paper is being prepared for publication.

In February 1977, a final visit was made to an area of vacant Crown Land east of Lake Moore. A report on the wildlife of this area was brought to final draft and a copy forwarded to the Department of Conservation and Environment to assist in the delineation of boundaries for the proposed 300 000 ha Karroun Hill Nature Reserve.

The first of two field trips to an area of vacant Crown Land north-east of Yuna took place in March 1977. This was in response to a recommendation by the Environmental Protection Authority in its report on Conservation Reserves for Western Australia. A preliminary vegetation map and a compilation of its vertebrate fauna has been prepared. After a second field trip in September 1977, a report on the area will be published.

### 2. MACROPODS

# (i) Red Kangaroo Management Programme

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

Technical Staff visited a number of shooters in Murchison, Gascoyne and Carnarvon areas during January - February, 1977, to obtain further field data on shooter performance, and to ensure more precise reporting of harvest data where needed. Some further data on selection of animals shot from the population available have been obtained.

The prolonged drought affecting much of the area where the commercial harvest is taken has not adversely influenced commercial operations in the past year, due to the constraints imposed by the management programme, but signs of a reduction in reproductive success will have to be taken into account in the future.

# (ii) Grey Kangaroo Management Programme

The situation remains the same as previously reported.

# (iii) Agile (Sandy) Wallaby

Imminent changes in pastoral management practices to be implemented in the West Kimberley have thrown increasing pressure onto the Department to arrive at a formal management programme for this species. Biological data available are being reviewed, and it is anticipated that a limited appraisal of the field situation will be undertaken in the near future.

The need for such additional work only aggravates problems due to staff shortages in this area, but this particular shortage must also be considered in relation to priorities in respect of individual species, and the general shortage of staff within the research section.

# (iv) Banded Hare Wallaby Colony, Dirk Hartog Island

This colony had increased to 35 individuals (1899, 1730) on December 8, 1976. The loss of two of the original female adults since October, 1975, was noted at this time.

Another three females were lost over the period December 8, 1976 - May 1, 1977. The first stage of the programme for release to the field was commenced on this last visit. Progress will be checked during more frequent visits in the future.

Renewed efforts to control feral domestic cats are planned in concert with this phase of the attempted reintroduction.

# 3. ESTUARINE BIRDLIFE

- (i) The two-year study of the birdlife of Peel and Harvey Estuaries (Mandurah) which was initiated in 1975, was completed in June 1977. Findings and recommendations concerning conservation measures considered necessary to preserve the estuaries' great value to waterbirds will be published during the forthcoming year.
- (ii) Monthly surveys of the Swan, Pelican and Egret populations of Hardy Inlet (Augusta), Leschenault Inlet (Bunbury) and Peel and Harvey estuaries (Mandurah), which have continued for the past 2-4 years, were completed in May 1977.
- (iii) Twice-yearly surveys of Pelican and Swan numbers on all estuaries of the south-west coastline (Perth Esperance) were also completed in 1977 and results will be published during the forthcoming year.

(iv) The transequatorial migratory wader banding programme at Pelican Point (Swan River) which was initiated in January 1973 was continued through the 1976-77 wader season. The number of birds banded (282) compared favourably with the previous year's total (132) though it was considerably less than the two preceding years when 441 and 474 birds were banded. The reasons for the decline in bird numbers at Pelican Point are not known, though increasing disturbance by people and domestic pets may have contributed.

There were no overseas recoveries of waders banded at Pelican Point during 1976-77.

(v) Checks on nesting activity of all known pelican breeding colonies south of the Kimberleys were continued through 1976-77. One new colony was found, bringing the total number known to 6, one of which is situated inland, one is on an estuary, and 4 are on offshore islands.

Leg banding of pelican chicks was continued on two colonies, and live trapping of free-flying pelicans was continued in the south-west. More than 700 chicks and 350 free-flying birds have now been banded.

Banding and tagging will continue during the forthcoming year, with emphasis on wing-tagging of free-flying birds in the south-west region.

# 4. WATERFOWL RESEARCH AND GAME MANAGEMENT

During the past year the Waterfowl Research Branch has been involved in the following projects:

- (i) Aerial and ground surveys of wetlands of the southwest region of the state to provide information on the size, distribution and breeding success of waterfowl populations prior to setting of the annual Duck Hunting Season.
- (ii) Completion of the Lake Chittering check structure. This project (managed jointly with the Department of Public Works) began in 1975 with the construction of a temporary sand-bag weir across the outlet from Lake Chittering on the Brockman River. The outlet had been deepened by a neighbouring farmer some 10 years or so previously and this had resulted in a substantial lowering of the lake's size and permanency and therefore its value as a waterfowl refuge. The purpose of the sandbag weir was to determine whether the lake's previous value to waterfowl could be restored, giving due regard to the needs of neighbouring farmers and property owners further downstream.

Surveys of the lake's birdlife following construction of the weir indicated a substantial increase in number and diversity of waterbirds present. A permanent check structure was therefore built at the end of the 1976/77 summer and is now awaiting winter rains.

- (iii) The branch also advised on improvements to Lake Adams, a privately owned ephemeral lake in the Shire of Wanneroo. Approximately 6 ha of permanent water has now been provided on one side of the lake, thus greatly increasing the lake's value to waterfowl.
- (iv) Other duties performed by officers of the Waterfowl Research Branch included:
  - (a) advising on the likely impact of various development proposals which involved wetlands
  - (b) monitoring water quality of lakes prior to mining of the lake-beds.
  - (c) representing the department on various committees concerned with waterbirds or wetlands (e.g. the Wetland Advisory Committee of the Department of Conservation and Environment).
  - (d) preparation of publications concerning such topics as artificial nest boxes and corrosion rates of leg-bands used in waterfowl studies.

### 5. PLANT ECOLOGY

The first of a planned series of plots for detailed study of post-fire regeneration of vegetation was established in October 1976. An area of heath in the Two Peoples Bay Nature Reserve, within a block designated for controlled burning, was selected. Vegetation was harvested from selected quadrats, the area was burned under monitored conditions, and a further set of quadrats harvested immediately after the fire. Regular sampling of the regenerating vegetation will continue for ten years.

A permanent systematic grid comprising 316 sampling sites was established at Tutanning Nature Reserve. Monitoring of long term changes in the vegetation will be accomplished by regular detailed sampling at each of the sites. Data from a preliminary sampling is presently being sorted for use in a soils-vegetation classification.

Seed from the dominant understorey shrub species Oxylobium parviflorum has been collected for germination studies prior to that species being used for the rehabilitation of disturbed areas of Tutanning Nature Reserve.

Further sampling of regenerating vegetation on Middle Island was undertaken this year. Additional data from vegetation at selected sites within the unburnt section of the island was gathered as baseline data for the regeneration study. All Middle Island data is presently being collated for publication.

Supervision of the rehabilitation programmes of Mining Companies operating on, or adjacent to, the Eneabba reserves continues to demand substantial amounts of time. Baseline data for the assessment of the rehabilitation programmes will be gathered during an ecological survey of the area in September 1977, the preliminary sampling for which has already been carried out.

# Dorre Island

The planned visit was postponed. This is now programmed for August, 1977.

# PESTICIDES AND WILDLIFE 6.

No analyses were carried out during the past year.

### RESERVE MANAGEMENT 7.

### Tortoises (i)

ing sample of the Democratic property of the control of the contro Work on the Western Swamp (or Short-necked) Tortoise (Pseudemydura umbrina) continued. The situation with respect to the future survival of the species is grave. Population estimates at Twin Swamps Nature Reserve suggest that the species is declining in numbers. The latest estimate available - for 1974 - is only 19 (plus or minus 15). In the 1976 winter only three animals were captured, compared with 66 in 1966. The reason for this decline lies basically with the series of poor winters in recent years. Research has shown that two wet years in a row are needed before the species recruits successfully. The only time this has happened since the study of this species commenced in 1963 are 1963-64, 1964-65, 1967-68 and 1973-74.

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The population on the Ellen Brook Nature Reserve seems a little better off. In 1976 nine tortoises were captured, of which 3 had been previously marked. Because of low numbers accurate population estimates are impossible but it is noteworthy that the population breeds and recruits most years.

### Crocodiles (ii)

In November 1976 an officer spent two weeks at Maningrida, N.T. to familiarise himself with the University of Sydney - N.T. Administration research programme on the Salt-water Crocodile. The team, led by Prof. H. Messel had applied for a grant to survey crocodiles in the Kimberley.

Following the visit the Department decided to support a preliminary survey of crocodiles in some rivers in the North-west Kimberley during 1977-78.

# (iii) Barrow Island

Two officers took part in the fifth bi-annual W.A. Wildlife Authority inspection of Barrow Island during February 1977. Data on mammal numbers inside and outside the oilfield was collected by conducting spotlight traverses.

Work on the regeneration of plant life following disturbance of the soil profile by machinery and following fire is continuing.

# (iv) Ecological Reserves in Canada

During 1976, whilst on long service leave in British Columbia, Canada, Dr. A.A. Burbidge was recalled from leave to study the methods of selection and management of ecological reserves in that Province. British Columbia was the first Province in Canada to pass legislation to allow the creation of ecological reserves (1972) and is well ahead of any other Province in their creation.

At the time of the visit there were 74 reserves with an area of approx. 195 000 ha, being approx. 0.2% of the Province. The Ecological Reserves Unit, within the Provincial Department of Environment, consisted of two full-time graduates with some support. The total budget in 1976 was approx C\$130 000.

It is clear that we, in Western Australia, are well ahead of Canada in reservation for Nature Conservation.

While in British Columbia Dr. Burbidge gave two seminars on nature conservation in Western Australia - one to public servants from various Departments in Victoria (the Provincial Capital) and one to scientists at the University of British Columbia at Vancouver.

# 8. MISCELLANEOUS

# (i) Dugongs

A brief aerial survey of the coastline from the mouth of the DeGrey River to Shark Bay was made during February, 1977 to assess apparent abundance and distribution of this marine mammal.

Further observational data are being obtained in the Shark Bay area.

### 9. PUBLICATIONS

The following were published during the past year.

- Burbidge, A.A. (Ed.) (1977). The Status of Kangaroos and Wallabies in Australia. Report of the Working Group on Macropod Habitat of the Standing Committee of the Council of Nature Conservation Ministers. (Australian Government Publishing Service: Canberra).
- Burbidge, A.A. and McKenzie, N.L. (1976). A Further Record of Sminthopsis longicaudata (Marsupialia, Dasyuridae). W.A. Nat. 13 (6), 144-145.
  - Burbidge, A.A. and Evans, T. (1976). The Management of Nature Reserves in Western Australia. Dept. Fish. Wildl. West. Aust. Rept. No. 23.
  - Kirsch, J.A.W. and Burbidge, A.A. (1976). Hamlet's
     Father's Ghost: the Western Australian Deserts
     in a good year. Discovery 11 (2), 60-67.
  - Youngson, W.K. and McKenzie, N.L. (1977). An Improved Bat Collecting Technique. Bull. Aust. Mamm. Soc. 3 (2), 20-21.

## VII ENFORCEMENT

#### MANAGEMENT PROGRAMMES

Finch Trapping Season -

Due to the vigilance of our District Wildlife Officer, the 1976 Finch Trapping Season, which took place in the Kimberley Land Division from September 1 to November 15, was conducted smoothly. Special attention was given by the District Wildlife Officer to the care, caging and transport of the trapped birds.

Nine licensed finch trappers operated in the field, and a total of 19 575 mixed finches were taken from the wild.

Grey and Red Kangaroos -

Enforcement staff are still constantly required to patrol vacant Crown land and State forests to combat illegal Grey Kangaroo shooters. All report the Grey Kangaroo to be plentiful.

Many complaints are still received from farmers concerning damage to their crops and fences, and to a lesser extent the presence of kangaroos on the highways.

A number of meetings have been held with some local Government authorities to alleviate these problems.

Damage Inspections -

Once again the Wildlife Officers stationed in areas which have an abundance of Grey Kangaroos, have been hard pressed to carry out the required inspections during the growing season from April-October, but it is pleasing to note that the great majority of farmers are co-operating with the management programme which the majority appear to appreciate. The Red Kangaroo programme also appears to be operating fairly smoothly.

Wildlife Officers based in Red Kangaroo habitat areas are kept busy by frequent inspections of professional kangaroo shooters' chillers, and the pastoral properties.

Apart from the huge influx of emus along the vermin proof fence earlier in the year, only a few complaints have been made of damage by these birds.

#### 2. SPECIAL INVESTIGATIONS

Since the appointment of a Special Investigations Officer working in the wildlife trafficking field, there has been a good liaison with Customs and Police. Information flows have increased progressively and a number of apprehensions have been made which related directly and indirectly to overseas transportation of birds, mainly the parrot and cockatoo species.

At present the investigations are restricted to one officer. A number of field trips have taken place over the past year. Special emphasis will be placed on this area of activity during the nesting seasons. The 1976 dry season affected large areas of known habitat and birdlife was in short supply to the trade.

It will be proposed in the 1977 season to increase information flows to the districts and attempt to curb illegal nest robbing and the worrying, destruction or damage of nesting hollows.

### 3. PROSECUTIONS 1.7.1976 - 30.6.1977

Various offences against the Wildlife Conservation Act and Regulations occurred throughout the year. Of these, some 33 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 1

1 case pending

DISTRICT NO. 3 MT MAGNET Prosecutions - Nil

DISTRICT NO. 4 CARNARVON Prosecutions 1

Fine \$ 100.00 Costs \$ 27.40

DISTRICT NO. 5 GERALDTON Prosecutions 10

Fine \$ 100.00 Costs \$ 93.33 6 cases pending

DISTRICT NO. 6 MOORA
Prosecutions - Nil

DISTRICT NO. 7 WONGAN HILLS Prosecutions - Nil

DISTRICT NO. 8 WAROONA Prosecutions 5

Fine \$ 110.00 Costs \$ 28.20 3 cases pending

DISTRICT NO. 9 PINGELLY Prosecutions - Nil

DISTRICT NO. 10 KALGOORLIE Prosecutions 2

Fine \$ 90.00

DISTRICT NO. 11 BUSSELTON Prosecutions 4

Fine \$ 180.00

Costs \$ 32.40

DISTRICT NO. 12 ALBANY Prosecutions 2

2 cases pending

DISTRICT NO. 13 PERTH METROPOLITAN AREA

Prosecutions 33

Fine \$ 205.00

Costs \$ 68.00

26 cases pending

DISTRICT NO. 14 MANJIMUP Prosecutions 1

l case pending

DISTRICT NO. 15 ESPERANCE Prosecutions - Nil

GRAND TOTALS: Prosecutions 59

Fines \$ 785.00 Costs \$ 249.33 39 cases pending

Full details of prosecutions are overleaf.

or regulation	Description	Fine Costs
DISTRICT NO. 2 - KARRATHA		
Sect. 16A 1	Possession of Protected Fauna	Case pending
DISTRICT NO. 4 - CARNARVON		
Sect. 16A 1	Taking of Grey Kangaroos	\$ 100.00 \$ 27.40
DISTRICT NO. 5 - GERALDTON		
	rey Kangrotectec	7 ding
17 (2) (g) 1 25 (1) (a) 3 44 (2) (b) 1 54 (7)	Possession of Grey Kangaroos Processed Fauna Obstruction Erect building without permission Snaring of Grey Kangaroos	50.00 7.85 Case pending Case pending Case pending
DISTRICT NO. 8 - WAROONA		• 1
Sect. 16 (1) 1 Sect. 16 (i) 3 Sect. 16A 1	Taking of Wild Ducks Taking of Kangaroos Possession of Kangaroo Meat	60.00 14.10 Case pending 50.00 14.10
DISTRICT NO. 10 - KALGOORLIE		
Reg. 6 (11) 1 Reg. 8A (3) 1	Tag not affixed to kangaroos on consignment Untagged Kangaroo in Chiller Unit	30.00 N.A. 60.00 N.A.
DISTRICT NO. 11 - BUSSELTON Sect. 16 Sect. 16 (1)	Taking of Grey Kangaroos Taking of Wild Ducks	60.00 20.00 12.10

Section of Act No.	ċ	Description	(Total) Fine Costs
DISTRICT NO. 11 - BUSSELTON	SLTON	(cont.)	
Sect. 25	<b>H</b>	Obstruction	\$ 100.00 \$ 13.40
DISTRICT NO. 12 - ALBANY	47		
Sect. 16 (1) Sect. 17 (2) (e)	<b>н</b>	Taking Protected Fauna Selling Protected Fauna	Case pending Case pending
DISTRICT NO. 13 - PERTH	H METROPOLI	OPOLITAN AREA	
Sect. 16	~	Taking of Kangaroos	50.00 12.10
Sect. 16 (i)	4 c	Taking of Protected Fauna	Case pending
. 17	1 ⊷	No Bird Dealer's License	m
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		<b>1</b>	$\mathbf{c}$
Sect. 17 (2) (9)	-1 C	Frocessed d Ducks	25.00 12.10
	ı <b>–</b> -l	Obstruction	nding
•	<b>2</b>	licensed Keeping of W	
	 :	icable to license	Case
Reg. 12 (/)(b) Reg. 13 (4)	<b>-</b>	Excess number of birds applicable to license No Bird Dealer's Returns	case pending 15.00 7.80
⊣.	က	Bird Dealer's R	e pending
. 13 (		ying Birds from unlicensed	15.00 7.80
Reg. 13 (6)	~ 4	Buying Birds from unlicensed persons	Case pending
	' r-l	Aviculturist's	•
. 32 (3) (a)	7	ges not conforming to	
<u>.</u>	) 2 -	ges not conforming to Regu	-1
Reg. 52	<del>-</del>	sale of Fledgling Fauna	Case pending

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## 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, 1977, the following licenses were issued:

## 1. SCIENTIFIC PURPOSES - REGULATION 17

These licenses were issued mainly to official organisations or their employees. Fifty-five persons were licensed to take fauna for general scientific purposes. Twenty-seven persons were licensed to take specific fauna.

## 2. EDUCATIONAL AND PUBLIC PURPOSES - REGULATION 15

There were 45 licenses issued for the following purposes:-

Care of derelict fauna	8
Collection and Study	11
Study and Display	5
Educational	7
Photography	8
Miscellaneous purposes	6

### 3. AVICULTURE

- (i) Licenses to Keep and Breed Fauna in Captivity Regulation 12
  - 4 300 licenses were issued, mainly to aviculturists.
- (ii) <u>Licenses to Deal in Avian Fauna Regulation 13</u>
  60 were issued.
- (iii) Licenses to Trap Avian Fauna Regulation 11
  17 were issued.

List of Parrots Trapped		
Twenty-eight Western Rosella	1	259 316
Western King		95 42
Galahs Sulphur-crested		42
Cockatoo		4

## List of Finches Trapped

Longtail	. 5	831
Mask	2	385
Star	4	753
Gouldian	3	775
Blood		186
Double Bar	]	. 117
Chestnut		428
Pictorella		985

### 4. GAME

### Licenses to Take Game

169 quail shooters' licenses were issued. 4 703 duck shooters' licenses were issued.

#### 5. KANGAROOS

# Licenses to Take Red Kangaroos for Sale - Regulation 6

Sixty-seven licenses were issued throughout the year.

# Licenses to Deal in Kangaroo Carcasses - Regulation 8

Seven licenses were issued.

## Licenses to Deal in Kangaroo Skins - Regulation 10

Sixteen licenses were issued.

### Licenses to Process Fauna - Regulation 7

Twenty-one licenses were issued to process kangaroos.

### 6. IMPORTS AND EXPORTS OF BIRDS AND MAMMALS

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

### (i) Export Interstate

### Birds

### Finches:-

Blood		51
Chestnuts		247
Double Bar		398
Gouldians	2	198
Longtail (Blackheart)	4	843

Mask Pictorell Star			561 575 820
Yellow-ta Cuban Zebra Cutthroat Painted Parson			- 2 15 11 4 6
Parrots:-			
Twenty-ei Rosellas Budgeryga Port Lind Western H Lovebirds Blue Bonn Red-cappe Cockatiel Scarlet-cappe	- Western  ahs  colns  Kings  - Peach-f  - Masked  net  ed  chested  rowned Lori		451 270 34 58 353 169 1 42 3 4
Green Ros Eastern F Smoker			6 1 6
Galahs	iled Black lled Corell	.a	44 21 9 10
Canaries:-			76
Western S Mannikins Bengalese Stone Cur Black-tar Mountain Pied Hero Black-wir Singing F	rrow rbary Doves Spinebill s e rlew il Native H	len	4 140 12 2 56 50 1 6 2 9 2
<u>Mammals</u>	,		
Fat-tailed Bandicoot Agile Walla Long-neck Western Swa	aby Tortoise		1 7 1 12

## Reptiles

King Skink			6
Shingle Back			2
Tiger Snake			1
Dugite		 	1
Ornate Dragon			2
Werr			1

## (ii) <u>Import Interstate</u>

## Birds

## Finches:-

African Firetail	100
Auroras	150
Blue-breasted Waxbill	12
Cordon Bleu	271
Cubans	183
Diamond Firetails	12
Jacarini	122
Canaries	780
Melbas	121
Orange-breasted	1
Waxbill	314
Goldfinches	220
Painted (Emblema)	282
Parrot Blue-faced	105
Parrot Red-faced	76
Plumhead	26
Yellow Stars	38
Red-brow (Sydney Wax-	
bill)	10
Zebra Finch	12

## Parrots:-

Barraband		75
Blue Bonnet		17
Blue-winged		6
Bourke		68
Budgerygah	1	217
Cloncurry		2
Cockateil (Weero)		222
Crimson Wing		60
Elegant		27
Eastern King		150
Hooded		28
Mallee Ringneck		45
Princess		52
Rainbow Lorikeet		121
Varied Lorikeet		14
Red-collared Lorikeet		28
Musk Lorikeet		109

Scaly-breasted Lorikeet Red-rumped Rosella - Adelaide - Crimson - Eastern - Northern - Pale-headed Scarlet-chested Smoker (Regent) Turquoisine Superb Little Lorikeet Mulga Twenty-eight	56 185 76 90 90 2 16 105 2 64 25 5 6
Doves and Pigeons:-	
Diamond Dove Peaceful Dove Plumed Pigeon Blood-breasted Pigeons Senegal Turtledove Spotted Turtledove White-quilled Rock Pigeon Partridge Pigeon Flock Pigeon	80 12 2 4 6 6 2 4
Quail:-	
Painted King Brown	2 50 2
Cockatoos:-	· .
Long-billed Corella Short-billed Corella Galah Sulphur-crested Gang Gang Major Mitchell Yellow-tailed Black	86 332 890 101 6 7 2
General:-	
Brush Turkey Noisy Pitta Peregrine Falcon Little Falcon Eastern Whip Bird Cape Barren Goose Black Falcon Pheasant - Golden - Silver - Southern Green - Ringneck Nepal Rakis Peahens	11 2 4 1 4 5 4 3 2 2 6 2 2

	Swamp Harrier	1
	Peacock	1
•	Ostrich Chick	6
	Australian Gannet	1
	•	
	<u>Mammals</u>	
	Golden Agoutis	2
	Tasmanian Devil	2 4
	Indian Black Buck	3
	Wombats	3 2
	Brown Hopping Mouse	20
	Spinifex Hopping Mouse	6
	Mitchells Hopping Mouse	16
	Wombats	4
	Western Grey Kangaroos	18
	Bushrat	40
	Brush-tailed Possums	46
	Tammar	100
	Swamp Wallaby	1
	Pretty Faced Wallaby	3
	Buffalo	3 1 3
	Eastern Grey Kangaroos	3 1
	Red Kangaroo	10
	Xenopus Hybrid Monkeys	4
	Oriental Small-clawed Otters	
	Fallow Deer	2 3 3
	Tree Shrew	3
	South African Clawed Frogs	22
	Brown Antechinus	30
	Reptiles	
	Blue-tongued Skinks	72
	Sand Goannas	9
(iii)	Export Overseas	
(111)	Export Overseas	
•	Birds	
	Budgerygah	7
	Long-billed Corella	8
	Galah	16
	Major Mitchells	1
\$	Short-billed Corella	2
	Sulphur-crested Cockatoos	11
	Magpie Geese	2
	Singing Honeyeater	2 2 2
	Red Wattle Bird White-tailed Black Cockatoo	4
	Black Duck	8
	W.A. King (Red-capped)	J
	Parrot	2
	Crimson Wing	2 2

## Mammals

Agile Wallaby	4
Quokka	4
Red Kangaroo	11
Western Euro	4
Western Grey Kangaroo	14
Brush-tailed Rat	8

7. LICENSES TO KEEP FAUNA - REGULATION 16
19 issued in the year.

## 8. EMUS

## License to Process Fauna - Regulation 7

3 licenses were issued to process Emu eggshells.

## IX LEGISLATION

### 1. WILDLIFE CONSERVATION ACT AMENDMENTS

Amendment No. 86 of 1976 was given Royal assent. When proclaimed, this will bring the administration of the conservation of flora under the Wildlife Conservation Act 1950-1975 and repeal the Native Flora Protection Act 1935-1938.

### 2. FAUNA CONSERVATION REGULATIONS

During the year draft regulations were prepared and renamed Wildlife Conservation Regulations.

Various changes were made to regulations dealing with the licensing, possession, disposal and general keeping of avian fauna.

## X RADIO COMMUNICATIONS

During 1976/77 the Radio Operator Ross Holmes transferred to the Public Health Department and Hans Schneiker commenced duty as Radio Communications Officer (RCO) in January 1977.

### NEW RADIO TRANSCEIVERS PURCHASED

Carnarvon Fisheries Inspectors' Vehicle Mobile
Albany Wildlife Officers' Vehicle Mobile
Geraldton Wildlife Officers' Vehicle Mobile
Mt. Magnet Wildlife Officers' Vehicle Mobile
Karratha Wildlife Officers' Vehicle Mobile

All except the Carnarvon vehicle mobile were installed by the RCO with new multi whip aerials which will eventually replace all existing single frequency whips.

The duties of the RCO have changed to include the repairing, servicing, design, construction and installation of radio equipment. To effectively allow this the Department has purchased some radio test equipment and a radio work bench.

## RADIO EQUIPMENT DESIGNED AND CONSTRUCTED BY RCO

A Remote Control System - this allows several remotes fitted in offices to control the base station transceiver. At present, there are two such remotes fitted in the Supervising and Chief Inspectors' offices which allows them to contact all mobiles.

24/12 Volt Converter - this provides a 12V supply on the patrol vessels for the radio trasnceiver and other 12V equipment without tapping the battery tank. Three patrol vessels are fitted to date with a converter.

Radio Suppressor Box - this was designed to overcome the problem of radio interference on the patrol vessels. Four patrol vessels were fitted with the Radio Suppressor Box which improved the reception greatly.

Test Equipment - several pieces of radio test equipment were constructed to assist in the repair and servicing of radio equipment.

Some radio repairs and servicing were carried out by Associated Electronic Services as it was not possible to do all repairs and servicing with the present amount of radio test equipment. All repairs and servicing possible

with the equipment at present was carried out by the RCO. Since January 1977 the RCO has carried out 180 hours of radio repairs, servicing and installations, a saving to the Department of \$3 600 at the present rate of \$20 an hour changed by Associated Electronic Services.

## 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 H.B. Shugg, Secretary and Conservator of Wildlife, and Mr D.W. Arnold, Assistant 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 - Appointment and Transfers

0				
Name	From	То		
L. Moss	Perth	(Acting Officer	as Senior Wildlife	
M. Osborn	Waroona		To Perth (Acting as Special Investigations Officer)	
K. Marshall	Perth	Esperan	Esperance	
J. Quinn	Temporary	Relieving Wildlife Officer		
R. Coughran	New Appointment	Waroona	(Acting)	
R. Piggott	New Appointment	Perth (	Temporary Staff)	
			·	
Dispositions of	f Wildlife Officer	s June 3	0, 1977	
Perth:	Supervising Wild Officer	llife	S.W. Bowler	
	Senior Wildlife	Officer	A.R. Marshall (on sick leave)	
	Acting Senior Wi Officer	ldlife	L. Moss	
	Acting Special Investigations C	fficer	M. Osborn	
	Acting Metropoli Wildlife Officer		J. Wilson	
	Mobile Kangaroo Officer	Wildlife	W. Mahoney	
	Assistant Wildli Officer	fe	R. Piggott	

Wildlife Officer I. Cooke Wyndham: R. Smith Wildlife Officer Karratha: Wildlife Officer P. Pennings Mount Magnet: Wildlife Officer G. Hanley Carnarvon: Wildlife Officer Geraldton: D. Mell Moora: Wildlife Officer K. Miller Wongan Hills: Wildlife Officer R. Dear Pingelly: Wildlife Officer P. Lambert Wildlife Officer R. Coughran Waroona: (Acting) Busselton: Wildlife Officer B. Masters Wildlife Officer Manjimup: J. Neal Albany: Wildlife Officer R. Grayson Wildlife Officer K. Marshall Esperance:

### Relieving Staff

Wildlife Officer J. Wilson Wildlife Officer J. Quinn

### 3. RESEARCH AND RESERVE MANAGEMENT

Dr T.L. Riggert who worked on waterfowl and wetland management resigned during the year to become a private consultant. Work on waterfowl will be reduced and responsibility for it will rest with Mr J.A.K. Lane. The duties of the position formerly held by Dr Riggert have been changed to emphasise research into the management of animal populations in nature reserves. This item will be filled during the coming year.

Changes in technical staff responsibilities following Dr Riggert's resignation has meant that one technical assistant has been withdrawn from waterfowl work and added to the Biological Survey group headed by Mr N.L. McKenzie.

Applications for the position of Research Officer (Flora) to assist in the management of flora in Western Australia closed on June 3, 1977 and the position will be filled shortly.

Further research staff are urgently needed, particularly for work on the management of nature reserves and of rare and endangered animals and plants.

The lack of staff to carry out necessary work in the Reserve Management area continues to give concern. At present the Department, through the Wildlife Authority, is responsible for nearly 1 000 reserves but has only four public service staff and one or two labourers carrying out full time operations work on reserves. Their efforts are supplemented by the District Wildlife Officers and research staff but the situation is far from ideal.

Following the publication of Departmental Report No. 23, "The Management of Nature Reserves in Western Australia" by A.A. Burbidge and T. Evans, the Government has decided to gradually implement the programme proposed in that report. It is hoped that staff will be appointed during the coming year to Pingelly to manage reserves in the central wheatbelt and to Karratha to look after the proposed reserve encompassing the Dampier Archipelago. In coming years staff will also be appointed to Katanning and Wongan Hills to manage other parts of the wheatbelt and to Bernier Island in Shark Bay.

Following the provision of operations staff as outlined above it will be necessary to build up a group to write working plans for nature reserves as provided in the Wildlife Conservation Act, Section 12D, This group would also be a link between the research and operations staff.

## XII EXTENSION AND PUBLICITY

During the year liaison with the media kept the public informed on important matters relating to wildlife and habitat preservation in Western Australia.

Public involvement in wildlife conservation continues to expand. Written and verbal requests from teachers, students and the general public were met.

There was an increasing demand by conservation associations, wildlife institutions and libraries in Australia and throughout the world for inclusion on the mailing lists for Departmental Reports, Bulletins and Journals.

During the year photographic and display material has been requested from other government departments, however, the section has neither the resources nor the staff to provide this as a specialized service.

The 1977 Duck Shooters Guide was produced publicising conditions of the open season, the daily bag and wetland reserves that were open or closed to shooting.

Stocks of brochures, leaflets and general student project material were maintained; several of these publications being updated and re-written.

The State Wildlife Authority News Service Journal was published twice during the last year. The increasing demands made upon the Extension and Publicity Office by various organisations and members of the public, and the additional workload from Departmental activities has unfortunately curtailed the regular publication of this quarterly Journal. The same has applied to the regular updating of some brochures.

Work on the Wildlife Bulletin No. 6, Drysdale River National Park, has continued throughout the year and should be published late 1977.

A leaflet on the State's flora history and reasons for the Department's future involvement with the Native Flora Protection Act was published.

The 1976 Annual Report of the Department's Wildlife Conservation Branch and Western Australian Wildlife Authority was collated and published.

## XIII FINANCE

## 1. WILDLIFE CONSERVATION ACT

The increasing demands on this Department to extend its involvement in areas of wildlife conservation, research and enforcement, and the requirement to maintain existing activities, together with current inflationary trends, requires increased expenditure each year from the Consolidated Revenue Fund. This trend was continued in 1976/77.

Funds were provided by the Commonwealth to carry out a habitat search for the Broad-faced Potoroo and \$5 511 were spent to finalise the project.

Some \$24 000 were spent from a Commonwealth Grant to finance the employment of Aborigines as Trainee Wildlife Officers.

### 2. FAUNA CONSERVATION TRUST FUND

A financial statement as at June 30, 1977 is shown overleaf.

STATEMENT OF RECEIPTS AND PAYMENTS FOR THE PERIOD JULY 1, 1976 TO JUNE 30, 1977 FAUNA CONSERVATION TRUST FUND

	\$11 705.69	42 855.85	\$54 561.54
Payments	Needoonga and Chittering Lakes	Balance carried forward at June 30, 1977	
	\$43 808.90 9 532.00 1 220.64		\$54 561.54
Receipts	Balance brought forward on July 1, 1976 Game License Fees Other (Interest etc.)		

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

September 16, 1977

A.J. Hollis ACCOUNTANT B.K. Bowen DIRECTOR OF FISHERIES AND WILDLIFE