

RESEARCH SUMMARY

1986-1987

JIM LANE

WATERBIRD CONSERVATION GENERAL

Staff: J.A. Lane, D.R. Munro and G.B. Pearson

Activities

1. Provision of advice concerning management of duck hunting in Western Australia; i.e. determination of hunting seasons, game and protected species, bag limits, shooting areas, refuges etc.
2. Research relating to the management of duck hunting in W.A., eg. annual assessment of conditions (environmental) for waterfowl breeding, waterfowl population assessment, analysis of hunter success.
3. Liaison with pro-hunting, non-hunting and anti-hunting associations and individuals concerning management of duck hunting in W.A. eg. Western Australian Field and Game Association, Royal Australasian Ornithologists Union.
4. Provision of technical advice and comment to Environmental Protection Authority, Department of Conservation and Environment, State Planning Commission, Marine and Harbours and other State and Local Government bodies concerning potential impact of proposed developments involving wetlands, regardless of tenure. Advice on such matters may also be provided at times to other organizations and individuals such as environmental consultants, conservation groups and concerned members of the public. Areas of current involvement include the Busselton Wetlands (proposed canal developments) and Peel Inlet (channel dredging).
5. Participation in various inter-departmental committees concerning special management problems, eg. Northern Arthur River Wetlands Rehabilitation Committee

(salinisation of Lake Toolibin), Beverley Lakes Working Group (water level and salinity control), Mosquito Control Review Committee (mosquito control on Peel and Leschenault Inlets).

6. Involvement in acquisition and management of Wetland Nature Reserves and other areas of DCALM (wet)land. Areas of current involvement include Bengier Swamp, Lakes Chittering, Carbul, Gidong and Kubitch and the Muir group of lakes.
7. Participation in preparation of Management Plans for Wetland Nature Reserves, e.g. Bengier Swamp, Forrestdale Lake, Dumblebung Lake.
8. Supervision of consultancies relating to specific management problems, eg. Bengier Swamp management, Lake Forrestdale midge control.
9. Development and direction of waterbird and wetland related research programmes undertaken under contract by non-government volunteer organizations, eg. 1986-88 RAOU Waterbird Studies.
10. Provision of logistical support and technical advice for research programmes undertaken by volunteer waterbird/wetland groups, eg. North-West Wader Expeditions conducted by the Australian Wader Studies Group.

In addition to research/advice activities J. Lane is responsible for administration of the Wildlife Research Branch, D. Munro is the Branch Safety Officer and G. Pearson the Branch Plant (vehicles and equipment) Officer.

Research programs, current and proposed, undertaken or directed are as follows.

WETLAND MONITORING PROGRAM

Staff: D.R. Munro, J.A. Lane and G.B. Pearson.

Objectives: To monitor annual changes in water depth and quality of selected wetlands in the south-west of the State. Data obtained are used as a basis for determining duck-hunting seasons and in the management of wetlands.

Date Commenced: The first depth gauge was installed in 1977. Regular monitoring began in November 1978.

Proposed Date of Completion: September and November monitoring will continue each year as a basis for duck season determination.

Work Already Carried Out: Depth gauges have been installed on 124 wetlands from Dongara to Esperance. Water depth and salinity were monitored at two month intervals from November 1978 to May 1985 incl. and in September and November 1985.

In conjunction with rainfall statistics, results obtained from the monitoring program provide a sound basis for year to year comparisons of conditions for waterfowl breeding and for prediction of conditions likely to prevail during impending duck shooting seasons.

The data gathered continue to be of considerable assistance in dealing with management problems which have a hydrological component, eg. midge control at Forrestdale Lake

Proposed Work Program 1986/87: Monitoring of 84 selected Wetlands will continue in September and November each year, as a basis for duck season decisions. More frequent monitoring of selected key wetlands, particularly those with management problems, eg. Lake Forrestdale, will be

undertaken as required. Volunteer assistance will be used where most efficient.

SOUTH-WEST WATERBIRD SURVEY: 1981-1986

Staff: R.P. Jaensch (RAOU), J.A. Lane and G.B. Pearson.

Objectives: To provide information on waterbird usage of Wetland Nature Reserves in order to facilitate their wise management. To assess the role and importance of the WNR system in the conservation of waterbird populations. To provide appropriate experience for future monitoring of waterbird abundance. This survey is seen by other States and the RAOU as a pilot project for a national waterbird survey.

Date Commenced: April 1981.

Proposed Date of Completion: August 1986.

Work Already Carried Out: The Royal Australasian Ornithologists Union (RAOU) was commissioned to undertake this four year field study. Total funding was \$134 500; \$71 300 from the Wildlife Conservation Trust Fund (duck-shooters' licence fees) and \$63 200 from Consolidated Revenue. The RAOU appointed a full time Project Coordinator, Mr Roger Jaensch, to develop census procedures; recruit, train and coordinate a team of amateur observers; collate and analyse data obtained, and to prepare a final report.

Surveys of waterbird usage (species, numbers, breeding activity, areas utilized etc.) were conducted at frequent (two month or less) intervals from July 1981 to May 1985. Approximately 100 amateur observers were involved on a regular basis, surveying the wetlands of their choice. More than 200 Wetland Nature Reserves were visited.

The total number of waterbird species recorded was 97 with 49 recording breeding. The highest total count for any month was 122 000 in January 1983. The highest count for any one wetland was 41 000 at Peel Inlet. The highest species count was 69 at Alfred Cover and highest number of breeding species 22 at Lake Toolibin.

Proposed Work Program 1986/87: The last field survey was conducted in May 1985. Seven months full time and six months part time have been required to finalise the data base, analyse the data and prepare the final report.

A further two months will be required for editing prior to forwarding to CALM Information Branch for publication.

ANNUAL MONITORING OF WATERFOWL ABUNDANCE

Staff: R.P. Jaensch (RAOU), J.A. Lane, D.R. Munro and G.B. Pearson.

Objectives: To monitor annual changes in the abundance and distribution of waterfowl, particularly game species of waterfowl, in Western Australia. To identify sites of importance for waterbirds.

Date Commenced: 1986

Proposed Date of Completion: Funded to 1988.

Work Already Carried Out: A pilot survey was undertaken in May 1986 and involved extensive ground counts (88 volunteers) complemented by 10 hours of aerial census (Munro and Pearson). More than 800 wetlands were surveyed and 84 000 ducks, 18 000 swans and 16 000 coots were counted. A preliminary report has been prepared.

Proposed Work Program 1986/87: A full report of the March 1986 pilot survey will be presented in 1986. The second survey will be conducted in March 1987.

ASSESSMENT OF WATERBIRD USAGE OF REMOTE WETLANDS OF
PROBABLE INTERNATIONAL IMPORTANCE

Staff: R.P. Jaensch (RAOU) and D.R. Munro

Objectives: To determine conservation value of number of "remote" wetlands (i.e. wetlands outside the south-west of W.A.) thought to be of major importance for waterbirds. To identify sites which satisfy criteria for nomination as Wetlands of International Importance under the RAMSAR Convention.

Date Commenced: 1986

Proposed Date of Completion: Funded to 1988

Work Already Carried Out: Preliminary inspections of Lakes Argyle and Gregory were made by R. Jaensch in May 1986.

Proposed Work Program 1986/87: Thorough survey of the waterbird populations of Lakes Argyle and Gregory will be undertaken by R. Jaensch, D. Munro and ten volunteers in August 1986. Results will be presented in November 1986.

ROUTINE MONITORING OF WATERBIRD USAGE OF IMPORTANT
THREATENED WETLANDS IN SOUTH-WESTERN AUSTRALIA

Staff: R.P. Jaensch (RAOU) and J.A. Lane.

Objectives: To regularly monitor waterbird usage of selected wetlands of south-western Australia which are known to be important for waterbird conservation and which are under threat. To thereby assist CALM in its efforts to protect these wetlands and to wisely manage them.

Date Commenced: 1986

Proposed Date of Completion: Funded to 1988.

Work Already Carried Out: Surveys of waterbird usage of 30 wetlands, 15 of which are both important waterbird sites and under threat, have been conducted (principally by volunteers) at two month intervals since January 1986. Important sites include Lakes Forrestdale, Thomsons and Joondalup, and the Vasse and Wonnerup Estuaries.

Proposed Work Program 1986/87: With additional volunteers the number of wetlands routinely monitored in 1986/87 will increase to 50, approximately 25 of which are both important and under threat. First report to be presented November 1987.

BREEDING STATUS OF THE GREAT EGRET

Staff: R.P. Jaensch (RAOU) and J.A. Lane

Objectives: To determine the breeding status (number of breeding colonies, size and locations) of the Great Egret (*Egretta alba*) in Western Australia. To develop methods of monitoring breeding success of this species.

Date Commenced: 1986

Proposed Date of Completion: Funded to 1988

Work Already Carried Out: None

Proposed Work Program 1986/87: Volunteers will be used to search for breeding colonies during 1986. Known colonies will be censused and attempts made to determine breeding success. Information will also be collected on other species which nest in association with the Great Egret, e.g. Little Egret *Egretta garzetta* and Yellow-billed Spoonbill *Platalea flavipes*.

WATERBIRD USAGE OF LAKE MUIR WETLANDS AND
STATUS OF AUSTRALASIAN BITTERNS

Staff: R.P. Jaensch (RAOU)

Objectives: To obtain comprehensive information on waterbird usage of Byenup Lagoon. To gather detailed information concerning the habitat requirements of the Australasian Bittern (*Botaurus poiciloptilus*).

Date Commenced: 1986

Proposed Date of Completion: Funded to 1988

Work Already Carried Out: Periodic surveys of waterbird usage of Byenup Lagoon have continued since January 1986.

Proposed Work Program 1986/87: Surveys of waterbird usage will continue. Bittern studies will commence in Spring 1986.

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W.A. Wildflower Society, Co-ordinator of plant study groups for Western Australia, provision of name changes of W.A. plants to newsletter).
Pollination native flora.

COMMITTEES

None.

Jack Kinnear B.Sc., M.Sc., Ph.D. - Research Officer

RESEARCH TOPICS

Ecology and management of marsupials.
Ecology of exotic predators with reference to their impact on wildlife.
Control of exotic predators.
Competition between feral species and native species.
Conservation Genetics: with special reference to the problems associated with small population size, habitat isolation and fragmentation.
Fire ecology and conservation.
Re-introduction of species to reserves.

AREAS OF INTEREST AND ADVICE

Kangaroo management.
Nutritional biology and ecology with special reference to herbivory.
Application of microcomputers to research.

COMMITTEES

Feral Cats - Biological Committee.
Feral Pigs - Control.
Computing - Wildlife Research Branch.
Computer Users Group - Division of Research and Planning.

Jim Lane B.Sc. - Senior Research Officer

RESEARCH TOPICS

Waterbird population and habitat assessment

AREAS OF INTEREST AND ADVICE

Conservation of waterbird populations and their habitats.
Management of waterfowl hunting.
Public attitudes to wildlife conservation.
Community involvement in wildlife conservation.
The role and structure of government.

COMMITTEES

CONCOM Working Group on International Treaties relating to

Migratory Birds and Wetlands of International importance.

Research Committee of the Royal Australasian Ornithologists Union.

Northern Arthur River Wetlands Rehabilitation Committee.

Beverley Lakes Working Group.

Norman McKenzie B.Sc. (Hons), M.Sc. - Research Officer

RESEARCH TOPICS

Biological survey for nature conservation.

Design philosophies, strategies, data bases.

CTRC System 11 (Eastern Goldfields).

Nullarbor.

Fitzgerald River National Park.

Kimberley.

Deserts.

relevance in reserve system design.

Taxonomy of bats in the Genus *Mormopterus*.

Community Ecology of Animals.

AREAS OF INTEREST AND ADVICE

Mammals in general - distribution, taxonomy, conservation status.

Acquisition of Nature Reserves.

Biology, taxonomy and ecology of bats.

Mangrove communities in Western Australia - distribution, vertebrate fauna, conservation.

Application of biological survey data to wildlife management.

W.A. editor of "*Macroderma*".

COMMITTEES

Biological Surveys Committee.

DCE Working Group on the Bungle Bungle area.

Keith Morris B.Sc., M.Sc., - Research Officer, Islands

RESEARCH AND MANAGEMENT TOPICS

Management of Island Nature Reserves.

Biological Survey of North West Island Nature Reserves.

Preparation of Draft Management Plan for Dampier Archipelago Nature Reserves.

Turtle utilization of North West Islands.

Control of introduced plants and animals on Island Nature Reserves.

Assessment of recreation and oilfield activities on North West Islands.

CONTENTS

	Page
Title Page 	1
Contents 	3
Current Research Programs	
Dr Andrew Burbidge 	5
Dr Allan Burbidge 	14
Mr Mike Choo 	20
Dr David Coates 	24
Dr Gordon Friend 	33
Dr Tony Friend 	38
Dr Stuart Halse 	45
Mr Angas Hopkins 	51
Dr Stephen Hopper 	64
Mr Greg Keighery 	91
Dr Jack Kinnear 	101
Mr Jim Lane 	112
Mr Norm McKenzie 	119
Mr Keith Morris 	131
Mr David Pearson 	135
Dr Bob Prince 	140
Dr Melody Serena 	146
Mrs Anne Taylor 	150
Index 	154
Publications 1980-1985 	167
Summary of Areas of Activity and Advice	187

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

WILDLIFE RESEARCH BRANCH

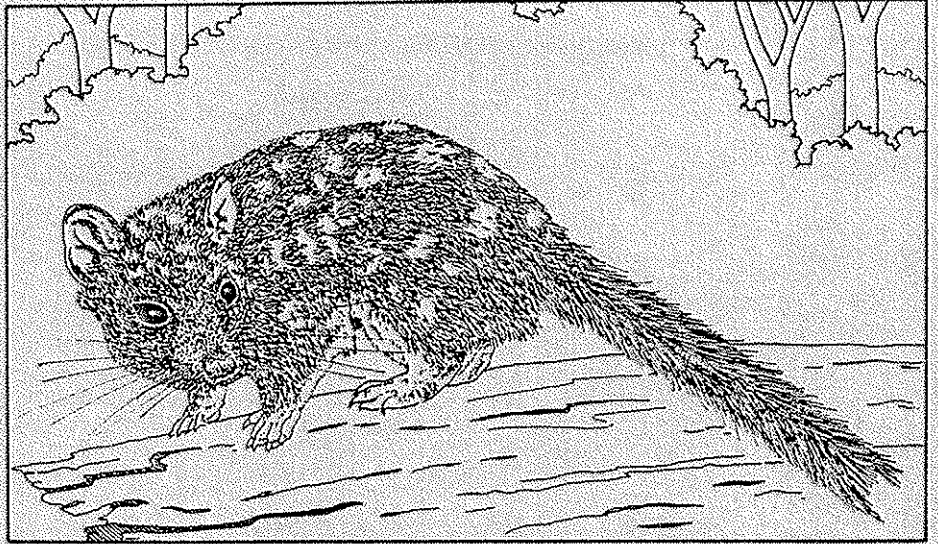
SUMMARY OF RESEARCH

1986-1987

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