World Heritage Letter
17.3.88

PARLIAMENT OF AUSTRALIA · THE SENATE
SHIRLEY WALTERS SENATOR FOR TASMANIA

4 March 1988,

Dear Sir,

On February 24, I introduced a private members Bill to amend the Australian Heritage Commission Act 1975.

Under the current Act private property can be added to the register of the National Estate of Australia without the owners of that property being aware or, in fact, without even being notified that their property was under consideration for inclusion. My Bill provides that owners of property under consideration for inclusion on the register are notified, in writing, and permitted to lodge submissions which must be taken into consideration before registration takes place.

As you are aware inclusion of private property on the register of the National Estate of Australia can impose severe limitations and restrictions on the future use of the registered property. I believe this situation completely ignores the ownership rights of the title holders irrespective of the nature of the property, ie residential, commercial, industrial or rural. My Bill addresses this problem and re-establishes equitable property ownership rights.

I am writing to you in the hope that you will advise me of the views of your group in relation to the Bill, hopefully before it is debated again on Thursday, 17th March.

On many occasions property has already been added to the register of the National Estate without any knowledge of the owners and in some instances for quite incorrect reasons. I believe this situation must not be allowed to continue.

I am enclosing a copy of my second reading speech and private members Bill which will explain in greater detail both the current Legislation and my proposed amendments.

Yours sincerely,

Shirley Walters,
Senator for Tasmania.

COMMONWEALTH PARLIAMENT OFFICES, 1 FRANKLIN WHARF, HOBART, TASMANIA 7000
G.P.O. BOX 760H, HOBART, TASMANIA 7001 TELEPHONE (002) 345325
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(c) by adding at the end the following subsection;

"(8) Where the Minister gives a direction under this section in relation to a place, the Minister shall give a copy of the direction to the owner or owners of the place.".

List of places to be entered in the Register

5. Section 26 of the Principal Act is amended by adding at the end the following subsections:

"(4) The Commission shall not, after the commencement of this subsection, include a place in the list unless the Commission has given to the person who is the owner of the place or, if different places forming part of the place are owned by different persons, to each of those persons a notice in writing stating that the Commission proposes to include the place in the list and setting out the reasons why the Commission proposes to include the place in the list.

"(5) Subject to subsection (6), the Commission shall, before the end of 3 months after the commencement of this subsection, give to each person who is the owner of a place that is in the list at the commencement of this subsection or, if different places forming part of the place are owned by different persons, to each of those persons a notice in writing stating that the place is in the list.

"(6) The Commission is not required to give a notice under subsection (5) in relation to a place if, before the end of the period in which the Commission is required by that subsection to give the notice, any of the circumstances set out in subsection (3) become applicable to the place.".

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1987-88

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

THE SENATE

(Presented and read a first time, 24 February 1988)

(SENATOR WALTERS)

A B I L L

FOR

An Act to amend the Australian Heritage Commission Act 1975

BE IT ENACTED by the Queen, and the Senate and the House of Representatives of the Commonwealth of Australia, as follows:

Short title etc.

1. (1) This Act may be cited as the Australian Heritage Commission (Notification of Owners) Amendment Act 1988.

(2) In this Act, "Principal Act" means the Australian Heritage Commission Act 1975.

1,950/24.2.1988-(41/88) Cat. No. 88 4154 2

Commencement

2. This Act shall come into operation on the day on which it receives the Royal Assent.

Entry of place in Register

3. Section 23 of the Principal Act is amended:

(a) by inserting before paragraph (2)(a) the following paragraphs:

"(aa) it has given a copy of the notice referred to in paragraph (a) to the person who is the owner of the place or, if different places forming part of the place are owned by different persons, to each of those persons (in this section called the 'owner or owners');

(ab) it has given to the owner or owners a reasonable opportunity:

(i) to examine any materials which the Commission has concerning the proposed entry; and

(ii) to make submissions to the Commission concerning the proposed entry;

(ac) it has given due consideration to any submissions made by the owner or owners;";

(b) by omitting from subsection (3) "after the giving of" and substituting "after complying with paragraphs (2)(aa), (ab) and (ac) and giving";

(c) by inserting before paragraph (3)(a) the following paragraph:

"(aa) give a copy of the notice referred to in paragraph (a) to the owner or owners;";

(d) by omitting from subsection (4) "shall by public notice" and substituting "shall, by notice in writing given to the owner or owners, and by public notice,".

Directions by the Minister

4. Section 25 of the Principal Act is amended:

(a) by omitting from subsection (2) "Where" and substituting "Subject to subsection (2A), where";

(b) by inserting after subsection (2) the following subsection:

"(2A) The Minister shall not give a direction under subsection (2) in relation to a place unless the Minister has given to the person who is the owner of the place or, if different places forming part of the place are owned by different persons, to each of those persons (in this section called the 'owner or owners') a reasonable opportunity:

(a) to examine any materials which the Minister has concerning the proposed direction; and

(b) to make submissions to the Minister concerning the proposed direction;

and the Minister has given due consideration to any submissions made by the owner or owners.";

The AUSTRALIAN HERITAGE COMMISSION

(Notification of Owners)

AMENDMENT BILL 1988.

SECOND READING SPEECH

by

Senator Shirley Walters

The purpose of the Bill is to require the Australian Heritage Commission; when it proposes to enter private property either on its list of places that might be entered in the register of the National Estate or when it proposes to enter property in the register of the National Estate, to inform the owners of the property, in writing, of that proposal. The Bill requires the Commissioner to give the owners access to documents held by the Commission pertaining to their property, as well as an opportunity to make submissions before registration can occur. It also requires the Commission to take into consideration any submission made, by owners of the property when considering that property for inclusion on the register of the National Estate.

The Bill extends these requirements to the Minister when he gives a directive to the Commission to enter private property in the Register of the National Estate and to those properties on the list at the commencement of this Legislation.

Under the present Act, the situation has frequently arisen that an area of private land or indeed a private home, has been

...2/

entered on the list for consideration by the Commission of places that might be entered in the register (that the Act requires the Commission to keep) without the knowledge of the owners, and further the Commission has eventually entered the property on the register of the National Estate still without the owners knowledge.

The only requirements in the present Act are:-

1. That the Commission shall not enter a place on the register unless it has placed a public notice in the Gazette, a local newspaper and a newspaper circulating throughout the State or Territory.

   This public notice must specify a date by which objections are to be made and the Commission must give due consideration to those objections. However it does not require notification to the owner.

   Should the owner miss the public notice he is left in the position of being unable to lodge an objection in the prescribed time.

2. Section 27 allows any person to inspect the register or the list, take a copy of, or an extract from an entry in the register or list.

   Again if the owner is unaware that his property is listed or entered on the register of the National Estate this requirement is of no use to him.

Mr President, natural justice dictates that this Bill be accepted by the Senate. Amendments, which simply allow an owner to be informed by the Commission that his property is under consideration for inclusion in the National Estate and give him the right to object, can only be accepted and supported.

I commend the Bill to the Senate.

photocopy

News: CLOSURE Folder + World Heritage and R.F.

NORTHERN STAR 6/12/88

Listing 'does not mean end of protests'

World Heritage listing for New South Wales rainforests does not signal the end to camapaigns to protect them, the vice-president of the North Coast Environment Council, Mr John Corkill, said this week.

The people of the North Coast, who have long recognised the global significance of local rainforests, and who were driven to action to save them during the stormy days of the Terania Creek and Mt Nardi logging protests, now have won the most significant political victory in recent years, Mr Corkill said.

But World Heritage listing is not the end of the campaign for the protection of New South Wales rainforests.

He said that, while environmentalists were pleased with the successful World Heritage nomination, there still were substantial and important rainforests such as lowland and gully types which needed permanent reserve status.

Most of these areas are small remnant examples of discrete rainforest types and are under a real threat of being lost, he said.

The New South Wales Government has come a long way towards protecting rainforests, but it must now follow through and successfully complete this urgent task.

About the newly-listed World Heritage rainforests, Mr Corkill said that the emphasis in these areas would now focus on their appropriate long-term management and protection.

The public must continue to be involved in the local rainforest parks as an issue and actively participate with the National Parks and Wildlife Service in the preparation of plans of management of the areas, he said.

He said that the management of these areas must reflect a wide range of values — spiritual, scientific, educational and recreational — and also must include management for non-human uses as well.

These rainforest systems have evolved over the past 100 million years and are survivors of dramatic global climatic changes in that time, Mr Corkill said.

White people have lived on the North Coast at most for 150 years and finished clearing 75,000 hectares of the Big Scrub only 90 years ago, he said.

How can we presume that only our human uses are of value when managing these ancient forests?

Mr Corkill said that the concept of managing for non-human uses was a basic component of the proposal for a Wilderness Act in New South Wales.

He said that the recognition of the international value of the local rainforest parks, by the International Union for the Conservation of Nature and Natural Resources, had important implications for sensitive land-uses on properties adjacent to park boundaries.

The status conferred by this recognition means that we will need to re-think and change land-uses in some areas so as to ensure that these rainforests are not damaged by long-term accumulated effects or these disastrous one-off events, Mr Corkill said.

He said that the concept of a risk-managed buffer zone covering

publicly and privately owned land surrounding the World Heritage areas needs serious consideration by Local and State Governments.

"Factors such as fire, livestock access, weeds, chemical uses and feral and domestic animals would need to be considered in formulating management strategies for land holders in such a buffer zone," he said.

Mr Corkill said that because the significance of the area was based on the survival of ancient remnants, great care should be taken in the preparation of Local and Regional Environmental Plans at present being drafted by the Lismore, Tweed and Kyogle Councils and the Department of Environment and Planning.

These instruments would need to reflect the weighty global obligation and the clear moral responsibility to protect these rainforests for all time, by ensuring that these environmental plans were of an acceptable international standard, he said.

PRESS RELEASE

GOVERNMENT POLICY ON RAINFORESTS

Cabinet at its meeting on 26 October 1982 decided on a rainforest policy involving:

- conservation of certain rainforest areas in National Parks and Nature Reserves
- maintenance of employment levels consistent with that existing and predicted from the Forestry Commission's current management proposals
- identification of alternative timber sources, the availability of which will be guaranteed.

A "Rainforest Fund" be established with an initial sum of $1 million to promote and encourage the development of new technologies and to assist affected industries during the transition period in which these changes of policies will be implemented.

In the management of hardwood resources in the Forestry Management Areas affected by the new rainforest parks and reserves, the Government has reaffirmed the principle of sustained yield.

BORDER RANGES

1. That the Border Ranges National Park be extended to include Wangarie, Roseberry and part Mt. Lindesay State Forests.

2. That the Gradys Creek Flora Reserve be included within the Border Ranges National Park without prior logging.

3. That the Murray Scrub area in Toonumbar State Forest be reserved as a Flora Reserve.

4. That the Forestry Commission continue its current practice of drawing the entire brushwood quota of Munro and Lever Pty Ltd of 8,500m^3 per annum from the Urbenville Management Area followed by the phasing in of plantation resources of hoop and bunya pine from Pikapene, Beaury, Koreelah and Toonumbar State Forests. Other mills utilising timber resources from the Urbenville management area will not be affected.

NIGHTCAP

1. That the area comprising Goonimbar State Forest (3,197 hectares) and part Whian Whian State Forest (975 ha.) plus 3 adjoining parcels of vacant Crown land, be reserved as Nightcap National Park.

2. That logging within the proposed park be not permitted to recommence and that the balance of the combined hardwood/rainforest quota from the Murwillumbah Working Circle be obtained elsewhere in the Murwillumbah Working Circle and supplemented by a limited volume to be obtained from the adjoining Mullumbimby Working Circle until 1984.

WASHPOOL

1. That the remaining allocation of rainforest timbers to Big River Timbers Pty Ltd from the 1982/83 quota year be halved to a maximum volume of 25,300m^3.
   The Government will assist Big River Timbers in obtaining alternative non-rainforest timbers during an eight year transition from rainforest timbers.

2. That the proposed 25,300m^3 allocation of rainforest timbers to Big River Timbers Pty Ltd be obtained from Area 6^b and Area 7^b of Washpool or other possible alternate areas.

3. That the current projected life of the hardwood mills in the Casino West Management Area be maintained by a requirement for such mills to utilise as large as practicable volume of ex-quota logs with additional supplies from the northern section of Washpool.

4. That hardwood supplies for the Grafton Management Area be obtained from outside the Washpool area and the northern section of Washpool and the date of commencement of the second cutting cycle be brought forward as far as practicable consistent with sustained yield management. Further, the Forestry Commission should encourage the establishment of a small-wood industry in the Grafton Management Area.

5. That the Washpool area (except for Area 6^b, Area 7a and Area 7b) be reserved as a National Park. Additionally part of Never Never and Killungoodie State Forest will be added to Dorrigo National Park, part of Marengo State Forest will be reserved as a Nature Reserve, and the Cambridge Plateau in Richmond Range State Forest will be reserved as a Flora Reserve.

BLACKSCRUB

1. That the western section of Bellinger River State Forest be included in the New England National Park.

HASTINGS

1. That no rainforest logging be permitted within lands proposed by the National Parks & Wildlife Service for reservation as addition to Werrikimbe National Park and addition to Mount Seaview Nature Reserve.

2. That approval be given to the reservation under the National Parks & Wildlife Act of those parts of Mount Boss, Mount Seaview and Doyles River State Forests proposed by the National Parks & Wildlife Service. Relevant Departments have been requested to formulate a plan to rationalise arrangements for hardwood supply and consequent employment.

3. That existing rainforest mills be supplied limited rainforest resources equivalent to the present rate of cut until mid-1984 from the alternative areas identified by FORTECH and thereafter the Forestry Commission arrange for these mills to adjust to the utilisation of non-rainforest species.

BARRINGTON

1. There is no rainforest logging in the Barrington Tops. Relevant Departments have been requested to report on additions to Barrington Tops National Park.

Newsletter copy for files. Big Scrub / Rainforests / newsletter

NEW SOUTH WALES
MINISTER FOR PLANNING AND ENVIRONMENT

NEWS RELEASE

.24.8.87

BOATHARBOUR NATURE RESERVE

An important remnant of the famous Big Scrub Rainforest, which once covered 75,000 hectares of the Lismore Region, was today announced as a new nature reserve by the Minister for Planning and Environment, Mr Bob Carr.

Mr Carr said that the new reserve is a very important part of the State's natural heritage despite its small size.

"When the cedar cutters arrived in the Richmond River district of the North Coast little more than 140 years ago, the rich volcanic lowlands were clothed in a vast stand of rainforest - the largest single stand of subtropical rainforest in Australia.

"So great was the push for development of the rich soils of the region that in less than a few decades the 75,000 hectare rainforest was reduced to a few hundred hectares. It is a miracle that any of the original stand survived.

"Surveys by National Parks & Wildlife Service officers and consultants have revealed that only about twelve small but significant remnants of this once great rainforest have survived - most having done so as a quirk of history.

"Several pioneer families, such as the Davis and Johnson families, made conscious decisions to save some of the rainforest.

"Victoria Park Nature Reserve near Lismore was the first remnant to be protected by gazettal. It contains an enormous Fig Tree which become a local landmark."

Mr Carr said the rainforest at Boatharbour survived to the present because, as the name suggested, it was reserved from settlement to provide a head-of-navigation boat harbour for timber boats travelling up the Wilson River.

"These small remnants of the Big Scrub are of immense importance. They provide us not only with windows to the past gradeur of the Big Scrub, but also with the only evidence we have of a wildlife paradise lost.

In all probability species of plants and animals were lost when the Big Scrub was felled and burned. Many of the species which have survived in the small refuge areas such as Boatharbour are very rare, and in several instances, are now found only in the Big Scrub remnants.

LISMORE'S RAINFOREST REMNANTS - 11 - ROTARY PARK

SEPT 84

Rotary Park comprises 10.5 ha of Dry Rainforest, situated within the city of Lismore, within 2 km of the Post Office. As an area of 'urban rainforest' it is a rather special remnant which has, unfortunately, experienced considerable past disturbance. This has allowed colonisation of the area by various weed species (particularly lantana and asparagus fern). A recent survey by the National Trust recorded 32 introduced plants within the area.

In 1955 the land for Rotary Park was acquired by Lismore Rotary Club and the task of clearing weeds and providing amenities started. Many trees were identified and labeled. The Park was handed over to the Lismore City Council in 1960.

Over the intervening years the Park has been invaded by weeds again and the amenities have fallen into disrepair and disappeared. There are now no name-plates on the trees.

An assessment of the area was made by Alex Floyd of the NPWS in 1981. It concluded that while the area was badly infested with weeds, there are still many fine examples of native rainforest trees and shrubs. Floyd identified in a short time 72 tree species native to the site. This list has been added to by the more recent National Trust survey. The Park is therefore very rich floristically, and contains several species not found in the similar nearby remnant at Wilson Park.

A report on Rotary Park was presented to the City Beautification Committee of Lismore City Council on 20 August by the Council's Parks and Gardens Supervisor, Keith King. What follows is reproduced (with minor amendment) from that report, by permission of Lismore City Council.

"Following submission from various sources, and especially from the Rotary Park Sub-committee of the 1982 Year of the Tree Committee, it has been generally accepted by Council that restoration work on Rotary Park should proceed. As a result of these submissions, the National Trust was commissioned to carry out a survey of the park. This survey was completed in December, 1982. An amount was approved by Council in 1983 for inclusion in the 1984 estimates for the commencement of this work. However, this allocation had to be deleted due to shortage of funds.

As the need for this work has been previously discussed at some length, and appears to have been generally accepted by Council, it is not the purpose of this report to rehash the issue, but to make the following recommendations:

1. That restoration work in Rotary Park should be commenced in 1985.
2. That the report prepared in 1982 by the National Trust be used as a basic guide only for the planning of this work.

   Since this report was prepared, significant advances in weed control have been made by a team of workers at Wingham Brush. These techniques have been confirmed by Alex Floyd, Research Scientist with the National Parks and Wildlife Service in a paper presented to a seminar on the Management of Small Natural Areas, held in Newcastle on 21st and 22nd July. It is recommended that the methods outlined in this paper be adopted for the restoration work in Rotary Park.
3. That a local team of four workers, under a supervisor, be recruited and trained on site for this work.

   These workers should be of mature age, and would probably have to be semi-retired or self-employed, in order to be able to cope with the short hours involved in this project - suggested 4 hours per person/week.

   The use of C.E.P. or other unemployment relief monies is not recommended, as the type of person available under the restrictions imposed by these schemes and their short term nature make them totally unsuitable for the meticulous long term nature of the work.

   C.E.P. or S.Y.E.P. Funding could be used however, at a later stage, say in 12 to 18 months time, for the construction of picnic facilities, walking tracks, visitor interpretation areas etc.

   It is further recommended that work of this nature not be commenced until restoration work is well under way, and the results of such work are clearly visible.
4. That a firm commitment be undertaken by Council to provide funding on a continuing basis for the continuation of this work over a estimated six year period. It is envisaged that the first three years would involve similar yearly expenditure, while the following years would see a significant yearly decrease.

The estimated cost of Rainforest Restoration work in year 1 is calculated at $7,574.10.

(S.K.King)
Parks and Gardens Supervisor"

(Members who wish to read any of the reports mentioned above should contact me. I can provide photocopies at cost if you would like copies.)

Keith King will give a public address on local rainforest rehabilitation at our next meeting, which will be open to any other interested member of the public. Details are given in the Notice of Meeting at the end of this Newsletter.

Rainforest Remnants

30

Regional Australia Series No 1

Supplement to Bushline, January 1995

INTRODUCTION

The central region of the east coast of Australia is famed for its outstanding natural environment - its beaches, wide rivers, mountainous hinterland - and its rainforests.

There are four main types of rainforest that meet in this area. Cool temperate rainforest on the higher ranges; subtropical rainforest at the lower altitudes; warm temperate rainforest in between; and littoral rainforest on the coastal fringe. Yet the area of rainforest in NSW alone has been reduced by 90% since European settlement, and now consists mainly of small remnants.

The rainforest remnants need to be actively protected. The coastal region of northern New South Wales and SE Queensland has the highest population growth in Australia. Fortunately, there is also growing local community interest in protecting the remnants.

This special publication gives an overview of some of the native vegetation conservation initiatives in this region of Australia.

NETWORKING THE OWNERS OF REMNANTS

The lowlands of the Richmond River in NSW once supported the most extensive area of complex subtropical rainforest anywhere on the continent. This area on the basaltic red soils between Lismore and Byron Bay was known as the 'Big Scrub'. Today it is the focus of interest and activities for a Landcare Group with a difference.

The group formed in 1992 with the aim of liaising with and advising owners of remnants.

As the group became established other landowners expressed interest. Some had very small remnants - even just a single remnant tree in a paddock! Those landowners wishing to recreate rainforest habitat are important members of the group.

The group organises field days, produces a newsletter, advises other landcare and community groups, and has placed an extension officer in Greening Australia.

The Big Scrub Rainforest Landcare Group is not limited to a single catchment area. Its members own Big Scrub remnants across a vast 75,000 hectare area.

The precious remnants of the once extensive Big Scrub are now being better managed as landowners have access to advice and information, and are able to share experiences through the Big Scrub Rainforest Landcare Group.

John Nagle
Greening Australia
Lismore NSW
Tel: (066) 22 0076

MANAGING REMNANTS

Greg Bailey, landholder and President of the Dorrigo Mountaintop Landcare Group, writes about the challenges of working with nature.

Although it is now government policy to revegetate rural lands, for a long time landholders were required to clear them. The Dorrigo Plateau is no exception - selectors had to clear the subtropical rainforest not only because these were the rules for selection, but also because they had to eke out a living from small blocks of 110-160 acres - too small for economically sustainable agriculture.

Continued on next page

Australian Nature Conservation Agency

EDUCATING FOR REMNANTS

The 'Remnant to Remnant' project is a three year pilot environmental education project in SE Queensland. Parent councils, principals, teachers and students fully endorse the program. Local sites are used for excursions, surveys, monitoring, data collection, planting and some fun activities. Students are keeping all the records of their work. Teachers will combine their programs at a planning workshop to produce a handbook by late 1997.

Workshops in identifying rainforest plants and propagation techniques have been successful. A community resources [illegible] about revegetation, and a workshop for a more [illegible] approach, are also being [illegible].

Support from local National Parks and Wildlife Service, [illegible] educational institutions, [illegible] businesses and community members all helps. But [illegible] to the project's success is the students' says Iris Fle[illegible] coordinator. 'They [illegible] and we love working with them.'

Iris Flen[illegible]
Environmental Educat[illegible]
Caboolture QLD
Tel: (075) [illegible]

CONTACTS

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RESOURCES

Bradley, J *Bringing Back the Bush* Landsdowne Press Sydney 1988

Buchanan, R A *Bush Regeneration: Recovering Australia's Landscapes* TAFE NSW 1989

NSW Dept of Agriculture *Trees for North Coast Farms* 1993

Floyd, A G *Management of Small Rainforest Areas* University of Newcastle 1981

Gilmore, A M 'Rescuing the Remnants' in *Trees for Tomorrow* Seminar Proceedings Lismore NSW 1982

Gilmour, P and Helman, C *Clarence Valley Rainforest Remnants* Ruta Clarence Environment Centre NSW 1991

Nicholson, N&H *Australian Rainforest Plants vols 1-4* Terania Forest Publishing NSW 1994

Phillips, S (ed.) *Rainforest Remnants* Workshop Proceedings NPWS NSW 1991

The Save the Bush, One Billion Trees and Waterwatch Programs are Commonwealth initiatives to assist Australians integrate nature conservation and sustainable land use. The programs aim to encourage conservation, regeneration and monitoring of native vegetation and waterways. All three programs make grants available to community groups and local councils through the National Landcare Program. For more information contact ANCA (toll free): 1800 671 717

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Continued from previous page

Despite this history, small rainforest remnants remain, although grazing pressures are causing many to slowly disappear.

The Dorrigo Mountaintop Landcare Group is fencing in these remnants to maintain and enhance the remaining trees, before establishing new areas. An essential starting point for preserving rainforest remnants is permanent stockproof fencing. Allowing stock access to remnants causes peripheral dieback, and ultimately the disappearance of stands as seedlings are eaten out and the soil compacted. Fencing remnants also enhances the benefits for adjoining crops and pastures. The remnants thicken up, and invasive weeds, such as privet, are disadvantaged as less light reaches the forest floor.

The group is also planting corridors of rainforest species, with the ultimate aim to link the Dorrigo and New England National Parks. This will not only benefit the conservation of flora and fauna, but will provide benefits to farmers (windbreaks, shade and shelter), protect the Bellinger River Catchment, and maintain the beauty of this scenic region.

Contact: *Greg Bailey*
Tel: (066) 57 2736

FLAGSHIP SPECIES FOR REMNANTS

The spectacular, but endangered, Richmond Birdwing Butterfly is inspiring a revolution in community-based conservation on the Far North Coast of NSW.

The first steps to save this once prolific butterfly were made by Ranger Bob Moffatt of the Lismore NPWS. His idea was simple - plant more of the rainforest vines that the butterfly larva feed on. This vine (*Aristolochia praevenosa*) itself had become rare through the clearing of the Big Scrub.

The CSIRO was enlisted to provide viable seed, which is rarely found on wild vines. The Balunyah Nursery, which is run by the Aboriginal community at Coraki, began a program to grow the vine commercially. The Nursery Industry Association developed a logo for the project, and returned a percentage of the sales of the logo to the NPWS for the project.

The Department of Education was approached to take on growing the vines as a school project. Local schools responded to the call, with 42 schools initially involved.

Now, thousands of vines have been planted, and the community better understands the importance of conserving rainforest remnants for local fauna. The future for the unique Richmond Birdwing Butterfly, and for the rainforest remnants, can only look bright.

David Charley
NSW National Parks and Wildlife Service, Lismore
Tel: (066) 28 1177

SWRA

INVENTORIES OF REMNANTS

The distribution of rainforest in the Clarence Valley has been significantly reduced by land clearing. With little information existing about the remaining remnants, the Clarence Environment Centre received a Save the Bush grant in 1990 to complete an inventory of rainforest remnants.

A consultation process has been undertaken to enhance community awareness about the importance of small remnants, the majority of which lie outside the reserve system.

By using existing maps and aerial photographs, and encouraging community participation, remnants were identified and mapped. Professional botanists completed a floristic survey of the mapped remnants.

The survey concluded that remnants of littoral, floodplain, and plateau basalt rainforest are both rare and of significant conservation value.

Unfortunately, these areas are increasingly threatened by disturbance and decline due to their limited size.

The Clarence Environment Centre is now investigating the ways in which these highly significant remnants can be protected in the long term.

Megan Edwards
Clarence Environment Centre, Grafton
(066) 43 1863

The Balunyah Nursery

THE BUSH IS NOT JUST FORESTS
THE BUSH IS ALL THAT THE LAND IS
ITS EVERYTHING I AM, THIS LAND
ALL THAT IS AND ALL THAT WAS
AND ALL THAT IS TO COME
FOR I MUST FIND WHERE I COME FROM
TO KNOW WHERE I AM GOING
THE BUSH IS KNOWLEDGE TO ME
AND KNOWLEDGE IS ALL I AM
TO FIND THE DREAMING PLACES OF MY ANCESTORS
WOULD REVEAL TO ME MY PLACE HERE
AND PEACE I WOULD HAVE NEVER KNOWN
FROM THE BUSH

by Bobby Kelly

Bobby Kelly is a member of the Bourraville Local Aboriginal Land Council NSW (065) 64 7812

CHANGING ATTITUDES TOWARDS REMNANTS

On the far north coast of NSW a clearer perception is developing in the community of rainforest remnants. This is a welcome evolution since the turbulent days of the Terania Creek conflict.

An increasingly broad cross-section of people value and actively manage remnants. This is reflected in the formation of the Big Scrub Rainforest Landcare Group, based on the Lismore Plateau. Other landcare groups, such as the Byron Creek Landcare Group and Fingal Head Dune Care and Reafforestation Group, also actively manage significant rainforest remnants.

One of the catalysts for this interest was the 1988 Wollongbar workshop on Rainforest Remnants. The proceedings of these were subsequently published in 1991, edited by Stephen Phillips.

More people are heeding Len Webb's 1980 words to 'let us now bend our backs' and carry out the mountain of physical work needed to protect, maintain and enhance remnants. The number of people doing so may be small, but it is ever growing. As it grows, the broader public awareness of the need for, and needs of, rainforest remnants increases.

Bruce Hungerford
District Manager
CaLM Murwillumbah
(066) 725 488

COUNCIL PLANNING

The Tweed Council and Dept of Conservation and Land Management are working with the Caldera Environment Centre to compile an inventory of remnants.

The Tweed Coast is an area of high biodiversity that is subject to rapid urban expansion. Land-use planning has been undertaken without the benefit of a comprehensive database of remnant vegetation. This project will provide the database to assist Council planners. It includes a detailed set of maps and field descriptions of all remnant vegetation of the lowlands of the Tweed Coast. The database has been designed so that it can be transferred to a computer GIS.

The Dept of Conservation and Land Management is currently transcribing the maps so that they can be used on both CaLM and Tweed Council computers.

Contact: *Henry James*
Caldera Environment Centre
Murwillumbah
(066) 72 1121

CONTROLLING WEEDS

Members of the Numinbah Valley Landcare Group in Queensland's Albert Shire are taking action to control Camphor Laurel. Their proximity to northern NSW gives them an understanding of the enormity of the Camphor Laurel weed problem faced in this region.

The group is reducing Camphor Laurel numbers and conducting trials on the effectiveness of different methods of control. This year local school children will become involved in the propagation of native vegetation for replanting.

Allison Castello
Numinbah Landcare Group
Nerang Qld
(075) 33 4126

Australian Heritage Commission

Casey House,
Rhodes Place,
Yarralumla,
A.C.T. 2600
Tel. (062) 72 3966

G.P.O. Box 1567,
Canberra
A.C.T. 2601

Ellen

To protect the National Estate

c/- Nature Conservation Council of NSW
39 George St.
THE ROCKS NSW 2000
Phone: (02) 247 2228
(02) 247 4206
Fax : (02) 247 5945

Ms. Ellen White
c/- Big Scrub Environment Centre
88a Keen St.
LISMORE NSW. 2480

27 March 1990

Dear Ellen,

The Big Scrub remnant areas were finally discussed at a meeting of the NSW Natural Environment Documentation Panel on the 23rd of March. The main discussion centred on how to bound the area(s) and not any remnant areas in particular.

A suggestion for a regional boundary was put forward, but due to administrative problems with this concept (the register is geared to handle individual areas), a decision was made that remnant areas should be listed on a site specific basis.

Since it would be impractical to nominate every area individually, criterion will be set up which define a Big Scrub site with threshold levels. The classes/types of Big Scrub will be defined through indicators. This system will work in the same way as some SEPP's.

At present criteria has not been defined for the area and indicators have not been set, but I hope to have something together to present to the panel in the next couple of months.

I would be grateful if you could circulate the decision so far to a few people so that I can get some local feedback. Thanks.

I am including a copy of what I've prepared for the panel on a general level so far.

Regards

R. Mezzatesta

Robert Mezzatesta

THE BIG SCRUB

BACKGROUND:

Historically, the 'Big Scrub' refered to the vegetation of the basalt flow north of the Richmond River. The region extends from Lismore, to the drop to the coastal plain inland from Ballina and the hills overlooking Byron Bay and from the ridges above Meerschaum Vale in the south through Rous and Alstonville, Clunes and Bangalow, towards Rosebank in the north. The majority of this area has now been cleared for agricultural uses, and only small remnant areas of rainforest vegetation which previously dominated the area remain.

REMNANTS:

Thirty two remnants of the 'Big Scrub' have been identified in various studies, all of these being over the size of one hectare. However, many other (some) smaller remnants exist on various properties in differing states of integrity that all contribute to the seed stock of the region.

Three of the described remnants are within the Whian Whian State Forest that forms part of the foot of the Nightcap Range. These remants are the Big Scrub Flora Reserve/Rocky Ck., Boomerang Falls FR and Minyon Falls FR. These consist of the highest altitude remnants on Basalt/Rhyolite.

Three of the areas falling outside the main basalt flow include the Broken Head Nature Reserve, Seven Mile Beach Area, and Midgen Flat. These remnants have underlying greywacke/slate/phyllite/quartzite and dune sands at very low elevations.

Two other remnants which fall out of the main basalt flow are Coolgardie and Buckombil which have underlying parent material consisting of basalt and sandstone/siltstone/claystone/conglomerate.

The remainder of the identified remnants lie within the main basalt flow originally from the Mount Warning Volcano, with overlying alluvium along major river areas (such as Booyong and Boatharbour).

DESCRIPTION:

The 'Big Scrub' rainforest remnants consist of small areas of subtropical rainforest scattered throughout a region centered on a basalt plateau, which originated from a lava flow from the Mt. Warning Shield Volcano to the north.

Historically, the area was once the largest continuous tract of subtropical rainforest in Australia, and has been estimated to have conservatively exceeded 75,000 hectares

(Holmes 1987).

The 'Big Scrub' region was a heterogeneous environment which included sclerophyll forest, grasslands and swamps, as well as considerable variation between the more luxuriant and drier types of rainforests.

Geology:

The geology of the Big Scrub Area consists of a core area of a fertile basaltic plain, including soil types of Kraznozem, Chocolate soils and Alluvial Kraznozems. Fringe areas with underlying rhyolite/basalt, alluvium, sandstone/siltstone/claystone/conglomerate, greywacke/slate/phyllite/quartzite and dune sands, also maintain rainforest remnants which are associated with the core Big Scrub areas.

Vegetation:

The vegetation of the remnants is made up of subtropical rainforest including trees, such as White Booyong, Pepperberry, Black Bean, figs, Myrtle Ebony, Black Apple, Hairy Walnut, native Tamarind, Red Cedar and Bangalow Palm. Smaller trees and shrubs include species such as Twin leaved Coogera, Veinless Mock-Olive, Veiny Wilkiea, Banana Bush, Honeysuckle Bush, Red-fruited Palm-Lily, Walking Stick Palm and Southern Quassia. Common climbers of the remnants include Lawyer Vine, Water Vine, Cockspur Thorn, Zig-zag vine, Native Wisteria, White Supplejack, Burney Vine, Southern Melodinus, Native Yam and Pothos. Edge areas and more disturbed areas include Cudgerie, Red Ash, Guioa, Foambark and Red Kamala. Exotic species conspicuous in the remnants include Camphor Laurel, Wild Tobacco, privets and Lantana.

Remnants with rhyolite occurrences include species such as Coachwood, Soft Corkwood, Grey Possumwood, Velvet Myrtle, Macleay Laurel, Crabapple, Callicoma, Mango Bark, Rose Maple, Rose Walnut, Rusty Plum, Native Hydrangea, Rusty Helicia, Blueberry Ash and Tree Heath.

Coastal remnants include such species as Tuckeroo, Beach Alectryon, Pink Euodia, Beach Acronychia, Grey Ebony, Hard Corkwood, Thin leaved Coondoo, Broad leaved Ballart and Shining Burrawang.

Remnants of dry rainforest, normally occurring on margins, rocky slopes and north-western aspects include species such as Hoop Pine, Lacebark, Small-leaved Tuckeroo, Whalebone Tree, Blunt Leaved Coondoo, Native Holly, Scaley Myrtle and Green Kamala.

Areas of alluvium, mainly along the Wilsons River include species such as Black Bean, Pepperberry, Giant Water Gum, Oliver's Sassifras, Red Cedar, Rough-leaved Elm, Creek

Sandpaper Fig, Whalebone Tree, Koda and Glossy Laurel.

The majority of the remnants have remained in their present condition and size for the last fifty years, and there has been a gradual regrowth in many areas concurrent with the decline in broad scale farming. Some of this regrowth, however, is attributed to a vegetation cover of exotic Camphor Laurel.

SIGNIFICANCE CRITERIA:

1.1 The original 'Big Scrub' plateau area was formed from the lava flow from the Mt. Warning Shield Volcano about 20 million years ago giving rise to the particular vegetation of this area.

1.2 The rainforest remnants of the 'Big Scrub' area maintain evidence of the vegetation of the area prior to widespread clearing by settling Europeans; as well as providing genetic pools for the species of the area.

1.3 The Big Scrub rainforest remnants all exhibit high species diversity within their relatively small sizes.

1.4 The area marks the site of widespread cedar getting in the mid 1800's, followed by settlement of the far north coast region, and subsequently, the clearing of the region for agricultural purposes, leaving only remnants of the vast Big Scrub subtropical rainforest.

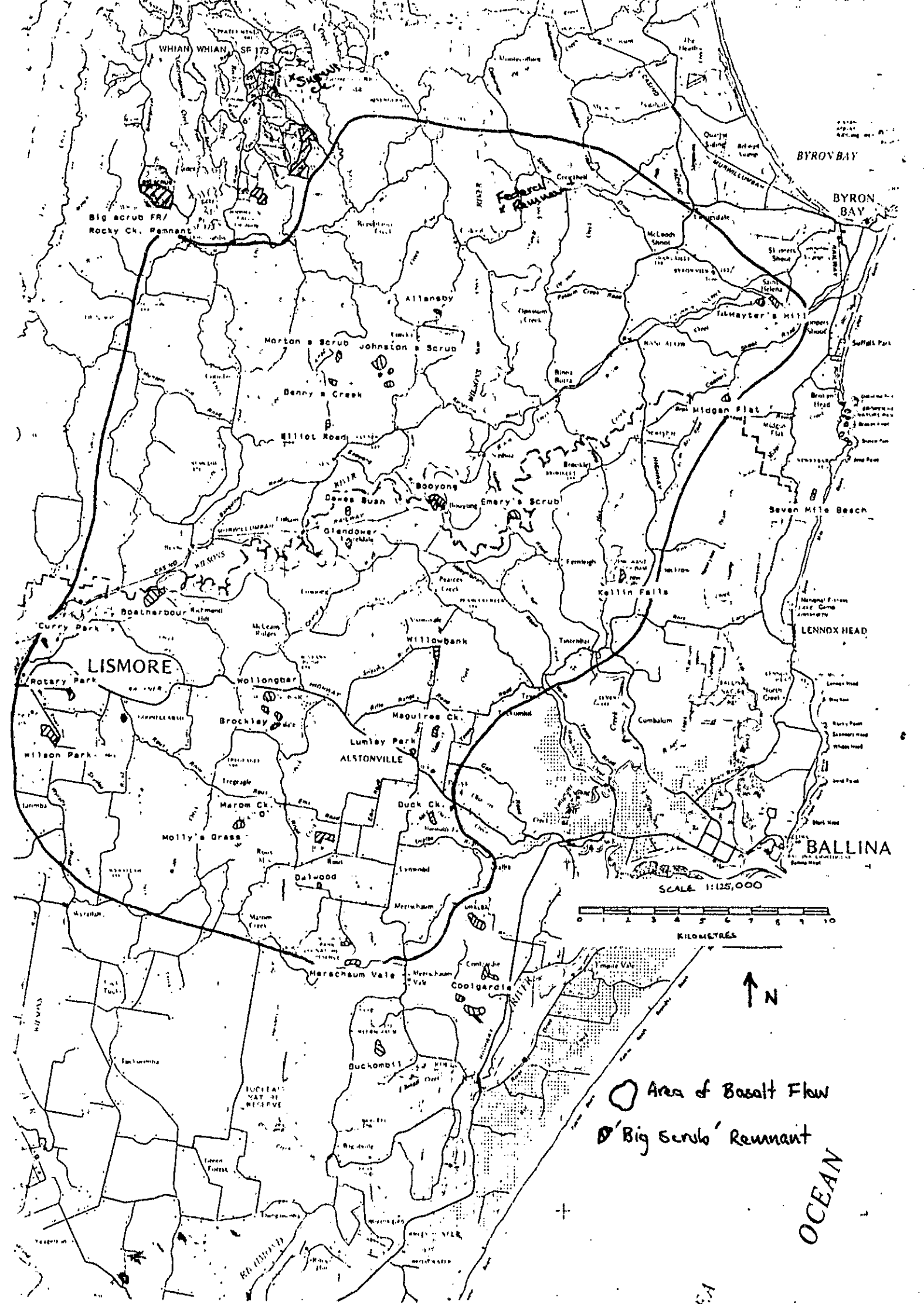
2.1 Within the rainforest remnants, there exist various rare and endangered species of flora and fauna (see individual areas).

3.1 The Big Scrub rainforest remnants demonstrate characteristics of the vast unbroken expanse of rainforest and associated vegetation which existed on and around part of the basalt flow from the Mt. Warning Shield Volcano.

5.1 The remnant rainforest sites of the Big Scrub area contribute important aesthetic characteristics to the community in general, exhibiting remnant natural areas that once covered the region.

7.1 The remnants of the Big Scrub rainforest form viable research areas for the distribution and natural history of the flora and fauna of the region.

Robert Mezzatesta


WHIAN WHIAN SF 173
Big scrub FR/
Rocky Ck. Remnant
Federal Highway
BYRON BAY
BYRON BAY
Alstonville
Morton's Scrub
Johnston's Scrub
Benny's Creek
Elliot Road
Booyong
Dawes Bush
Emery's Scrub
Midgen Flat
Seven Mile Beach
Glendower
Kellin Falls
Boatharbour
Curry Park
LISMORE
Rotary Park
Wollongbar
Willowbank
LENNOX HEAD
Brockley
Maguiree Ck.
Lumley Park
ALSTONVILLE
Wilson Park
Marom Ck.
Duck Ck.
Molly's Grass
Cumbalum
BALLINA
Dalwood
SCALE 1:125,000
KILOMETRES
Meerschaum Vale
Coolgarde
Buckombil
N
Area of Basalt Flow
'Big Scrub' Remnant
OCEAN

E V A L U A T I O N

O F T H E

B I G S C R U B C O N S E R V A T I O N S T R A T E G Y

D I S C U S S I O N P A P E R

ALEX GILMORE

DECEMBER 1987

With respect to the terms of reference Point 1 was obviously not attempted to the slightest degree, otherwise the bibliography would have been at least an order of magnitude larger.
Point 2 requires consultation with Land Management Authorities and Landholders
There is no evidence in the Discussion Paper that this work took place.
Point 3 was barely attempted. There was no discussion of the soil compaction and erosion along visitor walking tracks and cattle tracks. Erosion gullies in floodplain remnants, and land uses adjacent to each remnant.

Section 2 pages 6-13 is generally a poor attempt to subvert the nature conservation value as outlined in subsequent sections, through the imposition of a socio-economic straight jacket on the remnant 0.03%, which by many criteria make the Big Scrub remnants priceless.

Page 6, para 3.
The areas of regrowth should have been mapped. They are one of the most important means for improving the viability of the Big Scrub remnants and provide habitat for many rare and endangered species. Many residents have independently noticed the increase in Brush Turkey, Topknot Pigeons, Pademelon Wallabies and many other less conspecuous species, associated with the expansion of regrowth rainforests.

Page 10 para 1.
Instead of the vague generalization ".... it seems that the majority..." details of the history of each remnant should have been chronicled.

Page 12, para 1.
The extracts from tourist promotional literature do not refer to Big Scrub remnants.

Page 13, para 1.
Refers to a "..cohesive conservation strategy..." although this concept subsequently receives scant regard in succeeding sections. For example to suggest visitor facilities at Boatharbour following its high nature conservation value assessment is not consistent with the contract brief.

Page 14, para 1.
"Only 0.03% remains of the original area covered by rainforest." This statement by itself highlights the genetic and biogeographical significance of the remnants, and indicates visitor pressure should be directed to the more extensive mid elevation rainforests.

Page 14, para 2.
Alludes to the unique climate of the Big Scrub by reference to its broad latitute, elevation and rainfall range. Other climatic attributes should have been described such as temperature range and its significance for seasonal growth and phenology of plants, activity of pockilothermic vertebrates and its consequent influence on the altitudinal migration of birds.

Page 14, para 2.
To state the area lies on the southern end of Macleay MacPherson Biogeographical Overlap Zone, ignores far more recent and relevant biogeographical analyses by Webb and Tracey (1981) and Turner (198)

Page 6, para 3.
The areas of regrowth should have been mapped. They are one of the most important means for improving the viability of the Big Scrub remnants and provide habitat for many rare and endangered species. Many residents have independently noticed the increase in Brush Turkey,

It would have been more appropriate to refer to Len Webb and Geoff Tracey's recent (1981) analysis detailing floristic provinces and the unique intergradation between species characteristic of both the wet and dry end of the spectrum in the Big Scrub area.

The work of Turner (198) shows that 24.6% of N.S.W. rainforest tree and shrub species reach the southern edge of their range north of 28° South. As Turner (198) points out,this makes the area a prime study area, in particular the Big Scrub remnants.

Page 14, para 3.
In view of the fact that several rainforest species are locally restricted to the soils derived from metamorphosed sedimentary rocks, it is grossly inadequate to describe them as .. elements of Palaeozoic..."

Page 15, para 1.
Marsupials are mammals.

Page 15, para 1.
There are records available from the Lands Department of the date of first survey of property portions. Considerable work has been conducted in the Geography Dept. University of Sydney on settlement patterns in the Big Scrub Area and should have been referred to.

Page 15, para 2 sentence 1.
This paragraph soulds like a load of gobbledygook invented in an attempt to confuse the reader into thinking something useful has been accomplished. The more I read this paragraph, the more confused I become. In the light of my first sentence I suppose it has fulfilled its role.

Page 15, para 2.
Due to the grossly inadeuqate data base utilized, it is misleading to claim to provide a value ranking of remnants, this is especially so as we know that the remnants are mutually interdependent for a variety of reasons. This was also pointed out by Holmes (1986) but ignored here.

Page 15, para 2.
The basic limiting factors of the site (of each remnant) are claimed to be addressed, bu tit is not stated what attributes these factors are limiting e.g. soil erosion, productivity, species richness.

Page 16, para 1.
It is stated that Holmes site X species matrices have been 'supplemented" in this study " but I can find no additional data, despite referral to climatic and soil surveys.

Page 16, para 3
The basis of "scientific" investigation is verification. The values of the eight site quality variables by which the remnants were classified, should have been tabulated, so they were available for verification.

Page 19, para 3.
Five attributes of remnants relevant for effective conservation are listed, but no justification is given for the choice of these five. There is a considerable body of published work developing the theoretical background to nature conservation strategies which should have been referred to, and a justification presented forthe choice of each of these attributes that was included and excluded. The following attributes should have been included namely:-

6. As a source of propagules for re-establishing a stable ecosystem on degraded land.
7. As seasonally critical habitat complementary to the higher elevation national perks, for altitudinal migratory fauna.
8. Biogeographical/scientific significance.

Page 20, para 2.
The plant species lists were derived from a non repeatable sampling procedure according to Holmes, a "boredom" index, that is known to have drastically undersampled the rarer species. Most people familiar with rainforest plants can add to the lists utilized in this analysis. A table of the occurrence of edge and weed species should have been included.

Page 20, para 3.
"According to the dissimilarity values obtained in the classification...." This is another example of the interpretation being provided without the supporting evidence.

Page 21, para 3.
"...(the standard method for obtaining an adequate sample of the diversity of vegetation)..." Following on from the comments on page 19.
The word diversity is frequently used in place of species richness, here, and elsewhere in the report.

Page 24, para 1.
I presume this should be referring to Figure 9 not 10.

The first sentence of paragraph three on page 24 involves the misuse of three terms namely:

conserve
full diversity
effective conservation

Yet a further three sentences on it is stated. "There is no consideration of the viability of the species, simply their current present occurrence." I submit this is a gross misuse of the word conservation, in its generally accepted usage of the wise use of resources and in view of the well established significance of all the lowland rainforests

Page 26

Encompassing all recorded species in a subset of remnants falls far short of maintaining and enhancing the viability of species populations and communities. As such the analysis and discussion centred around Table 2 is counter productive to a conservation strategy.

In terms of conservation priorities for lowland subtropical rainforest, the important issues are:- 1. conservation of sites i.e. areas with the climate and soil that can potentially support this subform of forest and within this the microclimatic, landform and soil nutrient conditions that encompass the physiological tolerances of all the species,
2. Conservation of the gene pool to allow the expansion of the community onto the sites propagules for increasing the viabili
3. Source of propagules for increasing the viability of populations and communities.

Since such a small area remains of the Big Scrub remnants, they represent only a small proportion of the sites potentially available and they all contain an important store of genes and source of propagules for the much larger area of second growth forest.

As such the remnants are all very important as they have a sphere of influence with respect to seed and pollen dispersal and faunal migration and dispersal. Their mutually interdependent roles should be supported and extended with appropriate and sensitive management e.g. Bush regeneration Bradley

Page 27, para 1.

There is a semantic/logical inconsistency highlighted in this paragraph, which permeates all section 3.2. In the first line the misleading words 'fully conserve' are used and in the last line the accurate statement 'will be represented'.

Page 27, para 2.

".... which is the most rich and diverse of the 'true' sites, should be accurately read "... which is the richest of the 'true sites," as no analysis of deversity was made.

Page 27, para 3.

How can Coolgardie be a coastal ridge site when 3 paragraphs previously it is stated".... essentially in protected gullies..."

Page 28, para 1.
"The occurrence of rare species by site is summarized in Table 3". Should have tabulated the rare species by site. To summarize this information as the number of rare species inhibits the ability to verify and slows the exchange of information needed to develop a conservation strategy.

Page 29, para 4.
Opportunistic use of sub-optimal habitat could be of critical importance where no other option exists for migratory fauna. Yet this was not considered, and does not exclude them from being true dependents.

True dependents - there is a considerable body of literature and debate amongst land management agencies about what consitute rainforest dependent species. This was not referred to.. The analysis by Gilmore(showed that where rainforest plants consituted only a small proportion of total plant biomass, nevertheless a few rainforest dependent faunal species were resident, or in the case of frugivores, seasonally dependent species.

For table 4 to be taken seriously the criteria used for accepting and rejecting all the species listed by Holmes (1987) should have been presented

Page 30, Table 4.
The Pacific Baza is not a rainforest ~~resident~~ resident and moves into open forest and woodland to feed during winter. It frequently nests in open forest.
The Australian Brush Turkey is not necessarily a rainforest resident and there are several publications describing their occurrence and nesting in open forest and their occurrence in Brigalow west of the Great Dividing Range.
Wompoo fruit Dove does feed in isolated fruiting trees. Does this exclude it from being a 'true rainforest dependent'
The White-headed Pigeons history in the Big Scrub area has been comparatively well chronicled by Frith ( ) frequently nests in isolated trees and was not considered rainforest dependent by Frith.
Grey Goshawk frequently occurs in open forests, farmland and regrowth rainforests with a canopy foliage projective cover closer to 50%.
Rose crowned Fruit Dove - frequently recorded from regrowth rainforest with a canopy foliage projective cover closer to 50%. Topknot Pigeon - several publications describe it nesting in open forest. Following Friths ( ) description of its population fluctuations in the early 1900's several local landowners and ornithologists have noted a progressive

population increase in the Big Scrub Area. In view of the stated constancy in area of Big Scrub remnants during this period, I postulate that this reflects a response to the increased food resource provided by Camphor Laurel in view of the large numbers of Camphor Laurel fruits consumed by these birds. Does this preclude them from being true rainforest dependents?

Log runner - frequently inhabits year round and nests in Lantana camara closed scrub with emergent Camphor Laurel. Does this preclude them from being true rainforest dependents?

All the 27 bird species in TAble 4 have been recorded from Eucalyptus dominated open forest with a mesomorphic middle storey, including areas with regrowth approximately fifty years old. Does this preclude all the birds in Table 4 from being rainforest dependents? Two very important birds were left off Table 4, namely the Superb Fruit Dove and Black breasted Button-quail. There have been more records of these species in lowland remnants in N.S.W. then in the far more extensive higher elevation rainforests.

Page 31, Table 5.

The idea of nominating a handful of sites for preservation is ecologically absurd as this would preserve:-

1. only a small subset of the populations
2. All remnants are interdependent bird habitat, along with corridors and regrowth forests.
3. There is a seasonal interdependence between all lowland remnants and higher elevation rainforests through the movements of altitudinal migrants

Page 31, Table 5

It is completely fallacious to entitle this "Remnant ranking to obtain total species conservation of the diversity of bird species present in all Holmes sites...."

It is a misuseof the word conservation. Even if every hectare of every remnant is preserved as it should be, then the total population of the most ubiquitous abundant birds would not provide total species conservation

Page 33, para 2.

"... The species composition and nature of a remnant" is mentioned in para 2 What attributes are encompassed by and nature?

(5)

BIG SCRUB REMNANTS FILE.

National Parks Association of N.S.W.
Far North Coast Branch,
c/- Mr. M. Kaveney,
100 Orana Rd.,
Ocean Shores. 2483.

Dear Sir,

Under the National Rainforest Conservation Program, the Commonwealth Government had committed in June 1986 to providing $22.5 m for rainforest conservation throughout Australia. Of this the following outlays were scheduled for the Big Scrub:

		1986/87 $	1987/88 $
2.	Management plan - Big Scrub Remnants	30,000	30,000
3.	Rehabilitation - Big Scrub Remnants	20,000	50,000
21.	Outdoor interpretive panels, Victoria Park (+ Werrikimbee National Park)	30,000	
25.	Aquisition of private rainforest land for inclusion in National Parks and Reserves (all N.S.W.)	1,600,000	800,000

It would appear that, of the N.S.W. funding, over 30% in 1986/87 and over 50% in 1987/88 is allocated to visitor facilities and tourist oriented expenditure. If this Discussion Paper is any example, much of the planning and management expenditure will also be oriented towards human use and we would wonder why the program has been entitled a 'National Rainforest Conservation Program'. How much of the allocations for management have been spent to date for the Big Scrub remnants?

In October, 1987, a workshop was held at the N.R.C.A.E. to consider a Discussion Paper for the Big Scrub Conservation Strategy.

The issues which were raised in discussion at this workshop and in discussion elsewhere, give rise to serious concern that the management plan that might be drawn up by the present consultants will be so poorly researched and devised that remnants which have managed to survive so far could be degraded or destroyed. Our concerns fall into a number of categories.

1. The Consultancy Brief issued by the N.P.W.S.
2. The use of consultants and the allocation of tenders.
3. Shortcomings of the Discussion Paper
   i) The overall conceptual framework of the Discussion Paper.
   ii) Invalid assumptions and inadequate methodologies.
   iii) Omissions.
   iv) Recommendations.
4. Conclusions

1. The Consultancy Brief issued by the N.P.W.S.

On what basis was 'Big Scrub' defined? On what basis were 'major' and 'minor' remnants divided?

There is some conflict in the Terms of Reference between the preparation of a conservation strategy and the concept of management for 'potential and appropriate use' of the remnants. The original allocation was under the National Rainforest Conservation Program. A great deal of money is already being spent on the health, welfare and recreation of people. It is not appropriate that the NPWS which is the only statutory body in the State with the primary function of protecting ecosystems also directs their

relatively limited funding to this purpose. In addition, money has already been allocated under the program for outdoor interpretive facilities at Victoria Park. David Keith, a botanist with N.P.W.S., Sydney justifies the accent on human use because 'the Federal Government has devoted these funds because people have put pressure on them to do so'. This indicates a misunderstanding of the enormous amount of time and effort so many people have put into attempting to conserve and preserve remaining ecosystems and their remnants.

The Discussion Paper did not come to grips with the area which was to be covered by the Conservation Strategy. It is important to resolve the question of whether the Strategy covers only Big Scrub remnants or whether it should be extended to cover other rainforest remnants in the area. In fact, information should have been presented in the paper on the conservational value of different concepts of the 'Big Scrub' and the various alternatives properly described and documented for discussion.

The North Coast N.P.A. feels that the remnants should be considered as an ecological whole within a regional perspective, which is how they are considered by many of their resident flora and fauna, and not as disjunct entities. With this view, the corridors and linkages which presently exist along creeks, rivers, along regenerating slopes, and even along road verges gain a new perspective as a 'tremendous resource for maintenance of the rainforest areas' (Peter Stace, Dept. of Ag.). In considering the Big Scrub it should also be borne in mind that it was always a mosaic of communities with the rainforest being scattered amongst other vegetation types depending on soil conditions.

2. The use of consultants and the allocation of tenders.

- Was the contract issued at State or Federal level? On what basis was it granted? The North Coast branch of N.P.A. is concerned about the allocation of other rainforest conservation funds with this example in mind.

Why was the contract given to consultants who had no demonstrated expertise in rainforest ecology or in management for conservation? The money allocated should have been used to employ people to plug the holes in the data base and to identify overall and individual conservation threats and challenges, under N.P.W.S. direction.

If N.P.W.S. were not to use their expertise, why was the contract not then given to consultants who have suitable expertise in conservation management and a knowledge of the Big Scrub remnants? The remnants are too important to be left to consultants who have, in fact, demonstrated their poor grasp of the ecology of the Big Scrub remnants and of management issues and, unfortunately, of scientific research, in this Discussion Paper.

3. Shortcomings in the Discussion Paper.

The Discussion Paper failed to adequately address the Consultancy Brief in that it:

* did not review relevant information concerning the natural and cultural features of the "Big Scrub" as well as data relating to the remnants existing and potential use. The bibliography is pitiful, despite a 'review of literature' purportedly carried out. Much more is available, both published and unpublished, e.g. there are many references to birds in Big Scrub remnants in the literature and information is also

available from a number of local experts.

* does not show evidence of consultation with land management authorities and landowners.

* does not evaluate the relevant background information

* does not adequately identify management issues current and foreseeable in the near future.

* did not provide a general statement as to their importance of the Big Scrub remnants as small natural areas for agriculture and wildlife.

i) The overall conceptual framework of the Discussion Paper.

During the Workshop, Nan Nicholson made the following points which we feel should be emphasised

* these areas are already being used by species other than ourselves which gives them a value far beyond human use since we don't need these areas for our very survival

* these areas have an inherent right to exist without our feeling a compulsion to benefit from them

* the pressures on these areas are going to increase enormously in the next few decades and they must not be expected to absorb an ever increasing range of human uses or entrepreneurial expectations.

* any interference at all from now on is radical extremism and we now must take a more moderate position and avoid damaging in any way what is left.

* the Conservation Strategy should not be a blueprint to allocate human use of the area.

John Bruce, the Regional forester for Coffs Harbour district noted that:

* there are other rainforest areas which are accessible and large enough to better absorb impact

* these tiny remnants could be easily trampled to death if human use is promoted.

* tourists are at present interested in rainforest rather than in the Big Scrub remnants and interest in the remnants should not be encouraged.

He pointed out that even the larger areas under Forestry Management could be in an 'overuse' situation in the near future and controls may need to be considered. Hitchcock (1984) also points out that recreation is a land use which conflicts with the conservation of small botanically important rainforest remnants.

The North Coast N.P.A. feels that consideration of the fiscal value of an area has no place in a conservation strategy and we are concerned by the following attitude exhibited by the consultants.

'... the remnants of the Big Scrub have been recognised at both State and Local Government level as important elements within the fabric of

consequences of their loss is little understood'. If consultants are to be employed, they should have the appropriate expertise.

iv) Recommendations.

The North Coast branch of the N.P.A is totally opposed to the following recommendations of this Discussion Paper.

* Division of remnants into
  - Primary Conservation Sites
  - Secondary Conservation Sites
  - General Remnant Sites
  - Designated Tourist and Educational Sites (pp 58, 59)

These divisions were in any case arbitrarily allocated. It is of paramount concern that sites have been allocated status at all, let alone apparently on the basis of whether they are 'true' Big Scrub sites or not.

* During the workshop discussion Ms. A.Specht stated that she 'didn't assume that conservation of all sites was possible' i.e. she assumed that it wasn't possible, yet adequate information on conservation status and viability was not presented for any site.

* 'entrepreneurial use of general remnant sites ought to be encouraged subject to the preparation of satisfactory management plans. Furthermore, the National Parks and Wildlife Service should give serious consideration to supporting the construction of tourist infrastructure in close proximity to designated tourist and eductional sites'. (pp59,61). The consultants appear completely unable to grasp the fragility of these remants. As a further example, Boatharbour has conflicting usages as a prime tourism site and as a prime conservation site.

* 'The community (both resident and tourist) should enjoy reasonable access to the remnants for scientific, historical, educational and recreational purposes. It is Governments' proper role to facilitate such access'. The National Parks and Wildlife Act actually requires that priority be given to protecting ecosystems, particularly since the N.P.W.S. sites are Nature Reserves and primarily aimed at species conservation. No assessment of the impact of present usage on these remnants, or of the effects of recreational use in general is evidenced in the Discussion Paper.

* 'removing and controlling weeds, ensuring that the edge of the remnant is sharp' (p62)

* 'maintaining species diversity, by ensuring gaps occur, and the remnants are not overprotected'. !!!!! We have discussed the dangers of this belief and the natural occurrence of gaps earlier.

4. Conclusions

We hope that a Conservation Strategy for particular rainforest remnants would contain sufficient information on the techniques and resources available for management of such areas in general as well as containing site specific management requirements. This Discussion Paper does not form the basis for either.

While it is not necessary to go into the mechanics of management, a Conservation Strategy should clearly spell out the end that is to be achieved and the priority of action for each remnant as well as give some guidance as to desirable means.

Because the Discussion Paper which was presented by Stephen Connelly of Planner's North, in conjunction with Ms Alison Specht et. al. of the N.R.C.A.E's Centre for Coastal Management, is totally inadequate, the North Coast Branch of the N.P.A. believes that the employment of these Consultants should be terminated. We are extremely concerned that, instead of insisting on high standards in the formulation of the Strategy, the N.S.W. N.P.W.S. might modify the Brief to suit the Consultants. Since the conservation management of the Big Scrub remnants has not yet been adequately discussed, there must be further public input to the formulation of the Conservation Strategy, and of the Management Plans for the three Nature Reserves, Victoria Park, Davis Scrub, and Broken Head.

REFERENCES

Broadbent, J. and S. Clark (1977) A Faunal Study of East Australian Rain Forests. In Rain Forests, (Ed. W. Goldstein), National Parks and Wildllife Service, Sydney. pp 84-91.

Bureau of Meterology (1972) Climatic Survey, Richmond Tweed. Australian Government Publishing Service.

Floyd, A.G., (1981) Vegetation Resource Inventory - Big Scrub Minor Remnants, (unpub.) National Parks and Wildlife Service, Sydney.

Frith, H. (1977) Pigeons. In Rainforests (Ed. W. Goldstein), National Parks and Wildlife Service. Sydney, pp 73-75.

Hitchcock, P. (1984) Rainforest Conservation in New South Wales, Paper prepared for the conference on Rainforest Conservation, Cairns, 2nd February, 1984.

Holmes, G. (1987) Avifauna of the Big Scrub Region. Unpublished Report. National Parks and Wildlife Service, Sydney.

Hopkins, M.S. (1975) Species patterns and diversity in the subtropical rainforest. Ph. D. Thesis, University of Queensland.

Hopkins, M.S. (1978) On Rainforest Succession, Regeneration and change. In Report on a Workshop on Succession and Disturbance in Australia, held at Shoalwater Bay, Queensland 26th Nov - 2nd Dec. 1977. (Ed. Nicholls, A.O.) CSIRO, Divn. Land Use Research, Technical Mem. 78/26.

Hopkins, M.S. (1981) Disturbance and change in rainforests and the resulting problems of functional classification. In Vegetation Classification in Australia. (Eds. Gillison, A.N. and P.J. Anderson). CSIRO, Canberra. pp 42-52

Webb, L. (1963) The Influence of Soil Parent Material on the nature and distribution of rainforest in southern Queensland. In Symposium on Ecological Research in Humid Tropics Vegetation, Kuching, Sarawak.

Dear Big Scrub People, 29/5/89.

this is for anyone interested in goodwood & other environmentally sound consumption, I think we are working towards an add in the paper, 9.5.89 Jed.

Dear Friends,
GOOD WOOD is ready to go, we feel. The following information should assist you in starting off the lengthy process of information gathering and sorting.

Thanks for your energy and enthusiasm. When we get the GOOD WOOD Guide out, we will see a marked effect on the public's awareness as has happened in the UK. The potential can be seen in the interest already shown by people who contact the Rainforest Information Centre, asking questions about sustainably produced timber resources.

Our support can always be relied upon when the need arises, just contact us.

GOOD WOOD AUSTRALIA, PROGRESS TO DATE: May '89

The GOOD WOOD Group, at the Rainforest Information Centre(RIC), has been working since Sept 88 on this project. So far we have:

-Conducted preliminary talks with businesses using rainforest timbers in this area. We have found some concern for rainforest issues but little willingness to actively reduce consumption.

-Communicated the idea of an Australian GOOD WOOD Guide to the 40+ Rainforest Action Groups (RAGs) and a number of other interested people. The result is that we have a wide range of people aware of and thinking about the need for a GOOD WOOD Guide.
So far groups in the following areas have expressed an interest:

Sydney,	Philip Neill	Also: Canberra
Byron Bay,	Jan Oliver, Robin Osborne	Brisbane
Lismore,	Jed Stuart & George Marshall	Casino
Bellingen,	Christa and Toni	

Please let us know at GOOD WOOD, RIC, PO Box 368, Lismore, NSW 2480, Telephone (066) 218 505, if you can form a local GOOD WOOD Group

-Produced a draft 'Alternatives to Rainforest Timbers' document. An update of this will be available in May and it will include the contents of replies to the first draft. We will continue to facilitate debate on acceptable alternatives, until we reach consensus. At that time a more presentable document can be produced, say in July or August.

-Produced this GOOD WOOD kit for RAGs to use as a basis for initiating research in their areas.

-Begun fortnightly GOOD WOOD meetings in Lismore, minutes of which are sent to other groups on request.

WHERE TO FROM HERE:

To compile this guide we need YOUR assistance. We have decided that it would be best for the GOOD WOOD Guide to be compiled on the basis of Local Council areas, or at most, bio-regional areas. This will spread the cost and work load around and enable personal contact to establish not only the category into which the businesses or organisations should be listed but give the researchers an idea of attitudes in the industry.

We therefore need a person in your area to take on the responsibility of co-ordinating GOOD WOOD activities and research.

WHAT WE WOULD LIKE YOU TO DO:

1. List all the businesses, who may deal in rainforest timbers, in the following categories in the phone book.

ARCHITECTS:
BOXES AND CASES-WOOD:
BUILDING CONSULTANTS:
BUILDING CONTRACTORS:
BUILDING CONTRACTORS-ALTERATIONS & REPAIRS:
BUILDING DESIGNERS:
BUILDING FRAMES- Pre-cut:
BUILDING INFORMATION BUREAUX:
BUILDING SUPPLIES:
BUILDINGS PREFABRICATED:
CABINET MAKERS:
CABINET MAKERS SUPPLIES:
CARPENTERS & JOINERS:
DRAFTSPEOPLE:
FLOORS WOOD:
FORESTRY SERVICES AND CONSULTANTS:
FURNITURE DESIGNERS AND CUSTOM BUILDERS:
FURNITURE BUILT IN WARDROBES & BARS:
FURNITURE MANUFACTURERS SUPPLIERS:
FURNITURE MANUFACTURERS AND WHOLESALERS:
FURNITURE OUTDOOR:
FURNITURE RETAIL:
INTERIOR DECORATORS / DESIGNERS:
JOINERY:
KITCHEN RENOVATIONS & EQUIPMENT:
LAMINATES & LAMINATED PANELS:
MOULDINGS- WOOD:
OFFICE FURNITURE:
PANELLING INTERIOR:
PLYWOODS & VENEERS:
PARTICLE BOARD:
ROOF CONSTRUCTION:
TIMBER- TRADE & RETAIL:
TIMBER- WHOLESALE:
SHOP & OFFICE FITTINGS:
WALLBOARDS:

2. Send: the cover letter provided, (or similar), the survey and any other information to all these businesses. Where possible arrange a face to face interview, in our experience this will produce better results. Telephone and mail contacts may not get the same results but we feel any contact is better than none at all. It would be valuable to have a small number of well researched businesses in each category. This will form a basis for further additions. Please remember to change the contact at the bottom of the survey.

3. Collate information and send it to us at GOOD WOOD, (RIC), perhaps keeping your local media up to date on your plans and progress at the same time. We will then put together a draft version of the GOOD WOOD Guide which we will send back to the local groups for comment.

Note: Obviously there are a number of areas that need clarification, eg. what are sustainably logged timbers, where do they come from, which alternatives are environmentally sound etc? Some businesses may find it hard to know which category they wish to be in. For the moment if you could record any areas of confusion or ambiguity, we will work them out as we go along. The process of discussion with these businesses is proving to be very useful in itself, providing quite a lot of fresh information not only for the Goodwood Guide but also the 'Alternatives' document. We will keep updating both as the situation clarifies.

Here is a suggestion for the type of letter that could be sent to businesses in your area.

Some Facts about the Environment

Compiled from official sources

Endangered Species

A species probably becomes extinct about every nine hours. it may be as often as every three hours: by the end of the century it may be every twenty minutes. Why the uncertainty? There are 5-30 million species on planet Earth but only 1.7 million have been scientifically investigated. Most live in the canopies of remote rainforest... By the year 2050 one in four of all plant species alive today is expected to be extinct. 25% of US drug prescriptions are chemicals originating in wild plants. Malaria treatment, leukaemia drugs, anaesthetics and heart drugs are examples. Extinction of plants in the USA alone is estimated to cost US$3 billions by the year 2000... In 1981 the official endangered species list stood at 230. Now it is 35,000 and scientists can't keep up... There are three main causes for these species plight: 1) Destruction of habitat, particularly rain forest, happens through urban expansion, logging and agricultural and forestry development. The world's population is 5000 million and in 10 years time it will be 6000 million, 4000 million of whom will be in cities. Tropical regions are the main areas of population growth. 2) Direct exploitation for skins, ivory, feathers, shells, rhino horn, oils and meats. In 1975, over 164 million wildlife products entered the Unites States alone. Europe and Japan are the other main markets. The trade in wild animals is expanding to provide for zoos, the pet trade and industrial and medical research. 3) Pollution and the breakdown in natural food chains, the importation of new competitors, predators, parasites and diseases.

Rain Forests

Worldwide, at least 40% of rain forests have been lost in the last 30 years... Every minute an area of tropical forests larger than twenty soccer fields is destroyed by logging, burning, agricultural clearance or industrial development... Every year forest bigger than Costa Rica (11 million hectares) is eradicated. For every ten hectares of trees felled, less than one is planted... 7% of the world's lands surface is rain forest. It contains over 50% of the world's species of flora and fauna. Panama has as many plants and animals species as Europe... All mainland Malaysian forest will be cleared by 1990. (2 years)... Nigeria's rain forest will be cleared by 2000... One cause is the provision of high quality woods to the West. A trade as damaging but more insidious than the fur trade... Another cause is the servicing of debts by Third World countries, needing to produce short term dollar crops, rather than harvesting the forest's natural wealth... 1200 hectares of the fast growing "Ipilipil" tree could generate the fuel equivalent of 1,000,000 barrels of oil annually.

Soil

More than three billion hectares - almost a quarter of the world's land surface - is at risk from desertification, salinization from bad irrigation or other degradation. Worldwide, an estimated 26 billion tons of topsoil are washed or blown off cropland each year... Every year 6 million hectares of productive dryland becomes desert... US$6 billion damage a year is done off-site by eroded soil deposited on coral reefs, in dams and fisheries, in the USA each year... 8 million metric tonnes of hazardous chemical wastes are leaking into Dutch soil... Cleaning up the 21,000 abandoned chemical hazard sites in West Germany will cost US$4 billion.

The Ozone Layer

The high level ozone layer soaks up the ultra violet rays (UV) and prevents lethal levels of radiation reaching the ground. The ozone is under attack from the continued release into the atmosphere of CFCs (Chloroflurocarbons) A single chlorine atoms can, over time, destroy upwards of 10,000 ozone molecules... Pollution by CFC chemicals comes from aerosols, air conditiong systems and plastic foam cartons... A hole the size of the USA has developed in the high level ozone layer over the Antarctic. Making enough ozone to fill the Antartic hole would take about three times the annual U.S. energy output - every year... Once released, the CFC's are in the atmosphere for at least 100 years and they take about 15 years to reach the paper-thin ozone layer (three-millimeter deep) 15 miles above the ground... Although substitutes exist, U.S. industry sells $750 million worth of CFC's annually (one-third of the world's production)... 20,000 extra deaths from skin cancer may result in the US alone where 500,000 cases are diagnosed each year... UV-B also damages the human immune system. A diminished ozone layer will make people more vulnerable to a variety of infectious diseases... UV-B causes cell and tissue damage in about two-third of 200 species of plants tested at the University of Maryland... In Antartica last year (87), UV-B has very serious effects on the photosynthesis and metabolism of the plankton at the base of the marine food chain. The plankton also produces 70% of the oxygen on Earth... A 3% thinning in the layer over Europe was detected in 1988... In the Southern hemisphere the ozone was down as much as 5% in 87... Monitoring stations in North Dakota, Maine and Switzerland had recorded wintertime drops in the ozone layer of up to 9%... Every year, nearly 700 million aerosol cans are produced in Britain alone, approximately two thirds of the cans use CFCs... It would take an 85% cut in CFC use, just to stabilise concentrations at todays levels...

Greenhouse Effect

Because of increasing carbon dioxide and other pollution from coal burn and industrial processes, the world has warmed up and is expected to increase another 1.5-4.5 degrees centigrade by 2030: the Greenhouse Effect. The result will be a sea-level rise by 2100 of between 1.4 and 2.2 meters, spreading deserts and retreating forests... The U.S. contribute to one-quarter of the C02 load, the Soviet Union is the second largest consumer of fossil fuels and Japan is third... To end or even slow the warming, fossil-fuel emissions would have to be slashed 60%. In contrast, economists forecast a doubling of such emissions over the next 40 years... Fossil fuel use now adds some 5.4 billion tons of carbon to the atmosphere annually, and deforestation adds between 1 and 2.6 billion tons. Since 1958 concentrations of CO2 have increased 25%...

Dear Manager,

Environmental issues are very much in the news at the moment. People are increasingly concerned about the timber they are buying and where it comes from. They want to know what the environmental costs are and what alternative timbers can be used.

The issue that concerns us is the global impact of accelerated rainforest destruction. A shift in public awareness is underway. We wish to encourage this by providing people with a means to find businesses that will help them with their choices, to recommend shops, timber merchants, manufacturers and architects who do not use or sell rainforest timbers and will help them find sustainably logged alternatives.

The 'GOOD WOOD' Guide, so successful in UK, is coming to Australia. In it businesses and other organisations are classified into three categories (overleaf). The UK experience has shown that inclusion in the Guide is of commercial benefit and we trust that we may list you to your best advantage.

GOOD WOOD will also shortly appear in the Netherlands, USA and New Zealand.

As you will see the three categories are clear statements about your stance on the issue of tropical timber. There is no expense or commitment entailed by complying, our purpose is to assist consumers in their search for ethical and sustainable timber supplies.

Could you please fill in the survey form overleaf and return it to us at the address below?

The Rainforest Information Centre was founded in 1980 to provide information on, and to campaign internationally for the earth's rapidly diminishing rainforests.

We are a non-profit organisation, run entirely by volunteers. Donations towards the costs of materials for this project would be gratefully received.

Yours faithfully,

Jed Stuart
(for the Good Wood group, RIC)

AUSTRALIAN GOOD WOOD GUIDE

SURVEY

Below are three categories into which businesses and organisations such as your own will be listed:

Which category would you like yours listed under?

A-We will undertake not to use or trade in rainforest timbers, other than those obtained in a sustainable manner. We wish to be recommended to enquirers and included in the Good Wood Guide and any other publicity.

B-We are unable to give up using or trading in rainforest timbers entirely. However we are prepared to substantially reduce our use of or trade in them. We would like further information on the alternatives available.

C- At present we are unable to review our policy on using or trading in rainforest timbers, but would like further information on the alternatives available.

In the UK, businesses that are listed under Section A, and to a lesser extent those listed under Section B, find that there are commercial benefits to be gained from being promoted as providing an environmentally benign product. These businesses gain recognition and advantageous publicity and support from the public.

For further information please contact us on (066)218505 or write to:-
Good Wood, Rainforest Information Centre, PO Box 368, Lismore, NSW 2480.

C- WHY PROTECT RAINFOREST

Half the earth's 10 million species of plants and animals live in the rainforests. At the present rate of rainforest destruction these will all be gone within the lifetime of a child born today. It is estimated, by the World Resources Institute in Washington, that 200 million people live in or depend upon rainforests. Their culture and their lives hang on the choices that we in the developed world make.

At present an area the size of Victoria is cut down each year for agriculture, ranching and timber extraction. The rainforests have soils and ecological systems that are very sensitive to change. In many cases these have already been devastated beyond repair and, largely as a result of this, global extinctions are currently running at over 48 per day, according to the latest information.

Here are 5 very good reasons why we should protect as much of the world's rainforest as we possibly can:-

1. GREENHOUSE EFFECT- The rapid loss of the world's rainforests is one of the major causes of the Greenhouse Effect; a rise in the earth's overall temperatures. Vegetation, especially dense vegetation like rainforests, ties up vast quantities of carbon. Released as CO2 and other gases, it forms a blanket effectively locking into our atmosphere the solar heat that would otherwise be re-radiated. An extremely small rise in global temperatures has enormous consequences for climate and hydrological cycles. The results are being seen at the moment in extended droughts, abnormal flooding exacerbated by a loss of the binding effect of climax vegetation on soils and the harrowing prospect of rising sea levels, especially for low lying population areas.

Rainforests act as a reservoir for carbon, as a sponge retaining excess water and as a moderator of climatic extremes. But rainforests are more than that, they host the most diverse ecosystems on earth, they were the birthplace of homo sapiens and countless other species, the bulk of our medicines and staple foods originate in them, the list goes on. Certainly every hectare of rainforest we retain will help reduce the impact of the Greenhouse Effect.

2. SOIL- The logging of rainforests leads to the irreparable loss of 6 billion tons of topsoil a year. Soil that took thousands of years to develop is washed away in a few short months. Some countries have lost 25% of their topsoil since the Second World War, others like Japan and Belgium have lost more.

3. SPECIES SURVIVAL- The rainforests are the home of a vast and diverse variety of plants and animals, the survival of which is essential to life as we know it. Without this genetic diversity, life on earth will be unable to adapt to changed environments.

Rainforests represent an enormous gene bank, one from which we sprang, and from which we derive half our medicines and much of our staple food. Less than 1% of the rainforest species have been classified, yet who can say that it was not amongst the 48 species lost today that our salvation was rendered impossible?

4. TRIBAL PEOPLES- There is much knowledge and wisdom in the cultures of the rainforest dwellers, as there is in our own Australian native cultures. Are we seriously considering them as being of no value when for thousands of years they have fed, clothed and housed themselves from the forest sustainably? In the decades of our rainforest exploitation we have irreparably lost much of it, degraded more and are contemplating loosing it all within a single human lifetime.

5 ENJOYMENT- The Rainforests are a sea of peace and tranquillity in our modern industrial age. To some this is sentimental nonsense but to many this is the principal argument for rainforest preservation. Who can say that the only rationale worthy of serious consideration is the benefit of rainforests to man's material wellbeing?

RAINFORESTS: WHAT THEY ARE

Rainforests Cover Less than two percent of the globe, yet they are home to between 40 and 50 percent of all types of living things on our planet, as many as 5 million species of plants, animals and insects. The rainforest is the richest, oldest, most productive and most complex ecosystem on earth. The National Academy of Sciences reports that two and a half acres could contain an estimated 42,000 insect species alone.

Moreover, an enormous proportion of animals and plants in the rainforest are endemic to one area. This means they exist nowhere else. Papua New Guinea has 320 endemic species of birds; the Philippines has 94 endemic mammal species; 1480 endemic bird species live in Indonesia. Forty percent of all birds of prey depend on rainforests. With the disappearance of the rainforest, these species are becoming extinct.

There are more than a thousand forest tribes around the world: Colombia has 60 known tribal groups; the Philippines has 7 million tribal people; Indonesia has 360 distinct ethnic groups, many speaking only their tribal language; 200-plus tribes live in the Congo Basin; Papua New Guinea supports more than 700 tribes. Many, if not most, are on the verge of cultural and physical extinction; doubtless some are still unknown to us.

The forests also have an abundance of useful plants, particularly medicinal plants. Seventy percent of 3,000 plants identified by the National Cancer Institute as having anti-cancer properties are rainforest species. Modern surgery and medicine have reaped immeasurable benefits in the treatment of diseases which include lymphocytic leukemia, glaucoma, Hodgkin's disease and amoebic dysentery, among others. Oral contraception depends on diosgenin; reserpine counters hypertension; strophanthin is used to treat heart ailments: all are derived from plants that grow in rainforests. In fact, approximately 7,000 medical compounds in modern Western pharmacopoeia are derived from plants. One-fourth of all prescription drugs marketed in the US contain one or more of plant compounds.

Yet, fewer than one percent of tropical species have been examined for their possible use to mankind. As man destroys these forests, millions of species of plants and animals, the vast majority of which are unexplored by science, lose their habitats.

The National Academy of Sciences in Washington, D.C., reports that more than 50 million acres (the combined land size of England, Scotland and Wales) are permanently destroyed or seriously degraded *each year*. That averages to 100 wasted or abused acres for every minute of every day.

Conservative estimates say man has already destroyed over 50 percent of the original, natural rainforests. In fact, tropical rainforests are being destroyed faster than any other natural community. At present rates, our tropical rainforests will be totally destroyed or severely degraded by the middle of the next century.

This must stop. And it must stop immediately. Rainforests are immensely precious. They are not replaceable. The devastion of the forests has tremendous ecological, social and political ramifications throughout the world.

Where are the tropical forests?

The world's tropical forests are located within a 3,000 mile-wide band straddling the equator. Only 2.4 billion acres of rainforest—less than half the original acreage—survives. The main concentrations are in Amazonia, Southeast Asia and West Africa. Brazil hosts one-third of existing tropical forests; Indonesia and Zaire each have ten percent.

Why are rainforests being destroyed?

The main causes of deforestation are cattle ranching, logging, road-building, agriculture and industrial developments such as hydro-electric dams and mines. In Latin America the chief cause has been raising cattle; in Southeast Asia, Oceania and Africa, logging and peasant agriculture are the biggest culprits.

Why should we care about tropical rainforests?

Biologically, rainforests are the richest regions on earth. As many as 5 million species of plants, animals and insects (40 to 50 percent of all types of living things) live in tropical rainforests. The forests have evolved to a delicate ecological balance that can easily be permanently destroyed, without hope of recovery. Rainforests are the traditional home of hundreds of thousands of indigenous tribal people. And as many as 200 million people live in and around the forests, relying on them for food and shelter. Moreover, rainforests capture, store and recycle rain, thus preventing floods, drought and soil erosion. They also serve to regulate local and global climates.

Isn't over-population the real cause of deforestation?

No. Overpopulation is usually cited as the cause of settlement in rainforests, but unfair distribution of a country's good agricultural land is often the real cause.

Many governments have used rainforests as safety valves, relocating landless peasants to these poor soils instead of instituting land reform programs on more valuable agricultural land. Brazil, which has a policy of moving settlers into the Amazon rainforest, does not need that land for agriculture. Leaving aside the Amazonian forest, Brazil has the same population density as the US, about 65 people per square mile. Brazil has 2.3 acres of farmland per person, more than the US.

Taking potential farmland into account (but still excluding the Amazon), each person in Brazil could have 10 acres. Instead, 4.5 percent of Brazil's landowners own 81 percent of the country's farmland, and 70 percent of rural households are landless. In India, more than half the land which is suitable for crops is owned by 8 percent of the rural population.

Besides bad and unfair land distribution, why else are rainforests being cleared?

A prime reason for many government-encouraged colonization schemes is not land, but the quest to "secure" frontier regions. Logging, mining and other industrial activities also contribute greatly to the rainforest being cleared. Foreign markets in beef cattle and hardwood products provide attractive—though self-destructive—reasons for depleting their natural resources.

Doesn't it make economic sense to convert these empty, idle lands to profitable enterprises?

First, rainforests are NOT empty. Tribal groups are successfully living wherever the forest can support human life. Second, the intact forest is hardly idle. It conditions the soil, regulates rainfall and maintains the water cycle far beyond the borders of the forest itself.

Most attempts to turn rainforest into farmland have failed disastrously, damaging the forest, disrupting the soil and water balance for other farmers, and leaving settlers even more desperate for land.

Rainforest exploitation redistributes wealth upward, not outward. The permanent, widely distributed benefits of the intact forest—the protection of wildlife, water catchments and soil, and the provision of food, medicines

and building materials—are turned into immediate and short-term profits for a very small group of investors and consumers.

But the benefits of the forest are intangible, and developing countries need money.

It is hard to assign a monetary value to many of the functions rainforests perform, but their loss can be expensive. In India, deforestation since 1950 has almost doubled the area affected by annual floods. Every year 6 billion tons of soil are swept from the hills, and hundreds of thousands of people are left homeless. The value of the lost nutrients alone (5 million tons of nitrogen, potash and phosphorus) is estimated at more than $1 billion. In neighboring Nepal, the annual cost of damage from these floods is $1 billion.

Also, timber operations, oil and gas drilling, mining and ranching, and other commercial activities often make the country poorer, not richer. Instead of contributing to the national economy by paying taxes and royalties, and providing jobs, these enterprises too often make a profit only for their owners and overseas investors, not for the nation.

Don't rainforest soils make good agricultural land?

No. Few tropical forest soils are high in fertility. What nutrients are found in the soil lie in the top few inches, with the underlying soil being virtually sterile. Most of the nutrients are locked up in the vegetation instead. When the trees and other vegetation are destroyed, the nutrients are destroyed forever.

Isn't it unrealistic and patronizing to protect indigenous tribes from the 20th century?

Healthy tribal societies are dynamic. Like our own cultures, they evolve in response to changing conditions. The question is not whether they can adapt to the 20th century without losing their cultural identities and skills, but whether they will be allowed to do so. Cultural extinction is not inevitable. The groups must have land, protection from newly introduced diseases, time to adapt, and the right to determine their own future.

FACT SHEET: A LIST OF BENEFITS

The wondrous, abundant ecological wealth which rainforests offer translates to dramatic, tangible and life-saving benefits—advances in modern medicine, agriculture and industry which we could not live without.

Medicine

❧ 70 percent of all plants identified as having anti-cancer properties by the National Cancer Institute occur only in the rainforest. Fewer than 1 percent of tropical forest species have been examined for their possible chemical compounds.

❧ The rosy periwinkle offers a 99 percent chance of remission for cases of lymphocytic leukemia, as well as a 58 percent chance of recovery from Hodgkin's disease.

❧ 225 rainforest plants from Costa Rica are documented as potential anti-cancer agents.

❧ Much modern surgery depends upon curare, a derivative of a South American tree bark used to relax skeletal muscles. Without curare, delicate operations such as tonsillectomies and eye and abdominal surgery would be enormously difficult. Furthermore, curare cannot be chemically synthesized in the laboratory.

❧ Ipecac from South America—used for centuries—is still the most effective treatment for amoebic dysentery.

Agriculture

❧ Crop breeders require genes from wild plants and primitive crops to fortify modern varieties. Every modern rice plant contains the gene resistant to grassy stunt virus, a major rice disease. The gene was discovered just 25 years ago and was found in only two minute seeds from central India. No other seeds containing the resistant gene have ever been found again.

❧ Fruit and vegetable varieties from rainforests, when crossed with modern produce strains, have resulted in improvements which translate to millions of dollars in increased annual farm revenue.

❧ Tomato varieties have been improved by cross-breeding with wild tomatoes from Ecuador, Chile and Peru, resulting in an additional $5 million farm revenue annually.

❧ Imported insects are efficient biological pest controls; in Florida, three types of parasitic wasps save citrus growers $30 million annually in crop damage.

❧ Crops originating in rainforests include rice, quinine, rubber, coffee, bananas, eggplants, lemons, oranges, tea, cacao, cashews, cassava, peanuts, pineapples, guavas and papayas.

Industry

❧ The sweetest substance in the world is Thaumatin, a newly discovered compound derived from the katemfe bush which grows in the West African rainforest. It is 100,000 times sweeter than table sugar.

❧ The sap of Amazonian copaiba trees—poured straight into a fuel tank—can power a truck. In 1979, Melvin Calvin, Nobel-winning Biochemist at U.C. Berkeley, discovered that copaiba sap is almost identical to diesel fuel.

❧ The leukemia medicine, vincristine, is made from periwinkle leaves and currently has annual sales of over $50 million.

❧ India's wild forest harvest of perfumes, flavorings, resins, rattans, essential oils and drugs is worth $125 million every year.

❧ Cortisone and diosgenin are derived from the wild yams from Mexico and Guatemala. Diosgenin is the active ingredient in birth-control pills, and the most versatile and available steroid raw material.

❧ The West African Calabar bean is used to treat glaucoma and for certain synthetic insecticides.

❧ Reserpine, from India and Southeast Asia, is essential for treating hypertension.

❧ A West African vine provides the basis for strophanthin, a heart medicine.

IMPORTANT NOTICE.

January/83. GREEN ALLIANCE MEMO : RE-FORESTATION CAMPAIGN.

1. In 1981 State cabinet in NSW appointed a Task Force to enquire into the Regulation and Encouragement of Private Forestry. The report of the Task Force has been presented to Cabinet, and its recommendations include, in particular:

* that existing disincentives be removed by reforming various income, sales and land tax provisions, and changing Federal, State and Local Government rating systems;
* the p ovision of technical and especially financial assistance to landowners for re-forestation projects;
* that priority zones be established, in areas which would give "the most readily demonstrated silvicultural returns and environmental benefits."

A draft of this report came to us as early as August 1981, and it would appear that, as with the Rainforest issue, a final extra push is needed to ensure the implementation of the Report. The best time for this campaign is NOW, and over the next 2-3 months.

One of a host of significant consequences of the Report's implementation would be that associations such as communities, community groups, unemployed persons work co-operatives etc. could establish viable businesses offering part time employment in nursery and contract planting work.

2. Recently Wran announced the allocation of $10 million for job-creation, most of this to the Forestry Commission for "clearing and planting". This seems to mean clearing eucalypts and planting pine in southern NSW, despite the fact that:

* Australia is facing a surplus of pine, particularly pulpwood;
* Both conservationists and timber companies have urged that funds for hardwood re-forestation be allocated to the North Coast, so as to protect jobs and timber supplies.

3. Acting Prime Minister Anthony recently announced that most of the estimated $300 million saved by the twelve month wage freeze would be spent on "job-related" programmes. It is vital that this money be allocated to socially and environmentally useful work, such as re-forestation projects.

* The need for re-forestation constitutes a national emergency. The current drought is unprecedented in its severity. Unemployment levels continue to soar. This is the Year of the Tree. There is to be a Federal election, probably in April or May; the Federal Government is under strong pressure on its environment policies, particularly regarding the Franklin Dam. We know that appropriate action at the right time can change Government policy. The Year of the Tree has been taken over as a public relations campaign for governments, forestry departments and nurserymen's associations.

WHAT YOU CAN DO

PLEASE: * Write to Wran urging that the recommendations of the Task Force on Private Forestry be implemented and substantial

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funds allocated to re-forestation projects on the North Coast.

* Write to Fraser urging that money saved by the freeze on wages be allocated to socially and environmentally useful work, especially re-forestation.

* Write to Fraser demanding that the Federal Government intervene to stop the Franklin Dam.

* Contribute financially to the re-forestation campaign by sending a donation to GREEN ALLIANCE, Box 158, Paddington, NSW 2021.

* Please urge others to write and contribute similarly.

* Please send your name, address and relevant details if you would like to participate in the network, indicating whether you could help in your area in the forthcoming Federal elections.

THINK GLOBALLY ACT LOCALLY

WHAT IS GREEN ALLIANCE ?

Green Alliance is a network of people who have been primarily concerned to promote the concept of effective co-operative action for environmental protection and reconstruction, andfor world peace. We have carried out a number of environmental action campaigns, such as the Terania Creek and Nightcap Action Group campaigns on the Rainforest issue, the Middle Head and Beaches for People campaigns on coastal sandmining; and we have participated in such other campaigns as the Honeymoon and Roxby Downs uranium mine campaigns in South Australia, the blockade of Windsor Tablelands rainforest logging in Queensland, the Franklin River action in Tasmania, etc. Through the Homeowner Builder's Association and the Technical Assistance Group, we have made a major contribution to Multiple Occupancy Zoning and the liberalisation of the Building Codes' application in rural areas of NSW. We are members of the Coalition for a Nuclear-Free Australia, and have supported the movements for a Nuclear-Free Pacific and for Nuclear-Free Zones within Australia and the closure of U.S. Bases. We also contributed to the P.E.A.C.E. GROUP'S campaign in the last NSW election(People's Environmental Action Co-op.).

Green Alliance publishes a magazine, GREEN ALLIANCE NEWSLETTER,in which we promote these, and such other issues as Land Rights, Permaculture, renewable sources and forms of energy and appropriate technology, Plant Variety Rights issue, freedom of imformation, civil liberties, electoral reform, etc. To date the magazine has given detailed analases of major problems as well as promoting specific campaigns. Future issues will concentrate more exclusively on particular actions and projects, particular things people and groups can do, contacts and events information nationally, etc. Subscriptions $10 p.a. to Box 31, Nimbin NSW 2480.

Green Alliance is not associated with any particular political, religious or other ideology. We are not an organisation; we encourage and contribute to the closer working co-operation of existing organisations. We feel that project-oriented local groups linked to a loose national alliance of a broad spectrum of environment, peace and anti-nuclear, land rights. etc. groups would constitute a powerful movement for change.

Much is possible over the next several months - re-forestation and Year of the Tree projects, Franklin Dam cancelled, Federal Labour Gov., progress towards end of uranium mining,independent 'Green'MP's , etc.

PLEASE REPRINT,DISPLAY, & PASS ON THIS MEMO : SPREAD THE WORD.

STOP PRESS : 1. National South West Coalition formed to campaign in elections. 2. Peace Workshop/Festival Gatherings Blackheath February, Bellingen area Easter; details Green Alliance.

FOREST STUDY

We are presently engaged in a study to determine the vegitational species (the floristics) and to assess species abundance in the ridge area bounded by the Tuntable Falls northern, Eastern and Southern boundaries and by the rhyolite slopes and cliffs in the West.

45 plots have been systemmatically selected, of these 6 have been completed to date, in the area behind Malapiki. Statistical analysis of the data will not be begun until at least 20 plots have been completed. Amalysis will include the determination of the frequency of true species in a number of girth classes and the determination of relationships between species present and such factors as exposure, soil, slope, aspect. However, a species list has been compiled, and dried (&only slightly mouldy) specimens of these are available.

In lieu of results from this survey, these from an earlier one with a slightly different orientation but in the area so far studied - from the Northern boundary to Pixies Valley - will be given.

The Tuntable Creek headwaters are bounded to the North and East by the Nightcap Ranges. These ranges were formed during periods of intence volcanic activity 15 to 25 million years ago. Initially basalt formed a series of thick flows extending to Lismore. These rocks now outcrop at creek level on Tuntable Creek. A thick sequence of acid volcanics (rhyolites, obsidian, tuff) overlie the basalt. These rocks weather slowly and are frequently eroded by weathering of the underlying basalt with consequent rock fall. Thus they now lie in a series of steep ridges with rhyolite cliffs ringing intermediate valleys.

A final series of flows of basaltic lava capped the Nightcap Range area. Remnants of this flow are found above the head of the valley in the Mt. Matheson / Nardi area. The rich kraznozem soils formed from the basalt have almost entirely disappeared from the ridge running south west between Tuntable Valley and Terania Creek Valley to pixis, the area of the study.

The cryptopodzols formed on acid parent material are normally deficient in nitrogen, phosphorus, sulphur and molybdenum, and are low in are elements such as calcium and potassium. However where leaching and runoff is not too intense, and under good vegitative cover, humus content is high and there is a moderately deep, friable topsoil. Dark, fertile soils occur along creek flats and in gullys.

Rainfall is high (1780-1900/annum) and storms generally blow in from the north east. Consequently, exposed slopes facing towards the valleyhead are subject to very intense erosion and leaching. Less exposed slopes of similar aspect show better soil developement while slopes facing west to south are generally characterised by deeper, richer soils. The degree of exposure and the position on the slope are as important as slope angle in determining soil characteristics.

The area has been subject to extensive clearing, logging, and burning, even on extremely sleep slopes and now exhibits varying degrees of regeneration.

In the study, no significant positive associations were found between any species, there was a general tendency towards the negative in the correlations, indicative of species tending to occur in patches. Significant negative correlations were used to obtain the following classes.

a) TREE FERN, Cyathea australis, C Leichhardtiara.
b) BRUSH BOX, Tristania confesta.
c) BLACKBUTT, Eucalyptus pilularis.
d) [illegible], E. Signata.
e) GRASS TREE, Xanthorrhea media sp latifolia
f) TEA TREE, Leptospermum petersonii.

a) [illegible]. This association is found on very sheltered sides facing southwest to south, and in gullys. Soil is extremely rich in organic material, though not necessarily deep. In sufficiently sheltered sites, slopes may be as great as 0 40°. Available soil moisture levels are high (and leeches common). Canopy trees are mainly Brush Box Tristania confecta Nightcap Wattle Acacia orites, Bangalow Palm Archontophoenix Cunninghamiana or rainforest species. The tree ferns form a dense layer above a thick groundcover of ferns, and many species of vines are present although at times tree ferns and canopy cover is so dense that ground cover is reduced. The purple Helmet Orchid Corybas aconitiflorus occurs in dense patches. Along creek courses the Helmholtzia lily Orthothylax glaberrima is abundant. These areas are cool, dark and damp. The upper canopy tends to be reasonably open which may be a reflection of steep slopes or of waterlogging in gullys but more likely indicates that regenaration is at an early stage.

b) BRUSH BOX. Brushbox occurs in relatively pure stands in rich well drained soils towards the base of slopes. All stands encountered were recently regenarated (less than 30 yrs old) Consequetly, though sometimes quite dense, the canopy layer is not yet above 30m. Rainforest trees, and turpentines Syncarpia glomulifera occur but eucalypts are absent (except flooded gum Eucalyptus grandis which occurs only rarely). Because of reduced light and only moderate surface water availability ground cover tends to be sparce and the shrub layer is absent in some stands. Since brushbox is a thin barked species, the further developement of these young stands will depend on keeping fire away from these areas.

c) BLACKBUTT. Blackbutt occupies ridge positions and moderately sheltered slopes. Soils with very poor organic matter content and topsoil developement are avoided. Although the forest oak Casuarina torulosa is distributed through a wide range of soils and topographic positions, it is most commonly associated with blackbutt. In places, it forms a very dense understory. The nightcap wattle Acacia orites is also common as a moderately tall tree. Red bloodwoods Eucalyptus gummifera occur throughout though not abundantly. The Rose Myrtle Archirhodomyrtus beckleri is a common and graceful shrub and the open canopy allows a dense ground cover of ferns, grasses, sedges, vines and creepers. In places, the density of the Five leafed water Vine Cissus hypoglauca makes walking difficult.

d) SCRIBBLY GUM In exposed areas on the outer rims of ridges and down slopes of poor fertility and soil development, the scribbly gums Eucalyptus signata form an open canopy above scattered shrubs, chiefly the rough backed tree bitter pea Daviesia arborescens which closely resembles the Nightcap Wattle, and the Geebung Persoonia levis. Vines and creepers are less common and ground cover is mainly grasses. The native Iris Patorsonia fragilis and the yellow flowering Guinea Flower Hibbertia aspera add a dash of colour during flowering. Cover at all levels is less than in the Blackbutt areas.

e) GRASS TREE. In extremely exposed situations, on skeletal soils of poor fertility, the Grass Tree Xanthorrhoea media sp latifolia occurs in association with other species tolerant of the xerophytic conditions. The white honeysuckle Banksia integrifolia and the prickly Monotoca siopeuca are the most common shrubs. Ground cover is sparse, chiefly the sedges Lepidosperma elatius and L laterale and the native Iris Patersonie fragiles. The xerophytic Lacy Wedge Fern Lindsaiea Microphyla adds a touch of delicacy to an otherwise harsh environment.

f) TEA TREE. On the lower slope at the base of cliffs but sufficiently above the valley floor to be in relatively open positions, dense stands of Leptospermum petersonii and L. flavescens may occur. They appear to be related to constant

seepage from water tables when they occur at the cliff face and, thus these stands are rare. The silacious soils are high in organic matter washed from the upper slopes and ridges and deeper towards the lower regions where rainforest species rather aruptly egins. The ti tree forms a thick canopy and thus ground cover is sparse. Scattered specimens of the white bottlebrush Callistemon salignus indicate sites of poor drainage on less deep soils.

Each association grades into adjacent ones in mixed zones of varying width. They can be interpreted as a continuum along the environmental gradients of degree of exposure, soil development, soil fertility and moisture conditions, and slope position. Thus, while mixed zones are likely to be reasonably wide where environmental conditions change gradually (e.g. Scribbly Gum/ Blackbutt), transition may be abrupt if they change quickly (e.g. Tree Ferns in gullys) Mixtures of species from either end of the environmental continuum never occur (Tree Fern/Grass Tree).

Following the earlier logging and fires which devastated the area, the vegitational cover and soils have at last developed to the stage where water retention even during extended periods without rain is reasonably high, especially in the frequent dissecting gullys. Towards the south end, the better soils have encouraged the development of rainforest and wet sclerophyll (overmoist Blackbutt) to a greater degree than in the northern section. It is my opinion that it would be advisable to defer from controlled burning of the ridge area as it would return the forest to an earlier, more open, developmental stage and actually increase the subsequent risk of fire spread and damage.

Amongst the species encountered in the area covered so far, a number furnish a variety of non-timber uses. For the following Wild Food in Australia (Cribbs,1974) and The Useful Native Plants of Australia (Maiden 1889) have been used for a quick referance though in some areas, for instance dyes, here are undoutedly more detailed referances available and, particularly with dyes and foods, there is plenty of room for careful experimentation.

COMMON NAME	SPECIES	USE
Native Yam	Dioscorea transversa	Root eaten
Common Fringed Lily	Thysanotus tuberosus	"
Broadleaf palm Lily	Cordyline petiolaris	Fleshy Undgrnd stem
Narrowleaf palm Lily	C.Stricta	"
Scrambling Lily	Sertonoplesium Cymosum	Shoots eaten (like Asparagus)
Why s Vine	Flagellaria Indica	Shts & young leaves
Yellow Wood Sorrel	Oxalis corniculatum	leaves eaten
Grass Trees	Xenthorrhoea species	Leaf bases eaten
Mat Rush	Lomandra species	"
Purple Coral Pea	Haidenbergia violacea	Tea subst. leaves
Red Coral Pea	Kennedia rubiconda	"
Sweet Sarsparilla	Smilax glyciphylla	General tonic-leaves
Lemon Scented Tea Tree	Leptospermum petersonii	Tea subst.-leaves
	L. flavescens	"
Short Sword Sedge	Gahnia aspera	Seeds grnd to flour
Coast Canthium	Canthium coprosmoides	Fruit possibly
	Rapanea Variable	"
Hop Bush	Dodonaea triquetra	Fruit-for yeast/beer
Lantana	Lantana camara	Fruit eaten
Lilly Pilly	Acmena smithii	"
Bearded Heath	Leucopogon juniperinus	"
Geebungs	Persoonia spp.	"
Crab Apple	Schizomeria ovata	"
Green leaved Bramble	Rubus moorei	"
Mollucca Bramble	R. hillii	"

COMMON NAME	SPECIES	USE
Austral sarsaparille	Cissus hypoglauca	Fruit eaten
Sweet sarsaparille	C.glyciphylla	"
Common apple berry	Billardiera scandens	"
Brown kurrajong	Commersonia bartrami	Fibre
Rough flax lily	Dianella caerula	"
Whip Vine	Flagellaria indica	"
Settlers Flax	Gymnostrachys indica	"
Sword Sedges	Lepidosperma spp.	"
Mat Rushes	Lomandra spp.	"
Nightcap wattle	Acacia orites	Gums(soluble in water)
Two veined Hickory	A.binervata	"
Cypress Pine	Callitris macleayana	Resins(soluble in alcohol)
Sweet Pittosporum	Pittosporum undulatum	"
Turpentine	Syncarpia glomulifera	"
Grass Trees	Xanthorrhoea spp.	"
Gum Trees etc.	Eucalypt spp.	Kino(stringent sap)
Gums etc.	Eucalyptus spp.	Volatile oils-leaves
Lemon Scented Tea Tree	Leptospermum petersonii	" -lemon
	L. flavescens	"
Mint Bush	Prostanthera incisa	"
Sweet Pittosporum	Pittosporum undulatum	" -flowers
Tall Zieria	Zieria arborescens	" -leaves
Sweet Pittosporum	Pittosporum undulatum	perfume - flowers
Tall Zieria	Zieria arborescens	Dye-yellow inner bark
Nightcap Wattle	Acacia orites	Tanning - bark
Two veined Hickory	A.binervata	" "
Lilly Pilly	Acmena smithii	" "
Brush Box	Tristania conferta	" "
White Honey Suckle	Banksia integrifolia	" "
Sweet Pittosporum	Pittosporum undulatum	" "
Gums etc.	Eucalypt spp.	" " & leaves
-	Eucalypt oil	Antiseptic
Corkwood	Duboisie myoporoides	Hyoscine drug-leaves

Ellen White.

Co-ordination Bop Ltd

Rainforest row response

Dear Sir,

The article headed 'Rainforest Regeneration Row' in last week's *Echo* deserves comment.

Richard Staples of the Byron Environment Centre has sought to discredit the work being carried out on Hayter's Hill. His assertions are inaccurate and mischievous.

The mostly exotic buffer of lantana, camphor laurel and other introduced household species was indeed removed. The areas so cleared were then cleared of household rubbish, and replanted with hundreds of fast growing rainforest species. Without this action being taken, the introduced species, particularly madeira vine and camphor laurel would have slowly strangled and replaced the forest species.

Indeed the 'protective buffer' he refers to was not always there and is historically fairly recent in origin.

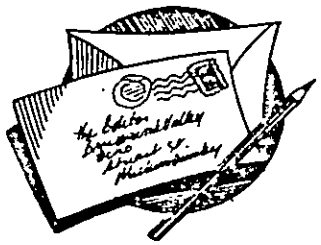
As to the statement by Mr Staples demanding that the scrub be surrounded by shadecloth (*Northern Star* 21/8/92) – that is about as sensible as suggesting that we park a line of double decker buses (painted green, naturally) around the edge of the scrub.

Mr Staples is not very familiar with dogs and cats if he thinks removal of the lantana will allow them into the scrub. I have been removing dumped cats from the remnant for 20 years and up until last year cattle wandered freely through the scrub. I have also caught numerous people over the years stealing plants from the forest. Your comment about this will only serve to encourage this type of activity.

The area of rainforest is indeed a valuable resource and continues to be used for research and educational purposes by a wide section of the community. The current project as stated in *The Echo* also involves massive tree planting to substantially increase the size of the remnant. A further stage involves planting several thousand trees in a corridor to link the two remnants on Hayter's Hill.

Mr Staples, your uninformed comments are putting all of this at risk. Jobs have been created and many unemployed people are learning new skills as a result of this project. It sounds like the row is nothing more than a case of sour grapes. Perhaps, Mr Staples, you would like to make a positive contribution to the project and donate some trees!

Neil Holland
Byron Bay



A developing art

Dear Sir,

It's a pity that Mr Neil Holland has interpreted the Environment Centre's concerns for the welfare of his rainforest remnant as 'inaccurate and mischievous'.

We still hope nevertheless that he accepts that bush regeneration is a developing art and that healthy discussion of different techniques that are being tried can only be positive.

Anyone requiring information on bush regeneration techniques can call into the Environment Centre Friday afternoons or Saturdays.

Richard Staples for BEC

I had a dream

Dear Sir,

I had a dream – a dream where all environmentalists worked together in harmony against the forces of evil. I saw Richard Staples at Hayters Hill in a haze of Richmond Birdwing butterflies. He was actually visiting the people involved in the project (something he had never done before) and was asking what the ecological rationale is for their actions. There followed beautiful communication and a strong desire to work together writing submissions, planting trees and creating rainforests.

It was a beautiful dream.

Mark Dunphy
Project Officer for the Hayters Hill project.

Rainforest regeneration

Dear Sir,

Regarding the Hayters Hill Rainforest row, I feel that Richard Staples would do more for the environment movement by keeping his mouth shut on this issue as he obviously knows very little about rainforest regeneration and its applied techniques on the North Coast.

I have been personally involved in rainforest regeneration on the North Coast over the past two years and have found that similar methods have proven to give outstanding results. As for his comments on the removal of the weed edge (lantana etc) being detrimental to the remnant due to salt laden winds, cats/dogs and wind borne seeds, illustrates his ignorance on the subject.

Removing the weed edge allows rainforest seed germination and subsequent growth of seedlings whilst exotic weeds inhibit this process. Lantana doesn't stop cats or dogs, and wind borne seeds require high light levels (which rainforests don't provide) to germinate let alone survive. As for salt laden winds, the forest isn't wind sheared (eg vegetation at Cape Byron is wind sheared) and I doubt that lantana would obstruc salt damage, so this is of negligible detriment. Finally on the cutting of some common aggressive vines, this encourages canopy restoration and protection whilst promoting vine regrowth in the understorey (nesting habitat).

I suggest that Mr Staples examine the site (and others) and research the topic before tainting the good work that is being done to protect the long term viability of our rainforest heritage.

Hank Boer
Rosebank

continued on page 12

Remnant work

I was disturbed to read Mr Richard Staples' criticisms of the Jobskills rainforest regeneration project at the Hayters Hill remnant on the escarpment west of Byron Bay.

The only mistakes are those of Mr Staples in his negative and misinformed attitudes.

The aim of the project is to expand the area of rainforest in the remnant by removing the so-called protective buffer of vines, lantana and tobacco bush, competition shade are redued and the soil disturbed, which should stimulate excellent germination of pioneer species from the existing seed bark in the coming summer.

Mr Staples worries about more exotic weed seed entering the remnant, but then gets upset when camphor laurels are cut and poisoned on the site.

The methods being used at Hayter Hill are working successfully on several other sites and there is no reason to believe they won't work at Hayters Hill.

Rainforest regeneration projects which expand the area of our big scrub remnants should be applauded, not negated.

Ralph Woodford,
Dunoon

ER 15, 1992.

NS 15/9/92

Echo, 26/3/92

Rainforest regeneration row

Local environmentalists disagree over whether reforestation work being carried out on the Hayters Hill rainforest remnant is doing good or harm.

Extensive clearing of exotic weeds and native vines around the perimeter of 'Eastock' has been carried out as part of a project jointly funded by Greening Australia and Byron Shire Council.

Byron Environment Centre spokesperson Richard Staples said the work could damage the rainforest remnant by destroying the 'protective buffer' of native vines, wild tobacco and lantana.

'This operation is not only allowing full sun and salt-laden drying winds into the understorey, but will also allow access by cats, dogs, wind-borne exotic seeds and people stealing plants,' Staples said.

Staples was also critical of the use of the chemical Roundup, and suggested Greening Australia should use the Bradley regeneration method.

Project supervisors Peter Sheraton and Mark Dunphy have replied to these criticisms of the project, which they say will increase the size of the remnant from 3ha to 4ha and include the planting of 2,000 native rainforest trees.

'There is very solid evidence to suggest that much of the forest's perimeter has undergone a natural expansion shortly after the original clearing of the adjacent areas,' they said. 'As a consequence many trees on the forest's edge are typical edge species and are quite resilient to moderate exposure.

'Whilst some native species will germinate quite freely under lantana, their growth is suppressed. The removal of the lantana from the forest's edge triggers a growth explosion amongst many seedlings whilst others may be left behind or even die. This is quite normal for many of these species which produce abundant seed.

'Some native vines when concentrated on the edge of tiny rainforest remnants can have a degrading effect. By cutting particularly aggressive vines of the forest edge we can assist canopy projection and restoration. None of these vines are poisoned, instead they are simply cut and (like grapevines) will regrow.'

Glyphosate herbicides such as Roundup are being used 'very judiciously' on weeds only and safety procedures are being followed, they said.

If you wish to join in this debate, phone Greening Australia on 220076 or the Byron Environment Centre on 857066.

For background reading, the National Parks and Wildlife Service recently released a book called *Rainforest Remnants*, a collection of articles compiled from a North Coast workshop on rainforest rehabilitation.

N/Star 21/3/92

Byron rainforest clean-up labelled indiscriminate

A Jobskills clean-up of the Big Scrub remnant at Hayters Hill, near Byron Bay, has been criticised by the Byron Environment Centre as indiscriminate.

The clean-up is being conducted in conjunction with Greening Australia and is being co-ordinated by the Byron Shire Council.

A spokesman for the environment centre, Mr Richard Staples, said a protective buffer of native vines, wild tobacco and lantana had been destroyed in large areas in the clean-up.

Mr Staples said the 'mistake' could damage the area, which was an important rainforest remnant.

He said the operation allowed full sun and salt-laden drying winds into the remnant's understorey.

It also would allow access by cats, dogs and windborne exotic seeds.

The centre recommended that 'indiscriminate clearing' of the area be brought to an end and that shadecloth be erected to protect the newly exposed edges of the remnant.

But the Byron council's engineering manager, Mr Clive Dreis, said every care had been taken to protect the environment.

Mr Dreis said the two horticulturists in charge of the operation were very experienced in rainforest regeneration work.

He said they were using accepted techniques which had proved successful.

The pair had been selected to oversee the work after an exhaustive round of interviews.

Council officers regularly inspected the work.

Diary entries to Sandy on 841777

BURRINGBAR ST MULLUMBIMBY 841 550
SPECIALS
CHINCOGAN Tavern
bottle mart DRIVE-IN BOTTLE SHOP
SPECIALS

Richard

HAYTERS HILL (EASTOCK) ACTION PLAN

1. Organisation

Project Supervisors, Mark Dunphy and Peter Sheraton
7 July 1992

The following action plan will be carried out between June and December 1992. The project is funded by:

Australian National Parks & Wildlife Services	$11,190
Greening Australia	2,000
Skillshare	3,000

These funds will be used for the wages of two supervisors and purchasing trees, fertiliser and tools.

The two supervisors will train and supervise:

10 Jobskills people for 17 weeks, 3 days a week
10 Skillshare participants for 8 weeks, 4 days a week

The project will be managed and administered by Byron Shire Council and Greening Australia with assistance from: Skillshare, Commonwealth Employment Service and the land owner, Neil Holland.

2. Background Information

Eastock is a privately owned three hectare rainforest remnant located at Hayters Hill, five kilometres west of Byron Bay.

The remnant is scientifically important and has been zoned as such by Byron Shire Council. In conjunction with the landowner, the council has fenced the remnant and an additional 1.5 hectares for restoration.

The remnant is sub-tropical rainforest on basalt. It faces south on a steep rocky slope. The remnant is in reasonable condition with few weeds or large canopy breaks. Previous disturbance is thought to have been through logging, hoop pine (Araucaria cunninghamii) and cedar (Toona australis). More recent disturbances have been by stock, dumping of rubbish and weed invasion.

3. Goals

a) To restore the Eastock remnant to its original (pre-European) condition, however unrealistic that may be.

b) To expand the existing remnant by 1.5 hectares.

These two goals are not expected to be reached by the end of the project in December, they are purely goals to work towards.

4. Issues and Action

To achieve the above goals, the following issues must be addressed with appropriate actions taken.

4.1 Issues - Remnant Management

Remnants need to be managed on a whole system basis.

It is considered that remnants such as the Eastock remnant are too small to be self-sustainable in the long term (Webb et.al, 1985). Regression and deflection towards a secondary regrowth cycle is likely to occur due to exotic weed invasion, native vine domination and a lack of regenerating mature phase species.

Action

- To remove exotic weeds in such a manner as to encourage the natural regeneration processes of the remnant.
- To assist the regenerative processes of remnant by planting. This will occur in gaps and edges where the regeneration is slow or likely to be invaded by weeds. Mature phase species will be planted in gaps where secondary species are dominating and mature phase regeneration is poor.
- To encourage canopy restoration by the management of native vines. Where native vines are inhibiting regeneration by degrading the canopy and edge they will be cut but not poisoned.

4.2 Issue - Weed Control

Weeds can be controlled mechanically and chemically. A pragmatic approach will be taken to control weeds. That is the most efficient and effective techniques will be used based on funding arrangements and available resources.

The pragmatic line is drawn with glysophate (*Roundup) i.e., no chemical with a higher residual effect than glysophate will be used.

Weed control will be considered on a species by species, site by site basis. No preconceived inflexible principles will be followed.

Actions

- To physically remove madeira vine and madeira vine tubers from the site.
- To eradicate all other aggressive woody weeds, mainly camphor laurel (Cinnamomum camphora) privet (Ligustrum spp) and lantana (Lantana camara) and to mulch them on site.
- To eradicate problem weeds in such a way as to minimise follow up after the end of the project. This will be done by removing weeds by the roots or painting the stumps with glysophate.

4.3 Issue - Remnant Expansion

The planting of trees will increase the size of the remnant. Expansion will also increase the habitat value, strengthen weak or vulnerable areas and reduce the edge to area ratio by planting in the indented edges.

Species composition will be a mixture of secondary and mature phase species. Planting design will be based on the Kooyman model (*Kooyman 1991*) of accelerated succession. It is felt that this model will give the project the highest probability of success. This is especially important due to the likelihood of minimal follow-up maintenance.

Actions

- To expand the remnant on the southern indented edge.
- To use mixed species which refelects the remnants composition at approximately 1.5 metre spacings.
- To fertilise and mulch trees heavily and sow an annual cover crop between trees to control weeds.
- To install an overhead watering system to irrigate the planting over the dry months before the 1993 wet season.

Reference:

Kooyman, RM (1991), *Rainforest Regeneration, Reforestation and Maintenance - Recommendation For The Far North Coast of NSW In Rainforest Remnants*, Philips (ed.) NPWS, Sydney.
Webb, L.J., Hopkins, M.S., Young, P.A.R., Kikkawa, S., Lovejoy, T.E. (1985), *Conservation of Tropical Rainforest Isolates* the Environmentalist, Vol. 5, Supplement No. 10.

Northern Star 24/6/93

Shire to reinforce rainforest gateway theme

A network of gardening groups throughout Kyogle Shire is to be formed to establish a permanent work program to enhance the shire's 'Gateway to the Rainforests' theme.

The nucleus of the idea, which is planned to beautify the whole shire, was put before a meeting of Kyogle Shire Council this week by the manager of parks and gardens, Graeme Love.

Mr Love told the council the plan was to promote the shire's 'Gateway to the Rainforests' logo which was displayed on every letter dispatched from the council.

Mr Love said he found it strange that although the shire was at the entrance to the rainforests, nothing was done to enhance the image.

"People come here expecting to see a leafy and vine-covered environment but they don't see it — we're down here and the rainforest is up there," he said.

Mr Love said he called a public meeting earlier this year to speak to service groups, rainforest regenerators, schools and nurseries to interest them in his project.

"I had a series of sketches drawn up as a thought-provoking exercise to get people thinking of ways to promote our gateway to the rainforest," he said.

"We've drawn up a plant species list and are now calling for expressions of interest from community groups to see if they want to get involved in beautifying local areas outside their own properties."

Mr Love said that with guidance and co-operation much could be achieved by small groups of interested gardeners.

"There are already three self-help land care groups operating in Kyogle Shire and we hope that by uniting our efforts and interesting more community groups to join the project, we will be in a more attractive position to obtain funding," he said.

Mr Love said that in line with the beautification program, an easily accessible area near the caravan park had been set aside where elderly and disabled people could tend a raised garden.

He said rich alluvial soil from the approaches to the old Fawcetts Creek bridge would be used to make the raised gardens.

Mr Love said he also was investigating a Jobskills scheme which would enable the council to employ six people for six months for special projects which would give the gardening plans an injection of labour in its initial stages.

Cr Niki Gill, who is working with Mr Love to establish the gardening network, suggested the forming of a committee made up of three councillors, Mr Love and the manager of environmental services, Graeme Johnston, to co-ordinate the small groups throughout the shire.

Cr Gill said she would put her proposal to the next council meeting at Tabulam early next month.

Sam

REGENERATION OF RAINFOREST REMNANTS: THE RATIONALE

BY ROSEMARY JOSEPH.

The Impact of Weeds:

The impact of weeds on existing rainforest remnants is often highly underestimated.

Weeds have many survival strategies which contribute to their success over natives. They are extremely adaptable, and can grow and produce seed under a wide range of soils and climatic conditions. Many flower soon after germination, and may be cross-pollinated by a non-specialised flower visitor, or wind. The seeds may be spread over long distances. There are many which can reproduce vegetatively as well as producing a large number of seeds early in their life and these seeds can have a long viability and germinate at any time (Baker and Stebbins 1965).

The small size and isolated situations of these rainforest remnants leave them extremely vulnerable to constant weed invasion, particularly on their edges. Plants such as *Lantana camara* continually exert pressure and vines, both exotic and occasionally native, grow out of control. These often totally smother the edge canopy trees and young trees, causing their eventual death and collapse. This causes the "core-forest" to contract even further, and allows more weeds to invade further into the forest as the light levels increase.

It takes the collapse of only one native tree, within the forest, to open up the canopy, and the resultant gap is immediately colonised by weeds, which will outcompete and outgrow any existing native seedlings.

The remnant is now suffering the pressure of weeds from without and within, and so the cycle of destruction continues.

The effects of weed invasion can be summarised as follows:

1. They compete with native species, for nutrients, moisture and sunlight.
2. They repress the juvenile plants of the canopy species.
3. They change the food sources and habitats available to wildlife, and so can change the wildlife populations (National Trust of Australia, 1991).

4. They may destroy the very characteristics of an area for which is was preserved.
5. They will reduce the species' numbers and diversity of natives, including rare and endangered species, by displacing them.
6. They prevent the natural regeneration process continuing.

The Principles and Aims:

Weed control and bush regeneration programs should aim, in general, at the rehabilitation, restoration and maintenance of an ecosystem in which natural regeneration can occur (Buchanan, 1989).

This may be achieved in the rainforest communities of the North Coast of N.S.W. by adhering to three basic principles:

A. The resoration of a closed canopy - Rainforests are defined as a plant community having a closed canopy. Any disturbance to this in a small rainforest remnant may result in soil dessication with an adverse impact on seedling establishment of some climax species. Secondary species may thereby be advantaged, thus altering at least in the short-term, the species composition of the forest (Stockard).

According to Myers (1979), soil dessication may be an important consideration in the establishment and viability of even relatively large reserves.

Increase in light due to damaged or broken canopy will greatly encourage invasion and rapid growth of weed species.

B. The restoration of a healthy edge - It is only at the margins of the forest that expansion can occur. Similarly, it is here that contraction also takes place, due to pressure from weed species which colonise the open edge. The margin is also important in restricting wind and light. This is particularly important in the littoral rainforest remnants, where salt-laden winds can penetrate the forest.

C. The restoration of conditions on the forest floor whereby native germinations can take place unimpeded by competition from weed species. Without this next generation of plants, the forest will slowly die.

These methods have been in use in the Rotary Park Project, Lismore, N.S.W. since 1985, and are constantly adapted and modified to suit particular weed species and conditions present in each individual reserve. These methods include the careful use of herbicide - glyphosate - combined with a white marker dye. This is applied from a knapsack sprayer under low pressure, using a finely adjustable nozzle. Only "spot-spraying" is carried out, i.e., careful targeting of each individual weed. Larger plants are cut and the stumps painted with herbicide, and trees are injected and left to die in-situ.

Some manual removal of weeds is carried out in sensitive areas where the presence of plants such as ferns and terrestrial orchids makes spraying difficult and risky.

The use of these methods results in a highly efficient means of weed removal, from the soil profile to the upper canopy.

There are three main stages in the process of rainforest rehabilitation work.

1. Primary treatment - This involves the identification of all plant species, both exotic and native. All weed species then undergo initial knockdown.
2. Secondary treatment - This involves a number of follow-up treatments to control weed regrowth.
3. Maintenance - This involves only one or two treatments per year in order to control any new weed infestations, and weed regrowth.

The total area of each remnant is mapped and divided into small manageable sections, using where possible, natural landmarks to form boundaries. This allows for easy recording of daily work details, state of vegetation before and after work, species germination, problem weeds, hours worked, number of sprayings, as well as the completion of specific area, and the regeneration taking place.

These sections are worked in a systematic, consecutive manner, starting at an area which is considered to be the most important in respect to the three principles of rainforest regeneration. If possible, consideration is also given to visual impact, which is important in gaining the support of the public who use the remnant.

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Using these three principles, more specific aims can be considered.

i) The restoration and maintenance of a suitable habitat for rare native animals and plants.
ii) The restoration and maintenance of a diverse native plant community that will prevent soil erosion, especially important on creeks, rivers, headlands and beaches.
iii) The restoration and maintenance of an attractive plant community along a major walking track, so that people will continue to enjoy and use the track.

Methods:

There are several methods of bush regeneration currently in use on the Far North Coast of N.S.W.

The "Bradley Method" is often deemed to be the most successful. However, the National Trust of Australia, Bush Management Section, who were pioneers in this particular method have now identified its limitations. In their publication "Urban Bushland - A Policy Paper" (1988), the Trust emphasises the need to use a variety of methods chosen to suit the specific needs of a particular site. Some of its early concepts - that bush regeneration must proceed from the best bush towards the most degraded; that all physical disturbance is counter-productive; and that work must necessarily be slow - have not been borne out in practice.

The Bradley Method relies heavily on slow and meticulous hand-weeding techniques which cannot compete with the rampant growth of the major weed species on the Far North Coast of N.S.W. To try to control major expanses of weeds using this method is totally ineffectual and cost ineffective.

The preferred approach to bush regeneration in the rainforest remnants of the North Coast uses methods based on techniques developed by John Stockard at the Wingham Brush Project, Wingham, N.S.W.

Trained Regenerators:

To achieve a successful result from any bush regeneration and weed control program, the National Trust of Australia (Policy Paper - 1988) believes that only skilled, trained workers with practical experience in the field should be employed.

These skills must include:

1. A knowledge of plant identification, both native and exotic species.
2. An understanding of how plant communities are structured.
3. An understanding of the adverse pressures being exerted on remnant bushland, and of the means available to reverse these pressures.
4. A vision to consider any site on a "whole catchment" basis rather than concentrating on any "good" area.
5. Keen powers of observation.
6. An ability to make specific judgements based on the above, rather than attempting to mechanically and slavishly apply any preconceived, in flexible principles.

The rehabilitation of rainforest remnants is a continuing, complex project, as these remnants will never reach the stage of self-sufficiency, due to their small size and the ever-present threat of weed invasion. It will, however, involve a lower expenditure level as these areas recover and only maintenance follow-up is required.

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Rainforest Remnants

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NSW & SE QLD

EDUCATING FOR REMNANTS

The 'Remnant to Remnant' project is a three year pilot environmental education project in SE Queensland. Parent councils, principals, teachers and students fully endorse the program. Local sites are used for excursions, surveys, monitoring, data collection, planting and some fun activities. Students are keeping all the records of their work. Teachers will combine their programs at a planning workshop to produce a handbook by late 1997.

Workshops in identifying rainforest plants and propagation techniques have been successful. A community resources library about [illegible] vegetation, and a workshop [illegible] a more hands-on approach are also being prepared.

Support from local National Parks and Wildlife Service and educational institutions, private business and community members all helps. But the key to the project's success is the students," says Iris Henash [illegible] coordinator. "They just love it and we love working with them."

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RESOURCES

Bradley, J *Bringing Back the Bush* Landsdowne Press Sydney 1988

Buchanan, R A *Bush Regeneration: Recovering Australia's Landscapes* TAFE NSW 1989

NSW Dept of Agriculture *Trees for North Coast Farms* 1993

Floyd, A G *Management of Small Rainforest Areas* University of Newcastle 1984

Gilmore, A M 'Rescuing the Remnants' in *Trees for Tomorrow* Seminar Proceedings Lismore NSW 1982

Gilmour, P and Helman, C *Clarence Valley Rainforest Remnants* Read Clarence Environment Centre NSW 1991

Nicholson, N&H *Australian Rainforest Plants* vols I – Terania Forest Publishing NSW 1991

Phillips, S (ed.) *Rainforest Remnants* Workshop Proceedings NPWS NSW 1991

The Save the Bush, One Billion Trees and Waterwatch Programs are Commonwealth initiatives to assist Australians integrate nature conservation and sustainable land use. The programs aim to encourage conservation, regeneration and monitoring of native vegetation and waterways. All three programs make grants available to community groups and local councils through the National Landcare Program. For more information contact ANCA (toll free): 1800 641 717

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INTRODUCTION

The central region of the east coast of Australia is famed for its outstanding natural environment - its beaches, wide rivers, mountainous hinterland - and its rainforests.

There are four main types of rainforest that meet in this area. Cool temperate rainforest on the higher ranges; subtropical rainforest at the lower altitudes; warm temperate rainforest in between; and littoral rainforest on the coastal fringe. Yet the area of rainforest in NSW alone has been reduced by 90% since European settlement, and now consists mainly of small remnants.

The rainforest remnants need to be actively protected. The coastal region of northern New South Wales and SE Queensland has the highest population growth in Australia. Fortunately, there is also growing local community interest in protecting the remnants.

This special publication gives an overview of some of the native vegetation conservation initiatives in this region of Australia.

NATIONAL LANDCARE PROGRAM

NETWORKING THE OWNERS OF REMNANTS

The lowlands of the Richmond River in NSW once supported the most extensive area of complex subtropical rainforest anywhere on the continent. This area on the basaltic red soils between Lismore and Byron Bay was known as the 'Big Scrub'. Today it is the focus of interest and activities for a Landcare Group with a difference.

The group formed in 1992 with the aim of liaising with and advising owners of remnants.

As the group became established other landowners expressed interest. Some had very small remnants - even just a single remnant tree in a paddock! Those landowners wishing to recreate rainforest habitat are important members of the group.

The group organises field days, produces a newsletter, advises other landcare and community groups, and has placed an extension officer in Greening Australia.

The Big Scrub Rainforest Landcare Group is not limited to a single catchment area. Its members own Big Scrub remnants across a vast 75,000 hectare area.

The precious remnants of the once extensive Big Scrub are now being better managed as landowners have access to advice and information, and are able to share experiences through the Big Scrub Rainforest Landcare Group.

John Nagle
Greening Australia
Lismore NSW
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MANAGING REMNANTS

Greg Bailey, landholder and President of the Dorrigo Mountaintop Landcare Group, writes about the challenges of working with nature.

Although it is now government policy to revegetate rural lands, for a long time landholders were required to clear them. The Dorrigo Plateau is no exception - selectors had to clear the subtropical rainforest not only because these were the rules for selection, but also because they had to eke out a living from small blocks of 110-160 acres - too small for economically sustainable agriculture.

Continued on next page

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Australian Nature Conservation Agency

Continued from previous page

Despite this history, small rainforest remnants remain, although grazing pressures are causing many to slowly disappear.

The Dorrigo Mountaintop Landcare Group is fencing in these remnants to maintain and enhance the remaining trees, before establishing new areas. An essential starting point for preserving rainforest remnants is permanent stockproof fencing. Allowing stock access to remnants causes peripheral dieback, and ultimately the disappearance of stands as seedlings are eaten out and the soil compacted. Fencing remnants also enhances the benefits for adjoining crops and pastures. The remnants thicken up, and invasive weeds, such as privet, are disadvantaged as less light reaches the forest floor.

The group is also planting corridors of rainforest species, with the ultimate aim to link the Dorrigo and New England National Parks. This will not only benefit the conservation of flora and fauna, but will provide benefits to farmers (windbreaks, shade and shelter), protect the Bellinger River Catchment, and maintain the beauty of this scenic region.

Contact: *G... Bates*
Tel: (066) .. 27 .6

FLAGSHIP SPECIES FOR REMNANTS

The spectacular, but endangered, Richmond Birdwing Butterfly is inspiring a revolution in community-based conservation on the Far North Coast of NSW.

The first steps to save this once prolific butterfly were made by Ranger Bob Moffatt of the Lismore NPWS. His idea was simple - plant more of the rainforest vines that the butterfly larva feed on. This vine (*Aristolochia praevenosa*) itself had become rare through the clearing of the Big Scrub.

The CSIRO was enlisted to provide viable seed, which is rarely found on wild vines. The Balunyah Nursery, which is run by the Aboriginal community at Coraki, began a program to grow the vine commercially. The Nursery Industry Association developed a logo for the project, and returned a percentage of the sales of the logo to the NPWS for the project.

The Department of Education was approached to take on growing the vines as a school project. Local schools responded to the call, with 12 schools initially involved.

Now, thousands of vines have been planted, and the community better understands the importance of conserving rainforest remnants for local fauna. The future for the unique Richmond Birdwing Butterfly, and for the rainforest remnants, can only look bright.

David Charley
NSW National Parks and Wildlife Service, Lismore
Tel: (066) 28 11..


NSW NPWS

INVENTORIES OF REMNANTS

The distribution of rainforest in the Clarence Valley has been significantly reduced by land clearing. With little information existing about the remaining remnants, the Clarence Environment Centre received a Save the Bush grant in 1990 to complete an inventory of rainforest remnants.

A consultation process has been undertaken to enhance community awareness about the importance of small remnants, the majority of which lie outside the reserve system.

By using existing maps and aerial photographs, and encouraging community participation, remnants were identified and mapped. Professional botanists completed a floristic survey of the mapped remnants.

The survey concluded that remnants of littoral, floodplain, and plateau basalt rainforest are both rare and of significant conservation value.

Unfortunately, these areas are increasingly threatened by disturbance and decline due to their limited size.

The Clarence Environment Centre is now investigating the ways in which these highly significant remnants can be protected in the long term.

Megan Edwards
Clarence Environment Centre, Grafton
(066) 43 186.


The Balunyah Nursery

THE BUSH IS NOT JUST FORESTS
THE BUSH IS ALL THAT THE LAND IS
ITS EVERYTHING I AM, THIS LAND
ALL THAT IS AND ALL THAT WAS
AND ALL THAT IS TO COME
FOR I MUST FIND WHERE I COME FROM
TO KNOW WHERE I AM GOING
THE BUSH IS KNOWLEDGE TO ME
AND KNOWLEDGE IS ALL I AM
TO FIND THE DREAMING PLACES OF MY ANCESTORS
WOULD REVEAL TO ME MY PLACE HERE
AND PEACE I WOULD HAVE NEVER KNOWN
FROM THE BUSH

by Bobby Kelly

Bobby Kelly is a member of the Bourraville Local Aboriginal Land Council NSW (065) 64 7812

CHANGING ATTITUDES TOWARDS REMNANTS

On the far north coast of NSW a clearer perception is developing in the community of rainforest remnants. This is a welcome evolution since the turbulent days of the Terania Creek conflict.

An increasingly broad cross-section of people value and actively manage remnants. This is reflected in the formation of the Big Scrub Rainforest Landcare Group, based on the Lismore Plateau. Other Landcare groups, such as the Byron Creek Landcare Group and Fingal Head Dune Care and Reafforestation Group, also actively manage significant rainforest remnants.

One of the catalysts for this interest was the 1988 Wollongbar workshop on Rainforest Remnants. The proceedings of these were subsequently published in 1991, edited by Stephen Phillips.

More people are heeding Len Webb's 1980 words to 'let us now bend our backs and carry out the mountain of physical work needed to protect, maintain and enhance remnants. The number of people doing so may be small, but it is ever growing. As it grows, the broader public awareness of the need for, and needs of, rainforest remnants increases.

Bruce Haverford
District Manager
CaLM Murwillumbah
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COUNCIL PLANNING

The Tweed Council and Dept of Conservation and Land Management are working with the Caldera Environment Centre to compile an inventory of remnants.

The Tweed Coast is an area of high biodiversity that is subject to rapid urban expansion. Land-use planning has been undertaken without the benefit of a comprehensive database of remnant vegetation. This project will provide the database to assist Council planners. It includes a detailed set of maps and field descriptions of all remnant vegetation of the lowlands of the Tweed Coast. The database has been designed so that it can be transferred to a computer GIS.

The Dept of Conservation and Land Management is currently transcribing the maps so that they can be used on both CaLM and Tweed Council computers.

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CONTROLLING WEEDS

Members of the Numinbah Valley Landcare Group in Queensland's Albert Shire are taking action to control Camphor Laurel. Their proximity to northern NSW gives them an understanding of the enormity of the Camphor Laurel weed problem faced in this region.

The group is reducing Camphor Laurel numbers and conducting trials on the effectiveness of different methods of control. This year local school children will become involved in the propagation of native vegetation for replanting.

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