

Sixth Romeo Watkins Lahey Memorial Lecture
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Sponsored by the National Parks Association of Queensland
IN WILDNESS IS THE PRESERVATION OF THE WORLD

by

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Krarups hut, last property up Canungra Creek en route to the area which became Lamington National Park.

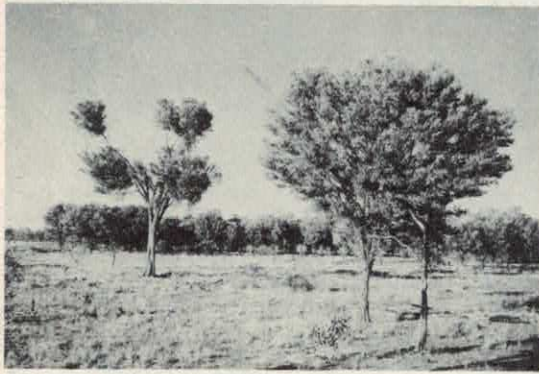
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R. W. LAHEY

Six Romeo Watkins Lahey Memorial lectures have been delivered to honour the memory of one of the founders of the National Parks Association of Queensland and its President from 1930 to 1961. On his retirement as president, Mr. Lahey, M. B. E. was elected Life Councillor. He died on 26 October, 1968 at the age of 82. After a tremendous effort from 1911 to 1915 his plan for reservation of Lamington National Park was approved in 1915. A civil engineer by profession, he served in the first A. I. F. and in the Australian Army in World War II.

Under his guidance, the N.P. A. Q. was successful in many submissions to the Queensland Government for National Parks in widely spread parts of Queensland. In his 70's, he completed field work on the Association's proposal for a large National Park based on Windsor Tableland and the eastern escarpment including Daintree catchment and Mossman Gorge. Most of his plan for this large National Park in North Queensland was accepted by the Government.

In his lifetime he had the satisfaction of seeing the National Parks of Queensland grow to an area of 2.3 million acres, much of which was due to proposals submitted by N. P. A. Q.



*Mulga S.W. Qld. on partly cleared country
Photo E. Warren.*



*Brigalow Central Qld. in semi-cleared conditions
Photo E. Warren*

INTRODUCTION

It is almost thirty years ago in 1949 since I, as a young plant ecologist, first spent some months in Brisbane in the Queensland Herbarium, then under the direction of Government Botanist, the late Cyril T. White. My task was to identify the plants collected in 1948 by the American-Australian Scientific Expedition to Arnhem Land, N. T. (organized by the National Geographic Society of America, Smithsonian Institute of Washington and the Commonwealth Government of Australia). During my stay in Brisbane, C. T. White introduced me to the activities of the National Parks Association of Queensland. I attended several meetings, and joined members on trips to Yarraman and to Wyberba.

This was my first introduction to the National Parks movement, an introduction which has formed the basis of my interest ever since. It was therefore a particular honour to be invited to deliver the Romeo Watkins Lahey Memorial Lecture for 1978. Romeo Lahey was one of the small band of Queensland conservationists who founded the National Parks Association of Queensland and became their first President in 1930. His vision and enthusiasm has spread throughout the whole of Australia. This lecture, honouring Romeo Lahey, surveys the conservation movement in Australia, over the last hundred years, outlines current activities and indicates areas where the National Parks Associations must continue to play a strong role in the Movement.

THE CONSERVATION MOVEMENT

"In Wildness is the Preservation of the World", thus spoke the American philosopher, Henry David Thoreau, over a hundred years ago. "We need the tonic of wildness, to wade sometimes in marshes where the bitten and the meadow-hen lurk, and hear the booming of the snipe; to smell the whispering sedge where only some wilder and more solitary fowl builds her nest, and the mink crawls with its belly close to the ground. At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that the land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable." The basic truth is that "a leaven of wildness is necessary for the health of the human spirit, a truth which we seem to have forgotten in our headlong rush to control all nature". "Most men", it seemed to Thoreau, "do not care for nature and would sell their share in all her beauty for a given sum."

Thoreau's words "In Wildness is the preservation of the world" echoed the deep, mystical bond felt by all races whose lives are closely intertwined with the landscape. Exploitation, the product of the Agricultural and Industrial Revolutions, was the antithesis of this feeling for the landscape, and thus the conservation movement was born.

On March 1st, 1872, the Congress of the United States of America formally proclaimed the marvels of the Yellowstone area as a National Park, cutting across the State boundaries of Idaho, Montana, and Wyoming. The area was set apart as a "pleasuring-ground for the benefit and enjoyment of the people" and the act provided for "the preservation, from injury or spoilation, of all timber, mineral deposits, natural curiosities or wonders and their retention in their natural condition."

It will be noted that the act creating Yellowstone National Park used the word "**preservation**". This implies that the landscape will remain roughly the same far into the future. Just put a high fence around the area, keep people out, and the land, the plants, the animals will be forever the same as they were in 1872. Ecologists soon realised that this was a pipe-dream; ecosystems are dynamic, not static. They are continually changing, sometimes quite quickly; often no change is noticeable for many generations (so we come to believe that the area will be the same for long hereafter). We cannot hold up the inexorable changes in the landscape which will occur with time — as **preservation** implies. We must accept that changes will occur and work with these changes towards the **conservation** (management) of the landscape and its associated plants and animals.

The conservation movement, begun in the United States, soon swept the world. Australia did not lag behind and, in fact, established the world's second national park, Royal National Park, south of Sydney, in 1879 only seven years after Yellowstone National Park. National Park, Belair near Adelaide followed in 1891, and Tower Hill National Park, in Victoria in 1892. Western Australia had a Parks and Reserves Act in 1895.

The history of many of these early National Parks in Australia has unfortunately been to some extent a record of mismanagement. For example, a considerable area of Royal National Park has been cut over from

time to time for timber, and in recent years the large numbers of visitors, in the absence of proper supervision, caused much deterioration. Roads have been made with little regard for nature conservation. There have been recurrent fires. Camping of large civil and military groups has caused catastrophic local destruction of natural vegetation and extensive gullying and sheet-erosion. In National Park, Belair, playing fields and tennis courts have alienated almost half of the area so that today the national park has had to be reclassified as a Recreation Park.

Fortunately conservationists in the young State of Queensland were able to observe the results of this lack of management in the Southern States. Witches Falls National Park (131 hectares) at Tamborine was created in March 1908; a few months later Bunya Mountains National Park (9,813 hectares) was proclaimed. The battle for Lamington National Park (19,792 hectares) had begun in the 1890's. Robert M. Collins* a noted pastoralist and a member of the Queensland parliament, was an advocate of National Parks in this State.

The conservation spirit was infectious and influenced Romeo Lahey's parents at Canungra. Their attitude became communicated, in full measure, to Romeo Lahey. In 1908 and 1910, "he had battled his way up the heights of the Border Ranges and had come under the spell of the magnificent scenery and now resolved to try to save all this splendour for the nation." He wrote soon afterwards "I don't remember what course of action I reasoned, but the idea of those glorious forests and falls being destroyed by selection filled me with an intense determination to have them saved — kept for people who would love them but who, at the present, did not even dream of their existence". The late Alec H. Chisholm has outlined the hard and vigorous campaign that eventually led to the creation of Lamington National Park in July 1915 in the Romeo Watkins Lahey Memorial Lecture, 1971. The National Park was proclaimed not under the guise of a Recreation Reserve but as a Conservation Reserve — conserving the grandeur of the landscape, its magnificent rain forests, and animals. It was proclaimed in the spirit of Thoreau. The National Parks movement in Queensland owes so much to the energy, perseverance and wisdom of Romeo Lahey.

Over the last hundred years Man has come to dominate the earth. Because of his ingenuity and rapidly increasing numbers, he has gained ascendancy over other organisms. He can foster, conserve or destroy any plant or animal he chooses from the Poles to the Equator, from the depths of the ocean to the top of the highest mountain. The biological impact of his activities is rarely considered in this mad rush of exploitation and survival. But today the survival of **all** earth's creatures (plant and animal) are in the hands of the whole human race, not, as it was before, in the hands of "Nature, Red in Tooth and Claw".

From the biological point of view, all species of plant and animal have as much right of survival on this earth as Man. The task of conserving viable populations of all kinds of plant and animal in Australia, let alone the whole earth, is enormous. It is a utopian dream even to expect that all plants and animals will be conserved. Quite a number of species such as the diprotodons, the moas, the New Guinean section of the genus *Nothofagus* (Antarctic beech) have disappeared from Australia. It may be impossible to maintain a viable population when only a few individual remain or when conflicting land use has higher priority. However, a network of reserves should be created to conserve the maximum number of species possible — before it is too late.

Many national parks in Australia have been established for aesthetic or emotional reasons, regardless of the plants and animals they contain. Scenic areas like Ayers Rock, Mount Buffalo and the Grampians in Victoria, Mt. Kosciusko in New South Wales, the Great Barrier Reef islands, need no salesman to excite even the most hardened individual or politician. If he can see an easy tourist dollar, all the better. At the turn of the Century many preservationists considered that they could even improve on these scenic reserves by introducing exotic animals and plants. Two species of deer, the sambur and the hog deer, were introduced to Wilson's Promontory N. P., Victoria by the Victorian Acclimatisation Society and, it is rumoured, that a prominent botanist even carried bags of seed of native plants from other parts of Australia to scatter over the Park. Koala bears were introduced to Flinders Chase, Kangaroo Island, and some Indian expatriate even wished to release tiger on the island to improve the hunting. Fortunately such foolish ideas were not entertained by the founders of the Queensland National Parks movement. The first Queensland Parks were established for their grandeur as regards both the landscape and the flora and fauna they contained. The "acclimatisation era", where settlers attempted to convert the landscape to something like that at home in Europe, was dying. The spread of prickly pear across south-eastern Queensland would have been a warning

* Robert M. Collins was godfather of Sybil Delpratt (later Mrs. Romeo Lahey).

light to any conservationist who held acclimatization sympathies. It is a pity that this hard-gained wisdom has not been applied to remove the feral deer, goats and pigs which have infested some of our more recent reserves.

In more recent years, special reserves have been created for **unique, rare or endangered** species of plants and animals. Reserves have been proclaimed to conserve kangaroo, koala, platypus, waterfowl, Grampians waxflower (*Eriostemon*), *Calectasia*, *Eucalyptus macrorhyncha* etc. But what are rare and endangered species, and how many are there in Australia? In 1972 the Botany Branch of the Queensland Department of Primary Industries examined their records and considered that, of over 10,000 species of plants recorded in Queensland, the following species could be listed

TABLE 1	No. of Species
Probably extinct	1
Endangered	21
Rare	42
Depleted populations	6
Known only from original collection	34
Geographically important (Isolated or disjunct)	39
Total	143

Subsequent to that assessment, a number of field surveys have been made, especially on Cape York Peninsula. Dr. P. S. Lavarack of the Queensland National Park and Wildlife Service, in conjunction with the Botany Branch, of the Queensland Department of Primary Industries is at present revising the list. A few species listed will be deleted; a number of others added.

It is not hard to find a few rare or endangered species of plants or animals in any area of Australia. "Development" is proceeding so fast nowadays that it may not be long before even common and widespread species may be placed on the rare and endangered list. Just picture the chances of survival of plant and animal species associated with the brigalow when the Brigalow Land Development Scheme was in operation only a few years ago. And such explosions in land settlement has occurred many times in Australia since 1788, whenever a new technology has been developed.

We must aim at establishing a system of reserves containing the optimal number of plants and animals adequately conserved for posterity. Strict scientific evaluation of conservation and land-use objectives must replace, or supplement, the haphazard approach to reserve acquisition which has been used in the past.

In 1959, the Australian Academy of Science received a small bequest of \$5,000 under the will of the renowned Sydney conservationist, Miss Minard F. Crommelin. The Crommelin Ecological Conservation Fund was established. A National Parks Committee, with Dr. M. F. Day as chairman, initiated an Australia-wide survey of National Parks and Nature Reserves which culminated in a number of important State Reports and eventually in the 1968 Academy Report "**National Parks and Reserves in Australia**". Of particular import to subsequent developments in conservation was the survey of **Flora Conservation in South Australia** made by one of Australia's foremost conservationists, Sir John Burton Cleland, and myself (Specht and Cleland, 1961).

The Victorian National Parks Association under the Presidencies of David D. Lahey, the son of Romeo Lahey, and myself launched a similar survey for the State of Victoria. Some \$6,500 dollars was raised, two thirds from contributions from members of the Association, to employ an ecologist, Mrs. Judith Frankenberg, to assess the status of **Nature Conservation in Victoria**. The results were published by the Victorian National Parks Association in 1971 (Frankenberg, 1971).

The idea was infectious. By 1964 the International Biological Programme (IBP) was launched. When the Convenor of the Conservation Section of IBP (Mr. E. M. Nicholson) visited Australia in 1964 he considered that these projects could form an excellent basis for Australia's contribution of the IBP Conservation programme. Indeed, the Australian Programme formed the basis for a conservation survey of the whole world.

Back in Australia, teams of ecologists were organised, on a voluntary basis, for every State and for Papua New Guinea. It was the task of each team to:

- 1) Define the legislation concerning National Parks and reserves in that State.
- 2) Collate all available ecological literature and field notes for the State.
- 3) Prepare a list of major plant communities recorded in the State.
- 4) Record the plant communities found in every National Park and Reserve.
- 5) Assess the conservation status of each major plant community in the light of 3) and 4) above.

The Australian IBP Conservation Committee decided that a rational conservation network should be based on **major ecosystems** (plant-animal-environmental complexes). As most animals depend on particular plant communities for food, shelter, and nest-sites, and since plant communities are relatively well-known and should in any case be conserved for their own sake, **major plant communities** were substituted for major ecosystems. It was hoped that, apart from migratory animals which require special conservation measures, most fauna would be conserved if a satisfactory network of ecological reserves containing all major plant communities in Australia was achieved.

What are major plant communities? In Queensland we have all come to recognise such communities as rain-forest, mangrove forests, eucalypt forests; brigalow forests; cypress pine forests; gidgee, mulga and lancewood communities, grasslands (of Queensland blue-grass and Mitchell grass), desert porcupine grass (often called spinifex grass, not to be confused with the coastal grass, *Spinifex*). These broad communities are relatively easily recognised but are by no means homogeneous throughout their range. There are tropical, subtropical, warm temperate, montane, monsoonal and riverine rain-forests and many others. Brigalow communities range from a vine forest over 30 metres tall (verging on rain-forest) to an open-forest, to a woodland, to a low stand no more than 3-4 metres tall. The Darwin stringybark (*Eucalyptus tetradonta*) is about 25 metres tall in eucalypt forests around Weipa but may be found as a dwarf tree or even bush in much drier habitats. The plant and animal species associated with these widely distributed plant communities (rain-forest, brigalow, Darwin stringybark, etc.) vary along these environmental gradients (from wet to dry, from hot to cool, etc.). Subdivision is necessary into smaller units.

A more realistic subdivision of plant communities is based on structure. Several different layers or strata can be distinguished in most plant communities. Each layer is characterised by its height and the amount of leafy material in that layer, capable of intercepting the sun's rays. The uppermost layer is by far the most important as it is in full sunlight. The lower shaded layers are of less importance but must be considered.

Each layer in a plant community can thus be distinguished on two characters. Firstly whether it is composed of:

- single-trunked trees (over 30 metres, 10-30 metres, or less than 10 metres in height);
- multi-stemmed shrubs (over 2 metres, or under 2 metres in height);
- hummock grasses (porcupine grass, an unusual Australian desert grass);
- herbaceous plants (grasses, grasslike plants, reeds, herbs, ferns).

Secondly, the amount of foliage capable of intercepting solar energy can be expressed as the percentage of the land covered by green leaves (Foliage Projective Cover). This can be arbitrarily subdivided into:

- dense cover (70 - 100%)
- mid-dense cover (30 - 70%)
- sparse cover (10 - 30%)
- very sparse cover (0 - 10%)

To estimate Foliage Projective Cover, a vertical sighting tube containing double cross-wires is used to examine the leafy canopy above the observer — clear sky or leafy material may be observed in the line of the cross-wires. After making observations, at say 500 sites, an estimate of the Foliage Projective Cover can be made:

$$\frac{\text{Number of sites recording leaves}}{500 \text{ observation sites}} \times 100\%$$

This technique for recording Foliage Projective Cover may seem tedious, but soon the observer will get his eye in and can make a good assessment of canopy cover without needing to check his estimate.

Using these two observations — height and nature of the upper stratum and Foliage Projective Cover — one may make the first classification of the plant community.

TABLE 2

habit	Foliage Projective Cover			
	dense cover (1)	mid-dense cover (2)	sparse cover (3)	very sparse cover (4)
tree (T)	closed-forest	open-forest	woodland	open-woodland
tall shrub (S)	close-scrub	open-scrub	shrubland	open-shrubland
low shrub (Z)	closed-heath	open-heath	low shrubland	low open shrubland
hummock grasses (H)	—	—	hummock grassland	open hummock grassland
grasses (G)	closed-grassland	grassland	open-grassland	very open-grassland
herbs (G)	closed-herbland	herbland	open-herbland	very open-herbland

Recent studies have adopted symbols for these plant community types — for example a closed forest may be expressed by the symbol T1 meaning composed of trees (T) with dense canopy cover (1). To increase the information as many different species of trees grow together in a rain-forest we could precede the symbol by an "x" to indicate this mixture, e.g. xT1. For the eucalypt open-forest, such as seen on Mt. Coot-tha, we could describe this community by the symbols eT2 where "e" stands for *Eucalyptus*, T for trees and 2 for mid-dense canopy.

This system can be extended to the understorey layers so that the Mt. Coot-tha eucalypt forest could be described in full as eT2. aS4. tG2 where eT2 refers to the eucalypt tree layer, aS4 refers to the very sparse *Acacia* shrub layer, and tG2 refers to the *Themeda* (t) grass layer.

THE CONSERVATION SURVEY OF QUEENSLAND

Using the above technique, 150 major plant communities were defined for the whole of Queensland. Table 3 shows the conservation status of these major plant communities in reserves in 1972 when the IBP survey was completed. Only 38 major Queensland ecosystems (out of 150) could be considered adequately conserved.

In June 1975, the new Queensland National Parks and Wildlife Service was established, combining the National Parks Branch of the Department of Forestry and the Fauna Conservation Branch of the Department of Primary Industries. Since that date, there has been a rapid increase in the number and size of National Parks in Queensland — up to March 1978, 1,052,625 hectares have been added, almost doubling the National Park network to 2,181,903 hectares. The number of National Parks in the State has increased by 24 to now total 320, including many small islands.

These recent acquisitions have certainly improved the conservation status of major Queensland ecosystems. J. P. Stanton of the National Parks and Wildlife Service kindly provided ecological notes on the major National Parks which have been added to the list. The information, though by no means based on accurate field surveys, enabled an appraisal to be made of the current conservation status of major Queensland ecosystems, as shown in Table 3.

Recent surveys have added eight extra ecosystems to the 1972 list.

- | | |
|--|-----------------------|
| 1. Closed-forest | |
| <i>Melaleuca</i> aff. <i>symphyocarpa</i> — <i>Leptospermum fabricia</i> | Jardine River |
| 2. Open-forest | |
| <i>Eucalyptus signata</i> — <i>Euc. intermedia</i> — heath | S. E. Coastal lowland |
| <i>Eucalyptus intermedia</i> — <i>Banksia integrifolia</i> — heath | Cardwell |
| 3. Woodland | |
| <i>Eucalyptus dealbata</i> — <i>Euc. sideroxylon</i> | Stanthorpe |
| <i>Angophora floribunda</i> | Stanthorpe |
| 4. Low open-forest | |
| <i>Melaleuca</i> aff. <i>symphyocarpa</i> — <i>Leptospermum fabricia</i> | Jardine River |

5. Closed-heath/closed scrub

Grevillea pteridifolia

Jardine River

6. Grassland

Themeda australis — *Heteropogon contortus*

North-eastern to Eastern islands and headlands

TABLE 3

Conservation status of major Queensland ecosystems in 1972 and March 1978.

Structural formations	Total No. major plant communities	No. reasonably well conserved in reserves	
		1972	1978
Closed-forests	23 +1*	12	21
Tall open-forest	2	2	2
Open-forest/low open-forest	23 +3	6	12
Woodland	19 +2	1	10
Low woodland	14	1	7
Open-woodland/low open-woodland	15	1	5
Closed-scrub/closed-heath	8 +1	5	9
Open-scrub/open-heath	13	2	8
Tall shrubland	4	nil	nil
Low shrubland	7	nil	nil
Tall open-shrubland	3	3	3
Low open-shrubland	4	2	2
Hummock grassland	3	1	1
Grassland/herbland	12 +1	2	4
Total	150 +8	38	84

* Added March 1978.

Of the 158 major ecosystems 84 are now reasonably well conserved (compared with 38 in 1972). But this is only half Queensland's major ecosystems! The following list shows those ecosystems which are still (March, 1978) poorly or not conserved in the National Park network.

1. Closed-forests (18 ecosystems)

semi-deciduous notophyll vine forest

poor

mesophyll feather-palm vine forest

poor

2. Low closed-forest (6 ecosystems)

semi-evergreen microphyll vine thicket

poor east of
Divide

3. Open-forest (15 ecosystems)

Euc. brownii (Reid River box)

nil

Euc. populnea (poplar box)

poor

Tristania laurina — *Casuarina cunninghamiana* (water gum — river oak)

nil

Callitris columellaris (cypress pine)

poor

Acacia harpophylla (brigalow)

poor

Acacia argyrodendron (blackwood)

nil

Sandstone open-forest complex

nil

4. Low open-forest (10 ecosystems)

Casuarina luehmannii (bull oak)

nil

Callitris columellaris (cypress pine)

poor

Acacia cambagei (gidgee)

nil

Acacia catenulata (bendee)

nil

Acacia shirleyi (lancewood)

poor

Euc. dichromophloia (red-barked bloodwood)

nil

5. Woodland (21 ecosystems)

<i>Euc. argillacea</i> (western box)	nil
<i>Euc. crebra</i> — <i>Euc. drepanophylla</i> (ironbarks)	nil
<i>Euc. similis</i> (yellow jack)	nil
<i>Euc. populnea</i> (poplar box)	poor
<i>Euc. tereticornis</i> — <i>Angophora subvelutina</i> (blue gum — broad leaved apple)	poor
<i>Euc. camaldulensis</i> (river red gum)	nil
Forest gum (undescribed)	nil
<i>Euc. orgadophila</i> (mountain coolibah)	nil
<i>Euc. melanophloia</i> (silver-leaved ironbark)	nil
<i>Euc. populnea</i> — <i>Acacia aneura</i> (poplar box — mulga)	nil
Sandstone woodland complex	nil

6. Low woodland (14 ecosystems)

<i>Euc. tetradonta</i> (Darwin stringybark)	nil
<i>Euc. cullenii</i> — <i>Euc. dichromophloia</i> (Cullen's ironbark — red barked bloodwood)	poor
<i>Euc. pruinosa</i> (silver leaf box)	nil
<i>Euc. populnea</i> — <i>Acacia aneura</i> (poplar box — mulga)	nil
<i>Acacia aneura</i> (mulga)	nil
<i>Acacia georginae</i> (Georgina gidgee)	nil
Deciduous low woodland	poor

7. Open-woodland (2 ecosystems)

<i>Euc. orgadophila</i> (mountain coolibah)	nil
<i>Euc. melanophloia</i> (silver leaved ironbark)	nil

8. Low open-woodland (13 ecosystems)

<i>Euc. brevifolia</i> — <i>Triodia pungens</i> (snappy gum — porcupine grass)	nil
<i>Euc. dichromophloia</i> (\pm <i>Triodia</i>) (red barked bloodwood)	poor
<i>Euc. microtheca</i> — <i>Excoecaria</i> (coolibah — gutta percha)	poor
<i>Euc. setosa</i> (nut wood)	nil
<i>Acacia excelsa</i> — <i>Atalaya</i> — <i>Ventilago</i> (iron wood — white wood — supple jack)	nil
<i>Flindersia maculosa</i> (leopard wood)	nil
<i>Acacia peuce</i> (waddy)	nil
<i>Euc. confertiflora</i> — <i>Euc. papuana</i> (carbeen — ghost gum)	nil

9. Closed-scrub (4 ecosystems)

—

10. Closed-heath (5 ecosystems)

—

11. Open-scrub (5 ecosystems)

<i>Euc. normantonensis</i> (Normanton mallee)	nil
<i>Euc. viridis</i> — <i>Euc. bakeri</i> (mallee box — Baker's mallee)	nil
<i>Melaleuca symphyocarpa</i>	nil

12. Open-heath (8 ecosystems)

<i>Xanthorrhoea</i> sp. (Eastern area)	poor
<i>Neolitsia</i> sp.	poor

13. Tall shrubland (4 ecosystems)

<i>Bauhinia</i>	nil
<i>Acacia aneura</i> (mulga)	nil
<i>Acacia cambagei</i> (gidgee)	nil
<i>Cassia</i> — <i>Eremophila</i>	nil

14. Low shrubland (7 ecosystems)

<i>Atriplex nummularia</i> (old man saltbush)	nil
<i>Atriplex vesicaria</i> (bladder saltbush)	nil
<i>Maireana</i> (<i>Kochia</i>) <i>astrotricha</i> (pearl bush)	nil
<i>Maireana</i> (<i>Kochia</i>) <i>aphylla</i> (cotton bush)	nil
<i>Muehlenbeckia cunninghamii</i> (lignum)	nil

<i>Arthrocnemum</i> — <i>Pachycornia</i> (samphire)	poor
<i>Cassia</i> — <i>Eremophila</i>	nil
15. Tall open-shrubland (3 ecosystems)	
—	
16. Low open-shrubland (4 ecosystems)	
<i>Borya septentrionalis</i> *	nil
Flora of rocky peaks of S. E. Qld.	poor
17. Hummock grasslands (3 ecosystems)	
<i>Triodia</i> spp. (porcupine grass)	nil
<i>Plectrachne</i> spp. (porcupine grass)	nil
18. Grassland/herbland (13 ecosystems)	
<i>Astrebla</i> spp. (2 formations — Mitchell grass)	nil
<i>Dichanthium fecundum</i> (2 formations — Gulf blue grass)	nil
<i>Dichanthium sericeum</i> (Qld blue grass)	nil
<i>Xerochloa</i> spp. (rice grass)	nil
<i>Spinifex hirsutus</i>	poor
<i>Spinifex longifolius</i>	nil
<i>Psoralea</i> etc. (ephemeral)	nil

* Mr. John Donohue of Townsville reports that this community occurs on the ridge tops of N. P. Reserve 255, County Cardwell.

CONCLUSIONS — THE FUTURE

Clearly such a long list indicates that the conservation movement in Queensland still has a large task ahead of it. Strong conservation pressure has acquired a network of National Parks from Cape York Peninsula to the New South Wales border, in the higher rainfall belt of the State. Missing fragments in this humid zone should be acquired as the State Government proceeds with its assessment of land-use potential of coastal regions — the survey of the Moreton Bay Region has been completed, the survey of the Hervey Bay Region is now underway.

The big deficiency in the conservation network is in the western districts of the State. The new National Parks and Wildlife Service has an impossible job to catch up with the backlog of applications for new National Parks and still participate in the State Government land-use surveys (Moreton Bay, Hervey Bay, etc.); little time can be spared for the Western Districts.

It seems appropriate that the National Parks Association of Queensland assist the Service with their task. R. Allen Clelland, in the 1969 Romeo Lahey Memorial Lecture, outlined the six aims of the Association expressed at its first meeting (1930). I cite four of these:-

1. To preserve intact in their natural conditions the existing National Parks of Queensland; and to secure the reservation of all suitable areas before it is too late.
2. To educate public opinion to a further appreciation of the necessity and value of National Parks.
3. To form a link between the public and the administration, and to secure legislation dealing with the National Parks.
4. To raise and administer funds for furthering the objects of the Association, and to take all other steps necessary thereto.

What can the N. P. A. Q. do today? David Lahey discussed this problem in the Fourth Romeo Watkins Lahey Memorial Lecture in 1973 and again at a symposium on "A National System of Ecological Reserves in Australia" organised by the Australian Academy of Science in 1974.

It appears to me that the National Park programme in Queensland has moved into a phase where recommendation for National Parks can only be made by ecological experts who can assess landscape potential. It could be assumed that organizations such as the N. P. A. Q. can no longer fulfil its prime aim of securing areas for reservation. This conclusion is far from the mark as shown by David Lahey and myself while Presidents of the Victorian National Parks Association. A National Parks Association can raise funds from amongst its members, and outside, to employ a qualified ecologist to define the problems and, in

conjunction with State, Federal and University research organisations, recommend areas for conservation. The time is opportune for N. P. A. Q. to direct its interest towards the fragile, less robust ecosystems of the Western Districts of the State.

In the process, attractive handbooks (collated from the large amount of material already available in various research organisations) could be prepared to explain the landscape, geology, plant and animals of each National Park established or proposed. This would provide exceedingly valuable material for educationists and lay-folk alike. Annual excursions to these far away National Parks could be organised. In this way, the N. P. A. Q. will continue to further the aims of the Association as defined at the inaugural meeting when Romeo Lahey was elected the first President.

The N. P. A. Q., thanks to the vision of Romeo Lahey, has a remarkable track-record; the Association must not fail the State in the future.



Brigalow (Acacia harpophylla alliance) with trees to 16 metres tall.

Photo CSIRO Land Res.

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AIMS AND OBJECTS

- (1) To preserve intact in their natural condition the existing National Parks of Queensland; and to secure the reservation of all suitable areas.
- (2) To educate public opinion to a fuller appreciation of the necessity and value of National Parks.
- (3) To form a link between the public and the administration dealing with the National Parks.
- (4) To co-operate with other organisations having the same or similar objects.
- (5) To assist in the enforcement of protective regulations concerning National Parks.

Membership is available to any person who is in accord with the above aims and objects.

Back copies of Romeo Watkins Lahey Memorial Lectures are available plus self-addressed, stamped envelope, 9" x 4".

"National Parks Association Of Queensland"	20c
"The Great National Parks Movement"	20c
"Down The Years With National Parks in Queensland"	30c
"A National Parks Manifesto For Queensland"	30c
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