

DUPLICATE

DEPARTMENT OF FISHERIES AND WILDLIFE

PERTH

WESTERN AUSTRALIA

1976

**= ANNUAL REPORT =**

FAUNA CONSERVATION BRANCH

AND

WESTERN AUSTRALIAN WILD LIFE AUTHORITY



DEPARTMENT OF FISHERIES AND WILDLIFE

108 Adelaide Terrace,  
Perth, W.A.

The Honourable P.V. Jones  
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, 1976, 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

I ADMINISTRATION

A. WESTERN AUSTRALIAN WILDLIFE AUTHORITY

1. MEMBERSHIP

(a) 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 M.D. Gooding  
Mr A.J. Oliver

(b) 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, Vice Dr D.L. Serventy  
Dr B.R. Wilson - W.A. Museum - Vice Dr W.D.L. Ride  
Mr N.A. Beeck - Farmer  
Mr H.G. Hall - Farmer  
Mr W.H.B. Lacey - Farmer  
Mr D.W. Arnold - Assistant Administrative Officer -  
Executive Officer

2. COMMITTEES

The Authority re-appointed from among its members, two

Committees on which a number of co-opted members from Departments and Authorities involved, kindly agreed to serve.

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 - W.A. Museum  
Dr A.A. Burbidge - Reserve Management Branch  
Mr N.L. McKenzie - Reserve Acquisition Branch

Bird Committee:-

Mr H.B. Shugg - Chairman  
Mr D.W. Arnold - Executive Officer  
Dr G.M. Storr - 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  
Deputies - Mr A.J. Oliver  
Mr J. Long  
Mr J.R. Masters - Farmer (Ornithologist)  
Dr T.L. Riggert - Senior Research Officer  
Mr S.W. Bowler - Supervising Wildlife Officer

3. MEETINGS

Western Australian Wildlife Authority

The Authority met on five occasions during 1975/76.

Standing Committees

Reserves Committee:-

This Committee met four times in 1975/76.

Bird Committee:-

The Bird Committee met on four occasions during 1975/76.

B. POLICY

The Western Australian Wildlife Authority in 1975/76 made the following policy decisions -

1. It adopted a general policy on fire in Nature Reserves. The aims in the absence of a specific management plan for a particular reserve were:
  - (1) To manage the plant formations on reserves so as to provide diversity of floral composition and age both to regenerate the various species of plants and to provide the necessary habitats for animals.
  - (2) To render wildfires more easily suppressible and thus prevent them from burning out the whole of a reserve or damaging adjoining property.

The general information relating to these aims was published in a Department of Fisheries and Wildlife booklet: "Policy - Fire in Nature Reserves".

2. It opposed the practice of Falconry and the keeping of birds of prey by private persons within Western Australia.
3. It opposed the introduction of Minks and Racoons into Western Australia.

C. THE FAUNA

1. Number of indigenous species of:-

	Recorded in W.A.	Numbers of Species			
		Pro- tected	Not pro- tected	Open Season	Rare & En- dangered
Birds	464	450	15	21	15
Marsupials	61	60	1	3	27
Other					
Mammals	58	55	3	-	7
Reptiles	299	271	28	-	3
Amphibia	50	50	-	-	-
Totals	932	886	47	24	52

2. List of unprotected indigenous species:-

Mammals

Wild Dog (Dingo)

*Canis familiaris dingo*

Birds

Black Cormorant

*Phalacrocorax carbo*

Australian Goshawk

*Accipiter fasciatus*

Collared Sparrowhawk

*Accipiter cirrocephalus*

Wedge-tailed Eagle

*Aquila audax*

White-tailed Black Cockatoo

*Calyptorhynchus baudinii*

Galah

*Kakatoe roseicapilla*

Red-capped (King) Parrot

*Purpureicephalus spurius*

Port Lincoln Parrot or

Twenty-eight

*Barnardius zonarius*

Western Rosella

*Platycercus icterotis*

Budgerygah

*Melopsittacus undulatas*

Western Silvereye

*Zosterops gouldi*

Australian Raven

*Corvus coronoides*

Little Crow

*Corvus bennetti*

Australian Crow

*Corvus orru*



Reptiles

Front-fanged Snakes (Family *Elapidae*)

(a) Large Venomous Snakes

Dugite	<i>Demansia nuchalis affinis</i>
Gwardar	<i>Demansia nuchalis nuchalis</i>
Mulga Snake	<i>Pseudechis australis</i>
Whip Snake or Wyree	<i>Demansia reticulata</i>
Spotted-headed Snake	<i>Demansia olivacea</i>
Western Tiger Snake or Norne	<i>Notechis sculatus occident- alis</i>

(b) Small Venemous Snakes

Common Death Adder	<i>Acanthophis antaraticus</i>
Desert Death Adder	<i>Acanthophis pyrrhus</i>
Rosen's Snake	<i>Denisonia fasciata</i>
Ringed Snake	<i>Vermicella annulata</i>
Bandy Bandy	<i>Rhynchoelaps bertholdi</i> <i>bertholdi</i>
Northern Bandy Bandy	<i>Rhynchoelaps berhtoldi</i> <i>anomalus</i>
Half-ringed Snake	<i>Brachymorphus semifasciatus</i>
Narrow-banded Snake	<i>Rhynchoelaps fasciolatus</i>
Five-ringed Snake	<i>Demansia modesta</i>
Little Whip Snake	<i>Denisonia gouldii</i>
Black-naped Snake	<i>Vermicella bimaculata</i>
Black-striped Snake	<i>Vermicella calonota</i>
Allied Bandy Bandy	<i>Rhynchoelaps approximans</i>
Crowned Snake or Werr	<i>Denisonia coronata</i>
White-lipped Snake	<i>Denisonia coronoides</i>
Spotted Snake	<i>Denisonia punctata</i>
Northern White-lipped Snake	<i>Denisonia suta</i>
Red-naped Snake	<i>Aspidomorphus diadema</i>
Yellow-naped Snake	<i>Aspidomorphus christieanus</i>
Little Brown Snake	<i>Elapognathus minor</i>
Mueller's Snake	<i>Rhinoplocephalus bicolor</i>
Bardick	<i>Denisonia curta</i>

3. List of Rare and Endangered Species:-

		<u>Government Gazette</u>
<u>Birds</u>		
Noisy Scrub Bird	<i>Atrichornis clamosus</i>	23. 6.72
Bristle-bird	<i>Dasyornis brachypterus</i>	"
Rufous Bristle-bird	<i>Dasyornis broadbenti</i>	"
Black Grass Wren	<i>Amytornis housei</i>	"
Western Whipbird	<i>Psophodes nigrogularis</i>	"

Ground Parrot	<i>Pezoporus wallicus</i>	23. 6.72
Night Parrot	<i>Geopsittacus occidentalis</i>	"
Naretha Blue Bonnet	<i>Psephotus haematogaster narethae</i>	"
Cape Barren Goose	<i>Cereopsis novae-hollandiae</i>	"
Freckled Duck	<i>Stictonetta naevosa</i>	8. 2.72
Partridge Pigeon	<i>Geophaps smithii</i>	9. 2.73
Burdekin Duck	<i>Tadorna radjah</i>	"
Red-tailed Tropic Bird	<i>Phaethon rubricauda</i>	"
Peregrine Falcon	<i>Falco peregrinus</i>	"
Princess Parrot	<i>Polytelis alexandrae</i>	"
Grass Owl	<i>Tyto longimembris</i>	"

### Mammals

Barrow Island Euro	<i>Macropus robustus isabellinus</i>	2. 5.73
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>Lagorstrophus fasciatus</i>	"
Brush-tailed Rock Wallaby	<i>Petrogale pencillata</i>	"
Rothschild's Rock Wallaby	<i>Petrogale rothschildi</i>	"
Woolie	<i>Bettongia penicillata</i>	"
Broodie	<i>Bettongia lesueur</i>	"
Broad-faced Potoroo	<i>Potorous platyops</i>	"
Gilbert's Potoroo	<i>Potorous tridactylus gilberti</i>	"
Little Barred Bandicoot (Marl)	<i>Perameles bouganainville</i>	"
Big-footed Bandicoot	<i>Chaeropus ecaudatus</i>	"
Dalgyte (Rabbit-eared Bandicoot)	<i>Macrotis lagotis</i>	"
Rusty Numbat	<i>Myrmecobius fasciatus rufus</i>	"
Dibbler	<i>Antechinus apicalis</i>	"
Little Red Antechinus	<i>Antechinus rosamondae</i>	"
Long-tailed Dunnart	<i>Sminthopsis longicaudata</i>	"
White-tailed Dunnart	<i>Sminthopsis granulipes</i>	"
Narrow-nosed Planigale	<i>Planigale tenuirostris</i>	"
Kimberley Planigale	<i>Planigale subtilissima</i>	"
Rock-haunting Ring-tail	<i>Petropseudes dahli</i>	"
Troughton's Dunnart	<i>Sminthopsis murina ooldea</i>	"
Scaly-tailed Possum	<i>Wyulda squamicaudata</i>	"

Big-eared Hopping Mouse	<i>Notomys megalotis</i>	2. 5.73
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>	"
Western Mouse	<i>Pseudomys occidentalis</i>	"
Shark Bay Mouse	<i>Pseudomys praedomys</i>	"
Gould's Native Mouse	<i>Pseudomys gouldii</i>	"
Shortridge's Native Mouse	<i>Pseudomys shortridgei</i>	"
Dugong	<i>Dugong dugon</i>	"

Reptiles

Western Swamp (Short-necked) Tortoise	<i>Pseudemydura umbrina</i>	"
Saltwater Crocodile	<i>Crocodylus porosus</i>	"
Freshwater Crocodile	<i>Crocodylus johnstoni</i>	"

D. 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. An amending bill, however, has been written to repeal the Native Flora Protection Act and to enact new provisions as part of the Wildlife Conservation Act. The bill was introduced in this spring session of Parliament as the Wildlife Conservation Act.

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 1976/77 budget to take advantage of those opportunities.

## II FINANCE

### A. WILDLIFE CONSERVATION ACT

CRF expenditure was again increased by 20% over the previous year during 1975/76 so that existing activities could be maintained.

Additionally, \$14 000 was spent on each of two research projects, one being the Habitat Search for the Broad-faced Potoroo, the other being the Australian Biological Resource Study of the Drysdale River National Park.

The Commonwealth provided a further amount of \$36 000 to finance the employment of Aborigines as Trainee Wildlife Officers.

### B. FAUNA CONSERVATION TRUST FUND

An audited statement as at 30.6.1976 is shown overleaf.

FAUNA CONSERVATION TRUST FUND  
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE PERIOD JULY 1, 1975 TO JUNE 30, 1976

Receipts

Balance brought forward on July 1, 1975 \$ 33 829.71  
 Game License Fees 12 510.00  
 Other (Interest etc.) 1 417.03  
 Ord Noah 26.11

\$ 47 782.85

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Payments

Needoonga and Chittering Lakes \$ 1 333.85  
 Toolibin-Taarblin 551.00  
 Contributions to Conservation Projects 2 062.99  
 Beverley Lakes System Salinity Tests 26.11  
 Balance carried forward at June 30, 1976 43 808.90

\$ 47 782.85

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

August 30, 1976

H.K. Wrankmore (signed)  
A/ACCOUNTANT

I certify that this statement is correct.

B.K. Bowen (signed)  
DIRECTOR OF FISHERIES AND WILDLIFE

A. Tonks (signed)  
AUDITOR GENERAL

### III NATURE RESERVES

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 subsection (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 reserves for the conservation of fauna only. With this change in definition the Wildlife Authority assumed responsibility for an additional 396 reserves.

This accounts for most of the large increase in the number of nature reserves during the past year.

#### A. NATURE RESERVES IN WESTERN AUSTRALIA

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	5 339 547	351	4 747 403

B. SUMMARY OF NATURE RESERVES - 30 JUNE, 1976

As at June 30, 1975	491 Reserves	5 103 037.3547 ha.
New Reserves 1975/76	32 Reserves	20 458.0557 ha.
Amendments 1975/76	1 Reserve +	10 293.0693 ha.
Add Flora Reserves	396 Reserves about	206 159.
TOTAL	918 Reserves	5 339 947.4797 ha.

C. NATURE RESERVES VESTED IN W.A. WILDLIFE AUTHORITY

As at June 30, 1975	320 Reserves	4 713 742.1533 ha.
New Reserves 1975/76	23 Reserves	16 421.6821 ha.
Amendments 1975/76	-	10 185.2913 ha.
Existing Reserves vested 1975/76	8 Reserves	7 053.8883 ha.
TOTAL	351 Reserves	4 747 403.0150 ha.

D. NEW RESERVES (Fauna or Fauna and Flora only)

No.	Name	Vesting	Area (ha)	Gazetted
A 33466	-	W.A.W.A.	5 131.0000	11.7.75
33455	-	W.A.W.A.	270.4843	11.7.75
33475	-	W.A.W.A.	1 735.0000	11.7.75
33501	-	-	203.4065	11.7.75
33530	Wongan Hills	W.A.W.A.	417.4942	15.8.75
20095	-	-	99.5881	5.9.75
23602	Gunyidi	W.A.W.A.	121.4057	17.10.75
33697	-	W.A.W.A.	212.9459	31.10.75
8830	Bulgin Rock	W.A.W.A.	23.9117	14.11.75
33713	-	-	116.7771	14.11.75
33749	Boodalan Island	Shire of Murray W.A.W.A.	1.5602	28.11.75
8946	Malcolm Dam	Min. for Water	400.6388	12.12.75
33811	Bedout Island	W.A.W.A.	30.7116	31.12.75
33803	Kwinana Freeway	W.A.W.A.	4.4224	31.12.75

NEW RESERVES (cont.)

No.	Name	Vesting	Area (ha)	Gazetted
33828	Charlies Island	W.A.W.A.	Unknown	23.1.76
33829	Friday Island	W.A.W.A.	0.8195	23.1.76
33830	Fortescue Island	W.A.W.A.	45.4193	23.1.76
33832	Low Rocks	W.A.W.A.	4.0323	23.1.76
33834	Serrurier Island	W.A.W.A.	350.9670	23.1.76
27354	Neridup	W.A.W.A.	215.5584	23.1.76
33842	Quarram	W.A.W.A.	3 825.4123	6.2.76
33854	-	W.A.W.A.	19.5084	6.2.76
A 21253	Lake Gounter	W.A.W.A.	3 330.4423	13.2.76
33901	Koks Island	W.A.W.A.	2.5806	5.3.76
33902	Lowendal Islands	W.A.W.A.	245.1619	5.3.76
33903	North-East Regnard Island	W.A.W.A.	42.3225	5.3.76
A 13145	-	-	133.6105	12.3.76
10129	-	Min. for Water	2 480.3183	12.3.76
9219	-	Min. for Water	168.3492	19.3.76
14522	-	Min. for Water	338.7219	19.3.76
20046	-	W.A.W.A.	390.5216	14.5.76
34000	Wogerlin Hill	Min. for Water	94.9362	14.5.76
		TOTAL:	32 RESERVES - 20 458.0557 ha.	
		TOTAL VESTED IN W.A.W.A.:	23 RESERVES - 16 421.6821 ha.	



E. AMENDMENTS TO AREA 1975/76

No.	Name	Vesting	Area (ha)		Change	Gazetted
			Old	New		
A 27632	Nuytsland	W.A.W.A.	623 012.3784	625 263.4305	+2 250.0521	8.8.75
24428	Nonalling- Whitewater	-	323.7485	496.6809	+ 172.9324	5.9.75
33113	-	W.A.W.A.	923.9492	8 859.5543	+7 935.6051	5.9.75
3446	-	-	65.1544	Nil (Cancelled)	- 65.1544	17.10.75
29920	Biljahnje Rock	W.A.W.A.	1 036.4372	1 036.0713	- 0.3659	14.11.75

TOTAL - 1 Reserve +10 293.0693 ha.

TOTAL - W.A.W.A. +10 185.2913 ha.

F. EXISTING RESERVES VESTED 1975/76

No.	Name	Vesting	Area (ha)	Gazetted
A 23756	Harvey Estuary	W.A.W.A.	1 019.0000	11.7.75
24428	Nonalling- Whitewater	W.A.W.A.	496.6809	5.9.75
31211	Mokine	W.A.W.A.	289.3755	23.1.76
24472	-	W.A.W.A.	40.4686	6.2.76
A 25812	-	W.A.W.A.	151.1956	15.4.76
A 26160	Jebarjup Lake	W.A.W.A.	1 015.3563	15.4.76
26162	Three Swamps	W.A.W.A.	358.8114	15.4.76
33300	Ngalbain	W.A.W.A.	3 683.0001	28.5.76

TOTAL - W.A.W.A. 8 Reserves - 7 053.8883 ha.

G. EXISTING RESERVES MADE CLASS A - 1975/76

Nil.

H. EXISTING RESERVES CHANGED FROM FAUNA - 1975/76

Nil.

I. CHANGE IN PURPOSE OF EXISTING RESERVES - 1975/76

Nil.

## J. RESERVE DEVELOPMENT

### 1. INTRODUCTION

Shortage of Departmental management resources to control the State's large areas of nature reserves presents a continuing problem. However, policies are being developed that aim to ameliorate such a problem.

Environmental problems usually touch many aspects of society. It follows that the sympathy of the community can be helpful when dealing with environmental problems. Consequently, community involvement is another principle that is being used in solving environmental problems.

A systems approach is also being used. For example, any wetland reserve is merely a unit of its larger catchment system. Consequently effective wetland management is related to catchment management.

The systems approach has also been used in other instances. At regional levels, growing seasons and plant and animal indicators are being used to develop reserve management plans. Kojonup Shire is where such a principle is being applied. A systems approach can lead to efficiencies where the management of large areas of nature reserves is concerned.

A recreational purpose of some reserves represents a potential conflict with their conservation. However, in such cases recreational uses permitted, are only those that are compatible with nature conservation. Moreover, permitted uses are intended to encourage the appreciation of the natural environment. Finally, recreational use has many elements and one element of use is demand. Consequently, management techniques aim to channel demand in desirable directions to ensure the compatibility between uses and conservation.

A summary of the year's major activities follows:

### 2. MUDDY LAKE (near Capel)

An objection to a drainage proposal lodged with the Town Planning Board was successful. The objection was based on two facts. First, Muddy Lake is a permanent fresh water body (on private property) that provides refuge for a variety of native fauna, some of which are now uncommon.

Second, the lake is a valuable fresh water resource used by the Department of Public Works (PWD) as a summer fresh water supply for nearby farmers. It is noteworthy that such a use is compatible with its use as a refuge for native animals.

### 3. WETLAND REHABILITATION

Wetland rehabilitation is an innovatory field, and feasibility studies now being undertaken in conjunction with the PWD are expected to yield guidelines that should become more definite as experience grows.

#### (a) Bengier Swamp and the Broadwater Reserve

This year, the south-west has had one of the lowest rainfalls on record and waterbird breeding has been at an all time low. However, at Bengier and the Broadwater, bird breeding has occurred because the PWD has maintained water levels.

Approximately fifty percent of Bengier Swamp has already been acquired and its purchase is continuing.

On the Broadwater, a study is continuing in conjunction with the PWD into the feasibility of rehabilitating this wetland reserve. Approximately 100 artificial swan nests are being maintained there, and water levels are being controlled to allow swan-use of those nests. Swans are being used as ecological indicators in the study. It already appears that a rehabilitation programme will be a possibility.

A paper explaining the study has been submitted to the ornithological journal EMU, and publication is imminent. The joint authors are A. Tingay, S.R. Tingay and J. Goodsell.

#### (b) Wonnerup and Vasse Estuaries

Both estuaries total approximately 800 hectares in area. Water levels in both estuaries are controlled by the Busselton Branch of the Irrigation and Drainage Section of the Department of Public Works (PWD).

It has been past practice for the PWD not to allow water levels in the estuaries to rise above a 157 cm level marked on water gauges. The reason is based on farming needs. These peak heights occur during winter when waterbirds are breeding. When the 157 cm mark is reached, the PWD breaches the sand bar that isolates the estuaries from the ocean. Estuarine water then flows through the breached sand bar, and a fall of up to 60 cm in estuarine water levels can follow over 24 to 48 hours. Later, ocean wave action closes the sand bar, and estuarine water levels rise again. When the 157 cm mark is reached again, the PWD cause the cycles to be repeated.

These sudden and unnatural vacillations in estuarine water levels appear to be the reason why there is almost no successful swan hatching in the Vasse Estuary, and in the southern part of the Wonnerup Estuary, even though swans do build nests, and sometimes eggs are laid.

There is successful swan breeding in the northern and distal part of Wonnerup Estuary where water levels are maintained because that part is isolated from the southern part of the estuary by a levee bank. Hydraulic isolation exists, even though passing under the levee are culverts. The latter are relatively ineffective in their purpose of draining the estuary's northern part.

The sand bar was breached by PWD in late winter 1976, when estuarine water levels reached the 157 cm mark. Just prior to that time, officers of the PWD and of this Department observed swans that had nested. Others had laid. Others were about to lay. However, when estuarine water levels suddenly fell, swans on the verge of laying deserted their nests. Others brooding eggs on nests, previously surrounded by water, were marooned on drained dry ground. They would have been easy victims of terrestrial predators.

All that is known of wetland ecology suggests that these sudden and unnatural vacillations in estuarine water levels would be detrimental to waterbird breeding.

To solve such a problem, officers of the PWD and of this Department are working together in the field. They are endeavouring to develop techniques that aim to create flooding patterns that are compatible with the

needs of farmers, as well as the needs of breeding waterbirds.

(c) The Northern Arthur River Wetland System

A study to rehabilitate this system is being undertaken in conjunction with the PWD, and with the Narrogin Branch of the Soil Conservation Service. The Narrogin Shire Council, the local community, and others are also involved.

During the course of this project, feasibility studies will also be concerned with several other aspects that are especially relevant to wheatbelt nature reserves, as well as the usual studies into the ecology of fluctuating water levels. Such aspects will be:

Catchment rehabilitation and management.

Management of salt concentrations of water bodies.

Vegetative regeneration of a water body's immediate surrounds.

Accommodation of compatible recreational uses on selected water bodies.

4. LAKE DUMBLEYUNG RESERVE

Investigation has continued in relation to habitat value of the reserve, and land capability of the lake's foreshores. Investigation of the foreshores has been necessary because development of the lake's surrounds to accommodate some recreational uses is being negotiated with Dumbleyung Shire Council.

5. LAKE CHANDALA (Muchea)

This most important lake supports the State's only significant Straw-necked Ibis (*Threskiornis spinicollis*) rookery. A report on the ecology of the lake was completed by Mr and Mrs Tingay. They recommended its acquisition as a nature reserve, to the W.A.W.A. That body subsequently adopted the report's recommendation.

6. THE WONGAN HILLS

In its review of environmentally important areas in System 4 (the Wheatbelt) the Environmental Protection Authority has recommended that:

"4.1.2 - The owners of private lands (the Wongan Hills) adjoining the reserve (A25808) should be commended on the conservation work they have done. If the present conservation ceases, however, steps should be taken to retain the land in its present state."

This recommendation is now being implemented. High in priority has been the investigation of the status of mining claims on some of the areas in question. Details of monitoring ecological condition are also being finalised.

7. NATURE RESERVES OF KOJONUP SHIRE

In conjunction with Kojonup Shire Council, a management plan has been completed, and is almost ready for presentation to the W.A.W.A.

The plan aims to integrate habitat management with hazard reduction burning by means of prescription burning. Such burning will be controlled by the Department and will utilize the Shire's fire control resources.

Another of the plan's features is a monitoring component. Dr Fox and Dr Majer of the Western Australian Institute of Technology are supervising their own students as well as members of the local community in the collection of resource data that will be used to evaluate the progress of the plan.

8. METROPOLITAN RESERVES

(a) Alfred Cove

This new reserve is important for two reasons:

- (i) it is used by migratory wading birds, including the Greenshank (*Tringa nebularia*)
- (ii) on the reserve are unique fossil sediments deposited during the last rise in sea levels that occurred from 20 000 to 6 000 years ago.

During the year the reserve became the centre of a conflict due to nuisance caused to nearby residents by salt water mosquitoes that breed in and near the Cove.

The Department has allocated \$2 000 for research into control of the mosquitoes by a method which will not harm the Cove's ecology.

A boundary for the new reserve has been tentatively agreed upon by the Department, Melville Council and the Lands Department. Some minor details need to be resolved before a formal boundary is ratified.

(b) Thompsons Lake Reserve

The Department has commissioned a survey and report on this reserve to evaluate its wildlife values and present use and to suggest future controls and management.

(c) Star Swamp

This area is in the process of being set aside as a nature reserve to be vested in the W.A.W.A. A major use will be environmental education.

Star Swamp was formerly State Housing Commission (SHC) property, and the Commission's Minister (Mr Peter Jones) is also Minister for Fisheries and Wildlife. Mr Jones caused Star Swamp to be set aside as a reserve in response to a request by local residents. Adjoining Star Swamp the SHC still owns land that is now being planned as a residential development. Negotiations with the developers have resulted in an undertaking from them to protect Star Swamp's integrity.

9. ISLAND RESERVES

(a) North Island (Houtman Abrolhos A20253) Airstrip

The Department of Lands and Surveys, using photogrammetric techniques, completed a 1 metre contour map of North Island. The contour map was used by the Geraldton branch of the Department of Main Roads (MRD) to design and produce orders of costs for the construction of an airstrip on the island. This airstrip is now the subject of an environmental impact study.



(b) Aerial Photography of Island Reserves

The North Island project has highlighted the value of appropriately scaled contour maps in resolving management problems on small islands common along the coastline. Consequently, the Department of Lands and Surveys has been requested that in future all usual photographic survey flights of islands should be flown at much lower altitudes than has been the past custom. Whenever the occasion necessitates this would enable production of 1 metre contour maps of a given island.

(c) Woody Island (Recherche Archipelago A22796)

This island is now the subject of a management plan that accommodates tourist-use. To obtain adequate resource data that could be used as a basis for the plan, a survey was undertaken during October 1975. The survey results have been published as Departmental Report No. 21. Joint authors are J. Goodsell, A. Tingay and S.R. Tingay.

## IV WILDLIFE RESEARCH

### A. BIOLOGICAL SURVEY

Surveys in remote parts of W.A. continued to be emphasised in 1975/76.

In May 1975, Fauna Report No. 16 was published - "Notes on the Wildlife of a Proposed Nature Reserve around Lake Grace and Lake Chinokup, W.A."

In August 1975, the ongoing survey of the Kimberleys continued with a survey of the Drysdale River National Park. The months following the survey were spent in preparing and compiling information for Wildlife Research Bulletin No. 6 - "A Biological Survey of the Drysdale River National Park, North Kimberley, W.A." (In Press).

The survey was financed by both the Western Australian Government and the Australian Commonwealth Government. It was undertaken in conjunction with staff from other State organisations and CSIRO.

Papers for a Wildlife Research Bulletin on the Islands of the north-west Kimberley Coast were called from authors and in April 1976 a reconnaissance survey made to the Edgar Range, S.E. of Broome, in preparation for a survey of the Edgar Range area to be undertaken in August 1976.

Work associated with the Report of the Conservation Through Reserves Committee continued. In October 1975, Wildlife Research Bulletin, No. 5 was published - "The Wildlife of some Existing and Proposed Reserves in the Great Victoria and Gibson Deserts, W.A." This Bulletin reported work undertaken in March 1975. During November 1975, a survey was made of proposed reserves centred on the Carnarvon Range in the Carnegie Salient and the Durba Hills in the Little Sandy Desert near Lake Disappointment. A further survey was made to the Carnarvon Range in March 1975 when two additional proposals were visited: the Yeo Lakes Area and the Gibson Desert Area. A report on these trips is being compiled and will be published as a Wildlife Research Bulletin.

June 1976 saw further work in the region of Lake Moore.

## B. MACROPODS

### 1. RED KANGAROO MANAGEMENT PROGRAMME

Collection and analysis of harvest data required by the Red Kangaroo Advisory Committee was continued.

Some more detailed investigations of shooter selectivity were also commenced. From data collected so far, it appears that these ratios of animals taken : animals of acceptable commercial size which could be taken by shooters (i.e. animals shot : animals of acceptable size sighted and within shooting range) could be generally lower than 1 : 5 for males and possibly lower than 1 : 3 in many situations with a long history of commercial exploitation. Selection ratios for females appear to be generally wider than those for males, as expected, but the difference between sexes in this respect appears to be influenced by the previous harvest history of the local populations.

This work is being continued.

### 2. GREY KANGAROO MANAGEMENT PROGRAMME

Research involvement with this programme has had to be curtailed due to lack of staff, and inability to obtain useful data indirectly from other sources.

### 3. MISCELLANEOUS

#### (a) Dorre Island

A third visit to check vegetation study areas and the status of the fauna was made in October 1975 (6-13). A considerable improvement in vegetative cover was apparent at this time, but large areas were dominated by *Scaevola crassifolia*. Some regeneration of *Triodia plurinervata* was apparent in a number of places, but the *Acacia ligulata* scrub which apparently would have been the most important for the Banded Hare Wallaby (*Lagostrophus fasciatus*) has so far shown little sign of recovery.

Regeneration by suckering and epicormic growth

in species of *Hakea*, *Brachysema*, *Melaleuca*, *Beaufortia*, *Alyogyne*, and *Eucalyptus* was apparent.

Night-time spotlight traverses were made in the areas of White Beach and Quoin Bluff and showed that all the important terrestrial mammals were present in each case.

A further visit is planned for the coming year.

(b) Banded Hare Wallaby Colony, Dirk Hartog Island

Following the visit to Dorre I. the captive colony of Banded Hare Wallabies established on this Island in June 1974 was checked (October 15, 1975). Twenty five independent animals, including all the original adults, were present at this time (13♀♀, 12♂♂). The adult founder stock comprised 7♀♀ and 4♂♂ and 6 of the females also had live joeys in pouch at the time of their release (5♂♂ and 1♀).

The excess of males recruited to this date is thus considered to be of little consequence.

- (c) Construction of some animal holding yards and associated facilities at the Wildlife Research Centre was undertaken with the aid of a grant under the R.E.D.S. scheme.
- (d) The vacancy which arose in March 1975 for the third member of this research team was not filled until the end of November 1975. This staff shortage for a period of eight months considerably restricted the work which could be undertaken.

### C. ESTUARINE BIRDLIFE

1. A two-year study of the birdlife of the Peel and Harvey estuaries (Mandurah) was initiated in July 1975. The principal aims of this study were:
  - (a) to determine the species of waterbirds which inhabit these estuaries,

(b) to determine their seasonal abundance,  
and

(c) to identify those areas of the estuaries  
which are most important as wildlife habitats.

During 1975/76 this work was partly financed by the  
Town Planning Department's Peel-Preston study.

2. Monthly surveys of the Swan, Pelican and Egret  
populations of Hardy Inlet (Augusta) and Leschenault  
Inlet (Bunbury) were continued through 1975/76.
3. The transequatorial migratory wading bird banding  
programme at Pelican Point (Swan River) was  
continued through the 1975/76 wader season. Two  
important overseas recoveries and one interstate  
recovery were recorded.
4. Leg-banding of pelicans continued at four breeding  
colonies in the north-west of the State. Wing-  
tagging was initiated at three of these colonies.  
Live trapping and banding of adult pelicans was  
continued in the south-west.

#### D. PESTICIDES AND WILDLIFE

No further analyses were performed.

#### E. POTOROOS

The grant from the Commonwealth Department for Environ-  
ment, Housing and Community Development, to determine if  
potoroos still exist in Western Australia was extended  
for a further year until October 23, 1976.

In February 1976, Dr A.N. Start resigned to take up a  
position with the W.A. National Parks Board and was  
replaced by Mr Kabay.

Mr Kabay continued the research programme, concentrating  
his efforts along the south coast of W.A. between Augusta  
and Fitzgerald River National Park and the islands along  
the south coast of W.A.

Though up till now no potoroos have been found, valuable information has been obtained on the distribution of other wildlife in Western Australia. Several papers reporting these results will be published in the coming year.

#### F. WATERFOWL RESEARCH AND GAME MANAGEMENT

In the past year the Waterfowl Research Unit has been involved in the following projects:-

A submission to the Journal of Wildlife Management (U.S.A.) for publication as a "Monograph", title - "The Biology of the Mountain Duck on Rottnest Island, Western Australia". This project has now been accepted by the editor for publication in the coming year.

The submission to the Journal of Wildlife Management for publication - title - "Artificial Nest Boxes as Nest Sites for Australian Waterfowl". This paper was written jointly with the Victorian Fisheries and Wildlife Department.

The preparation of data for publication from the general waterfowl banding programme. This project involves the analysis of 40 955 banded ducks over a period of nearly 20 years.

Aerial and ground surveys for the setting of the annual Duck Hunting Season plus the production of an aerial film on the wetlands of the Swan Coastal Plain.

Assisted with the production of a documentary film on the Wildlife of Rottnest Island done in conjunction with the A.B.C. Natural History Unit of Melbourne, Victoria.

In general, the greatest proportion of the work period during the past year has been taken up by committee work.

This has involved the Senior Research Officer of the Waterfowl Research Unit in meetings of 11 committees that meet on a regular basis throughout the year.

## G. PLANT ECOLOGY

Preliminary field studies, consisting of some vegetation mapping, sampling and compilation of management histories, were carried out to provide background information for a long-term fire ecology study, planned to provide improved strategies of reserve management. The field work has been concentrated in two wheatbelt reserves (Tutanning N.R. and Boyagin N.R.) and in Two Peoples Bay Reserve.

Studies of regeneration of vegetation after fire and other disturbance on Barrow Island and Middle Island, initiated by staff of the W.A. Herbarium, were continued and expanded to include samples of further undisturbed areas. The studies of undisturbed areas provide information on the variety of successional possibilities, and these were enhanced by a visit to other islands in the Recherche Archipelago early in 1976.

With the commencement of large scale sandmining operations on Reserve 31030, south of Eneabba, considerable time was devoted to devising suitable experimental rehabilitation procedures and monitoring strategies. Details of the Environmental Management Programmes for one operation have been finalised. The mining activity and the rehabilitation work will be supervised through a system of annual reports with possibly more frequent site visits.

## H. RESERVE MANAGEMENT

### CONTROL BURNING - TUTANNING RESERVE

In October 1975 edge burning was carried out along the edge of compartments 12, 14, 16 and 17 where they adjoin private land.

On May 3 of this year compartment 15 was control burnt resulting in an 80% burn.

### BOYAGIN (Eastern Section)

The Forests Department was contracted to complete the burning of all buffer strips, also compartment 10 which had been unsuccessfully burnt previously.

All buffer strips were control burnt and compartment 10, but not successfully, as approximately only 40% was burnt. Also, whilst burning the buffer strip between compartments 5 and 8, fire escaped into compartment 5 and was not contained. The whole of the compartment was burnt out with about an 80% burn.

#### LAKE UNICUP

The southern and western buffer strips were burnt by local volunteer brigades.

The western strip burn escaped and burnt approximately 4-500 hectares.

#### FIRE BREAK MAINTENANCE

417 km of fire breaks were maintained by contract whilst 137 km were maintained by Departmental staff.

No work was carried out on L. Magenta this year.

A total of 315 new fire breaks was constructed on 12 reserves as follows:

<u>Reserve Name</u>	<u>Distance</u>
✓ Chiddar Cooping Hill	60 km
✓ Tarin Rock	40 km
✓ Tarin Rock North	22 km
✓ Tootanallup	12.5 km
✓ Yornaning	10.5 km
✓ Wanneroo	5 km
✓ Lake Pinjarega	74.5 km
✓ Boyagin (Completed)	20 km
✓ Clackline	20 km
✓ Mt Westdale	32 km
ST Johns Hill 19 kms	296

Work on the Cobline Flats was abandoned due to cyclonic rain depressions and following rains causing flooding in the area.

No serious fires were experienced during the season. Two small fires occurred on Lake Thomson and one on Lake Unicup believed to have been an escape from a duck shooters fire.



## STAFF

During this season a seven day week roster was successfully initiated to maintain a constant "on-call" crew to man fire fighting vehicles.

## I. PUBLICATIONS

Burbidge, A.A., McKenzie, N.L., Chapman, A. and Lambert, P.M., 1976. 'The Wildlife of some Existing and Proposed Reserves in The Great Victoria and Gibson Deserts, Western Australia'. *Wild. Res. Bull. West Aust.* 5 : 1-16.

## V ENFORCEMENT

### A. LITTER

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.

### B. KANGAROOS

#### GREY KANGAROOS

Almost without exception, reports received suggest that the grey kangaroo population in the south-west portion of this State continues to increase and during the past year we have received many complaints concerning damage to farming properties and some in regards to the danger of these marsupials on our highways.

Meetings have been held with some local Government authorities to work out a solution to these problems.

#### DAMAGE INSPECTIONS

Once again our Wildlife Officers stationed in these areas have been hard pressed to give adequate time during the growing period April-October, to make the damage inspections and ensure that the Grey Kangaroo Management Programme was adhered to.

#### RED KANGAROOS

Frequent inspections were made during the year of all licensed premises and shooters to ensure that the Red Kangaroo Management Programme was adhered to.

It is believed that the red kangaroo stocks, which were seriously affected during the severe drought of past years in the Eastern Goldfields and part of the Murchison Districts, continue to improve slowly.

### C. SPECIAL INVESTIGATIONS

During the year a Wildlife Officer was appointed to carry out special investigation work and liaise with the Customs Department to combat the illegal dealing in protected fauna and bird smuggling.

### D. PROSECUTIONS 1.7.1975 - 30.6.1976

Various offences against the Wildlife Conservation Act and Regulations occurred throughout the year. Of these, some 23 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 1	Fines \$ 75.00	Costs \$ 2.10
DISTRICT NO. 2 KARRATHA Prosecutions 5	Fines \$ 200.00 1 case pending	Costs \$ 31.90
DISTRICT NO. 3 MT MAGNET Prosecutions - Nil		
DISTRICT NO. 4 CARNARVON Prosecutions 8	Fines \$ 150.00 7 cases pending	Costs \$ .50
DISTRICT NO. 5 GERALDTON Prosecutions 9	Fines \$ 220.00	Costs \$ 142.60
DISTRICT NO. 6 MOORA Prosecutions 10	Fines \$ 345.00 2 cases pending	Costs \$ 114.90
DISTRICT NO. 7 WONGAN HILLS Prosecutions 6	Fines \$ 305.00	Costs \$ 25.60

DISTRICT NO. 8 WAROONA Prosecutions 9	Fines \$ 85.00 3 cases pending	Costs \$ 63.70
DISTRICT NO. 9 PINGELLY Prosecutions 5	Fines \$ 80.00 4 cases pending	Costs \$ 13.60
DISTRICT NO. 10 KALGOORLIE Prosecutions 3	Fines \$ 140.00	Costs \$ 16.30
DISTRICT NO. 11 BUSSELTON Prosecutions 29	Fines \$1255.00	Costs \$ 355.29
DISTRICT NO. 12 ALBANY Prosecutions - Nil		
DISTRICT NO. 13 PERTH METROPOLITAN AREA Prosecutions 23	Fines \$ 960.00 7 cases pending	Costs \$ 66.20
DISTRICT NO. 14 MANJIMUP Prosecutions 10	Fines \$ 115.00	Costs \$ 177.00
DISTRICT NO. 15 ESPERANCE Prosecutions - Nil		
<hr/>		
GRAND TOTALS:		
PROSECUTIONS 118	FINES \$3930.00 24 cases pending	COSTS \$1009.69
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Full details of prosecutions overleaf.

Section of Act or Regulation	No.	Description	Fine	(Total) Costs
DISTRICT NO. 1 - WYNDHAM				
Sect. 16	1	Taking Lorikeets and Parrots	\$ 75.00	\$ 2.10
DISTRICT NO. 2 - KARRATHA				
Sect. 16	1	Taking Crested Pigeons	80.00	12.10
Sect. 16	2	Taking Euros	80.00	4.20
Section 17(2)(b)	1	No Dealer's License	Case pending	
Sect. 28	1	No Aviculturist License	40.00	15.60
DISTRICT NO. 4 - CARNARVON				
Sect. 16	1	Taking Silvergulls	150.00	.50
Sect. 25(1)(a)	1	Wilfully misleading Wildlife Officer	Case pending	
Reg. 44	3	Leaving rubbish on Sanctuary	Case pending	
Reg. 47	3	Entering a Prohibited Area	Case pending	
DISTRICT NO. 5 - GERALDTON				
Sect. 16A	1	Taking Weiros from the wild	50.00	12.10
Reg. 46	2	Setting fire to Osprey nest	40.00	90.00
Reg. 52	6	Taking young Pink and Grey Galahs	130.00	40.50
DISTRICT NO. 6 - MOORA				
Sect. 16	7	Taking Wild Ducks	345.00	114.90
Sect. 16	1	Taking a Magpie	Dismissal under Sect. 669 of Criminal Code.	
Sect. 16	2	Taking Grey Kangaroos	Case pending	

Section of Act or Regulation	No.	Description	Fine	(Total) Costs
DISTRICT NO. 7 - WONGAN HILLS				
Sect. 16	3	Destroying Swans' eggs	\$ 30.00	\$ 9.30
Sect. 16	2	Taking Wild Ducks	200.00	4.20
Sect. 16	1	Taking Grey Kangaroos	75.00	12.10
DISTRICT NO. 8 - WAROONA				
Sect. 16	4	Taking Grey Kangaroos	65.00	39.50
Sect. 16	2	Taking Grey Kangaroos and Wild Ducks	20.00	24.20
Sect. 17(2)(e)	1	No Dealer's License	Case pending	
Reg. 30	2	Unsuitable bird cages	Case pending	
DISTRICT NO. 9 - PINGELLY				
Sect. 16	1	Taking a Swan	80.00	13.60
Sect. 16A	4	Taking Grey Kangaroos	Case pending	
DISTRICT NO. 10 - KALGOORLIE				
Sect. 16	1	Taking Red Kangaroos	50.00	12.10
Reg. 8A(3)(B)	1	No Kangaroo Tags	30.00	2.10
Reg. 6(11)	1	No Kangaroo Tags		
DISTRICT NO. 11 - BUSSELTON				
Sect. 16	5	Taking Grey Kangaroos	180.00	60.50
Sect. 16	2	Taking Brush Wallabies	100.00	35.30
Sect. 16	1	Taking Brush Wallabies	Dismissed	
Sect. 16	13	Taking Wild Ducks	795.00	163.30
Sect. 16	1	Taking Wild Ducks	Dismissed under Sect. 669 Criminal Code	
Sect. 16	1	Taking Wild Ducks	Dismissed	

Section of Act or Regulation	No.	Description	Fine	(Total) Costs
<b>DISTRICT NO. 11 - BUSSELTON (cont.)</b>				
Sect. 25(1)(a)	1	Obstruction	\$ 50.00	\$ 14.10
Sect. 25(1)(e)	1	False Name and Address	50.00	9.10
Sect. 26	1	No Kangaroo Tags	10.00	15.60
Reg. 6(8)	1	No Kangaroo Returns	25.00	12.10
Reg. 8A(4)(b)	1	No Kangaroo Returns	25.00	12.10
Reg. 41(4)	1	Refusing Name and Address	20.00	33.19
<b>DISTRICT NO. 13 - PERTH METROPOLITAN</b>				
Sect. 16	3	Taking Wild Ducks	600.00	6.30
Sect. 16	2	Taking Grey Kangaroos	200.00	18.60
Sect. 16	2	Taking Grey Kangaroos	Case pending	
Sect. 17(2)(e)	2	No Dealer's License	Dismissed	
Sect. 17(2)(e)	1	No Dealer's License	50.00	12.10
Sect. 25(1)(a)	2	Obstruction	Case pending	
Sect. 25(1)(f)	1	Abusive language	Case pending	
Reg. 12	1	No Aviculturist License	Case pending	
Reg. 13(1)	1	No Dealer's License	Case pending	
Reg. 13(4)(a)	3	No Dealer's Returns	100.00	12.10
Reg. 13(6)	3	Buying Birds from Unlicensed Person	Case pending	
Reg. 28(1)	1	No Aviculturist License	10.00	17.10
Reg. 35(1)	1	No Aviculturist License	Case pending	
<b>DISTRICT NO. 14 - MANJIMUP</b>				
Sect. 16	3	Taking Grey Kangaroos	50.00	61.80
Sect. 16	2	Taking Wild Ducks	20.00	34.20
Reg. 49(5)(e)	1	.22 Rifle on Reserve	5.00	43.80
Reg. 49(5)(g)	3	Exceeding Wild Duck Bag Limit	30.00	20.10
Reg. 49(6)	1	Rubbish on Reserve	10.00	17.10

## VI 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, 1976, the following licenses were issued:

### A. SCIENTIFIC PURPOSES - REGULATION 17

These licenses were issued mainly to official organisations or their employees. 79 persons were licensed to take fauna for general scientific purposes. 25 persons were licensed to take specific fauna.

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

There were 50 licenses issued for the following purposes:-

Care of derelict fauna	9
Collection and Study	13
Study and Display	6
Educational	9
Photography	10
Miscellaneous purposes	3

### C. AVICULTURE

#### 1. LICENSES TO KEEP AND BREED FAUNA IN CAPTIVITY - REGULATION 12

4 122 licenses were issued, mainly to aviculturists.

#### 2. LICENSES TO DEAL IN AVIAN FAUNA - REGULATION 13

38 were issued.

#### 3. LICENSES TO TRAP AVIAN FAUNA - REGULATION 11

25 were issued.

##### (a) List of Parrots Trapped

Twenty-eight	1 524
Western Rosella	441
Western King	88
Galahs	145



(b) List of Finches Trapped

Longtail	1 335
Mask	1 015
Star	5 021
Gouldian	4 191
Blood	299
Double Bar	1 030
Chestnut	1 059
Yellow-rumped	109
Pictorella	791
Emblema	1
Black Hearts	2 281

A further 1 500 finches were trapped but no details of the numbers of each species was provided.

D. GAME

LICENSES TO TAKE GAME

159 Quail shooters licenses were issued. 6 255 Duck shooters licenses were issued.

E. KANGAROOS

1. LICENSES TO TAKE RED KANGAROOS FOR SALE - REGULATION 6

Fifty-seven licenses were issued throughout the year.

2. LICENSES TO DEAL IN KANGAROO CARCASSES - REGULATION 8

Seven licenses were issued.

3. LICENSES TO DEAL IN KANGAROO SKINS - REGULATION 10

Fourteen licenses were issued.

4. LICENSES TO PROCESS FAUNA - REGULATION 7

Twenty-five licenses were issued to process kangaroos.

F. 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.

1. EXPORT INTERSTATE

(a) Birds

Finches:-

Blood	132
Chestnuts	139
Double Bar	472
Gouldian	2 427
Longtail (Blackhearts)	2 451
Mask	602
Pictorella	749
Star	3 796
Yellow-tailed	65

Parrots:-

Blue Bonnet	4
Bourke	2
Budgerygah	44
Cloncurey	1
Cockatiel (Weiro)	1
Elegant	6
Golden-shouldered	2
Hooded	2
Lorikeet - Red-collared	2
- Varied	2
Lovebirds -	
Masked	326
Peachfaced	601
Port Lincoln	123
Red-winged	1
Rosella - Adelaide	2
- Western	687
Smoker	2
Twenty-eight	1 640
Western Kings	89

Cockatoos:-

Little Corella	1
Galah	20
Red-tailed Black	2
Sulphur-crested	3
White-tailed Black	9

Canaries:- 55

Black-breasted Buzzard 1

Indian Ring-neck:-	20
Wedge-tailed Eagle:-	1
Little Falcons:-	4
Java Sparrows:-	7
Mannikins:-	36
Banded Plover:-	6
Black-tailed Native Hen:-	6
Western Magpie:-	2
Black-headed Nun:-	5
Little Pied Heron:-	2
Bustard:-	1
Quail:-	
Japanese	47
King	5

(b) Mammals

Agile Wallaby	2
Brush-tailed Rat Kangaroo	4
Dibbler	11
Euro	2
Little Red Antechinus	40
Native Cats	4
Northern Possums	2
Numbat	1
Quokkas	20
Red-eared Antechinus	40
Red Kangaroo	1
Short-nosed Bandicoot	1

2. IMPORT INTERSTATE

(a) Birds

Pheasants:-

Lady Amherst	19
Golden	21

Reeves	33
Silver	10
Swinhoe	6

Finches:-

African Fire	95
Aurora	114
Blood	72
Blue-breasted Waxbill	12
Chestnut	484
Cordon Bleu	217
Cuban	161
Diamond Firetails	12
Double Bar	90
Jacarini	99
Canaries	1 172
Melba	132
Orange-breasted Waxbill	346
Painted (Emblema)	102
Parrot blue-faced	38
Parrot red-faced	46
Plumhead	60
Star	26
Strawberry	13
Yellow-rumped	6
Yellow stars	16

Parrots:-

Barraband	31
Blue bonnet	30
Blue-winged	10
Bourke	138
Budgerygah	1 368
Cloncury	1
Cockatiel (Weiro)	306
Crimson-wing	98
Elegant	54
Eastern King	19
Hooded	26
Mallee ringneck	32
Princess	43
Rainbow Lorikeet	45
Musk Lorikeet	5
Red-rumped	125
Rosella - Adelaide	20
Rosella - Crimson	10
Rosella - Eastern	24
Rosella - Northern	2

Rosella - Pale-headed	102
Scaly-breasted Lorikeet	96
Scarlet-chested	164
Smoker	2
Turquoise	120
Varied Lorikeet	4

Cockatoos:-

Corella - Short-billed	446
Gang Gang	2
Major Mitchell	21
Galah	168
Sulphur-crested	529

Doves and Pigeons:-

Diamond Dove	106
Grey-winged Pigeon	4
Peaceful	10
Torres Strait	1

Quail:-

Brown	4
Japanese	3
King	68
Painted	2
Red-chested	4
Red-backed	14
Stubble	106
Cinnamon	4

General:-

Black-shouldered Kite	1
Brush Turkey	4
Cape Barron Geese	6
Little Falcon	1
Peregrine Falcon	4
Royal Spoonbills	3
Swamp Harriers	2

(b) Mammals

Black-striped Wallaby	1
Fallow Deer	3
Koala	2
Monkey ( <i>Rhesus macque</i> )	4
Oriental Small-clawed Otter	2

Red-necked Wallaby	4
Tammar	100
Tasmanian Devil	2

### 3. EXPORT OVERSEAS

#### (a) Birds

Black Swan	1
Black-winged Stilts	8
Boobook Owl	2
Brown Quail	4
Brush Bronzewing Pigeons	4
Budgerygah	6
Canaries	6
Chestnut-breasted Shelduck	3
Cockatiel (Weiro)	2
Emu	14
Grey Teal	1
Long-billed Corella	10
Galah	46
Major Mitchells	4
Pelican	1
Pink-eared Ducks	6
Port Lincoln Parrots	2
Scarlet-chested Parrots	4
Short-billed Corella	4
Straw-necked Ibis	4
Stubble Quail	6
Sulphur-crested Cockatoos	9
Western Magpies	4
Willie Wagtails	2
Whistling Kites	4
White-plumed Honeyeaters	4

#### (b) Mammals

Agile Wallaby	14
Parma Wallaby	2
Quokka	3
Red Kangaroo	12
Rufous Rat-Kangaroo	3
Western Euro	11
Western Grey Kangaroo	6

G. LICENSES TO KEEP FAUNA - REGULATION 16

18 issued in the year.

H. EMUS

LICENSE TO PROCESS FAUNA - REGULATION 7

Two licenses were issued to process Emu eggshells.

## VII LEGISLATION

### A. WILDLIFE CONSERVATION ACT AMENDMENTS

The Wildlife Conservation Act is administered by the Department of Fisheries and Wildlife under the direction of the Minister for Fisheries and Wildlife.

The title of the Act was changed from Fauna Conservation Act in an amendment to the Act No. 67 of 1975 proclaimed on December 5, 1975.

Other amendments incorporated in this Fauna Conservation Amendment Act and of interest were:

1. Chief Warden of Fauna becomes Conservator of Wildlife.
2. Fauna Wardens become Wildlife Officers.
3. Honorary Wardens become Honorary Wildlife Officers.
4. "Sanctuaries" within the first definition in S6 become Nature Reserves.
5. Sanctuaries within the second definition become Wildlife Sanctuaries.
6. Wildlife Officers will be appointed only under the Public Service Act and the Minister will only appoint Honorary Wildlife Officers.
7. The Western Australian Wild Life Authority becomes The Western Australian Wildlife Authority and its membership will be increased.
8. It becomes illegal to describe any area of land as a Wildlife Sanctuary unless it is permitted by the Minister by agreement.
9. The Minister may cancel licenses under certain circumstances.
10. It becomes an offence to have, etc, untagged skins or carcasses prior to lawfully processing.
11. Authority is bestowed on wildlife officers to enter



enclosed gardens or curtilages without warrant where reasonable grounds exist for believing an offence is, was or is about to be committed.

12. Entry into enclosed gardens or curtilages will require a warrant if officers wish to avoid liability to prove to a justice that reasonable grounds existed.
13. Sections relating to the custody of fauna and other things seized have been amended and need clarification for all officers.
14. Identification of alleged offenders is presumed.
15. Regulation making powers have been extended in most cases but restricted in respect of private wildlife sanctuaries.

The following Ministerial notices were published in the Government Gazette:-

Government Gazette (No. 50) of July 25, 1975 -  
Classification of Reserve 23586 (Yorkrakine Rock) as an:

1. Unlimited Access Area (that area designated as the recreational use area).
2. Limited Access Area (land other than that designated as recreational use area).

Government Gazette (No. 61) of September 12, 1975 -  
Open season for Finches in the whole of the Kimberley Division of the State from September 1, 1975 to November 15, 1975.

Government Gazette (No. 82) of December 12, 1975 -  
Classification of Reserve 5456 (Dead Man's Swamp) as a Game Reserve.

Government Gazette (No. 84) of December 19, 1975 -  
Open season on wild duck within the South West and Eucla Land Divisions from January 10 to April 30, 1976.

Open season in wild duck within the Kimberley, North West and Eastern Land Division from

January 1 to December 31, 1976.

Government Gazette (No. 28) of May 7, 1976 -

Declaration of unprotected species. (See page 4 for schedule of unprotected fauna).

**B. FAUNA CONSERVATION REGULATIONS AMENDMENTS**

There was no amendment to the Fauna Conservation Regulations during the twelve months ended June 30, 1976. It is anticipated that they will be reviewed in the next few months and retitled in accordance with the changes made in the enabling Act which is now the Wildlife Conservation Act.

## VIII RADIO COMMUNICATIONS

During the year two new radios were installed for the Carnarvon District Office.

One of these Single Side Band units replaced an obsolete Double Side Band unit in the Carnarvon Wildlife Mobile Patrol vehicle.

Additional new single Side Band units were installed at Shark Bay, Perth District Office and Bunbury District Office.

New patrol vessels "Abel Tasman" and "Avocet" were additions to the radio network while patrol vessel "Dampier" was withdrawn.

It is expected that seven (7) new mobiles will be installed in the coming year, three replacing Double Side Band units and four new additional sets.

## IX STAFF

### A. 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.

### B. ENFORCEMENT

#### WILDLIFE OFFICERS - APPOINTMENTS AND TRANSFERS

Name	From	To
G. Hanley	Esperance	Carnarvon
P. Lambert	Kalgoorlie	Pingelly
K. Marshall	Relieving Staff	Perth
D. Mell	Waroona	Geraldton
K. Morrison	Busselton	Fisheries Inspection Staff Geraldton
L. Moss	Geraldton	Perth
M. Osborn - promoted		Waroona (District Wildlife Officer)
L. Silvester	Carnarvon	Kalgoorlie
R. Smith	Onslow	Karratha (District Head- quarters change)
J. Quinn - temporary	Perth	Busselton (Acting until position is filled)

DISPOSITION OF WILDLIFE OFFICERS AT 30.6.1976

Perth:-	Supervising Wildlife Officer	S.W. Bowler
	Senior Wildlife Officer	A.R. Marshall
	Metropolitan Wildlife Officer	K. Marshall
	Mobile Kangaroo Wildlife Officer	W. Mahoney
Wyndham:-	Wildlife Officer	I. Cooke
Karratha:-	Wildlife Officer	R. Smith
Mt Magnet:-	Wildlife Officer	P. Pennings
Carnarvon:-	Wildlife Officer	G. Hanley
Geraldton:-	Wildlife Officer	D. Mell
Moora:-	Wildlife Officer	K. Miller
Wongan Hills:-	Wildlife Officer	R. Dear
Pingelly:-	Wildlife Officer	P. Lambert
Waroona:-	Wildlife Officer	M. Osborn
Busselton:-	Wildlife Officer	J. Quinn (Acting)
Manjimup:-	Wildlife Officer	J. Neal
Albany:-	Wildlife Officer	R. Grayson
Esperance:-	Wildlife Officer	D. Noble

Relieving Staff

Wildlife Officer J. Wilson

Wildlife Officer K. Marshall's position is vacant waiting to be filled.

## EMPLOYMENT OF ABORIGINALS AS TRAINEE WILDLIFE OFFICERS

At the request of and with the financial assistance of the Commonwealth Government, the Department has undertaken the employment of four Aborigines as Trainee Wildlife Officers. These Trainee Wildlife Officers are based in Perth, Albany and Carnarvon.

## HONORARY WILDLIFE OFFICERS

The Department's sincere thanks are extended to all honorary appointees throughout the State for their efforts in wildlife conservation.

Over the past year many have worked in close liaison with Departmental officers.

## C. RESEARCH

There has been a lack of development in staffing to implement expanding reserve management programmes.

A Department report on the "Management of Nature Reserves in W.A." which will be published shortly lays down needs in this area.

In recent years the numbers of nature reserves have grown dramatically with the implementation of the Environmental Protection Authority's recommendations based on the Conservation Through Reserves Committee's reports. It is anticipated that the area of nature reserves will at least double.

Management of nature reserves by the Department of Fisheries and Wildlife has not kept pace with this growth. A plan for the development of more effective management has been prepared recommending the stationing of reserve management teams in country towns, the location of resident officers on important reserves and the enlargement of complementary research.

## X PUBLICITY

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

The Extension and Publicity Office constructed a static display on the Destruction of Bird Habitat in W.A. which was included in the Avicultural Society's annual show and shopping centre displays.

The 1975/76 Duck Shooters' Guide was produced publicising conditions of the open season, the daily bag and wetland reserves which were open or closed to shooting.

Wildlife Bulletin No. 5, "The Wildlife of Some Existing and Proposed Reserves in the Great Victoria and Gibson Deserts in Western Australia", was published during the year.

The State Wildlife Authority News Service journal was published only once during the year as staff time was required in other areas.

Stocks of brochures, leaflets and general school project materials were maintained throughout the year.

A hand leaflet on the threatened wildlife habitat at Alfred Cove was produced in conjunction with a personal public relations exercise by the Reserves Management Officer.

The Western Australian Wildlife Authority "Fire in Nature Reserves" policy booklet was produced.

A report on the Department's function and role was written and produced for the new State Government Information and Enquiry Centre.

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.

Talks on wildlife and conservation were given by the Publicity staff to several schools and associations during the year.

The 1975 Annual Report of the Department's Wildlife Conservation Branch and Western Australian Wildlife Authority was collated and published.