

WEST AUSTRALIAN FIELD AND GAME ASSOCIATION INC

RESEARCH SECTION



"SUBMISSION ON THE PROPOSALS FOR AN ASSESSMENT
OF WATERBIRD USAGE OF WETLAND NATURE RESERVES
CONTROLLED BY THE WESTERN AUSTRALIAN WILDLIFE
AUTHORITY IN SOUTH-WESTERN AUSTRALIA"

TO

THE WESTERN AUSTRALIAN DEPARTMENT OF
FISHERIES AND WILDLIFE

COMPILED BY R.C. BURKING
B.K. KNEEBONE

February 1981

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ASSESSMENT OF WATERBIRD USAGE OF WETLAND NATURE
RESERVES CONTROLLED BY THE WESTERN AUSTRALIAN
WILDLIFE AUTHORITY IN SOUTH WESTERN AUSTRALIA

SUBMISSION TO THE WA DEPARTMENT OF FISHERIES AND WILDLIFE
BY THE WAFGA INC ON THIS PROGRAMME

1. INTRODUCTION

This submission is based on discussions by R. Burking, B. Kneebone and R. Motteram of the WAFGA, with Messrs J.A.K. Lane and D. Munro of the Department of Fisheries and Wildlife on February 2 1981.

Since the formation of the Association's Research Section in 1973, attempts have been made in various forms to assess the potential of many of the wetlands in Western Australia. However, through lack of manpower and considerable travelling expense, it was decided to concentrate its efforts on a small number of private wetlands used by the Association in open duck seasons, i.e. Yealering, Taylors Lake and Emu Swamp.

An inventory of Western Australian wetlands is regularly updated by the Research Section, but again, manpower and travelling expenses are the limiting factor.

The Association welcomes the proposal to assess the waterbird usage of wetland nature reserves in Western Australia and wishes to submit a number of proposals and suggestions to the scheme

2. WETLAND COMPLEX SYSTEM

The WAFGA has always favoured the use of the wetland complex system for wetland studies in the South-West Land Division. Proposals for modifications were submitted to the Department (Burking et al 1981). The Research Section of the Association would like to see the complex system used in the study of waterbird usage and incorporated in any data analysis. Previous studies have shown that some species of waterbirds tend to colonise certain complexes depending on water quantity and quality. It is hoped that future open duck seasons may be based on complex data in relation to wetland depth and population of species, as well as rainfall in specific meteorological districts.

*Assessment
is
needed*

Initially at least one wetland per complex should be assessed and this gradually increased as the number of interested people enter the scheme, to include all wetlands if possible.

3. PROTECTED SPECIES

Since the closure of Lake Toolibin in the Narrogin wetland

complex to duck shooters, because of certain species considered to be rare or endangered, WAFGA members have declined to report observations of Freckled Duck on a number of wetlands throughout the South-West Land Division. The attitude has been that if Freckled Duck are reported, closure of the wetland will result, once again reducing the number of game reserves to duck shooters. The Association is most concerned that, if a large number of wetlands are surveyed on a regular basis, sightings of Freckled Duck will present new data to the Bird Committee of the WAWA which may lead to more wetland closures. Whilst the Association is very concerned with conservation and the regeneration of waterfowl habitat, the worry of closure of wetlands to shooters remains.

It is extremely important that some policy be issued by the Bird Committee of the WAWA on the Freckled Duck situation and if some wetlands are to be closed, consideration be given to opening up some wetlands now classified as sanctuaries. Following a concentrated five year study, the WAWA should be better equipped to present facts on the situation.

4. MODIFICATION OF WETLAND SANCTUARIES

During the period that Dr T.L. Riggert was associated with waterfowl research within the Department of Fisheries and Wildlife, a number of sanctuary lakes were declared within specific areas to allow a relief from the pressure during the opening weekend. No data are available as to why these specific wetlands were selected, with the exception of Lake Toolibin due to the suspected breeding of Freckled Duck and White Egret.

It is hoped that following the intensive five year survey programme some modification of sanctuary wetlands could be studied with the view to allowing more suitable areas for duck shooters, whilst offering some form of refuge for waterfowl.

As agreed by both the Department of Fisheries and Wildlife and the WAFGA, it is only during the opening weekend that the shooting pressure on waterfowl is experienced. This is appreciated and allowed for in the proposal on standardisation of open duck seasons in Western Australia (Burking *et al* 1979). It is accepted knowledge that only a small percentage of duck shooters who front up at opening, visit the wetlands after that - only the dedicated hunters. The question is then raised that, following the initial pressure at opening (allowed for by the 6 p.m. versus the 6 a.m. opening times), some of the sanctuary lakes be opened for the benefit of the genuine hunter later on in the season.

Large open wetlands such as Big White in the Narrogin complex, Lake Dumbleyung in the Dumbleyung complex and Lake Parkyerring in the Wagin complex, due to their size, must be

considered as sanctuary lakes and, in view of this, some of the limitations which exist at present could be investigated.

5. MODIFICATIONS TO OPEN WATERFOWL HUNTING SEASONS

As discussed briefly in Section 4, following the five year study period of waterbird utilisation of wetlands, new ideas and proposals will arise. A mass of information still remains to be collected on WA wetlands, part of which is under way through the wetland depth gauge and water quality study.

With greater knowledge being gained on the usage of wetlands by waterbirds, some changes to legal species and bag limit numbers may be possible, together with the inclusion of other species such as the Pink-eared Duck, which is sighted in ever increasing numbers on many wetlands in the South-West Land Division.

6. SURVEY FORMS - DESIGN AND FIELD USE

During January (1981) Mr J.A.K. Lane of the Waterbird Research Unit, discussed with Mr Burking the type of survey forms best suited for observers in the field. In view of the fact that people from various organisations will be involved, it was considered essential to provide a form applicable to each of these. From experience with Research Section members of the WAFGA it has been found that only one side of a sheet should be used. Many observers forget to turn the page in order to complete the data required.

With the standardisation of size A4 paper, it has the tendency to create problems when using one side only. However, in our opinion one sided forms are best.

With relation to data, it is felt that by some modification of the form designed by the Fisheries and Wildlife Waterbird Research Unit, and the inclusion of the computer type recording system introduced by the RAOU (well known to the Bird Atlas people) a form could be designed.

The WAFCA feels that water depth according to the gauge is a most important aspect in relation to waterbird usage.

In order to utilise the RAOU bird numbering system it is most important that a "key" be provided as with the "Atlas" recording.

The WAFGA has included two forms which may be useful in the final design. Both of these utilise the F & W and the RAOU systems, but No. 1 lists the actual waterbird reference numbers that may be sighted and No. 2 allows spaces for observers to fill in the species number. It should be appreciated that both forms are somewhat freehand and require "straightening up" but should serve as a guide. No doubt the

Controller of the scheme when appointed will make this high on his list of priorities. However, further discussion would be appreciated.

7. WAFGA PARTICIPATION

As discussed in Section 1, the Association welcomes the opportunity for an intensive study of our Western Australian wetlands to be carried out. It is hoped that members at present not participating in the Wetland Depth Gauge study may be able to contribute. At present some 20 wetlands are being surveyed by members in association with the F & W on a bi-monthly basis, the WAFGA being involved in January, May and September each year. On this basis, members have been able to cope and look forward to the three trips per year. The Association's programme is based on these three months and any increased involvement may produce problems. Research members have indicated that they wish to continue the surveys at present assigned to them and could include the requirements of the waterbird utilisation study.

Apart from the wetlands within the Depth Gauge scheme, a few members are studying wetlands relatively close to their place of residence purely on a hobby basis.

As indicated by Mr Lane, it is hoped that the RAOU Atlassers, following the final Atlas year of 1981, will be invited to participate in the new programme.

It is hoped that wetlands not under the control of the WAWA, but surveyed at regular intervals could be included in the RAOU/F & W study. One problem that arises is that not all of these wetlands are surveyed on a regular basis, but data obtained on waterbird usage and movements could be useful.

8. FUTURE PROGRAMMES

During discussion, Mr Lane made mention of two ideas that could provide useful information following the five year waterbird usage programme. These were:

- (a) Annual Abundance Index Survey of waterfowl in the South-West that could be made each year in the months of February and April.
- (b) Nesting and Breeding Habitat Survey of Game Species including brood size.

To add to these two suggestions is the instigation of an artificial nesting box study using various types of designs in different habitats. At present the Association is studying a number of designs at the Bayswater Wildlife Sanctuary and the Yealering location known as Gilman-Shipleys Swamps.

All could provide very useful information on the waterbird scene in Western Australia and it is hoped that consideration can be given to these suggestions in future years.

9. CONCLUSIONS

Any programme designed to provide information on wetlands and waterbirds in general can only provide greater appreciation by both conservationists and hunters. The WAGFA feels that this is the start of a new era in the understanding of a very scarce commodity. The points outlined in this submission by the Association hope to provide some ideas for future wetland management and a more realistic attitude to hunter-Departmental relationships in respect to open duck seasons. The Association's support is strengthened by a copy of a recent letter to the Hon Minister for Fisheries and Wildlife (see Appendix 5).

10. ACKNOWLEDGEMENTS

The Association would like to express its appreciation to the Department of Fisheries and Wildlife for allowing us the opportunity to discuss the programme, especially to Messrs Jim Lane and Don Munro for their friendly and informal attitude.

SECTION II

REFERENCES

Burking, R.C., Kneebone, B.K. and Walker, D. 1979
"Proposals to the West Australian Department of
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"Proposed Modifications to the Existing Wetland
Complex Systems in the South-West Land Division
of Western Australia"

Unpublished Report to F & W

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"Reports of the Research Section 1973-1980
Edited by Burking, R.C., Kneebone, B.K. and Walker, D.

Unpublished Report

APPENDICES

KEY TO SPECIES NAMES AND NUMBERS

GREBE	Great Crested 060 Hoary-headed 062 Little 061	IBIS	Glossy 178 White 179 Straw-necked 180	RAIL	Land 046 Water 045 Chestnut 047 Red-necked 048 Marsh Crake 050 Spotted Crake 049 Spotless Crake 051 White-browed Crake 052 Bush-hen 053 Tasman Nativehen 054 Blacktail Nativehen 055 Dusky Moorhen 056 Swamphen 058	SANDPIPER, CURLEW	Eastern Curlew 149 Whimbrel 150 Little Whimbrel 151 Wood Spiper 154 Grey-tailed Tattler 155 Wandering Tattler 156 Common Spiper 157 Greenshank 158 Marsh Spiper 159 Terek Spiper 160
PELICAN	106	SPOONBILL	Royal 181 Yellow-billed 182	COOT	059	SNIPE	Japanese 168 Chinese 169
DARTER	101	PIED GOOSE	199	CRANE	Brolga 177 Sarus 898	GULL	Silver 125 Pacific 126 South Black-back 981
CORMORANT	Black-faced 098 Pied 099 Little Pied 100 Black 096 Little Black 097	TREE-DUCK	Whistling 204 Plumed 205	LOTUSBIRD	171.	TERN	Whiskered 110 White-winged Black 109 Gull-billed 111 Caspian 112 Common 953 Arctic 952 Roseate 113 White-fronted 114 Black-naped 119 Sooty 120 Bridled 121 Little 117 Fairy 118 Crested 115 Lesser Crested 116
HERON	Great-billed 184 White-necked 189 White-faced 188 Pied 190 Cattle Egret 977 Large Egret 187 Little Egret 185 Plumed Egret 186 Reef 191 Mangrove 193	SWAN	Black 203 Mute 906	PAINTED SNIPE	170		
NIGHT-HERON	192	FRECKLED DUCK	214	PLOVER, DOTTEREL	Grey Plover 136 East Golden Plover 137 Red-kneed Dott 132 Hooded Dott 138 Mongolian Dott 139 Double-banded Dott 140 Large-billed Dott 141 Oriental Dott 142 Red-capped Dott 143 Black-fronted Dott 144 Australian Dott 145		
BITTERN	Little 195 Black 196 Brown 197	CAP BARRN GOOSE	198	STILT	Pied 146 Banded 147 Avocet 148		
JABIRU	183	SHELDUCK	Mountain Duck 207 Burdekin Duck 206				
		DABBING DUCK	Black 208 Mallard 948 Grey Teal 211 Chestnut Teal 210 Shoveller 212 Garganey 209 Pink-eared 213				
		WHITE-EYED DUCK	215				
		PERCHING DUCK	Wood Duck 202 White Pygmygoose 200 Green Pygmygoose 201				
		STIFF-TAIL DUCK	Blue-billed 216 Musk 217				

INSTRUCTIONS AND GUIDE TO OBSERVERS

- USE ONE SHEET PER WETLAND
- RECORD NAME, TIME OF INSPECTION, DATE
- DON'T RECORD A SPECIES UNLESS YOU ARE CERTAIN OF YOUR IDENTIFICATION
- CHECK THE SPECIES NO. BEFORE RECORDING
- RECORD THE GAUGE READING ACCURATELY.

KEY TO SPECIES NAMES AND NUMBER

Appendix 4

ION-PASSERINE	IBIS	BUTTON-QUAIL	Sharp-tailed Spiper 163	Long-billed Corella 272	FROGMOUTH	Mangrove Robin 388	Lavender-flanked 862	Bell Miner 633	SPARROW
MU 001	Glossy 178	Red-backed 013	Pectoral Spiper 978	Little Corella 271	Tawny 313	White-breast Robin 387	Red-winged 538	Noisy Miner 634	House 99
ASSAWARY 002	White 179	Painted 014	Red-necked Stint 162	Pink 270	Papuan 316	East Yellow Robin 392	White-winged 535	Yellow-thrt Miner 635	Tree 99
IREBE	Straw-necked 180	Chestnut-backed 015	Long-toed Stint 965	Sulphur-crosted 269	Marbled 314	West Yellow Robin 394	Red-backed 541	Black-eared Miner 967	
Great Crested 060	SPOONBILL	Buff-breasted 016	Curlew Spiper 161	ORIENTAL PARROT	OWLET-NIGHTJAR 317	Pale-yellow Robin 396	Rufuscrwn Emuwrn 528	AUSTRALIAN FINCH	
Hoary-headed 062	Royal 181	Black-breasted 017	Sanderling 166	Eclectus 275	White-faced Robin 397	Black Grasswrn 518	Southn Emuwrn 526	Red-brow Firetail 6f	
Little 061	Yellow-billed 182	Little 018	Broad-billed Spiper 167	Red-cheeked 276	Grey-head Robin 389	White-thr Grasswrn 516		Beautiful Firetail 6f	
ITTLE PENGUIN 005	199	Red-chested 019	ORIENT PRATCOLE 172	LORIKEET	NIGHTJAR	Carptrn Grasswrn 517		Painted Firetail 6f	
LBATROSS	TREE-DUCK	PLAINS-WANDERER 020	SKUA	Rainbow 254	White-throated 330	Strated Grasswrn 513		Diamond Firetail 6f	
Wandering 086	Whistling 204	RAIL	Great 900	Red-collared 255	Spotted 331	Yellow Grasswrn 515		Star 6f	
Black-browed 088	Plumed 205	Land 046	Arctic 128	Scaly-breasted 256	Large-tailed 332	Eyrean Grasswrn 515		Crimson 6f	
Grey-headed 090	SWAN	Water 045	Pomarine 945	Varied 257	GREY SWIFTLET 333	Grey Grasswrn 871		Zebra 6f	
Yellow-nosed 089	Black 203	Chestnut 047	GULL	Musk 258	SPINE-TAIL SWIFT 334	Thick-bl Grasswrn 512		Double-barred 6f	
White-capped 091	Mute 906	Red-necked 048	Silver 125	Purple-crowned 259	FORK-TAIL SWIFT 335	Dusky Grasswrn 511		Masked 6f	
ETREL	FRECKLED DUCK 214	Marsh Crake 050	Pacific 126	Little 260	KINGFISHER			Mangrove 610	
South Giant-petrel 929	CAP BARRN GOOSE 198	Spotted Crake 049	South Black-back 981	FIG-PARROT 261	Azure 319			White-gaped 628	
North Giant-petrel 937	SHELDUCK	Spolless Crake 051	TERN	LONG-TAIL PARROT	Little 320			Yellow 616	
Cape 030	Bush-hen 053	White-browed Crake 052	Whiskered 110	King 281	TREE KINGFISHER			White-eared 627	
Great-winged 075	Tasnm Natiwehen 054		White-winged Black 109	Red-winged 280	Kookaburra 322			Yellow-throated 619	
White-headed 077	Blacktail Natiwehen 055		Gull-billed 111	Superb 277	Bl-wing Kookaburra 323			Yellow-lufted 619	
Gould 078	Dusky Moorhen 058		Caspian 112	Regent 278	Forest 324			Purple-gaped 620	
RION	DABBLING DUCK	Swamphen 058	Common 953	Princess 279	Red-backed 325			Grey-headed 621	
Medium-billed 941	Black 208	COOT 059	Arctic 952	Cockatiel 274	Sacred 326			Yellow-plumed 622	
Antarctic 084	Mallard 948	CRANE	Roscaie 113	GROUND PARROT	Mangrove 327			Grey-fronted 623	
Slender-billed 942	Grey Teal 211	Brolga 177	White-fronted 114	Swamp 311	Yellow-billed 321			Fuscous 613	
Fairy 083	Chestnut Teal 210	Sarus 898	Black-naped 119	Budgerygah 310	White-tailed 328			Yellow-limbed 624	
HEARWATER	SHOVELLER 212	BUSTARD 176	Sooty 120	SWIFT PARROT 309				White-plumed 625	
Flesh-footed 072	Garganey 209	LOTUSBIRD 171	Bridled 121	ROSELLA, ALLIES				Black-chinned 580	
Wedge-tailed 069	Pink-eared 213	STONE-CURLEW	Little 117	Red-capped Parrot 290				Strong-billed 582	
Sooty 070	WHITE-EYED DUCK 215	Bush 174	Fairy 118	Green 285				Brown-headed 583	
Short-tailed 071	Wood Duck 202	Beach 175	Crested 115	Crimson 282				White-throated 579	
Fluttering 068	White Pygmygoose 200	Lesser Crested 116		Yellow 284				White-naped 578	
Hulton's 913	Green Pygmygoose 201	PAINTED SNIPE 170		Adelaide 283				Black-headed 584	
Little 067	STIFF-TAIL DUCK	OYSTERCATCHER						Green-backed 604	
TORM-PETREL	Blue-billed 216	Common 122						Brown 597	
Wilson's 063	Musk 217	Lesser 123						Brown Warbler 454	
White-faced 065	OSPREY 241	White-capped 124						Large-bill Warbler 457	
COMMON DIVINGPET 085	SMALL KITE	LAPWING						Dusky Warbler 461	
Black-shouldered 232	Letter-winged 233	Masked Plover 133						Mangrove Warbler 460	
ELICAN 106		Banded Plover 135						Western Warbler 463	
ANNET	CRESTED HAWK 234	PLOVER, DOTTEREL						Greenback Warbler 458	
Australian 104	Black 229	Grey Plover 136						Fairy Warbler 456	
Red-foot Booby 103	Square-tailed 230	East Golden Plover 137						White-thr Warbler 453	
Masked Booby 105	Black-breasted 231	Red-keeled Dott 132						Mountain Thrnbill 474	
Brown Booby 102	Brahminy 237	Hooded Dott 138						Brown Thrnbill 475	
ARTER 101	Whistling 228	Mongolian Dott 139						Broad-tail Thrnbill 476	
DRMORANT	GOSHAWK	Double-banded Dott 140						Tasmanian Thrnbill 473	
Black-faced 098	Brown 221	Large-billed Dott 141						Chsntrmp Thrnbill 481	
Pied 099	Sparrowhawk 222	Oriental Dott 142						Slate-back Thrnbill 480	
Little Pied 100	Grey 220	Spotted Dove 957						Western Thrnbill 472	
Black 096	Red 223	Domestic 957						Bullrump Thrnbill 484	
Little Black 097	EAGLE	Laughing Dove 988						Samphire Thrnbill 482	
IGATEBIRD	Wh-br Sea-eagle 226	BROWN PIGEON 029						Yellowrump Thrnbill 486	
Greater 094	Emerald 224	Bronzewing, Dove						Yellow Thrnbill 471	
Lesser 095	Wedge-tailed 225	Peaceful Dove 030						Striated Thrnbill 470	
EDTAIL TROPICBD 107		Diamond Dove 031						Southern Whiteface 466	
ERON	HARRIER	Bar-shoulder Dove 032						Chsntrst Wface 468	
Great-billed 184	Spotted 218	Emerald Dove 033						Banded Whiteface 469	
White-necked 189	Swamp 219	Chestnut-breasted 340						VARIED SITTELLA 549	
White-faced 188	FALCON	Fan-tailed 338						Little 559	
Pied 190	Black 237	Black-eared 341						White-throated 558	
Cattle Egret 977	Peregrine 238	Rufous-tail Bronze- 342						Red-browed 560	
Large Egret 187	Little 235	Shining Bronze- 344						White-browed 561	
Little Egret 185	Grey 236	Little Bronze- 345						Brown 555	
Plumed Egret 186	Brown 239	Rufous-brst Bronze- 346						Rufous 556	
Reef 191	Nankeen Kestrel 240	PARASITIC CUCKOO						Black-tailed 562	
Mangrove 193	MOUND-BUILDER	Oriental 336						HONEYEATER	
IGHT-HERON 192	Scrubfowl 006	Diamond Dove 031						Red Wattlebird 638	
TERN	Malleefowl 007	Bar-shoulder Dove 032						Yellow Wattlebird 639	
Little 195	Brush-turkey 008	Emerald Dove 033						Little Wattlebird 637	
Black 196	GODWIT; SANDPIPER	Chestnut-breasted 340						Spiny-cheeked 640	
Brown 197	Black-tailed Godwit 152	Fan-tailed 338						Striped 585	
BIRU 183	Bar-tailed Godwit 153	Black-eared 341						Halmoted Friarbird 642	
	King 012	Rufous-tail Bronze- 342						Silver-cr Friarbird 644	
		Shining Bronze- 344						Noisy Friarbird 645	
		Little Bronze- 345						Little Friarbird 646	
		Partridge Pigeon 039						Regent 603	
		White-quill Rock 037						Blue-faced 641	
		Indian Koel 347							
		Channel-billed 348							
		PHOENIX COUCAL 349							
		HAWK OWL							
		Rufous 247							
		Powerful 248							
		Boobook 242							
		Barking 246							
		BARN OWL							
		Barn 249							
		Masked 250							
		Grass 252							
		Sooty 253							
		WHITE COCKATOO							
		Red-tailed 264							
		Glossy 265							
		White-tailed 266							
		Yellow-tailed 267							
		Gang-gang 268							
		GULL							
		Galah 273							

2nd February 1981

G. Masters, Esq., M.L.A.,
Minister for Fisheries & Wildlife,
108 Adelaide Terrace,
PERTH. W.A. 6000

Dear Sir,

Firstly, we would like to record our appreciation of the communications flowing between our Association and yourself as Minister for Fisheries and Wildlife and your Department and its officers.

It goes without saying that we are extremely disappointed with the lack of duck shooting season in the south west land division this year. However from information available, we do appreciate the decision **which** has been made and of course, our Association will abide by your decision.

It has become extremely obvious that we must know more about the wetlands and their surrounding ecology and in an attempt to raise awareness of conservation and related matters, the Field and Game Association throughout Australia is distributing copies of our latest Wildlife Management publication, a copy of which is enclosed herewith. We particularly recommend the reading of - Habitat - Its Role in Wildlife Management (Mr. P. Rawlinson).

We are pleased to advise of the continued good relations with your Department, and in particular with Jim Lane and Don Munro in the research section. One matter which has been discussed recently is water bird usage of wetlands in nature reserves in Western Australia.

We believe that consideration is being given to utilising some of the Wildlife Conservation Funds in this regard and I feel that it is our duty to point out that the original proposal, initiated by duck shooters with regard to these funds, was aimed at the purchase of areas which would be of benefit to water fowl and duck shooters in pursuing their sport. There should be correspondence on your files, addressed to Mr. MacKinnon, the then Minister for Fisheries and Wildlife, showing that Roy Holtfreter of Northam was a leader in the original move.

The validity of spending these funds on the proposed research has been questioned within our Association however I pointed out to Mr. Holtfreter that our research team has dreamed for many years that such a project could be undertaken but due to the prohibitive cost, it was felt that before such a purchase be made that effective knowledge of the total situation was essential; the study proposed by Jim Lane should achieve this knowledge.

I would like to make the following observations and express our support:-

1. Because of our faith in Jim Lane and Don Munro and their ability both in research and to consider a balanced view of the duck shooting scene.
2. Because of our liaison with Doug Arnold and the relevant Department and its members in in good standing and has steadily improved over the past few years.
3. Because you have shown a willingness to communicate and co-operate with bodies such as ours and recognise our true desire for wildlife management.

In view of the above, we fully support the proposed study into "Waterbird Usage of Wetlands in Nature Reserves in Western Australia" and as President of the West Australian Field and Game Association, do express our wish to participate in such a scheme, should it come to fruition.

Yours faithfully,
THE WEST AUSTRALIAN FIELD & GAME ASSOC. (INC.)

R. W. MOTTERAM
President

Encl.

Assessment of Waterbird Usage of Wetland Nature Reserves
Controlled by the Western Australian Wildlife Authority in
South-western Australia

During 1979 and the early part of 1980, discussions took place between A.A. Burbidge, J.A.K. Lane, S.J. Cowling, S.J.J.F. Davies and M. Blakers about the possibility of using the RAOU's network of amateur observers to assess waterbird usage of wetlands in south-western Australia and a sample of those in the rest of the state. Such a project is seen by the research staff of the Department of Fisheries and Wildlife (WA) as a way of gathering information to assist in developing management programmes for wetlands under the control of the W.A. Wildlife Authority (WAWA). The RAOU Field Investigations Committee see it as an excellent follow-up to the Atlas of Australian Birds, harnessing the considerable knowledge and enthusiasm of atlassers to a new and important project. The survey of waterbird usage of south-western wetlands might form a pilot project for a subsequent, or concomitant, national study.

The present paper incorporates material from several drafts produced for earlier discussions. It proposes a four year study with field work confined to south-west W.A. but incorporating the development of techniques suitable for use on an Australia-wide scale. Funds are sought to support the project through the Fisheries and Wildlife Department of W.A.

Aims of the Fieldwork

1. To obtain information on the use of wetlands by waterbirds in south-western W.A.
2. To develop techniques, and train amateur observers in their use, for future monitoring of waterbird populations in W.A. and throughout Australia.

3. To experiment with census methods for Australian wetlands.

Aims of the Evaluation of Field Results

1. To provide information on waterbird usage to assist in the management of wetland nature reserves and in the resolution of user conflicts.
2. To assess the role and importance of the wetland nature reserve system in the conservation of waterbird populations.
3. To assess the efficiency and practicability of various waterbird census methods under Australian conditions.

Definitions

"Waterbird" is defined as any bird species dependent upon wetland environments for a major part of its life cycle. The definition does not include birds restricted to oceanic environments. Appendix 1 is a list of waterbirds compiled by the Working Group on Birds of CONCOM.

"Wetland Nature Reserve". The specific reserves to be covered would need to be listed and located during discussion between the Department of Fisheries and Wildlife and the RAOU.

Administration

The responsibility for the study would be taken by the Field Investigations Committee of the RAOU through the Institute of Field Ornithology at the Union's headquarters in Melbourne. A Field Officer located in W.A. would be employed to administer the project, supervised by the OICIFO. The Field Officer would have two main roles: to co-ordinate the activities of amateur observers and to design, test and report on census techniques. Data will be stored and analysed by computer to provide fast

and comprehensive feedback to interested bodies and to observers. During the developmental stage of the project, administration would be primarily within W.A. If a national project is begun, routine administrative tasks will be undertaken in Melbourne.

Procedures

It is proposed that the Field Officer be appointed before the opening rains of 1981 (i.e. April, 1981). There are at present over 300 active atlasers in Western Australia. About a third of these are in metropolitan Perth, a third in the south-west of the state (bounded by lines through Perth and Southern Cross and Hopetown and Southern Cross) and a third in the rest of the state.

Year 1. A sample group of wetland nature reserves vested in WAWA will be selected for the development and evaluation of different counting techniques and for training observers in their use. The wetlands chosen will be those known to be good waterbird areas; they will provide a representative range of wetland types; and they will be accessible. Much time will be devoted to training observers in the first year and to the development of suitable survey techniques.

Years 2, 3 and 4. All wetland nature reserves vested in WAWA will be surveyed. Each will be visited at least every 2 months and at times of particular interest (e.g. as they dry out in summer). All waterbirds will be censused. As observers become more expert, particular emphasis will be placed on breeding counts and on the quantitative assessment of which parts of each wetland are most used by which species. Conditions vary so much from year to year that three full survey years are seen to be needed to ensure reasonable coverage of seasonal variation.

Results

The RAOU will provide annual summaries of the information obtained and a final report at the end of the four years discussing the methods employed, the results, and their implications for management both of waterbirds and wetland nature reserves. The report will aim and present quantitative data on individual wetlands wherever possible to provide a base against which future surveys can be compared. Ownership of information needs to be resolved in discussion with the W.A. Department of Fisheries and Wildlife. A possible basis for discussion might be that information in the annual and final reports be freely available for use by both organisations; that WAWA and the RAOU have access to the data bank at cost; that the RAOU control and maintain the data bank and retain the right to sell information to third parties to cover the costs of so doing; and that the RAOU have the right to incorporate data from the project in the publication of a national survey of wetland usage.

Conclusion

As well as fulfilling its own aims and acting as a pilot study for a national survey of waterbird usage of wetlands, this project will provide training for amateur observers to participate in two other projects discussed by the Dept. of Fisheries and Wildlife and the RAOU ---- the monitoring of waterbird populations in south-western Australia and a study of nesting waterbirds. The practicality of these studies can be assessed during the course of the present one.

Budget and Timing

	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Salary of Field Officer	9500	10000	11000	12000
Travel*	2500	3500	4000	4500
Stationery and Printing	2000	2000	2000	2000
Telephone and postage	2000	2000	2000	2000
Rent	1000	1000	1500	1500
Computing	1000	3000	3000	4000
Administrative costs	1000	1000	1000	1000
	<u>19000</u>	<u>22500</u>	<u>24500</u>	<u>27000</u>
Total	19000	22500	24500	27000

* Travel costs include 2 return fares to Melbourne and a mileage allowance at 16¢/km. It is not envisaged that the RAOU should buy its own vehicle; if it did, the costing might have to be modified. Travel costs are expected to rise steeply year by year.

Species from the following families were included in the list prepared by the Working Group on Birds of CONCOM.

✓ Grebes	family Podicipedidae
✓ Pelicans	Pelecanidae
✓ Darters	Anhingidae
✓ Cormorants	Phalacrocoracidae
✓ Herons, egrets and bitterns	Ardeidae
✓ Storks	Ciconiidae
✓ Ibises and spoonbills	Threskiornithidae
✓ Swans, geese and ducks	Anatidae
✓ Rails, crakes and water-hens	Rallidae
✓ Cranes	Gruidae
✓ Jacanas	Jacanidae
✓ Painted Snipes	Rostratulidae
✓ Plovers and dotterels	Charadriidae
✓ Stilts and avocets	Recurvirostridae
✓ Curlews, sandpipers and snipes	Scolopacidae
✓ Gulls and terns	Laridae

Species from the following families should also be included in a wetland usage survey.

Hawks, eagles and harriers	Accipitridae
Old world warblers	Sylviidae