SEPTEMBER 1985
No. 61

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY

Black Cockatoos
by G.J. Broinowski

Newsletter

Registered by Australia Post—Publication No. NBHO 925

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY

Incorporated in New South Wales. Registered Office: The Conservation Hut, Valley of Waters Reserve, Valley Road Wentworth Falls 2782.
Address for Correspondence: P.O. Box 29, Wentworth Falls 2782

SUBSCRIPTIONS: Single Pensioners & Juniors $2.00 per year; Married Pensioners $3.00; Single Membership $5.00; Family Membership $8.00. Those joining after June 30th pay half subscription to end of year.

MEETINGS: Held on last Friday in the month, January to December inclusive at the Conservation Hut, Valley of Waters Reserve, Valley Road Wentworth Falls at 7.30 p.m.
For speakers at coming meetings, please see Public Notices in the Gazette.

COMMITTEE FOR 1985

President.....	Michael Dark	58.7061
Vice-Presidents (.....	Eric Blick	88.1051
.....	Joy Anderson	57.1602
Secretary	David Horton James	57.3270
Treasurer	Ross Fitzgerald	57.3267
Membership Officer	Ross Fitzgerald	57.3267
Newsletter Editor	Ewart Collings	57.2131
Walks Convenor	Olive and John Noble	87.8342
Hut Convenor	Lois Sattler	57.3270
Publicity/Advertising	Jill Dark	58.7061
Librarian	Betty Collings	57.2131
Hut Duty Organiser	Beverley Thompson	57.2076
Land Preservation Officer...	Winsome Gregory	57.1573

PATRON: Allen Strom, A.M.

NEWSLETTER: Four issues a year - March, June, September, December. Deadline for copy 20th of month previous. Advertising space available - contact Publicity/Advertising Officer.

THE HUT: The Society maintains a small museum and information centre at the Conservation Hut. It is manned on weekends and holidays by voluntary helpers.

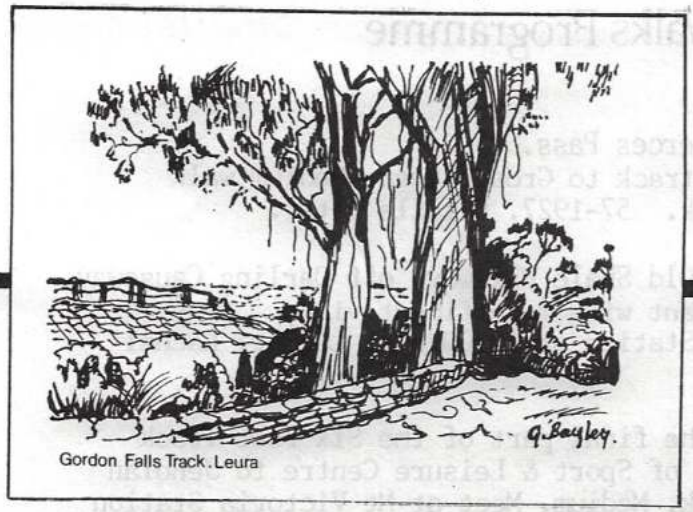
LIBRARY: Facilities for borrowing and returning books at Monthly Meetings. A library list is available on request.

PUBLICATIONS: A range of specialist booklets, posters, maps, postcards etc may be purchased at the Hut.

SALE OF NATIVE PLANTS: Opportunities to purchase native plants grown by Members are organised from time to time during the year. These sales are held at the Hut, proceeds to the Land Preservation Fund.

WALKS: Walks are organised on the first Sunday and second Thursday of the month, conducted by experienced leaders.

LAND PRESERVATION: The Society has a Land Preservation Fund which was set up to give lovers of the bush an opportunity to preserve environmentally important land in the Blue Mountains by purchase and dedication as a reserve.



Gordon Falls Track. Leura

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY

Newsletter

No 61 September 1985

Contents

NATIVE PLANT WEEKEND - AT THE HUT

26th - 27th October ... 10 a.m. to 4 p.m. Saturday & Sunday

All proceeds from sale of plants in aid of Land Preservation Fund.

11 a.m. Saturday. Ruth Overton from the Blue Mountains Society for Growing Australian Plants and Jill Dark will discuss ecological gardening using native plants. There will be ample opportunity for questions from the audience.

1.30 p.m. Saturday. Botany walk starting from the Hut led by Jill Dark and Ruth Overton.

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Just right for Christmas - or any other time

BLUE MOUNTAINS SOUVENIR CARDS

A packet of five cards with drawings by Grace Bayley of familiar bush walking scenes in the mountains. Just right for Christmas or sending to friends overseas. Obtainable from the Hut, Valley of Waters Reserve.

5 CARDS FOR $2.50.

As illustrated at the top of this page

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Walks Programme

COMING WALKS

October Sunday 6th: Pierces Pass.
Walk down renovated track to Grose River. Medium walk Leader Keith Sherlock. 57-1927. Details later.

October Thursday 17th: Old Shale Railway, off Darling Causeway.
Historic walk. Pleasant with magnificent views. Easy. Meet at Mt Victoria Station at 10.00 a.m. Leader. Rachel Makinson 87-1302

November Sunday 3rd: The final part of the Six Foot Track
Walk from Department of Sport & Leisure Centre to Jenolan and back. Lovely walk. Medium. Meet at Mt Victoria Station at 9.30 a.m. Leader John Noble 87-8342

November Thursday 14th: Wentworth Falls
Meet at south end of Falls Rd 10.00 a.m. A walk to Den Fenella. Undercliff walk to Wentworth Falls. Lovely views. Interesting vegetation. This walk had to be cancelled in July due to snow. Leader Beverly Thompson 57-2076

December Sunday 1st: End of Year Ramble.
Meet at Conservation Hut, Valley of the Waters, Valley Road Wentworth Falls at 10.00 a.m. for ramble through Reserve. This will be followed by a barbeque (fire ban permitting) and social get-together. Bring your own food and refreshments. Tea and coffee provided.

REPORT ON WALK TO RAINBOW RAVINE - 5TH MAY 1985

After two weeks of solid rain the day dawned fine and twenty eight people turned up for the walk. We started at Mt. Tomah and headed down towards the Camel's Saddle. The bush was wet and thick and the leaders had a good soaking.Banksias and patches of sweet smelling swamp wattle were seen.

We climbed up to the Camel's Hump and had morning tea on the tesselated rocks. About half of the party stayed on the Camel's Hump admiring the magnificent views; the rest walked through the hanging swamp and down past the angophoras to the top of the ravine. As access was impossible a side route was taken and we had lunch by a creek of sweet water, near a waterfall. A few hardy members scrambled up the cliffs and two followed the creek, bush bashing back to the Camel's Saddle. We returned to the cars by the same track and home.

REPORT ON WALK TO THE WOLLANGAMBE RIVER - 7TH JULY 1985

We met at Mt Victoria Station at 9.30 a.m. Twenty eight members turned up and we drove to Mt.Wilson for the start of the Wollangambe wander.

We walked down the track to a group of rocks overlooking the river, where we had morning tea. Wattles were out in profusion. We took the track to the river and although it was a bit of a scramble in places, everyone managed to reach the river. There was a choice of crossing either by a fallen tree or paddling through the icy waters.

We had lunch on a sandy beach underneath towering cliffs. Some brave members climbed slippery rocks to take a peep into the canyon,and there was a lovely deep pool nearby which we called 'The Grotto'. After lunch we made our leisurely way back to the cars. The weather was dull, but fine - ideal for a winter walk.

REPORT ON WALK THURSDAY 15TH AUGUST 1985 PULPIT ROCK

The walk started at Pulpit Rock. 17 members met at Blackheath Post Office at 10.00 a.m. We drove to Govetts' Leap where we left some cars, then on to Pulpit Rock. We viewed the Grose Valley from the Lookout, a few hardy members went down the steel ladder to gain a better view. We walked along the Escarpment where regeneration after the bush fires was remarked upon, especially in the Hanging Swamps area, which were lush and green. We had lunch on a rock overlooking the Grose Valley, then wandered down above the Horsehoe Falls and began the uphill climb back to Govett's Leap. The weather was sunny at times but no rain.

THE WALK THAT NEVER WAS

For the first time that I know of the mid-week walk in July was cancelled because of a snowfall at about 9.15 a.m., and continuing rain throughout the day. I hope people were not disappointed too much. However, the walk to Denfenella and along Undercliff Pass will be programmed again in the near future.

HUT ROSTER

This year at least six people have dropped out of the hut roster. This is making it extremely difficult to keep the hut open each weekend, and I am dreading the Christmas Holidays when we try to have the hut open every day for seven weeks.

Profits from the hut are our main source of funds with which we are trying to preserve the beautiful Blue Mountains and other areas of this country from the developers' bulldozers.

If you could spare a day once every two months to go on the regular roster, or a day less often to go on the emergency list, or even a day in the Christmas Holidays, please contact me URGENTLY.

Beverley Thompson. 57.2076

A NOTE ON TESSELATED PAVEMENTS

We had followed John and Olive from Mt. Tomah down the trail towards Rainbow Ravine and had paused to rest on the side of The Camel's Hump. The spot was on a large rock platform slightly under the top of a ridge but with much to catch the eye. To the left was The Camel's Saddle, above the basalt cap of Mt. Tomah, below us the upper reaches of Rainbow Ravine and beyond, where Carmarthen Brook enters the Grose, the familiar, rounded shape of Mt. Hay.

But the rock platform on which we had paused generously illustrated the geological phenomenon of tesselated pavements. Professor D.F. Branagan of Sydney University has published several papers on this subject and of special interest is "Tesselated Pavements" in "Aspects of Australian Sandstone Landscapes", ed. Young and Nanson 1983. Branagan mentions four forms of tesselation, three of which occur reasonably close to Sydney, but for this note two are mentioned briefly and a third in detail. One is that caused by cooling shrinkage from contact metamorphism where Hawkesbury Sandstone is in close contact with weathered basaltic rock or breccia. The best known example of this is in a quarry at North Bondi. This type is mentioned because of the relative closeness of basalt and Hawkesbury sandstone at Mt. Tomah but the size of the polygons and the vertical distance of perhaps 100 metres between this exposure and the basalt flow make it unlikely that here is a case of cooling shrinkage. Nor was it that caused by jointing where the divisions are frequently of rectangular shape and the rock surface relatively flat.

The rocks on which the party was relaxing were "dominantly of polygonal plates each of which is essentially concave upwards. The plate size varies, apparently relative to grainsize" but frequently exceeding 0.5 metres across, "but there is occasionally also some control of the overall pattern by master joints.....". "When well developed these pavements have an appearance of continuity with depth, and individual surfaces could be confused with cooling shrinkage tesselation". The appearance of depth however has not been confirmed by detailed examination and Branagan notes that numerous surfaces examined "were quite limited in depth and were not of metamorphic origin". Another writer quoted has described these formations as "a tray of scones".

In considering causes of tesselation Branagan observes that cracking is a common phenomenon in both natural and man-made materials exposed on the Earth's surface and that much of this cracking results from stress relief during unloading or expansion of surfaces. He considers that the type of tesselation we observed can only occur when the character of the material and the character of the surface are both suitable. These characteristics appear best able to occur in siliceous or silcified sandstones which are essentially uniform in grainsize. The "tray of scones" pattern results where there is rapid downcutting along the joints and the individual polygons begin to weather and erode more rapidly along the edges.

R.T. Compagnoni

SIGHTING OF THE RED-BROWED TREECREEPER.

In view of the fact that Reta Vellenga's book 'Some Birds of the City of The Blue Mountains' 1968, records only one sighting of the Red-Browed Tree-creeper (near Blue Gum Forest),the following record may be of interest.

On the 8th June 1985, on the Prince Henry Cliff Walk, only a few hundred metres from the Three Sisters I saw a small flock of five of these birds. Apart from the red streak over the eye and the heavily striated chest, numerous behavioural differences from the more common White-Throated Treecreeper were apparent. The Red-Browed species has a softer call and appears to forage more slowly and thoroughly than the White-Throated. Numerous neck contortions were engaged in, in order to peer behind the peeling ribbons of bark. They also descended regularly to the ground, a behaviour rare in the White-Throated species. Look closely at the Treecreepers - it may not always be the White-Throated Treecreeper.

Jim Smith.

HONEYEATER MYSTERY?

At a recent 'lunch stop' along the Putty Road we were attracted by a chattering group of Noisy Miners. It is usually worth investigating when these birds are making a fuss - there is always the possibility of a treed goanna or a tawny frogmouth trying to catch up on a day's sleep. But this time it was different - they were squabbling with a couple of blue-faced honeyeaters over some horizontal gashes in the bark of a grey gum (Eucalyptus punctata). Sap was oozing from these gashes and the birds were drinking it avidly, and very annoyed with us for disturbing them. These gashes were about 2 inches long and several on the one tree. We looked around and found 2 or 3 trees affected, the others were not touched. I remembered reading an article in 'Habitat'* about gliders making these gashes and on looking it up when we returned home found they were Fluffy Gliders on red stringybark (E.resinifera) in North Queensland. The Putty Road is certainly not Fluffy Glider country so we came to the conclusion that in this case Sugar Gliders must have been responsible. It would have been interesting to camp there and see what nocturnal visitors enjoyed the sap but unfortunately one never has the time when it is needed. Has anyone else observed similar gashes on trees anywhere?

* Russell, R. - "How fluffy gliders led me to the tree of life". Habitat, Feb., 1981. p.7.

Jill Dark

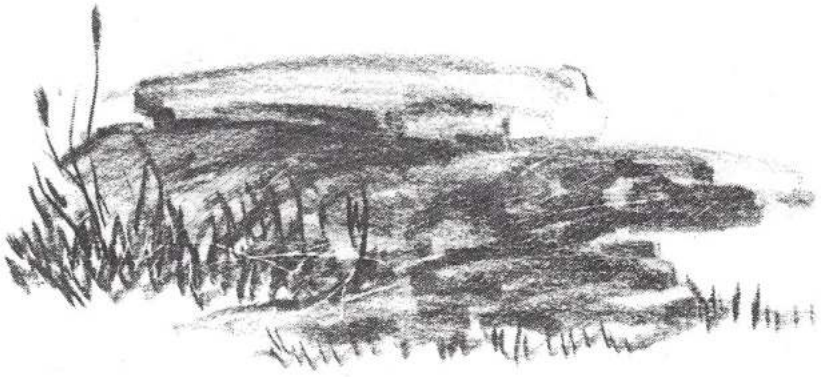
Mark O'Connor

Our guest speaker for the July 26th Meeting was a young poet Mark O'Connor from North Queensland. Mark takes a tape recorder with him into the bush and records directly in words what he sees and feels. Later he polishes these impressions into delicate and sensitive poetry. He read some of his poems inspired by different aspects of the Blue Mountains and has kindly given us permission to publish one of them - "Heath".

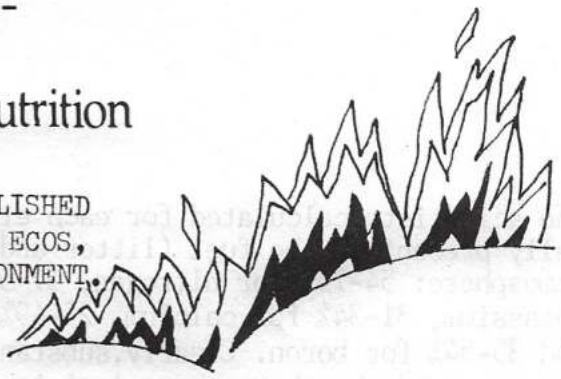
HEATH

From this rock grow herbs as faint and glaucous
as a ghost's shadow, a spider-web at noon.
Gray-wire plants like bird-cotton traps,
they take the minimum of light and heat
to surprise with giant flowers. You see them only then.
scattering hot rock with snow that halts
and seems afraid to land. Their honey pours
like rock-oil down the blazing slope.
Bees are the goats that graze this world.
and beds of rock-shard what shrubs use for soil.
Flower-midges dance around a Prickly Moses
The swifts whirr past like bullets
and gulp them as they hit.
Remembering another heat, another world of scents,
I eat dried Turkish figs among the sandstone cliffs
and walk to the shaded side. At once
the same plants are metres tall.

- Mark O'Connor



Prescribed Burning and Forest Nutrition



THIS IS THE SECOND PART OF AN ARTICLE PUBLISHED RECENTLY IN THE SUMMER 1984/85 EDITION OF ECOS, CSIRO'S MAGAZINE ON SCIENCE AND THE ENVIRONMENT.

Nutrient cycling

How does prescribed burning alter nutrient balance and cycling processes? In the short term, fire mobilized nutrients by incinerating organic material to create ash and by heating the soil. Balanced against this improved availability of nutrients is loss of organic matter and nutrient transfer into the atmosphere, and an increased potential for losses due to leaching, run-off, or erosion by wind or water. In any assessment of how fire affects the nutrient budget of plant communities, many regulatory and compensating ecological processes complicate the picture. For example, rates or nitrogen fixation or weathering rates may increase after fire.

Nutrients transported into the atmosphere during fire either go up in smoke particles or are directly vaporized. How much of an element is lost in gaseous or particulate form during burning depends largely on its vaporization temperature and on fire intensity. Carbon, nitrogen and sulfur are vaporized at low temperatures. The vaporization temperatures for inorganic forms of other elements range from relatively low for phosphorus and potassium (774°C) to relatively high for calcium (1484°C) and manganese (1962°C). The temperatures required to volatilize elements bound in organic compounds in plants or litter may be significantly lower than those required for inorganic forms. In biological materials, elements occur in many forms and have a wide range of volatilities, depending on combustion conditions.

Temperatures in forest fires vary widely - glowing combustion occurs at about 650°C, while woody fuels produce flame temperatures of about 1100°C. In high-intensity fires, most of the fuel will be surrounded by flaming combustion, and understorey vegetation may be subjected to high temperatures even in low-intensity fires.

Studies elsewhere have established that a high proportion of the nitrogen and sulfur in vegetation fuels is volatilized during combustion. Researchers have assumed that only small quantities of other elements are lost in smoke so they are mostly deposited in ash on the soil surface.

Dr Raison, Dr Khanna and Mr Woods measured the transfer of nitrogen, phosphorus, potassium, calcium, magnesium, manganese and boron to the atmosphere during low-intensity prescribed burns in the three sub-alpine forests, each of which has an understorey dominated by the leguminous shrub Daviesia. The forest had been unburnt for 7 years. They placed small aluminium trays in the forest for an accurate measure of the ash residue left by the fire - essential for accurate budgeting for elements other than nitrogen.

The scientists calculated for each element the proportion of the mass initially present in the fuel (litter and shrubs) that was transferred to the atmosphere: 54-75% for nitrogen, 37-50% for phosphorus, 43-66% for potassium, 31-34% for calcium, 25-49% for magnesium, 25-43% for manganese, and 35-54% for boron. Clearly,substantial amounts of the major nutrients, nitrogen and phosphorus, are lost to the atmosphere during hazard-reduction fires. For nitrogen, the losses correlated with the amount of fuel burnt. Daviesia spp. shrubs held considerable amounts of potassium, nitrogen and phosphorus in the fuel before burning, so they contributed significantly to redistribution of these elements.

Fire concentrates most elements in the ash residues; in comparison with unburnt litter, concentrations in the ash left after the Brindabella fires were 10-50 fold higher for calcium, 10-35 fold higher for magnesium,and 10 times higher for phosphorus. This means that even a small removal of fine ash from a site either during or after a fire may result in the relocation of considerable amounts of these nutrients.

As well as their field studies, Dr Raison, Dr Khanna and Mr Woods have used data from studies elsewhere and from laboratory combustion experiments to determine the relative contributions of volatile and particulate (ash) mechanisms to nutrient transfer in fires. They discovered that, because calcium is not volatilized even at the temperatures generated in most bushfires, higher ratios of calcium to other elements in the burnt residue of specific fuel components (for example, leaves, bark and wood) point to some gaseous transfer of nitrogen,phosphorus,potassium, boron, magnesium, and manganese - for the first four the contribution of particulate movement to losses is quite small.

Nutrients in smoke particles may be blown to adjacent regions, but vaporized elements are either lost (nitrogen in particular) or transported very large distances, often to the ocean off eastern Australia. Such tranfers of phosphorus, which is largely vaporized, are ecologically significant for the phosphorus-deficient Australian landscape. Nitrogen lost in smoke may be replaced via rainfall and via nitrogen fixation by native plants such as acacias, which often proliferate after burning.

For the forests studies, the CSIRO researchers conclude that about 10-12 years are needed between prescribed burns to permit natural inputs of nitrogen to approximately replace the amounts transferred to the atmosphere in a single fire. The natural rates of phosphorus replacement are usually very slow. Slow release of phosphorus from organic reserves held in the soil may compensate for some losses. For replacement of phosphorus by rainfall only, the scientists estimate the required length of burning rotation to be about 20 years. Nutrient losses in individual wildfires will exceed those in prescribed burns, but the frequency of wildfires is lower and should be further reduced with fuel-reduction burning.

Minimizing nutrient losses

Moisture can moderate the effects of burning. By burning after rain,when the lower litter layers and surface soil are moist, forest managers can prevent heating of these nutrient-rich zones above 200°C and thus prevent volatilization of carbon and nitrogen.

Additionally, Dr Raison has observed that a thin cover of residual litter (4-6 tonnes per hectare) can be retained by burning when the lower litter layer is moist. If the fire doesn't burn the litter completely, less nutrient is lost to the atmosphere, direct losses of organic matter and nitrogen (from surface soil) are avoided, and the potential for erosion is reduced by the residual 'mulch' covering the mineral soil. The residual burnt litter eventually breaks up and does not contribute to any subsequent fuel build-up.

The CSIRO team is continuing to explore various aspects of the impacts of repeated burning. In their present studies, they are attempting to quantify the effect of fires on soil chemical properties and nitrogen-supplying capacity, as well as looking at the chemistry of water in the soil to provide further information on nutrient leaching. The scientists believe that further detailed studies are needed before they can predict more accurately the long-term effects of prescribed burning and so provide information required to improve fire management systems.

Society News

Land Preservation Sub Committee

Still in negotiation with landowner for land near the Kings Table, Kings Tableland, Wentworth Falls.

Winner of Raffle for basket of groceries. D. McLean, Ticket MQ F85 - all proceeds for Land Preservation Fund. Thank you for all the generous donations received for the Land Preservation Fund.

Land Use Sub Committee

The Sub-Committee has been busy with the BMCC Blue Mountains Environment Management Plan. It meets on the third Tuesday of every month with a day in the field every second Saturday.

To date they have looked at Mt Victoria, Blackheath, Medlow Bath, Katoomba, Wentworth Falls, Lawson, Hazelbrook and Woodford with a view to mapping the enviromentally critical areas which require preservation in the Upper Blue Mountains.

The Leura Resort

The opposition to the resort goes on but as yet no further developments have arisen. The Blue Mountains Escarpment Protection group is to meet with Bob Carr, Minister for Environment and Planning to see what can be done to prevent the resort. We understand that the plans for the development are again being modified by the architects, however the height of the building still appears to be 19m above ground level (the height of a six storey building) in some places and it will be visible from the floor of the Jamison Valley.

It's still not too late to write a personal letter of protest to the Premier Mr Wran and/or the Minister for Planning and Environment, Mr Bob Carr.

Hut Display

The new Hut Display "Precious Heritage" which deals with the ecology of the Valley of the Waters was opened on Saturday July 6th with a moving speech by Hugh Speirs. The exhibition is proving popular. Lois Sattler, Hut Curator, is at present neatening the Hut and is already thinking about further exhibitions.

The Management Committee has endorsed the recommendations to Council made by the Wentworth Falls Reserve 530A Committee calling for improvements in information for the tracks in the Reserve. The Management Committee has decided to take this on board with the 530A Committee as a Bicentenary Project.

There are many other things too numerous to mention that the Society is doing. Why not come along to the General Meeting on the last Friday of every month to find out what they are.

The Society is always open to suggestions and information concerning activities in which it should be involved. If you have any ideas don't hesitate to write to the Secretary.

The Land Preservation Fund Donations

The Land Preservation Fund Committee gratefully reports that, in accordance with the wishes of the donors, the Fund has received $2369.00 from the Australian Conservation Foundation; this includes one very generous donation of $2000.00.

AXEMAN SPARE THAT TREE

Our President, Mick Dark, has been unsparing in his conservation efforts lately and consequently has been in hospital with a broken ankle. However, we are pleased to report that he is recovering and with the aid of crutches and a good wife was able to preside at the meeting on August 31st. Here's hoping he'll soon be out of plaster and sparing more trees.

OPENING OF "PRECIOUS HERITAGE" EXHIBITION

On Saturday July 6th, author-artist Hugh Speirs, opened this exhibition at the Hut. Its purpose was to tell the conservation story as it applied to the Blue Mountains and particularly the environment of the Valley of the Waters.

In his speech Hugh Speirs asked us to cast our minds back 200 years and think of the environment as it was then. The Aborigines have lived in this land probably much longer than 40000 years.

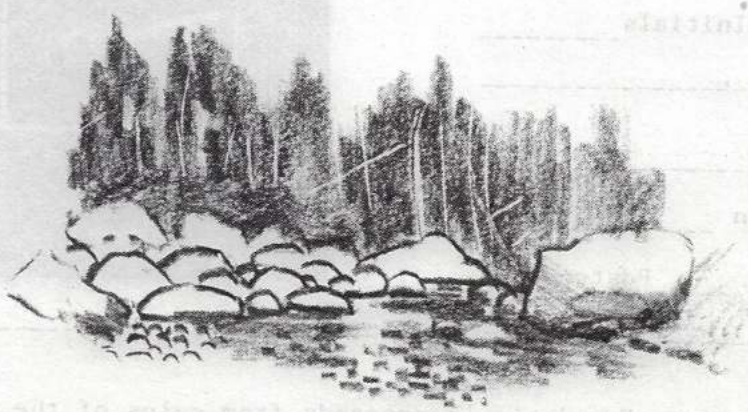
"They lived from it; they lived with it. Nature was interfered with to a minimum because Nature was seen as the source and fountain of life" he said. 'They have been coming here to our Blue Mountains for at least 22,000 years. Before that this plateau was under peri-glacial ice for about 5,000 years. And before that...? Who knows, but it's very probable that they came here for thousands of years before that particular Ice Age.

In all that time the people have hardly changed; and what is very significant to us is: neither have the mountains. The environment has been allowed to flourish, to finds its own way under the laws of Nature.'

"Comparatively, we white races have been here only since yesterday. With the drive of zealots we embarked on a course of exploitation, of the rape, pillage and destruction of Nature; a carnage that for some of us is sickening.

That destruction continues today. It continues here. Slowly we learn that action is necessary by each of us, and that politicians at any level must be afforded no more trust than we might give a snake.

This exhibition of photos and text has been beautifully prepared. It is simple to read but covers its topic clearly. I hope it will help many people to become more aware of the beauty of our region and the fragility of that beauty so that we may nurture it as did our native predecessors for so many thousands of years" he said.



AUSTRALIAN CONSERVATION FOUNDATION'S NEW CONSERVATION CLASSIC

"DAINTREE - WHERE THE RAINFOREST MEETS THE REEF"
$24.95 plus $4.00 postage and packing.

"Daintree" - a 256-page treasury of colour, measuring 21cmx30cms and printed on high quality gloss paper, shines with over 160 colour photographs, many in full and double page size and will grace your coffee table or bookshelf.

The Australian Conservation Foundation has joined with top Australian publisher Kevin Weldon to produce "Daintree" to support the national conservation campaign to save this magnificient Australian and world heritage area.

This conservation classic with its stunning photography by three of Australia's leading photographers Leo Meier and Dawn & Clifford Frìth and its accompanying text by Whitley award-winning nature writer Rupert Russell, will leave no doubt in the mind of the reader as to the importance of the Daintree region and of the urgent need to save it.

Members of conservation and environment groups around Australia can order direct from the Australian Conservation Foundation sales department on the coupon below.

TO SECURE YOUR COPY, PLEASE COMPLETE THE ORDER FORM BELOW AND POST TODAY

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HAWTHORN, VIC, 3122.

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Address: Street _____

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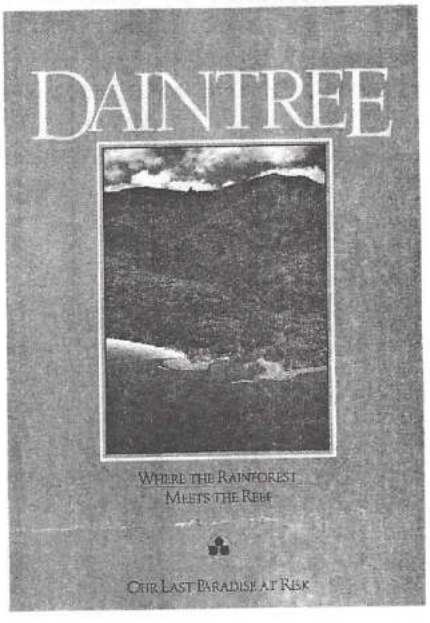
256 pp. 21 cm x 30 cm, Hardcover
Recommended retail price $24.95



The Australian Conservation Foundation's proceeds from sales of the book will be recycled back into conservation

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY

Objects of the Society as set out in the Constitution are:

(a) To disseminate and foster an understanding of the ideals of Conservation among members of the Society and the public generally, particularly in relation to the unique resources of the Blue Mountains.

(b) To conduct meetings, excursions and research, and such other activities as may be determined by the Society in relation to Wildlife Concervation, and especially through the Conservation Hut at the Valley of the Waters, Wentworth Falls, to provide information on Conservation matters.

(c) To maintain friendly relations with other Conservation Societies especially local bodies.

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY
P.O. Box 29, Wentworth Falls.

MEMBERSHIP RENEWAL FORM

The Membership Secretary:

I enclose a cheque or postal note for ..... for the renewal of my membership.

Name .....

Address .....

Single	$5.00
Family	$8.00
Conses.	$2.00

This version of the Newsletter was re-typed from the original by Phoebe Coster in March 2023 to enable search engines to 'see' the text. Minor changes have been made to correct typographical errors and to add clarity.

Note: First edition to include the Black Cockatoos as a logo.

September 1985
No. 61

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NEWSLETTER.

Registered by Australia Post – Publication No. NBHO 925

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THE HUT: The Society maintains a small museum and information centre at the Conservation Hut. It is manned on weekends and holidays by voluntary helpers.

LIBRARY: Facilities for borrowing and returning books at Monthly Meetings. A library list is available on request.

PUBLICATIONS: A range of specialist booklets, posters, maps, postcards etc may be purchased at the Hut.

SALE OF NATIVE PLANTS: Opportunities to purchase native plants grown by Members are organised from time to time during the year. These sales are held at the Hut, proceeds to the Land Preservation Fund.

WALKS: Walks are organised on the first Sunday and second Thursday of the month, conducted by experienced leaders.

LAND PRESERVATION: The Society has a Land Preservation Fund which was set up to give lovers of the bush an opportunity to preserve environmentally important land in the Blue Mountains by purchase and dedication as a reserve.

Contents

NATIVE PLANT WEEKEND – AT THE HUT

26th - 27th October… 10 a.m. to 4 p.m. Saturday & Sunday .
All proceeds from sale of plants in aid of Land Preservation Fund.

11 a.m. Saturday. Ruth Overton from the Blue Mountains Society for Growing Australian Plants and Jill Dark will discuss ecological gardening using native plants. There will be ample opportunity for questions from the audience.

1.30 p.m. Saturday. Botany walk starting from the Hut led by Jill Dark and Ruth Overton.

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Just right for Christmas – or any time
BLUE MOUNTAINS SOUVENIR CARDS

A packet of five cards with drawings by Grace Bayley of familiar bush walking scenes in the mountains. Just right for Christmas or sending to friends overseas. Obtainable from the Hut, Valley of Waters Reserve, 5 CARDS FOR $2.50.

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Walks Programme

COMING WALKS.

October Sunday 6th: Pierces Pass
Walk down renovated track to Grose River. Medium walk. Leader Keith Sherlock. 57-1927. Details later.

October Thursday 17th: Old Shale Railway, off Darling Causeway.
Historic walk. Pleasant with magnificent views. Easy. Meet at Mt Victoria Station at 10.00 a.m. Leader. Rachel Makinson 87-1302

November Sunday 3rd: The final part of the Six Foot Track Walk from Department of Sport & Leisure Centre to Jenolan and back. Lovely Walk. Medium. Meet at Mt Victoria Station at 9.30 a.m. Leader John Noble 87-8342

November Thursday 14th: Wentworth Falls
Meet at south end of Falls Rd 10.00 a.m. A walk to Den Fenella. Undercliff walk to Wentworth Falls. Lovely Views. Interesting vegetation. This walk haad to be cancelled in July due to snow. Leader Beverly Thompson 57-2076

December Sunday 1st: End of Year Ramble.
Meet at Conservation Hut, Valley of the Waters, Valley Road Wentworth Falls at 10.00 a.m. for ramble through Reserve. This will be followed by a barbeque (fire ban permitting) and social get-together. Bring your own food and refreshments. Tea and coffee provided.

REPORT ON WALK TO RAINBOW RAVINE – 5TH MAY 1985

After two weeks of solid rain the day dawned fine and twenty eight people turned up for the walk. We started at Mt Tomah and headed down towards the Camel's Saddle. The bush was wet and thick and the leaders had a good soaking. Banksias and patches of sweet smelling swamp wattle were seen.

We climbed up to the Camel's Hump and had morning tea on the tesselated rocks. About half of the party stayed on the Camel's Hump admiring the magnificent views; the rest walked through the hanging swamp and down past the angophoras to the top of the ravine. As access was impossible a side route was taken and we had lunch by a creek of sweet water, near a waterfall. A few hardy members scrambled up the cliffs and two followed the creek, bush bashing back to the Camel's Saddle. We returned to the cars by the same track and home.

REPORT ON WALK TO THE WOLLANGAMBE RIVER – 7TH JULY 1985

We met at Mt Victoria Station at 9.30 a.m. Twenty eight members turned up and we drove to Mt Wilson for the start of the Wollangambe wander.

We walked down the track to a group of rocks overlooking the river, where we had morning tea. Wattles were out in profusion. We took the track to the river and although it was a bit of a scramble in places, everyone managed to reach the river. There was a choice of crossing either by a fallen tree or paddling through the icy waters.

We had lunch on a sandy beach underneath towering cliffs. Some brave members climbed slippery rocks to take a peep into the canyon, and there was a lovely deep pool nearby which we called "The Grotto". After lunch we made our leisurely way back to the cars. The weather was dull, but fine – ideal for a winter walk.

REPORT ON WALK THURSDAY 15TH AUGUST 1985 PULPIT ROCK

The walk started at Pulpit Rock. 17 members met at Blackheath Post Office at 10.00 a.m. We drove to Govetts' Leap where we left some cars, then on to Pulpit Rock. We viewed the Grose Valley from the Lookout, a few hardy members went down the steel ladder to gain a better view. We walked along the Escarpment where regeneration after the bush fires was remarked upon, especially in the Hanging Swamps area, which were lush and green. We had lunch on a rock overlooking the Grose Valley, then wandered down above the Horseshoe Falls and begin the uphill climb back to Govett's Leap. The weather was sunny at times but no rain.

THE WALK THAT NEVER WAS

For the first time that I know of the mid-week walk in July was cancelled because of snowfall at about 9.15 am, and continuing rain throughout the day. I hope people were not disappointed too much. However, the walk to Denfella and along Undercliff Pass will be programmed again in the near future.

HUT ROSTER

This year at least six people have dropped out of the hut roster. This is making it extremely difficult to keep the hut open each weekend, and I am dreading the Christmas Holidays when we try to have the hut open every day for seven weeks.

Profits from the hut are our main source of funds with which we are trying to preserve the beautiful Blue Mountains and other areas of this country from the developers' bulldozers.

If you could spare a day once every two months to go on the regular roster, or a day less often to go on the emergency list, or even a day on the Christmas Holidays, please contact me URGENTLY.

Beverly Thompson 57.2076

A NOTE ON TESSELATED PAVEMENTS

We had followed John and Olive from Mt Tomah down the trail towards Rainbow Ravine and had paused to rest on the side of The Camel's Hump. The spot was a large rock platform slightly under the top of a ridge but with much to catch the eye. To the left was The Camel's Saddle, above the basalt cap of Mt Tomah, below us the upper reaches of Rainbow Ravine and beyond, where Carmarthen Brook enters the Grose, the familiar, rounded shape of Mt Hay.

But the rock platform on which we had paused generously illustrated the geological phenomenon of tesselated pavements. Professor D.F. Branagan of Sydney University has published several papers on this subject and of special interest is "Tesselated Pavements" in "Aspects of Australian Sandstone Landscapes", ed. Young and Nanson 1983. Branagan mentions four forms of tesselation, three of which occur reasonably close to Sydney, but for this note two are mentioned briefly and a third in detail. One is that caused by cooling shrinkage from contact metamorphism where Hawkesbury Sandstone is in close contact with weathered basaltic rock or breccia. The best known example of this is in a quarry at North Bondi. This type is mentioned because of the relative closeness of basalt and Hawkesbury sandstone at Mt Tomah but the size of the polygons and the vertical distance of perhaps 100 metre between this exposure and the basalt flow make it unlikely that here is a case of cooling shrinkage. Nor was it that caused by jointing where the divisions are frequently of rectangle shape and the rock surface relatively flat.

The rocks on which the party was relaxing were "dominantly of polygonal plates each of which is essentially concave upwards. The plate size varies, apparently relative to grainsize" but frequently exceeding 0.5 metres across, "but there is occasionally also some control of the overall pattern by master joints….". "When well developed these pavements have an appearance of continuity with depth, and individual surfaces could be confused with cooling shrinkage tesselation". The appearance of depth however has not been confirmed by detailed examination and Branagan notes that numerous surfaces examined "were quite limited in depth and were not of metamorphic origin". Another writer quoted has described these formations as "a tray of scones".

In considering caused of tesselation Branagan observes that cracking is a common phenomenon in both natural and man-made materials exposed on the Earth's surface and that much of this cracking results from stress relief during unloading or expansion of surfaces. He considers that the type of tesselation we observed can only occur when the character of the material and the character of the surface are both suitable. These characteristics appear best able to occur in siliceous or silcified sandstones which are essentially uniform in grainsize. The "tray of scones" pattern results where there is rapid downcutting along the joints and the individual polygons begin to weather and erode more rapidly along the edges.

R.T. Compagnoni.

SIGHTING OF THE RED-BROWED TREECREEPER.

In view of the fact that Reta Vellenga's book 'Some Birds of the City of The Blue Mountains' 1968, records only one sighting of the Red-Browed Treecreeper (near Blue Gum Forest), the following record may be of interest.

On the 8th June 1985, on the Prince Henry Cliff Drive Walk, only a few hundred metres from the Three Sisters I saw a small flock of five of these birds. Apart from the red streak over the eye and

the heavily striated chest, numerous behavioural differences from the more common White-Throated Treecreeper were apparent. The Red-Browed species has a softer call and appears to forage more slowly and thoroughly than the White-Throated. Numerous neck contortions were engaged in, in order to peer behind the peeling ribbons of bark. They also descended regularly to the ground, a behaviour rare in the White-Throated species. Look closely at the Treecreepers – it may not always be the White-Throated Treecreeper.

Jim Smith.

HONEYEATER MYSTERY?

At a recent 'lunch stop' along the Putty Road we were attracted by a chattering group of Noisy Miners. It is usually worth investigating when these birds are making a fuss – there is always the possibility of a treed goanna or a tawny frogmouth trying to catch up on a day's sleep. But this time it was different – they were squabbling with a couple of blue-faced honeyeaters over some horizontal gashes in the bark of a grey gum (Eucalyptus punctata). Sap was oozing from these gashes and the birds were drinking it avidly, and very annoyed with us for disturbing them. These gashes were about 2 inches long and several on the one tree. We looked around and found 2 or 3 trees affected, the others were not touched. I remembered reading an article in "Habitat"* about gliders making these gashes and on looking it up when we returned home found they were Fluffy Gliders on red stringybark (E.resinifera) in North Queensland. The Putty Road is certainly not Fluffy Glider country so we came to the conclusion that in this case Sugar Gliders must have been responsible. It would have been interesting to camp there and see what nocturnal visitors enjoyed the sap but unfortunately one never has the time when it is needed. Has anyone else observed similar gashes on trees anywhere?

* Russell, R. - "How fluffy gliders led me to the tree of life".
Habitat, Feb., 1981. p.7. Jill Dark.

Mark O'Connor

Our guest speaker for the July 26th Meeting was a young poet Mark O'Connor from North Queensland. Mark takes a tape recorder with him into the bush and records directly in words what he sees and feels. Later he polishes these impressions into delicate and sensitive poetry. He read some of his poems inspired by different aspects of the Blue Mountains and has kindly given us permission to publish one of them- "Heath".

HEATH

From this rock grow herbs as faint and glaucous
as a ghost's shadow; a spider-web at noon.
Gray-wire plants like bird-cotton traps,
they make the minimum of light and heat
to surprise with giant flowers. You see them only then.
scattering hot rock with snow that halts
and seem afraid to land. Their honey pours
like rock-oil down the blazing slope.
Bees are the goats that graze this world.

And beds of rock-shard what shrubs use for soil.
Flower-midges dance around a Prickly Moses
The swifts whirr past like bullets
and gulp them as they hit.
Remembering another heat, another world of scents,
I eat dried Turkish figs among the sandstone cliffs
and walk to the shaded side. At once the same plants are metres tall.

- Mark O'Connor.

Prescribed Burning and Forest Nutrition

THIS IS THE SECOND PART OF AN ARTICLE PUBLISHED RECENTLY IN THE SUMMER 1984/85 EDITION OF ECOS, CSIRO'S MAGAZINE ON SCIENCE AND THE ENVIRONMENT.

Nutrient cycling

How does prescribed burning alter nutrient balance and cycling processes?
In the short term, fire mobilized nutrients by incinerating organic material to create ash and by heating the soil. Balanced against this improved availability of nutrients is loss of organic matter and nutrient transfer into the atmosphere, and an increased potential for losses due to leaching, run-off, or erosion by wind or water. In any assessment of how fire affects the nutrient budget of plant communities, many regulatory and compensating ecological processes complicate the picture. For example, rates or nitrogen fixation or weathering rates may increase after fire.

Nutrients transported into the atmosphere during fire either go up in smoke particles or are directly vaporized. How much of an element is lost in gaseous or particulate form during burning depends largely on its vaporization temperature and on fire intensity. Carbon, nitrogen and sulfur are vaporized at low temperatures. The vaporization temperatures for inorganic forms of other elements range from relatively low for phosphorus and potassium (774^0C) to relatively high for calcium (1484^0C) and manganese (1962^0C). The temperatures required to volatilize elements bound in organic compounds in plants or litter may be significantly lower than those required for inorganic forms. In biological materials, elements occur in many forms and have a wide range of volatilities, depending on combustion conditions.

Temperatures in forest fires vary widely – glowing combustion occurs at about 650^0C, while woody fuels produce flame temperatures of about 1100^0C. In high-intensity fires, most of the fuel will be surrounded by flaming combustion, and understorey vegetation may be subjected to high temperature even in low-intensity fires.

Studies elsewhere have established that a high proportion of the nitrogen and sulfur in vegetation fuels is volatilized during combustion. Researchers have assumed that only small quantities of other elements are lost in smoke so they are mostly deposited in ash on the soil surface.

Dr Raison, Dr Khanna and Mr Woods measured the transfer of nitrogen, phosphorus, potassium, calcium, magnesium, manganese and boron to the atmosphere during low-intensity prescribed burns in the three sub-alpine forests, each of which has an understorey dominated by the leguminous shrub Daviesia. The forest had been burnt for 7 years. They placed small aluminium

trays in the forest for an accurate measure of the ash residue left by the fire – essential for accurate budgeting for elements other than nitrogen.

The scientists calculated for each element the proportion of the mass initially present in the fuel (litter and shrubs) that was transferred to the atmosphere: 54-75% for nitrogen, 37-50% for phosphorus, 43-66% for potassium, 31-34% for calcium, 25-49% for magnesium, 25-43% or manganese, and 35-54% for boron. Clearly, substantial amounts of the major nutrients, nitrogen and phosphorus, are lost to the atmosphere during hazard-reduction fires. For nitrogen, the losses correlated with the amount of fuel burnt. Daviesia spp. shrubs held considerable amounts of potassium, nitrogen and phosphorus in the fuel before burning, so they contributed significantly to redistribution of these elements.

Fire concentrations most elements in the ash residues; in comparison with unburnt litter, concentrations in the ash left after the Brindabella fires were 10-50 fold higher for calcium, 10-35 fold higher for magnesium, and 10 times higher for phosphorus. This means that even a small removal of fine ash from a site either during or after a fire may result in the relocation of considerable amounts of these nutrients.

As well as their field studies, Dr Raison, Dr Khanna and Mr Woods have used data from studies elsewhere and from laboratory combustion experiments to determine the relative contributions of volatile and particulate (ash) mechanisms to nutrient transfer in fires. They discovered that, because calcium is not volatilized even at the temperatures generated in most bushfires, higher ratios of calcium to other elements in the burnt residue of specific fuel components (for example, leaves, bark and wood) point to some gaseous transfer of nitrogen, phosphorus, potassium, boron, magnesium, and manganese – for the first four the contribution of particulate movement to losses is quite small.

Nutrients in smoke particles may be blown to adjacent regions, but vaporized elements are either lost (nitrogen in particular) or transported very large distances, often to the ocean off eastern Australia. Such transfers of phosphorus, which is largely vaporized, are ecologically significant for the phosphorus-deficient Australian landscape. Nitrogen lost in smoke may be replaced via rainfall and via nitrogen fixation by native plants such as acacias, which often proliferate after burning.

For the forests studies, the CSIRO researchers concluded that about 10-12 years are needed between prescribed burns to permit natural inputs of nitrogen to approximately replace the amounts transferred to the atmosphere in a single fire. The natural rates of phosphorus replacement are usually very slow. Slow release of phosphorus from organic reserves held in the soil may compensate for some losses. For replacement of phosphorus by rainfall only, the scientists estimate the required length of burning rotation to be about 20 years. Nutrient losses in individual wildfires will exceed those in prescribed burns, but the frequency of wildfires is lower and should be further reduced with fuel-reduction burning.

Minimizing nutrient losses

Moisture can moderate the effects of burning. By burning after rain, when the lower litter layers and surface soil are moist, forest managers can prevent heating of these nutrient-rich zones above 200^0C and thus prevent volatilization of carbon and nitrogen.

Additionally, Dr Raison has observed that a thin cover of residual litter (4-6 tonnes per hectare) can be retained by burning when the lower litter layer is moist. If the fire doesn't burn the litter completely, less nutrient is lost to the atmosphere, direst losses of organic matter and nitrogen (from surface soil) are avoided, and the potential for erosion is reduced by the residual "mulch" covering the mineral soil. The residual burnt litter eventually breaks up and does not contribute to any subsequent fuel build-up.

The CSIRO team is continuing to explore various aspects of the impacts of repeated burning. In their present studies, they are attempting to quantify the effect of fires on soil chemical properties and nitrogen-supplying capacity, as well as looking at the chemistry of water in the soil to provide further information on nutrient leaching. The scientists believe that further detailed studies are needed before they can predict more accurately the long-term effects of prescribed burning and so provide information required to improve fire management systems.

Society News

Land Preservation Sub Committee

Still in negotiation with landowner for land near the Kings Table, Kings Tableland, Wentworth Falls.

Winner of Raffle for basket of groceries.

D. McLean, Ticket No. MQ F85 – all proceeds for Land Preservation Fund. Thank you all the generous donations received for the Land Preservation Fund.

Land Use Sub Committee

The Sub-Committee has been busy with the BMCC Blue Mountains Environment Management Plan. It meets on the third Tuesday of every month with a day in the field every second Saturday.

To date they have looked at Mt Victoria, Blackheath, Medlow Bath, Katoomba, Wentworth Falls, Lawson, Hazelbrook and Woodford with a view to mapping the environmentally critical area which require preservation in the Upper Blue Mountains.

The Leura Resort

The opposition to the resort goes on but as yet no further developments have arisen. The Blue Mountains Escarpment Protection group is to meet with Bob Carr, Minister for Environment and Planning to see what can be done to prevent the resort. We understand that the plans for the development are again being modified by the architects, however the height of the building still appears to be 19m above ground level (the height of a six storey building) in some places and it will be visible from the floor of the Jamison Valley.

It's still not too late to write a personal letter of protest to the Premier Mr Wran and/or the Minister for Planning and Environment, Mr Bob Carr.

Hut Display

The new Hut Display "Precious Heritage" which deals with the ecology of the Valley of the Waters was opened on Saturday July 6th with a moving speech by Hugh Speirs. The exhibition is proving popular. Lois Sattler, Hut Curator, is at present neatening the Hut and is already thinking about further exhibitions.

The Management Committee has endorsed the recommendations to Council made by the Wentworth Falls Reserve 530A Committee calling for improvements in information for the tracks in the Reserve. The Management Committee has decided to take this on board with the 530A Committee as a Bicentenary Project.

There are many other things too numerous to mention that the Society is doing. Why not come along to the General Meeting on the Last Friday of every month to find out what they are.

The Society is always open to suggestions and information concerning activities in which it should be involved. If you have any ideas don't hesitate to write to the Secretary.

The Land Preservation Fund Donations

The Land Preservation Fund Committee gratefully reports that, in accordance with the wishes of the donors, the Fund has received $2,369.00 from the Australian Conservation Foundation; this includes one very generous donation of $2,000.00

AXEMAN SPARE THAT TREE

Our President, Mick Dark, has been unsparing in his conservation efforts lately and consequently has been in hospital with a broken ankle.

However, we are pleased to report that he is recovering and with the aid of crutches and a good wife was able to preside at the meeting on August 31st. Here's hoping he'll soon be out of plaster and sparing more trees.

OPENING OF "PRECIOUS HERITAGE" EXHIBITION

On Saturday July 6th, author-artist Hugh Speirs, opened this exhibition at the Hut. Its purpose was to tell the conservation story as it applied to the Blue Mountains and particularly the environment of the Valley of the Waters.

In his speech Hugh Speirs asked us to cast our minds back 200 years and think of the environment as it was then. The Aborigines have lived in this land probably much longer than 40,000 years.

"They lived from it; they lived with it. Nature was interfered with to a minimum because Nature was seen as the source and fountain of life" he said. 'They have been coming here to our Blue Mountains for at least 22,000 years. Before that this plateau was under peri-glacial ice for about 5,000 years. And before that…? Who knows, but it's very probable that they came here for thousands of years before that particular Ice Age.

In all that time the people have hardly changed; and what is very significant to us is: neither have the mountains. The environment has been allowed to flourish, to find its own way under the laws of Nature.

“Comparatively, we white races have been here only since yesterday. With the drive of zealots we embarked on a course of exploitation, of the rape, pillage and destruction of Nature; carnage that for some of us is sickening.

That destruction continues today. It continues here. Slowly we learn that action is necessary by each of us, and that politicians at any level must be afforded no more trust than we might give a snake.

This exhibition of photos and text has been beautifully prepared. It is simple to read but covers its topic clearly. I hope it will help many people to become more aware of the beauty of our region and the fragility of that beauty so that we may nurture it as did our native predecessors for so many thousands of years” he said.

AUSTRALIAN CONSERVATION FOUNDATION’S NEW CONSERVATION CLASSIC

“Daintree - WHERE THE RAINFOREST MEETS THE REEF”
$24.95 plus $4.00 postage and packing.

“Daintree” – a 256 – page treasury of colour, measuring 21 cm x 30 cm and printed on high quality gloss paper, shines with over 160 colour photographs, many in full and double page size and will grace your coffee table or shelf.

The Australian Conservation Foundation has joined with top Australian publisher Kevin Weldon to produce “Daintree” to support the national conservation campaign to save this magnificent Australian and world heritage area.

This conservation classic with its stunning photography by three of Australia’s leading photographers Leo Meier and Dawn & Clifford Frith and its accompanying text by Whitley award-winning nature writer Rupert Russell, will leave no doubt in the mind of the reader as to the importance of the Daintree region and of the urgent need to save it.

Members of conservation and environment groups around Australia can order direct from the Australian Conservation Foundation sales department on the coupon below.

TO SECURE YOUR COPY, PLEASE COMPLETE THE ORDER FORM BELOW AND POST TODAY.

Order form not retyped.

UPPER BLUE MOUNTAINS CONSERVATION SOCIETY

Objects of the Society as set out in the Constitution are:

a) To disseminate and foster an understanding of the ideals of conservation among members of the Society and the public generally, particularly in relation to the unique resources of the Blue Mountains.

b) To conduct meetings, excursions and research, and such other activities as may be determined by the Society in relation to Wildlife Conservation, and especially through the Conservation Hut at the Valley of the Waters, Wentworth Falls, to provide information on Conservation matters.

c) To maintain friendly relations with other Conservation Societies especially local bodies.