



**NATIONAL PARKS
AND WILDLIFE
SERVICE**

First Annual Report 1975-76



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The Honourable K. B. Tomkins, M.L.A.,
Minister for Lands, Forestry,
National Parks and Wildlife Service



Dr G. W. Saunders,
D.Agr.Sc.,
Director





**NATIONAL PARKS
AND WILDLIFE
SERVICE**

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1 March, 1977.

The Honourable K.B. Tomkins, M.L.A.,
Minister for Lands, Forestry,
National Parks and Wildlife Service,
BRISBANE

Sir,

I have the honour to submit to you for
presentation to the Parliament the First Annual
Report of the National Parks and Wildlife Service.

This Report covers the operations of the
Service during the year ended 30 June, 1976.

Yours faithfully,

(G.W. Saunders)

DIRECTOR



Introduction

Establishment

On 24 February, 1975, Cabinet determined that a National Parks and Wildlife Service be established. Enabling legislation, the *National Parks and Wildlife Act 1975*, received Royal Assent on 15 May, 1975, and was proclaimed on 5 June, 1975.

The Fauna Conservation Branch of the Department of Primary Industries and the National Parks Branch of the Department of Forestry were combined to form the National Parks and Wildlife Service, as a subdepartment of the Department of Lands.

The Act provides for the appointment of a Director of the Service. It empowers him, subject to the Minister, to administer the Service in accordance with the provisions of other relevant Acts, namely: *Forestry Act 1959-1976* (in part), *Fauna Conservation Act 1974* (in toto), *Land Act 1962-1975* (in part), *Native Plants Protection Act 1930* (in toto).

It is proposed to consolidate this legislation into a single, comprehensive Act covering the whole of nature conservation in Queensland.

Staffing

Following his appointment in June, 1975, the Director's immediate task was to ensure the uninterrupted continuation of the services formerly offered by the Fauna Conservation Branch and the National Parks Branch during the phasing-in period.

The staff structure approved by the Public Service Board provided for the integration of officers from the two branches. Research staff were grouped into a Research and Planning Branch, park managers and wildlife rangers combined to form a Management and Operations Branch, and clerical and technical staff formed an Administration Branch.

The Service structure, illustrated elsewhere in this Report, is considered most suitable to the needs of modern thinking in matters of nature conservation.

In addition to staff transferred from Forestry and Primary Industries, a number of officers was appointed from other departments, notably Lands. Some professional and technical staff have been recruited from other States and overseas. The interest in advertised positions has been quite surprising, and this is most encouraging.

The Service anticipates that it can continue to recruit top quality officers into every position advertised. To play a part in the conservation of nature seems to appeal to many dedicated people; job satisfaction is the prime motivation of most applicants. This, backed by sound professional knowledge in the particular field of endeavour should ensure staff quality being kept at a high level.

Accommodation

The first half-year was spent in existing accommodation in the Department of Forestry and the Department of Primary Industries. This created problems not only for the Service, but also for those two departments; the Service could not properly function as a unit from fragmented headquarters.

The Department of Works arranged for the fitting out of a head office, and in January the staff transferred to the Professional Suites Building, 138 Albert Street, Brisbane. The accommodation is modern, tastefully furnished, and centrally located.

Constraints

Immediately after the move to new premises, it became obvious that the degree to which the Service still had to rely on the Primary Industries and Forestry Departments had been underestimated. The Administration Branch lacked sufficient staff to cope with the influx of correspondence and setting up its records and accounts sections. As well, the Research and

Planning Branch and the Management and Operations Branch required clerical assistance.

This problem was partly overcome by the provision of additional clerks in May, but the Service will need further clerical assistance if it is to cope with the requirements imposed by the Commonwealth Government in relation to the kangaroo tagging program, to say nothing of the correspondence generated by the appeal of national parks and nature conservation to so many people.

It is rather unfortunate that the growth of the newly-created Service should be restricted by the present economic climate, at a time when the Service is endeavouring to provide additional parks and facilities to satisfy public demand. Service officers are acutely aware that people who welcomed the Government's initiative into nature conservation are also watching for early and tangible results.

It is well to remember, however, that quite apart from the very real restraint imposed by funding limitations, there would be a danger in growing too rapidly, of losing quality of staff and cohesion of objectives. For the next few years, we will have to be content with barely keeping pace with public demand for facilities and appraisal of lands.

The Service has considerable problems, apart from those generated by pressures of public interest in the environment. There are presently about 600 proposals in various stages of evaluation for reservation. Many are small in area, but in terms of processing to gazettal, size has little effect on the logistics of the task. To convert land to nature reserve status is more or less irrevocable, and it is important that every step to acquisition be carefully planned and implemented. The task in this area alone is therefore immense.

Corporate Identity

As an arm of the Government which has close contact with the public, the Service has been very conscious of its corporate identity. It

is generally accepted that it is easier to remember a person's face than his name and the Service wants its parks and staff to be readily recognised. Accordingly, it engaged the firm of Michael Bryce and Associates to submit recommendations for corporate design standards and to design a Service symbol and associated graphics.

The official adoption of the Herbert River ringtail possum (*Pseudocheirus herbertensis*) as the Service symbol on the first anniversary of the proclamation of Act was the culmination of many months of research and design. Public acceptance of the symbol and logo has been very favourable.

Outreach

Recognising the importance of establishing and maintaining overseas contact, the Government supported two requests during the year for overseas travel.

The Deputy Director, Mr C. W. Price, represented the Service at the Twelfth General Assembly and Thirteenth Technical Meeting of the International Union for the Conservation of Nature and Natural Resources in Zaire, Africa, in September. He also acted as proxy for the Department of Forestry which, like the Service, is an Agency Member of IUCN. Mr Price made brief visits to parks in Kenya and to Kruger Park in the Republic of South Africa.

The Officer-in-Charge of the Technical Services Section, Mr P. Ogilvie, represented the Queensland Government at the Second Regional Symposium on the Conservation of Nature in the South Pacific, held in Apia, Western Samoa, in June. He also attended the intergovernmental meeting to discuss a Convention on Nature Conservation in the South Pacific.

The Service's involvement in these meetings is an expression of its desire to assist and learn from kindred organisations in other lands. It recognises that, whilst the Service's primary responsibility for nature conservation, recreation, and education lies within the State of Queensland,

it also has a regional and worldwide responsibility. The resources we are endeavouring to protect—be they terrestrial, freshwater, or marine—do not recognise political or ethnic divisions, and it is only through international co-operation that a global approach to nature conservation can be achieved.

Generous Gifts

During the year, a very valuable area of land at Prior's Pocket, in the Brisbane suburb of Moggill, was deeded to the Service by Miss Jessie McGilchrist. The gift, a 12 ha holding in which Miss McGilchrist retains life tenancy rights, will enable the Service to move its Brisbane-based research and field staff from the Department of Primary Industries complex at Yeerongpilly as soon as accommodation can be arranged.

Miss McGilchrist's gesture is deeply appreciated by the Service. Other gifts are acknowledged elsewhere in this Report.

In-Service Training

Four conferences of field staff were held during the year. Field researchers and parks and wildlife officers in the Townsville region met at the Regional Research Centre in Pallarenda; wildlife rangers met at Head Office, as did senior research scientists; park rangers from all over the State met at Lamington National Park.

Apart from their worth as conferences, these exercises engendered in the officers who attended an appreciation of the parts they play as members of a new, cohesive sub-department of Government.

Acknowledgement

In the Report which follows, acknowledgement is given for the assistance received during the year from other Government departments, from

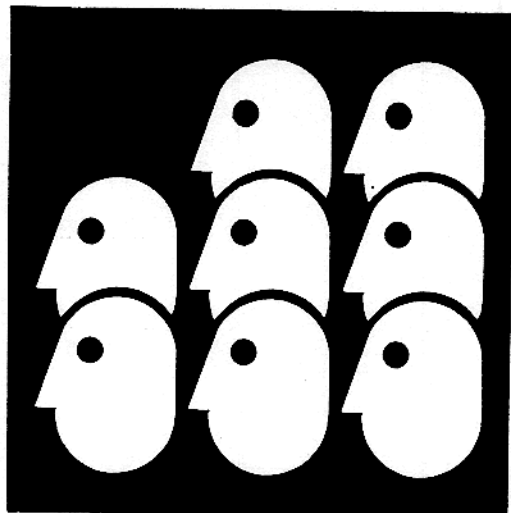
individuals, and from public organisations. Nevertheless, it would be remiss not to acknowledge here appreciation for the patience and co-operation of the two departments from which the Service sprang.

The Department of Forestry handed over the National Parks Branch as a very experienced group with a well-based and well-tested approach to nature conservation; the Department of Primary Industries presented a very vital and smoothly-running Fauna Conservation Branch. The initial and considerable dependence on these two departments still exists to some degree.

The Service has also relied heavily on its parent department—Lands. The co-operation of the Permanent Head and senior officers, and their experience in matters such as land acquisition, has been invaluable. Liaison with other departments—Mines and the Co-ordinator-General's Department, for example—has also been very effective and harmonious.

Every organisation is only as good as the people in it. Officers at all levels have been loyal and proud of their roles in this new and vital arm of Government, and they look forward to many more years of service to the cause of nature conservation.





Administration

As its name implies, the Administration Branch is responsible for the clerical and accounting functions of the Service. In addition, it provides those technical services required by the two other Branches.

Clerical and General

This Section is responsible for secretarial and accounting services, records, despatch, and stores. Its staff—clerks, typists, stenographers, and telephonists—are distributed throughout the Service.

Despite the initial and continuing problems referred to in the Introduction, the Administration Branch is functioning with a high degree of efficiency. The Accounts Section will soon take delivery of an electronic ledger machine which will allow the Service to pay all of its wages staff from Head Office. The use of this machine will also allow the collection of public moneys and payment of salaried staff to transfer from the Lands Department.

The Service has appointed three regional management officers at Cairns (Northern Region), Rockhampton (Central Region), and Warwick (Southern Inland Region) to supervise work on the parks in their respective regions. This duty was previously discharged by the district foresters when the former National Parks Branch was part of the Forestry Department.

Though these appointees are primarily technical administrators and are answerable for management and operations of parks, their duties have an important clerical content. Matters of wages adjustments, ordering of stores, local purchases, and report writing mean that there is a need for office space and for full-time clerical assistance while they are about their field duties. It is often impossible to answer public enquiries at those times; reserves also need to have regular contact with the regional office.

Similarly, the bulk of the clerical work of wildlife rangers has to be presently undertaken by them in country districts at Charleville,

Rockhampton and Cairns, though limited phone and typing help is provided by other departments.

Unfortunately, a large part of the field duties of wildlife rangers must presently be curtailed because they have to issue sport and commercial hunting permits and do the associated accounting work.

Efforts to provide rangers with self-contained offices staffed by Service-employed clerical officers have been unsuccessful. There is an acute shortage of suitable office space in the provincial cities, and the provision of typists in these centres seems highly unlikely. The need to ask larger State Government departments in country centres for this sort of help seems likely to continue.

Staff shortages in head office have meant not only hard work in unfamiliar jobs, but considerable overtime for clerical officers. Their cheerfulness in these difficult days of establishment of new office routines and procedures has eased the burden of the Secretary and senior clerical staff.



Red Kangaroo—south-western Queensland

Acquisitions and Gazettals

This Section is responsible for processing proposed parks and reserves and other matters through the various steps required by Statute for gazettal.

As the Service is new, it may be helpful to explain some features of the categories of land over which it has special control in matters of nature conservation. These are set out in the following table:—

Categories of land administered by the Service

Category	Tenure	Function and purpose
National Park	Land in public (Crown) ownership in control of the Service. Revocation is possible only by Parliamentary procedures.	Primitive (or wilderness), scientific, historic, and recreation areas, desirably large, but not always so. Community use is encouraged but controlled, depending on the type of park. Landscape features are important reasons for gazettal, as well as floral and faunal reasons. Many smaller areas would, if gazetted today, be more suitable as environmental parks.
Environmental Park	As above, but often with Local Authority as trustee, since the Service did not initially control them.	Areas in a natural or near natural condition, set aside for the continuing enjoyment and education of people in nature conservation. Areas need not be large.
Fauna Reserve	Land in public (Crown) ownership in control of the Service. Revocation is possible only by Parliamentary procedures.	Sacrosanct ecological reservoirs of Statewide significance—thus usually large in area but small in number. Public access very strictly controlled.
Fauna Refuge	Crown-owned land or trusteeship of another tenure. The trustees include the Service and usually a statutory authority.	Intended to conserve particular areas of flora or fauna which are uncommon. Acceptable levels of human interference and development for other purposes are permitted. Since the legislation was passed in 1974, none has yet been declared.
Fauna Sanctuary	May be in any tenure but State Forests, National Parks, and all islands off the Queensland coast are sanctuaries by definition.	So far as privately-owned land is concerned, sanctuary status is not encouraged if the landholder intends to embark on significant alteration or development of the property.



First ranger school—Lamington National Park

National Parks

Three national parks were declared during the year with a total area of about 23 820 ha. Details are as follows:

National Park 727—Parish of Marathon

Located in the Herbert River delta; designed to protect a stand of mangrove palms (*Nypa fruticans*), a species of palm quite common in tropical countries to the north of Australia.

National Park 1139—Parish of Telemon

Viewed from the valley of Running Creek, this mountainous area has a spectacular appearance, derived from its sheer ruggedness, its dense green cover of vineforest in the midst of deforested country, and the skyline effect of scattered stands of hoop pine. The remnant tall forest on the plateau of Chinghee Mountain is extremely attractive and worth preserving for its quality.

National Park 1238 (Cooloola National Park)—Parishes of Como, Cooloola, Laguna, and Womalah

A unique area north of Brisbane which includes magnificent rain forests and wildflower plains. Many species of flowering plants and ferns can be found; numerous freshwater lakes are home for thousands of waterbirds.

Additions to existing parks totalled 257 ha. Brief details are as follows:—

National Park 880—Parishes of Cairns and Smithfield

An area of 2.5 ha covered with wattle regrowth and small patches of open forest, generally in keeping with much of the national park in that area. The area is located near the north-western corner of the existing park near the town of Kuranda.

National Park 6—Parish of Aubrey

An area of 13 ha became available for addition to Carnarvon National Park following relocation of the main access road through adjoining Morella Creek Holding and closure of the abandoned dedicated route, part of which extended into the park.

National Park 1161—Parish of Noosa

About 2 ha have been added to the existing park which was formerly part of freehold portion 1700 and was generously donated to the Crown by Miss J Sealy. It will provide an additional watering point for much of the fauna on the national park. The Service is extremely grateful to Miss Sealy.

National Park 452—Parish of Killarney

Vegetation on this area of about 175 ha is mainly open forest with some relatively minor scrub patches, the most extensive of which is located at the foot of a small waterfall.

National Park 255—Parish of Ravenshoe

The additional 64 ha has as its main feature a huge bare rhyolite bluff known as Major's Mountain, while the balance of the portion carries rainforest. Fauna is abundant in the area.

With recomputation of boundaries, which added 1 570 ha, the State now has a total of 299 national parks covering 1 153 350 ha. It is expected that there will be significant new areas of park gazetted during the 1976–77 year.

Environmental Parks

Eight new environmental parks were gazetted during the year with an area of 727 ha. Details are as follows:

Environmental Park 454—Parish of Diglum

A particularly attractive area timbered with large trees of spotted and forest red gum, Gympie messmate, carbeen and ironbarks. The park has an area of 31 ha. Fauna is abundant, especially in the form of bird life.

Environmental Park 728—Parish of Waterview

The major part of the park is comprised of reedy swamp, fringed by teatree, pandanus palm and mangrove species. The park consists of 447 ha and is ideal for migratory birds.

Environmental Park 1557—Parish of Gladly

This small park with an area of about 1 ha, is situated on the coast at Flying Fish Point.

Environmental Park 1564—Parish of Cairns

An area covering 1 ha of dense rainforest surrounded by residential development in Anderson Street, between Mayers and Pease Streets, Manunda, Cairns.

Environmental Park 1560—Parish of Japoon

Consists of 3 ha which adjoins the tourist attraction, Paronella Park, and falls on Mena Creek.

Environmental Park 829—Parish of Sarina

This steep, rainforest-clad terrain, covering about 73 ha at Mt. Blarney, south-west of Sarina offers spectacular views of the surrounding district.

Environmental Park 1565—Parish of Hull

An area of 0.6 ha adjacent to the Bruce Highway, 8 km south of El Arish.

Environmental Park 1558—Parish of Gladly

An area 10 km south of Babinda, predominantly tea tree and pandanus. 170 ha.

The State has 53 environmental parks with a total area of 26 950 ha.

Fauna Sanctuaries

Two privately-owned properties with a total area of about 422 ha were given fauna sanctuary protection during the year. Details are as follows:

Cedar Ridge and Tyungun—Parishes of Sarabah and Witheren

This sanctuary, which is divided by several other properties, is south of the township of Canungra. It has an area of about 186 ha and provides a natural habitat for the native fauna.

Carn Brea—Parish of Jondaryan

This area of 236 ha is situated off the Warrego Highway 20 km south-west of Dalby. The land

is particularly valuable sanctuary to wildlife in an otherwise a heavily-cultivated plain.

During the year, a total area of 69 590 ha was gazetted as State Forest by the Department of Forestry. All State forests automatically become fauna sanctuaries under Queensland legislation. Details of the location of these sanctuaries are contained in the Department of Forestry's Annual Report.

Park Proposals

Some 586 proposals covering areas of interest recommended by conservation and community bodies, private individuals, Service officers, and officers of the Departments of Forestry, Lands, and Primary Industries, are either under evaluation or being investigated and processed by the Service.

In accordance with the Government's stated policy of reserving, as far as possible, areas along the Great Dividing Range for the conservation of nature, a number of proposals is being actively investigated, including the Girraween National Park extension, Scenic Rim (Mt. Mistake to Wilson's Peak), parts of the Toowoomba Range, Perseverance-Crow's Nest Falls, extension to the Bunya Mountains, Central Highlands Extension, White Mountains, extension to Forty Mile Scrub-Larva Tunnels, Cape York peninsula (e.g. Jardine River catchment).

Many national parks are located on the spectacular coastal range system of Queensland, and additional areas in that region are also being investigated.

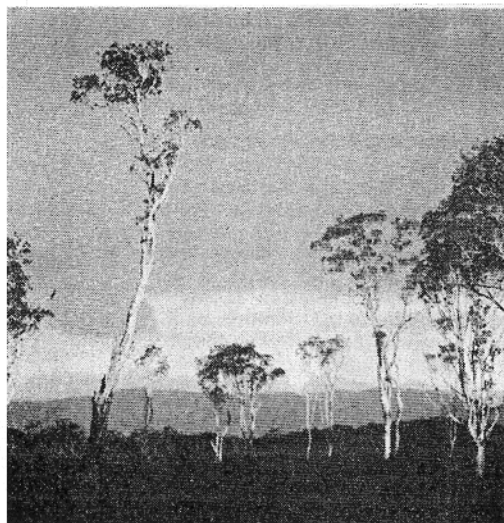
Land Acquisition

The formative years of the Service require, by necessity, a concentrated effort to increase and enhance the national parks estate. It is during this acquisition phase that demand for land acquisition funds will be greatest in order to procure desirable freehold and leasehold land for reservation. The urgent need for substantial funds now for land acquisition, as compared with the general need of the past, may be attributed to three recent developments:

- (a) the Government's initiative in establishing the National Parks and Wildlife Service;
- (b) public interest in nature conservation and the consequent demand for more parks and reserves; and
- (c) the ever-increasing cost of land.

Many acquisitions currently nearing finalisation were instigated following the enactment of the *States Grants (Nature Conservation) Act* by the Commonwealth Government. One acquisition—Eubenangee Swamp—out of a total of thirty proposals submitted to the Commonwealth Government has been finalised. Funds amounting to \$88 330 obtained during the year were expended, and gazettal is awaited. The Service appreciates this tangible help from the Commonwealth Government.

Many national parks have inholdings and a large number have unmanageable and unrealistic boundaries. Acquisition of adjoining land, often at relatively high prices, is needed to provide the State with a comprehensive and viable system of parks and reserves.



Noosa plain—Coolool National Park

Gazettals of Honorary Rangers and Protectors

The fragmented nature of present legislation presents difficulties in the important field of appointments of honorary rangers and protectors. It is hoped that these problems will be eliminated when consolidating legislation is enacted. Appointments to the honorary ranks during the year were as follows:

Honorary Rangers

Carol Brookman, Geoffrey Brookman, Frank Leslie Brown, Gabrielle Ann Brown, Bryony Casey, William George Coleman, David James Collier, Colin Robert Cooney, Anthony Colin Courtice, Warren Dargusch, Selwyn Edward Davis, Elsie Margaret Dempsey, Jane Maureen Eberhardt, Noel Herbert Eberhardt, Ross Edward Garnett, Geoffrey Clyde Hannant, Berenice Mary Elisabeth Harris, Robert Roy Herden, Reginald Martin, John Graham Mason, June Mavis Mason, John Clyde Nicoll, Ralph David Nissen, Brian Nicholas O'Sullivan, Noel Francis Reidy, Florence Jean Saunders, Edward Ronald Stokle, Rowan Henry Ross Thomas, Elaine Joyce Way, Denis Michael Wengert, John Wallace Wiffen, Peter John Wright.

Honorary Protectors

Geoffrey Dangar Bell, Earle Lloyd Bray, Henry Wyndham Corbett, Kenneth Ronald Dalton, Raymond Frank Duce, Neil Clarke Duncan, Brian Hubird Ford, Vincent Samuel Huttley, William Thomas Jensen, Michael John Katanas, Raymond Alan Langford, Louis Benedict Joseph McGovern, Trevor James Mills, John Morgan, Terence John O'Dea, Gordon Henry Joseph Ohi, Lenin Darcy Rendalls, George Edwin Ritchings, Beatrice Myra Robinson, Rex Edmond Robinson, Mervyn Siddons, George Aaron Wood.

The work being done by these willing people is deeply appreciated. With *ex officio* officers of other Government departments they help extend the Service. It is hoped that in the 1976-77 year the extensive back-log of applicants can be proceeded and that it will be possible to offer more extensive training and back-up services to honorary rangers and protectors.



Learning from nature

Technical Services

This section concerns itself with certain technical activities which are central to the whole Service—corporate identity, interpretation, extension, in-Service training, public relations, photography, drafting, library, international affairs, statistics, and honorary protectors and rangers.

Corporate Identity

In order to foster a favourable public regard for the Service and to promote it as a small "g" government organisation, a comprehensive corporate identity program has been undertaken with the assistance of a firm of design consultants.

The first stage involved consideration of the underlying philosophy on which the Service is based and the expression of that philosophy in written form. This led to a statement of objective which defines the long-term and continuing goal towards which all activities of the Service are directed.

With these corporate standards established, the next step was the selection of a "mascot" and the design of a symbol based upon it. The Herbert river ringtail possum was chosen after thorough investigation; the symbol incorporating it has been widely used and popularly received.

Standards manuals covering procedures, park signage, uniforms, and printed matter are in preparation; stationery has been designed and printed.

Information and Interpretation

The Service recognises the importance of establishing a viable and dynamic unit to handle information; interpretation is gaining in recognition. The nucleus of such a unit has been formed, but staff restrictions have so far prevented the establishment of a team with sufficient diversity to tackle the many facets of this absorbing aspect of the Service's work.

The following list of activities presently being handled by the four interpretive officers highlights the breadth of the work and the range of expertise required:

preparation and distribution of literature for public information, audio visual productions, photography, interpretive programs (on selected national parks), junior ranger programs, environmental education, public speaking, staff education and training, displays, visitor centres, public enquiries, liaison with media, guided walks and nature trails, liaison with education institutions, park interpretive signs, natural history associations, interpretive planning, honorary ranger training, and general administration.

Park visitors need to be informed of their options for use of parks and reserves, otherwise full potential of reserves cannot be realised. Appropriate use of parks includes both imaginative and meaningful interpretation and wholesome recreation in an outdoor setting. Because the enjoyment of a park is a uniquely personal experience, park use should rely heavily upon individual participation and response.

Likewise, the community must be made aware of the State's wildlife and the need to protect it.

The Service provides facilities for informative, interpretive and visitor-use programs in order to help the community appreciate and enjoy the parks and wildlife of our State and understand their significance. Innovation and experimentation are encouraged.

The park information programs seek to make the visitor aware before, at the outset of, and during the visit, of the use opportunities available in the park as well as the time, equipment, physical capabilities, safety precautions and other considerations and requirements for engaging in these activities.

In December 1975, the first of a series of four brochures listing and locating the national parks of Queensland was published. This brochure has been accepted throughout the State and it is hoped to have the remaining publications completed by the end of next year. Such publications are essential to help cope with the considerable number of public enquiries.

Information on our wildlife is made available through published research papers by research staff. A function of the interpretive section is to reorganise this information and re-present it less formally for use by the general public. The information ranges from lists of species within a particular region to instruction on biology, behaviour, and ecology. Special interest groups such as schools require information in this form. Queries to staff throughout the year ranged from general wildlife matters through what species of orchids, elkhorns, etc., were protected under the *Native Plants Protection Act*, to the most desirable colour for a bird cage roof!

The Service's interpretive effort aims—

- to help the public to see, discover, understand and appreciate the park environment and its important areas and features;
- to enrich the visitor's park experience through educative inspirational, and recreational activities in keeping with the park environment and conservation concepts.

This should lead to an increase of co-operation, through furthering of understanding and appreciation of the proper use and management of national parks and wildlife resources and values;

- (c) to bring to the public, in thought-provoking terms something of the complexities of the natural environment and man's place in it. Interpretative officers demonstrate the kinship of man and his environment and his place in the universal ecosystem;
- (d) to encourage a public awareness of, and a pride in, Australia's wild places and national heritage, and their world-wide implications;
- (e) to motivate the public to want to know more, to ask questions, and to excite their interest and curiosity in their environment, in wildlife, and in the history of man's relationship with the land.

Interpretative Facilities

For the Christmas program at Lamington, an outdoor theatre was constructed for film evenings, which proved very popular. The Service recently purchased a considerable amount of audio-visual equipment to help handle the demand for staff time in lecturing. Although considerable preparation is required to produce suitable audio-visual programs, particularly in the off-park environment, the effort is certainly worthwhile.

Interpretive Programs

In December 1975 the largest interpretive program ever offered in Australia was conducted at Lamington National Park. It was a joint venture of the Lamington Natural History Association and the Service. Naturalist led walks, talks, discussion groups demonstrations and slide evenings were important parts of the program. Many of these involved visitors as participants rather than as mere spectators in the interpretive activities. Innovative methods were particularly encouraged.



Recreating with nature

In all some 4500 people availed themselves of this service, and the public response both in regard to appreciation of this innovation and changes in attitudes was most favourable.

Because of the success of the Christmas program, similar activities were organised for the May school holidays and Easter. It is envisaged that such programs will become a continuing feature of Service activities. In addition, less formally-announced activities have continued to be offered to assist visitors on many parks throughout the State and this is being encouraged by the Service.

Environmental Education

Environmental education concepts are employed as an integral part of the Service's interpretive programs. Throughout the year the Service provided assistance, where staffing allowed, to teachers in their environment studies. Technical advice in developing environmental study areas and activities, as well as specific programs for efficient use of reserves under the Service's control, were part of this assistance. In particular the Service has shown great interest in and support for the Moreton Region Environment Education Council and enjoys a friendly exchange of ideas with officers of the Education Department and colleges of advanced education. Environmental education not only protects the parks, but by encouraging children to adopt wise conservation attitudes and develop an environmental ethic, it also helps ensure that the environment is conserved in the long term.

Lectures and Talks

Service officers have been in demand for speaking to various organisations and few requests have been refused. Interpretive staff have been heavily involved in this activity.

Co-Operating Associations

The foundation and operation of co-operating associations have been encouraged. The Service has been closely involved with the Natural History Associations of Queensland and together they have initiated a number of interpretive ventures. The programs at Christmas and May were perhaps the most outstanding results of this relationship, but numerous other interpretive initiatives have been produced as well—in particular the senses trail at Binna Burra. The assistance of such associations and of honorary rangers and protectors to help interpret the parks is invaluable and greatly appreciated.

Displays

In August 1975, only two months after its formation, the Service mounted a display in the Government Pavilion at the RNA's Centenary Exhibition. Space was made available at short notice and the display was used to announce the Service's existence. A colour poster-pamphlet, produced for distribution to visitors, was enthusiastically received.

Junior Rangers

With the co-operation of the Lamington Natural History Association the Service inaugurated the first Junior Ranger Program at Lamington National Park. It was an outreach activity of normal park interpretation, designed to introduce children between the ages of 6 and 12 to the natural environment by performing fun outdoor activities. Its aims were much the same as the adult programmes: to create interest in the natural environment. Specially-trained rangers assisted the Junior Rangers as they boiled the billy, made damper, gathered litter, watched birds, and participated in other activities.

The success of the program ensured its continuation and expansion. At present there are more than 300 Junior Rangers, some living as far afield as Victoria. All receive a quarterly newsletter, *The Possum*, which is aimed at building on what was learned during the Junior Ranger program and at ensuring that suitable environmental attitudes are allowed to develop. Many letters have been received from Junior Rangers thanking the Service for this continued contact. Before the end of 1976 it is envisaged that there will be additional Junior Ranger programs offered at Maiala (near Mt. Glorious), Bunya Mountains, and Tamborine Mountain National Parks.

Training

During the year a number of training schools was conducted for both park rangers and honorary rangers by the interpretive staff of the Service and the Natural History Associations of Queensland, resulting in an increase in the number of interpretive programs offered throughout the year in national parks.

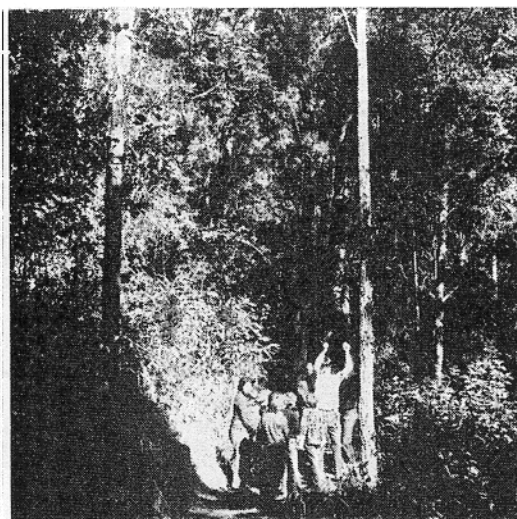
Interpretive staff were deeply involved in organising and lecturing at the ranger school mentioned elsewhere in this report. This was a most rewarding activity both in awakening staff to the concepts and values of interpretation and other management techniques, and also in unifying the field staff to consider themselves as part of a Service rather than of a particular park or region.

Staff

Today there is a zoologist, an interpretive and extension officer, and two overseers specialising in providing interpretive facilities. Education and interpretation will involve planned and co-ordinated use of various aids, such as publications, photographs, special structures, etc., and the assistance of rangers and the public. It is therefore apparent that in common with most arms of the Service, we are "thin on the ground" in this field also.

Library

The Service's fledgling library has suffered through a lack of funds and a total lack of qualified library staff. It is presently ably managed by one of the Service's scientific staff. However, if it is to give the support a library should, urgent appointment of a librarian and greatly increased initial and annual funding will be necessary.



Junior rangers in action

The librarians of the Departments of Forestry and Primary Industries have been helpful in this trying time.

Two generous gestures must be mentioned. In memory of her brother, Mr W. J. R. Morris, who adopted Queensland as his home, Mrs E. Lloyd, a South African, made a large donation for the purchase of library books on nature conservation. Her other brother, Mr E. Morris, added his gift to the same purpose. The Service deeply appreciates this generosity.

Drafting and Mapping

The drafting and mapping functions of the Technical Services Section have relied heavily on the Survey and Mapping Branch of the Department of Forestry. Its assistance is greatly appreciated.

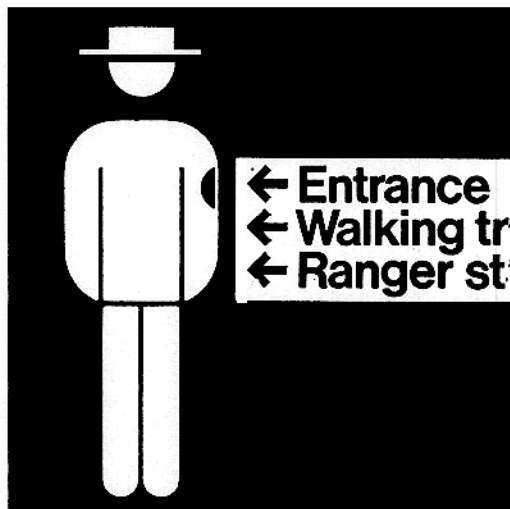
One of the top priorities was to complete a map system giving Statewide coverage of areas of National Parks and Wildlife Service interest. This has largely been achieved except for the time-consuming charting of fauna sanctuaries.

Much of the work involves illustration and changes of scale which requires the use of equipment the Service does not presently possess. An artscope or similar piece of equipment would be invaluable.

The sharing of a photocopier with the Queensland Fisheries Service in the same building has not been without its problems; a copier of our own would have distinct advantages, not only for drafting and mapping, but for the Service as a whole.

With the mapping requirements of regional offices, the flow of both routine and non-routine jobs, and ever-increasing requests for artwork for illustration in publications, it is obvious that if the drafting and mapping section is to continue to be an effective and efficient arm of the Service then an increase in staff, particularly persons with drafting or graphic arts backgrounds, is a matter for urgent consideration.





Management and Operations

The Branch is responsible for tactical planning and implementation of policy in relation to the management of parks, reserves, and wildlife.

Wildlife

Wildlife rangers stationed in Brisbane, Charleville, Rockhampton, and Cairns—each with a very large district—are responsible, together with *ex officio* fauna officers such as police officers and honorary protectors, for wildlife conservation throughout the State. They administer the commercial harvesting of wildlife as well as recreational hunting activities. They also have an extension and an enforcement role and play an important part in assisting people to understand wildlife and the environment as well as dealing with lawbreakers.

The management of the kangaroo industry from Rockhampton and Charleville continues, and the wildlife rangers from both these centres have had an onerous task issuing the 600 000 kangaroo tags available under the agreement between the Federal Government and the United States of America. Monitoring indicates that upwards of one million could be safely harvested.

The following figures are the totals for the four species harvested (red and grey kangaroos, wallaroos, and whiptail wallabies) by calendar years.

1971	581 679
1972	421 959
1973	457 720
1974	317 479
1975	524 526

Two rangers have commenced field projects in co-operation with the Research and Planning Branch on golden shouldered parrots in the Cape York Peninsula and wedge-tail eagles in south-west Queensland. Other rangers are being encouraged to undertake similar field projects. These studies give them the opportunity to publish, and to achieve professional standing.

The management of open seasons—for example, red deer and wild duck—is now a

major undertaking which extends the resources of the Section to the full. Apart from the necessary clerical work, hunting seasons cannot be handled on a 9.00 a.m. to 5.00 p.m. Monday to Friday basis. Most hunting takes place early in the morning, late in the evening, and on weekends, and to observe public service hours would be unrealistic and would bring the ranger force into disrepute. The problem of recompense for the extensive overtime required is under consideration.

The rangers at Rockhampton and Cairns still rely on the Department of Primary Industries for accommodation and typing. The co-operation of that department in those respects as well as the help given by *ex officio* officers, is greatly appreciated.

During the year, 42 offences were investigated by Service and honorary officers. Eight offenders were prosecuted, eleven were given warnings, and seventeen actions are pending. Seven rifles, a quantity of ammunition, and two hunting knives were forfeited.

Details of offences against legislation administered by the Director are as follows:

Taking protected fauna	22
Taking protected plants	5
Trespass on foot and vehicle	4
Keeping protected fauna	5
Illegal movement of fauna	1
Shooting in a sanctuary	5
Total	42

Action taken was as follows:

Prosecution	8
Fines and costs	\$1,843
Royalties	\$94
Forfeitures of rifles, etc.	in 6 cases
Warnings	11
Cases pending	17

Parks and Reserves

The Queensland legislation states that the cardinal principle to be observed in the management of national parks is the permanent preservation, to the greatest possible extent, of their natural condition. Queensland has given a

lead to the rest of the world in the extent to which it has achieved this aim, and the stewardship of the Department of Forestry has enabled the Service to commence its administration with a soundly-based national park system.

In his Annual Report for the year 1974-75, the Conservator of Forests, Mr W. Bryan, referred to the administration of the national parks as a sacred trust which was being passed on to the National Parks and Wildlife Service. The honour and the responsibilities implicit in that trust are well understood by the Service and it is grateful for the co-operation of the Conservator and his staff. Without doubt, state forests will continue to play a major role in nature conservation in Queensland.

Regional Administration and Staffing

In the Department of Forestry, 14 district and sub-district offices with clerical, typing, etc., facilities were available to handle the administration in the field. To replace the services provided by these offices, it has been approved that regional management officers be placed at Cairns, Rockhampton, Warwick and Brisbane. By the end of the year the Cairns officer had taken up duty and the officers for Rockhampton and Warwick had been appointed. Problems attending the Service's requests for office space, clerical and typing assistance for these officers have been detailed elsewhere. It is difficult to see how the Service can fulfil its responsibilities in administering the national parks unless the present staff deficiency is rectified. The position is desperate.

As at 30 June, the national parks field staffing was:

National Park Rangers

The officer holding the position of national park ranger at Brisbane has been appointed regional management officer at Rockhampton, and no replacement has been appointed. Three other Rangers are based as follows:

Atherton, in charge of parks in north Queensland;
Mackay, in charge of parks in central Queensland;

Lamington National Park, in charge of the Lamington, Tamborine, Springbrook park complex.

Wages Staff

In addition to the ranger staff a wages staff of 30 overseers and 49 gangers and workmen are employed, as well as two launch skippers and an electrician.

There has been little growth in field staff in recent years and a serious situation is developing. Public interest in nature conservation and national parks is growing rapidly, with park visitation increasing at a rate in excess of 10 per cent. per annum. More and more people are actively seeking advice and guidance from the field staff.

Several years with above-average rainfall have increased maintenance problems which have not been matched by any increase

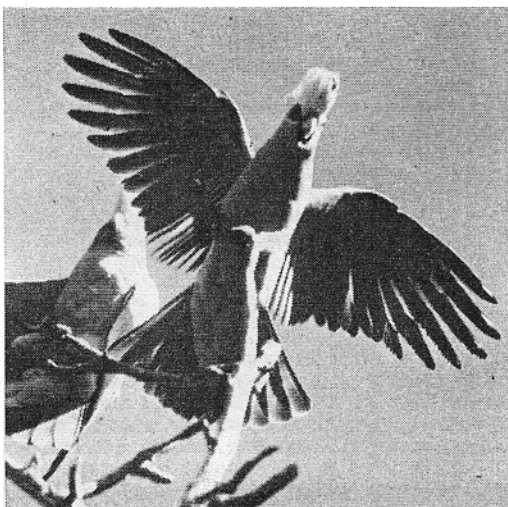
in maintenance capacity: if anything, the capacity is decreasing because of other calls on the time of available staff. In order to cater for the increasing public demand, the Service should provide new facilities so as to make available to the public at least one additional area each year. Without more field staff, new areas cannot be developed and maintenance of existing facilities will continue to fall behind.

Training Seminar

A week-long seminar on park management was held at Lamington National Park during May. This was an outstanding success, with field staff from all over Queensland participating. It was the first time that the staff were able to meet like this and it was apparent that they benefited very substantially from meeting each other and discussing mutual problems as well as from the formal instruction provided. Instructors came not only from the Service but from Crown Solicitor's office, to whom the Service is grateful.

International Training Course

A course in the administration of national parks and reserves was conducted by Australia and New Zealand during the period from February to May. Participants from Africa, Asia, the Pacific, and South America attended. For its visit to Queensland, the course concentrated on aspects of particular significance in Queensland: the high standard of walking tracks; the special way in which the two accommodation centres at Lamington so well complement the national park in their service to their guests; island national parks, and the marine environment. Course participants indicated that they found the Queensland section very useful and they particularly expressed their appreciation at the courtesy of the Honourable the Minister in personally hosting the official dinner in their honour.



Galahs

Premier's Visit to Carnarvon

The Honourable the Premier, together with the Honourable the Minister, visited Carnarvon National Park during February. The visit included two nights camping in the park and a one day hike up Carnarvon Gorge. Much fruitful discussion took place. The Service is grateful to the Premier for making time available for the visit.

A notable feature was the wildlife at the campground—kangaroos, wallabies, possums and birds—all showing a high degree of tolerance to humans. This is a direct result of the rigidly enforced ban on bringing dogs into the parks.

Attendance at Meetings and Conferences

Officers attended the following meetings during the year:

Annual General meeting of the Australian Institute of Parks and Recreation, Perth, W.A. 4-14 October (T. Vollbon).

Australian Standards Association, Committee on Walking Track Sign Standards, Sydney, N.S.W. 3 June (T. Vollbon).

Fourth Summer School of Park Management, Canberra A.C.T., 7-15 February (M. Harris).

Eco-Fire Symposium, Australian Museum, Sydney. 1 May (M. Harris).

Commonwealth Grants

Tourist Development Grants were awarded by the Commonwealth Government for projects involving the construction of tourist facilities at Carnarvon National Park and Girraween National Park. Work has commenced on these projects and will continue in the next financial year. In addition, the Boonah Shire Council obtained a grant for work on Mt French National Park which is being done under direction from this Service.

South Queensland Parks

The ever-increasing recreational demand in the southern portion of the State has, to a large extent, dictated the trends in park developments adopted by the Service. Coolool National Park was gazetted in December, and with this has come the difficult task of rehabilitating a largely unmanaged portion of coastline containing an extensive pattern of vehicle tracks and numerous unauthorised "weekend huts". This is the situation which exists on most of the southern parks.

At Noosa, a small national park to the south, visitation of 150,000 for the year has necessitated a heavy maintenance program, almost to the total exclusion of new construction.

A lookout and access track were constructed, and preliminary work is in progress for the construction of a septic toilet block at Mapleton Falls. Preliminary work has been completed on an amenities block and a new camping area at Girraween, and on a residence, barracks accommodation, and toilets at Carnarvon.

The Service supervised construction work

carried out by the Boonah Shire Council at Mt French. This was financed by the Commonwealth grant of approximately \$80 000 and consisted of upgrading the road access to the park and construction of water supply, walking tracks, barbecues, picnic tables, toilets, and a lookout on North Peak. This area should prove very popular as a day-use area for persons residing in the south-eastern area of the State.

The Mt Mitchell walking track at Cunningham's Gap has been completed and walking tracks are being constructed at Woodgate National Park.

Maintenance of visitor facilities continues to occupy the greater portion of the management effort in the Southern area.

North Queensland Parks

With most parks, work has of necessity been largely confined to maintenance, the one notable exception being Chillagoe Caves. In these limestone caves, initial construction costs are high, because the work involves installation of steel ladders and safety rails, concrete paths and steps; but maintenance costs are low. During the year, the installation of electric illumination was completed at Donna Cave. Extensive surveys of the cave systems were carried out, as well as some new construction work. All members of the general public visiting the caves are taken through on guided tours in the interests of public safety and for protection of the cave formations. Two workmen are employed largely on this work.

Other construction work during the year included an extension to the workshop-storage shed at Lake Eacham, picnic tables at Palmerston National Park, concrete paths, hand-rails, and water supply at Josephine Falls, picnic tables and fireplaces on a number of islands in the Cardwell-Dunk Island region, survey and location for a walking track on Hinchinbrook Island at Cape Richards, picnic facilities and completion of shelter shed at Jourama Falls, commencement of barracks construction and completion of workshop-storage shed at Mt Spec, extension of campground and additional picnic facilities at Alligator Creek, and the commencement of a new walking track on the Magnetic Island National Park.

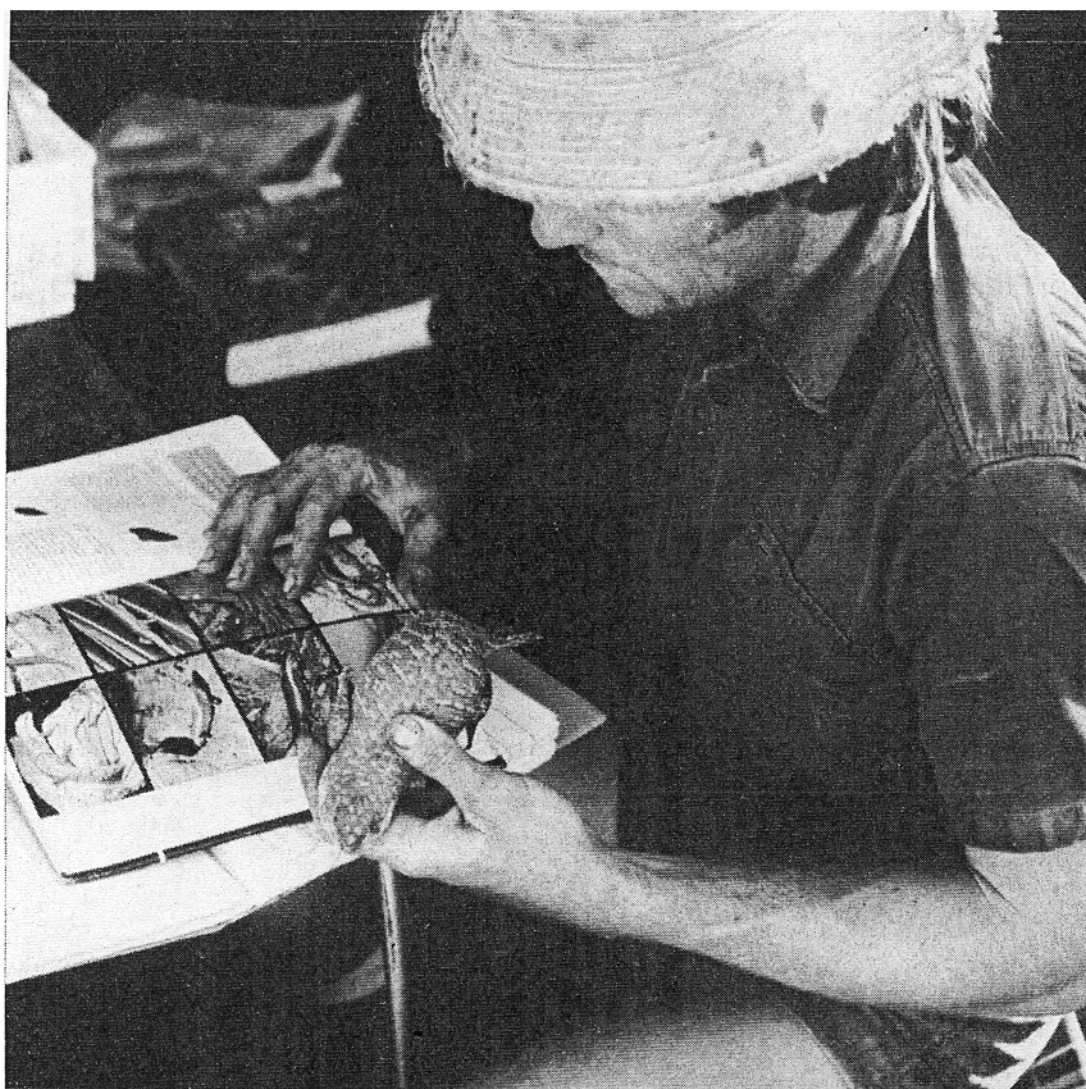
Work commenced on one new park—Davies Creek near Mareeba—where construction of a picnic ground is under way.

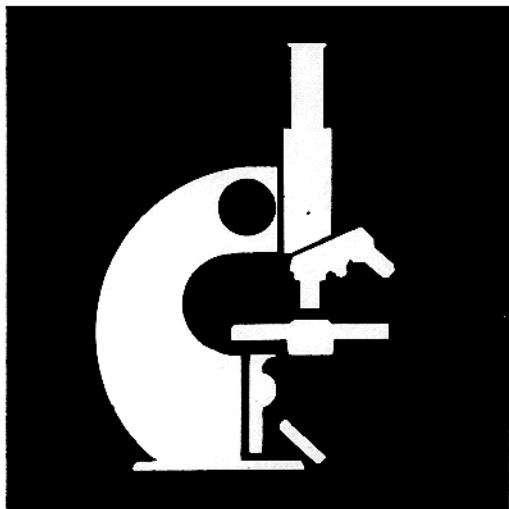
Central Queensland Parks

As with the rest of the State, limitations of staff and finance have largely restricted the year's work to routine maintenance. Minor constructions carried out during the year were the addition of a carport to the overseer's residence at Eungella National Park and an extension to the storage shed at Conway National Park.

The motor launch, *Curlew*, was out of commission for the entire year awaiting a replacement motor. This severely curtailed the mobility of the Shute Harbour work force and maintenance work on the islands of the region suffered.

A 6 m boat was supplied for use in the Seaforth area.





Research and planning

The Research and Planning Branch is responsible for scientific research and strategic planning.

It acts as technical adviser to the Service, and thus the Government, on the qualities and quantities of the fauna, flora and landforms of Queensland; on adequate methods of conservation of the natural resources; and on related matters ranging from maximum recreational uses of these resources to appropriate pest control. To this end, a scientific staff seeks to gather relevant information and experience.

Major facilities to ensure sound results from these activities have been established at Townsville and at Warwick. The rationale for the third centre in Brisbane, to eventually complement the two field centres but with greater immediate application, is being developed concurrently.

Funds have been augmented by external grants-in-aid that have sought to obtain more general conclusions from a skilled staff not otherwise so accessible. Thus five major projects have been expedited through grants; three others have been commenced in collaboration with other scientific organisations; and six more have been projected that will serve to meet the immediate needs for information within this Service as well as elsewhere.

The staff of 39 Branch officers utilizes other Service facilities, notably at Emerald and Atherton, in the course of other protracted surveys and studies that have provided first-hand, current information on localities in all of the major regions of the State.

In consequence, seven scientific papers have been published to date and some 20 others presented for publication; in later months, eight additional papers were edited for personnel outside the Branch. Eighteen special reports were prepared for circulation outside the Service, including four of these submitted for higher University honours; of these so far, Dr J. W. Winter, Zoologist, has been awarded a Doctorate of Philosophy and Mr C. J. Limpus, Zoologist, the degree of Master of Science, both from the University of Queensland. Nine other Branch

officers are proceeding with advanced studies in conjunction with their research work.

Apart from this work and time-consuming technical and ad hoc enquiries, Branch officers represent Service advice to external organisations whose active and interested participation is an integral part of balanced and wise land use and thus sound conservation. These organisations have included State Government Departments (e.g. the Moreton Regional Strategy Technical Committee of the Co-ordinator-General's Department), Commonwealth Government Departments and Agencies (e.g. Council of Nature Conservation Ministers' Working Groups on Endangered Flora and on Endangered Fauna), Local Government authorities (e.g. Townsville City Council Town Common Advisory Committee), educational institutions (e.g. Capricornia Institute of Advanced Education Biology Department Supervisory Panel), scientific societies (e.g. Royal Society of Queensland Border Ranges Symposium Committee) and private foundations (e.g. Australian Orchid Foundation Research Committee).



Fauna survey

Field Studies

The purpose of this Section is to obtain a comprehensive basic knowledge of the "pristine" circumstances presently pertaining to the native fauna and flora and the natural landforms of Queensland. Investigations are of two types—comprehensive surveys, and autecological studies of species or forms warranting more detailed understanding.

Surveys

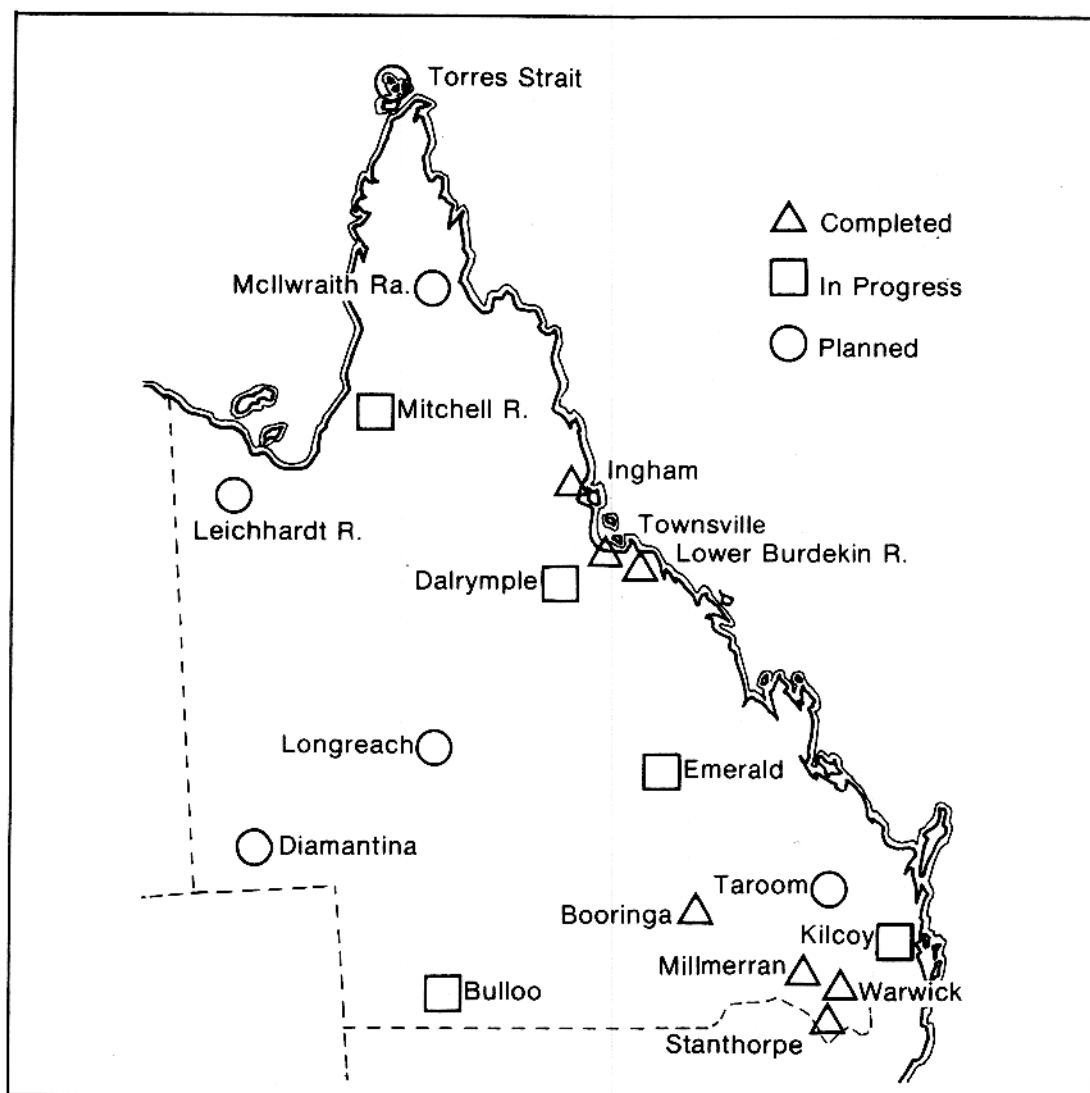
Fauna

The program of exhaustive fauna surveys of Queensland has proceeded to good effect. A technical review after some 10 years of surveying now indicates that more than 90 per cent. of all fauna species will have been allocated distribution and status ratings within the projected 20-year total study period. Substantial advances were made in the year through work in Bulloo Shire, incorporating the effects of severe flood

conditions in inland Queensland. Elsewhere species such as the northern rat-kangaroo (*Bettongia tropica* [Wakefield]), previously known from only six specimens, were relocated and appropriate management requirements indicated. Formal, large-scale surveys are presently in progress in Kilcoy Shire, Taroom Shire, Central Highlands district, Charters Towers district, and Mitchell River district.

Flora

Principal attention to vegetation and floristic surveys applies to the Moreton Region, where the Service is collaborating with the Queensland Herbarium in the production of detailed 1:100 000 maps, the first sheet of which (Brisbane) was recently completed. Other mapping was undertaken related to more specific demands e.g. of Lamington Plateau (Murwillumbah sheet) for the Royal Society of Queensland Border Ranges Symposium, and some introductory descriptions were proposed e.g. of Newcastle Bay mangroves for Queensland Fisheries Service.



Locations of fauna surveys

Landforms

A tentative introduction was made to the classification and quantification of the landscapes characteristic of Queensland. Sound land-use planning will demand an objective recognition, evaluation and thus subsequent representation of each type in any comprehensive conservation program. The subject now awaits more expert geographical assessment and in the meantime the value of ERTS/Landsat Imagery as a feasible source of ready data is being investigated.

Specific Investigations

The requirement leans towards native animals in the first instance, and senior staff are obliged to maintain more exhaustive investigations of species of more economic importance or interest. The following examples are particularly noteworthy at this time.

Kangaroos

Major emphasis is now being placed on monitoring of exploited populations of the grey kangaroo (*Macropus giganteus* [Shaw]); this follows reorganization of staff involved in the State-Commonwealth agreement on a Kangaroo Management Program, on upgrading of field facilities, and on better chances provided by the good seasonal conditions in which all obvious species have become abundant. These conditions, and poor markets, have retarded the industry to date; the demand for skins is reaching a high level and deteriorating pasture conditions accelerated by large cattle numbers indicate problems towards year's end. Meanwhile, current field research indicates that large populations are widespread, with good seasonal conditions causing more young than old animals to be available with a consequent high selectivity for males (approximately 75 per cent. of harvest). An increased involvement in the field, both with the grey and the red kangaroo (*Megaleia rufa* [Desmarest]) in the Booranga and the Bulloo Shires respectively, has now been initiated to produce more comprehensive results. The program does not overlook the quite often more precarious situation in some of the other

22 species of macropods in the State; enclosure colonies of some 15 of these are now established for closer scrutiny, and contributions made towards the conservation of such little-known species as the rufous rat-kangaroo (*Aepyprymnus rufescens* [Gray]) and brush-tailed rock wallaby (*Petrogale penicillata* [Griffith, Smith & Pidgeon]) are particularly noteworthy.

Possums and the koala

Projects have been reviewed during the year to provide a more substantial understanding of closed forest habitat, of species endemic to Queensland, and of possums in which considerable interest for economic and other reasons has long been held. To this end, a detailed study of the comparative ecology of the species inhabiting Atherton Tableland—including the long-tailed pygmy possum (*Cercartetus caudatus* [Milne-Edwards]), striped possum (*Dactylopsila trivirgata* [Gray]), Herbert River ring-tail (*Pseudocheirus herbertensis* [Collett]), striped ring-tail (*Pseudocheirus archeri* [Collett]) and bushy-tipped ring-tail (*Hemibelideus lemuroides* [Collett])—has been initiated. Similar long-term field studies on the population dynamics of the koala (*Plascolarctos cinereus* [Goldfuss]), particularly on the Darling Downs, have progressed satisfactorily and much of this work is proposed for analysis and completion in the near future.

Rodents

An appreciation of the behaviour of populations of native rodents in the wild in Queensland is continuing with new work proposed on the water rat (*Hydromys chrysogaster* [Geoffroy]). Animals were tagged for observation along the Condamine River where disturbance of previously unsuspected extent, to the rodents rather than by these, has been detected.

Waterbirds

Because of proven ecological similarities, much insight into the population dynamics of wild ducks is now being obtained through studies of the native crane or brolga (*Grus rubicundus* [Perry]). The greatest numbers of these large and obvious birds occur in north-eastern



Field study—Lake Pyampah, western Queensland

Queensland, and techniques to interpret the relationships between their behaviour and that of the wetland habitat are presently the subject of investigation through comprehensive aerial photographic monitoring. The establishment of appropriate facilities, involving external grants-in-aid, is seen as an introduction to opportunities provided from aerial surveys over a wide range of situations—from plotting of mangrove associations to monitoring spread of infestations such as of patch death (*Phytophthora cinnamomi* [Rands]).

Quail and Snipe

Useful information on the 9 species of quail (6 button-quails, 3 true quails) and 3 species of snipe (1 painted snipe, 2 true snipe) that give rise in Queensland to 4 game birds is negligible. Introductory surveys were therefore commenced in 1976.

Turtles

Visits were made to most major sea-turtle breeding areas in eastern Queensland during the year. Extracts from the report on one two-week trip, to Heron Island, indicate the style of work and its results:—213 captures of 198 turtles were made. Of 91 loggerhead turtles (*Caretta caretta* (L.)) and 83 green turtles (*Chelonia mydas* (L.)) caught in Heron Island lagoon, 72 and 18 respectively had been previously tagged there. One recapture was of an 8-years old green turtle marked as a hatchling, released at Heron Island, and subsequently caught when it was 6½ years old also in Heron Island lagoon; after 8 years the animal was still less than minimum breeding size.

Crocodiles

The survey of apparent habitat of the two crocodile species in Queensland was completed and is being charted. Biological studies have been enlarged and interesting results already have been forthcoming. Thus a 4-day visit to Lynd River near Mt. Surprise provided 28 captures of 24 freshwater crocodiles (*Crocodylus johnstoni* [Krefft]), two of which had been marked at the same locality several years previously.

Data Bank

This small section functions to maintain and co-ordinate the routine field data-collecting exercises. It has evolved from the increasingly apparent responsibility and need to utilize existing knowledge and to store and effectively retrieve a growing amount of new data.

To this end, the obvious advantages of bulk treatment of records have now been thoroughly reviewed and two projects—on the bats and on the frogs of Queensland—have been initiated manually to test the accuracy of computer systems. These systems in turn have been devised to meet Australia-wide standards, through Service participation in the National Biological Resources Data Service Study Group.

A principal requirement of the Section concerns taxonomy and nomenclature; the need for the Service to have ready, reliable advice on the reality of the entities for which it is statutorily responsible is evident. This is more so in view of the confusion still prevailing within the more than 1 000 species of higher vertebrates

and 12 000 species of native plants in the State. A zoologist and a botanist serve as professional taxonomists and examples of their projects illustrate topics of wider concern.

Rodents

Morphologic and reproduction studies in the native scale-tailed rats (*Melomys* spp) based on field material provided from throughout Australasia and on preserved material from throughout the world's museums provided substantial conclusions about their taxonomy, the subject of several comprehensive papers. Similar studies on *Rattus* spp. are continuing, and the techniques have been tested as colonies of each of the little-known *Pseudomys* group are collected.

Orchids

Continuing discoveries of new orchids (including three new species in the Iron Range area during 1975) have encouraged a substantial grant-in-aid from the Australian Orchid Foundation to permit further knowledge to be gained about this large plant family of particular interest to this Service.

Reference zoological and botanical collections are being constituted beyond those necessarily developed and maintained for the time being by individual research workers. These aid in providing advice required specifically for Service purposes e.g. plant list of Noosa National Park, or habitat descriptions for Bulloo Shire Arid Zone Survey.

All of these activities have led to a close liaison being established and maintained by the new Service with the Queensland Museum and the Queensland Herbarium.

Land-Use Planning

The objective of this small group of experienced officers presently being gathered together is to examine all materials produced in isolation in the field with a view to producing and defending appropriate land-use plans.

Towards this goal, the opportunities provided by the Moreton Regional Growth Strategy Investigations, with which tasks the Section personnel have been closely associated, have been pursued and advanced. Areas of major interest, that is those having the highest ratings for fauna, flora and landform qualities have been defined and the priority of importance of these allotted. The process has then taken two courses: discussions with planners have begun taking account of *ad hoc* reservation proposals; and further similar regional studies have been initiated. Thus, in the first instance, a comprehensive joint project with University of Queensland and James Cook University of North Queensland on *Development of Criteria for Selection of National Parks and Nature Reserves in North-eastern Australia* has been pursued. In the second instance, the Darling Downs Region is being investigated with a special concern in describing the reliability of the land evaluation techniques used; preparations are underway to survey the Wide Bay-Burnett Region; and appropriate planning advice has been offered on sub-regional areas e.g. to Co-ordinator-General's Department on Innisfail-Mossman, to Local Government Department on Pine Rivers, to Forestry Department on Ingham Cardwell,

and to Department of Primary Industries on Wide Bay.

The Section is required also to evaluate proposals made to the Service that national parks or other reservations should be inaugurated. All records of these proposals have been reviewed and action on these commenced; it is still too early to assess success rate of positive recommendations made.

Reservation proposals as at 30 June 1976 are set out in the following table:—

State of proposal	Number	Per cent
Inherited by National Parks and Wildlife Service as already evaluated but not yet gazetted reservations	179	30.6
Evaluated by Research and Planning Branch field staff subsequently	73	12.4
Presently being evaluated by Research and Planning Branch field staff	65	11.1
Still to be evaluated	269	45.9
Total	586	100.0

In the same field of activity, evaluations of areas relative to environmental impact statements have been made as prescribed; technical advice has been preferred to help to minimize the environmental consequences of developments ranging from dams and canal estates to mines, quarries and highways.

Section staff have completed as a planning prerequisite the complete review, including the location, mapping, numbering and cross-indexing, of all existing reservations (5 fauna reserves, 299 national parks, and 53 environmental parks) and 1305 fauna sanctuaries, as well as 586 proposals, on record as at 30 June, 1976.

Management Research

It is now being widely appreciated that the recognition and reservation of natural ecosystems is technically less difficult than indefinitely maintaining these. Information, sound or otherwise, on which to base such management is negligible, and this must be considered especially aggravated by the peculiar situations of Queensland. Predictably, therefore, a Management Research Section must become a mainstay of the Research and Planning Branch, and development is proceeding towards that end. Increasingly, senior staff will apply their knowledge and experience of "normal" situations so that disturbance of these may be minimized. Thus the indirect and direct effects of people, from introduced animals and plants through fires to clearing, should be identified and appropriate precise constraints applied.

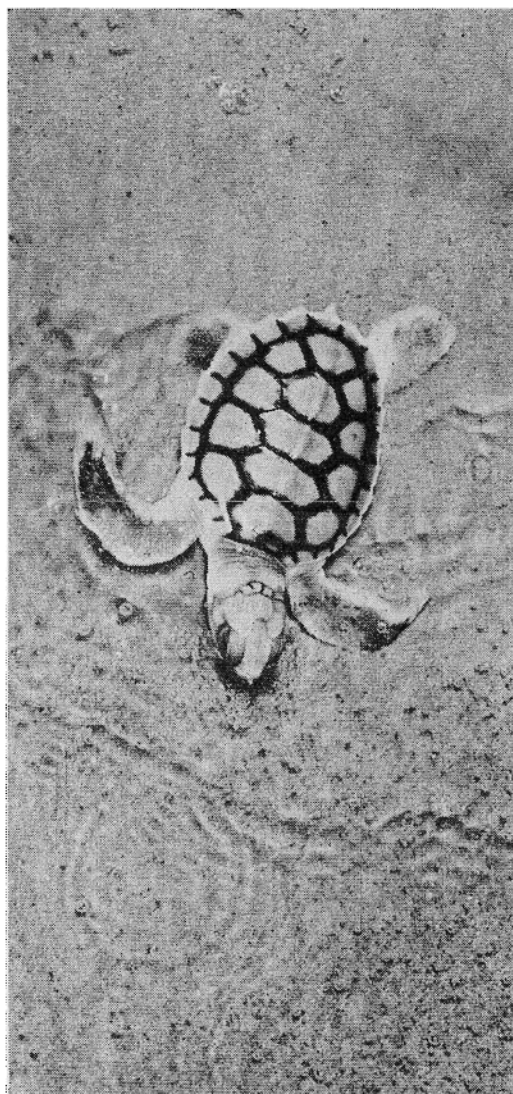
Studies, seemingly isolated at this early juncture, are designed to provide an eventually integrated and comprehensive approach to the subject. The following projects are some examples.

Introduced Animals

Accurate distribution records are now available for all deer species in Queensland. Data

collected from hunters during the first open season on red deer (*Cervus elaphus* [L.]) provide useful information on breeding and age-composition of herds.

A herd of fallow deer (*Dama dama* [L.]) was established at the Southern Regional Centre, Hermitage, following surveys in the Stanthorpe area. Effects of these species on natural exosystems, of course, still remain to be appreciated. On the other hand, the demonstrable devastation caused by feral goats (*Capra hircus* [L.]) needed little elaboration, and experimental surveys of existing control measures showed the efficiency (at least for the time being) of culling at North Keppel Island National Park. More specifically, a study of methods of protecting colonies of terns (*Sterna* species) by fencing on Purtaboi Island National Park has continued, while a study of the effects of grazing on hairy-nosed wombats (*Lasiornis latifrons* [Owens]) in the vicinity of Epping Forest National Park has been projected.



Flatback turtle hatchling

Land Clearing

Two investigations using quite different approaches illustrate the involvement in this complex topic. On the one hand, a project to provide management guidelines to conserve the scarce bridled nail-tailed wallaby (*Onychogalea frenata* [Gould]) in the face of the brigalow land clearing programme was substantially completed. Alternatively, because closed forest is the most confined of the broad ecosystem types, and because selective logging for forestry purposes is an almost universal practice there, attempts to appreciate and monitor related changes are being sought through a series of integrated projects. These are based on Conondale Range, a primary area of Service interest in the Moreton Region. The investigations involve the use of marsupial species as indices, and incorporate studies of the role of native conifer plantation. Similar large land changes brought about by water conservation dams are to be the subject of controlled, manipulative studies projected for land near Redcliffe in southern Queensland.

An additional function of this section concerns zoos and native plant nurseries. Some contributions towards a more substantial zoo technology for Queensland fauna were prepared for publication.

Branch Extension

It is a necessary dictate that scientific staff relate results not only in precise technical terms but also concurrently in more general fashion for Service purposes. Thus much natural history, in particular, can be presented for interpretive activities. A film on the fallow deer in Queensland was made, for example. Branch staff attended in-Service conferences of other Branches, workshops for *ex-officio* personnel, and so on. At this early stage, broader extension was undertaken to supplement the efforts of other Branches. Thus one technician in Emerald (where no Management and Operations Staff are presently located) addressed 8 schools including pupils at Carnarvon National Park, and also prepared an appropriate display for the local agricultural show.

At the purely technical level, conferences of technical staff and of scientific staff were held in October, 1975 (Townsville) and March, 1976 (Brisbane) respectively. A project to represent all Branch research activities as part of a series of ABC television documentaries on the natural history of Queensland has been initiated. Outside the Service, technical sessions were addressed in various symposia e.g. Cape York Seminar Group (University of Queensland).

Officers also represented the Service at the CONCOM Working Group on Birds (Kangaroo Island), the CONCOM Working Group on Endangered Flora (Canberra), and the Taronga Park Zoo Symposium on Koalas (Sydney). Official visits were also made by staff during the year to the Australian Museum (Sydney), National Museum of Victoria (Melbourne) and South Australian Museum (Adelaide).

A number of research workers visited Branch staff in various parts of Queensland; the following are some of these:

Mr C. S. Christian, formerly CSIRO Executive, visited Brisbane for discussions on the Ecological Survey of Australia.

Dr A. O. Nicholls and Dr H. A. Haantjens, and Messrs W. Goodwin and K. Pajmans, CSIRO Division of Land Use Resources, and Mr D. Turton, Australian Aerial Mapping, visited both Brisbane and Townsville in connection with the National Wetland Survey Program.

Dr G. Maynes and Mr R. Close, Macquarie University, visited Emerald to undertake collaborative bandicoot and rock-wallaby surveys. Messrs K. Myers and W. Price, CSIRO Division of Wildlife Research, visited that area concerned with rabbit ecology. Dr J. E. Nelson, Monash University, also visited Emerald and Townsville to further his studies on aspects of the marsupial brain. Dr J. Broadbent and Messrs W. Boles, W. Longmore, M. Grey and H. Posamentier, Australian Museum, accompanied staff to Thornton Peak National Park as part of surveys of tropical closed forests.

Mr G. Robertson and Mr G. Roberts, New South Wales National Parks and Wildlife Service, observed and investigated bridled nail-tailed wallabies at Emerald and Townsville, and New England Tableland vegetation at Girraween National Park, respectively.

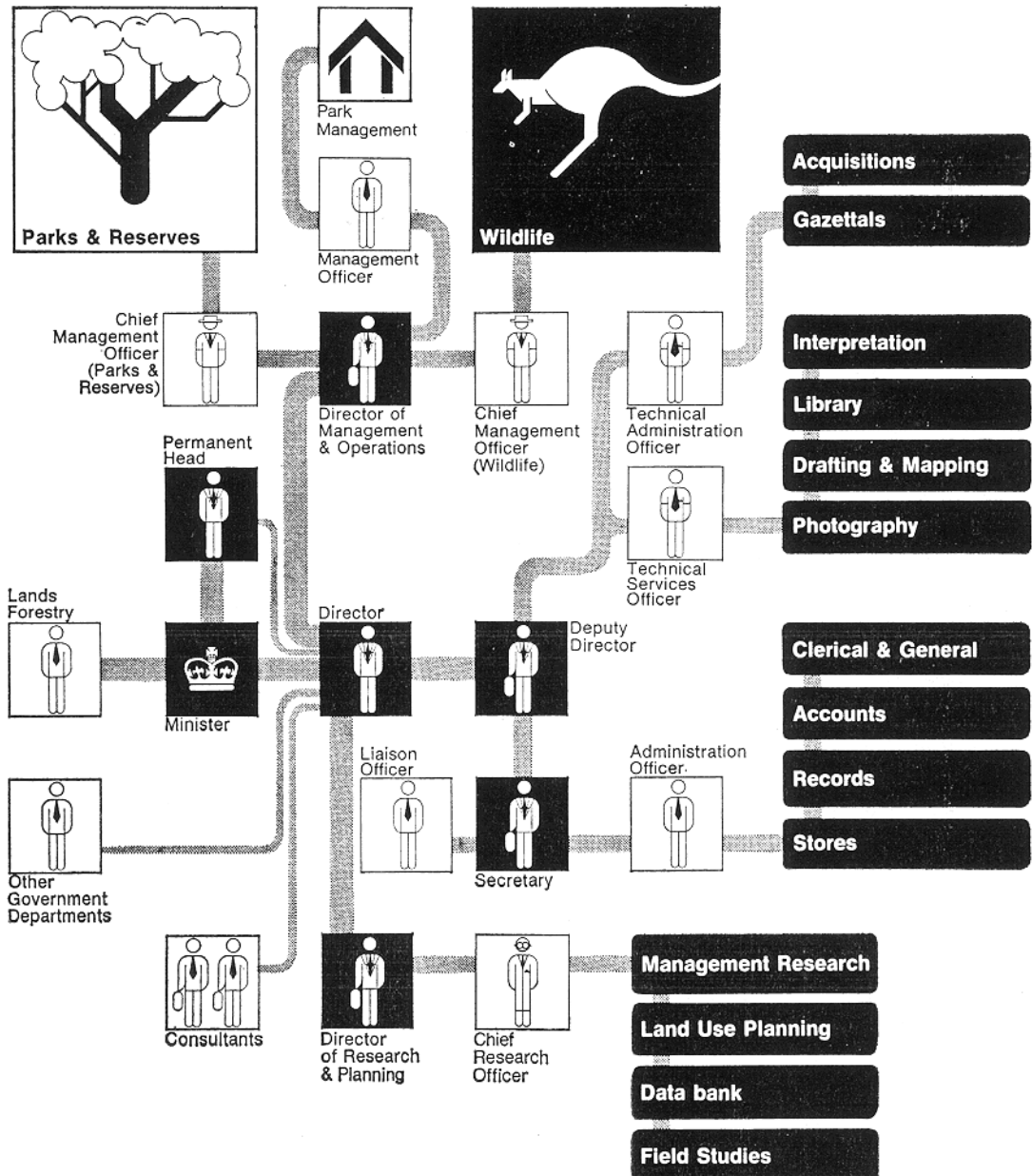
Mr D. F. Blaxell, National Herbarium of New South Wales, collaborated during a visit to Brisbane on a proposed paper on *The Origins of Australian Orchids*.

Publications

Technical publications published during the year 1975-76 were:

- Lavery, H. J. and Seton, D. (1974) Mammals and birds of the lower Burdekin River district, north Queensland. 2. Birds. *Qd. J. Agric. Anim. Sci.* 31: 371-82.
- Lavery, H. J. and Grimes, R. J. (1974) Mammals and birds of the Ingham district, north Queensland. 1. Introduction and mammals. *Qd. J. agric. Anim. Sci.* 31: 383-90.
- Lavery, H. J. and Grimes, R. J. (1974) Mammals and birds of the Ingham district, north Queensland. 2. Birds. *Qd. J. agric. Anim. Sci.* 31: 391-403.
- Limpus, C. J. (1975) Coastal sea snakes of subtropical Queensland Waters (23° to 28° South latitude). In: *The Biology of Sea Snakes*. Ed. W. A. Dunson. (University Park Press: Baltimore).
- Freeland, W. J. and Winter, J. W. (1975) Evolutionary consequences of eating: *Trichosurus vulpecula* (Marsupialia) and the genus *Eucalyptus*. *J. Chem. Ecol.* 1:439-55.
- Limpus, C. J. (1975) The Pacific ridley, *Lepidochelys olivacea* (Eschscholtz) and other sea-turtles in north-eastern Australia. *Herpetologica* 31: 444-5.
- Lavery, H. J. (1976) Review: Checklist of the Birds of Australia. 1. Non-passerines. *Sunbird* 7: 22-4.
- Knox, Elizabeth (1976) Upper molar alveolar patterns of some Muridae in Queensland and Papua New Guinea. *Mem. Qd. Mus.* 17: 457-9.

Organisation



Staff

Directorate

Director	Dr G. W. SAUNDERS
Deputy Director	C. W. PRICE
Secretary	W. J. M. CHADWICK

Management and Operations Branch

Director	H. S. Curtis
Chief Management Officer Parks and Reserves ..	C. D. Wilder
Chief Management Officer Wildlife	C. R. R. Roff

Research and Planning Branch

Director	Dr H. J. Lavery
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Administration Branch

Technical Administration Officer	K. J. Green
Technical Services Officer	P. S. Ogilvie
Administration Officer	R. N. Krause

Regional Centres—Research

Administrative Officers

Yeerongpilly (Brisbane)	J. S. McEvoy
Hermitage (Warwick)	Dr T. H. Kirkpatrick
(Emerald Office)	Dr G. Gordon
Pallarenda (Townsville)	J. G. Blackman

Regional Centres—Management

Regional Management Officers

Brisbane	to be appointed
Cairns	J. F. Wilkinson
Gympie	P. L. Ingram
Rockhampton	K. S. Bade

Appendix

Receipts

Fees, Royalties and Miscellaneous Collections ..	\$206 918
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Expenditure

Revenue Fund

Salaries	722 075
Contingencies—	
Travelling expenses, transport, post- age, equipment, etc.	\$371 474
Field works and management—wages	436 322
Field works and management— operating	89 072
Fares, printing and stores	40 459
Environmental parks and reserves ..	7 804
Cash equivalent of long service leave	9 632
	<hr/>
	954 763
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	\$1 676 838

Loan Fund

Acquisition and development of national parks, etc. ..	\$477 982
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Trust Funds

Commonwealth Grants for National Parks and Wildlife Purposes Fund—

Acquisition, research, surveys, etc.	\$121 002
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National Parks and Wildlife Service Grant—

Research and development	\$176
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Expenditure on Maintenance, Acquisition and Development of National Parks 1975-1976

Overall distribution of expenditure on national parks was as follows:

Southern Coastal Region

Management Unit	Revenue fund	Loan fund
Lamington	\$2 774	\$5 880
Springbrook	1 319	815
Tamborine	2 143	2 146
Natural Bridge	427	18 769
Burleigh Heads	679	111
Mt Glorious	452	1 049
Mt Barney	72	1 089
Mt French		5 637
Boonah		21 000
Montville/Mapleton	1 330	6 497
Noosa Heads	1 656	1 076
Cooloola	543	79
Mt Bauple		23
Total, Southern Coastal Region ..	\$11 395	\$64 171

Southern Inland Region

Management Unit	Revenue fund	Loan fund
Girraween	\$1 753	\$4 051
Stanthorpe		5 145
Cunningham's Gap	3 089	804
Queen Mary Falls	405	25
Crow's Nest Falls	104	75
Bunya Mountains	3 914	1 693
Ravensbourne	1 260	649
The Palms	25	
Warwick Region	11	4 915
Other Areas	58	
Total, Southern Inland Region ..	\$10 619	\$17 357

Central Region

Management Unit	Revenue fund	Loan fund
Barcaldine	\$4 105	\$15 870
Carnarvon		7 098
Dipperu	242	
Whitsunday and Other Islands, Mackay Region	2 125	1 092
Conway	6 772	6 157
Seaforth	949	641
Eungella	3 780	2 218
Yeppoon	4 967	7 425
Capricorn—Bunker Group	150	534
Woodgate	156	185
Calliope		1 388
Other Areas	198	
Total, Central Region	\$23 444	\$42 608

Northern Region

Management Unit	Revenue fund	Loan fund
Chillagoe	\$2 578	\$9 851
Atherton Region	6 211	7 476
Mt Bartle Frere	108	293
Eacham	4 770	2 688
Barron	35	75
Palmerston	1 166	1 582
Ravenshoe	455	78
Mossman Gorge	275	125
Green Island	305	20
Jourama	590	628
Wallaman Falls	1 094	956
Magnetic Island	1 188	800
Mt Spec	388	3 672
Mt Elliott	271	1 696
Hinchinbrook Island, Other Islands, Cardwell Region	4 139	40 580
Total, Northern Region	\$23 573	\$70 520

Acquisitions

No.	Parish	Approximate area (ha)	Date of Gazettal
New National Parks			
727	Marathon	340	16 August, 1975
1 139	Telemon	450	16 August, 1975
1 238	Como, Cooloola; Laguna and Womalah	23 030	20 December, 1975

Additions to National Parks

880	Cairns and Smithfield	2.5	16 August, 1975
6	Aubrey	13	30 August, 1975
1 161	Noosa	2	30 August, 1975
452	Killarney	175	30 August, 1975
255	Ravenshoe	64	30 August, 1975

New Environmental Parks

454	Diglum	31	6 September, 1975
728	Waterview	447	30 August, 1975
1 557	Glady	1	13 September, 1975
1 564	Cairns	1	29 May, 1976
1 560	Japoon	3	29 May, 1976
829	Sarina	73	29 May, 1976
1 556	Glady		20 March, 1976
1 565	Hull		20 March, 1976

New Fauna Sanctuaries

Cedar Ridge and Tyungun	Sarabah and Witheren	186	16 August, 1975
Carn Brea	Jondaryan	236	7 February, 1976

Land purchased from Service Funds

Description of Area	Purchase Price	Remarks
Leasehold		
Portion 21v, Parish of Mingoola	\$705	Part of the Severn River Gorge National Park proposal.
Freehold		
Portion 13v, Parish of Gilbert	3 030	The land is situated in the Scenic Rim proposals.
Freehold		
Portion 126, Parish of Tenterfield	4 440	Part of the Girraween National Park. This area is presently separated from the existing park.
Freehold		
Subdivision 6 of portion 2808, Parish of Beauraba	4 600	An area of 29 ha of land in its natural state. Provides a habitat for many species of wildlife and contains many varieties of natural flora.
Freehold		
Lot 2 on R.P. 152525, Parish of Numinbah	14 900	Purchase provides access from Springbrook Plateau to the adjoining Natural Bridge National Park in Numinbah Valley.
Freehold		
Portions 110v and 114v, Parish of Palen	21 000	The land adjoins Mt May and Mt Maroon National Park which is adjacent to Mt Barney.
Freehold and Leasehold		
Portions 11, 592 and 593, Parish of Rockingham	35 000	This area is little disturbed and contains Mt Coom, which overlooks valuable waterfowl habitat leading into mangrove areas near the Hull River Mouth. This is the core of a major proposal.
Leasehold		
Surrendered Holding Grant	15 870	A valuable example of the more arid areas of the State which are at present not extensively represented.
Freehold		
Portions 70v, 74v, 75v, 78v and subdivision 2 of portion 73v, Parish of Gladly, and also	88 330	Funds for the purchase of these lands were provided by the Commonwealth Government under the <i>States Grants (Nature Conservation) Act 1974</i> . Purchase of these blocks was necessary to protect the adjoining Eubenangee Swamp National Park from draining.
Leasehold		
Portion 89v, Parish of Gladly		
Legal and survey costs	2 216	
Total	\$190 091	

