

COUNCIL OF NATURE CONSERVATION MINISTERS

STATEMENT OF RELEVANT RESEARCH PROJECTS
BEING CARRIED OUT OR SPONSORED
BY MEMBER AGENCIES OF CONCOM

PREPARED BY
CONCOM SECRETARIAT
DEPARTMENT OF ARTS, HERITAGE AND ENVIRONMENT

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PREFACE

This publication is a compilation of relevant research projects being carried out or sponsored by member agencies of the Council of Nature Conservation Ministers as of 31 December 1984.

Projects described are classified in broad research categories.

Sponsoring agencies are indicated by a code, with principal researcher or contact.

Any queries or comments on the Statement should be directed to the Secretary to the Standing Committee, Mr Dennis McAllister, Department of Arts, Heritage and Environment, GPO Box 1252, Canberra ACT 2601 (phone 062-467248)

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ABBREVIATIONS USED
TO IDENTIFY SPONSORING AGENCIES

PCS (ACT)

ACT Parks and Conservation Service
Department of Territories.

ANPWS

Australian National Parks and Wildlife Service.

CSIRO

Commonwealth Scientific and Industrial Research Organisation

CSIRODE

CSIRO - Division of Entomology

CSIRODFR

CSIRO - Division of Forestry Research

CSIRODGWR

CSIRO - Division of Ground Water Research

CSIRODPR

CSIRO - Division of Primary Industry

CSIRODWRR

CSIRO - Division of Wildlife and Rangelands Research

NPWS [NSW]

National Parks and Wildlife Service, New South Wales

CCNT

Conservation Commission of the Northern Territory

NPWS [QLD]

National Parks and Wildlife Service, Queensland

NPWS [SA]

National Parks and Wildlife Service, Department of Environment
and Planning, South Australia

NPWS [TAS]

National Parks and Wildlife Service, Tasmania

VICFWS [ARI]

Fisheries and Wildlife Service, Department of Conservation,
Forests and Lands, Victoria - Arthur Rylah Institute

VICFWS [R&P]
Fisheries and Wildlife Service, Department of Conservation,
Forests and Lands, Victoria - Research and Planning Division

VICNPS
National Parks Service, Department of Conservation, Forests
and Lands

WAF&W
Department of Fisheries and Wildlife, Western Australia

WANPA
National Parks Authority of Western Australia

ADDRESSES OF SPONSORING AGENCIES

ACT Parks and Conservation Service
Department of the Territories
GPO Box 158
CANBERRA ACT 2601

Australian National Parks and Wildlife Service
GPO Box 636
CANBERRA ACT 2601

CSIRO Division of Wildlife and Rangelands Research
PO Box 84
LYNEHAM ACT 2602

National Parks and Wildlife Service
189-193 Kent Street
SYDNEY NSW 2000

Conservation Commission of the Northern Territory
PO Box 1046
ALICE SPRINGS NT 5750

National Parks and Wildlife Service
PO Box 190
NORTH QUAY QLD 4000

National Parks and Wildlife Service
GPO Box 1782
ADELAIDE SA 5001

National Parks and Wildlife Service
PO Box 210
SANDY BAY TAS 7005

Fisheries and Wildlife Service
Department of Conservation, Forests and Lands
250 Victoria Parade
EAST MELBOURNE VIC 3002

Department of Conservation, Forests and Lands
Ministry for Conservation, Forests and Lands
250 Victoria Parade
EAST MELBOURNE VIC 3002

Department of Fisheries and Wildlife
108 Adelaide Terrace
PERTH WA 6000

National Parks Authority of Western Australia
Hackett Drive
NEDLANDS WA 6009

ARCHAEOLOGY

[See also Flora and Management]

Gagadju/Gundjeibmi language study

The study aims to provide information needed to ensure the preservation of the languages in such a form as to allow future research and investigation of them. Facilitate the production of limited written material in both languages; assist ANPWS staff in Kakadu National Park to render geographic and taxonomic terms correctly using the orthographics and to provide training information for ANPWS staff in Kakadu National Park in the use of the orthographics in the field.

D. Gillespie
ANPWS

Rock paintings by Najombolmi

The project is being carried out in conjunction with the Gagadju Association and involves a significant contribution from an Aboriginal who will assist in establishing the distribution of Najombilmi's paintings. Kakadu National Park staff will carry out documentation of the sites. The information to be collected will be highly relevant to testing theories on chronology and distribution of the various art styles in the Park. Najombolmi's brother, Nipper Cabirrigi, will be directly involved in the consultancy.

H. Sullivan
ANPWS

Tasmanian archaeological resource surveys

Tasmania is richly endowed in Aboriginal sites. Unfortunately an estimated 20,000 sites disappear each year as a consequence of poor land management. A program of archaeological surveys is underway with the object of locating and recording sites as a prelude to effective management and protection.

Five major projects are in train. These are:

Rock-art survey on the North West Coast.

The Central Highlands district survey.

The Great Lake survey in an area subject to hydro-electric development.

The north-east archaeological survey in an area scheduled for logging operations.

Franklin/Gordon Rivers archaeological survey.

D. Ranson
NPWS [TAS]

South East Tasmania Aboriginal archaeology project

The study is funded by a grant from the Australian Heritage Commission. It will be of one year's duration and a final report is expected to be completed by September 1985. The study requires that surveys to locate Aboriginal sites in south east Tasmania be designed, undertaken and reported on. The project is aimed at assessing Aboriginal prehistoric utilisation of the area; monitoring development impact on Aboriginal archaeological sites; recommending on mitigation procedures and liaising with relevant bodies.

S. Brown
NPWS (Tas)

BIRDS

[See also Inland Waters, Marine, and Wildlife Surveys]

Adaptive radiation of bird fauna

To assess origins and lines of radiation in the Australian bird fauna by determining evolutionary relationships and phylogeny. Methods of investigation are broad-scale, ranging from detailed morphological and molecular studies to analyses of past and present patterns of distribution and hybridization. The gathering of research material for the Australian National Wildlife Collection is an important adjunct.

R. Schodde
CSIRODWRR

Albatross and gannet research

Investigations are underway into breeding biology and population dynamics of white-capped albatross on Albatross Island. A program to monitor numbers of birds in the four Tasmanian colonies of gannets has commenced.

N. Brothers
NPWS [TAS]

Analysis of banding and recovery data for waterfowl trapped in Victoria

Various management techniques are dependant on a reasonable understanding of species ecology. The availability of a large volume of banding and recovery data, gathered since 1951, allows the clarification of some aspects of waterfowl ecology. Population changes, habitat utilisation during hunting seasons, movement and mortality patterns may all be examined using banding and recovery data to provide predictive management orientation.

I. Norman
VICFWS [ARI]

Atlas of Birds of Victoria

This project is being done in conjunction with the RAOU. The project aims to produce a detailed Atlas of Birds of Victoria at a resolution level of one minute.

W. Emison
VICFWS [ARI]

Avian populations in nature reserves

To examine the dynamics of avian populations in nature reserves of various sizes to provide fundamental biological information for the designing of reserves for the preservation of the avifauna.

D.A. Saunders
I.C.R. Rowley
CSIRODWRR

Biology of the house sparrow (*Passer domesticus*)

Gather information on biology of house sparrow in Australia and other parts of the world. Assess information on past status of species in Australia. Provide scientific advice in developing a plan of management of house sparrows for Northern Territory.

Status: Year 3 of a 1 year program

M. Fleming
CCNT

Biology of the silvereye (*Zosterops lateralis*)

Control of silvereye populations to protect the viticulture industry.

I. Rooke (Western Australia Agricultural Protection Board)
WANPA

Brolgas and tropical waterbirds

An investigation of the ecology of tropical waterbirds with particular emphasis on the brolga, the sarus crane, and the magpie goose. The project includes studies of population dynamics, general biology, habitat utilisation and of distribution and condition of their habitats, the seasonal wetlands. Extensive use has been made of aerial surveys and aerial photography.

J.G. Blackman
NPWS [QLD]

Cape Barren goose monitoring in the Furneaux Group

Annual surveys of gosling production are conducted on the main breeding islands of the Furneaux Group. This survey, combined with a count of flock geese carried out during December, provides the basis for planning the program of organised goose shoots held on Flinders Island over summer. The effect of these shoots is monitored by road counts conducted monthly over summer.

G. Hocking
NPWS [TAS]

Captive breeding of the Lord Howe Island woodhen

To re-establish the Lord Howe Island woodhen on several sites previously occupied by the species on Lord Howe Island.

Keith Mullette
NPWS [NSW]

Cattle egret monitoring

To continue a banding program of cattle egrets in all known Queensland rookeries so as to determine their status and distribution.

D.S. Reimer
NPWS [QLD]

Census of Fairy/Little Terns

In co-operation with bird observers a census of breeding success at colonies throughout the State is being conducted to monitor the status of these species and manage colony sites. The census is being nationally co-ordinated.

D. Rounsevell
NPWS (Tas)

Communal breeding in birds

To study the factors which favour the evolution of communal breeding in Australian birds, and to determine whether the social organisation of communally breeding birds affects their conservation status in nature reserves.

I.C.R. Rowley
CSIRODWRR

Co-operative study of migratory waders in South East Asia

To extend and co-ordinate the study of waders throughout South East Asia, and in turn to co-ordinate studies with the National Wader Survey which is being carried out by the Royal Australasian Ornithologists Union with funds provided by ANPWS.

J. Forshaw
ANPWS

Corellas

To obtain biological data relating to the long-billed corella as a basis for recommending future management practices. To compare such data with other cockatoo species in selected study areas.

W. Emison
VICFWS [ARI]

Distribution of the orange-bellied parrot in South Australia

[In cooperation with National Parks & Wildlife Service, Tasmania]

K.D. Casperson
NPWS [SA]

Eagle research

A survey to assess the status of the wedge-tailed eagle and white-breasted sea eagle in Tasmania, with emphasis on description of essential breeding habitat.

N. Mooney
NPWS [TAS]

Ecology of malleefowl in mallee shrubland at Wyperfeld National Park

To investigate critical aspects of malleefowl life history and factors affecting distribution and abundance in order to provide guidelines for management necessary for species conservation. Work began in 1983 as an M.Sc. project and scheduled to conclude in 1985.

A. Heislars (03 651 4446)
VICNPS

Ecology of white-faced storm petrels

Storm petrels breed on islands off the east coast and in the Furneaux Group. Little is known about these birds; study has commenced of a small colony near Flinders Island.

I.J. Skira
NPWS [TAS]

Ecology, biology and status of chestnut teal

Chestnut teal, a species of waterfowl whose current status is uncertain, appear to be restricted primarily to coastal habitat in Victoria. Data obtained during this project will provide a basis for an evaluation of the species status and an assessment of the role of the species in the annual waterfowl harvest. Information on breeding seasons and on distribution in breeding and non-breeding habitat will assist in the identification of the types of areas required for further maintenance of the population.

I. Norman
VICFWS [ARI]

Ecology of the malleefowl

To investigate the success of malleefowl chicks and to determine causes of apparent failures. To develop a management plan to stabilise remaining populations.

D. Priddel
NPWS [NSW]

Effect of rainforest fruiting phenology on fruit pigeon abundance in the Conondale region

To understand the effect of rainforest fruiting phenology on fruit pigeon abundance in southern Queensland.

G. Innes
NPWS [QLD]

Erosion on muttonbird rookeries

Livestock and fire are the two main causes of erosion and are being studied in several colonies by monitoring vegetation in permanent plots.

I.J. Skira
NPWS [TAS]

Exploitation of waterfowl in eastern Australia

A study of the distribution and abundance of waterfowl populations in Queensland, New South Wales, Victoria and eastern South Australia by means of aerial survey and ground estimates.

M. Maher
NPWS [NSW]

A study of the productivity of selected wetland types in semi arid New South Wales.

M. Maher
NPWS [NSW]

The development of a wetland availability index by use of satellite imagery and hydrologic paramaters.

M. Maher
NPWS [NSW]

By the use of a hunter mail card survey to determine an estimate of relative offtake and bag size in New South Wales.

S. Briggs
NPWS [NSW]

A study using the effects of nutritional requirements and status of waterfowl and breeding site requirements on waterfowl breeding.

S. Briggs
NPWS [NSW]

International survey of Antarctic seabirds

Possible exploitation of krill in the Southern Ocean has stimulated an international effort to estimate the numbers of seabirds in this vast area. The Tasmanian contribution to this survey involves determining the number of penguins on Macquarie Island by using a variety of methods.

D. Rounsevell
NPWS [TAS]

Management of magpie geese

Develop a management program for magpie geese that will allow continued hunting and ensure the maintenance of goose populations. Determine which goose habitats are in need of preservation.

Status: Year 2 of a 3 year project.

P. Baylis
CCNT

Monitoring of the Cape Barren goose in the Furneaux Group

To obtain information for use in management involves annual surveys of gosling production on the major breeding islands as well as regular monitoring of the numbers of flock geese of Flinders Island over summer.

G.J. Hocking
NPWS (Tas)

Muttonbird diet

Analysis of about 400 birds shows that they eat (in order of importance) krill, squid and fish. Little plastic particles were also present in many stomachs.

I.J. Skira
NPWS [TAS]

Muttonbird harvesting

The number of chicks taken from a rookery is estimated by counting the number present before and after the season. Heavy exploitation on non-commercial colonies has meant that several will be closed each year in rotation.

I.J. Skira
NPWS [TAS]

Muttonbird population ecology - Fisher Island

Muttonbirds have been banded on Fisher Island since March 1947. At present about 60 pairs breed and 40 chicks fledge each year. The oldest bird was last recaptured in December 1980, being first banded as a breeding adult in November 1949.

I.J. Skira
NPWS [TAS]

Nesting requirements, distribution and abundance of the Regent parrot

The first phase of this project was carried out in 1983/1984 with funds provided by ANPWS. The project has involved staff from Victoria and New South Wales Forest Commissions Fisheries and Wildlife Division, Victoria and National Parks Service of Victoria, South Australia and New South Wales. Fifty-seven breeding pairs were located along the Murray River with the birds nesting in the largest gum trees close to the river. Recommendations have been made for acquisition of freehold land and establishment of permanent reserves on public land.

.....
VICFWS [ARI]

Orange-bellied parrot

A project to determine the ecological requirements of the species throughout its range in Victoria, Tasmania and South Australia. A 'Recovery Plan' was produced in 1984 with management recommendations for all States. Implementations of the plan has commenced and is continuing. Studies continue in both the breeding range in South West Tasmania and the wintering range of coastal Victoria and South Australia.

P.B. Brown
NPWS [TAS]

Paleoecology

To compare the osteology of extant and extinct birds in order to reconstruct prehistoric avifaunas and their habits and environments, and to maintain and improve the avian osteology part of the Australian National Wildlife Collection.

G.F. van Tets
CSIRODWRR

Peregrine falcon

To continue monitoring peregrine falcon populations so that any changes can be detected and if necessary appropriate measures taken.

W. Emison
VICFWS [ARI]

Peregrine falcon population monitoring

A program to monitor breeding success, population dynamics and presence and levels of pesticide contamination of peregrines.

N. Brothers
NPWS [TAS]

Population dynamics of small birds

P. de Rebiera (CSIRO Wildlife Research, WA)
WANPA

Population ecology of the Cape Barren Goose

To investigate factors influencing breeding and survival in populations of Cape Barren geese. Involves annual clutch, brood and fledgling counts on selected breeding islands, the monitoring of pasture production, and an extensive program in which goslings are banded and fitted with coloured collars.

G.J. Hocking
NPWS (Tas)

Preliminary study of habitat use by birds in Connells Lagoon Reserve

A pilot study to assess seasonality in habitat use and the significance of habitat change through grazing. Use of Reserve by CSIRO Wildlife and Rangelands and DPP for reference purposes.

M. Fleming
P. Latz
CCNT

Rapid appraisal of seabird rookeries and the terraces of Christmas Island

To determine the distribution and extent of seabird rookeries on the terraces of Christmas Island, and to determine the likely effects on those rookeries of proposed phosphate mining.

J. Forshaw
ANPWS

Raptor rehabilitation

Approximately 70 injured birds of prey are dealt with yearly resulting in a 55% release rate. A selection of cripples are retained for educational and public relations programs, Service and interstate research. Some have been provided to wildlife parks.

N. Mooney
NPWS [TAS]

Seabird island surveys

A survey to record abundance and diversity of breeding seabirds on off-shore islands, and to assess the status of populations and associated flora and fauna.

N. Brothers
NPWS [TAS]

Seabirds, Raine Island

To study the biology and conservation of seabirds on the Barrier Reef.

B.R. King
NPWS [QLD]

Silver gulls at Sorell

Silver gulls first began breeding along the Sorell Causeway in 1975. About 400 pairs breed each year and as they are regarded as a traffic hazard, different methods to control their numbers have been tried.

I.J. Skira
NPWS [TAS]

Status of Alexandra's parrot (*Polytelis alexandrae*) in the Northern Territory

Determine former distribution and abundance of Alexandra's parrot by reviewing historical records. Assess all recent sightings of the parrot. Survey likely breeding areas and undertake an ecological study of a breeding population.

Status: Year 4 of a 4 year study.

M. Fleming
CCNT

Status of the Australian bustard (*Ardeotis australis*) in the Northern Territory

Establish census techniques suitable for monitoring bustard population levels. Determine regions of the Northern Territory important as breeding areas and assess factors such as predation and disturbance which may decrease breeding success.

Status: Year 2 of a 3 year program.

M. Fleming
CCNT

Studies of waders in Australia-Stage I

Research into and conservation of Australia's migratory waders is an obligation under the terms of the Japan-Australia Treaty on Migratory Birds. These studies identify significant areas for conservation of waders during their time in Australia.

Aims of the studies are:

To obtain a comprehensive picture of the status and distribution of migratory and resident waders in Australia, particularly to identify sites of major population concentrations and assess total populations of as many species as possible;

To monitor changes in populations and age structures of waders in Australia;

To investigate other aspects of the biology and requirements of waders as a basis for making recommendations on the management and conservation of their populations.

T. Stokes
ANPWS

Study of the ecology of the orange-bellied parrot (Neophema chrysogaster) [contribution to World Wildlife Fund/Tasmanian National Parks and Wildlife Service study]

To determine distribution and abundance of this rare species, and to document aspects of its biology and natural history throughout its range. The final aim is to produce a management plan to assist in conservation of orange-bellied parrots. Fisheries and Wildlife Division's funding assists in continuation of this program into its third year, and allows extension of work in the parrot's overwintering grounds.

R.J. Begg
VICFWS [R&P]

Study of the Japanese snipe in Tasmania and Victoria, and the short-tailed shearwater in Tasmania

The project is a continuation and intensification of a study commenced last year by the Tasmanian NPWS to assess the migratory movements, habitat requirements and status of the Japanese snipe, with particular emphasis on the impact of hunting. Analysis of data from earlier studies of the short-tailed shearwater will be undertaken to incorporate relevant findings into the study of this species.

Aims of the project are:

To determine habitat requirements of the Japanese snipe and the extent of that habitat in Tasmania, and to make a comparative assessment of the use by the snipe of similar habitats in Victoria;

To develop and implement procedures for monitoring trends in snipe populations;

To obtain further information on the migratory movements of birds and the effects of migration on their physical conditions;

To assess the status of the Japanese snipe in South East Australia and to make recommendations for its conservation in that State and to assess the applicability of those recommendations to conservation of the species in Australia.

J. Forshaw
ANPWS

Survey of malleefowl populations in south west New South Wales, western Victoria and eastern South Australia

To develop a technique for aerial survey of malleefowl and to determine the status of malleefowl in the large remnant blocks of habitat in eastern Australia.

J. Brickhill
NPWS [NSW]

Survey of waterfowl shot in southeastern Australia

Examination of waterfowl shot by hunters will provide data on the harvest of individual species: on their specific proportions; sex and age structure; and moulting stage. Such details will aid in development of a uniform season. Information gathered will allow faunal agencies a better understanding of species biology and thus provide a basis for development of the harvest at appropriate times and levels.

I. Norman
VICF&WD [ARI]

Tasmanian bird data

Liaison with amateur ornithologists to assist the collection, checking and ultimately the publication of an annual summary of new field information on birds throughout the state.

D. Rounsevell
NPWS [TAS]

Torresian Imperial Pigeons

A study of the Torresian Imperial Pigeon aimed at identifying breeding areas, feeding areas, feeding patterns and the significance of human disturbance. Management objectives for the species will be formulated.

B.R. King
NPWS [QLD]

Urban bird census of Alice Springs and Darwin

Rolling surveys of abundance and diversity of native birds will be made quarterly at five sites in Alice Springs and three in Darwin. The sites represent different degrees of urbanisation with a control site located outside the town. Ten minute total counts - distinguishing between birds seen, heard and flying over - are made at ten points within each site. Sites are sampled successively within one week, starting at first light. Data to provide baseline measurements against which effects of possible invasion of house sparrows on native birds can be assessed. Program designed for public participation. A second aim of the surveys is publication of extension articles on birds of Darwin/Alice Springs.

Status: Year 3 of a 3 year program.

M. Fleming
CCNT

Waterbird ecology

To study the distribution, breeding, movements and food habits of water birds, particularly magpie geese, inhabiting the sub-coastal plains of the Northern Territory; to study the relationship of the birds to other fauna, particularly buffalo.

M.G. Ridpath
CSIRODWRR

Waterbird usage of wetland nature reserves

To provide information on waterbird usage to assist in the management of wetland nature reserves.

J.A.K. Lane
WAF&W

Waterfowl population harvesting

To determine in collaboration with State fauna authorities the year to year variation in the density of game species of waterfowl in southeastern Australia. To determine the degree to which variation in population size is determined by changes in habitat and in hunting pressure and to determine the optimum yields for waterfowl.

L.W. Braithwaite
CSIRODWRR

FLORA

[See also Archaeology, Management and Surveys]

Atlas of Western Australian flora - pilot project

To initiate a volunteer-participant atlas project aimed at recording the present distribution and abundance of Western Australian plants. Initial subjects are orchids and kangaroo paws.

S.D. Hopper
WAF&W

Australian forests and woodlands

To advance the taxonomic knowledge of Australian rainforest trees to aid in their identification.

B.P.M. Hyland
CSIRODFR

Banksia Atlas

To involve interested persons throughout Australia in recording the distribution, habitat and biology of banksias on computer forms and processing this information to produce a book.

A. Taylor
S.D. Hopper
WAF&W

Biogeography, ecology and ethnobotany of the monsoon forests of Kakadu National Park

Aims of the project are:

To obtain sufficient information about the ecology of monsoon forests to allow the impact of fire to be adequately assessed in relation to other significant ecological controls;

To assess the prehistoric impact of Aboriginal man on monsoon forest vegetation through the effects of fire or other disturbances.

Mike Perri
ANPWS

Biological studies of the Australian Flora

These studies aim to provide an understanding of how the Australian flora evolved and of the mechanisms by which it continues to maintain its present diversity. Information on the breeding mechanism and genetic diversity of plant populations is an essential pre-requisite for formulating conservation strategies.

Current projects include:

1. Orchid - fungus relationships
 - (a) The specificity of the orchid-fungus relationship in Pterostylis
 - (b) The orchid-fungus relationships of subtribes Diuridinae and Caladeniinae
 - (c) Host specificity of epiphytic orchids
2. Breeding systems/pollination biology studies in Orchidaceae (tribe Diurideae) and Rutaceae (tribe Boronieae).
3. Breeding systems of Australia's rare and endangered plant taxa.
4. Cytoevolutionary studies in the Australian Rutaceae.

J. Armstrong }
M. Clements } Australian National Botanic Gardens
K. Ellis }
PCS (ACT)

Biology of endangered Acacia

R. Cumming (Department of Fisheries and Wildlife, WA)
WANPA

Biology of kangaroo paws and Conostylis

To collate and prepare for publication studies conducted on the kangaroo paws, Conostylis, eucalypts and orchids.

S.D. Hopper
WAF&W

Classification of Tasmanian rainforest communities

Funded by the Forest Ecology Research Fund, this project has undertaken a floristic and structural classification of Tasmanian rainforest communities; evaluation of ecological relationships and present conservation status of communities is proceeding.

M.J. Brown
NPWS [TAS]

Conservation of plant communities

An ongoing review and upgrading of vegetation classification in Tasmania, including Macquarie Island.

M.J. Brown
NPWS [TAS]

Conservation of Huon pine

The aim of the project is to locate and describe any unlogged stands of Huon pine in remote south west Tasmania and to make recommendations for their conservation.

M.J. Brown
NPWS [TAS]

Conservation status and biology of rare flora species

To investigate the systematics, distribution and reproductive biology of rare plant species and undertake effective programs of reserve acquisition and management for their conservation.

S.D. Hopper
WAF&W

Development of establishment techniques for *Rutidosia leptorhynchoidea*

To develop techniques for establishment of *R. leptorhynchoidea* from seed, cuttings and transplants in order to conserve this species which is threatened by urban development.

S.V. Johnston
PCS (ACT)

Dieback of native forest species

To identify diseases affecting trees in indigenous forests, and to understand the taxonomy, ecology and aetiology of those diseases.

G.A. Kile
F.D. Podger
CSIRODFR

Dieback research

Relationships between dieback resistance and host provenance.

B. Rocket (CSIRO Division of Forest Research, WA)
WANPA

Distribution and ecology of Dryandra (PROTEACEAE)

To map the complete distribution of all species in this endemic genus and analyse them in relation to climate and soil patterns.

A.J.M. Hopkins
WAF&W

Dry sclerophyll community survey

A National Estate-funded program to develop a typology of Tasmanian dry sclerophyll communities and evaluate their conservation status. A second stage of the program will involve a detailed floristic examination of communities identified as having a high conservation priority.

F. Duncan
NPWS [TAS]

Dorre Island studies - fire ecology

To follow the regeneration of vegetation post-fire. To develop an understanding of the vegetation of the island, its developments and the effects on distribution of the vertebrate fauna.

R.I.T. Prince
WAF&W

Dynamics of vegetation in an arid grazing system

This project is part of an integrated study of a grazing system at Kinchega National Park. Its aim is to determine the effect of climate on vegetation and the role played by vegetation in regulating populations of consumers. It is designed to provide information for the management of arid lands grazed by kangaroos, rabbits, sheep and insects.

G. Robertson
NPWS [NSW]

Ecology of open eucalypt forests

- (a) Soil-vegetation relationships
Intensive vegetation sampling of the Berry Springs Zoological Park area to be undertaken. Surface soil samples to be collected and profiles described. The data shall be subjected to direct and indirect gradient analysis and classification.
- (b) Monsoon forest - eucalypt forest ecotone
The expansion of a monsoon forest into surrounding eucalypt forest shall be documented by direct gradient analysis.
- (c) Population biology of Eucalyptus tetrodonta on red earths in the greater Darwin area
Geographic survey of E. tetrodonta forests on red earths with various understoreys. Analysis of size classes and indirect gradient analysis of understorey vegetation.
- (d) Sand sheet vegetation
Forestry has documented fire histories for vegetation plots in the Murganella area. These are to be examined to determine the fire and other environmental correlates in inter-habitat variation.

Status: Year 1 of a 2 year program.

D. Bowman
CCNT

Ecology and management of Australian vegetation

To gain an understanding of the structure and dynamics of Australian plant communities, and to apply this to the management of natural, agricultural, hydrological, forestry and recreational resources.

J.H. Leigh
CSIRO DPI

Ecology of forests and woodlands in the wet-dry tropics

To identify the physical and biological determinants of vertebrate species diversity in forest and woodland of the wet-dry tropics; to develop national park management applications of ecological survey information.

R.W. Braithwaite
CSIRODWR

Ecology of weeds in natural and agricultural plant communities

To gain basic ecological information on weeds to assess the impact of potential control measures, and to predict the weed potential of alien species.

R.H. Groves
CSIRODPI

Effects of dieback (*Phytophthora cinnamoni*) on vegetation at Brisbane Ranges and Wilsons Promontory National Parks

To determine the extent and potential spread of *P. cinnamoni* in parks and to assess floristic changes due to infestation.

Status: Continuing long-term monitoring.

A. Heislars (03 651-4446)
VICNPS

Endangered species

This project is concerned with collection, collation and dissemination of information about plant species that are rare or under threat. Where possible action is taken to conserve species either by reservation and/or by habitat manipulation.

M. Brown
NPWS [TAS]

Eucalyptus forest fauna

To determine the distribution and habitat requirements of fauna that is totally dependent on eucalyptus forest.

L.W. Braithwaite
CSIRODWR

Eucalyptus forrestiana

To examine the distribution of Eucalyptus forrestiana in relation to proposed and existing reserves in the Truslove area.

A.J.M. Hopkins
WAF&W

Evolution and biogeography of the Australian flora

To develop an understanding of evolutionary processes and biogeographical principles in the Australian flora.

S.D. Hopper
WAF&W

Fire ecology of arid zone ecosystems

Assess the floristic and structural changes in vegetation following fire at 16 sites in various plant communities in Central Australia.

Status: Year 10 of a 10 year program.

P. Latz
CCNT

Fire management for Central Australian parks

Map previous fire history by photo-interpretation and from rangers' records. Delineate areas for control burning. Monitor fire behaviour of control burns and vegetation recovery of control burns and wildfires. Responsible officer will be involved with research on Ayers Rock being carried out by CSIRO staff, since this research will have application to other parks.

P. Latz
CCNT

Floristic mapping and habitat evaluation of remnant forest, woodland and healthland communities at Langwarrin Reserve

To assess the condition of plant communities and their habitat value as a guide for rehabilitation and management.
Completed.

A. Heislers (03 651-4446)
VICNPS

Forest ecosystem project - dynamics of production in the ground cover of a dry sclerophyll forest

To develop methods for measuring the productivity of forest understoreys. To examine the dynamics of production of a dry sclerophyll forest understorey. To estimate the herbivory rate of vertebrates and of invertebrates in understorey.

R. Harden
R. Muir
NPWS [NSW]

Identification of major environmental gradients in South Western Australia

To identify gradients (generally climate, landforms, soils) for the purpose of developing a framework whereby rates of change in vegetation can be interpreted and understood.

J.M. Brown
A.J.M. Hopkins
WAF&W

Introduction of endangered plant species to cultivation

To bring into cultivation rare or threatened Australian plant species for biological studies, education and public display. To produce propagating material for enrichment and reintroduction programs.

R. Boden (Australian National Botanic Gardens)
PCS (ACT)

Licensing and management of the wildflower industry

To advise on the effective management of the wildflower industry. To undertake research on aspects of the industry that affect the conservation status of wildflowers.

S. Hopper
WAF&W

Mariala Nature Reference Site monitoring project

To assess the long-term effect of grazing by native and feral fauna on a mulga-poplar box run-on community in western Queensland.

NPWS [QLD]

Marine algae of Norfolk Island

To collect littoral and deep water algae for scientific study.

L. Hill
ANPWS

Phytophthora

A program in conjunction with the Forestry Commission and CSIRO to establish and monitor effects of phytophthora in Tasmania.

M.J. Brown
NPWS [TAS]

Plant biogeography in the "Top End"

An atlas of the distribution of all Northern Territory macrophytic genera will be prepared from herbarium records and published and unpublished reports. Analysis of the distribution of all tree and shrub species will delineate major biogeographic regions.

Status: Year 1 of a 2 year program.

D. Bowman
CCNT

Plant ecology

To investigate the patterns, in space and time, in the vegetation of the subcoastal plains in the Northern Territory; to determine the nature and rate of regeneration of vegetation following removal of buffalo; to provide the botanical component in the study of interactions among feral stock, wildlife and native vegetation; to inventory the flora of Kapalga.

J.A. Taylor
CSIRODWR

Plant introduction for semi-arid woodlands

To reinforce the herbaceous strata of the semi-arid woodlands by the introduction of new desirable species.

W.E. Mulham
CSIRODWR

Pollination ecology of the Australian flora

To develop an understanding of Australian plant-pollinator relationships, particularly those involving birds and small mammals.

S.D. Hopper
WAF&W

Pollination in Proteaceae

P. Briffa (Western Australia Institute of Technology)
WANPA

Population dynamics of mallee understorey

To determine the dynamics of major components of the understorey in mallee vegetation in Yathong Nature Reserve. These components are Acacia wilhelmiana, A. rigens, Melaleuca uncinata and Triodia irritans. The study involves the use of demographic techniques to investigate the effects of varying regimes of grazing and burning on the abundance of these species.

R. Bradstock
NPWS (NSW)

Preliminary vegetation survey, Gudgenby Nature Reserve

To analyse and describe the vegetation of Gudgenby Nature Reserve to provide background information for interpreting other resources data and to assist in the planning and management of the Reserve, particularly with respect to fire management and control.

F. Ingwersen
PCS (ACT)

Preparation of regional herbarium at Albany

To collect, process, name and establish complete herbarium of all southwest species into a regional herbarium for reference by all persons in southern part of State.

W.A. Wildflower Society (Albany Branch)
WANPA

Propagation and cultivation of Australian plants

To carry out research into the propagation and cultivation of Australian native plants to increase scientific knowledge and public awareness and understanding of Australia's floral heritage.

Current projects include:

1. Propagation/cultivation of Eremophila
 - (a) The nature of seed dormancy within Eremophila
 - (b) Grafting of Eremophila onto Myoporum rootstocks
 - (c) Control of leaf fungal disease within Eremophila
2. Propagation/cultivation of Rutaceae
 - (a) The nature of seed dormancy within Rutaceae
 - (b) Grafting studies in Rutaceae
3. Propagation/cultivation of Orchidaceae
 - (a) Germination of terrestrial orchids by endomycorrhizal fungi in vitro
 - (b) Cultivation of selected orchid species
 - (c) The long term storage of orchid fungal isolates.

| | | |
|--------------|---|-------------------------------------|
| J. Armstrong | } | |
| K. Bailey | } | |
| M. Clements | } | Australian National Botanic Gardens |
| R. Ellyard | } | |
| PCS (ACT) | | |

Population dynamics and productivity of forest trees in Kakadu National Park: A comparison of "wet" and "dry" years

To investigate the dynamics of open forests and woodlands through assessment of turnover rates, recruitment, productivity and biomass turnover rates.

A. Press
ANPWS

Rainforest inventory in North Queensland

Rainforest community type analysis including the determination of the distribution of Proteaceae in North Queensland rainforests and the qualification of their representation in the national park estate, as marker species in identifying flora refuges.

E. Saxon
NPWS (Qld)

Rare and endangered plant survey

To define the distribution and occurrence of rare and endangered plants in New South Wales. To determine the conservation status of rare and endangered plant species.

J. Benson
NPWS [NSW]

Recovery of alpine swamps following bush fire

A study of the recovery of the alpine swamps of the Cotter Catchment in the ACT following the major bushfires of the 1982/83 summer.

B. Terrill
PCS (ACT)

Reserve survey, aquisition and management

To contribute botanical expertise in reserve survey, acquisition and management on an ad hoc basis.

S.D. Hopper
WAF&W

Revision of Beaufortia and Regelia

To revise the taxonomy and document the conservation status of the Myrtaceous genera Beaufortia and Regelia.

A.A. Burbidge
WAF&W

Selection and evaluation of native grasses for landscape use

To collect the seed of native grasses, principally Themada, Bothriocloa, Poa, Microleana and Stipa, and to investigate establishment.

P. Semos
PCS (ACT)

Shrub and herbage changes under prescribed burning

To determine the effects of fire regimes (intensity, frequency, season) and rainfall patterns on the population dynamics of shrub, grass and other herbaceous species.

G.N. Harrington
CSIRODWRR

Spartina

Spartina or rice grass was introduced into the Tamar River in 1947. It was subsequently ploanted in a number of other estuaries in Tasmania to stabilise mudflats. The grass is choking tidal flats necessary as feeding areas for wading birds and spawning fish. Population monitoring has commenced and control programs are planned.

J. Bayley-Stark
NPWS [TAS]

Study of the development of wetland vegetation, Tidbinbilla Nature Reserve

To develop a program for the computerised processing of data collected in the field as a means of monitoring and controlling development of aquatic vegetation in the waterfowl enclosure, Tidbinbilla Nature Reserve.

F. Ingwersen
PCS (ACT)

Surveys for rare plants

Ground survey of potentially rich areas. Aerial surveys where necessary to locate large species and as preliminary to ground work. Collection of voucher specimens. Recommendations on needs for protection of various areas and species. Update list of rare and relict plants for use by CCNT, environmental impact statements, etc.

Status: Year 4 of continuing program.

P. Latz
CCNT

System of monitoring for conservation reserves in Western Australia

To establish a system of permanently marked sites for use in monitoring long-term changes in vegetation composition and structure.

J.T. Goodsell
A.J.M. Hopkins
WAF&W

Taxonomic studies of the Australian flora

To carry out taxonomic studies, including revisions, of Australian plant taxa to increase botanical knowledge and assist in the development of conservation programs.

Current projects include:-

1. Revisionary studies in Cucurbitaceae (tribe Melothrieae), Epacridaceae (Budawangia, Rupicola), Fabaceae (tribe Mirbelieae: Brachysema, Chorizema, Daviesia, Jacksonia), Orchidaceae (Dipodium, Pterostylis Sect. Squamatae), Pittosporaceae, Proteaceae (Telopea), Rutaceae (Zieria).
2. Cladistic studies in Fabaceae (tribe Mirbelieae, Daviesia), Orchidaceae (Pterostylis), Proteaceae (tribe Embothriineae), Rutaceae (tribe Boronieae, Zieria).

J. Armstrong }
M. Clements }
M. Crisp } Australian National Botanic Gardens
J. Taylor }
I. Telford }
PCS (ACT)

Taxonomy and biogeography of Epacridaceae

Studies on species restricted in range or declared rare.

J. Powell (Royal Botanic Gardens, Sydney)
WANPA

Taxonomy of Australian plants

To advance taxonomic knowledge of Australian plants, aid their identification, develop the Herbarium Australiense collection, and promote progress on a revised Flora of Australia.

H. Eichler
CSIRODPI

Traditional plant use by Central Australian Aborigines

Maintenance of index card data base of Aboriginal names and uses of plants. Provision of ethnobotanical data to the Conservation Commission of the Northern Territory and various government and semi-government agencies on request.

Status: On-going project.

P. Latz
CCNT

Updated list of rare or threatened Australian plants

This project aims to revise and update information on Australian plant species listed in the ANPWS Special Publication "Rare or Threatened Australian Plants". The work entails compiling current information on species which are as probably extinct, endangered, vulnerable, rare or poorly known.

D. Carter
ANPWS

Vegetation mapping using Airborne Multispectral scanner,
Earthview Image Processor and Mapping System

To evaluate the multispectral scanning, image processing and computerised mapping facility of the National Safety Council for vegetation mapping, using the Grampians National Park as a case study. To develop the mapping system for wider use. ANPWS funded.

Status: Scanning imagery obtained; analysis to be undertaken during 1985.

A. Heislars (03 651 4446)
VICNPS

Vegetation/fire interaction

A study of the interactions between fire and vegetation types of South West Tasmania, including a review of the status of NPWS and other research and its implications for management.

M. Brown
NPWS [TAS]

Vegetation study of Black Mountain

To write up data previously collected in a comprehensive study of the vegetation of Black Mountain to provide a basis for planning and management of Black Mountain Reserve, particularly fire management and control.

F. Ingwerson
(PCS) (AC)

INLAND WATERS AND WETLANDS

[See also Birds, Marine and Management]

Aquatic toxicology

To obtain data as to the effects of physicochemical parameters and toxic materials on indigenous aquatic fauna, using acute and chronic bioassays. Project will establish criteria for management and protection of aquatic fauna and their habitat.

G.J. Bacher
VICFWS [ARI]

Biology of cave-dwelling freshwater Crustacea

J. Blurt (Zoology Department, University of WA)
WANPA

Biology of the freshwater crocodile

Monitor the harvested populations before and after harvests. Monitor the harvests. Continued incubation trials defining the effects of incubation environments on hatchling size, sex, and the amount of yolk animals hatch with.

Status: Year 3 of a 4 year contract.

G. Webb (Consultant)
CCNT

Biology of the saltwater crocodile

Assess the historical abundance and distribution within the Northern Territory. Develop survey methods for estimating population size. Quantify the effects of protection and formulate a management plan. Assist in the preparation of the CITES submission. Continue monitoring studies in Adelaide River. Continue incubation research.

Status: Year 3 of a 4 year contract.

G. Webb (Consultant)
CCNT

Brunette Downs exclosure trial

Erection of one or more exclosures in bluebush swamp country; bi-annual assessment of vegetation using standard procedures; monitoring of bird fauna by standard 10 minute counts.

Status: Year 2 of an ongoing program.

P. Latz
M. Fleming
CCNT

Endocrine control of gonad maturation in Chinook salmon

This project aims to develop a better understanding of the control gonad maturation in both male and female Chinook salmon by endogenous hormone. The hormones which are considered to be important are melatonin, oestradiol - 17B and 17L OH progesterone.

W.A. Chamley
VICFWS [ARI]

Fish allocation and survey coordination

To provide resource managers with information on the relative abundance, condition and distribution of salmonids within Victoria.

A. F. Baxter
VICFWS [ARI]

Fish husbandry

To provide facilities and manpower to allow artificial propagation of fishes.

C. Sinclair
VICFWS [ARI]

Fish pathology

To provide a fish disease diagnostic service to maintain healthy stocks of fish in Victoria.

L.D. Ashburner
VICFWS [ARI]

Freshwater crocodiles

To develop research methodologies for studying the freshwater crocodile (*D. johnstoni*); to evaluate growth, survival and dispersal in relation to a tagged population.

C.J. Limpus
NPWS [QLD]

Gas flux between air and water in high salinity inland lakes

To determine relationships between gas flux, bioproductivity and sedimentation.

P. Smith (Zoology Department, University of WA)
WANPA

Gellibrand River riparian and aquatic vegetation survey

To provide information on vegetation likely to be affected by regulation or diversion of water from the Gellibrand River system.

B. Dale
VICFWS [ARI]

Native fish research

To develop techniques for intensive rearing of selected native fish under hatchery conditions. The first three native fish species which will be propagated are Murray cod, Macquarie perch and Trout cod.

P.L. Cadwallader
VICFWS [ARI]

Northwest wetland survey

To map the major wetlands of the north and northwest of New South Wales and to stratify these into preliminary categories. To develop aerial and ground survey methods for estimating abundance of birds in these areas. To investigate water requirements for nature conservation in the Macquarie Marshes.

G. Goodrick
NPWS [NSW]

Salmonid research

To assess the feasibility of using chinook salmon stocks for farming on a commercial basis. Initial research has focused upon increasing egg viability by delaying gonad maturation using extended photoperiod.

W. A. Johnson
VICFWS [ARI]

Saltwater crocodiles

A study of the biology and status of saltwater crocodiles in Queensland. Particular emphasis will be placed on the management and conservation of the species.

L. Taplin
NPWS [QLD]

Short-necked tortoise (Pseudemydura umbrina)

To monitor the populations of Twin Swamps and Ellen Brook Nature Reserves. To develop techniques for captive breeding.

A.A. Burbidge
WAF&W

Stream ecology

To determine effects of altered streamflows on fish populations and the aquatic community.

P.D. Jackson
VICFWS [ARI]

Survey of fish species in the ACT

To determine the distribution and abundance of fish in the Australian Capital Territory, particularly the rarer species Macquarie perch, trout cod, and river black fish. Information obtained will be used to formulate appropriate management practices to ensure conservation of native fish species in the Territory.

S. Robinson
PCS (ACT)

Survey of wetlands in Victoria

To prepare an inventory of Victorian wetlands classified according to salinity, depth and vegetation, and document their area and use by waterbirds. To use this inventory to estimate populations of waterbird species; to develop management strategies based on distribution of wetlands and associated waterbirds; to provide appropriate bases for reservation of such areas; and to produce digitised maps summarising data on a wetland or State basis.

A. Corrick
VICFWS [ARI]

Warmwater ecology

To determine the status of fish species in water north of the Great Dividing Range. To assess feasibility of re-establishing native fishes in selected waters.

J. Anderson
VICFWS [ARI]

Wetland nature reserves

Routine monitoring of water depth and water quality of selected wetland nature reserves in the southwest of the State.

J.A.K. Lane
WAF&W

Wetland ecology

To gain a detailed understanding of the workings of wetland ecosystems as a basis for management for conservation of waterbirds and their habitats.

P.J. Fullagar
CSIRODWR

Wetland nature reserves

To provide information on waterbird usage to assist in the management of wetland nature reserves.

J.A.K. Lane
WAF&W

Wetlands

General research and management projects in the area of waterfowl and wetland conservation.

J.A.K. Lane
WAF&W

INSECTS

Habitat preferences of native dung beetles

Usefulness of native dung beetles in control of bush-fly populations.

G. Hall (CSIRO Division of Entomology, WA)
WANPA

Insect pests of eucalypt forests and woodlands

To study the ecology of jarrah leafminer and other eucalypt pests, particularly in relation to changing land use patterns and dieback disease.

Z. Mazanec
CSIRODE

Insect taxonomy and general biology

To carry out taxonomic research on the Australian insect fauna, and to investigate the general biology of Australian insects, with emphasis not only upon groups of actual or potential economic significance, but also on those of intrinsic scientific interest.

R.W. Taylor
CSIRODE

Kinchega National Park - impact of invertebrate herbivores on dynamics of arid zone vegetation

To measure plant offtake (consumption) due to invertebrates on Kinchega National Park to determine its effect on plant growth and dieback. To measure the strength and direction of any interaction between mammal and invertebrate grazing. To study the population dynamics and activity pattern of the dominant herbivorous invertebrates. To model the invertebrate component of the total grazing systems' stability and resilience. To review current mammal management practices (culling or optimising stocking rates) in light of the role of invertebrates in a grazing system.

P. Bayliss
NPWS [NSW]

Status of the hair streak butterfly

A project funded by The National Estate to determine the status of colonies of three geographic races of the hair streak butterfly.

B. Prince
NPWS (Tas)

Taxonomy and zoogeography of Australian landhoppers
(Terrestrial amphipoda)

Description of new species; revision of group at generic level; drawing zoogeographic conclusions.

J.A. Friend
WAF&W

MAMMALS

[See also Management, Marine and Surveys]

Aerial surveys of kangaroo populations

To monitor kangaroo population trends in order to provide information for management purposes.

C. Southwell
ANPWS

Aspects of the biology of red and western grey kangaroos on Kinchega National Park in arid New South Wales

This study of some aspects of kangaroo biology (reproduction, body condition, disease status and nutrient intake) in red and western grey kangaroos is part of the Kinchega grazing system study. Other researchers are examining relationships between weather, vegetation and the trend in kangaroo populations. While strong relationships between these components will be found, the mechanism by which they operate must be understood if the findings are to be extrapolated with confidence to other areas. The biology studies provide part of the information for an understanding of this mechanism.

N. Shepard
NPWS [NSW]

Atlas of Mammals of Victoria

It is aimed to produce an atlas by 1986, which would record and define mammal distribution in Victoria at a level of resolution of one minute.

P. Menkhorst
VICFWS [ARI]

Banded hare wallaby - Dirk Hartog Island

To attempt reestablishment of the species on Dirk Hartog Island.

R.I.T. Prince
WAF&W

Behaviour of rabbits

To investigate the role of olfaction in behaviour and social organization in rabbits, possibly leading to more effective control methods.

R. Mykytowycz
CSIRODWRR

Biological aspects of the lesser-known macropods in Queensland

To establish and monitor distributions of the lesser-known macropod species in Queensland; undertake reproductive and behavioural studies; establish captive colonies of those species that are threatened or in a decline.

P.M. Johnson
NPWS [QLD]

Biological study of the yellow-footed rock wallaby

A cooperative project with contributions from New South Wales National Parks and Wildlife Service, CSIRO Division of Wildlife Research, Macquarie University, World Wildlife Fund and Dr Peter Hornsby (Nent Oora Research Unit). Major field study site at Middle Gorge, Central Flinders Ranges, South Australia, with other minor components at Cotaraandee Range and Gnalt Hills, western New South Wales, and Moolawatana Station, Northern Flinders Ranges, South Australia. Aspects covered include: distribution, population biology, movements, diet, water turnover, genetics and conservation management.

A.C. Robinson
NPWS [SA]

Biology of the ghost bat

A study of the population dynamics and conservation requirements of the ghost bat at Limestone Ridge in central Queensland. This species has declined in status and is sometimes thought to be endangered in Queensland. A tagged population has been studied for several years, providing data on population size, reproductive rates, survival of young, diet and other aspects of their biology.

J. Toop
NPWS [QLD]

Bridle-nailtailed wallaby

To survey the occurrence of the bridle-nailtailed wallaby; to undertake behavioural studies relating to its habitat and the way its behaviour is influenced by habitat; collect and analyse scat samples.

P.J. Tierney
NPWS [QLD]

Brush possum population monitoring and management

The abundance of brush possum is monitored throughout Tasmania to provide information for its management as a valuable resource for the fur industry.

G. Hocking
NPWS [TAS]

Chiropteran studies - mormopterus taxonomy

To review the taxonomy and distribution of Tadarida mormopterus in Western Australia.

N.L. McKenzie
WAF&W

Christmas Island bat study

The long term stability of island ecosystems.

Fruit bats have a role in maintaining the long term stability of island ecosystems. This is probably more so on Christmas Island as the only other frugivore is the Christmas Island imperial pigeon (Ducula whartoni).

Small island populations of fruit bats have proved to be extremely vulnerable to human hunting pressures as their reproductive potential is low in comparison to most other mammals of comparable size. Clearly, continued harvesting pressure at levels above sustainable yield is likely to have long term implications for the stability of the vegetation patterns on Christmas Island.

The study will assess the status of the Christmas Island fruit bat, Pteropus melanotus natalis, to gain some understanding of its biology and to serve as a baseline for management.

G.B. Baker
ANPWS

Comparative reproduction and growth

To undertake comparative studies of reproduction and growth of several species of macropodidae.

W.E. Poole
CSIRODWRR

Comparison of population dynamics and resource partitioning in a mixed population of small mammals

To determine how several species of small mammals are distributed in a series of contiguous forest habitats, and the manner in which they use and partition the food and shelter resources in those habitats.

J. Seebeck
VICFWS [ARI]

Conservation of the bilby

Ascertain the current geographic range of the bilby; describe the habitats in which colonies are found and identify the physical and biological components which made them suitable for occupation; investigate the diet of the species in the various ecological zones; assess the effects of rabbits, foxes, cats and domestic stock on the persistence of bilbies; recommend on parts of the bilby's former range which, under proper management, should be suitable for reintroduction of the species.

Status: Year 2 of a 3 year contract.

R. Southgate
CCNT

Conservation of the eastern barred bandicoot in Victoria

This project is being supported by funds from World Wildlife Fund-Australia. The project aims to conserve the only remaining population of the eastern barred bandicoot on the mainland of Australia. Work is being focused upon habitat requirements, breeding, biology, recruitment and predation.

P.W. Brown
VICFWS [ARI]

Conservation of the Mountain pygmy possum (*Burramys parvus*) in the Mount Hotham Alpine Reserve area

This project is attempting to gain information about the impact of skiing activities and associated development upon Burramys parvus. The project is focusing upon distribution, abundance and recruitment, interaction and competition with other native fauna and vermin species, juvenile mortality and genetic heterogeneity in the population.

I.M. Mansergh
VICFWS [ARI]

Conservation of the yellow-bellied glider in Victoria

To gain an understanding of the status and habitat requirements of the yellow-bellied glider in Victoria as a basis for the development of specific recommendations for its conservation.

S. Craig
VICFWS [ARI]

Conservation of the Flinders Island potoroo

To determine the status of this insular population of the potoroo (Potorous tridactylus); a population until recently regarded as being endangered.

G. Hocking
NPWS [TAS]

Controls of reproduction

To undertake fundamental research into endocrinology and reproductive physiology in marsupials and other mammals and birds.

C.H. Tyndale-Biscoe
CSIRODWRR

Correlation of mammal trapping and vegetation data collected in Gippsland

For many species of small mammal the habitat requirements remain ill-defined or unknown. This data base provides one of the most comprehensive in Australia; it has the potential to expand knowledge on the habitat requirements of many species. New data retrieval and correlation techniques are planned that could be applied elsewhere in Victoria. Such data and development in retrieval would be of direct benefit to management agencies in the Gippsland region; habitat data would be relevant to areas further afield.

I. Mansergh
VICFWS [ARI]

Dalgyle - reserve and management requirements

To investigate the status of the dalgyle (Macrotis lagotis) in the Pilbara with the aim of identifying the species' management requirements.

J.E. Kinnear
WAF&W

Dingo biology

To study the predator/prey relationships of the dingo and its role in relation to the stock industries.

A.E. Newsome
CSIRODWRR

Distribution and abundance of Burramys parvus in Kosciusko National Park

To define the habitat of Burramys parvus and to map its distribution within Kosciusko National Park. B. parvus is found only in alpine and sub-alpine areas of New South Wales and the Bogong High Plains in Victoria. This study was undertaken to assist in making decisions on development within Kosciusko National Park.

J. Caughley
NPWS [NSW]

Distribution of boulder streams and Podocarpus heath (Burramys habitat) in the Alpine areas of eastern Victoria

Floristic and geological maps have been used to identify areas in the Victorian alps where boulder streams and mountain plum pine (Podocarpus lawreneci), occur in association. It is considered that minimum areas of such a habitat are likely to be of the highest potential for mountain pygmy possum.

R. Gowans
VICFWS [ARI]

Distribution and status of desert mammals

To document current and past distributions of arid zone mammals by collating information received from Aboriginal informants.

A.A. Burbidge
WAF&W

Distribution of the vertebrate fauna in East Gippsland

East Gippsland is an important area of forested public land but there is little published information dealing with the area in a comprehensive manner. This program - to be compatible with studies conducted in other areas of the State - will contribute significantly to the long term aim of having a detailed inventory of Victoria's wildlife resources. Analysis and publication of East Gippsland data on vertebrate

fauna would contribute to rational wildlife planning and management in both the long and short terms. Base line studies provide a bench mark for evaluation of environmental changes.

I. Mansergh
VICFWS [ARI]

Documentation of the names of mammals of the Gammon Ranges and their uses by the Adnjamathanha

The aims of this study are to produce a species list of the mammalian fauna of the Gammon Ranges; describe the Adnjamathanha traditional knowledge of each species; document the mythology and the folklore of each species.

P. Stevenson
ANPWS

Dynamics of kangaroo populations in the South Australian pastoral zone

The project aims to:

- . develop a computer model for predicting kangaroo population trends;
- . test the model against annual survey data and against the possible impacts of different harvesting strategies;
- . investigate relative importance of different habitats of kangaroos under different conditions.

C. Southwell
ANPWS

Ecological studies - mangrove bat communities

A long term study, the first step of which is an inventory of the species richness of bats in the different mangrove blocks along the Western Australian coastline. Analyse community structure of the guilds of insectivorous bats in an array of stands representing the five relevant phytogeographic districts of Western Australia.

N.L. McKenzie
WAF&W

Ecology of the bilby (Macrotis lagotis)

Microscopic analysis of faeces to determine seasonal changes in diet at Rabbit Flat colony. One-off scat analysis from colonies widely scattered in Tanami Desert to determine broad differences in diet. Point-intercept, photo-point and biomass by species, estimation of vegetation to evaluate ground cover, floristics, structure and biomass changes following fire at Rabbit Flat colony. Aerial survey of habitats identified as potentially suitable using 1:80,000 photographs and LANDSAT images. Follow up ground survey of suitable areas.

Status: Year 6 of an initial 5 year program.

K. Johnson
P. Latz
CCNT

Ecology of the mala (Lagorchestes hirsutus)

Aerial survey for suitable habitat in areas identified from aerial photographs as potentially favourable for mala. Radiotracking to determine activity patterns, home range sizes and partitioning of habitat. Investigation of seasonal changes in diet by browse survey and microscopic analysis of faecal material. Observation of behaviour. Documentation of floristics, structure of vegetation and soils associated with favourable habitat. Mapping of changes in colony locations over time with respect to changes in habitat structure. Assessment of biomass by species to evaluate food availability.

Status: Year 5 of an initial 5 year program.

K. Johnson
CCNT

Ecology of the western barred bandicoot (Perameles bougainville)

To investigate aspects of the ecology of Perameles bougainville on Dorre Island.

J.A. Friend
WAF&W

Economics of feral horses

Economic assessment of competition with cattle and damage to fences. Evaluate transport costs and compare costs between various areas of the Northern Territory. Estimate the potential economic value of horses to lessees in various conditions of feral horse density and geographical location.

Status: Year 1 of 2.5 year program.

K. Johnson
J. Sinder (Academic Supervisor)
MSC Candidate (to be selected)
CCNT

Effects of fire on vertebrate fauna of the mallee of central New South Wales

To determine which species of mallee fauna are fire sensitive or evasive and to develop a management strategy associated with the use of fire.

J. Caughly
NPWS [NSW]

Energy and water metabolism

To determine the nutritional and energetic costs of lactation in marsupials. To determine the food, energy and water requirements of free-living carnivorous animals.

B.F. Green
CSIRODWRR

Establishment of a disease free colony of koalas for testing an anti-chlamydial vaccine

This is a pilot program to establish a disease free colony of koalas in captivity for subsequent vaccination with anti-chlamydial vaccine.

About 15 koalas will be used in the vaccination trials. The animals will then be tested for the presence of endogenous anti-chlamydial antibodies in serum and swabbed to detect the presence of chlamydiae in eyes, nose, urinogenital tract and rectum. Only disease-free animals will be used to establish the colony.

D. Carter
ANPWS

Evaluation of the accuracy of pellet counts in estimating macropod populations

The study aims to evaluate the accuracy of pellet counting as a technique for estimating the absolute density of eastern grey kangaroos and red-necked wallabies. This will be done by: establishing sample plots and counting standing crop densities of pellets; regularly counting and clearing plots to estimate rate of accumulation of pellets; estimating pellet decay rates; estimating defecation rate for the red-necked wallaby and comparing the population size estimated from pellet counts with that known from behavioural studies in the same area.

Dr C. Southwell
ANPWS

Experimental fire management to optimise habitat used by mala
(Lagorchestes hirsutus)

Aerial survey of country near existing colony along Mongrel Downs lake system. Identification of areas potentially suitable for colonising by dispersing wallabies and of areas needing fire management. Follow-up ground survey to check rabbit distribution and fire management requirements. Maintenance of existing fire-breaks surrounding mala colonies and installation of new breaks where needed. Prescribed burning to prepare habitat for later mala occupation. Involvement of Warlpiri Aborigines in management program with visits to mala ceremonial sites to promote reestablishment of increased ceremonies and hence participation of Aborigines in conservation of the species. Map distribution of colonies to enable planning of fire program.

Status: Year 5 of an initial 5 year program.

K. Johnson
CCNT

Experiments in aerial kangaroo surveys

To investigate the aerial kangaroo survey technique with respect to aspects such as correction factors in different vegetation types.

C. Southwell
ANPWS

The extent of landholder economic losses covered by kangaroo

The projects aims are: to estimate the magnitude of economic losses caused by kangaroo including those due to forage competition, lost management opportunities and damage to capital items; to estimate at the national and regional scale, the benefits and costs to landholders of increasing and decreasing the number of kangaroos taken for commercial purposes, and, to predict the likely consequences of prohibiting harvesting of kangaroos for commercial purposes.

K. McNamara
ANPWS

The incidence of cruelty to kangaroos in commercial and non-commercial culling operations

The project is being conducted on a national scale and seeks to determine the extent of cruelty in kangaroo culling and extent of cruelty in gathering information on the extent of cruelty in illegal killing.

G. Wyre
ANPWS

Investigation of the ecology and economics of feral horses in the Northern Territory

The degree of overlap in diet and habitat between horses and cattle will be studied in several areas in central Australia.

Use of habitat in time and space, extent of movement from, and dependence on, watering points will be assessed together with elements of population structure and function.

Status: Year 1 of a 3 year program.

K. Johnson

D. Berman (Student)

P. Jarman (Academic Supervisor)

CCNT

Investigation of the factors determining the distribution and abundance of the Tasmanian bettong (*Bettongia gaimardi*)

The project involves field work over two years and includes assessment of food resources, diet and habitat requirements.

Specific aims and objectives include:

- . document the distribution of the Tasmanian bettong;
- . investigate factors which correlate with its abundance;
- . document home range utilisation and foraging activity;
- . determine the frequency and seasonal occurrence of dietary elements;
- . investigate factors influencing the distribution of foraging activity.

K. McNamara

ANPWS

Investigation of the importance of sandalwood leaf litter as a component in the diet of the bridled nailtail wallaby at the end of the dry season

This project is a continuation of studies of seasonal variation in feeding patterns of the bridled nailtail wallaby and its potential mammalian competitors. The project will aim to assess the degree of dietary stress at the end of the dry season and dependence of leaf litter so that appropriate management strategies can be developed.

K. McNamara

ANPWS

An investigation of the stick-nest rats of Australia

To outline the past and present distribution of the two species of stick-nest rats in Australia and carry out a detailed three year ecological study of the population of the greater stick-nest rat on Franklin Island in Nuyts Archipelago, South Australia. Study aimed at making management recommendations for the Franklin Island population and possible establishment of additional population(s) elsewhere.

A.C. Robinson
NPWS [SA]

Environmental factors affecting the fertility of koalas

The project will investigate whether oestrogenic material in eucalypt leaves make some koalas more susceptible than others to reproductive tract infection.

D. Carter
ANPWS

Kangaroos

To understand the biology of and monitor populations of the large, exploited macropods.

T.H. Kirkpatrick
NPWS [QLD]

Kangaroo management

To monitor the statistics of harvested kangaroo stocks in Western Australia for the purpose of setting quotas.

J.E. Kinnear
WAF&W

Kangaroo management - Charleville Region

A study of red and grey kangaroos and wallaroos in southwestern Queensland aimed at investigating the inter-relationships between the population levels of kangaroos and the nature and extent of commercial and non-commercial harvesting. The project will utilise aerial surveys and ground surveys of kangaroo numbers and attempt to relate harvesting patterns to various factors including land systems, weather and market pressures.

G. Wellard
NPWS [QLD]

Kangaroo Monitoring - Mt. William National Park

To monitor population trends in the Forester kangaroo in order to assess the effect of pasture management.

G.J. Hocking
NPWS (Tas)

Koala study

To study the general ecology of koalas and to determine causes of population fluctuations and conservation requirements.

G. Gordon
NPWS [QLD]

Large vertebrate fauna

To study the distribution, abundance, movement and feeding of large vertebrates, particularly buffaloes and pigs in the sub-coastal plains in the Northern Territory; and also to make observations of feral cattle, horses, and agile wallabies; to examine their interaction with stock and native fauna; to examine their role in the spread of stock diseases and effects in relation to the vegetation of wetlands and their margins.

M.G. Ridpath
CSIRODWRR

Macropod field studies

To study the population dynamics of selected species of Macropodidae, particularly the tammar wallaby, with particular emphasis on the role of climate and nutrition on the reproduction, growth, behaviour and abundance of animals in natural populations.

W.E. Poole
G.D. Brown
CSIRODWRR

Macropod management in cereal and pasture regions of Queensland

To establish a reliable method to evaluate definition of under or over harvest of the exploited kangaroo populations using a simulated population model in conjunction with an adequate data collection program.

C. Nance
NPWS [QLD]

Management of Macroderma gigas

To identify major feeding areas, feeding effect and feeding density of *M. gigas* in the Rockhampton caves area; to collect breeding data for other bat species in the same area.

J. Toop
NPWS [QLD]

Monitoring of wallaby population trends

To investigate and assess techniques for the monitoring of population trends of commercially utilised wallabies.

C. Southwell
ANPWS

Mouse populations

To carry out basic research into the population biology, and to study particularly the causes and mechanisms of plague formation of the house mouse (*Mus musculus*) for the eventual formulation and demonstration (in cooperation with State and industry authorities) of an effective strategy for the prevention or amelioration of plagues.

T.H. Redhead
CSIRODWRR

Numbat - captive breeding

To breed numbats in captivity and to develop an artificial diet for numbats.

J.A. Friend
WAF&W

Numbat - ecology

To study the ecology of numbats to fill gaps in knowledge and provide data for management.

J.A. Friend
WAF&W

Numbat - environmental influences

To distinguish environmental influences affecting availability of food and shelter for numbats.

J.A. Friend
WAF&W

Numbat - predators

To determine whether the presence of introduced predators, particularly the fox, reduces numbat populations numbers.

J.A. Friend
WAF&W

Numbat - species status

To provide information on the status of the species and to help define suitable numbat habitat.

J.A. Friend
WAF&W

Nutrition of wildlife herbivores

To investigate the determinants of diet quality for wild herbivores, the physiological and ecological responses of herbivores to declining diet quality, and the influence of diet on growth, development and reproduction.

S. Cork
CSIRODWRR

Parasites in native mammals

To assess the types and significance of parasites of native mammals.

D.M. Spratt
CSIRODWRR

Patterns of decline in Western Australian mammal fauna

Analyse post-European changes in the status and distribution of the species comprising the Western Australian mammal fauna and seek patterns which might reveal causes of decline.

A.A. Burbidge
N.L. McKenzie
WAF&W

Population dynamics of the bobuck (Trichosurus caninus)

To gain an understanding of the life strategy of the bobuck in mountain ash forest, with a view to assessing its abundance and productivity.

R. Warneke
VICFWS [ARI]

Population ecology and dynamics of the western grey kangaroo
at Hattah-Kulkyne National Park

To determine habitat preferences and movement patterns, dietary preferences, age structure, breeding, longevity and mortality rates of western grey kangaroos.

Work began in 1983 and continuing until 1985. A cooperative program with Fisheries and Wildlife Division.

A. Heislars (03 651-4446)
VICNPS

Possums

To obtain data on the distribution and habitat requirements of rainforest mammals and to provide a sound basis for their conservation and management.

J. Winter
NPWS [QLD]

Predator-prey relationships

To investigate the feeding ecology of vertebrate predators with emphasis on interspecific competition and interrelations with prey populations, with the ultimate aim of understanding the role predators play in animal community organisation and maintenance.

L.K. Corbett
CSIRODWRR

Queensland hairy-nosed wombat

To determine population size and conservation requirement of this endangered mammal.

D.G. Crossman
NPWS [QLD]

Rabbit ecology

To study the interactions between rabbits and domestic and native herbivores and the effects of myxomatosis, predators and environmental variables, as a basis for understanding rabbit population fluctuations and thereby developing effective management programs.

A.E. Newsome
CSIRODWRR

Rabbit physiology

To determine the role of physiological adaptation in the persistence of the rabbit in Australian environments, and to identify a physiological basis of rabbit colonization.

C.K. Williams
CSIRODWRR

Re-introduction of a population of the brush-tailed bettong to the wild in South Australia

Brush-tailed bettongs from Western Australia have been successfully bred at Para Wirra Recreation Park. From this small stock, animals are being re-introduced to areas of their former range in South Australia.

L.B. Delroy
NPWS [SA]

Re-introduction of the bilby (Macrotis lagotis) into Simpson's Gap National Park

Breeding in fixed enclosures; slow release of offspring; rabbit control; vegetation management.

Status: Year 4 of a 5 year program.

K. Johnson
M. Hewett
CCNT

Re-introduction of mala (Lagorchestes hirsutus) into Tanami Desert

Select habitat; erect temporary enclosures; monitor continuously short term adjustment periods for selected animals; routine monitoring. Involvement of Warlpiri Aborigines. Fire management and feral animal control.

Status: Year 3 of a 5 year program.

K. Johnson
M. Hewett
CCNT

Rock wallabies - fire ecology

To continue with studies on mainland populations of Petrogale rothschildi with emphasis on fire ecology and the impact of feral and domestic animals on the species.

J.E. Kinnear
WAF&W

Rock wallabies - re-introduction

To develop management plans and procedures which promote the successful re-introduction of select mammal species to localities and sites which previously supported a given species.

J.E. Kinnear
WAF&W

Routine maintenance of captive mala, bilbies and other animals

Routine feeding and enclosure maintenance, breeding program and collection of reproductive data.

Status: Year 6 of an ongoing program.

M. Hewett
CCNT

Seasonal responses of small forest mammals to biological and climatic variables

To assess the productivity of two commercially important forest types with respect to the terrestrial mammal fauna and its sensitivity to seasonal variation.

J. Seebeck
VICFWS [ARI]

Small vertebrate fauna

To study the diversity of small vertebrates and orthopterans in a variety of subcoastal wetland habitats and to relate these data to structural and floristic attributes of the habitats, and, in turn, to the degree of disturbance caused by feral buffalo.

G.R. Friend
CSIRODWRR

Study of kangaroo-sheep interactions in the arid zone
rangelands of Australia

The objectives of the project are to :

- . determine whether kangaroo presence affects wool production;
- . determine whether kangaroo presence affects sheep condition;
- . determine whether sheep presence affects kangaroo conditions;
- . develop a working model to simulate kangaroo-sheep interactions;
- . assess the effectiveness of electric fencing for controlling the movements of stock and of kangaroos;
- . examine the short and long-term effects of sheep and kangaroo grazing on native pastures.

M. Fletcher
ANPWS

Survey of the distribution and abundance of feral horses
(Equus caballus)

Aerial survey using a fixed wing aircraft flying transects in a north-south direction in the southern half of the Northern Territory. Horse numbers and distribution to be correlated with the distribution of other large vertebrates and broad classification of habitat.

Status: Year 2 of an initial 3 year program.

K. Johnson
A. Graham (consultant)
CCNT

Survey of the terrestrial vertebrate fauna of Namadgi National Park

To determine the distribution and abundance of terrestrial vertebrate fauna in Gudgenby Nature Reserve with particular emphasis on rarer species such as the broad toothed rat, brush-tailed rock wallaby, and the mountain pygmy possum. Where appropriate follow-up investigations will be undertaken on certain species with the aim of formulating appropriate management practices for their conservation.

M. Braysher
PCS (ACT)

Thermal exchange

To study the factors which influence the thermal exchanges between animals and their environment and to investigate the role of thermal exchange in the energy budgets of animals in their natural habitat.

G.D. Brown
CSIRODWRR

Thylacine research

Reports of alleged sightings of thylacines continue to be documented. Special report forms are used by the nearest Service Ranger to record details of the "sightings". Head Office research staff follow up on especially interesting reports.

N. Mooney
NPWS [TAS]

Wallaby management

Both rufous and Bennet's wallaby are subject to regular population monitoring as part of a program of management. This involves the use of information gathered during spotlight and roadkill surveys, as well as surveys of hunter success.

G. Hocking
NPWS [TAS]

Water physiology of euros

In collaboration with Zoology Department, University of Western Australia, investigate the water physiology of a non drinking population of euro (Macropus robustus) on Dolphin Island and to compare this to mainland drinking populations.

K.D. Morris
WAF&W

Yellow-footed rock wallaby in Queensland

Investigate the nutritional requirements of the yellow-footed rock wallaby including studies of the efficiency with which the species utilises water, its ability to utilise poor quality feed and its ability to maintain nitrogen requirements.

K. McNamara
ANPWS

Yellow-footed rock wallaby study

To determine the factors responsible for the wallaby's rarity and to recommend action for its conservation and management in New South Wales. The program involves cooperative projects with the National Parks and Wildlife Service of South Australia, Macquarie University, CSIRO Division of Wildlife and Rangelands Research and World Wildlife Fund Australia.

L. Lim
NPWS [NSW]

MANAGEMENT

(See also Birds, Mammals and Surveys)

Aboriginal perceptions of land-use, and co-operative management programs for conservation

Liaise with Aboriginal people regarding their attitudes to conservation of rare animals (the re-introduction of Mala), the management of feral animals and the overall management of their land.

Status: Year 1 of 3 year contract.

D.F. Gibson
J.R. Cole
CCNT

Annual kangaroo population census

To monitor kangaroo population levels and distribution in selected national parks for management purposes.

Continuing program.

A. Heislars (Ø3 651 4446)
VICNPS

Application of remote sensing to rangeland monitoring

To develop and apply remote sensing systems, such as those based on the use of LANDSAT imagery, for monitoring change in the condition of rangelands.

R.D. Graetz
CSIRODWRR

Biological control of aquatic and terrestrial weeds

To study and assess overseas, and subsequently establish in Australia, effective agents for biological control of introduced weeds of economic importance.

G.H.L. Rothschild
CSIRODE

Biology of the cane toad (Bufo marinus)

The recent advances of cane toads into the Northern Territory are being monitored and a literature review on the species has been prepared. Investigation of changes in cane toad population biology, food habits and parasitism in relation to time of establishment is continuing with a view to evaluating the possibilities for biological control.

Status: Year 3 of an ongoing program.

W. Freeland
CCNT

Deer populations

To monitor movements and productivity of red and fallow deer.

A.K. Searle
NPWS [QLD]

Economic and social influences on rangeland management

To investigate the impact of economic status, administrative structures and environmental perception on the adoption of appropriate management practices.

M.D. Young
CSIRODWRR

Effects of fire on vegetation and fauna in semi-arid areas

To monitor changes occurring due to fire as a basis for ecological management of native flora and fauna.

Status: Long-term monitoring in established research plots and their extension as appropriate.

A. Heislers (03) 651 4446)
VICNPS

Effects of prescribed burning on reptile fauna of a Mt Lofty Ranges open forest

A mark-release-recapture study using a grid of permanent pitfall traps. Study started February 1977; prescribed burn over half study site, September 1981. Sampling continuing over summer months only. Whole study area burnt in "Ash Wednesday" wildfire February 1983. Recovery of populations from this fire now being studied.

A.C. Robinson
NPWS [SA]

Environment impact of mining

To develop practices that will assess and, if necessary, ameliorate undesirable environmental stress arising from mining activities.

J.K. Marshall
CSIRODGWR

Expert system for fire management in Kakadu National Park

Development of the expert system will assist in fire management by:

- . centralising and rationalising present knowledge of fire behaviour and fire effects;
- . providing a tool for predicting fire behaviour and fire effects;
- . providing a base of information which will assist in the formulation of research and monitoring programs;
- . providing a computer-based system which can be used by park management staff; and
- . providing guidance for a 'patch batching' system for field operations.

A. Press
ANPWS

Feral cat management and research

Feral cats are efficient predators affecting populations of small native mammals and birds as well as spreading diseases that affect wildlife and domestic stock. Research into populations, reproductive ecology, and diet is underway with considerable feedback from field staff. The goal: to control the cat populations on offshore islands, reserved land, and in the long term, all natural ecosystems in Tasmania.

J. Bayley-Stark
NPWS [TAS]

Fire ecology in mallee lands

To develop systems of prescribed burning in mallee lands that will allow management for either production and conservation goals, and for the reduction of fire hazards.

J.C. Noble
CSIRODWRR

Forester management

Yearly counts are being made of the Nile and Ross populations with a view to population monitoring and setting cull limits. An electric fence has been erected along 6km of the Mt. William National Park border in an attempt to contain macropods. In addition, extensive slashing was undertaken to improve food availability in the Park. The 1980 aerial census is to be repeated.

N. Mooney
NPWS [TAS]

Game control using 1080

1080 is used to control abundant populations of wallaby and possum. A review of the effectiveness of the 1080 poisoning practice and procedures on target species is underway. The effect on non-target species such as Tasmanian devils, native cats, potoroos and birds of prey is also being reviewed.

J. Bayly-Stark
NPWS [TAS]

Habitat

Habitat: a computer-based file containing information of relevance to management of South Australian vertebrates.

K.D. Camperson
NPWS [SA]

Hydrology and vegetation dynamics of semi-arid woodlands

To evaluate the factors influencing shrub and herbage growth in semi-arid woodlands and to predict the effects of management procedures on water and herbage yield.

G.G. Johns
CSIRODWRR

Lakefield fire management

Control wildfires and monitor the impact of fire and grazing on vegetation communities on Lakefield National Park.

E. Saxon
NPWS (Qld)

Land resources

To develop, test and demonstrate methods of acquisition and application of land and water resource data, and to use these methods to assist in the solution of problems of resource assessment and environmental impact.

M.P. Austin
CSIRODWRR

LaTrobe Valley land capability studies

Provide land capability information for planners in the LaTrobe Valley.

K. Rowe
VICFWS [ARI]

Long-term effect of varying intensity fires on vegetation in Padthaway Conservation Park

Long-key, long-term study of vegetation recovery after a high intensity wildfire and spring and autumn prescribed burn. Photographic monitoring with associated quantitative plant sampling points.

A.C. Robinson
NPWS [SA]

Maintenance of the Central Australian Wildlife Collection

Curation of wet and dry specimens; servicing of loan request; registration of new specimens. This is an on-going education and support program to be terminated when Northern Territory Museums and Art Galleries can provide storage and curatorial facilities in Alice Springs and assume responsibility for the collection.

Status: Ongoing program.

M. Hewett
CCNT

Management of semi-arid woodlands

To determine the critical functions within savanna ecosystems that control the shrub herbage balance and to identify the types of management intervention that may be used to manipulate this balance.

K.C. Hodgkinson
CSIRODWRR

Methods for rangeland monitoring

To develop methods for monitoring and assessing the condition of rangelands.

A.D. Wilson
CSIRODWRR

Methods for remote sensing of fire fuel conditions -
CSIRO/CCNT collaborative research

Use of Landsat images to map the extent and age of fire scars; generation of a computer model for regular low cost monitoring of recent fires; identification of signatures for routine and special purpose assessment of fuel load.

Selection of sites for summer and winter burns over a range of ages since last burnt; wheel point apparatus to measure fuel loads and fuel patchiness; aerial photography to monitor rate of fire spread; development of a model of fire spread with respect to vegetation, weather, and moisture conditions; formulation of guidelines for fire management.

Status: Year 2 of a proposed 4 year program.

K. Johnson
P. Latz
CCNT

Mount Moffat Park management

To develop and/or adapt techniques for assessment of management conditions of nature conservation areas with emphasis on fire, domestic grazing and exotic biota; to highlight priority ratings and recommendations for management research needs in nature conservation areas in southern and central Queensland.

NPWS [QLD]

National Park fire management

To identify for a number of National Parks (Great Sandy, Woodgate, Girraween, Cooloola and Magnetic Island) the effects of fire, so as to develop fire management policies based on ecological processes.

C. Sandercoe
NPWS [QLD]

Oil pollution contingency plan

Because of the possibility of oil spillage on the Tasmanian coast, the need for a plan to deal with such a threat has become evident. Information is being collated on coastal habitat and wildlife values considered at risk in the event of an oil spill.

An operational plan for rehabilitation of oiled seabirds is also being written.

J. Bayly-Stark
NPWS [TAS]

Pesticides and wildlife

Two groups of chemicals are of concern: non-persistent pesticides such as Lucijet and 1080, and persistent pesticides such as DDT. Lucijet (a "flystrike" treatment) is often illegally used on a carcass to control scavengers. Its effect on some species (eg. eagles) is serious. An education program is planned. A comprehensive report on the effects of 1080 has been produced jointly by the Service, Agriculture Department and Forestry. Population monitoring of peregrine falcons and their pesticide loadings is continuing as is chemical analysis of all possible bird of prey carcasses and addled eggs. Surprising levels are being shown.

H. Mooney
NPWS [TAS]

Pilot study for the development and testing of a geographic information system for ANPWS

To investigate the relevance and potential further development and application of AEGIS (Australian Environment Geographic Information System) for specific ANPWS applications.

The pilot study will address the following questions: (1) How representative is Kakadu National Park of the range of environments in the Top End of the Northern Territory? (2) Do other areas of unique or distinctive environments have any conservation status? (3) How good a predictor of target species distribution is the system?

B. Martin
ANPWS

Poison effects on wildlife

To examine effects on non-target species of fauna of poisons used in dingo, rabbit and feral pig control programs.

J.C. McIlroy
CSIRODWRR

Population genetics

To initiate studies on the population genetics of isolated species existing on nature reserves with emphasis on increasing genetic diversity.

J.E. Kinnear
WAF&W

Preplan

To develop the 'preplan' model for and implement it in National Parks in New South Wales and to cooperate in its implementation in the Mount Lofty Ranges in South Australia.

R. Good
NPWS [NSW]

Rabbit eradication at Sloping Island

Rabbits have been on Sloping Island many years. Their numbers are small and in several areas vegetation has been destroyed. Myxomatosis was introduced in November 1981 but no effect on numbers was visible one year later.

I.J. Skira
NPWS [TAS]

Rangeland monitoring in central Australia

To develop systems of remote sensing that can be used to monitor the response of arid pastoral land to climate and management.

B.D. Foran
CSIRODWRR

Rate of recovery of vegetation and vertebrates following a wildfire in Horsness Gully Conservation Park

Horsness Gully Conservation Park has been exposed to a series of intensive wildfires in 1932, 1939, 1947, 1965, 1969 and 1970. It is now an isolated piece of open forest and woodland surrounded by cleared grazing land and suburban development. In April 1980 the whole park was burnt in an extremely hot wildfire. Standardised vegetation and vertebrate (terrestrial mammals and reptiles only) sample points established before the fire for routine monitoring purposes are being resampled annually post-fire. One of these Horsness Gully sample points was burnt again in the "Ash Wednesday" fires of February 1983 while a series of similar sample points in nearby Cleland Conservation Park were also burnt. These are now being re-sampled annually as well.

A.C. Robinson
NPWS [SA]

Reserve management-predator control

To investigate the status of mainland mammal populations persisting in national parks and nature reserves which may be subject to fox predation with the object of developing management plans designed to ameliorate the impact of predation.

J.E. Kinnear
WAF&W

Resources management

To develop explicit qualitative methods for evaluating a wide range of alternative uses for land resources with predictive ability to assess long-term results of management practices appropriate to particular uses.

A.H. Nix
CSIRODWRR

Responses of wildlife populations to harvest/control

Information is to be collected on the breeding potential and mortality patterns of a number of wildlife species, including brush possum and feral cats. This information is to be used to examine the potential for populations of these species to recover from harvest or control situations.

G. Hocking
NPWS [TAS]

Social and economic benefits of national parks

To determine the social and economic significance of national parks in the South Gippsland region. ANPWS funded.

Status: Stage 1, involving review of data base and selection of study techniques completed.

Stage 2, consultant contacted to undertake indepth analysis: due to be completed 1986.

A. Heislars (03) 651 4446)
VICNPS

Soil erosion and landscape stability in arid rangelands

To develop methods which can be used to determine the natural stability and soil erosion potential of rangelands.

G. Pickup
CSIRODWRR

Study of kangaroo and rabbit grazing, Tidbinbilla Nature Reserve

To investigate the interaction of kangaroos and rabbits as grazers of secondary grassland in Tidbinbilla Nature Reserve as an aid to managing populations of these animals.

F. Ingwersen
PCS (ACT)

Tanami Desert Wildlife Sanctuary designation

Identify and assign priorities to areas of conservation value within the Tanami Desert. Identify Warlpiri people with authority for areas under consideration. Liaise with CLC and traditional owners to negotiate Reserve status of areas of Tanami Desert.

Status: Year 4 of an initial 4 year project.

K. Johnson
P. Latz
CCNT

Training guide consultancy

ANPWS has contracted Mr L. Brake, Senior Lecturer in Wildlife and Park Management, SA College of Advanced Education, to prepare a feasibility study for a Ranger Training Guide in cooperation with the CONCOM Working Group on Education and Training.

In this consultancy, Mr Brake will be expected to identify strategies for in-service ranger training used by conservation agencies in Australia and provide a philosophical framework and effective methodologies for meeting training needs in Australia.

Mr Brake plans to visit training officers from each conservation agency between July and November 1984.

G. Drake
ANPWS

Terrestrial toxicology

To obtain data as to the effects of toxic materials on indigenous wildlife by means of techniques of acute or chronic bioassay. Project will establish criteria for management and protection of terrestrial animals and their habitats.

D.D. Evans
VICFWS [ARI]

Tree and shrub regeneration in arid areas

To determine the influence of cattle, rabbits, fire and soil mantle status on the regeneration of trees and shrubs in arid areas.

M.H. Friedel
CSIRODWRR

Wildlife rehabilitation

In response to public inquiries on the care of orphaned and injured wildlife, the Service gives advice on care and upbringing of wildlife, assumes care for specimens, and arranges veterinary treatment and release.

N. Brothers
NPWS [TAS]

Woodland-grassland ecology at Gellibrand Hill Park

To determine the effects of grazing (kangaroos and cattle) and fire on remnant native vegetation, and provide guidelines for vegetation rehabilitation and management.

Status: Field work completed, report in preparation and long term monitoring of burning trials proposed.

A. Heislars (03 651-4446)
VICNPS

MARINE FAUNA

[See also Birds, Surveys and Inland Waters]

Collection of biological information from stranded dugongs

In April 1984, a mass stranding of dugong and turtle occurred in the vicinity of Boroloola, in the Gulf of Carpentaria, as a result of a cyclonic storm surge. A substantial rescue operation successfully returned 23 of the 27 stranded dugong to the water. Biological information collected at the stranding will assist in developing an understanding of the life history and biology of the dugong.

G. Anderson
ANPWS

Conservation of dugong

Locate the Northern Territory's major dugong populations. Develop a biological basis for the management of hunted populations.

Status: Year 1 of an ongoing program.

W. Freeland
CCNT

Conservation of marine turtles in Cobourg Marine Park

Determine which species of turtle nest in the Cobourg Marine National Park and other coastal areas of the Northern Territory.

W. Freeland
CCNT

Dugongs in northern Western Australia

Investigate the distribution and abundance of dugongs and their seagrass habitats in the Kimberley region of Western Australia. Gather knowledge of the traditional Aboriginal ties with dugong and the impact of continuing industry on the existing dugong stocks. Plan further field investigations.

R.I.T. Prince
WAF&W

Leopard seal tagging Macquarie Island

A long term study using tagging to explain the movements of leopard seals that disperse periodically from breeding areas in park-ice. The abundance of seals is monitored to gather data on cyclic fluctuations in annual abundance of seals reaching the island.

D. Rounsevell
NPWS (Tas)

Incidental catch of small cetaceans in northern Australian waters

Several species of small cetaceans are captured accidentally in the Taiwanese gillnet fishery which operates in waters of the Australian Fishing Zone off the north coast of Australia. The target species of the gillnet fishery are shark, tuna and mackerel. Dolphins appear to become accidentally entangled in the drifting gillnets and drown.

The aim of the research project is to investigate and report on various aspects of the incidental catch of cetaceans in the gillnet fishery, including the level and geographical distribution of the cetacean catch, identification of the species involved and investigation of methods by which the level of the incidental catch may be eliminated or at least substantially reduced.

M. Harwood
ANPWS

Marine survey of Cobourg Marine Park

Liaise with Northern Territory Museum staff on the work they are doing in Port Essington. Liaise with the Australian Institute of Marine Sciences as to possible research on oceanography and mangroves.

Status: Year 2 of ongoing program.

W. Freeland
CCNT

Penguin Abundance - Macquarie Island

A biennial photographic census of king penguin chick production is used to monitor the recovery of the population which was exploited in the 19th century. The abundance of royal penguins is being estimated by measuring the areas of colonies as a part of the International Survey of Antarctic Seabirds.

D. Rounsevell
G. Copson
NPWS (Tas)

Sea turtles

A study of population dynamics and conservation requirements of sea turtles in Queensland. This project includes surveys of sea turtle habitat, nesting beaches and feeding grounds; large scale tagging programs, compilation of life table and life history data, and investigation of sea turtle management and conservation.

C.J. Limpus
NPWS [QLD]

Study of sea snake populations

This project is a study of the distribution, population densities and harvest potentials of economically important species of sea snakes along the Queensland coast. It is expected that the results of this study will provide information necessary for the development of management programs for the recently developed sea snake skin industry in Queensland.

R. Jenkins
ANPWS

Survey of potential marine reserves

To survey marine areas in Tasmanian waters as the basis for the establishment of marine reserves.

P. Bosworth
NPWS [TAS]

Turtle utilization of island nature reserves

To obtain information on the utilization of islands by the four species of marine turtle present in Pilbara waters, and on their breeding biology.

K.D. Morris
WAF&W

Whale conservation

The service continues to conduct and coordinate whale research and rescues. In 1983, Tasmania saw an upsurge of sightings of southern right and humpback whales with 30 separate reports, some involving mothers with young calves. Strandings occurred at regular frequency with 14 strandings involving 7 species of whale. Three of these were mass strandings and rescue operations were carried out. One effort to save pilot whales failed, but two rescues of common dolphins were successful.

J. Wapstra
NPWS [TAS]

WILDLIFE AND ECOLOGICAL SURVEYS

[See also Birds, Flora, Mammals, Marine and Inland]

Aerial photography and habitat mapping of Fisheries and Wildlife Service reserves to aid management

Provision of maps of habitat on reserves managed by the Fisheries and Wildlife Division to aid planning and management. Project continuing.

R.M. Gowans
VICFWS [ARI]

Aerial photography of Westernport Bay to determine the status of seagrass in the bay

Provision of specialised aerial photograph coverage of seagrass areas in Westernport Bay to assist in the study of seagrass decline in the Bay being carried out by the Marine Science Laboratories. Study continuing.

B.H. Dale
VICFWS [ARI]

An assessment of the conservation status of native grasslands on the basalt plains

Provision of information on the location, size, floristics, land tenure and present condition of remnant stands of native grassland to enable conservation strategies to be developed. Study continuing.

R.K. Rowe
VICFWS [ARI]

Biological records scheme

Develop a computer storage system for biological records; develop programs to manipulate the data base; service user/contributor needs; promote usage by a wide range of contributors.

Status: Year 4 of an ongoing support program.

M. Fleming
CCNT

Biological survey of the Cooper Creek environmental association, in South Australia

A field survey of the vegetation and vertebrate fauna of the Cooper Creek region (environments of South Australia environmental association 8.4.4) in the north-east of South Australia. Some land system and vegetation mapping of representative areas, standardised representative vertebrate sampling points; collation of existing information on region.

A.C. Robinson
NPWS [SA]

Biological surveys

Develop strategies and designs for biological survey appropriate to nature conservation needs in Western Australia. Test these strategies during field surveys.

N.L. McKenzie
WAF&W

Biological survey - deserts

To improve knowledge of the habitats, distributions and conservation status of desert wildlife.

N.L. McKenzie
WAF&W

Biological survey of South Australia's offshore islands

Since 1976 the South Australian National Parks and Wildlife Service has been conducting a series of biological surveys of South Australia's offshore islands on an opportunistic basis with a view to collecting comparative biological data from the total island estate, whether managed by the NPWS or privately owned. The ultimate aim is to develop a conservation management program for all the State's islands.

A.C. Robinson
NPWS [SA]

Biological survey of the southeast coast of South Australia

A field survey of the vegetation and vertebrate fauna of the southeast coast of South Australia (environments of South Australia - environmental regions 1.1 to 1.5) from Murray mouth to the Victorian border. Vegetation mapping at 1:50,000

scale to coincide with existing South Australian Department of Lands Topographic mapping. Standardised representative vertebrate sampling points; collation of existing information on region.

K.D. Casperson
NPWS [SA]

Biological survey - Dampier Archipelago

To undertake a biological survey of the nature reserves in the Dampier Archipelago as part of the preparation for a management plan.

K.D. Morris
WAF&W

Biological survey - Kimberley

To improve knowledge of the habitats, distributions and conservation status of Kimberley wildlife.

N.L. McKenzie
WAF&W

Biological survey - Nullarbar

In conjunction with the South Australian Department of Environment and Planning with the assistance of funds from the Australian National Parks and Wildlife Service, design, organise and undertake a biological survey of the Nullarbar Plain.

N.L. McKenzie
WAF&W

Biological survey - CTRC System 11

In conjunction with the organisations represented on the Biological Survey Committee, to design, organise and undertake a biological survey of CTRC System 11 (Eastern Goldfields, Western Australia).

A.A. Burbidge
N.L. McKenzie
WAF&W

Biological survey of Tabletop Range

A survey of the birds, mammals, reptiles, frogs and fish in the area such that recommendation can be made as to where development could proceed with minimal damage to the fauna.

Status: Year 1 of a 1 year program.

J. McKean
CCNT

Coral Sea survey

Aims of the project are to:

- . collect and collate information on major marine habitat types in identified survey areas in the form directly usable in preparation of LANDSAT habitat classification products for the area;
- . to provide a brief description of major substrate types and dominant bottom cover forms in the area surveyed;
- . provide, to the extent possible, information on the distribution and abundance of major vertebrate and invertebrate marine groups;
- . briefly compare major habitat types and biota of the area surveyed with more inshore coral reef areas;
- . provide, where appropriate, suggestions for management and future research, including possible benefits and limitation of the use of LANDSAT.

G. Anderson
ANPWS

Cotter Valley resource inventory

To obtain a resource inventory of the Cotter Catchment in the ACT and to use it as a benchmark for description and evaluation of changes.

B. Terrill
PCS (ACT)

Dalrymple fauna survey

A study of the distribution, relative abundance and habitats of mammals, birds, reptiles and frogs occurring in the Dalrymple shire in the Charters Towers region, north-eastern Queensland.

J.G. Blackman
B.C. Lawrie
NPWS [QLD]

Diamantina fauna survey

A study of the distribution, relative abundance and habitats of mammals, birds, reptiles and frogs of the Diamantina shire in south-western Queensland.

R. Atherton
NPWS [QLD]

Ecological dynamics of nature reserves

To understand the dynamics of nature reserves isolated by land clearing, and the role of these reserves in preserving the original biota.

D.A. Saunders
CSIRO DWRR

Ecological studies - island rodent populations

To examine the ecology and patterns of distribution of rodent populations on north west islands.

K.D. Morris
WAF&W

Ecological survey in the shire of McIvor

Provision of a map of native vegetation cover on private land and evaluation of the potential for natural forest regeneration to assist in planning vegetation retention in the shire. Also mapped areas of potential ground water intake.

Study completed.

R.M. Gowans
VICFWS [ARI]

Ecological survey in the shires of Newham and Woodend

Provision of a map of vegetation cover on private land and evaluation of conservation values for use in implementation of planning controls. Project just commenced.

R.M. Gowans
VICFWS [ARI]

Ecological surveys in the Otways area

Provide ecological information for planning in the Otways area.

R. Gowans
VICFWS [ARI]

Ecology of tropical subcoastal ecosystems

To study the plants and animals of a tropical monsoonal environment typical of much of subcoastal northern Australia; to obtain basic ecological data on the vegetation and on buffalo, pig, other feral stock and a wide range of indigenous species as an aid to the management of their populations; and to study the effects of feral animals on their habitats and thus, indirectly, on the native fauna.

M.G. Ridpath
CSIRODWRR

Ecological survey in the shire of Winchelsea

Provision of a map of vegetation cover and evaluation of conservation values in the shire of Winchelsea for use in planning. Study nearing completion.

R.M. Gowans
VICFWS [ARI]

Effects of fire on fauna

To study the effect of fire on wildlife and the post-fire recovery of the wildlife populations.

P.C. Catling
CSIRODWRR

Effects of high intensity logging and fire on mammals and reptiles

This project is part of a study into the effects of intensive logging for woodchips and sawlogs on the wildlife in the State Forests between Bega and Bermagui.

Aims of the study are to survey the fauna of the area and to assess the impact of intensive logging on the fauna.

D. Lunney
ANPWS

Effects of wildfire on sites of botanical significance in Croajingolong and Alfred National Parks

To assess the immediate effect of a recent severe fire on previously identified botanical values and provide a basis for monitoring vegetation recovery.

Long term monitoring continuing. Work in co-operation with National Herbarium.

A. Heislars (03 6514446)
VICNPS

Eucalyptus forest fauna

To determine the distribution and habitat requirements of fauna that are totally dependent on eucalyptus forest.

L.W. Braithwaite
CSIRODWRR

Evaulation of LANDSAT digital data for ecological inventory and monitoring in Victoria

Evaluation of the usefulness of LANDSAT digital data to map and monitor change in vegetation. Initial investigations are to include wetlands, seagrass beds, woodlands and vegetation cover in mountainous areas where terrain shadows may be a problem. Project in early stage of development.

VICFWS [ARI]

Fauna surveys

To determine the composition, distribution, habitat needs and the basic biology of mammals, reptiles and birds in selected regions.

J.H. Calaby
R. Schodde
CSIRODWRR

Fire ecology

To assess the effects of fire in the ecology of subtropical, dry sclerophyll and subalpine eucalypt forests.

J.R.L. Hoare
C.J. Lacey
CSIRODFR

Fire ecology

To examine population structure and reproductive strategies of important plant species in relation to fire. To examine the effects of fire on structural and successional pattern in vegetation.

A.J.M. Hopkins
WAF&W

Fire ecology - central wheatbelt studies

To develop a knowledge and understanding of patterns and processes in vegetation in this area, particularly in relation to fire.

A.J.M. Hopkins
WAF&W

Fire ecology - modelling

To develop an array of ecosystem and land-use modelling strategies for use in reserve management and research.

A.J.M. Hopkins
WAF&W

Fire ecology - Middle Island (Recherche Archipelago)

To monitor the regeneration of the vegetation after fire and to study the development and maintenance of vegetation in the absence of fire.

A.J.M. Hopkins
WAF&W

Fire ecology - Two Peoples Bay

To study the processes and time scales of regeneration of south coast kwongan vegetation after fire.

A.J.M. Hopkins
WAF&W

Fire ecology and management of spinifex communities in the Tanami Desert

Continued monitoring of fauna and flora in 2 spinifex communities using standard trapping and observation techniques; aerial survey and photo interpretation to determine areas of high fuel load suitable for control burning using aerial dropped incendiaries; map the location of fire sensitive vegetation communities and their requirements for protection from wildfire; co-ordinate aerial burning projects and with assistance of authoritative Aborigines undertake field work to install protective burns; document the uses and perceptions of fire by Aborigines.

D.F. Gibson
J.R. Cole
CCNT

Fire ecology of arid zone ecosystems

Assess floristic and structural changes at 16 sites, each with one 10m square plot. Photograph (35mm) from standard points. Visual assessment of biomass proportion of each plant species; 11 plant communities at various seral stages following fire. General observations and measurements of fire ecology related subjects.

Status: Year 10 of a 10 year program.

P. Latz
CCNT

Forest ecology research project 1984-85

This project has been jointly funded by the National Estate and the Tasmanian Forestry Commission. The study is expected to take three years to complete. Its major aims are the development of a predictive model for archaeological site distribution, density and type within selected study areas in State Forests.

The project will ultimately generate guidelines for forest management in relation to areas of archaeological value.

R. Cosgrove
NPWS [Tas]

Forest fauna

Records of the occurrence of forest birds and mammals are being sought from a variety of sources. Available habitat and other ecological data are analysed to determine the current distribution, status, and habitat ecology of species considered to be sensitive to current forestry activities.

D. Peters
NPWS [TAS]

Forestry and wildlife: TASFORHAB

TASFORHAB is a multipurpose data base designed to accept data from a wide variety of field workers and to produce results for a wide variety of users.

Each TASFORHAB proforma is a record of the heights, covers and identity of all 'habitat components' on an accurately located 30m radius plot. Habitat components are any three-dimensional entities on the plot including plant species, rocks, litter, etc. It is considered that these attributes adequately discriminate between habitat types at the various levels of detail desired by users.

A considerable software library is associated with the TASFORHAB data-base, ranging from data-entry and editing programmes to graphics routines for digitising plot-location maps and producing plotter driving files. Routines exist for formatting input files for a variety of software packages and to allow for file transfer between mainframes.

D. Peters
NPWS [TAS]

Habitat survey of endemic butterflies

A survey of the habitat requirements of three species of butterflies endemic to Tasmania is being undertaken with funds from the National Estate.

B. Prince
NPWS [Tas]

Invertebrate survey of Phillip Island

The project aims to:

Establish what part of native invertebrate fauna survives to act as a source of species recolonisation on the Island;

Establish a permanent baseline collection of invertebrate animals on both Norfolk and Phillip Islands;

Determine the degree of similarity between the invertebrate fauna of both islands;

Determine whether special management activities are necessary;

Determine whether invasion on Phillip Island by cosmopolitan plant species and their associated insects is likely to preclude expansion of native fauna into revegetating areas;

Catalogue the remnant invertebrate fauna to enable documentation of the process of rehabilitation.

L. Hill
ANPWS

Kakadu wildlife survey in association with Gagadju Association

A number of small scale species surveys will be conducted as part of this project. Species to be surveyed include: the flying fox; the ghost bat; macropods including the antelope wallaroo, black wallaroo, the northern nail-tailed wallaby and the speckled hare wallaby; the bignosed turtle; various freshwater fish species; the golden bearded tree rat; the grass owls and Liechhardt's grasshopper.

Dr A. Press
ANPWS

LCC investigation - East Gippsland review

- Wimmera
- Murray Valley

To conduct an inventory survey of vertebrate fauna (excluding fish) in the study area. To provide information on the wildlife of the area and its significance to the LCC and to help prepare the Service submission to the LCC.

P. Robertson
VICFWS [ARI]

Northeast Victoria

In 1981 a survey of the mammals and birds was conducted in the proposed pine planting areas in the Whitfield region of northeast Victoria. It is important that these results be written up and published in Fisheries and Wildlife Papers (non-reference series) so that they are available for future use.

P. Robertson
VICFWS [ARI]

Plant and animal communities along the New South Wales - South Australia dingo barrier fence

To study predator-prey relationships and herbivore interactions and effects on vegetation in the different fauna assemblages on either side of the dingo barrier fence.

A.E. Newsome
CSIRODWRR

Population ecology

To study the mechanisms regulating the growth of animal populations and the ecosystems in which they occur, with emphasis on arid and semi-arid environments.

G.J. Caughley
CSIRODWRR

Priorities in conservation of non-marine invertebrates in Tasmania

Priorities to undertake a general view of the state of information on invertebrates; their taxonomy and biology; in order to make recommendations on the conservation of invertebrate species and their habitats.

P. Greenslade
D. Roundsevell
NPWS (Tas)

Rainforest Survey

To survey the rain forests of New South Wales and to assess the conservation status of their associations and species.

A. Floyd
NPWS [NSW]

Regeneration studies - Eneabba Reserves

To develop an understanding of the ecology of the Eneabba area to ensure appropriate land-use management, particularly in relation to the various mining activities in the area.

A.J.M. Hopkins
WAF&W

Regeneration studies - Barrow Island

To monitor the regeneration of vegetation following disturbance (major earthworks and fire).

A.J.M. Hopkins
WAF&W

Regeneration studies - Tutanning

To examine appropriate methods for the revegetation of disused farmland in the central wheatbelt.

A.J.M. Hopkins
WAF&W

Relationship between vegetation dynamics and vertebrate populations

To examine the relationships between vertebrate populations and changes in the structure and species composition of the vegetation in nature reserves. The role of fire in determining the vegetation dynamics will also be examined.

G.T. Smith
CSIRODWRR

Review of the effects of the bushfires of summer 1982/83 on the vegetation of sites of biological significance.

Assessment of the effects of the bushfires of 1982/83 on the vegetation of Sites of Botanical and Zoological Significance, and advise on the need for management or further studies. Only sites not covered by a similar study in national parks are being examined. Study continuing.

R.K. Rowe
VICFWS [ARI]

Remote sensing for ecological inventory

To develop expertise in the application of remote sensing technology to ecological inventory and monitoring for use by the Ministry and its agencies and, where appropriate, other bodies.

B. Dale
VICFWS [ARI]

Sedgeland - health survey

A survey to classify the range of vegetation types included in the general term "button-grass plains" and to examine the ecology of the communities.

S.J. Jarman
NPWS (Tas)

Simpson Desert fauna and flora survey

Assess distribution and abundance of plants and animals; recommend on appropriate boundaries for conservation areas; liaise with Aboriginal communities who have traditional interests in the region; recommend on aspects of management such as the control of feral animals and weeds, the use of fire and potential difficulties with adjoining land holders.

Status: Year 1 of a 3 year contract.

D.F. Gibson
J.R. Cole
CCNT

South Australian southern right whale survey

Aerial survey of the southern right whale off the coast of South Australia. This project aims to:

- assess the numbers and distribution of southern right whales present in the waters off the coast of South Australia during 1985;
- compare the results of the 1985 survey with data obtained during previous surveys;
- compare recent trends in numbers and distribution of southern right whales off the coast of South Australia with data available on recent trends for other areas;
- obtain a series of photographs of as many southern right whales as possible in the area surveyed for comparison with those obtained in previous years.

M. Harwood
ANPWS

Southern and South-eastern Australian right whale survey

The survey will assess the numbers and distribution of southern right whales present in the waters off the southern and south-eastern coasts of Australia. It will also provide photographic records of as many as possible of the southern right whales sighted in the area surveyed for comparison with those obtained in other surveys.

M. Harwood
ANPWS

Southwest Victoria

In ten years a considerable volume of data has been collected by the Fisheries and Wildlife Division (FWD) on the distribution, abundance and habitat preferences of wildlife. These data have been used mainly in the fauna chapters of the general descriptive reports produced by the LCC on various study areas. Detailed information on each species (more than 400 vertebrate species are in southwest Victoria) for the entire area has never been assembled and published.

W. Emison
VICFWS [ARI]

Survey of huon pine in Tasmania

This project was previously funded through the World Wildlife Fund Australia. The general aim of the project is to locate and describe unlogged stands of huon pine in South West Tasmania, to map their location and extent, to describe the floristics and structure, to assess the conservation value of all the relict stands and to make recommendations on areas which should be reserved.

D. Carter
ANPWS

Survey of proposed game reserve at Moulting Lagoon

To investigate the conservation values of Moulting Lagoon with a view to declaring the area a game reserve. The investigation has consisted of monitoring the waterbird usage and surveying the recreational use of the estuary. The information gained will be used to prepare a draft management plan.

S.A. Blackhall
NPWS [Tas]

Survey of vertebrate fauna of Kakadu National Park and adjacent proposed conservation zone.

Results of the survey will provide invaluable information and data necessary for managing fauna in the park. The survey will assess a wide spectrum of vertebrate fauna in forested habitat to identify key ecological relationships of fauna to the ecosystems in which they are found.

Aims of the survey are:

To provide baseline data of occurrence and/or abundance of amphibious reptiles, birds and mammals in a number of selected habitats;

To develop standardised methodologies for use by ANPWS personnel in subsequent survey and monitoring of vertebrate fauna, facilitating comparison between years within a given habitat and assessment of before/after changes in animal populations as they may be associated with changes in habitats within a given sample area.

R. Jenkins
ANPWS

Survey of the terrestrial invertebrate fauna of Philip Island

The survey will provide: a description of the main features, uses and value of the reference collection of insects and allied forms to be held in the Australian National Insect Collection; and interpretation of the Philip Island insect fauna including its degree of similarity to that of Norfolk Island and suggestions for future research on Philip Island invertebrates.

L. Hill
ANPWS

Survey - vegetation and vertebrates of Nullabor Plain

To design and undertake a vegetation and vertebrate survey of the Nullabor Plain.

N.L. McKenzie (WAF&W)
A.C. Robinson (NPWS [SA])

Taxonomy and zoogeography of Australian landhoppers
(terrestrial Amphipoda)

Description of new species; revision of group at genetic level; drawing zoogeographic conclusions.

J.A. Friend
WAF&W

Tropical rainforest patch dynamics

To investigate the relationship between populations of rainforest vertebrates and rainforest dynamics and regeneration; to investigate particularly the influence of habitat disturbance and fragmentation of vertebrates, and the reciprocal effects of vertebrates on forest dynamics.

F.H.J. Crome
CSIRODWRR

Tutanning Nature Reserve - edge effect

To monitor the long-term changes in the reserve associated with edge deterioration, weed invasion, etc.

A.J.M. Hopkins
WAF&W

Use of nest boxes by forest animals and birds

To assess the response of animals to the availability of artificial nest hollows in forests. To compare the responses to hollows in different locations and with different characteristics. To assess the densities of hollows necessary to support viable populations and to examine competition for hollows within species and between species using hollows.

P.W. Menkhorst
VICFWS [ARI]

Vegetation studies in four catchments within the Gellibrand River Basin

Comparison of botanical and wildlife habitat values of vegetation in the catchments of Carlisle River, Charley Creek, Lardner Creek and the Upper Gellibrand River. Study nearing completion.

B.H. Dale
VICFWS [ARI]

Wading bird resources and habitat of the South Gippsland Region

Collate and collect additional information as required to indicate the relative importance of different parts of the study area for wading birds.

Study completed.

R.M. Gowans
VICFWS [ARI]

Wetland conservation through planning

Provision of information on wetland values, management guidelines and the administrative and legal framework within which wetland conservation functions, to assist planners, landowners and managers in protection of wetlands.

Study continuing.

R.M. Gowans
VICFWS [ARI]

Wildlife habitat on freehold land in the Loddon-Campaspe region

Provide wildlife habitat information for planning use in the Loddon-Campaspe region.

R.M. Gowans
VICFWS [ARI]