



NPA Bulletin

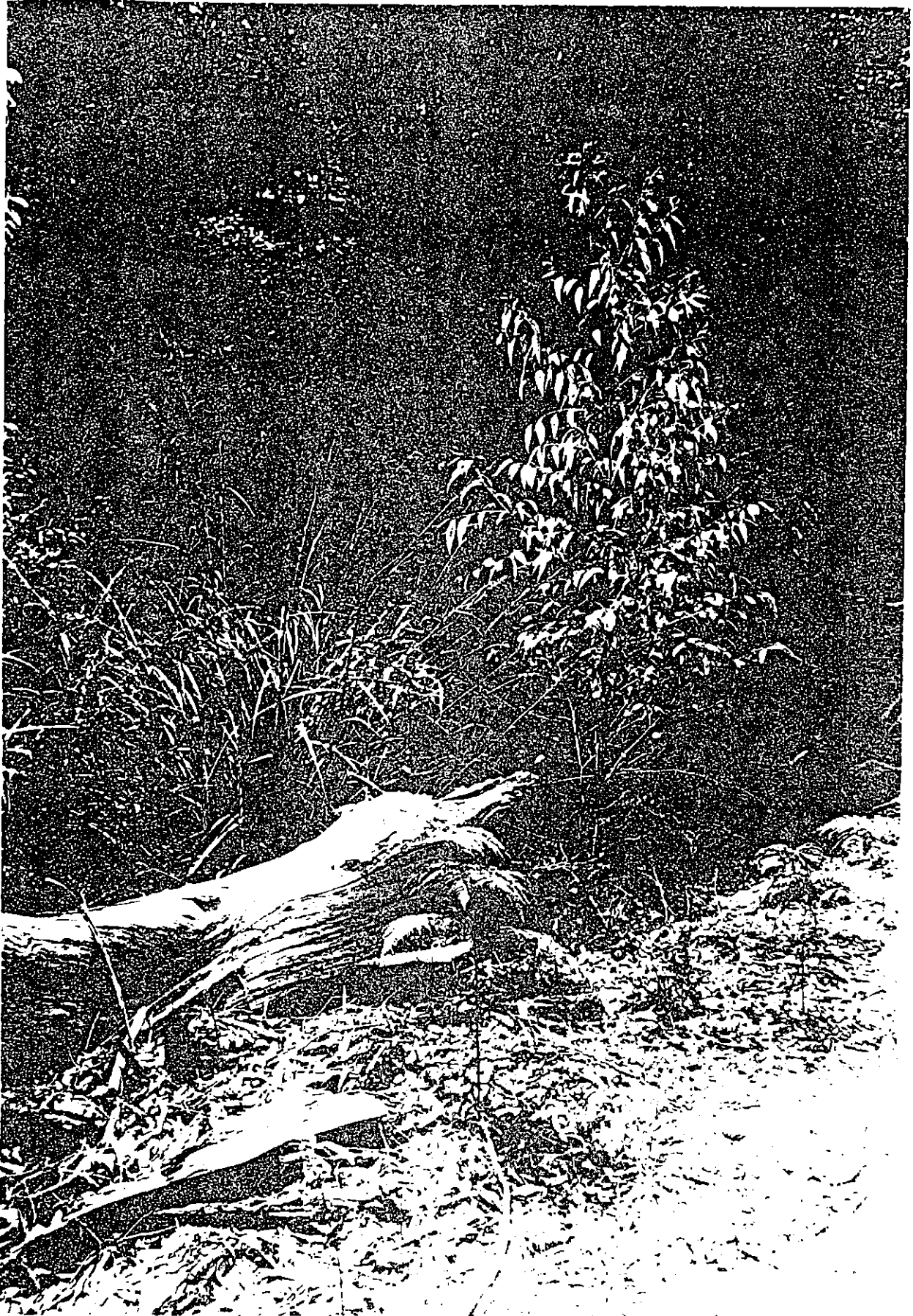
National Parks Association ACT

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\$1.00



YEAR OF THE TREE
PHOTOGRAPHIC COMPETITION AWARD PICTURE



Brown Barrel Wet Sclerophyll Forest John Hook

PRESIDENT'S FOREWORD

The Future of the Gudgenby Nature Reserve

During January a fire burnt out more than half the Gudgenby Nature Reserve and part of the Cotter valley. In a period of two weeks most of the southern section of the Reserve including the whole of the Kelly wilderness area was consumed. The long drought and hot summer eventually took its toll of the Reserve.

We know from past experience that periodic fires are one of the natural forces which have shaped the Australian bush and helped to produce our distinctive flora. This realisation does not, however, lessen the shock in seeing the Reserve blackened and burnt, seemingly stripped of all life forms. With rain the Reserve will recover and the mountain slopes and plains will again be covered in their distinctive trees, shrubs and wild-flowers. As we wait for nature to take its course let us use this opportunity to take stock of the problems facing the future management of the Reserve so that we can make a fresh approach to the solution of some of the problem areas.

One of the questions which must be addressed fairly quickly is the future of the Gudgenby pine plantation; the fire largely destroyed this plantation and it probably now has little or no commercial value. The remains of the plantation should be removed and the area allowed to regenerate naturally. Some assistance may be required to allow regeneration to proceed quickly. If the tree planting program now underway by the NPA at Glendale is successful we could consider planting part of the former pine plantation area. This could provide the nucleus for the revegetation of natural species throughout the area.

Another major problem is the required incorporation into the Reserve of freehold and leasehold land within the Reserve currently used for grazing. Members will be aware that we have pursued this question with the Minister for the Capital Territory for several years now without achieving even a lukewarm response. Unfortunately the present Minister's attitude towards all conservation issues is completely negative. This makes the achieving of conservation goals in the ACT extremely difficult. We have documented the case for the resumption of leasehold land as leases expire very fully with the Minister on a number of occasions and will continue to do so. We have also sought support from the ACT parliamentarians and are currently following up this line of approach to the Minister. We hope the new year may bring a change of attitude: in any case your continued support in helping to resolve this problem is essential.

The remaining freehold land within the Reserve all lies in the Naas valley. It currently blocks access to the Reserve via the Naas valley. The responsibility for the acquisition of this land lies with the Department of Administrative Services. We have been informed that, while the land has been listed for purchase in the estimates for a number of years, budget cutbacks have forced a postponement of purchase. We will continue to make representation to try and accelerate the purchase of this land so that it may be integrated into the Reserve as soon as possible.

The land uses which I have been discussing, forestry and grazing of domestic stock, are alien to those for which the Reserve was created. Gudgenby can be an outstanding natural area provided it is managed for the preservation of its natural values. This is the goal for which the NPA continually strives.

The final issue which I would like to discuss (of many possible issues) is the future extension of the Reserve, the so-called stage two additions. At the moment the Reserve does not include areas such as Smokers Gap, Blue Gum Creek and the Honey-suckle Creek valley. These areas are listed in the stage 2 extensions. They border on the present Reserve and form logical and necessary extensions. Although plans for those extensions have been on the drawing board since the Reserve was first proclaimed (along with a proposed stage 3) they have yet to be implemented. The NPA intends to campaign actively in 1983, with the support of the Australian National Parks Council, for the stage 2 additions to be gazetted. Only by incorporation into the Reserve can adequate protection from environmentally damaging land use be afforded. Already we have seen plans for an artificial ski resort at Smokers Gap approved by the Department of the Capital Territory without any form of publicly available environmental impact statement. The environmental consequences of such developments are totally destructive of natural values both in the short and long term. The NPA and all other ACT environment groups are united in their opposition to the ski resort proposal. Our representation to DCT and to the Department of Home Affairs and Environment (which administers the environment legislation) have, so far, been inconclusive.

It is vital for the NPA to fight for the integrity of the G.N.R. Only a secure, well managed reserve can preserve natural values and safeguard our natural heritage.

Environmental politics

In December last a summit meeting of environmental groups from around Australia at Tullamarine made the decision to adopt direct political action to achieve environmental goals. This decision was taken, of course, in the light of the decision of the Federal Government not to intervene directly in Tasmania to prevent the construction of the Franklin dam. Mr Fraser has since announced his offer of \$500m to the Tasmanian government to build an alternative thermal power station but this offer has, so far, been refused.

The NPA was represented at this meeting by the Australian National Parks Council, our peak organisation. In this way we participated in the decision to take direct political action over the Tasmanian and other critical national environmental issues such as retention of native forest, management of arid lands, preservation of the Great Barrier Reef, preservation of rainforests, amongst others.

The question of direct action i.e. support for one or other of the political parties for their environmental policies is a difficult issue for most conservation groups to resolve. Support for conservation and for better environmental management generally has always cut across traditional party lines. In the present case it may be difficult to achieve concerted and effective action of this type. The Australian electorate both federal and state shows relatively stable patterns of party preference with only small swings at successive elections. To raise the consciousness of the electorate towards conservation and to marshal that force is a major task for the conservation movement.

The need to resort to this type of action is evident when the magnitude of our national environmental problems is considered. In spite of two years of intense campaigning at state and federal level over the S.W. Tasmania dam issue by conservation groups the construction still proceeds. There is now overwhelming public support for conservation of S.W. Tasmania as a wilderness area. A priceless part of Australia's natural heritage may be lost soon unless the Tasmanian Government bows to public pressure and stops the dam construction. This potential catastrophe demands that we consider every avenue of action to influence the Federal Government in particular to intervene to reverse the decision to let the dam proceed.

I hope that you, as conservationists, will continue to support the call for dam construction to cease in every possible way.

KOSCIUSKO SUB-COMMITTEE

A sub-committee has been established to prepare and present NPA policy for Kosciusko National Park and to monitor management and recreation activity within the Park. The current members of the new sub-committee are

Tony Bayes convenor
Babette Scougall
Penny Hebbard
Neville Esau

If any other member would like to join this sub-committee you would be most welcome. Please contact the convenor or a sub-committee member to register your interest or offer any comments.

Although NPA ACT has had an ongoing interest in KNP for many years the amount of activity for NPA relevant to KNP has increased enormously in the last two years. The Park is now a major recreational resource with over two million visitors annually and the pressure on the ecosystems of the Park and particularly the alpine areas is consequently very great.

Two issues which the committee has responded to recently are recreation pressure at Cave Creek and stock grazing illegally in the Park. The committee wrote to Mr Bedford the NSW Environment and Planning Minister in October concerning the degradation caused by camping at Blue Water Holes on Cave Creek. In our letter we made the following points

- present recreation activities including camping, off road vehicle driving, and trail bikes were having an adverse impact environmental impact. Camping at Blue Water holes for example was producing increased loss of vegetation cover due to soil compaction and general overuse and pollution of Cave Creek was an increasing danger.
- new camping areas should be developed immediately outside the Cooleman Kaast system (these were fore-shadowed in the Kosciusko Management Plan).
- increased surveillance by rangers especially in peak holiday periods to control illegal camping, off road driving and trail bikes.
- a permit system should be introduced to regulate the number of campers to minimise adverse environmental impact.

During December the controversy over grazing in KNP became intense. A number of graziers attempted to put pressure on the NPWS to allow grazing by driving stock into the Park to graze illegally. The NPWS responded by threatening to impound stock unless they were removed by a cutoff date. At this time also Mr Bedford met a delegation of graziers but refused to allow relief grazing in the Park.

The sub-committee was active on this issue also writing to Mr Bedford opposing grazing and following up with a further telegram on the same subject. A letter to *The Canberra Times* commenting on their coverage of the issue was also published.

As the drought continues the grazing issue is still active and the sub-committee intends to keep pressing the NSW government and the NPWS to maintain the present no-grazing position.

Finally it is pleasing to report that the Yarrangobilly Caves are again open to the public following the installation of new generators. Temporary staff have also been engaged to act as guides during the holiday period.

THIS ISSUE As mentioned in an earlier issue we have the facilities for including photographs in the Bulletin. All the pictures in this issue, except one, were taken by me. From the photographic competition it is apparent that the Association has many capable black and white photographers. I would like to have a selection of general interest or particular subject photographs to make the Bulletin more visually attractive. Editor.

MURRUMBIDGEE ENQUIRY LEADS TO GUDGENBY

The National Parks Association was invited to appear before the Joint Committee on the A.C.T. on 5 November in support of its submission to the committee's inquiry into the Murrumbidgee River. The President and I, who prepared the submission in the first half of last year, represented the Association.

In summary, the submission calls for urgent action to control undesirable and damaging activities affecting the river. It recommends:

- 1) That a Murrumbidgee River Corridor should be defined and declared. This corridor should include the river plus 500 metres to one kilometre from the river bank, extending where necessary to take in major features such as Red Rocks Gorge, Bullen Range and significant flora and fauna habitats.
- 2) Legal protection should be given to the corridor, as a Murrumbidgee Nature Reserve under the A.C.T. Nature Conservation Ordinance.
- 3) All plans for further urban development in the Tuggeranong or West Murrumbidgee should be abandoned. The threat to water quality alone warrants this action.
- 4) A plan of management should be prepared for the Murrumbidgee River Corridor in consultation with interest and user groups.
- 5) Road access to the river corridor and within the river area should be carefully controlled so that it does not conflict with the other management objectives.
- 6) That all measures be taken to ensure that the water quality in the river is always within the 'slightly polluted' or less criteria as defined by the NCDC.
- 7) No planning initiatives which affect the Murrumbidgee River Corridor should be undertaken until the results of present research into river quality are available.
- 8) Government funds should be made available, if necessary, to complete this research.
- 9) Public participation should be encouraged at all stages of future plans for the Murrumbidgee River.

In answer to questions put by the Committee, Neville and I were able to elaborate on the above points. We were also pleased to be asked, quite unpredictably, about various aspects of the management of Gudgenby Nature Reserve. This gave us the opportunity to express concern about the lack of a publicly-available plan of management for the reserve and also the problems of feral animals and the continuation of grazing leases within the reserve.

By the time this article is published we should have the Hansard report of the hearing should any member be interested.

Proposed Gudgenby Advisory Committee

One issue the President raised at the inquiry was the need for the establishment of an advisory body to the authority responsible for the management of nature reserves in the A.C.T. He pointed out that such committees already exist in several other states.

Consequently, after the inquiry we put this suggestion formally to the Minister for the Capital Territory, Mr Hodgman. We suggested such an advisory committee for Gudgenby Nature Reserve would have the following objectives:

- to provide a continuing opportunity for public participation (particularly by user groups) in the policy development concerning the Reserve
- to provide the means by which further expertise may be made available to managing authorities without undue cost to taxpayers
- to provide an interface between the managing authority and the general community and to be an official channel of communication
- as a spin-off from the previous point, to provide reinforcement for the implementation of approved management measures



The extremely low level of the Murrumbidgee River at Tharwa during the present drought. Water diverted for the Snowy Scheme from

Tantangara Dam leaves little to flow through the A.C.T. — Photo Reg Alder

- to provide the means by which the Reserve management may be able to galvanise a voluntary labour force for specific conservation projects.

We also indicated that NPA would like to be represented on such a committee.

The Department has replied that because of the recommendations of the Lynch report no further committees can be formed. This specious reason is unacceptable to the Association and further representations will be made.

Denise Robin

GUDGENBY PLANTING PROJECT

In the September Bulletin the area selected for the NPA's Year of the Tree planting project was described, with an account in the December issue of the four eucalypt species, native to the nearby slopes, chosen for establishment. The value of obtaining trees genetically suited to the site, as well as the flexibility, interest and economy of a 'do-it-yourself' scheme, encouraged the Association to grow these species from locally collected seed. This article describes the way this part of the project was undertaken.

Eucalypts are not difficult to grow from seed, which is the most widely used means of propagation at present, although techniques of cloning and vegetative reproduction are advancing rapidly and may become commercial in the not too distant future. While trees grown from seed can show considerable variation in quality and form compared with those obtained by cloning, this unpredictability is much closer to the natural pattern, and not only maintains a degree of genetic diversity but also results in a more varied stand of trees. From an aesthetic point of view the interest created by variation is very important; the monotony inherent in uniformity is particularly evident in pine plantations.

Seed was collected from the four local species of *Eucalyptus* — *E. bridgesiana* (Apple Box), *E. pauciflora* (Snow Gum), *E. rubida* (Candlebark) and *E. stellulata* (Black Sallee) — in early Spring this year. When collecting seed from eucalypts the aim is to harvest the capsules or 'gumnuts' after they have ripened but before they dry out on the tree and shed their contents. With a little practice suitability can be determined by examining the capsules themselves: if they are too 'green' the valves are poorly formed and indistinct; if too old the valves are open and the seed dispersed. The NPA seed-collecting expedition was at the right time except in the case of *E. pauciflora*; the capsules of this species were rather too green.

Once collected, the capsules were placed in open plastic containers at room temperature to dry out. Opening of the valves usually takes a week or so, and can be assisted by mild warming in a sunny spot. A good shake of the capsules encourages release of the seed, and after a fortnight the process is virtually complete although older, woody capsules may be slower to open. During the extraction phase care should be taken to keep the containers well ventilated and avoid over-heating; 'sweating' of green fruit — for example if placed in deep layers — can foster rotting, while prolonged exposure to temperatures in the sun may reduce seed viability.

Both fertile and non-fertile seeds (known as 'chaff') are released as the capsules open. In many species the lighter colour and smaller size of the chaff enables it to be readily separated from the seed, but in some cases they are so similar that this is quite difficult. However as seeds are not often sown individually the separation of seed and chaff is rarely necessary.

The seeds of the species selected are about the size and shape of a type-written comma, with the number of viable seeds per 10g varying from 600 (*E. pauciflora*) to over 3000 (*E. stellulata* and *E. bridgesiana*). The growth of trees that could reach 30m on the site, and of Mountain Ash (*E. regnans*) which can reach 100m in Victoria and Tasmania, from seeds of such small size, is a remarkable phenomenon less well known, perhaps, than the celebrated development of mighty oaks from little acorns!

For the home enthusiast, the storage of dry seed in sealed jars in a cool place is quite satisfactory and will keep the seed viable for at least 10 years. It is a good idea to check that no little seed-eating bugs are stored along with the seed too! Where longer storage is required the use of air-tight containers at 3° to 5°C is recommended, with a desiccant such as silica gel if the seed is packed in humid conditions.

Germination is stimulated by warmth and moisture in a well-aerated medium. However, many species of the high country have a mechanism to ensure that their seeds germinate only when the weather is warming up after winter, and the seedlings have the longest possible time in which to establish before the next cold season. This is achieved by seed dormancy, which inhibits germination even though light, temperature and moisture are adequate. Dormancy of these species is broken by simulating the end of winter: seeds are stored moist at 3° to 5°C for up to 6 weeks, then placed out in propagation trays as normally. This procedure, called cold-moist stratification, promotes uniform rather than erratic germination, and in our project was required for *E. pauciflora* and *E. stellulata*.

Because eucalypt seeds are so small, they are usually germinated in flat trays rather than individual pots. The seed/chaff mixture is sprinkled over the moistened germination medium, covered with a thin layer of fine soil or sand, and the surface is flattened gently. The tray is then watered and placed where it will receive filtered or morning sun, and protection from wind, rain and excessive heat or cold. The N.P.A. trees were germinated in a glasshouse, which is ideal. A fine, gentle spray of water morning and evening should provide sufficient moisture, and germination will usually occur in 10 to 20 days. Sowing is best done in September or October.

While eucalypts can be grown successfully in most garden soils, the ideal medium for germination is one that is well-aerated and freely-draining, but which also has good moisture-holding qualities. Thus mixtures of coarse sand and peat moss are most commonly recommended. For the N.P.A. project a mixture of vermiculite and perlite was used. These are expanded mineral products with high porosity and good moisture retention.

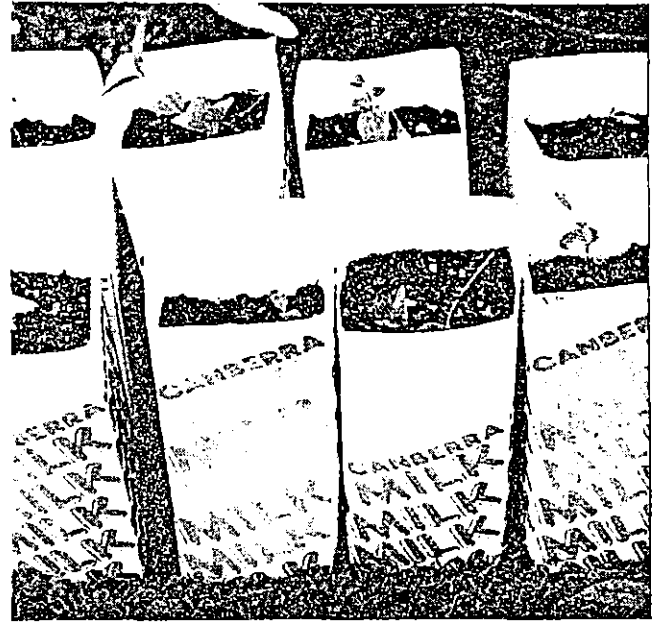
A sandy loam may also be added; the use of soil makes a more natural and inexpensive seed bed, but can introduce problems of disease. One that sometimes gives trouble is 'damping off', a fungal infection of the tiny seedlings that causes them to keel over at soil level. This can be minimized by avoiding over-watering, keeping the seedlings in a well-ventilated, well-lit place and not sowing too thickly. More effective is sterilization, which kills spores and microbial pests in the soil. Heat is generally safer than chemical sterilization. Heating a thin layer of the moistened mix on a metal tray in an oven set to 60°C (140°F) for 30 minutes is a satisfactory home method. Coarse sand, expanded mineral and peat-moss mixtures being usually disease-free, it is not necessary to sterilize them. However they do not provide the nutrients essential for plant growth, so a water-soluble fertilizer is applied after germination. It should be noted that eucalypts, like many other native plants, often grow in quite poor soils and are susceptible to over-fertilization. Thus water-soluble fertilizers are best used at half the recommended strength.

After the seed-leaves or cotyledons appear, growth continues at the apex of the plant and the seedling leaves are formed. When the second pair of these have appeared it is usually time to 'pick out' the plants from the germination tray into individual containers filled with potting mix. (This is where all those collected milk cartons were used!) The potting mix is prepared and moistened, then using a small 'dibble' the seedlings are gently loosened and lifted by a leaf (not the fragile stem) from the germination medium, placed in prepared holes with as little disturbance to or twisting of the roots as possible, firmed, and watered in. They are then kept in a protected place until they are over the shock of transplantation. This procedure was carried out by Charles Hill and Trevor Plumb on November 5, with materials and assistance generously provided by Fay Kerrison at Pialligo.

Seeding directly into pots avoids the set-back of 'pricking out' but can be wasteful of seed. The seed/chaff mixture is sprinkled into individual pots so that there are about 5 viable seeds to each one. After germination and a period of growth the contents of each pot are thinned down to one healthy seedling.

The potting mix must sustain the seedling until it is ready to be planted. Various mixtures are used, but the desirable properties are as described for the germination medium. If using a soil-less mix, a slow-release fertilizer is added, again at half the normal rate. The N.P.A. mix consisted of washed river sand, peat moss, composted sawdust and shredded bark, with a small amount (0.5g per carton) of a coated pelletised fertilizer designed to release nutrients over a 100 day period added in.

The milk cartons were converted into plant containers by trimming the tops where necessary, and cutting several corners off the bottoms to allow for drainage. The plasticised finish delays rotting of the cardboard, and as they are quite well-proportioned and freely available in large num-



Milk grows strong saplings — Some of our tree planting project seedlings ready for the tree sitters — Photo Reg Alder

bers, the cartons make ideal 'pots'.

Planting can begin 6 months after 'pricking out' if conditions are favourable. Autumn is the more suitable planting season in the Canberra area, as there is time for initial establishment before winter, with the maximum opportunity for growth and root development before the critical first summer. During the hottest spells watering is usually needed, but after this healthy specimens of local species should continue to grow satisfactorily without constant attention.

John Hook

PARK PERSONALITY PROFILES ALLEN STROM

As a member of a struggling fatherless family, Allen Strom had little opportunity to visit bushland or appreciate the worth of preservation. A scholarship took him to the Sydney Teachers College in 1932-33 and from there had his first opportunity to experience the bush of Holdsworth and East Hills with a couple of colleagues, a borrowed tent fly that sieved rain and a single old blanket.

A posting to Yanco Agricultural High School in 1934 awakened Allen to the sense of a not completely changed Australia. Vivid memories remain of the first sighting of waving crops of green wheat which at that time recalled Patterson's 'Song of the Wheat'. At Yanco he lived the history of the development of irrigation and realised how ignorant he was compared with the pupils who knew infinitely more than he about natural species and systems, land use and the wide open spaces. The realisation of ignorance affected him significantly and he determined somehow to fill that gap.

At Narrandera from 1935 to 1936, Allen further realised his inability to give answers to his pupils who brought him rock specimens and talked to him about wildlife and use of the land. Realising the importance of teaching children to relate to their environment he became absorbed in finding ways to relate himself and his pupils to the immediate environment.

His enterprise in relating to the learner was recognised even in the 1930's and he was appointed to the Enmore Activity School where boys were schooled using experimental techniques with provision for special and novel experiences. In 1940, the school went to the Broken Bay National Fitness Camp, the first to do so in school time.

By 1940 with friends and school children with a determination to learn more, he was undertaking excursions into the countryside and wilderness areas travelling by train, mailman or cycling. He then, by five years of night study, gained a Science Diploma with honours and the College Bronze Medal from the Sydney Technical College.

Allen Strom was no champion of physical education and he was left free to emphasise the potential of introducing youths from deprived areas into the pristine natural bush of Broken Bay. The occasion gave him the opportunity to be involved in the development of field studies programmes and schemes to demonstrate the effect of European usage of natural systems. Some handbooks and maps produced became pattern setters for future school programmes at the camp.

Thistle Y Harris, then Lecturer in Science at the Sydney Teachers College was a major driving force and heavily committed in developing community appreciation of nature, became aware of the handbooks and introduced Strom to veteran nature conservationist David G Stead, the founder in 1909 of the Wildlife Preservation Society of Australia. Allen was invited to become Secretary and held the position to 1950.

Capitalising on the interests and capacities of the best young people graduating through the learning programmes from the fitness camps and to bring in the general community the Caloola Club was established. The Club became a first rate exploration society aimed at educating its members by visits to various environments with fill-ins from information sheets, reference lists and occasional in-club courses.

By 1945, Allen Strom moved to a high school where his science background allowed him to experiment in innovating some general science programmes. In 1946 for twelve months he became the first Education Officer at the Australian Museum. Here he made good contacts whilst broadening his own concepts of the position of science in determining values in the environment.

A lectureship followed for eleven years at the Balmain Teachers College and this period became the most rewarding of his life. Here he met young men and women who were impressionable and interested in his enthusiasm for learning by field experience and energetic enough to join him in his exploits. Not all responded enthusiastically to these extra mural activities as there was little appeal to those who considered themselves sophisticated. The College administration encouraged the activities and today many are leaders in the conservation movement.

Recruits from the Teachers' College attracted others from the general community which allowed the Club to fulfill its purpose and increase capital inflow sufficiently to undertake publications and an annual called 'Yarrawonda'. In this magazine in 1953 a structure for a National Parks Act was outlined and the drive for a National Parks Service in N.S.W. commenced in earnest. The father of one of the boys from a national fitness camp programme became enthused and by his efforts the Club acquired a bus and many imaginative explorations were taken to innumerable places in Eastern Australia.

By 1950 events took place in N.S.W. which would design significant environmental changes two or three decades later. In 1948 the Fauna Protection Panel Act was brought down and the Local Government Act amended to provide for town and countryside planning. Strom was heavily involved with the changes these pieces of legislation presaged.

The Fauna Protection Panel was made up of nominees from interested government bodies and agencies plus three nominees concerned with wild life preservation. Allen Strom, then well known as a nature conservationist because of his association with the Caloola Club, Wild Life Society, Conservation Bureau of N.S.W., Federation of Bushwalking Clubs and the Bouddi Natural Park Trust, was a member of the panel for nine years in a voluntary part-time capacity. He worked on the expansion of faunal reserves (renamed nature reserves in 1960), encouraged

community based nature conservation bodies, expanded community education programmes, devised worthwhile wildlife management programmes and established a wildlife service.

The 1950's comprised a wonderful decade of progress for nature conservation and appreciation of the environment. There was progress in persuading the Department of Lands to establish National Parks, nature conservation societies grew and in 1955 a centralised council called the Nature Conservation Council of N.S.W. was formed. The Wildlife Research Section of the C.S.R.I.O. was set up, the N.P.A. of N.S.W. inaugurated in 1957 and there was an all out drive for a National Parks Act. Strom had many involvements, he was member of the new Warrumbungle National Park Trust, helped badger the Commonwealth for the Wildlife C.S.R.I.O., worked closely with the Nature Conservation Council for 20 years and was foundation secretary of the N.P.A. of N.S.W. until the early 1960's.

The most significant event in Allen Strom's career was in 1958 when he became the first Chief Guardian of Fauna. He realised the losses he would experience in personal contacts, concentration on conservation education and freedom to manoeuvre by becoming the head of a government agency.

The wildlife service in N.S.W. in 1958 was small with Allen, a typist and one field officer. There were only six nature reserves and while then considerable sympathy had been won around Sydney, there was limited influence in rural communities. For the next eight years Strom devoted his whole life to establishing a reputation not only for the Service he led but for nature conservation in N.S.W., the development of a national parks system and the spread of understanding of what nature conservation meant.

Allen highlights the dedication of about 50 nature reserves and more than 150 in the pipeline by 1965 against the opposition of releasing Crown Lands. Changes in attitude to wildlife management had to be developed to bring an upsurge in community concern for nature conservation. Free publications, posters and a quarterly magazine 'Wildlife Service' all had a part to play. The staff increased to more than 20 with 10 in the field and an Education Officer.

In 1965 the Minister for Lands was Tom Lewis and all had high hopes that he would introduce legislation for a National Parks Service. In doing this he disbanded the Fauna Protection Panel and the position of Chief Warden by the formation of a National Parks and Wildlife Service. In the change Allen Strom was not informed and he expressed concern that the wildlife management programme would be overwhelmed and this viewpoint was anathema to the Minister and newly appointed Director of the N.P.W.S.. Lack of consultation over decisions he was expected to implement caused Strom to return in 1968 to a position created for him in the Department of Education as Adviser in Conservation.

Over the next nine years until retirement in 1977, there were frustrations in developing programmes in conservation education (environment education in about 1970) in an atmosphere of indifference. Allen says there was little appreciation of his aims, despite many submissions and with him alone the service created in March 1968 finished the same way in 1977. In the period he travelled the state talking environmental education programmes to teachers and providing ideas and resources. Field study centres were established and today ten operate. His contribution to environmental education in schooling has been used throughout Australia and activities which are today generating in school can be traced to his work in 1968-77.

After leaving the N.P.W.S. in 1968 Allen again began to work with the N.P.A. of N.S.W. and the Nature Conservation Council and held a number of executive positions. In 1972 he established the Association of Environmental Education in N.S.W., a body he continues to work with not only as an officer but as a convenor of public education programmes. Allen promotes programmes which involve ordinary men and women to be encouraged to learn to assess the environments of their own communities and plan

for the maximisation of their good points.

Allen Strom was awarded the Australian Natural History Medallion in 1972 and Membership of the Order of Australia (A.M.) in 1977 for services to conservation. He was the recipient of the title of Environmental Educator of the Year in 1981. He hopes to go on spreading the word for many years to come and plaguing those who would destroy the resource of landscape, naturalness and wildlife for selfish or thoughtless purposes.

*(Abridged by Reg Alder
from autobiographical information)*

JUST BRIEFLY . . .

It seems a bit remote, in March, to be talking about the N.P.A. Christmas Party at Orroral Valley but the few unfortunates who couldn't get there will want to be told that it was a particularly happy and serene gathering, the weather, the company, the wine, the cheeses and the Christmas cake all harmonising. Can we say the same of the free rendering of the favourite carols of the late stayers? Of course we can.

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We thought we could fill this column with stories of interesting and unusual summer holidays but the J.B. reporter herself deserted Canberra. We know that a large contingent walked up and down New Zealand and we expect a good photographic record of that, and surely Valerie Elder, after floating down the Snowy on a LiLo in time to join a dig at Buchan, will have plenty to show and tell us when we meet again.

* * * * *

On the move again: Jenny and Norman Morrison, with Andrew and Suzanne, will be campervanning around the U.K. early in the year, and Betty Campbell will be spending a couple of months or so exploring Greece.

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And now some news of ex-members: we expect to see Neville and Patricia Windeyer again soon, on home leave from Vienna. Who wants to rent cheaply, a flat in Vienna for a few weeks during June/July/August.

Michael and Esther Hardware, still interested in N.P.A. affairs welcome visits from old Canberra friends to their Tecoma (Vic.) cottage in the Dandenongs, on the edge of Sherbrooke Forest. How do they fill their days? Renovations over, Esther has been wrestling with a couple of Tech. classes and Michael has been singing Gilbert and Sullivan with a well-known choral society, *and* making their stage sets.

* * * * *

We hear from the Environment Centre that the Environment Fair in Commonwealth Gardens (last October) was a splendid financial success. The impact of the N.P.A. exhibit - some of those lovely photographs from our YOTT competition, was marred somewhat by the breezes playing fast and loose with our two-storey display stands. Something weightier needed next time. Ideas please.

* * * * *

Our next display venture, indoors this time, will be at the A.C.T. Heritage week exhibition in the Albert Hall in April. We are to re-organize our display sub-committee and by the time you read this a talent search will be under way. But *please*, if you have a flair or expertise in this line, if you would be happy to help mount, demount, transport or 'mind' a display, don't wait for us to find you, give us a ring. Judy Payne will direct you to the convener.

BOOK REVIEW

Geoffrey Bolton, 'Spoil and Spoilers', 197 pp, 1981, George Allen & Unwin.

In the Year of the Tree, and with the disappointing cabinet decision on the damming of the Gordon River still painfully fresh in the memory, Professor Bolton's book is a timely reminder of Australia's sad conservation record. His long litany of destruction shows how species after species was annihilated for reasons of profit or ignorance, or both. The blurb on the back page mentions "the strange love-hate relationship between Australians and the land they live in", and contrasts this with the "subtle environmental management practices of the Aborigines."

In keeping with reality, the best part of the book deals with the 'hate' side of this relationship. Bolton sketches the impact of imported British attitudes on the early settlers' approach to flora and fauna. For instance, as a reaction to the harsh game laws back 'home', in Australia even the poorest enjoyed the inalienable right to hunt and kill to their heart's content. The often bizarre appearance of many Australian animals failed to trigger the protective response the white immigrants might have felt towards more familiar-looking game. Moreover, the seemingly inexhaustible number of the animals created the impression that 'culling' would hardly diminish the abundance and might conceivably improve the game.

Whaling, sealing, ringbarking, the impact of the pastoral industry, gold mining and, later, large-scale mining are described in fine historical detail. In a number of final chapters Bolton shows how even in the bad old days the efforts of insightful individuals were able to exert a positive influence in the general attitude of mindless destruction. In the saga of the koala and its protection, which was perhaps helped by the popularity of Norman Lindsay's 'Magic Pudding', it was shown, according to Bolton, "that there is no point in a government courting unpopularity by flaunting conservationist sentiment for short-term economic gain." The reference is to a Queensland government which in 1927, after decades of total protection, lifted the ban on killing koalas, saw five months of wholesale slaughter of which it took the Queensland koala colonies years to recover, and still lost the next elections. It is perhaps a pious hope that the present federal government will take this lesson to heart, however belatedly, and reconsider its Gordon decision.

In a closing chapter titled "Backlash and Forecast" the book ends on a none-too-optimistic note. Economic exigencies, real or fictitious, Bolton thinks, will "embolden governments to encroach upon wilderness areas previously left intact for their science value"! "There will be more Lake Pedders and the Great Barrier Reef will be exploited," he says. The recent Gordon decision makes this forecast very plausible indeed.

Ten pages of footnotes, a bibliography and an extensive index, finally, turn this interesting book into a valuable study aid, well worth the attention of the N.P.A. and its members.

Arno Wynd

NEW MEMBERS

The following new members are welcomed to the Association: Peter Arriens, Duffy; H. Adler, Kambah; Irene Beeton, Hackett; Morag Brand, Lyneham; Beth Browning, Cook; Robert Boyle, Hawker; Susan Duffield; G. and J. Dicker, Fisher; Philip and Josephine Flood, Red Hill; Neil Gentle, Chapman; Joan Goodrum, Chifley; Ian and Karen Haynes, Macquarie; Norma Lorensen, Macquarie; Jennifer Morey, Kambah; D.G. Marks, Farrer; Jennifer Nicholson, Turner; Eileen Price, O'Connor; Christopher and Diana Pickering, Farrer; Eric Pickering, Mawson; Joy Thompson, Yarralumla; Pat and Ken Wyatt, Kambah.



Colin Totterdell, supported by our Secretary, Judy Payne, commenting on the entries in our Year of the Tree Photographic Competition
 — Photo Reg Alder

PHOTOGRAPHIC COMPETITION

'Why do we want to photograph trees?!' asked Colin Totterdell, the judge of our recent photographic competition, of the 60-odd members who attended the November meeting.

He supplied some possible answers — because they're there, or simply because we love them, we're concerned about trees especially now with so many forests being destroyed, we have a natural link with them, they are part of the same biological environment, even part of our genetic make-up, or possibly a feeling of nostalgia for our erstwhile dwelling-places, if you believe we descended from apes. By photographing gumtrees, we are also following a tradition set by Australian painters who have turned them into a popular visual symbol of Australia, he pointed out.

Choosing a winner proved difficult. Colin would have liked everyone to win. He was surprised and impressed that there were so many black and white photographers in such a small society, and commented on the quality which he said was equal to if not better than some photographic society competitions he'd judged.

Fifty-two photographs were entered in the competition. Colin selected the ten he thought were the best, and spoke briefly about the nine "highly commended" ones before announcing No. 41 John Hook's "Brown Barrel, wet sclerophyll forest" the winner. The reason for this choice? To quote Colin: "My primary concern is how well the perceived subject matter has been realised as photographic images, with the qualities of originality, imagination and skill necessary for a worthwhile interpretation of nature and for how we can react in a personal way to the impact and evocation of the bush in the pictures."

These qualities he found in the winning print, which he said was "a very appealing picture" and was "a result of keen perception and good technique. Keen perception because the photographer saw something many people would not have seen . . . subtle backlighting through a sapling, a young tree growing alongside a representative of a past generation, a death and regeneration scene, a sort of philosophy, and applied a good technique to turn it into a photograph in which there is no overstatement, just a nicely balanced set of bush components. I like the gentle backlighting in the

sapling and the way some of the leaves were reflecting direct light — a lovely pattern of tones — the general effect of scattered highlights on softer midtones against the mysteriously dark forest understorey is very significant and satisfying."

Briefly, his comments on the others were —

No 39 Scribbly Gum Mt Ainslie by John Hook — a good print, a pleasing composition

No 40 Mountain Gums Smokers Gap by John Hook — good light and shade texture in vertical forest lines, good composition and illusion of depth

No 51 Scribbly Gum Mt Ainslie by John Payne — bold shapes, good balance of strong components

No 42 She-oaks at Cotter by John Hook — good composition of excellent subject matter, the lighting helps to realise the essence of the Casuarina

No 47 Gudgenby by Reg Alder — a good commentary on rural landscape, this sort of scene has become commonplace in our experience and consciousness — it is very 'Australian' in a real sense

No 7 Summer Mist Through Snowgums by Peter Arriens — forms nicely juxtaposed, bold is delicate, good sense of depth and depiction of summer high country environment

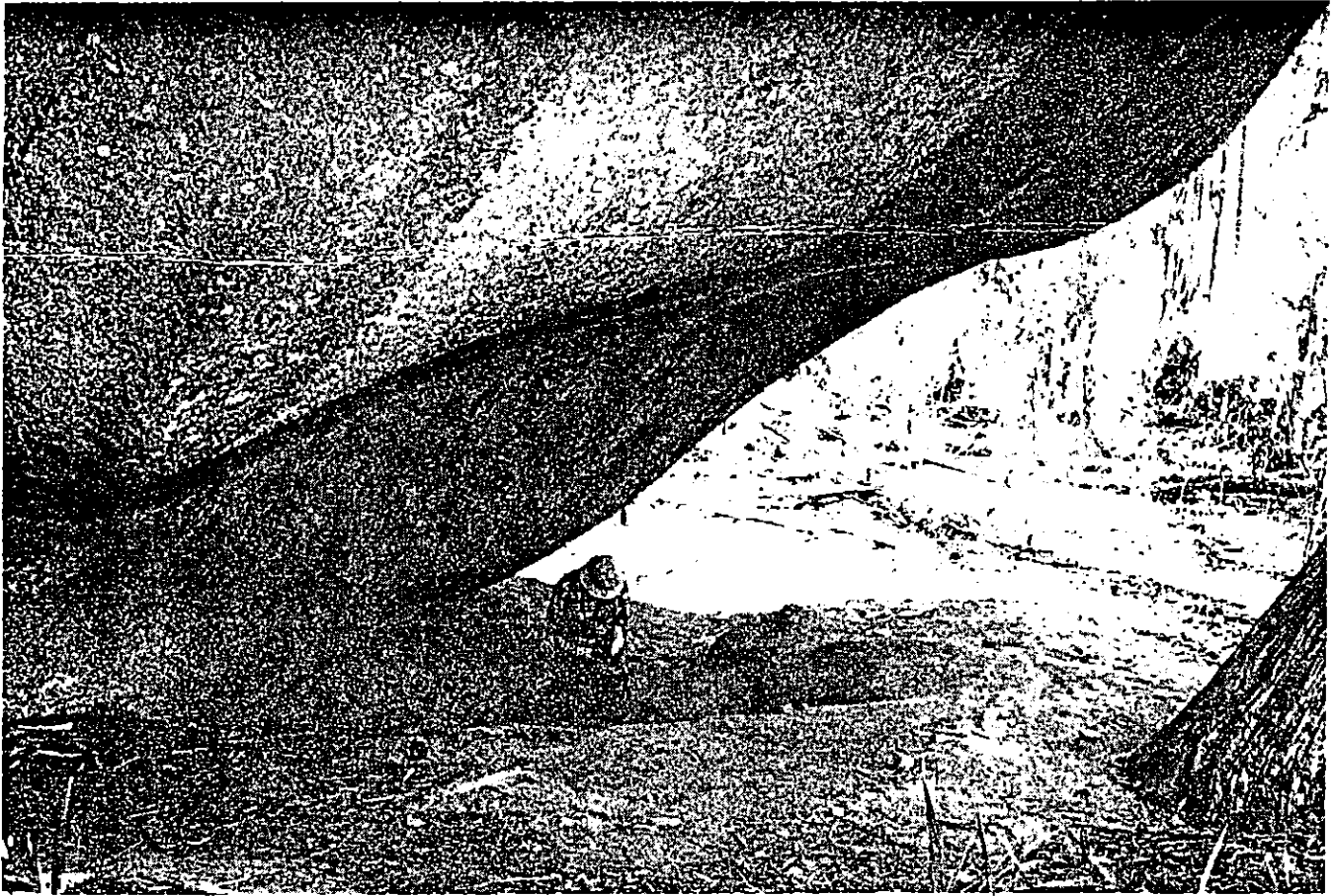
No 27 Gums in Mist by Babette Scougall — excellent composition, tonal range very satisfying in contrasty atmospheric picture

No 9 Snow Gum by Peter Arriens — a dramatic representation of winter in the high country, has high contrast and impact, tonal value and texture is impressive — a beauty

No 23 Untitled by Babette Scougall — a delicate, atmospheric photograph. Tonal steps suggest depth. Well printed, excellent point of view, vertical and angled components well-balanced.

As Colin said at the end of the presentation, congratulations to all the participants whose perception, industry and love of the bush have resulted in such an interesting and worthwhile experience. Thank you, Colin, for being judge, and our thanks also go to the committee members who organised this competition.

Babette Scougall



Gudgenby Nature Reserve — Rock shelter which has evidence of a long occupation by aborigines — Photo Reg Alder

WALKING / TREKKING IN THE U.K. AND EUROPE

I hope the following information will be of use to many members who are keen on walking here in Australia, and who would like to do similar activities when visiting the UK and Europe.

In the United Kingdom there are organisations which have their own Guest Houses in the most beautiful areas of: the South of England; historical and mountainous Wales.; the lovely Lake District; Yorkshire Moors area; Scotland and many other places. You do not have to 'join' these organisations, and bookings are taken for one, two or more weeks. There is usually a Hostess and a Walks Leader, with a programme of 'wanderings' of various lengths to places of beauty and interest in the day time, and social activities (by no means compulsory!) in the evenings. Many of these Centres also hold 'special activity' weeks, when every subject under the sun can be enjoyed: painting; pottery; archaeology; — dozens of them!

For a visitor from Australia, a week or so at a centre, not only gives you a chance to see the most beautiful, interesting (and often 'off the beaten track') parts of the UK — but also to meet the good old 'Poms' — who love having an 'Aussie' along with them! Some have 'family centres' and special times when programmes are 'geared' to all ages. Organisations also cover most of the famous 'long distance walks' — which have developed by joining rights of way and public footpaths — many existing back into the dim, dark ages. On some of these, one carries a rucksack and has the joy of staying in local inns, Youth Hostels, or B/B in private homes — while others can be enjoyed in greater comfort!

I chose to do the 'Cleveland Way' — the second long distance walk made, which covers some 110 miles, almost ALL in the North Yorks National Park. The first week is over the moors with magnificent views, and the second,

down coastal paths — high above the lashing waves of the North sea — with visits to intriguing little fishing (and smuggling!) villages. All this, was done from the comfort of the Scarborough Guest House — where we were taken each day — by coach — to our 'picking up point' of the day before — walked our 10 to 13 miles (with EXCELLENT packed lunches) — and so back to hot baths, delicious, adequate evening meals and comfy beds! One can do either or both weeks — each one having a 'day off' for visits to places of interest, such as lovely York. One organisation also includes in their charges, FREE rail fare from ANYWHERE in the UK to the guest house of your choice, and as this is a monthly ticket — one can stay on in the area at no extra travel cost!

Organisations also have parties to various places of interest and beauty all over Europe — with walking/trekking and excursion programmes.

In 1980, I also took part in one of these — not, worse luck — my thirty years 'dream' to return to my beloved Austria and go 'hut to hut' for two weeks (an earlier back injury prevented my carrying a pack).

I was able to 'swap' to a group based on a delightful Hotel 5,600ft up the Dachstein Range south of Salzburg. We were unfortunate in the weather (for end July!) but our grand leader got us out day after day — in rain (gentle and warm!) and snow (!) for some excellent walks of varying degree and height. Sometimes we used cable cars, and 'bus taxis' to get to our start — or return at the end — and also the local (excellent) bus service. None of these walks are 'forced' — and from every centre there are ample opportunities for excursions to places of interest. We had a lovely day (no rain the other side of the range!) round to Hallstat, with its salt mines and ice-caves — but Salzburg and 'civilisation' were also available if wanted. In all an excellent way to see Europe.

OLIVE BUCKMAN

THE NORTH QUEENSLAND RAINFOREST: RETROSPECT AND PROSPECT

In the Year of the Tree it is important to note that rainforest is as much a part of the characteristic Australian vegetation as eucalypt forest or mulga scrub. But to a much greater extent than for these other vegetation formations, the rainforest, in its interdependence of species, its diversity and complexity, its self created micro-climate, and its rapid nutrient cycling through often poor soils, requires consideration as a complete ecological entity.

Retrospect

The original extent of rainforest of all types in Australia in 1788 has been estimated at about 8,000,000 hectares. Of this about 2,000,000 hectares remain – more than half in Queensland. North of Townsville the estimate is about 750,000 hectares which is perhaps half the original extent.

There was some ambivalence in early images of Australian rainforests. While they were seen as an improvement on the drab 'nevergreen' eucalypt forests and their splendour and beauty was appreciated, they were also perceived to be closed, dark, kech ridden and grotesque – enough to encourage a latent silviphobia. To some extent the Australian rainforest seemed 'out of place', 'exotic', and this may partly account for the idea which became botanical dogma of the rainforest as an immigrant flora – migrating here from more exotic places.

* * * * *

In north Queensland as land on the coastal lowlands began to be alienated from the 1860s, the rainforest was given away with it. During the 1880s in particular, land was rapidly taken up in the speculative sugar boom. From Townsville to north of Cooktown the lowland rainforest was simply transferred to private hands.

When the Atherton Tableland rainforests were opened from 1907 timber was valued and added to the selection price. This created chaos. Speculators acquired blocks for timber, it virtually forced every selector to become involved in the timber trade, and dealers exploited selectors. Often unable to market even prime timbers, settlers cut and burnt the forest.

Alienation of rainforest for agricultural and pastoral purposes continued until the 1960s. In 1963, in the upper Tully River valley, King Ranch from the United States acquired 16,000 acres of lowland rainforest country for a beef raising experiment. This precipitated a desperate timber salvaging operation in the area.

Administration of timber matters in Queensland was originally the responsibility of Land agents and was very inefficient. It was assumed in north Queensland that cedar could be plantation grown after natural supplies were cut out and planting began on the Atherton Tableland in 1903. In four years 8,500 trees were planted but eventually the cedar tip moth and diversion of staff to land settlement matters halted the work. In the 1920s silvicultural work was concentrated on the Queensland maples (*Flindersia spp.*), along with some native pine plantings.

From 1946 silvicultural research and treatment began in earnest but with limited success. For much of the past the timber industry has operated on timber from lands being alienated as well as selective logging of species from Crown forests. From 1948 a quota was applied to Crown timber in an attempt to arrest overcutting. This was set at 207,000m³ per annum and was based, not on inventory information, but on the highest Crown cuts by mills in the period 1945-7. Many Forestry field staff have considered the figure to be too high.

Prospect

In north Queensland today an almost singularly exploitative attitude to nature is increasingly being challenged – but the view of the frontier with its potential for massive development remains.

In a recent assessment, the Queensland Forestry Department gave the following as the states of rainforest in the area Townsville to Cooktown:

	Hectares
Crown Lands (excluding National Parks)	513,000
National Parks	104,000
Proposed National Parks	13,000
Private Lands (rough estimate)	45,000
	<hr/>
	675,000

South of the Daintree River there are 444,000 hectares under Forestry Department control of which 143,000 hectares (32%) is classed as 'productive and accessible'.

Forestry

Production forestry is likely to continue on very much reduced annual volumes of rainforest species. However there is no certainty that the rainforest can provide successive re-cuts. Some see speciality rainforest timbers as virtually a once only harvest and consider that attempts at a cutting cycle of (say) 30 years will convert the rainforest from a high value speciality product to a low dimension, low value general product.

Agriculture

The politically powerful sugar industry is keenly interested in land north of the Daintree River. This is a major threat to the splendid and valuable remaining lowland rainforests. Unfortunately most of the valley lands are freehold. On the Atherton Tableland all the accessible lands have been cleared. Extensive regrowth characterizes the east and south.

Tourist Development

A tourist development mania threatens to destroy the special natural values that attract many people to visit the north. Continuing development of the Mission Beach area (east of Tully) is a good example. Tourism combined with Queensland's laissez faire approach to development poses a major threat to the rainforest north of Daintree.

Coastal Subdivision

This is a threat all along the coast. Mission Beach again provides a good example. The Lands Department in its support of coastal subdivision has no concern for the rain forest.

Tin Mining and Mining Exploration

Very destructive activities have occurred north of the Daintree – felling trees, blazing tracks, damming streams.

Local Government and Miscellaneous

Year by year small areas of rainforest are removed by unthinking local authorities and individuals. Examples include Clump Point clearing and Palmerston Highway widening.

The Prospects

There is the potential to preserve much of the remaining north Queensland rainforest. Southern support for the small number of isolated north Queensland campaigners is essential. The greatest threat seems to be north of the Daintree River where the lowland rainforest could face almost total clearing for agriculture, subdivision and tourist development. Neither the Queensland government nor local authorities are cognizant of the value of the rainforests in their charge.

Fortunately extensive areas of rainforest will remain in inaccessible, wet and uneconomic locations especially on the ranges. To conclude on an optimistic note, the vegetation history of north Queensland demonstrates the tremendous resilience of the rainforest, provided core 'refuges' remain intact. In the meantime, the task is to hold on to what remains especially the most seriously threatened areas of lowland rainforest.

(Lecture by Kevin Frawley to the Association
on 21 October, 1982)

THE KOSCIUSKO ALPINE AREA

History

Dr Josephine Flood in her "Moth Hunters" considers that the population density of the tribes of the Monaro was small compared to that of the coastal tribes. They congregated for moth hunting and tribal ceremonies but were otherwise seldom seen in groups larger than about a dozen. They used fire to roast the moths but would have had no need to burn the alpine vegetation for access or game. Dr Flood regards the aborigines as having had little or no impact on the plants above the treeline.

With the advent of white settlement came a much increased frequency of fire in the surrounding forests and woodlands, and presumably also an increase in firing of the alpine pastures. The fires which were lit at low elevation and raged up the western face of the range must have penetrated occasionally well into the alpine tract, but the presence of some stands of very old Snowgums on the Crackenback Range is evidence that they did not often sustain their intensity across the plateau.

Grazing of the Kosciusko plateau by livestock probably commenced in the 1830's and continued until 1944. The disastrous drought around the turn of the century forced thousands of stock into the mountains for relief grazing. In the 1890's the first warnings were being sounded by botanists of the damage being caused, but it was not until 1959 that grazing leases were withdrawn from the last of the alpine country to the north of Mt Twynam.

Tourism commenced as early as the late 1860's when James Spencer guided horse-borne parties to Kosciusko, and accelerated after the completion of the Summit road in 1909 and the Chalet in 1914.

The next serious threat to the area came from a proposal for a dam at Spencers Ck which required aqueducts across the plateau collecting the Snowy River and its tributaries. This was abandoned after a spirited argument by the Australian Academy of Science, and a change of emphasis in the hydro-electric scheme from "run-of-the-river" to peak power generation.

Conservation measures, having commenced with the withdrawal of stock from the Summit area in 1944, continued with soil conservation works started in the 1950's in the worst affected Main Range areas and in 1974 the closure of the Summit Road to all but Service vehicles and shuttle-buses operating for limited periods. The status of the area is now, under the 1982 Plan Of Management, that of "an area to be managed for outstanding natural resources", and it is part of a very large such unit extending from Happy Jacks Plain in the north to the Victorian border at Quambat Flat.

Vegetation

The distribution of plant communities above the treeline, which is at about 1860m depending on aspect and distance from the Main Range, is determined by their position in relation to wind and deep-lying snow, and to their proximity to summer snowmelt water.

A generalised view of a section through the ridge of the Main Range would show tall heaths and tall alpine herbfields of Ribbony Grass in the bouldery situations above the treeline on the western fall, with short heaths of Yellow Kunzea and tall herbfields of Snowgrass and Silver Snow Daisy higher on the slope, extending to the peaks. On the saddles and ridges, where the prevailing westerly winds funnel through at high speed, and the snow rarely accumulates to more than a few centimetres depth, are the wind-swept feldmarks dominated by Coral Heath and *Chionohebe*. On the sheltered leeward side of the ridge, snow accumulates in deep drifts which often last until mid-summer. Above and beside these drifts are the cold feldmarks comprised of small cushion plants and a prostrate *Coprosma* species. Below the drifts, where abrasion by the shrinking snowpack would damage taller-growing species, and where snowmelt water is present for most of the summer, are the mat-forming communities of the short

alpine herbfields. The meltwaters coalesce in streams which feed bogs and fens, and around these are tall herbfields and sod tussock grasslands or, in rocky sites, tall heaths of the plateau.

Vegetation is not a static entity, and it appears that cyclic changes may occur, for instance, in the tall herbfields in which drought may kill large areas of Snowgrass, which are subsequently colonised by other herbs and these in turn are gradually replaced by the re-establishing Snowgrass. The windswept feldmarks are another example of a dynamic community in which individual shrubs march across their bleak, stony strip of ridge, arising on the windward and disappearing on the leeward side.

Problems of Management

The present-day problems in managing the unique area are many. Public pressure for motorised access to the summit is still strong, but an active programme of improving walking tracks and providing viewing points with interpretative signs on the perimeter is going some way towards appeasing the demand.

The removal of all huts but Seaman's has met stiff opposition from sections of the community, particularly skiers, but the Service has held firm on this issue, while softening its attitude towards huts in less sensitive areas of the Park.

The relocation of some tracks to avoid feldmark or groundwater areas is under way, and a system of signs to encourage people to walk only on the tracks is under consideration.

Soil Conservation work, while solving the problems of erosion, has created problems of its own by introducing non-native species, creating new tracks and building structures such as banks and stone-lined flumes which are at odds with the natural landscape.

Finally, a major problem is the proximity of the Charlottes Pass ski development which abuts the eastern edge of the area without any buffering strip between. Sound planning and strict controls may lessen the consequent noise and visual impact, but this will always be a threat to the integrity of this core area of the Park.

(Lecture to the Association by Dane Wimbush on September 16th, 1982)

"PIGEON HOUSE AND BEYOND" – A REVIEW

While rushing along the Pacific Highway near Ulladulla, the commuting holiday-maker or interstate traveller might happen to briefly glance from the road and see "a remarkable peaked hill which resembled a square dovehouse with a dome on top." That was how it appeared to Captain James Cook on April 21, 1770 at 7a.m. while sailing north in the "Endeavour." Cook named the hill Pigeon House. Two hundred and twelve years later most modern travellers accord that "remarkable peaked hill" no more recognition than Cook and think nothing of what lies beyond. But an ever-growing minority are walking up the steep track and climbing the steel ladders to the top of the dome. Their reward is an extraordinary vista of mesas, deep valleys and on the horizon stretching for about 70 kilometres from north to south, the range named Budawang by Surveyor Robert Hoddle in 1828.

The former sandstone plateau, dissected by the Clyde River and its tributaries, which forms most of the area known as the Budawangs was, for at least 3500 years home for the Aborigines. Their constant burning-off to provide larger grazing areas for their food source of native animals helped transform much rainforest into eucalypt forest. But that change was nothing compared to the enormous impact Europeans have had on the area since Dr H.C. Douglas became the first settler in the Nerriga



Gudgenby Nature Reserve — Stonewall animal enclosure near Glendale Crossing. See more of it on the outing of April 17 — Photo Reg Alder

area in 1824. The probable increase in the incidence of wildfires, the disappearance of bird and animal species and the construction of numerous forestry roads have been some of the more obvious changes.

With their proximity to Sydney, Canberra and the long, expanding strip of coastal suburbia, the Budawangs are becoming increasingly popular with people on foot, in cars, four-wheel drive vehicles and worst of all, on trail bikes. It was in recognition of this popularity, the area's unique environment and interesting history, that the group of bushwalkers who formed the Budawang Committee, decided in October, 1972, to produce a comprehensive book called "Pigeon House and Beyond." Its wide scope, highly professional writing and production are an outstanding tribute to the forethought and hard work of a small voluntary committee. The book should attract wide interest and hopefully sales from people with any knowledge of the Budawangs, whether they be bushwalkers, campers, forestry and national parks officers or people living in the district.

It should also help further the aims of the Budawang Committee: "the preservation of the Budawang Range and the environs of the Pigeon House Mountain in their natural and scenic condition . . . securing the reservation of suitable areas, adjoining the present Morton and Budawang National Park boundaries from Sassafra to Clyde Mountain and the wilderness area west of Milton-Ulladulla and east of Nerriga-Braidwood, for the purposes of conservation and public wilderness recreation."

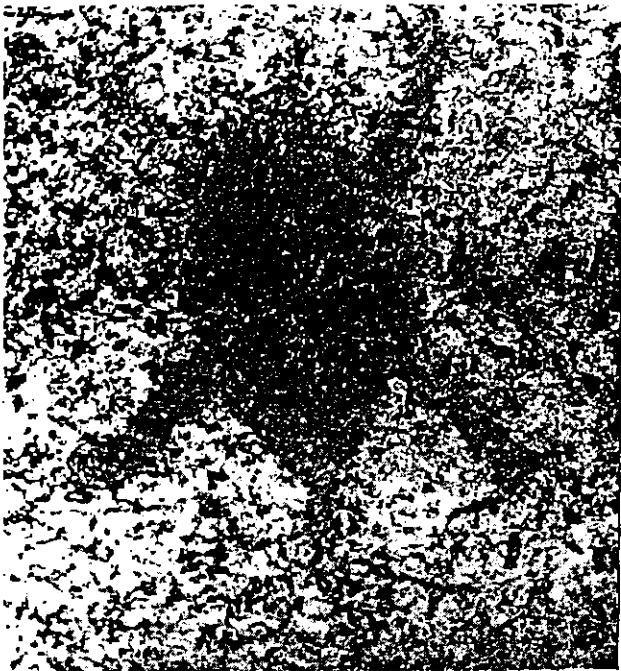
It would be impossible to briefly summarise the diverse contents of the book, ranging from the Budawangs' history, bushwalking exploration and national park formation to their natural history. One of the most enlightening sections contains two views on fire management. They are written by Barry Peick, Regional Forester at Bateman's Bay since 1978, and Roger Good, a research officer with the National Parks and Wildlife Service. It is a controversial subject and an editor's note has been included stating that the views

expressed are not necessarily those of the Forestry Commission, the National Parks Wildlife Service or the Budawang Committee. Nevertheless they appear to me to broadly reflect the different approaches to fire management taken by the two government authorities, not only in N.S.W. but also in Victoria. On at least one matter though there should be consensus as summed up by Roger Good in an introductory statement that "controversy and conflict over the use of prescribed burning will be evident for a long time, while the very limited knowledge of the effects of such burning on natural ecosystems and individual species exists." Such candidness from a national authority on the subject could be compared with the arrogant dogmatism of some land users whose approach to burning-off is not tempered by consideration of ecological complexities. "The bush has adapted to fire" they say and forget that there are many different sorts of "bush" and many different sorts of fire.

My only slight criticism of "Pigeon House and Beyond" is the placement of the Budawangs' natural history at the end of the book after the section covering the influence of man. In all books of this type that I have seen the order is reversed and rightly so. It is difficult to fully comprehend how man can influence an ecosystem without first knowing the geology, fauna and flora of that system. That criticism aside, "Pigeon House and Beyond" will remain not only the sole comprehensive book on this nationally important area, but also a superb example of how conservation and the values of national parks should be marketed to the often indifferent general community.

Pigeon House and Beyond: A Guide to the Budawang Ranges and Environs; Budawang Committee, Eastwood, N.S.W.; 1982; 302pp; \$37.50, paper \$19.95.

Stephen Johnston



Gudgenby Nature Reserve — Aboriginal ochre painting of a tortoise on a rock shelter wall — Photo Reg Alder

A CURIOUS AND DIVERSE FLORA

This 60-minute film was produced by CSIRO and the Australian Academy of Science and was first shown at the XIII International Botanical Congress in Sydney in August 1981. Nick Alexander was producer, with Dr. Lloyd Evans and Sir Rutherford Robertson as executive producers. Among those who helped in the making of the film were Dr. Laurie Johnson, NSW National Herbarium, Dr. Roger Hnatiuko and Dr. Neville Marchant, WA Herbarium, Prof. William Jackson, University of Tasmania, John Maconochie, Alice Springs Herbarium, Dr. Geoff Stocker, CSIRO Division of Forest Research and Dane Wimbush, CSIRO Division of Plant Industry. The scriptwriter, Dr. Peter Valder, appears in some of the film sequences.

The film is divided into five segments.

PART I — BOTANY BAY

In April 1770 when botanists Joseph Banks and Linnaeus' pupil, Daniel Solander, together with James Cook and others from the Endeavour, landed close to the present city of Sydney, they were so impressed with the profusion of previously unknown plant species that the place then known as Stingray's Harbour was renamed Botany Bay.

The photography in the film is superb, close views are cleverly interspersed with massed spectacles of the endemic flora. In this area of thin, poor soil there are over 2000 species of land plants; more than are to be found in the whole of the United Kingdom. Some species show great diversity, for example, there are 200 *Grevillea* species. The *Banksias* belonging to one of Australia's best known families, the *Proteaceae*, have representatives in other southern continents. Other families encountered by the early botanists were the heath-like *Epacridaceae*, the grass-like *Restionaceae*, also found in South Africa, and the citrus and boronia family the *Rutaceae*. Further delights included the now well-known flannel flower *Actinotis helianthe*, member of the same family as carrots and celery.

Unique to Australia are the *Xanthorrhoeus* or grass trees, a family on its own but related to the lilies.

An infusion from *Goodenias* was used by the Aboriginal people to put their children to sleep.

The conifer-like *Casuarinas* have both male and female plants.

As early as 1688 William Dampier had recorded members of the *Myrtaceae* or Myrtle family, now known as eucalypts, which exuded an edible gum. These became known as "gum trees" and their woody seeds "gum nuts". Other members of this family include the *Leptospermum* or "ti-tree" because Cook's sailors made a tea from the leaves.

It was in the area around Botany Bay that Banks and Solander collected members of the *Leguminosae* family. Prominent among the legumes are the wattles — members of our largest genus, *Acacia*. There are 70 species of wattles in the Sydney region and 700 in the whole of Australia.

PART II — AN ISOLATED BUT RELATED FLORA

Three thousand kilometres from Sydney is an area in the south-west corner of Western Australia which is of extraordinary botanical richness. It was first recorded in 1791 when George Vancouver, accompanied by the surgeon and botanist Archibald Menzies, sailed into a fine natural harbour which they named King George III Sound. In the following few years the French botanists Labillardiere and Leschenault made a number of important collections in the area and in 1801 the English botanist Robert Brown arrived with the navigator Matthew Flinders.

The Albany Pitcher plant — *Cephalotus follicularis* — is only about 3in. high and is unrelated to the large northern pitcher plant — *Nepenthes*. It is found only in moist areas of the south-west of Western Australia.

In the Barrow Mt. area, Flinders and Brown recorded *Banksia Baueri*, the Teddy Bear or Possum *Banksia*. They also noted a *Banksia* apparently without stems, growing in sand — possibly *Banksia petiolaris* — and the beautiful *Banksia speciosa*. Of the 50 *Banksia*'s known in Australia, 40 are found in W.A.

In the Fitzgerald River National Park 20% of the plants belong to the family *Proteaceae*. In this area are found *Hakea drummondii* and *Hakea victoriae*. Of the 10 *Lambertias* found in Australia 9 are in W.A. The Geraldton waxflower, *Chamelaucium uncinatum*, and the Qualup Bell, *Pimelia physodes*, a relative of the daphne family, are found in the Stirling Ranges.

Bounded by the oceans in the south and west and the arid zone in the north and east, the flora of south-western Australia has been effectively isolated from related flora of the east for a very long time. So it is not surprising that of the 4000 or so species present, more than three-quarters are found nowhere else, or are endemic as botanists say.

As in the east, the *Epacridaceae* are well represented along with some rather extraordinary members of the myrtle family: the misleadingly-named "Swamp daisy", *Actinodium cunninghamii*, which bears terminal heads of flowers surrounded by bracteoles which give the flower a daisy-like appearance, and the verticordias, or feather flowers. The latter are a highly ornamental genus of some 50 species, most of which are endemic to the south-west of W.A. The peculiar bells which are species of *Darwinia* also belong to the *Myrtaceae* family and are prolific in the Stirling Ranges.

Eighty species of trigger plants, members of the family *Stylidiaceae*, are concentrated in this area. Their common name is derived from the fact that they possess a unique pollinating mechanism with a trigger-like action. The stamens and style are united in a single organ called a column. The column is bent and irritable and when an insect alights on the flower it springs across and hits the insect on the back, depositing some pollen. The pollen is thus transferred to the next flower and pollination is effected. After some time the trigger resets itself ready for the next insect visitor.

Leschenault's name is immortalised in the genus *Leschenaultia*, family *Goodeniaceae*. The deep blue *leschenaultia*, *L. biloba*, is the most widely known.

Finally, this section of the film showed the well-known Kangaroo Paws, or *Anigozanthus*, a small genus of plants endemic to the south-west of W.A. They have unique woolly flowers with an outstanding colour range.

PART III — A HARD-LEAVED VEGETATION

Because of the dryness of much of the Australian bush the vegetation frequently has leathery leaves, hanging

vertically, which presumably reduces heat absorption. Other plants have reduced leaves or no leaves at all, their leaf stalks or stems being modified to take over the function of leaves. Many Australian plants have adaptations which enable them to cope with low levels of nutrients in the soil. Some have nitrogen-fixing root nodules. These are common in the legumes and casuarinas. Many form mycorrhizal associations — an example being the Boronias. Others like the *Proteaceae* produce brush-like masses of fine roots with an enormous surface area which traps phosphates.

In the drier eucalypt forests the tree layer is often dominated by two (or sometimes three) species and the understorey consists of a wide range of hard-leaved plants. The wetter forests have more impressive trees such as *Eucalyptus regnans*, the mountain ash of Tasmania, which often reaches a height of 140 metres, and the understorey consists of relatively few softer-leaved plants and ferns such as *Dicksonia antarctica*.

In favourable situations there are patches of rainforest which under natural conditions never burn. In the past, rainforests are believed to have covered much of the continent, but as the climate became drier the rainforests contracted and fire became more common. Now, apart from the rainforest species, most Australian plants are well adapted to the occurrence of fire. In fact, many species, such as eucalypts, hakeas and casuarinas, depend on it for their regeneration and ultimate survival.

PART IV — CHANGE AND SURVIVAL

Some plants, like the casuarinas, appear to have spread out from Australia, while others, like the mangrove species shown in the film, from the Daintree River estuary in northern Queensland, seem to have come in. Indeed, it has often been said that Australia's tropical rainforests are Indo-Malayan in origin. Examples given were the ant-house plants, *Hydrophytum formicarum*, the King fern, *Angiopteris erecta*, and the stinging trees such as *Dentocnide* of the family *Urticaceae*, which have stinging hairs found to have the capacity to maintain their toxicity 200 years later.

However, our tropical rainforests have a substantial proportion of species which occur only in Australia and appear to have had an essentially southern origin.

Our vegetation has undergone major changes even in comparatively recent times. An indication of this is provided by the conifers, which were far more abundant in eastern Australia in cooler, moister times. In the arid zone, which now covers 75% of the continent, there are plants such as palms and cycads which, in particularly favourable situations, have survived from a moister age.

In the vast area of the inland, not only is the rainfall extremely low, but it is also unreliable. Plants such as the fern nardoo can lie dormant for years. The larger eucalypts such as *microtheca*, the Coolibah tree, are confined to water courses and drainage lines, but acacias such as *mulga*, *Acacia aneura*, occur widely. Some plants, such as the salt-bushes, endure the drought by dropping their leaves, and others, the ephemerals, die off and simply evade it.

By far the most successful of all the desert plants are the hummock grasses which cover about 30% of the continent and make up a type of vegetation called spinifex. An example of the latter is porcupine grass or *Triodia*.

PART V — DISTANT CONNECTIONS

Although Tasmania is now an island it was once joined to the rest of Australia and its flora is related to that of the mainland. However, some of Tasmania's endemic flora bears a close relationship with species found in South America and New Zealand. Huon pine, *Dacrydium franklinii*, is a tall conifer with small leaves closely pressed to stems and has very small cones. It is a member of the family *Podocarpaceae* as is the Celery Top pine, *Phyllocladus aspleniifolius*, which has its leaves reduced to cladodes with almost fern-like appearance.

Three species of the family *Taxodiaceae* are endemic to

Tasmania — the King Billy Pine, *Athrotaxis selaginoides*, the Pencil Pine, *A. cupressoides*, and *A. laxifolia*.

Fossils of the deciduous southern beeches, *Nothofagus gunnii*, have been found in Antarctica.

Richea pandanifolia is a species of epacris, as is *Prionoles cerinthoides*, with its nearest relative occurring in South America. The *Eucryphia*, or Leatherwood, famous for its distinctively aromatic honey is also found in South America.

Anodopetalum biglandulosum — *Cunoniaceae* — or horizontal scrub has the strange habit of its trunk assuming a horizontal position on ageing and in turn the branches from these trunks doing likewise. The resulting, almost impenetrable, mass of branches is difficult to negotiate.

During the 19th century botanists found the similarities between the floras of the southern land masses a great puzzle. Some of them even suggested that the continents must once have been joined by land bridges. But now, the theory that the southern continents were once united as the supercontinent of Gondwanaland and later drifted apart provides a better explanation. For 45,000,000 years Australia has been on its own and 80% of the flora is endemic.

Like the mountains of Tasmania the mainland alps were glaciated during the ice ages. Nowadays the snow is not permanent and each spring it melts to reveal a distinctive alpine flora. Although plants from the more typical Australian families have adapted to alpine conditions, many of our alpine plants have more in common with those of Tasmania, New Zealand, South America and even parts of the northern hemisphere than with the rest of mainland Australia.

The fact that 120 people saw fit to brave the chill of a mid-winter night to view this film was a tribute in itself. There were certainly more bouquets than brickbats from the audience following the viewing.

JEAN CURRIE

YELLOWSTONE NATIONAL PARK

In the early 1870's there was a move in the Congress of the U.S.A. for the establishment of America's first national park at Yellowstone. As the Senate was unfamiliar with the area there was considerable reluctance to accept verbal accounts of the spectacular natural features of the area.

At that time William Henry Jackson was establishing a reputation for himself as an outdoor photographer when the preparation of negatives on the site made the process particularly difficult. A portable darkroom had to be carried on a wagon to make the wet plate negatives and these had to be kept moist up to the time of development. Blotting paper and wet towels were used and besides the not inconsiderable weight of the glass plates, camera and tripod considerable effort had to be made if the photograph to be taken was any distance away from where the wagon or a horse could be taken.

Dr Ferdinand V. Hayden, a geologist and physician on a survey along the Oregon Trail in Wyoming was accompanied by William Jackson and thus became influenced by the potential of his pictures to depict the scenic values of the wilderness areas he traversed. Hayden persuaded Congress to grant an appropriation for an expedition to Yellowstone and to pay a photographer to record the sights.

Subsequently in the 1871-72 session in Congress a bill was introduced for the declaration of America's first national park at Yellowstone and the reluctance of senators was overcome when photographs showing its wonders were shown. Later photographs, including stereoscopic slides from Jackson's collection, were used to promote the tourist boom which has never ceased and is now a problem with the large number of people crowding into the most advantageous viewing positions in the park.

ADMINISTRATION OF A NATIONAL PARK IN ENGLAND

A visitor from Australia can be surprised by the amount of rural scenery and space in the populous and small British Isles. However there is very little productive land of any type there which has not been heavily modified and used by the human race over very many centuries. Probably only the inhospitable peaks, fells and moors have stood aloof and relatively unchanged. The Australian National Park aims, inter alia, of preserving natural features, wilderness, native flora and native fauna have limited relevance. Nevertheless there is delightful and impressive scenery in which city and town dwellers seek health-giving relief from pressure.

Readers may remember the controversy a few years ago when an English academic was brought to Australia to advocate the English National Park system by opponents of the Australian system. Whilst touring the British Isles in 1981 I obtained some information about the administration of the Lakes District National Park which may be of interest in showing the similarities and sharp differences in basic concepts and details of management. I am indebted to the National Park's Information Centre at Ambleside for this information.

The National Parks Commission (now the Countryside Commission) in 1949 selected 10 areas for National Parks comprising almost 10% of England and Wales. These areas contain villages, towns, farms, main roads, railways, etc. with all the ancillary activities needed to support their population. In brief, these National Parks are "areas of great natural beauty giving opportunity for open air recreation, and they are established so that the natural beauty can be preserved and enhanced and so that enjoyment of the scenery by the public can be promoted". The Lakes District is the largest Park; it covers 866 square miles which is a big slice of the County of Cumbria.

The creation of the National Park in no way altered the ownership of the land, the land is not nationalised. Two of the principal landowners are the National Trust (a private charity not to be confused with the National Park) and the Forestry Commission; there are many thousands of individual landowners. As well as public roads, there are hundreds of miles of footpaths both in the valleys and crossing the high fells. Many of these are tracks across private land with right of access dating back to those times when walking was the only mode of transport for most people. Walkers must keep to these paths but on the higher fells may walk or climb almost at will.

Each National Park has its own administrative authority which must control new building, redevelopment—in fact all the many facets which may influence the appearance of the countryside. It must also reconcile the diverse needs of holidaymakers, residents, farmers and wildlife. The Lakes District Special Planning Board is the authority charged with these duties in the Lakes District. It has all those powers of a planning authority which outside the National Park are divided between the District Councils and the County Council.

As well as the tasks imposed by the National Parks Act preservation of beauty and promotion of enjoyment—the Board has a third duty to look after the welfare of the people who live and work inside the National Park. It is obvious that on some occasions these three duties can clash, as for example a proposal for new development may well promote enjoyment by supplying more holiday homes or caravan sites, but may at the same time harm the scenery if the development is prominent, and may create activity and noise not desired by local people. The Board has to weigh the relative advantages and disadvantages of every proposal affecting the National Park and decide on balance whether to support or oppose it.

At the same time the Board is only the planning authority; The County and District Councils still exercise their own functions in other fields inside the National Park, as Highway Authority, Education Authority, Housing Author-

ity and so on over the whole range of local government responsibilities outside planning. Nevertheless arrangements have been made for the Board to be consulted by the other authorities on matters which are of concern to it.

The Board decides all applications for planning permission within the National Park after consultation with the Councils and has all the powers of a normal planning authority to ensure that the decisions are observed. The Board can buy land for public access, for the provision of car parks and toilets, or for the maintenance of woodlands; it is empowered to run Information services and Wardens services, to provide accommodation for visitors, to make bye-laws controlling the use of land and water, to enter into agreements controlling the use of private land, and in some cases to buy land compulsorily if it is in the public interest to do so. The Board is consulted on many matters over which it has no direct control but on which its views are taken into account by other bodies: felling of trees, afforestation, some road improvements and footpath diversions, car rally routes, and proposals to abstract water are examples.

The total number of Board members is 27, 18 appointed by the County Council and 9 by the Secretary of State. There is a staff of planners, administrators and secretaries totalling 42; in addition there are information staff, wardens and litter collection teams. The Board meets quarterly and there are three main committees which also meet quarterly or more often if required. All these meetings are open to the public and press. Each of the main committees has sub-committees which meet more often in private to decide more detailed questions, such as individual planning applications. The minutes of all meetings are available for inspection by the public. The Board receives a grant of about 75% towards its net costs from the Government and the remaining 25% is contributed by Cumbria County Council.

One group of Board planners deals solely with planning applications, which amount to about 1250 a year. Another group is working on the Structure and National Park Plans. A third group is concerned with the development and maintenance of Board properties: car parks, toilets, woodland, access land, information centres. The Board's wardens have their central office at Park headquarters, but they are usually out in the National Park giving advice and help to visitors, working on Board properties, ensuring compliance with Board bye-laws affecting lakes and properties or leading parties doing a variety of jobs from litter-sweeps on mountains to repairing footpaths and removing abandoned cars. The Board's litter-collection teams are to be found in many places in the National Park where there is a litter problem, and there are staff at the Camping and Caravan sites operated by the Board. The Board also has an Upland Management Service which aims to reconcile conflicts between farmers and visitors to the benefit of both.

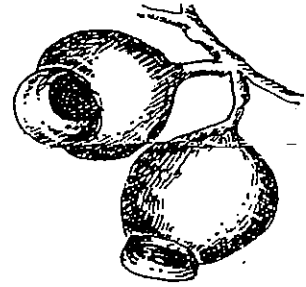
There is a Voluntary Wardens Organisation with over 300 members. The Voluntary Wardens help the full-time wardens in clearing litter, carrying out repairs to properties, maintaining woodlands, leading guided walks, and patrolling the fells to give help and advice to walkers.

The beauties of the Lakes District have been described by many more expert than me. Suffice it to say we were in no way disappointed—indeed nothing we had read or seen in advance could do it justice. Even the rain and mist at times fitted in with the ease of a well-known resident! We were also interested and pleased to see the number of people of all ages who put on their walking boots (waterproof, of course) and sallied forth to enjoy their National Park.

Charles Hill



NATIONAL PARKS ASSOCIATION OUTINGS



Please notify the leader by the previous Wednesday of your intention to go on any weekend outing. The Committee suggests a donation of FOUR cents per kilometre (calculation to nearest dollar) be offered to the driver by each passenger accepting transportation. Drive distances quoted from the meeting point, for one way only, are approximate and for guidance only. Walk distances shown are total.

All persons joining an outing of the National Parks Association of the ACT do so as volunteers in all respects and as such accept sole responsibility for any injury howsoever incurred and the National Parks Association of the ACT, its office bearers and appointed leaders are absolved from any liability in respect of any injury or damage suffered whilst engaged on any such outing.

MARCH 3 SUNDAY WALK

Old Yankee Hat Ref: Rendezvous Creek 1:25,000 Leader: Frank Clements 317005
Meet: Kambah Shops 8.30a.m. This 14 km walk begins on fire trails from the Pine Forest, climbs 500m through scrub and returns with a visit to the Aboriginal paintings. 50 km drive. Please note a change of venue from December Bulletin.

MARCH 13 SUNDAY WALK

Orroral Valley Ref: Rendezvous Creek 1:25,000 Leader: Margaret Aston 887563
Meet: Kambah Shops 9.30a.m. A leisurely walk of 6 to 8 km in an open grassed valley beyond the Orroral Tracking Station, returning on the tree lined fire trail if warm. 41 km drive.

MARCH 13 SUNDAY WALK

Rendezvous and Nursery Swamp Ref: Rendezvous Creek 1:25,000 Leader: John Webster 476769
Meet: Kambah Shops 8.30a.m. After walking on open grassland up Rendezvous Creek climb without tracks over the ridge to Nursery Swamp and return to starting place. 14 km walk, 48 km drive.

MARCH 19, 20, 21 CANBERRA WEEKEND PACK WALK

Happy Jacks Ref: Kosciusko 1:100,000 Leader: Frank Clements 317005
Contact leader for details of this walk in the high country.

MARCH 19, 20 21 CANBERRA WEEKEND CAMP

3 Mile Dam Ref: Yarrongobilly 1:100,000 Leader: Ian Currie 958112
Camp at the Dam 6 km from Kiandra. This dam was built in 1882 to supply water for hydraulic sluicing at the nearby New Chum diggings. Open grassland vegetation makes for easy walking. Contact leader.

MARCH 27 SUNDAY WALK

Black Springs Ref: Tidbinbilla 1:25,000 Leader: Lyle Mark 497488(W)
Meet: Eucumbene Drive, Cotter Road 8.30a.m. 14 km walk, partly on a bridle trail, through Fishing Gap to the open scrub near the Cotter River. 20 km drive. Note change from December Bulletin.

MARCH 27 SUNDAY WORKING PARTY

Orroral Homestead Ref: Rendezvous Creek 1:25,000 Leader: Ross Carlton 863892
Bring a picnic lunch, some tools and gloves out to the Homestead. Jobs for all. Contact leader.

APRIL 1, 2, 3, 4 EASTER PACK WALK

Bimberi and Gurrangorambla Ranges Ref: Tantangara 1:25,000 Leader: Phil Gatenby 815236
Medium/hard walk from Oldfields Hut up Bimberi, Murray, Kelly and Morgan. Contact leader for details.

APRIL 1, 2, 3, 4 EASTER CAMP

Oldfields Hut Ref: Tantangara 1:25,000 Contact: Phil Gatenby 815236
Pleasant camp site at Oldfields Hut. Walks on fire trails to Murray's Gap then up Mt Bimberi or Mt Murray. Visit Tantangara Reservoir. Phil has offered to be a contact person, but a volunteer is needed to lead the walks.

APRIL 10 HERITAGE WEEK WALK

Boboyan Hill Ref: Yaouk 1:25,000 Leader: Charles Hill 958924
All those jokes about the cafe on top of the mountain come true. "Billy tea" for all (weather permitting). An easy climb up to the cafe on a marked and guided route. There is a catch! Volunteers are needed to mark the route, boil the billy, talk to newcomers and point out nearby ranges or hills. Keep your eye on the papers for times. Contact leader if you would like to help.

APRIL 16 SATURDAY BICYCLE RIDE

Lake Burley Griffin Ref: Canberra UBD Leader: Fiona Brand 479538
Meet: Acton Ferry Terminal 12.30. Eat lunch at terminal then leave at 1.30 to ride to Scrivener Dam, Weston Park and back over Commonwealth Bridge. A special treat is that afternoon tea will be provided, at a small cost, to aid Dr Barnardo children's homes.

APRIL 17 SUNDAY WALK

Half Moon Creek Ref: Michelago 1:25,000 Leader: Reg Alder 542240
Meet: Fitzs Hill 9.30a.m. Car shuffle to Glendale Crossing. A 9 km walk with 300m climb through open bush to follow Half Moon Creek from its source to stockyards near Fitzs Hill.

APRIL 23, 24, 25 ANZAC WEEKEND HOUSEPARTY

Edrom Lodge, Twofold Bay Ref: Eden Leader: Jenny Cusbert 479190
The lodge was built in 1913 and is now operated by the Forestry Commission. Beds, mattresses and pillows provided – bring own sheets and blankets or sleeping bags. Bring your own food and cook for yourself – refrigeration, stoves and eating facilities available. Dormitory style rooms cater for lots of people; cost is \$5.00 per person per night. Walks in National Park or State forests, visits to Boydtown or Boyd's tower, fish at Eden. 275 km drive. Contact leader for reservations.

MAY 1 SUNDAY WALK

Mt Majura Ref: Canberra UBD Leader: Hansene Hansen 473453
Meet: Canberry Fair Car Park 10.30a.m. Walk 8 km on trails on Mount Majura. Bring lunch.

MAY 1 SUNDAY WALK

Orroral Ridge Ref: Corin Dam 1:25,000 Leader: Neville Esau 864176
Meet: Kambah Shops 8.30a.m. 12 km walk along Orroral valley, and back along ridge. 200m climb. 41 km drive.

MAY 7/8 WEEKEND PACK WALK

Moodong Peak Ref: Araluen 1:100,000 Leader: Bob Story 812174
Contact leader for details of this walk. It's rough in parts with some scrub, and a climb of 350 metres.

MAY 8 SUNDAY WALK

Boboyan and Pheasant Hill Ref: Yaouk 1:25,000 Leader: Charles Hill 958924
Meet: Kambah Shops 8.30a.m. 9 km walk without tracks but on grass and open scrub. 200m climb. 50 km drive.

MAY 15 SUNDAY WALK

Mt Lowden Ref: Bendoura 1:25,000 Leader: Babette Scougall 487008
Meet at Lowden Picnic area in Tallanganda Forest at 10a.m. Easy, self guided nature walks or climb Mt Lowden if more energetic. Turn off the Captains Flat road to Hoskingtown, then go via Rossi to the Tallanganda Forest.

MAY 22 SUNDAY WALK

Yaouk Peak Ref: Yaouk 1:25,000 Leader: Garth Abercrombie 814907
Meet: Kambah Shops 8a.m. 14 km walk with a 500m climb up Yaouk Peak for magnificent views of Gudgenby Nature Reserve and Kosciusko National Park. 70 km drive.

MAY 22 SUNDAY WALK

Murrumbidgee Ref: ACT 1:100,000 Leader: Margaret Aston 887563
Meet: Eucumbene Drive and Cotter Road 8.30a.m. 7 km walk from the Cotter Road through a private property on open paddocks. Easy grades sloping down to the river. 10 km drive.

MAY 29 SUNDAY WALK

Point Hut Crossing Ref: ACT 1:100,000 Leader: Betty Campbell 811771
Meet: Point Hut Crossing 10.30a.m. Walk upstream for a few kilometres to look at birds. Bring lunch.

MAY 29 SUNDAY WALK

Devils Peak Ref: Tidbinbilla 1:25,000 Leader: Les Pyke 812982
Meet: Eucumbene Drive, Cotter Road 8.30a.m. 10 km walk up the fire trail from Blundell's Flat, with steep 300m climb to the peak. Views of Canberra and surrounds. 30 km drive.

JUNE 5 SUNDAY WALK

Mount Blundell Ref: Tidbinbilla 1:25,000 Leader: Hela Lindemann 515917
Meet: Eucumbene Drive, Cotter Road 8.30a.m. 8-10 km circular walk up Mt Blundell in the Blue Range. Some fire trails and pleasant bush walking off tracks. 15 km drive.

JUNE 5 SUNDAY WALK

Cotter Rocks Ref: Rendezvous Creek 1:25,000 Leader: Phil Gatenby 815236
Meet: Kambah Shops 7.00a.m. 20 km walk from Orroral valley to granite boulders overlooking Cotter Gap. Climb of 550 metres. 41 km drive.

JUNE 11, 12, 13 WEEKEND PACK WALK

Ettrema Ref: Nerriga 1:25,000 Leader: Tony Bayes 511707
Contact leader for details of this walk in the Budawangs.

JUNE 19 SUNDAY WALK

Gudgenby Huts Ref: Yaouk 1:25,000 Leader: Beverley Hammond 886577
Meet: Kambah Shops 8.30a.m. 10-12 km walk, mostly easy grades, on fire trails and open scrub. Visit three huts in the vicinity of the pine forest. Suitable for beginners. 50 km drive.

JUNE 19 SUNDAY WALK

Mt Booth Ref: Michelago and Colinton 1:25,000 Leader: Jack Smart 488171
Meet: Kambah Shops 8.00a.m. 16 km walk, steep climb up Mt Booth, south down the ridge, rough descent to dry creek and back to Brandy Flat. 60 km drive.

JUNE 26

Honeysuckle Ref: Corin Dam 1:25,000 Leader: Les Pyke 812982
Meet: Kambah Shops 8.30a.m. 10 km medium walk along fire trail from tracking station, up to tower and return through light bush. 50 km drive.

NATIONAL PARKS ASSOCIATION OF THE AUSTRALIAN CAPITAL TERRITORY INC.

Inaugurated 1960

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Annual Subscription Rates

1 July-30 June:	Family members \$12	Student members \$5
	Single members \$10	Corporate members \$5
	Pensioners \$ 5	Bulletin only \$5

For new members joining between:

1 January-30 June:	Half specified rate
1 April-30 June:	Annual Subscription – 15 month's membership benefit

DEADLINE DATES for NPA Bulletin contributions: 15 July, 15 October, 15 December, 15 April

AIMS AND OBJECTS OF THE ASSOCIATION

Promotion of national parks and of measures for the protection of fauna and flora, scenery and natural features in the Australian Capital Territory and elsewhere, and the reservation of specific areas.

Interest in the provision of appropriate outdoor recreation areas.

Stimulation of interest in, and appreciation and enjoyment of, such natural phenomena by organized field outings, meetings or any other means.

Co-operation with organisations and persons having similar interests and objectives.

Promotion of, and education for, nature conservation and the planning of land-use to achieve conservation.

NATIONAL PARKS ASSOCIATION A.C.T.

OUTINGS SUMMARY

March

6	Sunday	Old Yankee Hat	Walk
13	Sunday	Orroral Valley	Walk
13	Sunday	Nursery Swamp	Walk
19/20/21	Long Weekend	Happy Jacks	Pack Walk
19/20/21	Long Weekend	3 Mile Dam	Camp
27	Sunday	Black Springs	Walk
27	Sunday	Orroral Homestead	Working Party

April

1/2/3/4	Long Weekend	Gurrangorambla Range	Pack Walk
1/2/3/4	Long Weekend	Oldfield's Hut	Camp
10	Sunday	Boboyan Hill	Heritage Week Walk
16	Saturday	Lake Burley Griffin	Bicycle Ride
17	Sunday	Half Moon Creek	Walk
23/24/25	Long Weekend	Edrom Lodge	Houseparty

May

1	Sunday	Mt Majura	Walk
1	Sunday	Orroral Ridge	Walk
7/8	Weekend	Moodong Peak	Pack Walk
8	Sunday	Pheasant's Hill	Walk
15	Sunday	Lowden Reserve	Walks
22	Sunday	Yaouk Peak	Walk
22	Sunday	Murrumbidgee	Walk
29	Sunday	Point Hut	Walk
29	Sunday	Devils Peak	Walk

June

5	Sunday	Mt Blundell	Walk
5	Sunday	Cotter Rocks	Walk
11/12/13	Long Weekend	Ettrema	Pack Walk
19	Sunday	Mt Booth	Walk
19	Sunday	Gudgenby Huts	Walk
26	Sunday	Honeysuckle	Walk

See next Bulletin for other June outings. Volunteers to lead walks and camps are required. Phone Beverley 886577.

GENERAL MEETINGS

Held at 8.00p.m., Room 1, Griffin Centre, Bunda Street, Civic.

NOTE – April General Meeting will be held in the Rehearsal Room (upstairs, northern end) at the Griffin Centre.

March – Thursday 17 1983.

Dr John Banks, Lecturer in Forest Ecology, Department of Forestry, A.N.U.
Subject: Man, Fire and the Brindabella Ranges.

April – Thursday 21 1983.

Film: 'Ribbon of Life – One Man's Reef'. Marine biologist Alastair Birtles recounts his journeys of discovery among these magic mountains of coral, getting to know the inhabitants and intricate patterns that weave their lives together. Note change of location of meeting place.

May – Thursday 19 1983.

Dr Richard Schodde, Ornithologist with CSIRO, Division of Wildlife Research.
Subject: 'Australiān Birds – Where do they come from?' (complete with bird skins).