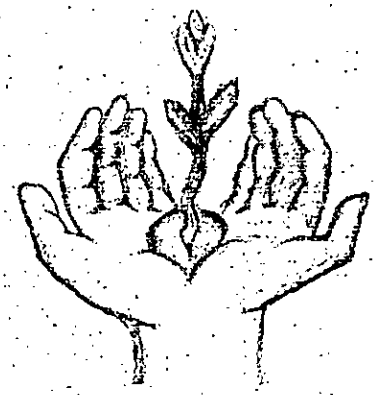


Visions of Nimbin

A Trade and Cultural Exposition

Easter 1997 from 29 to 31 March

Nimbin Community Development Association Inc.

PO Box 56
Nimbin
NSW 2480

tel
(066) 891 648
(066) 221 933

fax
(066) 891 130

All funds raised will go towards the acquisition of the Central School Site for development as a community centre and public park.

Donations to Summerland Credit Union Acc. # 29733 S12

Dear reader,

Enclosed are leaflets advertising "Visions of Nimbin", an extraordinary event taking place in Nimbin this Easter. We would appreciate it enormously if you give us a hand with spreading the word.

"Visions of Nimbin" is an unique cultural exposition and trade fair centred around the achievements, dreams and visions of our region. We want to invite our fellow Australians to see for themselves the positive contributions we are making to society. There will be up to 200 trade and market stalls and many local artists and performers.

It would be great if you could put the leaflets in a prominent place where visitors to your premises can pick them up. We thank you for your cooperation.

Please let us know if you like more leaflets or have other supportive suggestions.

Hope to see you in Nimbin this Easter.

Yours sincerely,

Saskia Kouwenberg & Russell Anderson
Coordinators

F4

11 Aug 1990

Dear Alan

Environmental Review Checklist

Please refer to this draft checklist which was tabled for comment at the March 1990 meeting of the Regional Fire Association.

This Council ~~feels~~ considers that the questions asked cannot be answered without very detailed surveys/or knowledge which ~~are~~ are not likely to be available to the District Fire Committee. It would be unrealistic to expect DFC's to know if rare or unusual flora or fauna were present or to know whether a fire trail is likely to affect such species. Such knowledge could be gained only by ~~an~~ intensive (and expensive) ecological surveys.

We feel that a better approach would be for the form of application to be broader in its approach and the attached questions may improve the approach

Once the application has been received the Regional Association in consultation with the local Council and DFC may wish to suggest modifications if the Association on the advice of an officer trained in ~~natural~~ Environmental Science, believes there ~~will~~ may be a significant impact then it will be

MANAGEMENT COMMITTEE

Edna Stride	CHAIRMAN	2 Short Street NAMBUCCA HEADS	686 063
Emmie Rogers	SECRETARY Manager Hill Share	North Arm Road BOWRAVILLE	681 613
Richard Laxton	TREASURER	PO Box 34 BOWRAVILLE	647 312
Apol. Stewart Bates	COMMITTEE Dept. Shire Clerk	Liston Street NAMBUCCA HEADS	682 255
Nash Raymond	COMMITTEE Labour hostel	North Arm Road BOWRAVILLE	647 406
Rob Turnell	COMMITTEE Radio Nambucca & TABC	South Arm Road BOWRAVILLE	647 285
Apol. Phil Maytom	COMMITTEE CES Kempsey	C/- C.E.S 59 Smith Street KEMPSEY	621 241

PROJECT ADVISORY COMMITTEE

Carmel Hong	PRINCIPAL	Macksville College of TAFE	682 222
Brenda Gadsby	WELFARE VOLUNTEER	15 Egan Street MACKSVILLE	681 377
Janet Van Spanje	TEACHER		
James Tedder	ENVIRONMENT	Pavans Road GRASSY HEAD	690 802
Ray Donovan	TEACHER	Macksville Rd BOWRAVILLE	
Ian Lyons	SECRETARY CO-OP	Hibiscus Drive VALLA BEACH	695 279
Col Garner	MANAGER Nat BK	River Street MACKSVILLE	681 000
Ken ~~Mc~~Kinnon Mackinnon	METEOROLOGIST Rotary Club	4 Waugh ~~Street~~ Ave NAMBUCCA HEADS	687 021
~~Ian O'Hearn~~ Leon Atkinson	AUTUMN LODGE CEO	18 Barrie St MACKSVILLE	681 166

necessary to undertake an EIS. If the Association believes the environmental impact will not be significant the statement of intent should be displayed for public comment.

A. Went
NCEC Rep. on N.C. Regional Fire Assoc.
Kalang

6. LETTER HEAD AND SIGN

The project staff was authorised to organise letter heads and sign for the project.

7. PROJECT ADVISORY COMMITTEEE

It was agreed that the first meeting of the Project Advisory Committee, be organised for the week beginning 20th February The next meeting will be held at 2 Star Street.

8. INCORPORATION

The Treasurer advised that we were still awaiting the confirmation of Skillshare Blanket Insurance Policy. When this is received the last barrier to incorporation will be removed.

9. ROLE OF THE CES IN SKILLSHARE

Mr Mayton explained the role of the CES in Skillshare. It is hoped that the Skillshare program may receive funding from D.E.E.T. to run job search programs.

10. OPEN DAY

It was decided to hold an open day to introduce Skillshare to the community early in March. The date is to be decided at the next meeting.

11. OBJECTIVES TO BE ACHIEVED BY THE NEXT MEETING

* Staff familiarisation and training
* Organise PAC meeting
* Publicity-picture of staff in Guardian News
* Establish resume preparation facility
* Prepare for open day
* Contact all CVP participants
* Plan for open day
* Liase with TAFE
* Investigate feasibility of an employer survey in conjunction with the CES. Also provision of drivers license training.

12. HELP EARLY LEAVERS PROGRAM

The possibility of applying for a grant under the NSW Government was discussed. The Chairperson will seek council's support for any possible approach and the Senior Co-ordinator and the Treasurer were authorised to investigate the position, and if appropriate make a submission or participate in a joint submission.

Description of the Proposed Project

Justification of the Project

What is the risk if the project does not proceed?

What alternatives to this project have been examined?

Why have the alternatives been rejected?

If the project is approved please provide a detailed description of the natural vegetation affected by the project in any way. A map should be included showing vegetation types along the route of the project

What are the slopes and soil types involved?

Will there be an increase in erosion? How will this be controlled?

Detail the *proposed* program of major activities and services.

Planning activities and services account must be taken of their potential to assist participants to obtain employment, proceed to further education or training.

NOTE: Section 6 of the SkillShare Sponsor Guidelines defines these activities and services.

(I) **Structured Skills Training**

(Note: Full-time training in excess of 4 weeks requires CES Zone Manager approval. In addition, as some trainees may not complete courses, planned Structured Skills Training should be in excess of minimum requirements.)

Course name	Location	Subject areas for course	Course duration		Course frequency	No. of places on each course	Full-time equivalent training weeks	Main disadvantaged groups to be assisted, if specifically targeted
			hours per week	weeks per course	(number per year)		(i.e. hours x weeks x frequency x no. of places ÷ 30)	
example: Office skills	Hilltown	Keyboard, filing, reception	9	6	3	12	9 x 6 x 3 x 12 ÷ 30 = 65 (approximately)	Long term unemployed
Budget Hospitality	Macksville	See attached	30	8	1	12	96	2
Construction & Engineering	Macksville	"	30	6	1	12	72	
Community Homecare	Macksville	"	30	5	1	12	60	
Retail Skills	Macksville	"	30	5	1	12	60	
Office Skills	Macksville	"	30	8	1	12	96	
							384	

Farm Hand
- basic cattle husbandry

1. We would provide places for 14 on each course and expect at least 12 to successfully complete each course.

2. All courses would be open to all members of the target group. In consultation with the C.E.S., places would be reserved for specific disadvantaged groups, for example, Abbriginals.

Driving
- car
- bus/truck

What area of vegetation will be

- cleared ?
- thinned ?

Will this be absolutely necessary for the project?

How will this be achieved?

How will the area be maintained?

Will the project go through or near (within 100 m) of any area protected under a State Environmental Planning Policy?

If yes and they cannot be avoided an EIS will be necessary

Will the project go through or near (within 100 m) of any area zoned by the local Government Council
What will be the effects?

If yes explain why the zone cannot be avoided.

Will the project ~~affect~~ any State ~~forests~~

Will the project affect any National Parks

If ~~Hhow~~ so what will be the effects and ~~could~~ are there alternatives?

~~Will the project be visible to the general~~
Will the project affect any Aboriginal sites or sites of geological interest?

SKILLSHARE

Skillshare is a Federally funded program which replaces the Community Youth Support Scheme (CYSS), the Community Training Program (CTP) and the Community Volunteer Program.

As you are aware 'Nambucca Skills Training' has received an initial grant of $105,000 for 1989, which is to be continued in 1990.

The target group that the Skillshare program will assist are long term unemployed (12 months or more) and other disadvantaged groups relevant to Nambucca.

-Young people at risk

-Aboriginal

-Sole supporting parents

-People with disabilities

-People who have lost or will loose Supporting Parent's Benefits.

The Objectives of the program are to enable long term unemployed to obtain and retain employment or to proceed to further education or training and employment related assistance including personal support and referral

How will the project be protected from abuse by the ~~great~~ public ?
e.g. dumping, fire lighting,

What has been the previous fire history

Name of officer completing

Nambucca Skillshare
2 Star Street
MACKSVILLE NSW 2447

7 February 1989.

Mr James Tedder
Pavans Road
Grassy Heads
STUARTS POINT NSW 2441

Dear James

You are cordially invited to the first meeting of the Nambucca Skillshare Project Advisory Committee which will be held at the Skillshare Training Centre, 2 Star Street Macksville on ~~Tuesday 21 February 1989 at 10am~~.

The purpose of the meeting is:

- To meet the Skillshare staff and Management Committee
- To learn more about the Nambucca Skillshare programme for 1989, its aims and objectives
- To discuss the role of the Project Advisory Committee in relation to the Skillshare programme

We sincerely hope you will be able to attend as we welcome your involvement and contributions in what we strongly believe will be a successful and worthy programme for the people of the Nambucca Valley.

I have enclosed a brief overview of Skillshare.

Yours sincerely

Emmie Rogers

PUBLIC LAND FIRE MANAGEMENT

Submission on Draft Statement

prepared by

NORTH COAST ENVIRONMENT COUNCIL

High intensity wildfires have been a regular feature of the environment before European Settlement.[1]

"In Southern Australia high intensity fires---
--- have resulted in large forest fires" and also grass fires. In the last serious fires in the S.E. of South Australia and in Western Victoria many fires occurred over pasture country though forests were burnt at the same time.

Objectives

Prescribed burning can assist to control fires in forests but as many of the most serious fires also cover large pastoral areas this technique is unsuitable as the major[2] control. Escapes from prescribed burns cause many fires There is thus a high risk of causing fire damage by too great a reliance on prescribed burning.

Habitat management does not necessarily require prescribed burning except perhaps in promoting "green pick"[3] for stock grazing or in areas where no fire ever occur.[4] Heath may require burning to maintain certain associations but as Dr H.Recher states in his article there is heavy human use of heaths and there are generally more fires in heaths than[5] is warranted.

Therefore one must conclude that the second objectiveof the statement namely
"to maintain natural environments---------- process"
is just unwarranted in the present state of our knowledge[6] and should be omitted. This is confirmed by Shea, Peet & Cheney

Strategy

Wildfire Control

It is not understood why a wildfire in a reference area might be left to burn. If the area has been subjected to a series of fires at frequent intervals there may well be need to control the fire before the reference area is changed irrevocably.

The question of fire access tracks needs much questioning. In some circumstances such tracks become access to light fires rather than suppress. They certainly provide a route for weed invasion and create soil erosion.

Prescribed Burning

The statement that "the use of fire for fuel reduction---------environmental effects" is fraught with problems. Does a pastoral property use prescribed burning to protect the homestead or is close grazing or slashing or other methods more appropriate?? This statement must be qualified by statements which refer to reduction of fuel in the immediate vicinity of property to protect life and property from wildfire. Reducing fuel by fire is only one method and one that is not always appropriate.

Non Strategic Areas

As stated above there are doubts as to whether we have enough knowledge to use prescribed burning for environmental management. Most researchers agree that there are so many complex equations and so little hard data to feed into such equations that we cannot really claim to manage environments just by burning.

Alternatives:

This section has been relegated to a secondary position in the statement whereas it should appear as part of the management of wildfire control. There are other ways to reduce fine fuel besides burning it in situ.

Prescribed Burning

The example of Western Australia is quoted as a success story for prescribed burning as an effective tool against serious wild fires. However there are more factors to consider than the suppression of wildfire over the broad area. As Shea, Peet, Cheney point out[7]. prescribed burning with low intensity fires may well encourage Phytophthora cinnamomi in those forests.

There is also the problem of fine fuel build up after a prescribed fire where quantities of fine fuel may well exceed 12 tons/ha within four years of the burn[8]. If the frequency of burning increases there are significant losses of nutrients[9].

Changing the understorey of the forest occurs with prescribed burning carried out at regular intervals and the effects of this are not fully understood.

In a series of papers on Fire on Forest Conditions[10]. it was concluded that prescribed burning can also affect timber quality as well as the type of tree species that regenerate.

There seems little justification for the final paragraph of this section when there are doubts about the ecological basis of broad acre prescribed burning and the economic arguments for doing so have not been set out.

Prescribed Burning for Environmental management

There are enough wild fires lit by arsonists or escapes from burn offs to achieve an overkill in most plant communities. Again fire as a management tool is not fully understood and prescribed burning without fully understanding the community may destroy it [11]. Wildfires may not necessarily be a disaster.[12].

Monitoring & Research

The general thrust of this section is supported. There is need however to question whether broad acre prescribed burning should be practised or encouraged in most forest situations whatever the climatic factors involved. When the knowledge of its ecological effects on many plant communities is so little understood.

Conclusion

Our Council acknowledges the need for prescribed burning of certain areas to protect life and property.

There is however need to encourage land managers to practise other methods of fine fuel reduction where such methods are economic or are ecologically necessary.

The thrust of this Statement makes prescribed burning the only tool and it does so without pointing out the costs of only using this method, or using it inappropriately.

The practice of broad acre prescribed burning has obvious ecological problems and in a paper of this nature should not be promoted.

References

1. R.Good: Adaptions of Australian Plants to Fire - Ch 6
   R.Clark:Pre history of Bushfires - Ch 7
   Bushfires, Their Effect on Australian Life & Landscape
   Macleay Museum, 1981
2. Luke & McArthur: Bushfires in Australia - pp148
   AGPS 1978
3. Various
4. M.Gill et. al. "Heaths in NSW - NSW NP & WLS 1981, pp 54-56
5. H.Recher op.cit. pp38-39
6. Shea, Peet Cheney: "Role of Fire in Forest Management"
   Fire and the Australian Biota
   Australian Academy of Science, 1981
7. Shea,Peet, Cheney, opcit. pp 464-465
8. Prescribed burning and Forest Nutrition - Ecos 42 pp9-12

PUBLIC LAND FIRE MANAGEMENT

Submission on Draft Statement

prepared by

NORTH COAST ENVIRONMENT COUNCIL

High intensity wildfires have been a regular feature of the environment before European Settlement.[1]

"In Southern Australia high intensity fires--- --- have resulted in large forest fires" and also grass fires. In the last serious fires in the S.E. of South Australia and in Western Victoria many fires occurred over pasture country though forests were burnt at the same time.

Objectives

Prescribed burning can assist to control fires in forests but as many of the most serious fires also cover large pastoral areas this technique is unsuitable as the major[2] control. Escapes from prescribed burns cause many fires There is thus a high risk of causing fire damage by too great a reliance on prescribed burning.

Habitat management does not necessarily require prescribed burning except perhaps in promoting "green pick"[3] for stock grazing or in areas where no fire ever occur.[4] Heath may require burning to maintain certain associations but as Dr H.Recher states in his article there is heavy human use of heaths and there are generally more fires in heaths than[5] is warranted.

Therefore one must conclude that the second objectiveof the statement namely "to maintain natural environments---------- process" is just unwarranted in the present state of our knowledge[6] and should be omitted. This is confirmed by Shea, Peet & Cheney

Strategy

Wildfire Control

It is not understood why a wildfire in a reference area might be left to burn. If the area has been subjected to a series of fires at frequent intervals there may well be need to control the fire before the reference area is changed irrevocably.

The question of fire access tracks needs much questioning. In some circumstances such tracks become access to light fires rather than suppress. They certainly provide a route for weed invasion and create soil erosion.

Prescribed Burning

The statement that "the use of fire for fuel reduction--------environmental effects" is fraught with problems. Does a pastoral property use prescribed burning to protect the homestead or is close grazing or slashing or other methods more appropriate?? This statement must be qualified by statements which refer to reduction of fuel in the immediate vicinity of property to protect life and property from wildfire. Reducing fuel by fire is only one method and one that is not always appropriate.

Non Strategic Areas

As stated above there are doubts as to whether we have enough knowledge to use prescribed burning for environmental management. Most researchers agree that there are so many complex equations and so little hard data to feed into such equations that we cannot really claim to manage environments just by burning.

Alternatives

This section has been relegated to a secondary position in the statement whereas it should appear as part of the management of wildfire control. There are other ways to reduce fine fuel besides burning it <u>in situ</u>.

<u>Prescribed Burning</u>

The example of Western Australia is quoted as a success story for prescribed burning as an effective tool against serious wild fires. However there are more factors to consider than the suppression of wildfire over the broad area. As Shea, Peet,Cheney point out[7] prescribed burning with low intensity fires may well encourage <u>Phytophthora cinnamomi</u> in those forests.

There is also the problem of fine fuel build up after a prescribed fire where quantities of fine fuel may well exceed 12 tons/ha within four years of the burn[8]. If the frequency of burning increases there are significant losses of nutrients[9].

Changing the understorey of the forest occurs with prescribed burning carried out at regular intervals and the effects of this are not fully understood.

In a series of papers on Fire on Forest Conditions[10] it was concluded that prescribed burning can also affect timber quality as well as the type of tree species that regenerate.

There seems little justification for the final paragraph of this section when there are doubts about the ecological basis of broad acre prescribed burning and the economic arguments for doing so have not been set out.

Prescribed Burning for Environmental management

There are enough wild fires lit by arsonists or escapes from burn offs to achieve an overkill in most plant communities. Again fire as a management tool is not fully understood and prescribed burning without fully understanding the community may destroy it [11]. Wildfires may not necessarily be a disaster.[12]

Monitoring & Research

The general thrust of this section is supported. There is need however to question whether broad acre prescribed burning should be practised or encouraged in most forest situations whatever the climatic factors involved. When the knowledge of its ecological effects on many plant communities is so little understood.

Conclusion

Our Council acknowledges the need for prescribed burning of certain areas to protect life and property. There is however need to encourage land managers to practise other methods of fine fuel reduction where such methods are economic or are ecologically necessary. The thrust of this Statement makes prescribed burning the only tool and it does so without pointing out the costs of only using this method, or using it inappropriately. The practice of broad acre prescribed burning has obvious ecological problems and in a paper of this nature should not be promoted.

References

1. R.Good: Adaptions of Australian Plants to Fire - Ch 6
   R.Clark:Pre history of Bushfires - Ch 7
   Bushfires, Their Effect on Australian Life & Landscape
   Macleay Museum, 1981
2. Luke & McArthur: Bushfires in Australia - pp148
   AGPS 1978
3. Various
4. M.Gill et. al. "Heaths in NSW - NSW NP & WLS 1981, pp 54-56
5. H.Recher op.cit. pp38-39
6. Shea, Peet Cheney: "Role of Fire in Forest Management"
   Fire and the Australian Biota
   Australian Academy of Science, 1981
7. Shea,Peet, Cheney, opcit. pp 464-465
8. Prescribed burning and Forest Nutrition - Ecos 42 pp9-12
9. ECOS 42 p. 42
10. Fire in Forest Conditions Conf 1966 NSW F.C. Technical Paper No 13
11. Heaths in NSW op cit
12. H.Recher Heaths in NSW p. 39

J. & O. Todd
25 June 1988

4 Whaites St,
Nambucca Heads. 2448.
18th August, 1990.

The President,
3 Valleys Branch, N.P.A.,
Pavans Rd,
Grassy Head.

Dear Jim,

With this REPORT OF NAMBUCCA DISTRICT SHIRE FIRE COMMITTEE held on Friday, 17th August, there is a matter of greatest urgency.

This involves approved nominees for the District Fire Committee. Under planned legislation there is to a representative of an environmental group, the only one acknowledged being the Australian Conservation Council. Nambucca Shire did not submit my name to the Regional Fire Authority as they thought it would come to them from the A.C.C. Bellingen nominated Martin Hogan to the regional body and it was approved there but has not been confirmed by A.C.C.

The first meeting of the committee to discuss the format of fire plans, control etc under the new draft legislation is meeting on 12th September. I could not be on it because of the above hitch. I feel it is necessary to have the environmental viewpoint there from the start, so would you please find out why the A.C.C. has not reponded after so many months. Maybe it could have gone to Bob Richardson of the State Fire Council and become mislaid there. As is we are not achieving the purpose for which I was intended. (They did propse someone from the Shire Planning Department but I spoke against this as most of them have no idea and would be detrimental so the opening is still there if the process is given a jolt.
I have the draft plan here of anyone wants to see it but at this stage are not for public circulation and are hard to come by.

. ....

The error of having a Fire Restriction period was discussed and in future years there may be no such period as it encourages unnecessary burn-iffs. Permits would be required for all fires with a cost of $2 to cover expenses.

With the restructuring of SRA there is no contact when fires break out in the long grass etc along the railway track. A great hazard at present as firefighters break the law if they enter SRA land without a permit.

While writing this the Shire has rung about the matter so things afe moving at this end. Do make sure they nominate me as in Bellingen, some how, it's M. Hogan instead of Alan Went who was the preferred nominee.

Dot Secomb.

Dot Secomb.

INC. 5/4/90

Mr H.Webster,
Lennox Head,
NSW.

Dear Hugh,

Thank you for the report on the N.W. Regional Fire Association of 9 March. What happens with the Environmental Review check list?

Who has to complete?
For what projects?
Who will check?
Who approves?

When new fire trails are requested what documents are prepared?

Is there any analysis of why the trail is necessary? What will it protect? What is the risk if its not constructed? Is the Association the deciding body?

You will note that at the last NCEC meeting the question of member bodies assking th represent NCC on District Bushfire Committees was drown to the Council's attention. I hopp that member bodies havee responded.

Sincerely,

J.E.O.Tedder,
Hon.Sec.

Justification
Description of area

What is the risk
Alt to fire trail

Assessment by mdlg. body

F 4

INC. 20/2/90

Secretary,
N.C.C.,
Sydney.

Dear Secretary,

Bush Fire Regulation - Bellingen District Councilor

We suggest the following nomination for the NCC to the Bellingen Council's Bushfire District Committee:

Martin Hogan,
Boggy Creek Road,
Bellingen 2453
Ph. 066 551159

A copy of this letter is being sent to the Shire Clerk Bellingen Council.

Yours sincerely,,

James L.O.Tedder,
Hon.Sec.

F4

Bush Fire Council

District Fire Ctees
- new regulations gazetted 29 Nov 89

District Ctees may be formed by Council (Local Govt) individually or jointly
- new regulation broader penetration - influence fuel management practices of authorities controlling public land previously beyond reach of Local Govt

Co ordinating Ctee will have final say as to who is appointed to District Ctee

Each L.G. Council asked to identify those whose presence on its own Dist Ctee it considers important. Co ordinating Ctee is discussing with Nature Conservation Council way of selecting nominees for Dist Ctee

Member bodies should consider approaching their local Councils to see whether they a) have a District Fire Ctee
b) ~~wish~~ intend to appoint a nominee of the NCC

If yes then the conservation body can either approach NCC direct or through NCEC to be appointed to that Ctee as their nominee.

District Fire Ctees will have extensive roles to play in fuel management policies - prescribed burning of public lands

Fire Prevention Association will also have a representative of the NCC. Association will take over the role of Regional Fire Assoc. of which Alan Went Bellingen & Plateau Cons Council represents the NCC / NCEC

PEOPLE FOR NUCLEAR DISARMAMENT

WINE OFFER

Make a toast this Christmas to International Peace and Disarmament with a quality Victorian dry white, or a quality Victorian dry red wine, from the People for Nuclear Disarmament.

We have had our own label put on several hundred dozen bottles of premium quality wine from the Lake Boga district of Victoria.

Why buy a dozen?

To have at your office Christmas party.
To have on your Christmas dinner table.
To toast in a peaceful decade.
To give away as presents.
To have on hand when friends drop by.

Because we have made a bulk purchase, we can offer you this quality wine, with a unique label, at a reasonable price.

WINE ORDER

Indicate number of dozen required

- Disarming White ($6.50 per bottle) $78 per dozen..... ☐
- Disarming Red ($6.50 per bottle) $78 per dozen..... ☐
- Mixed dozen (6 white, 6 red) $78 per dozen ..... ☐

Free delivery in Metropolitan area for one dozen or more

Deliver to

Name.....

Address.....

.....Postcode.....

Phone.....

Cheque or Bankcard ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

To PND PO Box A243 Sydney South NSW 2000

TO: Three Valleys NPA Branch. 2.2.90

REPORT ON 19TH MEETING OF NAMBUCCA SHIREDISTRICT FIRE COMMITTEE.
A very long meeting taking all day.Most time was spent discussing the regulations regarding changes to the Bush Fire ACT 1949.This was not handed out till 10 to 9 a.m so there was not much room for fruitdul input.However,there was a lot of concern over the composition of the Fire Committees.A member of the Nature Conservation Council may now be a member with full votimg rights.

I am seeking this nomination as I have attended meetings of this committee sinvce being the nominated observer of NPA.However,this has to come from above and the FCO of nambucca Shire has suggested our local NPA writes to the fo; ;owing nominating me and sending a copy of the letter to the NCC.Our FCO needs it mid February so it can be to the Regional Fire Officer by the end of February.

The Secretary,
Bush Fire Council of NSW,
Attm Mr Robert Richmond,
175-179 James Ruse Drive,
Rose Hill. 2142.

His phone number is:
(02) 6383625

For Sydney if they want to ring him.

See page 11, part (e)
It is interesting to note Bellingen has put in Alan Went without any of this problem and I douht if he ever goes to District meetings.I did point out our NPA also takes in the Bellingen Shire.

. . . . . .

Cr Max Graham chaired the meetings in the absence of Cr Nordon Braithwaite.

There will be a big meeting of all personnel concerned with a fire situation in Grafton on 7 & 8 August to see if they can get The Act and THEIR act tohether,

A letter from a resident near Scotts Head (Ridgeway?) brought the following decision from the meeting.
That where a bulldozer etc has built a track etc in the urgency of the situation,after the fire situation has gone,a matter of days, the FCO shall get his personnel to 'Pretty up' the track so that other drainage and formerly done work for erosion,fire trails,is not impaired.

Re clearing of rubbish from fire trails:they will be slashed and/or mown.it has been noticed that native grasses and re growth is occurring and the fire hazard grasses are reduced.. (yes.I heard it properly)

An interesting pamphlet on Reducing Fire Hazard on Rural properties was semt out by Bellingem Sjire woth 5000 rate notices.
Trails will have one name:not a Forestry and Shire name.

Maps of all bushfire trails to be given to all brigades: not only those of the area concerned.Useful om big fires.

F4

Bush Fire Council of N.S.W.

NORTHERN REGIONAL OFFICE

Level 3 SOB
Victoria Street
Grafton, N.S.W. 2460 94

P.O. Box 1
Grafton, N.S.W. 2460 94

Telephone: (066) 42 0644
Facsimile: (066) 42 0581
~~Telex AA66666~~

Facsimile Transmission

FROM....NORTHERN REGIONAL OFFICER.....
.....V. BROWN.....

TO.....BELLINGEN SHIRE F.C.O.....
.....COL. FITZGERALD.....

SUBJECT..B.F.C....CIRCULAR — 2/90.....
..DISTRICT...FIRE...COMMITTEES —.....
...For discussion at D/C. Meeting —.....
...WEDNESDAY...31st. Jan — (Membership).....

.....12.. PAGES TO FOLLOW.

The Town/Shire Clerk

Dear Sir,

CIRCULAR NO 2/90

DISTRICT FIRE COMMITTEES

I refer to the Bush Fire Council's two recent circulars 29/89 and 37/89 dealing with amendments to the Bush Fires Act, 1949.

Circular 37/89 indicated (see page 3 of that letter) that Regulations establishing District Fire Committees had been gazetted but that councils should await further advice from the Co-Ordinating Committee before taking further action.

A copy of the Regulations, which appeared in Gazette No. 116 of 29th November, 1989 is attached for your council's information. The Regulation referring to Regional Fire Associations is included in the attachment merely for the sake of completeness, and has no relevance to the purposes of this letter.

1. District Committees

As a first step, and before embarking on the actual process of s.41A plan development, the Co-Ordinating Committee wants to settle the composition of each District Committee and is now issuing an invitation to councils to identify the persons they wish to have accredited as members.

1.1 District Committees may be formed by councils individually or jointly. Whether or not a joint committee with a neighbouring council is the preferred option is for councils to consider in the first instance.

1.2 Councils in the Schedule 3 area all have a District Committee already. This Committee will now however have a much broader function than in the past, by virtue of the expanded planning provision contained in the recently amended s.41A. It may be therefore that councils should now take the opportunity to ensure that the composition of their District Committee truly reflects the balance of responsibilities in their area.

../2

1.3 Very few councils in the s.17 area of the State have, or indeed have needed to have, representative District Committees of the kind now being set up. Some of these councils, where there are no public authorities with fire fighting responsibilities may not see a need to do so and their views in this regard will be respected by the Co-Ordinating Committee, should they wish to maintain the status quo.

However it should be pointed out that the process for influencing the fuel management practices of authorities controlling public land, a process previously beyond the statutory reach of local government, relies on the advice tendered through the medium of a draft s.41A plan to the Co-Ordinating Committee. So also does the privilege of making more comprehensive and legally recognised local fire fighting arrangements for public lands than those contained in s.51 of the Act as amended. In both cases a properly established District Committee is a prerequisite.

2. <u>District Committee Membership</u>

The Regulation contains a list of people and/or offices whose presence on the Committee may or may not be important depending on local circumstances. There is also provision for inclusion of others not specifically named, but whose presence may also be important.

Inclusion of all those listed in the Regulation is expected unless the organisation in question has in the Council's and the Co-Ordinating Committee's view, no interests or responsibilities in the area. An organistaion which declines to become involved cannot be made to but it will of course not be in a position to influence the Committee's planning or operational recommendations which may affect it.

2.1 The Co-Ordinating Committee will have the final say on who is or is not to appear on the District Committee, in recognition that it is the advice of the District Committee to which the Co-Ordinating Committee is being asked to give effect in approving and giving the force of law to firefighting and fuel management plans. The Co-Ordinating Committee thus feels that is is entitled to specify whence it receives such advice, but is more than prepared to concede that the council's view as to who are the best advisors for its area must carry considerable weight.

../3

2.2 The Co-Ordinating Committee is however anxious to preserve the position of the firefighting authorities and, as has previously been indicated to Schedule 3 councils, regards these as forming an "executive" whose special views on matters relating to the planning of co-operative and emergency firefighting have to be taken into account, possibly ahead of those of other District Committee members. Resolutions which convey completed s.41A planning to the Co-Ordinating Committee for approval or variation will accordingly require the consent, or failing that a statement of dissenting minority views, of the four prescribed organisations which for this purpose constitute the executive of the District Committee.

2.3 The people council lists will all be "members" of equal standing.

Provision exists within the normal latitude accorded to a Chairperson to invite others not listed, whether on a permanent or an ad hoc basis, to be present as observers. It is the Co-Ordinating Committee's wish however that District Committees do not become a public forum. If this were to happen the ability of the Committee to influence its major players would certainly fail.

The Co-Ordinating Committee in this respect does not consequently consider that an organisation which has a presence in any area merely as a rural advisory body without direct or indirect responsibilities which impact upon the conduct of bush fire affairs, is automatically to be invited to membership of a District Committee.

2.4 Changes of membership because of official transfers and so on are a matter for the Council itself to record and acknowledge.

See Bush Fires Act, s.41A(1)
- Local Government/Bush Fire Brigades
- N.S.W. Fire Brigades
- Forestry Commission of N.S.W
- National Parks & Wildlife Service

3. Council Action

Each council, guided by the list in the Regulation, is now asked to identify those whose presence on its own District Committee, that it, (the council), considers important. This list together with a recommendation if any, for a joint committee should be furnished as soon as practicable to the Regional Officer for discussion and advice, after which it will be considered by the Co-Ordinating Committee.

3.1 In reaching a conclusion about membership the council may wish to be guided by its existing District Committee, or to consult with those involved, but this is not a necessary prerequisite.

3.2 Nomination of the office may be sufficient to identify the individual, but the name of the encumbent is also helpful to indicate to the Co-Ordinating Committee that the Council is clear on who is actually the accredited Committee member.

In the case of Clause 7(e) of the Regulation arrangements are being discussed by the Co-Ordinating Committee direct with the Nature Conservation Council for the purpose of selecting nominees.

In the case of Clause 7(f), this person in the Schedule 3 area, will be the existing approved Primary Nominee unless he is already a member of the Committee in some other capacity.

Elsewhere the most senior of the gazetted s.17 nominees should be invited.

3.3 Where the list provided by the council omits a person or organisation mentioned in the Regulations a cogent reason for doing so is expected to be provided. Similarly when a person or organisation not specifically mentioned in the Regulations is to be included.

3.4 Councils in the Schedule 3 area have had District Committees for several years. These Councils should nevertheless submit a list of the persons on their Committee even if no changes are intended, and have this ratified.

3.5 Many councils outside the Schedule 3 area have developed committees for advisory purposes, sometimes as formal committees of council but mostly not, and drawing heavily upon bush fire brigade participation. The Co-Ordinating Committee prefers such Committees to be reshaped to fit the District Committee role, rather than indulging in wasteful or competitive duplication. Provided they can be adapted to include important public authorities and as a result reflect the balance of bush fire responsibilities in the area they can be expected to be acceptable.

3.6 When a public authority has two or more of its administrative units in a single local government area, it will be expected to indicate to the council in due course who the single representative is going to be.

4. General

Once the composition of the District Committee has been agreed to by the Co-Ordinating Committee it will be a local affair to convene the Committee from time to time to perform the functions listed in the Regulations in accordance with advice and guidance provided by the Co-Ordinating Committee. A comprehensive document for this purpose is now being prepared and is expected to be available about the time that the composition of individual Committees is finalised, i.e. by about March 1990 or thereabouts.

When it appears, this document will initiate extension of District Committee involvement into the new areas of 41A planning created by the amendments to the Act. Committees should wait until then to embark on formal planning of fuel management and sub-emergency arrangements. If District Committees desire to establish such arrangements in the meantime, it should be done on the basis of the specific formal approval of the authority concerned.

Yours faithfully,

T. J. ANDERSON
SECRETARY

BUSH FIRES ACT 1949 - REGULATION
(Bush Fires (District Fire Committees and Fire Prevention Associations) Regulation 1989)

HIS Excellency the Governor, with the advice of the Executive Council, and in pursuance of the Bush Fires Act 1949, has been pleased to make the Regulation set forth hereunder.

TED PICKERING,
Minister for Police and Emergency Services.

PART 1 - PRELIMINARY

Citation

1. This Regulation may be cited as the Bush Fires (District Fire Committees and Fire Prevention Associations) Regulation 1989.

Commencement

2. This Regulation takes effect on 1 December 1989.

Definition

3. In this Regulation:
"the Act" means the Bush Fires Act 1949.

PART 2 - DISTRICT FIRE COMMITTEES

Constitution of District Fire Committees

4. (1) The Co-ordinating Committee may constitute a District Fire Committee for an area which is not wholly within a fire district (within the meaning of the Fire Brigades Act 1909) if, at the request of the Co-ordinating Committee, a council for the area agrees to form the Committee.

(2) A District Fire Committee may be constituted in accordance with subclause (1) for 2 or more adjoining areas if the councils for the areas agree to form the Committee conjointly.

(3) A District Fire Committee is not to be incorporated and is not to be a committee of a council under the Local Government Act 1919.

(4) If the Co-ordinating Committee requests a council, or 2 or more councils, to form a District Fire Committee for an area or locality and the council or councils do not agree, within a time specified by the Co-ordinating Committee, to form the District Fire Committee, the Co-ordinating Committee may form and constitute the District Fire Committee.

Functions of District Fire Committees

5. (1) A District Fire Committee must, when requested, assist:

(a) the Co-ordinating Committee in the exercise or performance of its powers, authorities, duties and functions under section 41A of the Act; and

(b) the Co-ordinating Committee or a Fire Prevention Association operating in the area or locality of the District Fire Committee in the exercise or performance of its powers, authorities, duties and functions under sections 41B and 54 of the Act.

(2) A District Fire Committee may draw to the attention of the Co-ordinating Committee, a prescribed organisation (within the meaning of section 41A of the Act) or a public authority exercising functions within the area or locality of the District Fire Committee any matter it considers relevant to the protection of lands, life or property in the area or locality from the impact of bush fires.

(3) A District Fire Committee has no power to conduct or take part in firefighting or fire prevention operations authorised by the Act or any other Act, regulation, by-law, ordinance or rule.

Conduct of District Fire Committees

6. Rules with respect to the conduct and procedure of a District Fire Committee are to be made by the Co-ordinating Committee on the advice of the council or councils for the area or locality of the District Fire Committee.

Members of District Fire Committees

7. Unless the Co-ordinating Committee determines otherwise, the following persons are to be invited to become members of a District Fire Committee for an area or locality:

(a) the President or Mayor or a councillor or alderman nominated by the council or councils for the area or locality;

(b) the person specified by each of the following organisations as being in charge of its affairs in the area or locality:
the Forestry Commission of New South Wales
the National Parks and Wildlife Service
the Board of Fire Commissioners
the Police Force
the relevant electricity supply authority (within the meaning of the Electricity Act 1945) for the area or locality
the Health Administration Corporation (constituted by section 9 of the Health Administration Act 1982) with respect to ambulance services
the State Rail Authority;

(c) the fire control officer appointed by the council or councils for the area or locality or, if the area or locality has not been declared to be a bush fire district under section 25 of the Act, a bush fire brigade captain or group captain of bush fire brigades for the area or locality;

(d) a person specified by each such council as being responsible for the exercise or performance of its powers, authorities, duties and functions under the Environmental Planning and Assessment Act 1979;

(e) a person nominated by the Nature Conservation Council of New South Wales and resident within the area or locality;

(f) if the area or locality of the District Fire Committee is within an area or part of an area mentioned in Schedule 3 to the Act, a person nominated by the Chief Co-ordinator;

(g) not more than 2 persons chosen by bush fire brigades operating in the area or locality in the manner determined by the council or councils for the area or locality;

(h) any other persons nominated by the council or councils for the area or locality and approved by the Co-ordinating Committee.

PART 3 - FIRE PREVENTION ASSOCIATIONS

Approval and formation of Fire Prevention Associations

8. A Fire Prevention Association is to be taken to be formed, or an existing body is to be taken to be approved as a Fire Prevention

Association, by the Co-ordinating Committee when a resolution of the Committee to that effect is made and recorded in the minutes describing the geographical extent of the Association's territory and listing its members.

Functions of Fire Prevention Associations

9. In addition to the powers, authorities, duties and functions conferred or imposed on a Fire Prevention Association by sections 22A and 41B (1) (h) of the Act, an Association:

(a) may, at the request of the Co-ordinating Committee, assist the Committee in the exercise or performance of its powers, authorities, duties or functions under section 41A or 41B of the Act; and

(b) may deliberate on any matter relating to the prevention, suppression or control of bush fires and address any of the bodies who are invited to specify a representative to be a member of the Association on any such matters which are relevant to the Association's territory; and

(c) may consult and discuss with the Co-ordinating Committee matters relating to the prevention, control or suppression of bush fires.

Members of Fire Prevention Associations

10. The Co-ordinating Committee may invite any one or more of the following persons to be members of a Fire Prevention Association:

(a) a representative from each council for an area within or partly within the Association's territory;

(b) the senior regional officer, or a deputy of that officer, of each of the following bodies:
the Forestry Commission of New South Wales
the National Parks and Wildlife Service
the Board of Fire Commissioners
the Department of Planning
the Soil Conservation Service of New South Wales
the Roads and Traffic Authority
the Water Board

the Police Force
the Department of Lands
the State Rail Authority;

(c) a person resident in the territory of the Association, nominated by the Farmer's Association of New South Wales;

(d) a person resident in the territory of the Association, nominated by the Nature Conservation Council of New South Wales;

(e) a fire control officer nominated by the fire control officers for any bush fire district within or partly within the territory of the Association;

(f) any other person approved by the Co-ordinating Committee.

Chairperson of Fire Prevention Association

11. A Fire Prevention Association is to elect, in such a manner as it determines, a person to be Chairperson of the Association.

Executive officer of Fire Prevention Association

12. The Co-ordinating Committee is to appoint a person to be executive officer of a Fire Prevention Association but that person is not by virtue of that appointment a member of the Association.

Quorum

13. The quorum for a meeting of a Fire Prevention Association is two-thirds of the persons approved by the Co-ordinating Committee as members of the Association.

Decisions of Fire Prevention Associations

14. (1) A decision supported by a majority of the votes cast at a meeting of a Fire Prevention Association at which a quorum is present is to be the decision of the Association.

(2) A decision of a Fire Prevention Association relating to the prevention, control or suppression of bush fires has no effect unless approved by the Co-ordinating Committee and included by the Committee in a plan of operations for the Association under section 41A of the Act.

Presiding member

15. (1) The Chairperson is to preside at all meetings of the Association at which the Chairperson is present and, if the Chairperson is absent from any meeting, a member elected by the members present is to preside at that meeting.

(2) The person presiding at any meeting of the Association is to have a deliberative vote and, in the event of an equality of votes, a second or casting vote.

NOTES

TABLE OF PROVISIONS

EXPLANATORY NOTE

The object of this Regulation is to provide for the formation, constitution, functions and procedure of District Fire Committees and Fire Prevention Associations under the Bush Fires Act 1949.

NORTHERN REGION

..... COUNCIL DISTRICT FIRE COMMITTEE

MEMBERSHIP

1 Councillor / Alderman _____

2 Forestry Commission of NSW _____

3 National Parks & Wildlife Service _____

4 NSW Fire Brigade _____

5 NSW Police _____

6 Northern Rivers Electricity _____

7 NSW Ambulance Service _____

8 State Rail Authority _____

9 Soil Conservation Service _____

10 Fire Control Officer _____

11 Dept of Planning (Town Planner) _____

12 Nature Conservation Council (Co-Ordinating Committee) _____

13 Co-Ordinating Committee (Primary Nominee) _____

14 Bush Fire Brigades x 2 _____

15 Any Other Person _____

NORTHERN REGION

..... COUNCIL DISTRICT FIRE COMMITTEE

MEMBERSHIP

1 Councillor / Alderman _____

2 Forestry Commission of NSW _____

3 National Parks & Wildlife Service _____

4 NSW Fire Brigade _____

5 NSW Police _____

6 Northern Rivers Electricity _____

7 NSW Ambulance Service _____

8 State Rail Authority _____

9 Soil Conservation Service _____

10 Fire Control Officer _____

11 Dept of Planning (Town Planner) _____

12 Nature Conservation Council (Co-Ordinating Committee) _____

13 Co-Ordinating Committee (Primary Nominee) _____

14 Bush Fire Brigades x 2 _____

15 Any Other Person _____

F4

9 Feb 90

INC.

R.Richmond,

the Secretary,
Bushfire Council,
Unit 175-179 James Rouse Drive,
Rose Hill 2142.

Dear Secretary,

Please refer to your circular 2/90 District Fire Committees regarding the revised composition of these Committees.

We wish to nominate through the Nature Conservation Council the following for appointment under section7(e) of the Bush Fires Act 1949 - Regulation

Mrs D. Secomb,
4 Whaites Road, for Nambucca Shire
Nambucca Heads 2448 District Committee

A copy of this letter is being forwarded tothe Nature Conservation Council.

Yours faithfully,

James L.O.Tedder,
Hon.SEc.

F4

REPORT OF NAMBUCCA/BELLINGEM BUSH FIRE PROTECTION COMMITTEE MEETING

held in the council chambers at Macksville on 30th August,1989.

1.Regional Forrester,Brian Salter,absent because of demonstration against logging operations in plateau forest near Elands.
2.Bush fire trails in both shires have been cleared,under supervision from soil conservation officers.
following this many tracks/roads are now litterd with trees blown over by the strong winds of 29th August.
3.There has been a greta improvement in relations with people formerly not taking fir eprecautions with their houses.
4/The emergency number '000' was strongly criticised as there is a time lag especially in rural areas.
The meeting wished a letter written to fire authorities making it necessary to get the name of a))) caller and a call-back telephone number.
People are to be encouraged to use the direct number to their particular brigade which has the necessary local knowledge.

The erst of discussions related to interactions and compliaances between fire and emergency bodied.

Personal note.

Bodies such as the Forestry Commission are becoming more co-operative in giving out daily communications on burns. This helps the general comminity and keeps the burners aware that ½eople are concerned about what they do and how they do it.

Dot Secomb
NPA Observer.

To Three Valleys Branch,
N.r.A.

11.8.88

REPORT FROM MEETING OF BUSH FIRE PROTECTION COMMITTEES held 10.8.88

Another fruitful meeting with nothing new introduced and nothing on fire trails, burning off etc.
Two issues claimed most of the meeting time.
1. Bush fire protection and strategey felated to rural dwellings or multiple occupancy lots.
2. A proposed FIRE MANAGEMENT PLAN for the North Coast Region to fit in with the overall Regional Development Plan.

After lunch the F.C.O. of the Bellingen Shire showed a set of slides of homes built in remote areas of his shire. This was enlightening as the visual impact of a scene is much greater in these cases than the written word and I shall make my persona l comments later in this report.

. . . . . .

MATTER 2. A copy is enclosed.

Matter 1. RURAL RESIDENTIAL/MULTIPLE OCCUPANCY.

This matter was raised six months ago in my report. I wrote an article for the Advocate and copy of this is now forwarded.

I also send a copy of the minutes of the May meeting which I could not attend. It was deferred and I was in Sydney at that time.

The minutes speak for themselves.

I would like to add my comments after seeing the slides yesterday. There were 41 dwellings in the two valleys in the Thora area. Of these seven were legal: had council approval. These dwellings, in most cases reminded me of Indian funeral pyres. People are coming into this area who maybe love the bush or are escaping the city rat-race, but have a poor understanding of their environment. They are not only endangering themselves but the natural environment hitherto not, or minimally, disturbed by the activities of the human race.

The dwellings shown were on hillsides or mountainsides of steep gradient, sometimes one above the other. Not only are they increasing the fire hazard, they encourage erosion, and the despoiling of vegetation below them. As I said most of these dwellings were illegal, relatively inaccessible and hard to find. As a group which is environmentally sensitive I think this is an issue we could look into.

Many people associate only the radical "greenie" with conservation groups. I feel that most of the people who have erected the ' problem' dwellings are greenies. Maybe they know something of the trees they love but little of their area and maybe it is up to us to make them aware. I feel this is the problem. People can be very much educated but still be unaware.

. . . . . .

I hope to be able to do a slide set on this matter and if so the N.r.A. will see it.

Dorothy Secomb.

P.S See note on page 5 of enclosed minutes for May.

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

OPENING

The meeting was chaired by Cr. Max Graham and all delegates were made welcome to the meeting.

PRESENT

Mr. Col Fitzgerald (Fire Control Officer, Bellingen Shire Council)
Mr. Richard Barker (Bellingen Shire Council)
Cr. Max Graham, Chairman, (Nambucca Shire Council)
Mr. Wal Kelly (Fire Control Officer, Nambucca Shire Council)
Cr. J. M. Ainsworth (Delegate, Nambucca Shire Council)
Mr. Richard Beaumont (N.S.W. Police Department, Macksville)
Mr. Eric McFarland (Northern Rivers Electricity)
Mr. C. Martin (N.S.W. Ambulance Service, Coffs Harbour)
Mr. John Gardner, (A. Rep., B.F.B. Nambucca Shire)
Mr. John Taylor (State Rail Authority)
Mr. Ian Elsley (District Forester, Forestry Commission, Urunga)
Mr. Peter Busby (Forestry Commission of N.S.W.)
Mr. Ralph Martin (Bellingen Multiple Occupancy Action Group)
Mr. Leath Ducat (Fire Control Officer, Kempsey Shire Council)
Mr. Peter Butler (Fire Control Officer, Coffs Harbour).
Mr. Brian Keats (Nambucca Rural Residents)
Mr. Joe Berg (Captain, Kalang Bush Fire Brigade)
Mr. J. Brownlee (S.G.C. Bellingen)
Mr. Grant Osborne (State Rail Authority)
Barry Swan

APOLOGIES

Apologies were received and accepted on the motion of C. Fitzgerald and seconded by R. Barker. CARRIED.

Mr. Charles Martin (N.S.W. Ambulance Services, Coffs Harbour)
Mr. John Murray (Forestry Commission, Dorrigo)
Mr. Vic Brown (Regional Officer, Bush Fire Council)
Mr. A.M. Preston (Captain, Gleniffer)
Mr. Peter Evans (National Parks & Wildlife Services, Dorrigo)
Mr. Phil Edwards (Lands Office, Grafton)
Inspector R. Levitt (Board of Fire Commissioners)
Mr. Trevor Miller (Bush Fire Brigade, Nambucca Shire)
Mr. Kevin Franklin (State Emergency Services, Bellingen)
Mr. Reg Telford (Police, Bellingen)
Mr. Bruce Tait (B.O.F.C., Bellingen)
Dot Seacomb NPA..

MINUTES

The Minutes of the Thirteenth meeting were circularised, read and confirmed on the motion of R. Barker and seconded P. Busbyon. CARRIED.

BUSINESS ARISING FROM MINUTES

There was no business arising from the minutes.

.....Executive Officer.....Chairman

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

CORRESPONDENCE

RESOLVED that Letters 1 to 4; 6 to 14; 16 and 17, and late correspondence letters 20 to 22, be received and noted on the motion of J. Ainsworth and seconded J. Berg. CARRIED.

(Letter 5) was discussed and resolved that the Coffs Harbour City Bush Fire Protection Committee be advised of the following:

1. That one Bush Fire Brigade representative to the Regional Fire Association is considered adequate and should remain unchanged.

2. That the appointment of a Bush Fire Brigade delegate to the Association should be at Association level and not at Bush Fire Brigade level. Nominations for a delegate to the Association be submitted by each District Committee after consultation with local Bush Fire Brigades of the area.

3. That the boundaries of the Association should not be altered.

Moved: P. Busby, seconded B. Swan. CARRIED.

(Letter 15) Re Co-ordinating Committees information on N.S.W. Fire Brigades "in Orders" policy.

RESOLVED that no action be taken to incorporate "In Orders" of the N.S.W. Fire Brigade into this Committees Co-ordination Fire Plan until instructed by the R.F.A. or the Co-ordinating Committee to do so.

Moved: C.Fitzgerald, seconded J. Ainsworth. CARRIED.

(Letter 18) It was resolved that the advice from the Minister for Police and Emergency Services be received. Sergeant Beaumont indicated that, where appropriate, after hours home telephone numbers of local police officers could be given to emergency personnel to alleviate the time delay problem experienced.

(Letter 19) Circular 9/88 re Environmental Planning legislation:

RESOLVED that a reply to the circular be held in abeyance until the results of a meeting of 20th July, 1988, with the Regional Officer Vic Brown, Fire Control Officer and Town Planner were made known.

Moved:- J. Ainsworth, seconded P. Busby. CARRIED.

.....Executive Officer.....Chairman

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

GENERAL BUSINESS

1. Circular 25/87:

Mr. Brian Keats representing Nambucca District local rural community groups situated in bush fire prone areas addressed the Committee and raised the following points:-

(a) That determination of the number of people and residences in bush fire prone areas should be determined in the field;

(b) That communication between new settlers and bush fire brigades should not be seen as "an authority" but rather a community based organisation;

(c) New settlers volunteering for brigade duties seemed to be alienated by the older more experienced member and that a breakdown of this barrier is essential for the brigades to survive to retain members for the future;

(d) The bush fire captains or Fire Control Officer should take a more active role in pointing out fire hazards and fire risk areas to the new settlers and of how to go about minimising these problems by consultation in the field.

Mr. Keats' address drew the following comments from committee members present:-

Mr. Barker

That communication between the brigades and the rural populations will remain a problem whilst ever apathy is shown by the local residents in not supporting their brigade by way of manpower to assist with bush fire mitigation measures.

Mr. Ainsworth

Indicated that new settlers are not carrying out basic level fire hazard reduction works sufficient to minimise the risk of losing property by fire and that if this "basic homework" was carried out, it would make the task of bush fire brigades a lot easier to administer.

.....Executive Officer.....Chairman

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

GENERAL BUSINESS (continued)

1. Circular 25/87: (continued)

Mr. Ralph Martin

Representing the Bellinger Valley local rural community group then address the Committee and offered several points of view:-

- That most rural M.O. dwellings whether illegal or otherwise are not covered by a fire insurance as the attitude of the owners is such that if the dwellings burn down then such dwellings can be replaced without a great deal of expense since the type of the building materials used is in keeping with the natural environment.

Mr. Martin's comments drew several replies from the Committee members.

Sergeant Beaumont

Expressed concern that in the event of these dwellings being lost by the act of fire and such fires was attended by the local brigades, brigade members placed their lives at risk not knowing that it didn't really matter if the dwellings did burn. Communication between the brigade and new settlers in this regard is highly essential to prevent the necessary loss of life.

Mr. B. Swan

Indicated that new settlers must of necessity be supporting their brigade to ensure that risk of bush fire threatening rural dwellings is minimised.

Mr. L. Ducat

Quoted the "Dondingalong" Kempsey experience whereby new settlers in this rural community group have co-opted readily with their brigade to minimise the risk of fire threatening rural dwellings.

Cr. Max Graham

Quoted the inherent fire problems associated with new settlers in the upper reaches of the Upper Buccrabendinni and of the devastating fires of 1968 which ravaged that Valley.

.....Executive Officer.....Chairman

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

GENERAL BUSINESS (continued)

1. Circular 25/87: (continued)

The Chairman, Cr. Max Graham, thanked Mr. Keats and Mr. Martin for their attendance and input to the meeting and felt that all views expressed could only benefit the rural community.

It was RESOLVED that a working party comprising the Chairman, Executive Officer and the Brigade Captain of the Upper Buccrabendinni area meet with the residents at a suitable time and discuss the problems associated with bush fire mitigation in the area and report back the findings to the next meeting. * This meeting was most successful and after seeing slides of the People of the area have formed their own brigade, coming under that of Argents Hill. 23/11/88.

Moved: B. Swan, seconded J. Ainsworth. CARRIED.

2. Co-ordination Fire Plan was amended from advice of the delegates present.

3. The Operational Structure of Fire Control Organisation document was presented by P. Busby and discussed at length.

It was resolved that the document be adopted and incorporated as an appendix to Clause 9 of the Co-ordination Fire Plan subject to ratification of the Co-ordination Committee of Bush Fire Council of N.S.W.

Moved: J. Ainsworth, seconded B. Swan. CARRIED.

It was also resolved that when appropriate a simulated exercise be undertaken at administration level (not in field) to test the soundness of the document particularly in regard to operational staffing procedures and communications.

Moved: B. Swan, seconded J. Ainsworth. CARRIED.

4. Fire Trail Maintenance 1987/'88

The Executive Officer indicated that all 1987/88 fire trail maintenance has been carried out and that fire trail marker signs were in the process of being prepared and erected at a future date.

.....Executive Officer.....Chairman

MINUTES OF THE FOURTEENTH MEETING OF THE NAMBUCCA SHIRE DISTRICT BUSH FIRE PROTECTION COMMITTEE HELD IN THE COUNCIL CHAMBERS, MACKSVILLE, ON WEDNESDAY, 25TH MAY, 1988, COMMENCING AT 10.00 A.M.

NEXT MEETING

The next meeting of the Committee will be hosted by the Bellingen Shire Council at the Urunga Bowling Club on Wednesday, 10th August, 1988, commencing at 10.00 a.m.

CLOSURE

There being no further business the meeting closed at 12.57 p.m.

Confirmed and signed by the Chairman on .....

.....Chairman

.....Executive Officer.....Chairman

NORTH COAST FIRE CONTROL OFFICERS MEETING

RURAL RESIDENTIAL DEVELOPMENT - MULTIPLE OCCUPANCY

At a meeting of North Coast Fire Control Officers held at Grafton on 20th July 1988, consensus was reached on problems associated with providing fire protection to Rural Residential Development and Multiple Occupancy.

Overall the problems associated with providing protection to such developments becomes a very complex issue, thus the following headings although brief, were issues raised and agreed to by all, that require further expansion and refinement.

1 Suitable Access - through road, width, passing, turn around.

2 Water Supply - each dwelling, large storage, reticulated, suitable plumbing.

3 Perimeter Trails - radiation zones, (refer D.E.P. Circular 74) inner, outer.

4 Fuel Reduction - within and surrounding, method, slashing, burning.

5 Dwelling Design - material, roofing.

6 Vegetation - surrounding, fire resistant species, wind breaks etc.

7 Refuge Area - Clearing, oval, underground, dam, creek.

8 Supply Lines - water, underground, suitable material. (not plastic).

9 Site of Dwelling - aspect, N.S.E.W. slope.

10 Fire Service - availability, adequate.

11 Density of Dwellings - how many, cluster or other.

12 Communication - availability, phone, radio, cable or micro link.

13 Sign Posting - Identification, number, location.

14 Mapping - Hazard, rating, dwelling location, water supply, through roads.

15 Awareness Education - ongoing, how?

16 Management Problems - Section 13, Permit Issue, Environmental Assessment.

****

To enable the above to be implemented and enforced, the appointment of a Full Time or Part Time F.C.O. would have to be considered by Council.

Advocate 27-2-88

Firefighters feel the heat

WHAT moral obligations do firefighters have to undertake to protect people and property?

This was one of the issues discussed at length at the Nambucca-Bellingen Shires District Fire Protection Committee meeting held in the Bellingen Shire Chamber.

It was pointed out that most houses in rural areas which have been approved by the council have occupants who also carry out necessary fire prevention measures.

It was the people who built illegally in isolated places with poor access who posed a threat to themselves and to fire fighters, said speakers.

It was said that often when residents of these dwellings were located, only abusive comments were heard, so the feeling of the meeting was that for people who feel no moral obligation to protect themselves, their children, or their property, there should be no moral obligation on the part of firefighters to risk their lives.

For residents who would like to know more about precautionary measures which can be taken to minimise fire risks, pamphlets and brochures are available from your local council's fire control officer.

There are very attractive, well illustrated, brochures in the Two Dozen Ways To..... series which cover topics such as: preventing bush fires; what to do when bushfires approach, mitigating the bushfire threat and bushfire survival.

The meeting was also addressed at length by an officer from the Soil Conservation Office at Kempsey.

He spoke at length on guidelines for the preparation and construction of fire trails and their maintenance.

Land clearing regulations in the Soil Conservation Act of July 1987 will be strictly enforced and will affect works carried out by government and semi-government bodies as well as private landholders.

Section 26D of the Water Act has now been replaced by Section 21B of the new Soil Conservation Act which covers all land with a slope exceeding 18 degrees and all land within 20 metres of a protected river or stream.

Permission must be gained to knock any trees exceeding 15.2cm in diameter, including regrowth.

This greatly affects bush fire brigades in their trail maintenance, and should also be noted by property holders.

Another matter brought forward for investigation was that of people in urban areas dumping rubbish such as cut vegetation and building materials on Crown or unused lands, preventing volunteer workers from carrying out hazard reduction.

These very people are usually those who cry loudest about a fire threat to their properties.

The matter of property insurance in rural areas was also discussed. Representatives from Sydney are to be invited to visit the area for personal inspections of factors causing concern, and to address the next meeting to be held at Macksville in May.

Your Town Nambucca with Dot Secomb

□ □ □

THE family and friends of the Johnstons of Bowraville Road in Macksville were delighted last week when they not only received the official receipt for the $2700 they had raised for the Leukaemia Research Fund, but also a letter of appreciation from Dr Michael Stevens, head of the Oncology Unit at the Children's Hospital at Camperdown.

Dr Stevens states, '... To raise such a substantial sum by such a devoted group of people requires a lot of effort and hard work which, I assure you, is very much appreciated by both staff and families here at the hospital.

'We are looking after more than 600 children from all over the state and many will be well again as the result of treatment but research is needed to improve our results further...'

□ □ □

A fortnight ago the Nambucca Heads Public School swimming carnival was held and it was good to see so many parents volunteer their services as officials on the day.

● Continued Page 15

Precis Report of

District Bushfires Protection Committee.....4th November, 1987.

held ay Shire Chambers, Macksville.

An interesting and informative meeting co-ordinating many departments, bodies and institutions, and by discussion helps to develop understanding without confrontation.
D.F.O.s from Kempsey, Bellingen and Nambucca; shire reps (Nambucca's are Max Graham and John Ainsworth); forestry, Parks and Wildlife, State Rail Authority, Bush Fire Brigades, Elcom, Bush Fire Council.
Re Allocation Hazard Reduction, Nambucca Shire.
(copy appended.
Slashing is taking precendence over burning. I asked many questions.
Re Nambucca Trail: Wal said it is finished. I informed him it is not negotiable. To be investigated.
Re Bellinger St Reserve. This is behind properties in Bellinger, Excelsior, Lackie and Parkes Sts. Has had perimeter mown. Burning still to be carried out...in near future.
Re Pacific Sands.
Area at top of escarment, width 40 metres (to road?) ... undergrowth to be cleaned up. After many remarks by meand further comments/questions the forester sais there was not much undergrowth and little would be done.
Re Valla Beach. This to be slashed 4 times annually. Has only been done twice.
Funding has been sought for 2 new trails: Viewmont - ? and Bowraville - Williams Hill.
Special Risk Fire Trails: Whip Mountain; Mt England, Talarm-Congarini, Ballards Tank.

... .

New (and already amended changes to total fire bans)
These will be in force from midnight till midnight.
electric and gas appliances for cooking under new regulations.
under adult control; clear of inflammable material for 3 metres around; water supply readily available; the appliance must be within 20 metres of a dwelling (not a caravan or tent).

/2.

There was much discussion on an explosive situation re who should risk life and property to help(?) people who were illegally occupying dwellings in rural areas. They did nothing to prevent the fire risk though being warned.

there was also discussion on responsibilities of fire preventative measures on blocks of small acreage with absentee owners.

there is lack of communication even in departments of the same council,so fire preventative measures are not taken into consideration by the planning department.(In 2 months time the Nambucca Shire F.C.O. will transfer from the engineers department to the town planning department.)

BELLINGEN SEGMENT.--

Copyimg machine broken so no handout and I couldn't keep up with fire trail names;maintenance areas.

Mylestom is causing much concern.

16 hectares to be slashed/burned $1000.

I am sure I noted..but cannot find..They are going to begin burning THIS WEEKEND somewhere near the bowling club, behind the tip and up the hill.

Other funding:Bellingen $500,Dorrigo $1000.

K--tle Trail$560,Bellingen Trail 4.6 kms $500,Hospital Hill .8kms $290,Enami)?½ Trail $290,Hungry Head 2.1 kms $350, Third Headland $750.

New nominees to NRFA David Reese and JillRichardson.

a new fire trail at Bostobrik is thought desirable.

The combined meeting at Bellingen between FCO's and NPA was in the report.I thanked them and sais much had been learned all around.After the meeting it was commented to me by an FCO that they had learned a lot too.

.....

I have asked the appropriate officers for the Fire Plans for the shires of Nambucca,Kempsey and Bellingen.N. and B. are being updated at present but will be mailed as soon as possible. the minutes will be more comprehensive but many months hence.

Dot Secomb.

5.11.87.

(Guy Fawke's Day!!!)

4 Wharte St
Nambucca Hds
686 684

SUBMISSION ON THE DRAFT STATEMENT ON PUBLIC LAND FIRE MANAGEMENT

by

THE NAMBUCCA VALLEY ASSOCIATION

We find some difficulty in making detailed criticisms of this draft because it lacks internal cohesion and gives the impression that it was drafted by a committee whose members could not agree. The result is confusion. The draft fails to reconcile the modern ecological view that the surface of the Earth is dominated and shaped in many subtle ways by living organisms with the curious and outmoded "physicalist" view that the forest is merely fuel and that one should preserve it by frequently burning the ground and shrub layers and all but the most resistant trees.

We suggest that this most unsatisfactory draft be scrapped and replaced by adequate scientific assessments of the dozens of different regional forest types in Australia to determine ecologically sound methods of fire management. It may be that prescribed burning does more harm than good especially when we look at goals such as water and soil conservation, catchment protection, biomass and nutrient accumulation and the influence of forest on microclimate.

This Association denies that there can be a rational statement on fire management on public land which would apply to the whole of southern Australia as this draft purports to do. A realistic plan of management for the North Coast of N.S.W. Would be complex but should take account of :

1. the tendency of private individuals to negate plans of management for public land by setting fire to forests and national parks in periods of high fire danger or by "burning-off" and allowing the fire to spread to public land.
2. the low incidence of lightning-strikes in the coastal danger-period from 1st August until the end of the Spring drought.
3. the necessity to ban <u>all</u> "burning-off" in the danger period so as to protect other landholders and to make detection easy by eliminating the current seasonal pall of smoke. This smoke may also affect human health.

Dear Jim,

Could I see your submission please

Lib

4. the necessity to restore at least some of the wet eucalypt and rainforest once characteristic of this coast which has been converted into dry forest by overclearing and frequent burning. The result is an open forest with a highly inflammable groundlayer of bracken and blady-grass. Fire frequency and intensity have thus increased under "fire management".

5. the rapid growth of human population on this coast (5% p.a.) which has lead to closer settlement and greater evvironmental awareness. This public expects better protection for themselves and their environment than is offered by "burning off " and "prescribed burning".

6. the necessity to use modern methods of detection and suppression of fires in their early stages. Public "Fire Watch" programmes, satellite alarms and location and helicopter fire-crews are among possible approaches.

F4

PUBLIC LAND FIRE MANAGEMENT

STATEMENT PREPARED BY THE STANDING COMMITTEE OF THE AUSTRALIAN FORESTRY COUNCIL

COMMENTS ON THE DRAFT STATEMENT SHOULD BE FORWARDED TO:

MR LD WOOD
SECRETARY
AUSTRALIAN FORESTRY COUNCIL
C/- GPO BOX 858
CANBERRA ACT 2601

BY 30 June 1988

PREFACE

The draft statement enunciates the basic principles and objectives for the management of fire on Crown Lands in Australia. It complements the National Forestry Strategy, which was tabled in Parliament on 27 November 1986 and in which the Australian Forestry Council recognised the need for it to prepare shorter statements of forestry management objectives including fire management.

PUBLIC LAND FIRE MANAGEMENT

STATEMENT PREPARED BY THE STANDING COMMITTEE OF THE AUSTRALIAN FORESTRY COUNCIL

PREAMBLE

Fire has been an integral part of the development of Australia's unique flora and fauna. Lightning and the extensive use of fire by Aborigines had made fire a common and widespread occurrence in most parts of Australia prior to European settlement. Some fire regimes applied since European settlement have suppressed or eliminated fire sensitive species and altered the structure of native plant and animal communities, where combined with new factors such as sheep or rabbit grazing. Conversely, the elimination or suppression of fire has had a similar affect in some communities.

Since European settlement, high intensity wildfires have been a regular feature of the environment. They occur at different frequencies in different vegetation types and geographic locations throughout Australia, depending on the occurrence of the particular combinations of weather and fuel conditions conducive to them.

In southern Australia, weather conditions conducive to the spread of high intensity fires occur almost every year. In the last 50 years dangerous combinations of weather, ignition sources and flammable fuels have resulted in large forest fires every 3-5 years at different locations in some regions.

Under conditions of extreme fire weather, which can persist for several days, and where there are heavy fuel loads, fires can travel up to 10km/h. These are impossible to control until weather conditions moderate and in the past have resulted in very large areas being burnt with the following consequences:

- 467 human lives have been lost since 1900 and property worth $1,000M, including rural townships, farmhouses, stock and fencing have been damaged or destroyed in the last 20 years
- commercial forests have been severely damaged or destroyed resulting in large economic losses to the forest industries and severe disruption to timber supplies
- soil erosion has increased and, where heavy rain followed the fire, there have sometimes been serious losses of topsoil and the nutrients essential to tree growth, and increased siltation of streams and water storages
- there have been ecological effects such as changes in the species composition and abundance of plant and animal communities, and the way they interact.

The magnitude of some of these effects will depend on the sensitivity of the plant and animal species to fire and the nature of the prevailing fire regime. Their importance will depend on management priorities for specific areas. However, the repeated effects of frequent high intensity fires in the same area will result in major changes in the nature and condition of the ecosystem, including changes in vegetation structure from a forest towards shrub, heath or grass dominated communities and a reduction in forest productivity, diversity and stability.

In the prevention and suppression of wildfire, the main factors over which the land manager can exert some physical control are those related to fuel. Prescribed burning has been used to reduce fuels to assist in wildfire control and minimise damage to the forest resource. Prescribed burning is also needed in habitat management and forest regeneration practices, having due regard to the maintenance of site productivity and stability of the environment.

OBJECTIVES

- To protect human life, property and environmental assets from wildfire.
- To maintain natural environments where certain fire regimes are an integral part of the ecological process.

DEFINITIONS

Fire Management:

Fire management is the planning, conduct, monitoring and review of all aspects of fire prevention, fire suppression and use of fire in land and natural resource management.

Prescribed Burning:

Prescribed burning is the planned application of fire under selected weather and fuel conditions so that the fire is confined to a predetermined area and burns with the intensity and rate of spread necessary to achieve the objectives of management.

Wildfire:

Wildfire is any unplanned fire.

Multistage Burning:

Prescribed burning carried out in several stages in order to remove fuels from different aspects (and hence moisture content levels) at different times.

Public Land:

Public land is any category of Crown land. This statement refers particularly to public land carrying or potentially carrying native or planted vegetation.

Fire Hazard:

Fire hazard describes the condition of fuel and takes into consideration such factors as quantity, arrangement, current or potential flammability and in combination with fire weather variables determines the difficulty of suppression if fuel should be ignited.

Fire Risk:

Fire risk refers to the relative chance or probability of fires starting and is determined by the presence or absence of causative agencies. The degree of risk in an area may be assessed by studying the probable frequency of dry electrical storms and the many ways in which man may cause fires. As fires cannot burn without fuel, risk must be studied in conjunction with hazard.

Fire Danger:

Fire danger is the difficulty in suppressing a fire, based on fuel hazard and weather variables.

STRATEGY

FIRE MANAGEMENT PLANNING

Planning should be on a co-operative basis on inter-State, State, regional and local levels as appropriate.

All areas of public land should be covered by a fire management plan. (Such plans should be integrated with those on private land).

Fire management plans must be part of an overall public land management plan. Private and public land use planning should take into account the compatibility of a land use with the fire risk and fire hazard of the area, so as not to generate or exacerbate fire management problems.

Specific reference to wildfire control should be made in fire management plans.

Opportunity should be given for public participation in the process of fire management planning.

WILDFIRE CONTROL

Where wildfire threatens or has the potential to threaten human life or property, or forest assets, every effort should be made to control the fire as soon as possible.

On occasions when a wildfire does not represent a potential threat and is assisting to achieve other management objectives, the decision to burn out an area larger than necessary to control the fire may be made; for example, a wildfire in a reference area may be left to burn to a buffer zone before it is controlled.

Reference areas are tracts of public land containing viable samples of one or more land types that are relatively undisturbed by human activities and that are reserved in perpetuity.

Suppression techniques should be in keeping with management objectives; for example, the suppression efforts should not ultimately cause more damage than the fire itself. Appropriate restoration work should be undertaken and be considered as an integral part of measures to bring wildfires under control. For example, fire access tracks should be effectively drained and where necessary rehabilitated to minimise water erosion.

PRESCRIBED BURNING

Areas of Strategic Importance:

Prescribed burning and other appropriate fuel modification measures should be used to reduce or modify fuels in areas of strategic importance for the protection of life and property from wildfire. Such areas should be shown in the fire management plans. The use of fire for fuel reduction purposes in these areas is more important than considerations of other environmental effects.

Where strategic fire protection areas are forested, fine fuel (leaf, twig and flammable ground vegetation less than 6mm thick) loads should be burnt when necessary to keep accumulations less than upper limits for fire suppression safety.

Non-strategic Areas:

The use of prescribed fires for fuel reduction in non-strategic areas should give due consideration to environmental factors such as plants, animals, soils, water and aesthetics.

Wherever possible prescribed burning should serve the dual purpose of fuel reduction and environmental management.

Alternatives:

Alternative methods of hazard reduction and risk reduction should be considered and compared with fuel reduction burning as fire prevention measures, and the most appropriate method used in each management area.

Prescribed Burning for Fire Prevention and Suppression:

The speed at which a wildfire spreads, and its intensity, are directly related to the quantity of accumulated fine fuels. If the quantity of these fine fuels can be sufficiently reduced forest crown fires are unlikely to occur even under extreme weather conditions. Fire suppression is therefore more efficient, less dangerous, and more effective in reducing the final size of wildfires. In Western Australia major fires have not occurred in State forests since the introduction of broad area fuel reduction burning, even though large wildfires have occurred in surrounding areas not so treated.

The reduction of accumulated fine fuels will reduce the rate of spread and intensity of wildfires fires, facilitate fire suppression and reduce the level of fire damage to both the natural and human environment. Prescribed burning is the only practical way of removing accumulated fibrous bark on tree stems and so reducing the spotfire potential of eucalypt forests, which is often the cause of massive wildfire conflagrations and a major fire control problem.

Prescribed burns for fuel reduction should be applied to dry forest and flammable non-forest types with a history of recurrent fires. Fuel reduction by burning will not generally be used in the wetter forest types with low rates of fuel accumulation and low natural fire frequencies.

Prescribed burning should be excluded from fire sensitive areas; for example, rainforest and stands of old vegetation with special commercial, aesthetic or natural values. For every fire dependent vegetation type, there should be an appropriate age series of burnt areas of a size comparable with past wildfires.

The frequency of burning required to control fuel is related to the time it takes for the fuel to reach a critical level beyond which suppression is unlikely to succeed except under conditions of "moderate" fire danger or less. Fuels should be burnt where necessary to keep accumulations less than the upper limits for fire suppression safety under conditions of `high' fire danger. A mosaic of burnt and unburnt areas should be aimed for within any single burn, at the same time ensuring that corridors of unburnt fuel, which could negate the effectiveness of the burn as a fire control measure, are not left. Multistage burning should be used in areas of heavy fuel accumulations and diverse fuel types to improve the effectiveness of fuel reduction burning as a fire protection measure.

Slash burning following timber harvesting should continue to be practised where research has shown it is needed to obtain adequate establishment from seed, vigorous growth of seedlings, and where it is desirable to reduce the fuel hazard in the area of developing fire sensitive forest regeneration.

The use of prescribed fire to reduce fine fuels to safe levels, on a sound ecological basis, is the most economical way of controlling the fuel in dry forest types and flammable non-forest vegetation. This burning should be undertaken within the provisions of formal fire management plans and meet the prescribed conditions.

Prescribed Burning for Environmental Management:

The primary objective of prescribed burning, for other than fire prevention and protection, should be to protect and maintain rare and endangered species, locally significant populations and maintain all communities either directly or indirectly dependent on fire for their existence.

Prescribed burns of specified sizes, intensities, frequencies and seasons, can be used to achieve a wide range of management objectives, including management for natural values (eg. species conservation). In some areas fuel reduction burning may safely be used without adverse ecological effects. In other areas it is necessary to manage fire on the basis of a knowledge of the tolerance of key plant and animal species to specific fire regimes and their environmental requirements.

MONITORING AND RESEARCH

Precise knowledge about the limits of tolerance to fire regimes and environmental requirements of species is lacking for many forest associations in which fuel reduction burning is undertaken as a fire control measure.

Long term studies of the ecological effects of fire management regimes must be undertaken across the broad range of forest types and associations where prescribed burning can be practised. Limited knowledge should not be a reason to stop prescribed burning, but fire management planning should recognise these shortfalls of knowledge.

The standard and efficiency of fire research should be promoted and assisted by routinely publishing research programs and results.

Research on fire behaviour and fire effects should be continued and information from such research should be incorporated in land management plans. Past and current plans and practices should be regularly reviewed to determine whether stated management objectives are being met.

Standardised records should be kept of all wildfires and prescribed burns. These records should be combined with research information to develop management models.

The Standing Committee to the Australian Forestry Council recently reviewed the current status of fire research in the publication "Australian Bushfire Research: Background, Guidelines and Directory." This publication is supplementary to the Directory of Fire Research which is being compiled by the CSIRO Division of Forestry and Forest Products.

LEGISLATION

Appropriate legislation should be available to fire control and fire management bodies to permit effective fire management.

EDUCATION

Public awareness of fire management and fire protection policies and practices should be fostered through all appropriate channels.

Land managers should be made aware of their fire prevention and protection responsibilities and the role of prescribed burning in land management by appropriate authorities.

TRAINING

Professional fire managers and fire operations personnel should be regularly trained in the current 'state of the art' fire management practices and techniques.

IMPLEMENTATION

State and Territory authorities responsible for fire protection and public land management should develop and implement fire management policies to effectively meet the needs of each State or Territory. Inter-State co-ordination is necessary where States share borders. These policies should be reviewed periodically to ensure that they continue to reflect the needs of fire managers and society.

(BLA01BM)

9. Ecos 42 pp 9-12

10. Fire on Forest Conditions Conference 1966
NSW Forestry Commission Technical Paper No 13

11. Heaths in NSW op.cit.

12. M.Recher - Heaths in NSW p 39

F4

PUBLIC LAND FIRE MANAGEMENT

Submission on Draft Statement

prepared by

NORTH COAST ENVIRONMENT COUNCIL

High intensity wildfires have been a regular feature of the environment before European Settlement.[1]

"In Southern Australia high intensity fires---- --- have resulted in large forest fires" and also grass fires. In the last serious fires in the S.E. of South Australia and in Western Victoria many fires occurred over pasture country though forests were burnt at the same time.

Objectives

Prescribed burning can assist to control fires in forests but as many of the most serious fires also cover large pastoral areas this technique is unsuitable as the major[2] control. Escapes from prescribed burns cause many fires. There is thus a high risk of causing fire damage by too great a reliance on prescribed burning.

Habitat management does not necessarily require prescribed burning except perhaps in promoting "green pick"[3] for stock grazing or in areas where no fire ever occur.[4] Heath may require burning to maintain certain associations but as Dr H.Recher states in his article there is heavy human use of heaths and there are generally more fires in heaths thanh[5] is warranted.

Therefore one must conclude that the second objectiveof the statement namely "to maintain natural environments---------- process" is just unwarranted in the present state of our knowledge and should be omitted. This is confirmed by Shea, Peet & Cheney[6].

Strategy

Wildfire Control

It is not understood why a wildfire in a reference area might be left to burn. If the area has been subjected to a series of fires at frequent intervals there may well be need to control the fire before the reference area is changed irrevocably.

The question of fire access tracks needs j much questioning. In some circumstances such tracks become access to light fires rather than suppress. They certainly provide a route for weed invasion and create soil erosion.

...

...

The statement that "the use of fire for fuel reduction---------environmental effects" is fraught with problems. Does a pastoral property use prescribed burning to protect the homestead or is close grazing or slashing or other methods more appropriate?? This statement must be qualified by statements which refer to reduction of fuel in the immediate vicinity of property to protect life and property from wildfire. Reducing fuel by fire is only one method and one that is not always appropriate.

Non Strategic Areas

As stated above there are doubts as to whether we have enough knowledge to use prescribed burning for environmental management. Most researchers agree that there are so many complex equations and so little hard data to feed into such equations that we cannot really claim to manage environments just by burning.

Alternatives

This section has been relegated to a secondary position in the statement whereas it should appear as part of the management of wildfire control.. There are other ways to deduce fine fuel besides burning it in situ.

Prescribed Burning

The example of Western Australia is quoted as a success story for prescribed burning as an effective tool against serious wild fires. However there are more factors to consider than the suppression of wildfire over the broad area. As Shea, Peet, Cheney point out[7] prescribed burning with low intensity fires may well encourage Phytophthora cinnamomi in those forests.

There is also the problem of fine fuel build up after a prescribed fire where quantities of fine fuel may well exceed 12 tons/ha within four years of the burn[8]. If the frequency of burning increases there are significant losses of nutrients[9].

Changing the understorey of the forest occurs with prescribed burning carried out at regular intervals and the effects of this are not fully understood.

In a series of papers on Fire on Forest Conditions[10] it was concluded that prescribed burning can also affect timber quality as well as the type of tree species that regenerate.

There seems little justification for the final paragraph of this section when there are doubts about the ecological basis of broad acre prescribed burning and the economic arguments for doing so have not been set out.

[illegible] for Environmental Management

There are enough wild fires lit by arsonists or accidents from burn offs to achieve an overkill in most plant communities. Again fire as a management tool is not fully understood and prescribed burning without fully understanding the community may destroy it [11]. Wildfires may not necessarily be a disaster.[12]

Monitoring & Research

The general thrust of this section is supported. There is need however to question whether broad acre prescribed burning should be practised or encouraged in most forest situations whatever the climatic factors involved. When the knowledge of its ecological effects on many plant communities is so little understood.

Conclusion

Our Council acknowledges the need for prescribed burning of certain areas to protect life and property.

There is however need to encourage land managers to practise other methods of fine fuel reduction where such methods are economic or are ecologically necessary.

The thrust of this Statement makes prescribed burning the only tool and it does so without pointing out the costs of only using this method, or using it inappropriately.

The practice of broad acre prescribed-burning has obvious ecological problems and in a paper of this nature should not be promoted.

References

1. R.Good: Adaptions of Australian Plants to Fire - Ch 6
   R.Clark:Pre history of Bushfires - Ch 7
   Bushfires, Their Effect on Australian Life & Landscape
   Macleay Museum, 1981
2. Luke & McArthur: Bushfires in Aussralia - pp148
   AGPS 1978
3. Macidset. "Heaths in NSW" NSW NP & WLS 1981 pp54-56
4. M.Gill et. "Heaths in NSW - NSW NP & WLS 1981, pp 54-56
5. H.Recher op.cit. pp38-39
6. Shea, Peet Cheney: "Role of Fire in Forest Management"
   Fire and the Australian Biota "
   Australian Academy of Science, 1981
7. Shea, Peet, Cheney, opcit. pp 464-465
8. Prescribed burning and Forest Nutrition - Ecos 4?

White In
also classes for

schedule contact:-
Secretary, R. Lavender
Wirrimbirra, Laheys Creek 2852
Ph (063) 74 5147

ains

ortgagees Sale

Horticultural Machinery Manufacturer

Offers are invited for the purchase of the assets and business of D.E.C. Weber Pty Ltd, trading as "Port Machinery".

Assets include:

- Freeholds at Beaconsfield and Cora Lynn
- Plant and equipment, including unique chain making machine
- Stock of parts and components
- Tooling

Equipment manufactured includes the full range of Port potato farming implements, Alston wind mills, a poultry cremator and a tree digger for nursery use.

Offers for selected assets only will be considered.

For further information please contact

Mr P. Davine or Mr H. Mosley on (03) 602 0622

Deloitte Haskins+Sells

Bourke Street, Melbourne 3000

DEPARTMENT OF PRIMARY INDUSTRIES AND ENERGY

PUBLIC LAND FIRE MANAGEMENT

The Standing Committee of the Australian Forestry Council has prepared a draft statement on the management of fire on Crown Lands in Australia.

COPIES ARE AVAILABLE FROM

- **The Secretary**
  Australian Forestry Council
  Department of Primary Industries and Energy
  GPO Box 858,
  CANBERRA, ACT 2601
  Phone (062) 72 4273

- **Head offices of the State Departments responsible for forestry**

- **Offices of the Department of Primary Industries and Energy in each capital city**

To assist in the development of the statement interested parties are invited to make submissions to The Secretary, Australian Forestry Council, by June 30, 1988.

AB1-885681-5

Cucumbers: excellent conditions can yield 50 tonnes/ha.

Commodity Price Forecaster

LIVESTOCK

	Next 1-2 months	3-6 months on
WOOL (c/kg)		
Market indicator	down 1150-1200	down 1000-1150
SHEEP AND CATTLE		
Store cattle (c/kg live)	steady 110-125	up 115-130
Store sheep ($/head)	up 45-55	steady 45-55
Boat sheep ($/head Perth)	up 28-32	steady 25-30
Export cows (c/kg live)	down 85-90	up 90-95
Heavy ox (c/kg live)	steady 115-125	steady 115-125
Domestic trade (c/kg live)	up 105-115	up 115-125
Fat lamb ($/head)	up 35-40	steady 30-40
Mutton ($/head)	up 50-60	steady 50-60
PIGMEAT		
Pork (c/kg dressed)	steady 200-225	up 200-230
Baconers (c/kg dressed)	up 190-200	steady 190-210

CROPPING

NAMBUCCA SHIRE

Allocation Hazard Reduction 1987/88.

Valla Beach Village
Area: 11.9 ha
Tenure- V.C.L. 30% D.C.L.2 45% P.P. 25%
Method: Slashing (Twice Annually)
Agency: Nambucca Shire.
Allocation $3,100.

Nambucca Heads (Lee & Bellinger Sts)
Area: 2.55 ha
Tenure: 100% V.C.L.
Method: Perimeter Mowing (Twice Annually)
Agency: Nambucca Shire.
Allocation $900.

Nambucca Heads (Pacific Sands)
Area: 2.2 ha
Tenure: 100% V.C.L.
Method: Thin and Slash Ground Fuels (Twice Annually)
Agency: Forestry Commission.
Allocation $1,000.

TOTAL HAZARD REDUCTION ALLOCATION $5,000.

NAMBUCCA SHIRE

Allocation of Maintenance 1987/88.

Code

NC 18 Nambucca Trail (Special Risk)

1 km

Agency: Nambucca Shire.

Allocation $500.

NC 19 Mt England Trail System (Special Risk)

9.4 km

Agency: Nambucca Shire.

Allocation $1,120.

NC 20 Balance Tank Trail (Special Risk)

2.7 km

Agency: Nambucca Shire.

Allocation $400.

NC 21 Talarm Congarinni Trail (Special Risk)

3.6 km

Agency: Nambucca Shire.

Allocation $980.

TOTAL MAINTENANCE ALLOCATION 1987/88 $3,000.

24/10/87.

Profect pOfficer,
N.C.C.,
176 Cumberland St.,
Sydney.

Dear Dallas,

Bushfire Committee.

Please refef to yyour letter of 13 October.
The alternate delegate for the North C6past Regional Fire Association would be

Mr Hugh Webster,
P.O.Box 420,
Ballina 2478

Yours sincerely,

J.L.O.Tedder,
Hon.Sec.

F4

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
176 CUMBERLAND STREET,
SYDNEY, NSW 2000.
PHONE: (02) 27 2228/27 4206. TELEX AA24041

13 October, 1987

Dear Member Society,

re: Representatives for conservationists on District Committees

In November 1985 the Co-ordinating Committee of the Bush Fire Council of NSW advised us that it was about to establish a two-tier committee system in order "to improve the means whereby bush fire protection interests and land management agencies co-ordinate their various activities." The proposed new committee system is now in operation at two levels, regional and local, "to bring together all elements with a direct responsibility in bush fire management in New South Wales in the community interest."

The Nature Conservation Council of NSW has congratulated the Bush Fire Council for initiating this system for improved public participation in bush fire management. We have been asked by the Bush Fire Council to encourage conservationists to attend District Fire Committee meetings and are therefore writing to urge your organisation to seek a representative. Details of the two-tier committee system are as follows.

Regional Fire Associations (R.F.A.'s)

Seven of these committees operate at a regional level, in the east of the state, dealing with problems and activities of a regional nature, including:-

* review of regional fire detection and surveillance arrangements;
* fire fighting training needs;
* gathering statistics on wildfire occurrence and fuel management activities;
* review of prevention/mitigation programmes submitted by individual District Committees.

The R.F.A.'s meet at least twice yearly, sometimes more often. Their size is limited to about 15 members, one of which is the representative of the conservation movement. The Bush Fire Council chose conservation representatives from a list which was submitted by the Nature Conservation Council.

The Co-ordinating Committee of the Bush Fire Council of NSW at its meeting held on 25th March, 1987, approved of the following nominees to represent NCC on the Associations:-

	Representative	Alternative Representative (Reserve)
Highlands Regional Fire Association	Mr O Stark	•
Southern Regional Fire Association	Mr C Scott	•
North Coast Regional Fire Association	Mr A Went	•

.../2

	Representative	Alternative Representative (Reserve)
Hunter North Regional Fire Association	Mrs K Smith	Mr T Corliss
Hunter South Regional Fire Association	Mr A Strom	Mr G Chestnut
Sydney Regional Fire Association	Ms F Sutton	°
Northern Tablelands Regional Fire Association	Mr D Cassells	°

District Bush Fire Protection Committee (D.F.C.'s)

These committees have been established in each local government area, with the aim of co-ordinating community interests and responsibilities. These are convened by the local shire council and its Fire Control Officer, and they act in an advisory capacity only, but are charged with making recommendations via the R.F.A.'s to the Bush Fire Council Co-ordinating Committees in the following three fields:-

* development of a comprehensive fire protection plan, including emergency fire suppression, and strategies for fuel management, fire breaks and access construction;
* funding of fire prevention and mitigation activities;
* training requirements for fire fighting groups.

The D.F.C.'s are involved at a very practical level of operations, for example with recommendations for funding for, e.g., fire trail maintenance and fuel management. The new arrangements have provision for each D.F.C. to include a conservation movement representative as an official observer, but admission as a full member with voting rights will be at the discretion of the local government council convening each committee.

The Bush Fire Council has provided the following information about D.F.C.'s:

"Invitations to provide an observer on District Committees have been left in the hands of local government who are the convening organisations for these groups. Many, if not most, of these Committees are in fact already in existence and no deadlines for participation is consequently necessary. There is or will be one District Committee in each shire within the area of the State embraced by this scheme. The most appropriate course of action following a canvas of your member societies in the manner you suggest might therefore be for your Council in its central role to suggest to each shire the person they might see fit to invite. This process has the advantage of ensuring that your Council's formal accreditation attaches to the person or society being proposed."

Although the Bush Fire Council has suggested the N.C.C. recommend a conservationist observer to each shire council, this is likely to prove to be beyond our administrative resources, as approximately 60 councils are involved. We therefore draw your attention to the existence of the D.F.C.'s and their new administrative arrangements, and urge your groups to seek the participation of a conservation representative from amongst your members or other conservationists known to you.

Yours sincerely

Dallas McLoon
PROJECT OFFICER

° I am still waiting for a name from the representative.

Robert Buckland
4 Jersey St
Kempsey

Kempsey Council

D. Second-
White St
Nambucca Heads

Nambucca Council

Jack Clark
Hungry Head Road
Manager

Bellingen Council

Wilderness Society Forests Raffle

$1

1st Prize.

Six-day holiday for two at Binna Burra Lodge in Queensland's Lamington National Park. All inclusive ex-Brisbane, plus $500 travel expenses.
Our thanks to Binna Burra Lodge.

2nd Prize.

Five-day summer alpine holiday for two in the Kosciusko National Park with Wilderness Expeditions, plus $300 travel expenses.
Thanks to Wilderness Expeditions.

3rd Prize.

Tasmanian blackwood crafted coffee table, donated by Lifestyle Furniture, Hobart.

101937

Other major prizes in order of draw:

★ Clifton Pugh etching *"Scrub Wren"*. This framed etching is one of an edition of 60, worked in 1983 when Clifton Pugh visited the blockader's camp on the Gordon River. ★ 1st edition, autographed copy of *"The World of Olegas Truchanas"*, kindly donated by Melva Truchanas, Hobart. ★ $200 open order from Outgear, Maribyrnong, Vic. Outgear manufacture and wholesale backpacking equipment. Our thanks to the proprietors and staff for their ongoing, enthusiastic support. ★ Two framed Cibachrome prints: Dusky Robin and Pygmy Possum by Dave Watts. ★ $50 open order from any Paddy Pallin Shop. Thanks to Paddy Pallin Outdoor Shop, Hobart. ★ $50 open order from any Wilderness Shop. ★ Two prizes of Australian wildflower stationary, donated by Fred and Diana Duncan, Hobart.

Plus 25 consolation prizes from the Wilderness Shop.

RAFFLE DRAWN OCTOBER 21, 1985

Tasmanian Gaming Commission Permit No. 2013. Permit expires 17 Sept. 1985.

The Wilderness Society thanks all prize donors, whose generosity has made this raf

COPY FOR YOUR INFORMATION

THINK TANK:

FIRE ECOLOGY RESEARCH

Nature Conservation Council of NSW
CSIRO

Canberra
30 May 1986

THINK TANK ON FIRE ECOLOGY RESEARCH

Nature Conservation Council of NSW, CSIRO

Wednesday 30 May, 1986, CSIRO Headquarters, Canberra.

The Think Tank was organized by the CSIRO Institute of Biological Resources in response to letters directed by the Nature Conservation Council of NSW to the Prime Minister and the Minister for Arts, Heritage and Environment, and subsequently to the Minister for Science.

The Institute decided that the Think Tank format would be a useful technique for briefing the Council and exchanging views. The outcome supported that decision.

Participants

NCC, NSW

Contact address:
Level 1
55 - 57 Wentworth Avenue
SURRY HILLS
NSW 2010

(02) 211 5366

Jocelyn Howell
Judy Messer
Mark Burnside
Alan Catford
Chris Pratten
Jenny Murray
Peter Murray

CSIRO

Forest Research: PO Box 4008 Queen Victoria Terrace 2600
Phil Cheney (062) 818 379
James Hoare (062) 818 378
John Raison (062) 818 280

Plant Industry: GPO Box 1600 Canberra 2601
John Leigh (062) 465 112
Eddie Pook (062) 465 331

Water and Land Resources; GPO Box 1666 Canberra 2601
Richard Davis (062) 465 170

Wildlife and Rangelands: PO Box 84 Lyneham ACT 2602
Private Bag PO Deniliquin NSW 2710
Jim Noble (058) 811 133
Peter Catling (062) 411 211

Building Research: PO Box 56 Highett Vic 3190
Caird Ramsay (03) 555 0333

Institute of Biological Resources: PO Box 225 Dickson ACT 2602
Wendy Parsons (062) 484 531 (062) 818 306
Peter Shaughnessy (062) 484 441

POINTS FOR DISCUSSION EMERGING FROM MORNING SESSION

1(a) What is the research base for setting 'safe' litter loads at 8 - 15 t/ha?

(b) What effect does fuel reduction burning have on modifying subsequent fire behaviour and what are the benefits to fire control?

2 Comparison of fire hazard reduction by (a) low intensity prescribed burning, and (b) fire selective hand clearing of fuel, evidence of effectiveness of strategic burning of perimeter zones for fire control.

3 Dependence of the Australian biota on fire regimes. The need for research into the biology of species in 'fire free' areas to indicate true levels of their fire dependence.

4(a) What is the effect of repeated prescribed burning on vegetation structure ie in relation to the effects on species with tall growth forms?

(b) Could repeated burning exacerbate the fire hazard by promoting fireweed species?

5 What has the House of Representatives inquiry done to aid research on fire ecology?

6 The possibility of research on the Sydney urban bushland.

7 Communication

- role of the National Bushfire Research Unit (NBRU)
- CSIRO research information - in what form, where does it go?
- CSIRO/conservation movement links
- education
- buildings in fires - how is feedback on design and planning reaching the community?

8 The fate of CSIRO's long term research in fire ecology.

DISCUSSION

There was insufficient time for all of the above points to be discussed, so NCC representatives were asked to put priority on the areas of most concern. These were 1, 2, 3, and 7. Some comments on the others are put forward here to encompass subsequent comments from participants.

1. What is the research base for 'safe' litter load and the effect of prescribed burning on modifying subsequent fire behaviour?

The relationship between fuel weight and fire behaviour is based on Macarthur's experiments with fine fuels (less than 6mm) and fire intensities up to 500 kw per metre. Above this intensity, models have not been verified.

Fire intensity depends on the relationship between the weight of fuel burnt and the rate of spread. For intensities less than 500 kw per metre, doubling of fuel weight leads to a 4-fold increase in intensity.

A plateau to fuel accumulation after 7 years was noted by Raison[1].

Some researchers felt that we still don't accurately know the relationship between fire behaviour and fuel quantity under 'severe' fire weather conditions and hence it is difficult to predict the effects of fuel reduction burning on subsequent fire behaviour (refer pp 299-300 Raison, Woods and Khanna).

Others with experience in fire behaviour and suppression research don't have the same problem. Recent models using actual (real) climatic inputs have quantified this debate to some extent (Gill et al)[2].

It should be noted that it is practical (ie quality control) rather than the conceptual problems of prescribed/control burning that are most often the subject of debate between conservationists and fire managers. Fire managers say that there is no doubt that fire control/fire fighting is made easier where the fuel load is reduced.

This can be of practical importance in all fire weather, depending on the degree of fuel reduction. However, when fires exceed 2000 kwm^{-1}, suppression at that point will probably fail. In lighter fuels, effective suppression is possible at higher levels of Fire Danger.

NCC Comment:

With regard to the basis for 'safe' litter loads and the effect of prescribed burning on modifying subsequent fire behaviour, the Council notes the comments which suggest there is a dichotomy between the practical and conceptual problems of prescribed/control burning. This problem is one that the Council believes could be the basis for further research. It is suggested that while research into fuel loads is vital, such work should incorporate concurrent studies which relate fuel levels to other control factors such as better environmental land-use planning. Such research would aim at developing land-use practices - applicable to both established and especially developing areas in fire risk situations - which would reduce the need for continued prescribed/control burning while providing adequate fire protection to both the natural and human environment.

2. Different means of hazard reduction other than controlled burning

Methods of fuel reduction other than by controlled burning eg hand tools, exist but are not used over wide areas for fairly obvious practical reasons.

If perimeter burning is used to form fuel-reduced buffer strips between unburnt forest and settled area to protect life and property, some of the ecological effects may have to be overlooked. The buffer area will need more regular burning. It was suggested that the normally advised 3km around houses is not necessary - 500 metres is sufficient.

There is an urgent need for public education so that integrated fire control/management systems involving prescribed burning, efficient detection and urban planning can achieve efficient suppression of wild fires and minimise damage to 'natural' and property values. (See CSIRO's submission to the House of Representatives Inquiry)

Note the paper by Gill et al[2] dealing with periods of severe fire weather and weather suitable for prescribed burning during Victorian summers.

There is a need too for comparison of different means of hazard reduction such as selective hand clearing, especially in the Sydney sandstone-urban fringe region; and for information on alternatives to prescribed burning in small urban reserves where burning would threaten the whole of the understorey. This area of research is highly localised and could be an appropriate task for tertiary institutions in the area.

NCC Comment:

Perimeter zone hazard reduction should not necessarily entail prescribed burning as is implied. The NCC advocates that research in perimeter zone hazard reduction should simultaneously include consideration of selective land clearing and mechanical litter reduction in adjoining lands rather than the protected lands. While the Council recognises the perceived need to protect life and property it firmly believes there are many alternative strategies open to individuals and institutional land managers that, if implemented, would reduce the tendency to override ecological priorities.

In relation to the need for integrated fire control/management systems, the Council believes that such work is particularly important especially when considering how fire practices will be applied to broad acre and small remnant areas of vegetation. This comment follows on from the previous suggestion that land use practices, which incorporate management practices, need to be studied further in order to establish scientifically based fire prevention/control guidelines. There is also reference to "small urban reserves" and their "understorey". The Council is concerned that reference to the understorey should be extended to include the entire bushland ecosystem. Disturbance to the understorey can threaten the whole of the ecosystem.

3. Dependence of the Australian biota on fire regimes

Need for research on indicator species in fire free areas

It was suggested that indicator species could be used in fire free areas to learn the effects of no fires.

In sub-alpine and alpine areas, it has been suggested that flammability decreases with time after 30-40 years.

The fauna appears advantaged by a fire regime which includes wildfires or hot fires and disadvantaged by regular cool control burns. The effect of long periods without fires is unknown.

Some felt that there was a need to query statements that plant species need fire for regeneration. Many are adapted to particular fire regimes, but regenerate well without burning.

The NCC asked if there was any research on the effects of fire on soil fauna. There is some historical work (separate list available). See also Fire and the Australian Biota[2]. There was no information forthcoming on current research, although several projects are listed in the draft Australian Fire Research register (see p 8).

NCC Comment:

Item 3 highlights a particular area of research the Council believes should be undertaken - that of the impact of fire exclusion on both plant and animal communities. In relation to plant communities the suggestion that fire may be an incidental requirement rather than a prerequisite for the regeneration of many plant species should be further investigated. The NCC believes that empirical observation suggests that many so-called fire dependent species are in fact responding to 'disturbance' e.g. Banksia ericifolia and many legumes in the Sydney Region respond just as readily to the altered soil and light conditions following on from road and sewerage construction as they do to fire events. The impact of fire incidence or exclusion on animal communities and population dynamics is another area of research which should also be investigated.

4. What has the House of Representatives Inquiry done to aid research on fire ecology, and what is the fate of CSIRO's long-term research in fire ecology?

Research directions are influenced to some extent by AEC (Australian Environment Council comprising State and federal conservation Ministers) CONCOM (Council of Nature Conservation Ministers - state and federal) AARFA (Australian Association of Rural Fire Authorities), and the AFC (Australian Forestry Council).

There has been no significant change following the Inquiry, apart from the formation of the NBRU for work on fire suppression and fire meteorology effects on property and people. Although there is in fact a reduction of the fire ecology research effort in some CSIRO Divisions, overall there has been an increase in CSIRO's fire ecology research (rangelands, heaths, tropical forests, grasslands and woodland).

There is no action known on Rec 14 (establishment of a national bushfire research fund).

CSIRO is reviewing its research on ecology and this recognises the importance of representative long-term ecological study and monitoring sites on a multidisciplinary basis to represent the major ecosystem types in Australia and to provide a focus for research by CSIRO and other organizations.

Note the NSW Western Lands Commission's 500 reference sites

It is also important to note that the size of the task for the sites, no matter how many, requires the resources and collaboration of a number of organizations, not just one. This may mean a radical change of research policy in CSIRO.

NCC representatives highlighted the rewards of site monitoring in Victorian National Parks. National Parks managers use students in a program to develop and operate a good design for data collection.

Both NCC and CSIRO participants agreed that a national system of biologically reproducible sites is needed to scientifically monitor ecological changes over long periods. These sites need protection from unplanned fire.

NCC Comment:

In summary, the NCC recommends that all CSIRO fire research should take into account the impact of fire on:

- soil nutrients
- vegetation structure (including species dominance and diversity)
- soil loss and instability
- fauna (including species dominance and diversity and with reference to soil microorganisms, invertebrates as well as vertebrates).

The effect of fire as above should be taken into account wherever prescribed burning is being advocated or practised:

- to increase productivity
- to 'prevent' bushfires
- to protect property

Ecological-orientated research should include identification of all elements of ecosystems and include long-term monitoring (biota, soil, water, etc) strategies.

Research should also be extended to include the impact on weed occurrence (species, density, exclusion effects etc) in natural areas.

Conclusions regarding the effects of fire on a specific vegetation alliance or habitat should not be encouraged to be extrapolated to other vegetation communities or regions.

There is an urgent need for research into the effects of fire on urban bushland remnant vegetation. Finally, the ecological characteristics of areas of vegetation and ecosystems that have not been burnt for long periods should be identified and analysed.

5. Communication

CSIRO National Bushfire Research Unit (NBRU): Information will be targetted according to content eg material on physiological studies for fire fighters, on economic studies of fire control methods for politicians and state departments, on fire behaviour guides for land managers and suppression authorities, on safety and home protection for the general public.

General information on fire ecology research:

. of interest to?

  . conservation groups, including the National Trust

. in what form? at what level?

ECOS seemed to be the right level but in quantity only the tip of the iceberg.

NOTE: It is essential that research information, no matter what the format, should include the IMPLICATIONS FOR MANAGEMENT. This is especially true of scientific papers.

. used for? input to land management, lobbying politicians

NCC emphasised that conservation groups have a real need for material that will outline research in progress as well as contacts and phone numbers of researchers.

The following material currently in preparation could help meet this need:

. register of fire researchers and work in progress (J. Hoare, CSIRO DFR) confined to forest fires, should be available at the end of this year and then updated every 2 years.

. bibliography - Gill and Noble[3] (working copies now available in return for feedback)

. fire research in Australia - review currently being considered by the Australian Forestry Council

Available now:

. several issues of Rebuild, the newsletter of CSIRO Building Research, featuring work on buildings in fire and design features for buildings in fire prone areas.

The meeting noted that some of the leaflets published by various groups throughout Australia were often done more to show that these groups were 'doing their duty' rather than out of concern to pass on accurate, useful information.

As far as general research information from CSIRO is concerned, the IBR Communication Co-ordinator will help with any requests for information from the NCC to CSIRO and look for ways of setting up regular information flows to and from the NCC.

Publications

1. Dynamics of fine fuels in recurrently burnt eucalypt forests, Australian Forestry, Vol. 46, No 4 - pages 294-302. R J Raison, P V Woods, P K Khanna, CSIRO Division of Forest Research

2. Fire and the Australian Biota, A M Gill, CSIRO, R H Groves, CSIRO, I R Noble, RSBS, ANU, Australian Academy of Science, Canberra 1981.

3. Bibliography of fire ecology in Australia, A M Gill, CSIRO and I R Noble, RSBS, ANU.

Three Valleys Branch
PO Box 86
NAMBUCCA HEADS 2441

The Shire Clerk

Dear Sir,

We understand that the Bush Fire Council of NSW is establishing a two tier committee system "to improve the means whereby bushfire protection interests and land management agencies co-ordinate their various activities".The Bush Fire Council has asked for representatives from conservation organisations to be nominated for both the Regional Associations and the District Bush Fire Protection Committees.

We suggest to your Council that they invite:-

as an official observor to the District Committee.We trust that the Council will see fit to admit this person as a full member with voting rights.

Yours faithfully

James L.O.Tedder
Hon.Secretary

Kempsey
~~Kevin Bruton~~ ?
~~Sue Swanwick~~
Robert Buckland

Nambucca
Lyn Orrego
Don Secord

Bellingen
~~Hugh Bignell~~ ?
John Close ✓

17 June 87

Dear Robert,

Gabrielle Lynch said that you may be willing to represent the conservation movement on the Kempsey District Bush Fire Protection Committee.

The existing committee which meets once a year consists of Shire President, Engineer, Fire Control Officer, Forest Office, Pasture Protection Board, Dept. of Lands, National Parks Service, OIC Police, Fire Brigade Inspector (Port Macquarie). Then there are the following official observers - Shire Clerk, Deputy Shire Engineer, Regional Forestry Office, Bush fire Council rep (from Grafton) State Rail Authority, Dept of Main Roads, Oxley County Council, Soil Conservation Service, State Emergency Service, Kempsey Fire Brigade, and Bush Fire Brigade representative.

Meetings are held in Kempsey, generally between 10.0 and 1.0 o'clock. Meeting frequency may be increased to twice a year.

Observers take part in discussion but cannot vote.

Your role would be to keep Society in the Kempsey district informed as to decisions

and to put the views of these conservation environment bodies to the meeting.

I have a reasonable supply of information on bushfires which you'd be welcome to peruse.

Telephone me one evening to clarify any point

Sincerely
James F.G. Todd

Robert Bucklund
4 Jersey St
KEMPSEY

F4

MINISTER FOR SCIENCE
PARLIAMENT HOUSE
CANBERRA A.C.T. 2600

- 1 JUN 1987

Mr J L O Tedder
Honorary Secretary
North Coast Environment Council
Pavans Road
Grassy Head
VIA STUARTS POINT NSW 2441

Dear Mr Tedder

Thank you for your letter of 20 March 1987 about research on fire ecology in CSIRO.

With respect to Recommendation 16 in the report by the House of Representatives Standing Committee on Environment and Conservation, the Government receives numerous requests for funds to be made available to CSIRO for research into a wide range of subjects. It cannot accede in an ad hoc manner to such requests, but must leave it to CSIRO to establish research priorities within the Government's broad policy outlines, and to allot funds accordingly from the overall appropriation to the Organisation.

To elaborate on funding changes in the field of fire ecology as you have requested is not possible; CSIRO's financial system is not organised in that manner. However, CSIRO has advised me of developments since 1984 in the fields you requested. In the fields of rangelands and removal of scrub from grazing areas, advisory models are now available for pastoralists to extend prescribed burning to control the growth of shrubs and to promote growth of fodder plants through two computer packages called SHRUBKIL and PRACBURN. A third computer program (BURNECON) is being written. It takes into account the costs and benefits to a grazier associated with burning for shrub control.

In the field of coastal forest research, projects have been underway in southern New South Wales in spotted gum forests in collaboration with the New South Wales Forestry Commission. These have involved experimental studies and monitoring of management practices that involve burning. That work is almost complete.

You asked about the relevance of work on fire suppression and fire meteorology to fire ecology. The link between them is fire behaviour and fire intensity. The behaviour and intensity of a fire are dependent on meteorological conditions and on efforts taken to suppress the fire. They in turn affect the severity of the ecological effects of the fire.

Conservation organisations like the one you represent can have an input into the research planning process in CSIRO through contact with the appropriate Divisional Chief. The CSIRO Divisions that carry out research on fire are:

Division of Forest Research
PO Box 4008
QUEEN VICTORIA TERRACE ACT 2600

Acting Chief: Mr Alan Brown

Division of Plant Industry
GPO Box 1600
CANBERRA ACT 2601

Chief: Dr Jim Peacock

Division of Wildlife and Rangelands Research
PO Box 84
LYNEHAM ACT 2602

Chief: Dr Brian Walker

Division of Building Research
PO Box 56
HIGHETT VIC 3190

Chief: Dr Lex Blakey

The suggestion in the last paragraph of my earlier letter was based on the fact that the number of worthwhile research programs in any field far exceeds the available resources. CSIRO is attempting to overcome this problem by seeking funds from industries and agencies which directly benefit from research. In the case of fire research, the 'clients' would include Commonwealth, State and local government agencies responsible for forestry, conservation and fire control and the insurance industry. Community-based organisations such as the one you represent are unlikely to have sufficient funds themselves to contribute to research but they could play a significant role in convincing other agencies of the need to provide funds for research.

Yours sincerely

Barry O Jones

THE CONSERVATION COUNCIL OF NSW
THE NATURE CONSERVATION COUNCIL OF NSW
LEVEL 1, 55 -57 WENTWORTH AVENUE,
SURRY HILLS, NSW 2010.
TELEPHONE (02) 211 5366. TELEX AA24041

12th May, 1986

COPY FOR YOUR INFORMATION

The Hon. R J L Hawke,
Prime Minister,
Parliament House,
CANBERRA ACT 2600

Dear Mr Hawke,

Re: Research into Impacts of Fire

The Nature Conservation Council of N.S.W. wishes to expresses its great concern to you about the lack of priority being given by your government to funding for research into the ecological impact of fire regimes. As you know, the Nature Conservation Council represents 76 conservation organisations throughout New South Wales, with a total membership of approximately 140,000.

We wrote to you on 27th August 1985 inquiring about the progress achieved in implementating Recommendations 13-16 of the House of Representatives Standing Committee on Environment and Conservation Report on Bushfires and the Australian Environment, concerning bushfire research. As mentioned in that letter, it is our view that there is a great need for more information on the effects of fire on vegetation communities in the Australian environment, as an integral part of the development of effective fire management strategies.

Our view was strengthened during recent discussions with C.S.I.R.O. research scientists working on fire-related projects. It has become apparent that results from fire mangement strategies developed specifically for forests are being used by land managers in other vegetation communities inappropriately. For many aspects of fire management the forest situation is the only vegetation type which has been researched because of its value as a timber resource.

Observations suggest, for example, that forestry-derived hazard reduction prescriptions may be actually increasing fuel loads in sclerophyllous woodland in the Sydney area unless very precisely managed, and may in fact be creating a more flammable vegetation type in the longer term. Because of the lack of research funds, these observations remain without formal verification, but their implications are alarming for the large urban populations fringed by this vegetation in the Sydney region.

Long term monitoring is an essential part of the necessary research into the impact of fires on the range of different vegetation types, in order to detect long term changes to plant and animal populations. Recent research has also indicated that hazard reduction burning in certain vegetation types may be leading to losses of essential soil nutrients much more significant than previously thought. Yet it seems that because of funding limitations and procedures long term monitoring is always allocated a low priority by funding determiners despite its high priority among scientists over many years.

.../2

Against this background, on February 12th, the Minister for Arts, Heritage and Environment tabled the government's response to the Standing Committee's Report. Of the 23 Recommendations, only one was specifically not accepted by the government, namely, that the Commonwealth review its research priorities to determine the feasibility of increasing the funding for CSIRO research into the ecological impact of fire regimes.

The Nature Conservation Council of N.S.W. is most alarmed that this recommendation has not been accepted by your government, and that, as a result, work on the ecological impacts of fire regimes is being prevented. As made clear in the Report of the bushfire inquiry, and elsewhere, bushfires will always be with us because of climatic and geographic factors. It is essential to maintain at all times, and not just following bushfire disaster years, a level of research funding which will enable the most appropriate fire management strategies to be developed. Appropriate fire management strategies for different vegetation types are essential for protection of our natural assets as well as protection of life and property. In the current "user-pays" approach to research funding, ongoing comprehensive research essential to the well-being of the whole Australian community must be maintained.

Council urges your government to make an increased budgetary allocation for the coming financial year for research funding into long term and ecological impacts of fires.

Yours sincerely,

Judy Messer

Judy Messer
CHAIRPERSON

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
LEVEL 1, 55 -57 WENTWORTH AVENUE,
SURRY HILLS, NSW 2010.
TELEPHONE (02) 211 5366. TELEX AA24041

12th May, 1986

COPY FOR YOUR INFORMATION

The Hon. Barry Jones, MHR,
Minister for Science,
Parliament House,
CANBERRA A.C.T. 2600

Dear Mr Jones,

Re: Research into Impacts of Fire

Thank you for your letter of 30th January recommending the Nature Conservation Council of New South Wales meet with scientists of C.S.I.R.O. to ascertain the latest situation with respect to bushfire research.

As you remember, our original question to the Prime Minister arose out of concern for the implementation of the Recommendations of the House of Representatives Standing Committee on Environment and Conservation on "Bushfires and the Australian Environment", particularly numbers 13-16 (Bushfire Inquiry).

We have subsequently been able to take up your invitation, and have had a most fruitful discussion with CSIRO scientists. In the meantime, on February 12th the Minister for Arts, Heritage and Environment tabled the government's response to the Standing Committee's report.

One of our major concerns is the need to know more about the ecological impacts of bushfires, both for the implications for nature conservation and for developing effective strategies for fire management. Yet we note with alarm that the government has not accepted the relevant Recommendation, No 16, and in fact this is the only one of the 23 Recommendations which the government has not accepted. It is possible that questions of scientific independence could have been involved in this decision but the practical result is a refusal by the government to make more funding available for research into ecological impacts of fires. In fact it appears that, because of limits on research funding, rather than scientific independence being preserved, scientists are being directed to reduce the component of their research dealing with ecological impacts in favour of work directly related to fire suppression. This is a very disturbing situation for a number of reasons.

Firstly, the results and Recommendations of the Bushfire Inquiry vindicated to a large extent the pre-existing directions of fire research projects undertaken by CSIRO scientists.

Secondly, it has become apparent to many but not to all the necessary people, that results from management strategies developed specifically for forests are being extrapolated to other vegetation communities most inappropriately.

There has been more research conducted into fire effects and management in forests than into other plant communities because of the former's economic value as a timber resource. Thus for many aspects of fire management this is the only source of available information and its results are being used in other inappropriate situations.

Information to hand suggests, for example, that forestry-derived hazard reduction strategies may be actually increasing the fuel loads in sclerophyllous woodland in the Sydney area unless very precisely managed. They may in fact be creating a more flammable vegetation type in the longer term. Because of the lack of research funds, these observations remain without formal verification but their implications are alarming for the large urban populations fringed by this vegetation in the Sydney region. The efforts of fire protection bodies could not only be wasted but counter-productive.

There is thus an urgent need for research into the impacts of fires and fire management strategies in the range of different vegetation communities. This research is needed in order to gain information essential to devise the most appropriate techniques for management in order to reduce hazard in strategic areas for protection of life and property. This is in addition to the information needed on the implications of current and future fire management strategies for nature conservation goals.

Long term monitoring is an essential part of this necessary research. It is only over the longer term that possible changes to more flammable vegetation types become apparent and that plant and animal populations can be observed for possible adverse effects. Yet it seems that because of funding limitations and procedures long term monitoring is always allocated a low priority by funding determiners despite its high priority among scientists over many years. Recent research has also indicated that hazard reduction burning in certain vegetation types may be leading to losses of essential soil nutrients much greater than previously thought. This possibility demands long term monitoring.

In conclusion, may we again stress the need for more funding to be made available by the government for research into ecological impacts of fires, including, most importantly, long term monitoring of those effects. As made clear in the Report of the Bushfire Inquiry, and elsewhere, bushfires will always be with us because of climatic and geographic factors. It is essential to maintain at all times, and not just following bushfire disaster years, a level of research funding which will enable the most appropriate fire management strategies to be developed. Development of strategies effective for different vegetation types is essential for protection of our natural assets as well as protection of life and property. In the current "user-pays" approach to research funding, ongoing comprehensive research essential to the well-being of the whole Australian community must be maintained. We look forward to your advice that the government will make an increased budgetary allocation in the coming financial year for research funding into long term and ecological impacts of fires.

Yours sincerely

Judy Messer

Judy Messer
CHAIRPERSON

N.C.C. Copy

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
LEVEL 1, 55 -57 WENTWORTH AVENUE,
SURRY HILLS, NSW 2010.
TELEPHONE (02) 211 5366. TELEX AA24041

15 August,. 1986

Ms Wendy Parsons,
IBR Communication Co-ordinator,
CSIRO Institute of Biological
Resources,
P.O. Box 225,
DICKSON ACT 2602

COPY FOR YOUR INFORMATION

Dear Wendy,

re: CSIRO-NCC "Think Tank" Meeting on Fire Research

As promised, I am enclosing a copy of the Nature Conservation Council of New South Wales' response to the April meeting between CSIRO and the Council. I must apologise for the delay in forwarding this information and I hope it has not caused too much inconvenience.

Once again I would like to express, on behalf of the other members of the Nature Conservation Council, our sincere thanks for all your time and effort in organising and following up matters arising from the Conference. It is much appreciated.

The most important point to be made by the Nature Conservation Council in making the following recommendations and comments is that the Council fully appreciates the dilemma that faces many of the CSIRO's Divisions and the CSIRO in general, with regards to the allocation of sufficient funding for both short and long term research projects. The Council realises that continuing cuts in funding for such vital work either sees the curtailment of current projects or restricts the commencement of new ones. The Council views such a situation with great concern as it appreciates that the fundamental research carried out by the CSIRSO's various Divisions is the vital component in our overall understanding of man's interaction with the environment.

In addition, the Council must also emphasise that it is very concerned about the Government's failure to make more funding available for research into ecological impacts of fire. The Council believes this area of research is critical both for the implications for nature conservation and for developing effective strategies for fire management. A further expansion on this matter can be found in a letter (12 May, 1986) the NCC sent to the Minister for Science, the Hon. Barry Jones. (A copy of this letter was sent to you with other NCC material earlier in May.)

However, on a more optimistic note the Nature Conservation Council would like to present the following brief comments on the proceedings of the April Meeting.

Yours sincerely

Judy Messer
CHAIRPERSON

Encl

1. Safe Litter Loads

With regard to the basis for 'safe' litter loads and the effect of prescribed burning on modifying subsequent fire behaviour, the Council notes the comments on page 4 and 5 which suggest there is a dichotomy between the practical and conceptual problems of prescribed/control burning. This problem is one that the Council believes could be the basis for further research. It is suggested that while research into fuel loads is vital, such work should incorporate concurrent studies which relate fuel levels to other control factors such as better environmental land-use planning. Such research would aim at developing land-use practices - applicable to both established and especially developing areas in fire risk situations - which would reduce the need for continued prescribed/control burning while providing adequate fire protection to both the natural and human environment.

2. Alternative means of Hazard Reduction

Perimeter zone hazard reduction should not necessarily entail prescribed burning as is implied in paragraph 1 (page 5). The NCC advocates that research in perimeter zone hazard reduction should simultaneously include consideration of selective land clearing and mechanical litter reduction in adjoining lands rather than the protected lands. While the Council recognizes the perceived need to protect life and property it firmly believes there are many alternative strategies open to individuals and institutional land managers that, if implemented, would reduce the tendency to override ecological priorities.

In relation to the need for integrated fire control/management systems (page 5) the Nature Conservation Council believes that such work is particularly important especially when considering how fire practices will be applied to broad acre and small remnant areas of vegetation. This comment follows on from the previous suggestion that land use practices, which incorporate management practices, need to be studied further in order to establish scientifically based fire prevention/control guidelines. Also on page 5 there is a reference to "small urban reserves" and their "understorey". The Nature Conservation Council is concerned that reference to the understorey should be extended to include the entire bushland ecosystem. Disturbance to the understorey can threaten the whole of the ecosystem.

3. Relationship between fire and biota

Item 3 on page 5 also highlights a particular area of research the Council believes should be undertaken - that of the impact of fire exclusion on both plant and animal communities. In relation to plant communities the suggestion that fire may be an incidental requirement rather than a prerequisite for the regeneration of many plant species should be further investigated. The NCC believes that empirical observation suggests that many so-called fire dependent species are in fact responding to 'disturbance' eg. *Banksia ericifolia* and many legumes in the Sydney Region respond just as readily to the altered soil and light conditions following on from road and sewerage construction as they do to fire events. The impact of fire incidence or exclusion on animal communities and population dynamics is another area of research which should also be investigated.

In summary, the NCC recommends that all CSIRO fire research should take into account the impact of fire on:

- soil nutrients
- vegetation structure (including species dominance and diversity).

- soil loss and instability
- fauna (including species dominance and diversity and with reference to soil microorganisms, invertebrates as well as vertebrates).

The effect of fire as above should be taken into account wherever prescribed burning is being advocated or practised:

- to increase productivity
- to 'prevent' bushfires
- to protect property

Ecological-orientated research should include identification of all elements of ecosystems and include long-term monitoring (biota, soil, water, etc) strategies.

Research should also be extended to include the impact on weed occurrence (species, density, exclusion effects etc) in natural areas.

A national series of ecological sites should be set up to study the effects of repeated fire.

Conclusions regarding the effects of fire on a specific vegetation alliance or habitat should not be encouraged to be extrapolated to other vegetation communities or regions.

There is an urgent need for research into the effects of fire on urban bushland remnant vegetation. Finally, the ecological characteristics of areas of vegetation and ecosystems that have not been burnt for long periods should be identified and analysed.

09 SEP 1986

COPY FOR YOUR INFORMATION

MINISTER FOR SCIENCE
PARLIAMENT HOUSE
CANBERRA A.C.T. 2600

8 SEP 1986

Ms Judy Messer
Chairperson
Nature Conservation Council
of New South Wales
Level 1
55-57 Wentworth Avenue
SURRY HILLS NSW 2010

Dear Ms Messer

Thank you for your letter of 12 May 1986 about research into the ecological effects of fire. Your letter of the same date to the Prime Minister has been referred to me for attention.

I am pleased you took up the invitation in my previous letter to meet CSIRO scientists engaged in research into the ecological effects of fire and am glad to learn that the meeting was valuable to all concerned.

There were no questions of scientific independence involved in the Government's decision not to make additional funds available to CSIRO specifically for research into the ecological effects of fire. The Government receives numerous similar requests for funds to be made available to CSIRO for research into a wide range of subjects. Clearly, the Government cannot accede in an ad hoc manner to such requests but must leave it to CSIRO to establish research priorities within the Government's broad outlines and allot funds accordingly within the overall appropriation to the Organization. The hard decisions that were taken in framing the recent Budget should serve to indicate the Government's approach to the matter of funding you have raised. I regret that the Government is obliged to confirm its response to Recommendation 16 in the report "Bushfires and the Australian Environment".

The CSIRO Divisions represented at the meeting with your Council agree with the thrust of the Council's argument and would like to do more than they are doing on the ecological effects of fire. Nevertheless, research is being conducted in a range of vegetation types, not only eucalypt forests, and there is every intention that it will continue. Expansion of such research would be assisted if "clients" such as fire suppression, conservation, and forest management groups made long-term funds available.

I am assured that, despite any impressions to the contrary given at the meeting, scientists are not being directed to reduce their work on fire effects in favour of work directly related to fire suppression. It is true, of course, that resources have been directed to research on fire behaviour and fire suppression by the National Bushfire Research Unit formed by CSIRO more than twelve months ago. The results of that work will be directly relevant to the work of ecologists on the effects of fire.

Yours sincerely

Barry O Jones

20th March, 1987.

Hon. B.O.Jones,
Minister for Science,
Canberra.

Dear Mr Jones,

Thank you for your reply of 11th March concerning our inquiry regarding funding of more research into the ecology of fire.

What were the reasons however as to why recommendation 16 of the H. of R. Standing Committee on Environment and Conservation was not accepted?

What increase in funding of fire ecology has occurred since 1984? In what proportions has this funding been directed to research into effects of fire on ecology of

- range lands
- removal of scrub from grazing areas
- coastal forests

What increase in funds for fire research in other fields has occurred in the same period?

What relevance has work on fire suppression and fire meteorology on fire ecology?

Is your last paragraph serious in suggesting that conservationn organisations such as ourselves may "benefit" in some ways as "clients" if we could contribute funds for research? How would this occur?

Yours sincerely,

J.L.O.Tedder,
Hon.Sec.

F 4

MINISTER FOR SCIENCE
PARLIAMENT HOUSE
CANBERRA A.C.T. 2600

11 MAR 1987

Mr J L O Tedder
Honorary Secretary
North Coast Environment Council
Pavans Road
Grassy Head
VIA STUARTS POINT NSW 2441

Dear Mr Tedder

Thank you for your letter of 26 January 1987 about the Government's response to Recommendation 16 in the report by the House of Representatives Standing Committee on Environment and Conservation entitled "Bushfires and the Australian Environment".

Although the Government has not reconsidered its decision on Recommendation 16, there has been an overall increase in recent years of research by CSIRO into the ecology of fires. Vegetation types covered in that increase include rangelands, heaths, tropical forests, grasslands and woodlands. In addition, CSIRO has established the National Bushfire Research Unit for work on fire suppression and fire meteorology since the Standing Committee's Inquiry.

CSIRO intends to continue this work and further expansion of it would be assisted if "clients" such as fire suppression, conservation, and forest management groups were able to contribute funds.

Yours sincerely

Barry O Jones

F4

CSIRO

Second Floor, Canberra Savings Centre
City Walk, Canberra City, ACT 2601

PO Box 266, Civic Square, ACT 2608
Telephone (062) 47 0536
Telex AA 61525
Facsimile (062) 47 0351

Office of the Chairman

7 APR 1987

Mr J L O Tedder
Honorary Secretary
North Coast Environment Council
Pavans Road
Grassy Head
VIA STUARTS POINT NSW 2441

Dear Mr Tedder

Thank you for your letter of 26 January 1987 about the Commonwealth Government's response to Recommendation 16 in the report by the House of Representatives Standing Committee on Environment and Conservation entitled "Bushfires and the Australian Environment".

Although the Government did not accept this particular Recommendation, there has been an overall increase in recent years of research by CSIRO into the ecology of fires. Vegetation types covered in that increase include rangelands, heaths, tropical forests, grasslands and woodlands. In addition, since the Standing Committee's Inquiry, CSIRO has established the National Bushfire Research Unit for work on fire suppression and fire meteorology.

I understand that CSIRO intends to continue this work and further expansion of it would be assisted if "clients" such as fire suppression, conservation, and forest management groups were able to contribute funds.

Yours sincerely

Neville Wran QC

F4

DEPARTMENT OF ARTS, HERITAGE AND ENVIRONMENT

GPO BOX 1252, CANBERRA, ACT 2601, TELEPHONE 467211, TELEX AA62960

Mr J.L.O. Tedder
Hon Secretary
North Coast Environment Council
Pavans Road
Grassy Head
via STUARTS POINT NSW 2441

Dear Mr Tedder

The Minister has asked me to thank you for your letter of 26 January 1987 concerning the Government's response to Recommendation 16 of the report by the House of Representatives Standing Committee on Environment and Conservation, 'Bushfires and the Australian Environment'.

Mr Cohen's statement to Parliament on 12 February 1986, in which he outlined the Government's responses to the recommendations of the Standing Committee's report, explained that the Government did not accept Recommendation 16 because CSIRO allocates its funds according to overall Government priorities and because research and development funding was already the subject of a review by ASTEC. The Government has not reconsidered its decision.

The CSIRO continues to be responsible for establishing research priorities within the Government's broad policy outlines and allocates funds accordingly from the overall appropriation to the Organisation.

Since the Standing Committee's Inquiry, CSIRO has established the National Bushfire Research Unit to undertake research work on fire suppression and fire meteorology. There has been an overall increase in recent years of research efforts by CSIRO into the ecology of fires. I understand that CSIRO intends to continue its work in this field and to expand it wherever possible.

I note that you have written also to the Minister for Science who is responsible for CSIRO.

Yours sincerely

Alison McCusker

Alison McCusker
for Secretary

6 April 1987

OTHER EFFECTS OF FIRE

_ DESTRUCTION By fire of plant cover on steep slopes lead to soil erosion

- fires lover soil nutrients in certain areas nitrogen losses by fires take up to years to replace and phosphate losses up to years to replace
- scenery can be altered temporarily by fire and permanently by frequent fires leading to changes in plant communities and loss of large trees
- animals and bird habitats can be altered by plant communities and nesting hollows being changed and destroyed

FIRE

-Fire has been a major part of sections of the Ausstralian landscape for at least 100,000 years.

-Evolution has produced many species and communities which have adapted to fire.

-Some communities of plants need fire at intervals if they are to remain as that type of community and not become another

-Some communities of plants, rainforests, can be destroyed by fire and will be replaced by other communities.

-Certain arid areas have plants which are intolerant of fire

-Grasslands have been taken over by shrubs when fire has been excluded

-Alpine areas are seriously damaged by fire

FIRE FREQUENCY

Fire every year has a different effect upon plants and plant communities than fire every ten years.

Frequent fires will kill most small shrubs and certain trees - Alocasuarina, Acacias, Banksias

Grass is not killed by annual fires and therefore takes over when shrubs are killed.

FIRE INTENSITY

Some fires are very hot and consume such of the smaller vegetation and scorch the leaves of even the largest trees

Often deliberately lit fires for reduction of fine fuel are of low intensity and heat.

-Hot fires ensure a good seed germination of many species e.g. Acacias, Banksias

-Cool fires often don't ENSURE GOOD SEED GERMINATION

RESPONSIBILITY OF LANDHOLDERS

Many landxholders use fire to
-reduce what they see as a fire hazard to their crops
- remove old grass and encourage new "pick"
-clear regeneration bush land

Fire authorities encourage hazard reduction using fire by urging landholders "to burn off now to prevent serious summer fires"
Such blanket advice ignores
- effect on soil nutrients
-effects on natuve vegetation
-fgire frequency
-alternatives to hazard reduction
-climatec factors
As a result some of the more irresponsible land holders light fires
- in windy, dry conditions
- without any idea of how they will control the burn
- without consideration of neighbours or public land
Such land holders should be held financially responsible for any damage they do to neighbours and the public land

FIRE MANAGEMENT PRACTICES

There are a number of ways humans can manage fires
- Do nothing approach
-Reduce fine fuels and so reduce wild fire intensities by frequent low intensity fires
- Construct frequent fire breaks by clearing and maintaining areas with little or no fuel
-Modify some areas intensively by fuel reduction and fire break construction while ignoring other areas
-Or by a combination of all these points

Controlled burinbg

MANAGEMENT OF FIRES IN SMALL AREAS

Councils often clear roadsides and fire small reserves claiming to

- improve road conditions
- removing weeds
- reduce fire hazard

Native bush along roadsides and in undeveloped reserves when not damaged byu road widening road drainage, fence oconstruction and fires

- present weed infestation
- contribute to the scenic environment
- act as wild life corridors
- offer reserves of original vegetation.
- provide wind breaks

Questions that need be asked before burning or altering this vegetation are

- if not burnt to whom or what is any fire in it , a hazard? If there is a hazard because of fuel build up - is the build up continuing over time or is it stable?
- are there ways of reducing fine fuel loads by means other than fire? e.g. raking out fine fuel by hand
- have heighbouring land holders proveded adequate fire breaks?

If it is necessary to burn

- when should it be done?
- Are there any special plant communities which should be protected?
- how frequently must fires be lit to keep the hazard low?
- what will be the effect on the area of such fire frequency?

FIRE MANAGEMENT

Uncontrolled fires whether by lightening or humans and their environment depending on a whole range of factors.

But how much of a fire hazard do natural environments pose to human life?

How much of the natural environment should human seek to change to provide absolute safety to humans and human activities whereoever they live?

Humans who choose to live in the country do so because most balance the risks of bushfire with the benefits of working and living in a natural environment, "If you can't stand the heat get out of the kitchen"

But given that fact then we should aim to reduce fire hazard to humans consistant with having as llittle impact upon the remaining natural environment as is possible.

How much of a fire hazard do natural environments pose?

ANIMAL RESPONSE

Mammals: The response

Birds The response of birds vary

- When fires occur in the spring many nesting birds must perish
- Low intensity fires have little effect upon large birds but do affect birds which live and nest in shrubs and on the forest floor.
- Hot fires by their very nature cause casualties and in spring and early summer affect nesting
- Birds forced from one area cannot necessarily move into unburnt AREAS AS THEY ARE GENERALLY OCCUPIED BY OTHER BIRDS OF THAT species

PLANT DEFENCES AGAINST FIRE

There aee two
- protection by thick bark
- quick seed germination to replaee the fire killed plants

Buds below the ground

the seeds into the rich ash bed.

DIFFERENT COMMUNITIES, DIFFERENT FIRE RESPONSE

There is enormous variation between the ability of different habitats to recover from fire. Very few rainforest species have any fire-adaptation; a burnt rainforest takes 300-400 years to return, if indeed it ever does. Alpine pastures have also developed largely in the absence of fire, with the result that they are very poorly adapted to it.

Heaths, at the other extreme, require regular burning (perhaps every 15 to 30 years) for their survival. A heath which has not been burnt for fifty years becomes very simplified and senescent, and the plants and animals (such as the rare ground parrot) which depend on the heath habitat, may be lost entirely.

BUDS BELOW THE GROUND

The best known of these are eucalypts, which can have massive woody lignotubers with buds protected by the soil. After defoliation, they shoot automatically. Not only eucalypts have this facility however, as evidenced by the recovery of these Melaleuca armillaris from root-stocks.

The growing apex of Xanthorrhoeas, or Grass Trees, is protected by the mass of dead leaf bases, and by being drawn down by contractile roots. After burning, this apex resumes growing. Soon after, the plant usually produces the spectacular tall flower-spikes, with up to 10,000 seeds per spike.

BUDS UNDER THE BARK

The famous epicormic growth of eucalypts (and some other plants) relies on buds insulated by the bark, that are hormonally stimulated by defoliation (such as in a fire).

PROTECTED SEEDS

Seeds may survive by protection from heat, either under the ground, or in a hard seed case. On the left, the Banksia follicles and the Hakea seed cases have now opened, dropping their fertile seeds into the rich bed of ash. On the right, beneath the dead stems of fire-sensitive ~~Snow Gums~~ Acacias, is a dense layer of shrubs which have mostly regenerated from buried seeds.

MAMMALS

The response of mammals varies. Burrowers such as wombats can generally escape the fire deep in cool burrows. Large mobile mammals like kangaroos can often flee, to return later and feed on the new growth. Arboreal mammals such as the greater glider however, generally die in fires, or starve later through being unable to move into occupied territory.

FIRE AS AN ENVIRONMENTAL FACTOR

Fire has been a major part of the Australian landscape for at least 100,000 years, as determined by palaeontological studies of charcoal deposits. Our knowledge of evolutionary principles, as well as simple logic, tells us that the effect of such an influence over such a period of time will be initially to produce species and communities that are adapted to periodic burning. Further, this adaptation will reach a point where fire is an essential and integral part of these communities. From a conservation perspective then, we must learn to view fire as not necessarily a destructive force in any long-term sense. On the contrary, in some areas, the long-term exclusion of fire can be detrimental.

So far, we have spoken very generally of "the landscape", but it is necessary to realise that we are talking of a huge and complex network of habitats and organisms with varying needs and adaptations.

At one extreme are communities which have very little defence against fire, because they haven't generally needed it. These communities recover very slowly indeed, and may in fact never do so in the current state of disturbance and reduction that is the lot of most Australian habitats. Rainforests and alpine communities are ones which are extremely sensitive to fire. At the other extreme perhaps are the heaths which require fires at regular intervals for their very survival.

But, just as crucial as understanding the differing needs of different communities, is the type of fire regime - the intensity and frequency - that a community has adapted to. Species and communities have adapted, not to a burn but to a pattern of burning over a long period of time. A forest that flourishes after an occasional intense burn may be totally altered by a series of regular less intense ones that prevent seed set recovery.

There is a myriad of devices adopted by individual plant species to cope with fire (some of which are illustrated below), but in general we can classify them into those which survive by protecting buds or growing shoots, and those which are killed by the fire, but whose seeds germinate afterwards.

Most eucalypt species have protected buds either safely below ground in the rootstock, or in the trunk and branches, protected by insulating bark. Their growth is triggered by defoliation, be it by fire, disease or insect attack. Xanthorrhoeas (Grass Trees), have the growing point protected deep in the mass of leaf bases.

Those that die can protect their seeds, or they can recolonise an area by having light seeds that disperse readily from other areas. Daisies, Mistletoes, and ~~the local~~ Prostanthera lasianthos (Mintbush) seem to fit this latter category. Seeds may be protected by a hard case and being buried in the soil - a strategy favoured by many acacias - or on the plant itself, in a 'fire-proof' seed case. Banksias, hakeas and some eucalypts insulate their seeds from the fire's heat in 'cones' or seed cases, which later open to drop

A RATIONAL APPROACH TO FIRE MANAGEMENT

The first section of this display has shown that fire is an important component of many natural communities. Prolonged human interference in natural fire regimes, both deliberately (eg, controlled burning) and accidentally (eg, ~~dropped cigarettes~~ escaped burn offs) means that many ecosystems have remained in, or reverted to, earlier successional stages. In some cases subtle changes to the ecosystem (eg, loss of soil, nutrients, plant and animal species, microflora) have deflected the entire successional process onto a new path. This past and continuing destructive interference must not continue and debilitated areas must be given the opportunity to recover. All authorities managing natural areas need to develop fire management strategies which are consistent with a primary objective of nature conservation. This management must be based upon a thorough knowledge of the impact of fire on different plant and animal communities.

Such strategies must also take account of the crucial fact that fire can have a highly significant impact on many human-modified landscapes. Because we may choose to live in or near the bush and recreate in the bush, and because our crop and pasture lands sometimes adjoin natural environments, uncontrolled fires which start in those areas may represent a threat. But just how much of a fire hazard do natural environments pose? The answer to this question must be available before a rational approach to fire management for an area can be determined.

In essence, the sort of fire management which we are seeking is based upon:

(1) a thorough understanding of the natural environment and its interaction with fire;

(2) a quantitative assessment of the hazard posed by different plant communities and the variation in hazard within a community;

(3) an understanding of the significance of the hazard both to natural and human modified environments and to recreation;

(4) an understanding of the effectiveness and potential impact of the various possible management practices when used in differing environments;

(5) a recognition of other management objectives for the area; and,

(6) a knowledge of fire management practices in surrounding areas and other management practices likely to effect fire management.

Such an approach to fire management is being developed in Australia by the N.S.W National Parks and Wildlife Service. In the diagrams and text which follow you will get an indication of the techniques which they are employing. While their approach may not be perfect, it demonstrates that there need be no fundamental conflict between sound fire management and conservation.

COLLECTION OF INFORMATION

Fire hazard is determined by a number of interacting factors including vegetation cover and type, fuel load and type, slope, aspect, climate and the prevailing weather pattern. Assessment of hazard, therefore, is dependent upon having a quantitative measure of these factors. As the three dimensional map of the Blue Cow area (Kosciusko National Park) shows, significant variations in topography and vegetation can occur over relatively small distances. Thus the fire hazard may be different in different areas. The

importance of the weather (particularily humidity, rainfall, temperature and lightning) as a factor influencing hazard means that the hazard can also vary greatly over time.

We will use results obtained from work in Kosciusko National Park as an example of the approach taken by the National Parks and Wildlife Service in the assessment of fire hazard over a large area. They divided the National Park into a grid with one square kilometre cells (not an adequate coverage-but it's a good start). In each cell they measured aspects of the vegetation and fuel as well as recording physical features such as slope and aspect. As you can imagine, this generated a mass of information useful not only in relation to fire management but also in many other activities related to nature conservation, for example in determining the conservation status of species and communites in the area concerned. The information is stored within a computer. Using specially designed programs it is possible to show pictorally how the factors influencing hazard vary over the area of the park. The printout to the left displays the factor aspect . Apart from making spectacular wall hangings, they provide managers with a lot of valuable information.

DETERMINING THE HAZARD

It is the computer package PREPLAN which enables all this information to be brought together and combined with variable weather parameters to provide an overall assessment of the degree of fire hazard. There are two aspects of fire which are often used as a measure of hazard: flame length (intensity) and rate of spread. In the diagram to the right we see a simulation of the expected rate of spread of fire given the specified weather conditions. These conditions represent a day of extreme fire danger. Even so, by no means all areas pose a great fire hazard. It would therefore be pointless, and a great waste of resources (to say nothing of the damage that could be caused) to underteke fire prevention practices such as hazard reduction burning over the whole area of the park.

There are some areas, however, which seem to present a serious hazard. What do you do in such areas? We think that you must then go back to those areas and make a much more detailed assessment of the natural characteristics of the area. Are we dealing with extremely rare species of plants and animals, or rare communities? If so, could fire prevention measures be just as effectively carried out elsewhere? Would hazard reduction burning actually reduce the fire hazard for a significant period of time? (it quite often won't). What would be the cost of not implementing fire prevention measures? Are the communities in the path of a possible fire, fire sensitive and of high conservation value? Would a fire seriously threaten human settlements? These are the sort of questions that have to be answered, and can only be answered once quantitative data has been obtained.

PROBLEMS WITH TRADITIONAL FIRE MANAGEMENT

The problems outlined here exist, we believe, because fire management as it is undertaken by many authorities is not based upon those important principles outlined in the second section of this display. There has been very little understanding of how fire interacts with the natural environment, and little willingness by authorities to encourage and undertake that essential research. In such an atmosphere virtually no consideration has been given to the relationship between fire management and nature conservation. It is only now, with increasing public pressure, that some fire authorities are beginning to look at this relationship.

Aside from the problems associated with nature conservation, many people are beginning to question the usefulness of broadscale application of many fire management practices. These practices have been undertaken in response to a percieved hazard. That hazard, however, has not generally been accurately quantified. As the work of the National Parks and Wildlife Service has clearly shown, hazard can vary enormously within a management unit. To apply blanket fire management prescriptions over large areas completely ignores this fact and can lead to a waste of resources, a waste of time and cause large amounts of unnecessary damage to the environment.

It also ignores the fact that some fire management practices are just not applicable in particular environments. Hazard reduction burning is not always going to significantly reduce the fuel load, and even if it does it may do so for only a very short time. Again this points to a lack of understanding of how fire interacts with the natural environment.

In the pictures and text which follow we have outlined some of the controversial aspects of three fire management practices:
(1) controlled burning
(2) fire trails
(3) construction of tracks during a fire

CONTROLLED BURNING

HAZARD REDUCTION BURNING

Hazard reduction burning (fuel reduction burning, prescribed burning) can undoubtedly, under certain circumstances, reduce the risk of ignition and slow the rate of spread of a fire. It is for these reasons that it is broadly applied as the main tool in fire prevention and as an aid in fire suppression. It's usefulness, however, will vary greatly from site to site, as will the need for it. In addition, its repeated use can be very detrimental to the nature conservation values of the area.

For example, you can see in the photo of a burning forest that the landscape is very dissected, with a range of aspects, slopes and vegetation communities, all of which are factors affecting hazard. Despite this, the incendiaries which have been dropped from the air to light these hazard reduction burns have apparently landed at random. Thus we have a fire burning in a gully, an area of generally very low fire hazard. But it's not just

a wasted incendiary, it's a needlessly destructive one. In many parts of southern Australia gullies provide an important refuge for ecologically significant rainforest communities such as that shown in the very green photo. These communities demand exclusion from fire for their existance. What price for carelessness?

The view of the forest you are getting in this photo is about as good as the view the incendiarists would be getting, and without a knowledge of the communities, which can only be obtained by extensive groundwork, they can't hope to know what they are putting the torch to. Unfortunately, it's also probably as good a view as most people undertaking ground lighting of fires are going to get!

In all probability, some of the fires you see are burning in forest of very low natural fuel load where there is little to be gained by further fuel reduction. In fact, there is a lot to be lost. Soil, for example. A proportion of the nutrient pool as another example. And what about fire sensitive plants, animals and microbiota which don't have a chance to recover in the interval between control burns?

The photo of the understorey of an open forest which has been recently burnt very graphically displays some of these problems. There is not a lot of vegetation left to protect the soil surface in the event of heavy rain. And what would have been the likely gain of such a fire? Quite possibly very little- snow gum dominated forests don't usually present a very great hazard!

Hazard reduction burning has a place in fire management. But it is illogical and highly irresponsible to use it without having first assessed:
(i) the degree and significance of the hazard you are dealing with (does it warrant active management to reduce it?);
(ii) the likely impact of the burning regime on the communities you intend to burn (is it likely to be adverse, or perhaps complementary?), and
(iii) the probable effectiveness of the burning regime in achieving a reduced hazard for a substantial time.

POST LOGGING REGENERATION BURNS

The problems associated with post-logging regeneration burns are not so well known, but none the less significant. The aim of these burns is to both get rid of logging debris and provide a good ashbed for seed regeneration of selected species. They are therefore often undertaken in areas with very high fuel loads and can be extremely difficult to maintain under control. Indeed some ardent critics would question inclusion of them in a discussion of control burning! The photograph shows one of the more insidious and major problems associated with these burns. It is a picture of what was once a patch of rainforest (remember the green photo?) but which is now a mass of regenerating wattles and eucalypts. The photo is taken on the south coast of N.S.W just north-west of Batemans Bay. If you believe the Forestry Comission (remember them-they're the ones that "manage" our forests) this doesn't happen. I advise you not to believe them!
Why has this rainforest been destroyed? Two possibilities are that the burn got out of control, or that the burn was deliberately extended to remove the

rainforest. Neither of these possibilities are very appetising. Whatever is the case that rainforest is probably gone for good. As I mentioned earlier moist gullies represent a refuge for the once more prevalent rainforest species which had the squeeze put on them by a drying climate. These communities can maintain themselves in the moister environments so long as they remain substantially undisturbed. Once you do this sort of thing to them, however, the species better adapted to the dry conditions (and to fire) such as the eucalypts and the wattles can move in and take over.

~~Little boys and girls shouldn't be allowed to play with matches!~~

FIRE TRAILS

The question of access is one of the real bogies facing natural area managers.

Probably the major controversial aspect of fire trails is how many you have and where you put them. Can you justify putting a trail through a wilderness area in the name of fire management? Or how about five or ten or twenty trails? That sort of thing is happening know. There are a large number of managers who believe that the more access the better. You've got to be able to get at the fire quickly with heavy equipment.

But is there likely to be a fire anywhere near the road you've so expensively and sometimes destructively put in? Again we come back to the question of knowing the environment you're working in. Unless you've got a good idea of where the areas of high fire hazard are and where fires which start in those areas are likely to spread, you really are running blind. The common way to try and bypass this deficiency of knowledge is to put more roads in than you think are ever going to need. And when you're working without an adequate understanding of the natural characteristics of the area, the more roads you put in the greater is the likelyhood that you will destroy highly significant natural communities. How do you justify ripping roads through one of our all to rare wilderness areas without even knowing whether there is any significant hazard there!?

The photo shows that the construction of fire trails is a major undertaking involving the time of people and heavy equipment. For this reason alone trail development should be kept to a useful minimum. Apart from the economics the actual dozing of a trail can have a very high environmental cost. It exposes the soil to all the forces of erosion. If you have too many trails there is no way you are going to be able to maintain them all in a non-eroding condition. When trails go through creeks as they often do they can greatly disturb the riverine environment. And, of course, the more trails there are the more places people can get to in their weed carrying vehicles. And how often have you seen a spot where one trail has become two or three or four because people have either driven to avoid a bog or a fallen tree or perhaps just gone off-road for the heck of it? These are very real costs of buliding fire trails, but they are costs which are often not taken into account.

A question which is hard to answer but which must be addressed is whether fire trails actually increase the risk of fire ignition. People are responsible

for lighting a number of wildfires, mostly unwittingly, and the more access there is, the more people there are going to be.
Of course, fire trails cannot be seen in isolation, as they are just part of an overall access network. Any decision to build new fire trails or revegetate old ones must be made in this context. The access systems for many areas need immediate review. Trails which are shown to be unnecessary should be closed and revegetated. This includes fire trails.

CONSTRUCTION OF TRAILS DURING A FIRE

At first glance, it may seem that the discussion of this topic should have been included in the section on fire trails. We do not, however, believe that tracks dozed during a fire should be considered as fire trails. The major reason why these tracks can become controversial, though, is that unfortunately this is what tends to happen. A rough track is pushed through during a fire to provide access to a particular point, and later by the power of ad-hoc management it becomes a part of the fire trail access system.
You can see in the photograph that during a fire a large number of tracks are put in. There are also various other earthworks such as clearings for helicopters. Whether or not all that clearing was justified in terms of fire-fighting is hard to say. Sometimes efficiency takes second place in the heat and the smoke. But should those scars become a permanent legacy of the fire-fighting which took place? We would argue strongly that they shouldn't.

The responsibilities of the manager of an area should encompass the revegetation of tracks and helipads etc which were constructed during fires. It should be clearly spelt out in a management plan where access ways will be sited. Their siting would be determined as part of the rational approach to fire management outlined in the second section of this display. This should minimise the need for new tracks to be put in during a fire. Only those pre-determined trails should be maintained and others which are put in as an emergency measure should be viewed as temporary. The ad-hoc approach cannot suffice.

F 4

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
176 CUMBERLAND STREET,
SYDNEY, NSW 2000.
PHONE: (02) 27 2228/27 4206. TELEX AA24041

16 January, 1987

Dear Member Society,

re: Representation for conservationists on Regional Fire Associations and District Committees

In November 1985 the Co-ordinating Committee of the Bush Fire Council of N.S.W. advised us that it was about to establish a two-tier committee system in order "to improve the means whereby bush fire protection interests and land management agencies co-ordinate their various activities." The proposed new committee system will operate at two levels, regional and local, "to bring together all elements with a direct responsibility in bush fire management in New South Wales in the community interest."

The Nature Conservation Council of N.S.W. has congratulated the Bush Fire Council for initiating this system for improved public participation in bush fire management. We have been invited by the Bush Fire Council to nominate conservationists as representatives on the new committees, and are writing to invite your organisation to forward to us the name of any of your members who would like to be considered for appointment as conservationist representatives on committees in your area. Details of the two-tier committee system are as follows.

1. Regional Fire Associations (R.F.A.'s)

Seven of these committees will operate at a regional level, in the east of the state, dealing with problems and activities of a regional nature, including -

- review of regional fire detection and surveillance arrangements;
- fire fighting training needs;
- gathering statistics on wildfire occurrence and fuel management activities;
- review of prevention/mitigation programmes submitted by individual District Committees.

The R.F.A.'s will meet at least twice yearly, but may meet more often. Their size will be limited to about 15 members, one of which will be the representative of the conservation movement. The Bush Fire Council will choose the conservationist representative from a list of three names which it has invited the Nature Conservation Council to submit.

The proposed inaugural meeting dates for the seven R.F.A.'s are as shown below. The areas covered by each are shown in the attached list:

Highlands	17/3/87	Sydney	7/4/87
Southern	18/3/87	Hunter North	9/4/87
North Coast	25/3/87	Hunter South	30/4/87
Northern Tablelands	26/3/87		

ACTION

We are inviting your organisation to submit names of any members or other conservationists interested in representing the conservation movement on your nearest Regional Fire Association. In order to comply with the Bush Fire Council's invitation, we will have to select a list of three names for each R.F.A., so it would be most helpful if potential applicants could supply us with information about their knowledge, experience and interest in bush fire management. We could supply additional information about the tasks of the R.F.A.'s to people wanting to know a bit more about the work involved.

2. District Bush Fire Protection Committees (D.F.C.'s)

One of these committees is to be established in each local government area, with the aim of co-ordinating community interests and responsibilities. These communities will be convened by the local shire council and its Fire Officer, and will act in an advisory capacity only, but will be charged with making recommendations via the R.F.A.'s to the Bush Fire Council Co-ordinating Committees in the following three fields -

- development of a comprehensive fire protection plan, including emergency fire suppression, and strategies for fuel management, fire breaks and access construction;
- funding of fire prevention and mitigation activities;
- training requirements for fire fighting groups.

The D.F.C.'s will be involved at a very practical level of operations, for example with recommendations for funding for, e.g., fire trail maintenance and fuel management. The new arrangements have provision for each D.F.C. to include a conservation movement representative as an official observer, but admission as a full member with voting rights will be at the discretion of the local government council convening each committee.

The Bush Fire Council has provided the following information about D.F.C.'s:

"Invitations to provide an observer on District Committees have been left in the hands of local government who are the convening organisations for these groups. Many, if not most, of these Committees are in fact already in existence and no deadlines for participation is consequently necessary. There is or will be one District Committee in each shire within the area of the State embraced by this scheme. The most appropriate course of action following a canvass of your member societies in the manner you suggest might therefore be for your Council in its central role to suggest to each shire the person they might see fit to invite. This process has the advantage of ensuring that your Council's formal accreditation attaches to the person or society being proposed."

Although the Bush Fire Council has suggested the N.C.C. recommend a conservationist observer to each shire council, this is likely to prove to be beyond our administrative resources, as approximately 60 councils are involved. We therefore draw your attention to the existence of the D.F.C.'s and their new administrative arrangements, and urge your groups to seek the participation of a conservationist representative from amongst your members or other conservationists known to you. If any problems are encountered, perhaps you could let us know and we could try to solve them.

Yours sincerely

Jocelyn Howell

Jocelyn Howell
PROJECT OFFICER
Encl..

REGIONAL FIRE ASSOCIATIONS

Hugh Webster
David Loa
~~Steve Cook~~

North Coast R.F.A.

Sixteen Local Government areas:-

Tweed	Nymboida
Kyogle	Ulmarra
Byron	(plus City of Grafton
Ballina	and Casino Municipality)
Richmond River	Coffs Harbour
Copmanhurst	Bellingen ?
Maclean	Nambucca Lowe
Lismore	Kempsey ?

Northern Tablelands R.F.A.

Seven Local Government areas:-

Tenterfield	(plus City of Armidale and
Severn	Glen Innes Municipality)
Guyra	Dumaresq
Walcha	

Northern Hunter R.F.A.

Seven Local Government areas:-

Great Lakes	Scone
Gloucester	Greater Taree
Dungog	Hastings
Port Stephens	

Southern Hunter R.F.A.

Eight Local Government areas:-

Muswellbrook	Maitland City
Singleton	Lake Macquarie
Cessnock	Wyong
Gosford	Rylstone

Sydney R.F.A.

Thirteen Local Government areas:-

Warringah	Liverpool
Kuring-gai	Camden
Hornsby	Campbelltown
Baulkham Hills	Sutherland
Blacktown	Blue Mountains
Penrith	Hawkesbury
Fairfield	

Highlands R.F.A.

Twelve Local Government areas:-

Greater Lithgow	Wingecarribee
Evans	(plus Cities of Bathurst and
Oberon	Goulburn)
Wollondilly	Wollongong
Crookwell	Kiama
Mulwaree	Shellharbour

Southern R.F.A.

Ten Local Government areas:-

Shoalhaven	Bombala
Eurobodalla	Snowy River
Bega Valley	Yarrowlumla
Tallaganda	Yass
Cooma-Monaro	(plus City of Queanbeyan)

F 4

30th January, 1987.

In August 1984 the House of Representatives Standing Committee on Environment & Conservation tabled its Bushfire Inquiry report with a total of 23 recommendations. Four of these recommendations pressed for increased funding for bushfire research. Your Government accepted all these recommendations except Number 16 which states

"The Commonwealth review its research priorities to determine the feasibility of increasing the funding for CSIRO reserach into the ecological impact of fire regimes".

Our Council recognising on this Australia Day 1987, the uniqueness and significance of Australia's flora, asks why the Government has not accepted this recommendation?

The North Coast of NSW may not be subjected to horrendous fires of Victoria and South Australia but our area is subject to continual firing for supposed hazard reduction. The effect on the ecology of the area appears to be unknown but the myth that this continuous burning off is "necessary and good" is repeated day after day year from Fire control officers of Local Government to farmers and landholders and even to some extent the Forestry Commission of NSW.

Has your Government reconsidered its decision on recommendation Number 16?

If not what are the reasons for not adopting it?

This aCouncil is concerned that the long term ecological research necessary to ensure survival of Australia's unique flora, intheface of various human impacts, is begun as soon as possible.

Yours sincerely,

J.L.O.Tedder,
Hon. Sec.

Rt. Hon R.J.L.Hawke,
Prime Minister of Australia
Parliament House.

Copy to: Hon. B.Jones,
Minister for Science.

Hon. B.Cohen,
Minister for Arts, Heritage & Environment.

N, Wran,
Chairman, CSIRO.

F4

14 Feb 87

Project Officer,
N.C.C.,
Sydney.

Dear Jocelyn,

Regional Fire Association
District Bush Fire Protection Committee

Your letter of 16th January.
We suggest the following.

North Coast

Hugh Webster
P.O.Box 420
Ballina

Hugh is an architect who has read widely and followed the local scene for bush fire control. He considers the present situation very ad hoc and sees the need for a definite policy.

David Lea
Argues Road,
Taylors Arm 2447

David is an exForestry Officer from ACT. He has controlled fire fighting operations and is very aware of the many problems associated with existing systems.

Alan Went,
Kalang,
via Bellingen 2450

Alan -ex research Forestry Commission, limited fire experience with commission in emergency. Deputy Captain Kalang Bush Fire Brigade.

b

Jam,es Tedder,
Pavans Rd.,
via Stuarts Pt., 2441

- has dealt with bush fires in Gosford district during 1940s. Read widely on fire and ecology.

Submitted in order of priority of willingness to serve

National Parks Association of NSW

Three Valleys Branch
PO Box 81
NAMBUCCA HEADS 2448

The Shire Clerk

Three Valleys Branch

Dear Sir,

We understand that the Bush Fire Council of NSW is establishing a two tier committee system "to improve the means whereby bushfire protection interests and land management agencies co-ordinate their various activities The Bush Fire Council has asked for representatives from conservation organisations to be nominated for both the Regional Associations and the District Bush Fire Protection Committees.

We suggest to your Council that they invite

as an official observor to the District Committee.We trust that the Council will see fit to admit this person as a full member with voting rights.

Yours faithfully

James L.O.Tedder
Hon.Secretary

F 4

15th February, 1987.

Project Officer,
N.C.C.
Sydney.

Dear Jocelyn,

Herewith copies of letters sent and received by the NPA Three Valleys branchg to our three Councils. Only Kempsey Council replied.

You will note that a lot of important information is just not available. This seems to be a serious matter and should be followed up.

Have any other members of NCC come up against this problem? Could we ask through the next newsletter for information as to how easy or difficult it is to obtain statistics?

In due course we will take up this matter in the Regional Fire Associations.

Yours sincerely,

J.L.O.Tedder,
Hon.Sec.

Northern Hunter.

We feel that placing the Greater Taree & Hastings Shire in the Northern Hunter region is an arror. They are climatically and vegetationally more akin to the rest of the Mid North Coast, and a better division would have been Taree to Grafton as one and north to the bborder as another region.

Mrs K.Smith,
4/84 Bent St.,
Tuncurry 2428
- Secretary of Great Lakes Conservation Society. Former President Tuncurry Progress Association, Member of Gloucester Shire Council 1974-77, Member of Tuncurry Urban Committee. Had property at Gloucester burnt out, great interest in fire protection.

Mr T.Corliss,
Hannam Vale Road,
Lorne, 2439
- Former member of Shoalhaven bushfire brigade. Volunteered to join Lorne Bush Fire Brigade. Has had experience in fire control and interest in the subject.

M/s J.Carson
Molly Milligan Road,
Rolands Plains 2441
- Lives in fire prone area. Has studied fire effects in birds for degree in zoology and geography.

Mr G.Williams,
Newby Lane,
Lansdowne,
viaRRTaree 2430
-Entomologist, studied fire impacts on fauna, worked for Forestry Commission & Museum.

Submitted in order of priority of willingness to serve.

District Bush Fire Protection Committees.

Though you have opted out of suggesting members of these committees to the Councils concerned it mayu well be necessary in view of some Councils attitude to conservation of the fauna and flora of their area, to approach you if our more direct appraoch fails.

Yours sincerely,

J.L.O.Tedder,
Hon.Sec.

National Parks Association of NSW

The Shire Clerk
Dear Sir,

We understand that the Bush Fire Council of NSW is establishing a two tier committee system "to improve the means whereby bushfire protection interests and land management agencies co-ordinate their various activities The Bush Fire Council has asked for representatives from conservation organisations to be nominated for both the Regional Associations and the District Bush Fire Protection Committees.

We suggest to your Council that they invite
as an official observor to the District Committee.We trust that the Council will see fit to admit this person as a full member with voting rights.
Yours p

Three Valleys Branch
PO Box 81
NAMBUCCA HEADS 2441

The Shire Clerk

Dear Sir,

F 4

NORTH COAST ENVIRONMENT COUNCIL

26th January, 1987.

In August 1984 the House of Representatives Standing Committee on Environment & Conservation tabled its Bushfire Inquiry report with a total of 23 recommendations. Four of these recommendations pressed for increased funding for bushfire research. Your Government accepted all these recommendations except Number 16 which states

"The Commonwealth review its research priorities to determine the feasibility of increasing the funding for CSIRO research into the ecological impact of fire regimes".

Our Council recognising on this Australia Day 1987, the uniqueness and significance of Australia's flora, asks why the Government has not accepted this recommendation?

The North Coast of NSW may not be subjected to horrendous fires of Victoria and South Australia but our area is subject to continual firing for supposed hazard reduction. The effect on the ecology of the area appears to be unknown but the myth that this continuous burning off is "necessary and good" is repeated year after year from Fire control officers of Local Government to farmers and landholders and even to some extent the Forestry Commission of NSW.

Has your Government reconsidered its decision on recommendation Number 16?

If not what are the reasons for not adopting it?

This Council is concerned that the long term ecological research necessary to ensure survival of Australia's unique flora, intheface of various human impacts, is begun as soon as possible.

Yours sincerely

J.L.O.Tedder,
Hon. Sec.

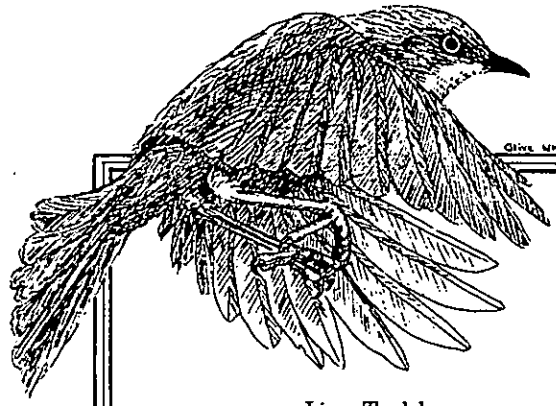
Rt. Hon R.J.L.Hawke,
Prime Minister of Australia
Parliament House.

Copy to: Hon. B.Jones,
Minister for Science.

Hon. B.Cohen,
Minister for Arts, Heritage & Environment.

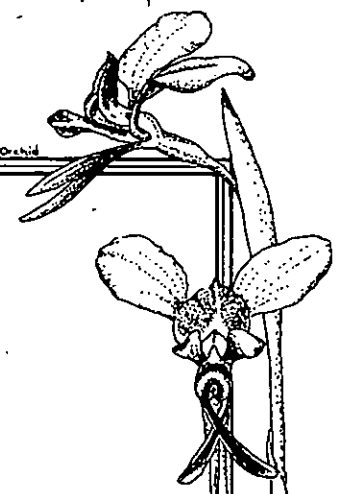
N, Wran,
Chairman, CSIRO.

F4



THE BIG SCRUB ENVIRONMENT CENTRE

88A Keen Street, Lismore 2480.
Phone (066) 21 3278



Jim Tedder
North Coast Environment Council
Pavan's Road
Grassy Head
via Stuarts Point
2441

17th September 1986

Dear Sir,

Further to our letter dated 23/5/86, and your reply thereto, we thank you for accepting the invitation to attend the "Fire and Land Management in the Northern Rivers" seminar.

The date for the seminar has been set at Wednesday 22nd October 1986, between 10:00 a.m. and 4:30 p.m., at the Department of Agriculture's Conference Room, Wollongbar.

Response to our initial enquiries has been promising, with most of the organisations approached willing to send delegates. The final session of the program will be an open discussion amongst the participants, controlled by a chairperson.

Morning and afternoon tea will be provided, but you will need to bring a packed lunch, or lunch may be ordered at the seminar for delivery from a nearby store.

Please don't hesitate to contact me with any enquiries, at The Centre on 21 3278 on Mondays, at The Channon Tea House on 886 276 on Wed. Thur. or Fridays, on at home on 886 380.

Looking forward to your reply,

Yours faithfully,

S. Cooke

Stephen Cooke
Co-ordinator.

Should you need overnight accomodation please contact me and I will arrange a billet for you
Sc.

F 4

15 June 86

Co on inia
BSEC

Dear Stephen

Please refer to your proposed seminar on fire and land management.

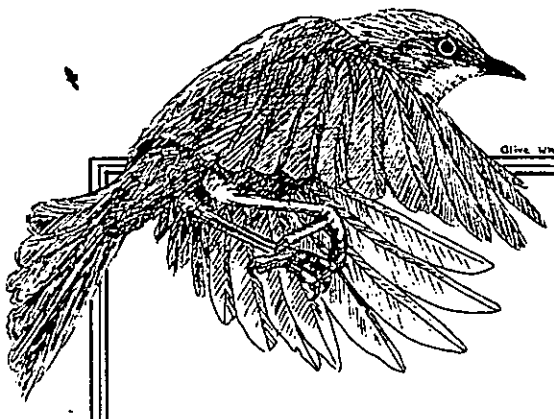
Have you contacted all members of the NCEC with your letter? If not could you let me know which organisations you have contacted so I can inform the others?

Personally, I would have liked to be involved but my time table is great too full at that period and it would be a lot of work involved in preparing material.

Please note in the latest NCEC newsletter the material on Fire.

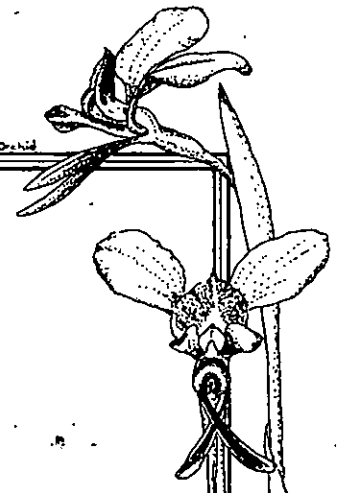
Yours Jim Todd
Hon Sec

F 4



THE BIG SCRUB ENVIRONMENT CENTRE

88A Keen Street, Lismore 2480.
Phone (066) 21 3278



23rd May 1986

Jim Tedder
North Coast Environment Council
Pavans Road
Grassy Head
2441

Dear Sir,

At a recent meeting with the N.S.W. Department of Agriculture we accepted the task of organising a seminar which we have entitled "Fire and Land Management in the Northern Rivers".

It arose out of a query regarding the burning off of farm pasture and the impact of fire on our native and introduced grass species. One grass mentioned particulary was "bladey grass".

Fire is used widely as a land management tool, but in some cases, it is used without fully understanding the reasons for or the consequences of its use, particulary in the long term.

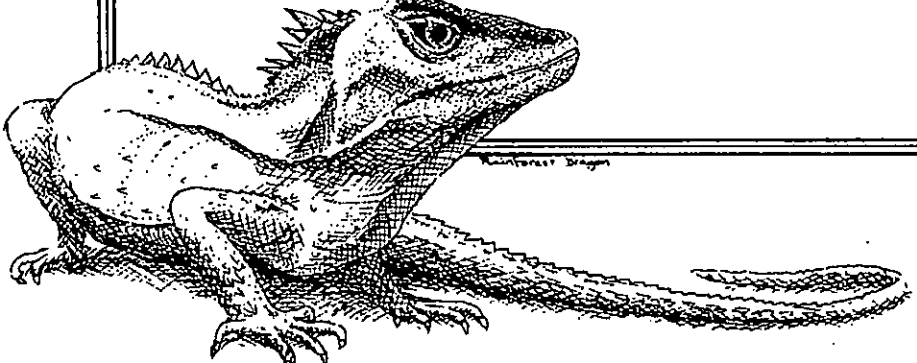
We want to gather together, people knowledgeable in diverse aspects of fire use and control, to enable the presentation of the facts and opinions and open discussion of the subject. We anticipate that the audience will consist of farmers, other interested landholders, bush fire brigade personnel and members of the general public.

Topics we consider should be covered are:

i. Fire regulations and laws.
ii. Fire as a management tool in agriculture.
iii. Fire prevention by burning off.
iv. Occurence of fire in different vegetation types of the district both historical and contemporary.
v. Fire Regimes and the components there of.
vi. Effects of fire on flora & fauna and their adaptation.

The projected date for the seminar is late September, early October, a period when burning off will likely be in peoples' minds. The venue will be the Department of Agriculture Conference Room at Wollongbar.

We hereby invite you or your department to participate in this seminar. We envisage a presentation of about fourty minutes per speaker, using audio/visual aids if desired, with a brief summary of your presentation being made available to each of the people in attendance.



We propose to publish a summary of the seminar for public distribution, so that would-be users of fire as a management tool may be able to more wisely choose the correct or preferred option.

If you are able to participate in this project, would you please indicate in your reply the specific area you would like to present (perhaps we have omitted an aspect in our list of topics) and any preferences you may have regarding a date for the seminar. An indication from you as to whether or not you would need financial assistance to attend would be appreciated.

The B.S.E.C. is a non profit organisation employing only one co-ordinator, but with a voluntary staff of up to twenty people in any one week. We have no funding for this seminar, but if you need assistance to attend and participate, we will approach the appropriate bodies with such a request as needs be.

Organisations included in this venture are:

N.S.W. Department of Agriculture
N.S.W. Soil Conservation Service
N.S.W. Pastures Protection Board
N.S.W. Department Of Environment & Planning
Forestry Commission of N.S.W.
The N.S.W. Bush Fire Brigade
Department of Lands
National Parks & Wildlife Service
Nature Conservation Council of N.S.W.

We trust that you will give this invitation close consideration and look forward to your early, favourable reply.

Yours faithfully,

S. Cooke

Stephen Cooke
Co-ordinator

National Parks and Wildlife Service

new publication

"AFTER THE BUSHFIRE"
- TEACHER'S KIT

This is a complete up-dating of a fascinating teaching kit presented in a new and practical format. It is useful for both primary & lower secondary groups.

"After the Bushfire" deals with all aspects of wildfire - its causes and aftermath. The skills, knowledge and values gained will be a basis for a responsible attitude towards fires.

The Kit contains 16 activity sheets covering a variety of learning experiences including field investigation, research, comprehension and observation. There is also a poster, brochure & additional resources guide.

The Teacher's Kit is available for the low cost of

$5 ($6 posted)

from: NSW NPWS
First Floor
ADC House 189 Kent St.
Sydney
Postal address:
Sales Section
NSW NPWS
Box N189
Grosvenor St. P.O.
Sydney 2000

F 4

Conservation Council of the
South-East Region & Canberra (Inc.)
PO Box 1875,
Canberra City,
A.C.T. 2601
Australia
062-477808

3/9/85

Dear Jim,

Sorry this has been so delayed - the word processor (& its owner) have been busy writing a PhD.

Hope it's of use - the 3rd section needs some editing to delete some of the self-indulgence (can't trust w.p's you know!)

Trust all well - it was great to see you again, albeit briefly!

Best wishes.

Ian

F4

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
LEVEL 1, 55 -57 WENTWORTH AVENUE,
SURRY HILLS, NSW 2010.
TELEPHONE (02) 211 5366. TELEX AA24041

CIRCULAR TO MEMBER SOCIETIES

14 May, 1986

Dear Member Society,

RESEARCH INTO ECOLOGICAL IMPACTS OF FIRE REGIMES

The main item in this Circular concerns bushfire research. I am writing to let you know what members of the Executive have learned recently about the state of bushfire research in Australia, and to ask for your help in pressing the federal government to allocate more funding for research into the ecological impacts of fires.

On the 30th April members of the N.C.C. Executive met with C.S.I.R.O. researchers in Canberra, to discuss their work on fire-related research projects. This meeting arose out of our letter last year to the Prime Minister inquiring about progress in implementing recommendations of the "Bushfire Inquiry", conducted by the House of Representatives Standing Committee on Environment and Conservation. In its Report on the Inquiry, published in August 1984, this Committee made a total of 23 recommendations, including four pressing for increased funding and co-ordination of bushfire research, as follows:

13. the Minister for Home Affairs and Environment and the Minister for Primary Industry request the Australian Environment Council, the Council of Nature Conservation Ministers and the Australian Forestry Council to discuss the co-ordination of bushfire research with a view to establishing a co-ordinating unit within an appropriate authority, such as the CSIRO;

14. the Commonwealth and State Ministers responsible for bushfire matters, jointly discuss the establishment and financing of a national bushfire research fund;

15. the Commonwealth Scientific and Industrial Research Organisation maintain a significant bushfire research program after the completion of Project Aquarius;

16. the Commonwealth review its research priorities to determine the feasibility of increasing the funding for CSIRO research into the ecological impact of fire regimes;

Our enquiries were referred to the Minister for Science, Barry Jones, who suggested we arrange a meeting with C.S.I.R.O. scientists concerned with bushfire research.

Accordingly, the Communications Coordinator for the C.S.I.R.O.'s Institute of Biological Resources arranged for researchers from the C.S.I.R.O. Divisions of Forest Research, Water and Land Resources, Plant Industry, Wildlife and Rangelands Research, and Building Research to meet with seven N.C.C. members in Canberra on 30th April. Despite the limited time available to cover a lot of ground, fruitful discussions and a very useful exchange of information took place. A number of points arose on which N.C.C. will be taking future action.

In the meantime, on February 12th, the Minister for Arts, Heritage and Environment, Mr Barry Cohen, tabled the government's response to the Standing Committee's Report and recommendations, mentioned above. Only one recommendation was specifically not accepted by the government, and it was number 16. The situation obviously needs much pressure from conservationists to rectify this lack of government support for such essential research work.

Initially we are writing to the Prime Minister and the Minister for Science asking the government to implement recommendation number 16. We are pressing for increased budgetary allocations for research into the ecological impact of fire regimes, and funding for long-term monitoring, a most essential but neglected part of research.

The following excerpt from our letter to Mr Hawke explains the situation, including the information gained at our meeting with CSIRO scientists.

"It is our view that there is a great need for more information on the effects of fire on vegetation communities in the Australian enviroment, as an integral part of the development of effective fire management strategies.

"Our view was strengthened during recent discussions with C.S.I.R.O. research scientists working on fire-related projects. It has become apparent that results from fire management strategies developed specifically for forests are being used by land managers in other vegetation communities inappropriately. For many aspects of fire management the forest situation is the only vegetation type which has been researched because of its value as a timber resource.

"Observations suggest, for example, that forestry-derived hazard reduction prescriptions may be actually increasing fuel loads in sclerophyllous woodland in the Sydney area unless very precisely managed, and may in fact be creating a more flammable vegetation type in the longer term. Because of the lack of research funds, these observations remain without formal verification, but their implications are alarming for the large urban populations fringed by this vegetation in the Sydney region.

"Long term monitoring is an essential part of the necessary research into the impact of fires on the range of different vegetation types, in order to detect long term changes to plant and animal populations. Recent research has also indicated that hazard reduction burning in certain vegetation types may be leading to losses of essential soil nutrients much more significant than previously thought. Yet it seems that because of funding limitations and procedures long term monitoring is always allocated a low priority by funding determiners despite its high priority among scientists over many years.

"Against this background, on February 12th, the Minister for Arts, Heritage and Environment tabled the government's response to the Standing Committee's Report. Of the 23 Recommendations, only one was specifically not accepted by the government, namely, that the Commonwealth review its research priorities to determine the feasibility of increasing the funding for CSIRO research into the ecological impact of fire regimes.

"The Nature Conservation Council of N.S.W. is most alarmed that this recommendation has not been accepted by your government, and that, as a result, work on the ecological impacts of fire regimes is being prevented. As made clear in the Report of the bushfire inquiry, and elsewhere, bushfires will always be with us because of climatic and geographic factors.

It is essential to maintain at all times, and not just following bushfire disaster years, a level of research funding which will enable the most appropriate fire management strategies to be developed. Appropriate fire management strategies for different vegetation types are essential for protection of our natural assets as well as protection of life and property. In the current "user-pays" approach to research funding, ongoing comprehensive research essential to the well-being of the whole Australian community must be maintained.

"Council urges your government to make an increased budgetary allocation for the coming financial year for research funding into long term and ecological impacts of fire regimes."

ACTION

Please write to the Prime Minister, the Hon. RJL Hawke, the Minister for Science, the Hon. Barry Jones, and send copies to the Minister for Arts, Heritage and Environment, (all c/- Parliament House, Canberra, ACT, 2600), pressing for -

i) an increased budgetary allocation to CSIRO to enable research into the ecological impacts of fire regimes; and

ii) increased funding to enable long-term monitoring as an essential part of fire-related research.

REQUEST FOR INFORMATION FROM MEMBER SOCIETIES

The information gained at the meeting with C.S.I.R.O. scientists about observations which suggest inappropriate use of forestry-derived prescriptions for hazard reduction burning dovetails in with one of our Annual Conference resolutions (number 18). Council agreed at the 1985 Annual Conference to consult with member bodies to solicit ideas for fire risk management. It was felt at the Annual Conference that too great an emphasis had been placed on 'fighting fire with fire' with the result that so called 'controlled burn-offs' had contributed to rather than reduced bush fire hazard. Those attending the Conference suggested the development of a series of procedures for fire risk management which employed ecologically sound rather than incendiary means.

The Nature Conservation Council is therefore requesting its members to forward suggestions proven or unproven for fire risk management to the Council so as to provide a basis for further investigation and possible research.

It is hoped that the ideas contributed, some of which may vary with climatic and geographic conditions, can be compiled and published within the next 12 months.

Please forward suggestions for urban, rural, human, stock, domestic and property fire management to:

The Project Officer(s) at
The Nature Conservation Council of NSW, address above.

WETLANDS

The Australian theme for World Environment Day on 5th June is "Wetlands". One of N.C.C.'s member societies, the Hunter Wetlands Trust, is celebrating the event with its International Symposium on 5-8 June at the University of Newcastle. Our January Newsletter contained more details; further information, late registrations etc can be obtained from Kevin McDonald, Science Dept, Newcastle College of Advanced Education. P.O. Box 84, Waratah, N.S.W. 2298.

There are a number of other wetland items I would like to mention briefly here - although this is not an exhaustive list!

Proposed Towra Point Aquatic Reserve Draft Plan of Management

The Towra Point Aquatic Reserve is a very welcome proposal by the Division of Fisheries of the Department of Agriculture. The Aquatic Reserve is designed to complement the terrestrial Towra Point Nature Reserve and will, we hope, lead to adequate protection of the very important wetlands of the southern part of Botany Bay. The seagrasses and mangroves of the Towra Point surrounds support a rich diversity of fish and invertebrates, but are subject to some severe threats, most notably from crude oil spills, water pollution, and inappropriate recreational uses.

The proposed Aquatic Reserve comprises Quibray Bay, Weeney Bay and Woolooware Bay and the waters surrounding Towra Point enclosed by a series of straight lines connecting Bonna Point and Shell Point. Conflict resolution is orientated towards fish conservation, habitat protection and maintenance of water quality, the latter being of course vital to aquatic organisms. The Division of Fisheries will need the cooperation of the Maritime Services Board and State Pollution Control Commission to curtail threats from oil spills and industrial and residentially-based water pollution. Most importantly, it will need the cooperation and understanding of amateur and professional fishing interests in accepting some limitations on their activities in the quest for protection of the resource for the good of everyone. The major beneficiaries of protecting the fish nursery grounds and their biota are the commercial and recreational fishing interests of the Botany Bay area in general. The SPCC must be given enough resources to monitor and recommend effective control of water quality parameters such as heavy metal, organochloride and hydrocarbon concentrations.

Council commends the proposed Towra Point Aquatic Reserve Draft Management Plan to member societies for their support. We have one reference copy in here at the Environment Centre - copies are available for $5 from the Fisheries Research Institute, 202 Nicholson Pde, Cronulla, N.S.W. 2230.

Wetlands Publications available

1. An Estuarine Inventory for New South Wales, Australia
by R.J. West et al, Fisheries Bulletin No.2, has been produced by the Department of Agriculture. This fisheries-oriented inventory consists of tabular information and an atlas of estuarine wetlands describing 133 estuaries and embayments along the NSW coast. Information and maps are presented on different wetland communities, and includes fish catch statistics and oyster production figures.

   The Bulletin recommends protection of estuarine areas via application of rigorous local government zoning and other provisions. Copies are available from Publication Section, Division of Agricultural Services, Dept. of Agriculture, P.O. Box K220, Haymarket 2000. Phone (02)217 6666 for price ($10-15 approx.).

2. N.S.W. Wetlands and Canal Estate Developments

   published by the Australian Marine Sciences Association, New South Wales Branch, as Publication No. 86/1 in their Occasional Paper Series, February 1986. Four separate papers are included on prediction of water quality, assessing conservation values, mapping estuarine wetlands, and design problems inherent in canal estates.

3. Present and Future Directions in Coastal Management for Australia
- Report on the 1985 Coastal Management Workshop at Canberra College of Advanced Education, November, 1985, by Jens Sorensen and Peter Cullen, published by the Canberra College of Advanced Education, Canberra, 1986. Very worthwhile reading for those interested in coastal management issues, including coastal wetlands.

We have reference copies of these publications here at the Environment Centre, but for prices for additional copies please consult their publishers.

WILDERNESS

Please look up the February 1986 Circular to Member Societies to refresh your minds on the proposed wilderness legislation. If you haven't yet written to state parliamentarians in support of the proposed legislation, as suggested in the February Circular, now is the time to do it, as the Wilderness Working Group's Report is being submitted to the Minister for Planning and Environment about now, and Mr Carr will be subsequently submitting it to Cabinet. The mining lobby has already expressed strong opposition, so expressions of support to members of state Cabinet are needed. Please WRITE as suggested in the February Circular.

Inccidentally, one way of saving on postage if writing a lot of letters to different members of State Parliament is to bulk mail them - that is, place each letter in its own individually-addressed and sealed envelope, place all the individual (unstamped) envelopes in one large envelope addressed to The Mail Room, Parliament House, Macquarie Street, Sydney, 2000, and post as one item.

At this point I would like to correct any misunderstanding which may have arisen from the item on Wilderness in the February Circular. I mentioned the Hon. K.G. Gabb, newly-appointed Minister for Mineral Resources, amongst those representing interests likely to oppose wilderness legislation. One of our member societies wrote to point out how wrong it was to imply that Mr Gabb himself was likely to oppose wilderness legislation personally. Mr Gabb is a long-standing member of their organisation, and one of Cabinets's most enthusiastic conservationists. My statement was intended to describe the situation where the Department of Mineral Resources might be expected to contain elements of opposition to the proposed wilderness legislation, and Mr Gabb is the Minister for that Department. I do hope this corrects any false impression which may have been created. Obviously, letters to Mr Gabb expressing support for the proposed wilderness legislation would be very worthwhile.

WOODCHIPS

Please take note of the enclosed circular advertising the Total Environment Centre's one-day Conference on Woodchipping on Thursday 29th May. An ideal way to gain the latest information for responding to Harris Daishowa's E.I.S. on export licenses for woodchips from the Eden area. This E.I.S. has been expected to be released for the past five months, so it can't be much longer! In fact, the current expected date is the end of May.

Also available is a publication entitled Eden Woodchipping - A Review, by Debbie Quarmby, prepared to assist people in responding to the E.I.S. A comprehensive booklet full of valuable information. Available here at the Environment Centre for $4.90, or from the National Parks Association of the A.C.T. Inc, G.P.O. Box 457, Canberra, 2601, for $6 posted.

Jocelyn Howell

Jocelyn Howell, PROJECT OFFICER

DRAFT MOTION FOR N.C.C. ANNUAL GENERAL MEETING

FIRE MANAGEMENT

Oct 85

All 3 motions moved by North Coast Environment Council

1.

" that the Nature Conservation Council of N.S.W. request the Bush Fire Council of N.S.W. to amend the Bush Fire Danger Period so as to commence on the 1st August (and conclude on the 31st March as is) for the Northern Rivers and Mid North Coast Weather Forecast Districts."

2.

" that the N.C.C. request the Bush Fire Council of N.S.W. to publicise for the use of landholders methods and procedures for safe controlled burns, highlighting the dangerous pitfalls of inadequately supervised and incompletely extinguished fires".

3.

" Further that N.C.C. consult with its member bodies in the preparation of procedures for fire risk management, which employ ecologically sound rather than incendiary means, with a view to publicising these procedures in the next 12 months."

BACKGROUND

The North Coast experiences its driest and windiest conditions in late winter and early spring. These conditions together with the 'traditional' spring burn offs for new pasture growth, produce situations which are extremely dangerous. Fires which have been lit as 'controlled burns' are easily fanned to 'uncontrollable' status where no late winter rains have fallen and where winds gust up to 40 knots. Fires which appear to have been successfully extinguished can continue to burn within hollow logs or under tree stumps like slow combustion stoves only to re-start major fires weeks later when conditions (particularly wind force and directions) become suitable.

Other areas of the State may not experience similar conditions, but the North Coast has already experienced several run away 'burns'.

Incendiary means have climatic limitations and require short term human management. Ecological means of fire prevention and retardation have substantially less dependance on fickle climatic variables and are long term sustainable solutions requiring minimum human management. Fire Retardant species low fuel generating species, and associations of vegetation can contribute to greater fire prevention, and to safer management in times of Extreme Fire Risk. These little employed and largely unknown procedures and techniques can complement incendiary fire management and deserve research and publicity.

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
399 PITT ST., SYDNEY, NSW 2000
TELEPHONE (02)267 7722. TELEX AA24041

18th April, 1984.

Dear Member Society,

Re: The Environmental Impact of Intentional Burning

On 16th November, 1983, the Council expressed concern to the Premier "at the extent and frequency of the use of so-called hazard reduction burning as presently carried out by a number of State Government Departments and local councils".

The Council requested the Premier to direct each Government Department and authority which carries out intentional burning to produce and put on public display, an EIS for such practices.

A copy of a defensive response from the Minister responsible for the NSW Bush Fire Council, is attached.

We must accept Mr. Anderson's request for 'specific details' of the extent and frequency of prescribed burning.

I ask your Society for details (including sketch maps) of the fire history in areas known to you to be subject to extensive or frequent intentional burning.

If instances cannot be accurately documented as to fire extent, frequency and intensity, I earnestly ask you to initiate a medium to long term survey of any area you suspect may be receiving too frequent or too intense or too much intentional fire.

WE MUST RESPOND TO MR. ANDERSON'S LETTER, which bears the imprint of authorship of a senior officer of the Bush Fire Council.

Our failure to do so will result in doubtful further advances in our efforts to achieve greater environmental concern in the use of fire.

The conservationists' viewpoint in relation to fire and the natural environment has been spelt out in a number of recent publications issued by the Council.

I confidently look forward to your support in this most important matter, and await your response.

Yours sincerely,

C.H. Pratten for RSC

C.H. Pratten
CHAIRMAN.

New South Wales

Minister for Police and Emergency Services

Mr. C.H. Pratten,
Chairman,
Nature Conservation Council
of N.S.W.,
399 Pitt Street,
SYDNEY, NSW 2000 00

-6 FEB 1984

Dear Mr. Pratten,

I refer to your letter of 16th November, 1983, which was directed to the Premier, the Hon. N.K. Wran, QC, MP. As the matter you raise comes within my administration, the Premier has asked me to reply direct to you.

As you would appreciate, the practice of controlled burning is one of several methods undertaken by Councils and fire fighting authorities to reduce fire hazards. However, because of environmental and economic considerations, controlled burning is often viewed as the more acceptable alternative and in many cases is the more natural alternative.

I am also informed that several fire fighting authorities see much value in controlled burning being undertaken after due preplanning, where it is to be of strategic value, as an excellent training medium for fire fighters and volunteer bush fire brigades. Indeed the Co-ordinating Committee of the Bush Fire Council advises that a knowledge of fire behaviour is essential for bush fire fighters and this is an important by-product of controlled burning which needs to be taken into account in any evaluation of the practice.

Your letter expresses concern at the extent and frequency of the use of hazard reduction burning and I would appreciate specific details on these aspects. You might therefore advise me of locations, preferably supported by map details which support your statement and I will have my officers inspect and report on such cases.

On receipt of your advice, I may refer the matter to the Co-ordinating Committee of the Bush Fire Council, which Committee is obliged to operate pursuant to the requirements of the current Environmental legislation.

Yours sincerely,

Peter Anderson

(PETER ANDERSON)
Minister for Police
and Emergency Services

together

day. and the live f the the the ghts big the t of just- osts ome ng of sac- and is no up s are keep here- pre-

pared to help their bosses. There never was a time when mutual co-operation between employers and employees was more necessary. Forget for awhile the old spirit of animosity and leave industrial fights and haggling to more propitious times.

The day of extravagance is over. There are budgets to be balanced, and deficits to be made up. Every man, woman and child in Australia is vitally interested.

It is a strange period for Australia, this period of economy, but we will get over it. Calamity howling never got a nation anywhere.

There is a popular old time song going the rounds, 'If I Hold Back A Tear To Make A Smile Appear, I'm Only Painting the Clouds With Sunshine'.

Let us paint the financial clouds with sunshine. There is always the old saying, 'things could have been worse'.

In this tug-o-war with depression, a long and strong pull evenly distributed along the rope right throughout Australia, will make it let go its stranglehold. This can be done only by united effort as in a tug-o-war team.

Kathleen Barton,
Colin Street,
Carinda.

ance

our s, as dges way es". e and is no or by said ages t big e not after

some "priming") with DMR, garage owners and heavy vehicle owners to find the best way to overcome this problem.

Raised road; widened road; re-enforce road, or ban the heavy vehicles as there are off truck stops at South Kempsey).

Also could our tourist officer come to the northern entrance of our fair town of Kempsey and repeat after me "It is bloody shambles" after all, then we will plan for "Macleay 100" in 1999.

May be your keen photographer could take a photo to show, as he is very keen on taking pictures of 4 wheel-drive on Point Plommer Road.

K. Holm.
South Kempsey.

'Fire happy' foresters

I was employed by the forestry commission during the 1960s and 70s as a branding foreman, which means marking the trees before they can be felled for saw mill logs.

I also did the log measuring and handled the pole cutting and railway timber operations. There were times and especially at Christmas time, when the mills would close for annual holidays, when I would work with the field workers on TSI (timber stand improvement) projects or silvicultural work under the instructions of the forester who was controlling this work to a new management plan idea which was implemented in 1958.

This particular forester was acting under silvicultural instructions from experts stationed at Coffs Harbour.

I didn't agree with this timber stand improvement idea and argued that the silvicucultural method which was for reafforestation of blackbutt species of timber, was wrong and that although regeneration would take place, survival would fail.

I based my ideas on the knowledge gained from many years of bush working experience in the depression years in late 20s and 30s. Getting to know how to destroy and retain timbers by ring-barking, suckering, scrubbing and brushing etc.

Also one got to know the different species habits of regenerating and surviving. So when time permitted I decided to prove my arguments by establishing several blackbutt plantations in different areas, but most of my spare time was used up on one particular compartment over the next 15 years. But I did this work my way, with very pleasing results.

I retired eight years ago and every couple of years I go on an inspection tour in Tanban State Forest. I inspected a large area of Tanban State Forest three years ago and again on July 27.

The recent inspection lasted five hours and this is my report.

Of the five hours spent in the forest, two hours were of disgust and one hour of pleasure. The other two hours I'll discuss at a later date.

The cause of disgust was fire damage to perhaps 150 acres of 10 and 15 year old sapling and pole sized blackbutt seedlings, which generated naturally when the proper preparatory work had been done earlier to cause this natural regeneration and survival to happen.

Firstly I blame fire happy foresters for ordering the burning of the area and secondly I blame the field workers for using the wrong day for the burning project.

The fire was far too hot and should not have been lit.

Several years before my retirement I used to burn around this reafforested area annually and that is what they still should be doing, not running fires through it. Keep fire out if possible for at least another eight years would have been the more sensible plan.

The location of the area is bordering Range and Hackenbergs Roads. The Hackenbergs Road area was burned about three years ago and created terrific damage. This fire should never have been lit either.

It will take years for the roasted blackbutt saplings to recover.

The last recent fire was more damaging because the seedlings were younger and smaller.

A large percentage of seedlings are roasted to ground level and will have to sucker up again from ground, but will never recover completely.

I would like to see a movie camera used on this man-made catastrophe to publicise stupidity.

If you doubt my description, just take a drive out and inspect.

My one hour's pleasure was derived from an inspection of my oldest two acre blackbutt plantation, also located on Range Road, which has never seen fire and is aged 22 years.

In my opinion the reafforestation method used on this plantation was the correct one and was reafforested from just one large reject blackbutt tree and the two acre area was converted from useless hardwood brush to blackbutt only and is now carrying pole sized spars approximately 80 feet in height and is stocked to full carrying capacity. I was proud with what I had seen. There were two thinnings carried out over the first 10 years and necessary follow up work finalised and to become a distant money spinner, time is all that is needed.

Fred Chapman,
Kempsey.

Thanks for your help

The Lamington Drive and Street Stall held for the Community Nursing Home on 29th July was a great success.

Approximately $1,800 was raised and the success is due to you, the public. We thank everyone who donated goods, those who bought the goods and those who gave of their time.

The support from the Primary Schools with their egg donations, the bakeries for sponge cake and the business people for ingredients was outstanding. Our thanks also to 2MC and the Argus.

To those who made the Lamingtons,

Motelier replies

Suggestions that Kempsey moteliers have taken advantage of the huge influx of visitors for the Macleay 1000 weekend to grossly inflate tariffs and "rip-off" the visitors deserves some response.

This is a dangerous generalisation and needs clarification. I can only speak for myself on this matter, but I do take some pride in the fact that my motel is fully booked for the 1984 rally by the same crews that have stayed here every year since the inception of the rally in 1981.

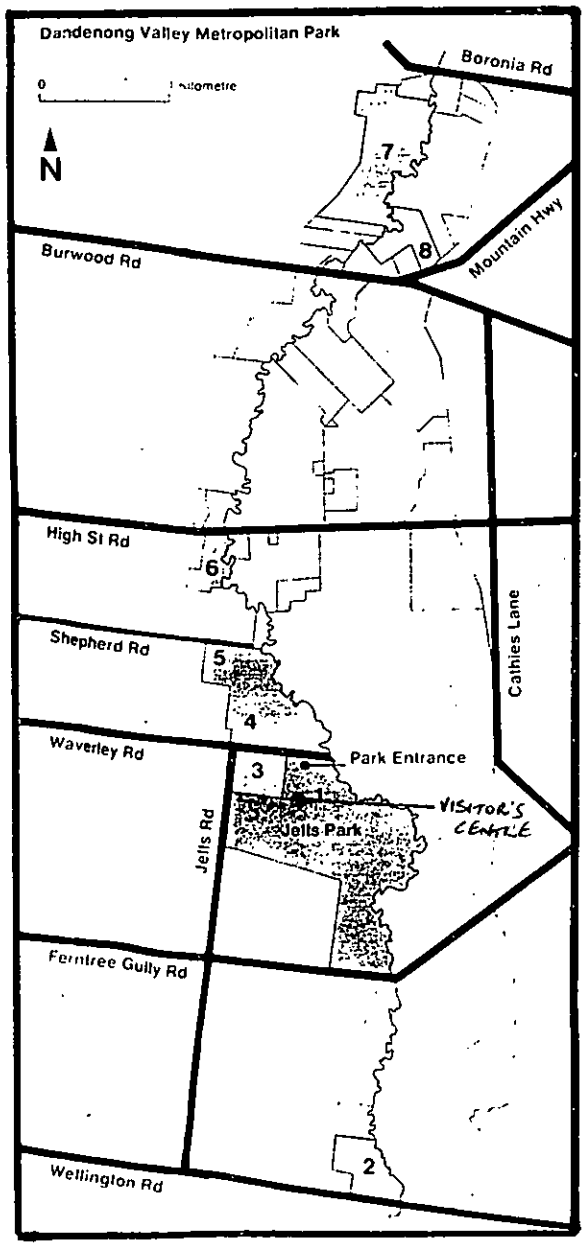
Surely some sort of assumption can be drawn from that record.

If, indeed, the organising committee can substantiate any claims of excessive charging by any motelier/s I would expect that they would and should take steps to ensure this does not happen again and bypass any motel found to be feather-bedding.

Personally, I wish to disassociate myself and my motel from any such stigma. To infer one or two rotten apples in the barrel means the others are rotten too is neither fair nor warranted. The Macleay 1000 is a wonderful money-spinner for Kempsey business houses and it would be a bloody shame to see the greed of a minority abuse this privilege.

Alan Malseed,
Colonial Court Homestead
Motor Inn.

VENUE: Visitor's Centre,
Jells Park,
Waverley Road,
Glen Waverley.



FIRE SEMINAR

A seminar to provide information on the effects of bushfires, and the effectiveness of fire control techniques

A seminar to provide:-

Information on the effects of bushfires and the effectiveness of fire control techniques.

A forum for discussion of controversial aspects of fire policy, so as to develop conservation oriented fire policies.

6-7 AUGUST 1983

at the

Visitor's Centre,
Jells Park,
Waverley Road,
Glen Waverley.

Arranged by the Conservation Council of Victoria and the Environment Studies Association of Victoria.

FIRE SEMINAR

SATURDAY 6th AUGUST

9am
Registration

9.30am
Introductory Address

9.45am
SESSION 1--FIRE BEHAVIOUR
Causes of Fire, Intensity, Frequency.

Mr. D. Williams, Ministry for Conservation, Traralgon.

10.25am-10.45am
MORNING TEA

10.45am
Discussion- Divide into small groups of 10-15 people.

12.00pm-1.00pm
LUNCH
(Please bring your own picnic lunch)

1.00pm
SESSION 2 -THE EFFECTS OF VEGETATION ON FIRE, AND OF FIRE ON THE ECOLOGY.

Fuel reduction burning, fire regimes in natural areas, clearing and firebreaks, wind breaks, fire retardant plants, research.

Mr. A. MacMahon, Botany Department, La Trobe University.

1.30pm
The effects of fire on animal life.

Mr. D. Cheal, National Parks Service.

2.00pm
Discussion Groups

3.00pm-3.15pm
AFTERNOON TEA

3.15pm
PLENARY SESSION --Each group presents its conclusions, and general discussion takes place.

4.30pm
END FOR THE DAY.

SUNDAY, AUGUST 7th.

9.00am
SESSION 3 -- PLANNING AND DESIGN ISSUES

Planning Regulations-What restrictions and requirements (if any), should there be on people building in fire prone areas? ---house design, siting criteria, building regulations, access, law etc.

Ms. W. Morris, Department of Planning.
Mr. D. Packham, Chisolm Institute of Technology.

10.15-10.35am
MORNING TEA

10.35am
Discussion Groups

12.00-1.00pm
LUNCH
(Please bring your own picnic lunch)

1.00pm
SESSION 4-FIRE CONTROL

Preventing fires, fire spotting, current and new techniques and equipment, communication, protection of homes as fire approaches, overview.

Mr. F. Lindsay, Country Fire Authority, Bullengarook

Ms. M. Fook, Environmental Planning, Melbourne University.

1.50pm
AFTERNOON TEA

2.10pm
Discussion Groups.

3.15pm
PLENARY SESSION

4.30pm
FINISH

VENUE: Visitor's Centre,
Jells Park,
Waverley Road,
Glen Waverley.

Bring your own Picnic Lunch.

COST:

Registration Fee	$10
Concession	$5

PLEASE NOTE:
It will be necessary to limit numbers attending the seminar, so early registration is important. Registration Fees will be refunded to those who register after the limit has been reached

REGISTRATION FORM - FIRE SEMINAR 83/13

Please reserve _____ place(s) at the above seminar.

NAME(S):_____

ADDRESS:_____

_____postcode_____

PHONE:_____(h) _____(w)

I will need a billet if available.YES/NO

I can offer billets for _____ people.

I require transport from Glen Waverley Station.
I can provide transport for _____people.

Member of which groups_____.

I enclose $___ being payment in full for the seminar.

RETURN BY 29-7-83 TO:-

Conservation Council of Victoria,
Box 845J, GPO, Melbourne. 3001.
Telephone 663 1561.

TVCT

NATURE CONSERVATION COUNCIL OF NSW

THE NATURE CONSERVATION COUNCIL OF NSW
399 PITT ST., SYDNEY, NSW 2000
TELEPHONE (02) 267 7722. TELEX AA 24041

21st June, 1983.

Dear Member Society,

Re: Inquiry Into Environmental Impact of Bushfires

I enclose a press clipping detailing an inquiry being conducted into the Environmental Impact of Bushfires in Australia by the House of Representatives Standing Committee on Environment and Conservation, together with a detailed list of the Committee's terms of reference.

I URGE YOUR SOCIETY TO MAKE A SUBMISSION TO THIS INQUIRY.

Noting that submissions should be made by 8th July, I suggest any group contemplating making a submission should write to the Committee indicating your intention and seeking an extension of time.

This Council believes that the question of fire in the natural environment is one of the major nature conservation issues facing us. Accordingly, we are co-operating with several other major conservation organisations in New South Wales in making a joint submission, which will be prepared by Mr. Peter Prineas, formerly Director of the National Parks Association of New South Wales.

Mr. Prineas will also present the submission to the inquiry, attend field inspections, handle any media inquiries and generally co-ordinate the input of conservation groups to this important inquiry.

Mr. Prineas' legal training and long and fruitful association with the National Parks Association makes him eminently suitable to undertake this task.

THE COUNCIL SEEKS FINANCIAL SUPPORT FROM YOUR ORGANISATION IN FINANCING THIS PROJECT.

The effectiveness of our input will be governed entirely by the availability of funds - major groups involved are pledging $1,000 and we ask you to make whatever donation you can to the Nature Conservation Council to assist this work. If you can help, your early indication of support would be appreciated.

Please send the Council a copy of any submission made by your organisation to the inquiry.

Yours sincerely,

C. H. Pratten,
CHAIRMAN.

Terms of reference are that the Committee inquire into any report on:

(a) environmental impact of bush fires (including consequential impact on species diversity and ecological balance);

(b) environmental impact of preventative and control measures (including consequential impact on species diversity and ecological balance);

(c) environmental impact of bush fire risks associated with evolving and future life styles;

(d) potential for future development of insurance, taxation and other financial instruments to reduce environmental impact of bush fires;

(e) potential for further development of zoning and other land use management arrangements to reduce environmental impact of bush fires;

(f) adequacy of community information regarding fire management in natural and rural environments; and

(g) appropriate Commonwealth action to ameliorate environmental impact of bush fires, particularly in relation to national and international heritage.

Wed 1st June 5pm
1983

The Parliament of the Commonwealth of Australia

House of Representatives Standing Committee on Environment and Conservation

ENVIRONMENTAL IMPACT OF BUSHFIRES

The House of Representatives Standing Committee on Environment and Conservation is inquiring into and reporting on the Environmental Impact of Bushfires in Australia.

The Committee has been asked to investigate conditions and pressures which have caused changes to the ecosystem which contribute to the potential for bushfire risks, as well as looking at appropriate action at a Government and voluntary level to reduce this impact.

Inquiries and written submissions are invited from interested persons and organisations. Some of those making submissions may be invited to give supporting evidence at public hearings to be held at a later date. Submissions should be lodged with the Secretary to the Inquiry, House of Representatives Standing Committee on Environment and Conservation, Parliament House, Canberra, A.C.T. 2600 by 8 July 1983.

For inquiries telephone (062) 72 6730.

Australian Conservation Foundation

Canberra Office

P.O. Box 1875
Canberra City 2601
Phone: (062) 473013

MEMO

15th July, 1983.

TO: Conservation Councils
Colong Committee
Milo Dunphy
Alan Catford.

BUSHFIRE INQUIRY.

There appears to have been concern about the short time available for submissions to this inquiry.* The date is purely to urge people to get moving rather than a true 'cut off' point.

This is generally true of all Parliamentary inquiries. Most Secretaries will take submissions right up to the writing of the report. It is however, strongly advisable to let the Secretary know you intend to put in a submission.

Unfortunately some conservationists instead of checking on how 'hard' the deadline was either with myself or the Secretary sent off aggressive letters to the Committee. This does nothing to aid our cause. Conservationists who are inexperienced with Federal Government proceedure might like to use our office to check situations before 'shooting from the hip'.

Cheers,

Milo

* The House of Representatives Standing Committee on Environment and Conservation - Secretary John Cummins 726085.

Dealing with the Material — By - Prescribed (hazard reduction) Burning

Hazard reduction burning has a place in fire management. But it is illogical and highly irresponsible to use it without having first assessed:
(i) the degree and significance of the hazard you are dealing with (does it warrant active management to reduce it?);
(ii) the likely impact of the burning regime on the communities you intend to burn (is it likely to be adverse, or perhaps complementary?), and
(iii) the probable effectiveness of the burning regime in achieving a reduced hazard for a substantial time.
(iv) the need for hazard reduction and what is at risk if the hazard is not reduced.

~~map in spite of it being so dark.~~

~~Regards,~~

Leslie Allen

Fire Breaks

(Use material from BF Council publication)

Fuel Reduction by Hand

Fuel Reduction by machine

Fuel Reduction by vegetation change

Fire Trails C

PLANT DEFENCES AGAINST FIRE

There are ~~two~~ many plant defences against fire.
- protection by thick bark
- quick seed germination to replace the fire killed plants

are just two. To help recovery from fire there are ~~also~~
~~Buds below the ground~~

BUDS BELOW THE GROUND

Eucal recovery with shoots at base

The best known of these are eucalypts, which can have massive woody lignotubers with buds protected by the soil. After defoliation, they shoot automatically. ~~Not only eucalypts have this facility however, as evidenced by the recovery of these Melaleuca armillaris from root-stocks.~~

Xanthorr

The growing apex of Xanthorrhoeas, or Grass Trees, is protected by the mass of dead leaf bases, and by being drawn down by contractile roots. After burning, this apex resumes growing. Soon after, the plant usually produces the spectacular tall flower-spikes, with up to 10,000 seeds per spike.

BUDS UNDER THE BARK

Eucal with shoots on trunks

The famous epicormic growth of eucalypts (and some other plants) relies on buds insulated by the bark, that are hormonally stimulated by defoliation (such as in a fire).

PROTECTED SEEDS

Banksia Hakea seed cases

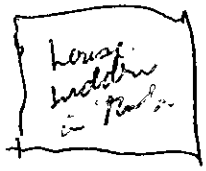
Seeds may survive by protection from heat, either under the ground, or in a hard seed case. On the left, the Banksia follicles and the Hakea seed cases have now opened, dropping their fertile seeds into the rich bed of ash. On the right, beneath the dead stems of fire-sensitive ~~Snow Gums~~ Acacias, is a dense layer of shrubs which have mostly regenerated from buried seeds.

Acacias seedlings with dead trees

A

Those that die can protect their seeds, or they can recolonise an area by having light seeds that disperse readily from other areas. Daisies, Mistletoes, and ~~the local~~ Prostanthera lasianthos (Mintbush) seem to fit this latter category. Seeds may be protected by a hard case and being buried in the soil - a strategy favoured by many acacias - or on the plant itself, in a 'fire-proof' seed case. Banksias, hakeas and some eucalypts insulate their seeds from the fire's heat in 'cones' or seed cases, which later open to drop seeds into the ash bed. If heavy rain follows a hot fire much of the ash and new seeds can be washed away and regeneration of the area can be much slower.

FIRE MANAGEMENT



started

Uncontrolled fires whether by lightning or humans and their environment depending on a whole range of factors.

But how much of a fire hazard do natural environments pose to human life?

How much of the natural environment should humans seek to change to provide absolute safety to humans and human activities wherever they live?

Humans who choose to live in the country do so because most balance the risks of bushfire with the benefits of working and living in a natural environment, "If you can't stand the heat get out of the kitchen"

But given that fact then we should aim to reduce fire hazard to humans consistent with having as llittle impact upon the remaining natural environment as is possible.

How much of a fire hazard do natural environments pose?

B PROBLEMS WITH TRADITIONAL FIRE MANAGEMENT

The problems outlined here exist, we believe, because fire management as it is undertaken by many authorities is not based upon those important principles ~~outlined in the second section of this display~~. There has been very little understanding of how fire interacts with the natural environment, and little willingness by authorities to encourage and undertake that essential research. In such an atmosphere virtually no consideration has been given to the relationship between fire management and nature conservation. It is only now, with increasing public pressure, that some fire authorities are beginning to look at this relationship.

Aside from the problems associated with nature conservation, many people are beginning to question the usefulness of broadscale application of many fire management practices. These practices have been undertaken in response to a percieved hazard. That hazard, however, has not generally been accurately quantified. As the work of the National Parks and Wildlife Service has clearly shown, hazard can vary enormously within a management unit. To apply blanket fire management prescriptions over large areas completely ignores this fact and can lead to a waste of resources, a waste of time and cause large amounts of unnecessary damage to the environment.

It also ignores the fact that some fire management practices are just not applicable in particular environments. Hazard reduction burning is not always going to significantly reduce the fuel load, and even if it does it may do so for only a very short time. Again this points to a lack of understanding of how fire interacts with the natural environment.

In the pictures and text which follow we have outlined some of the controversial aspects of three fire management practices:

(1) controlled burning
(2) fire trails
(3) construction of tracks during a fire

TVB

National Parks Association of NSW
State Council
275c Pitt Street, Sydney NSW 2000
Telephone (02) 264 7994

March 5th, 1987

MEMO: All Branches and Sub-branches

SUBJECT: March 1987 National Parks Journal

Now that we again have staff and a computer in the NPA office the Association is getting back on its feet after the fire and burglary.

However, due to the loss of two months' work, we are still behind on the production of Journals. The March Journal should appear by late March or early April. Would you please advise your members through your Newsletters and meetings that the Journal and April/May Sydney Walks Program will appear in late March or early April.

Grahame Wells,
Director.

just how much of a fire hazard do natural environments pose? The answer to this question must be available before a rational approach to fire management for an area can be determined.

In essence, the sort of fire management which we are seeking is based upon:

(1) a thorough understanding of the natural environment and its interaction with fire;

(2) a quantitative assessment of the hazard posed by different plant communities and the variation in hazard within a community;

(3) an understanding of the significance of the hazard both to natural and human modified environments and to recreation;

(4) an understanding of the effectiveness and potential impact of the various possible management practices when used in differing environments;

(5) a recognition of other management objectives for the area; and,

(6) a knowledge of fire management practices in surrounding areas and other management practices likely to effect fire management.

Such an approach to fire management is being developed in Australia by the N.S.W National Parks and Wildlife Service. In the diagrams and text which follow you will get an indication of the techniques which they are employing. While their approach may not be perfect, and it is open to criticism, it demonstrates that there need be no fundamental conflict between sound fire management and conservation.

COLLECTION OF INFORMATION

Fire hazard is determined by a number of interacting factors including vegetation cover and type, fuel load and type, slope, aspect, climate and the prevailing weather pattern. Assessment of hazard, therefore, is dependent upon having a quantitative measure of these factors. As the three

F M.

Significant variations in topography and vegetation can occur over relatively small distances. Thus the fire hazard may be different in different areas. The importance of the weather (particularly humidity, rainfall, temperature and lightning) as a factor influencing hazard means that the hazard can also very greatly over time.

~~We will use results obtained from work in Kosciusko National Park as an example of the approach taken by the National Parks and Wildlife Service in the assessment of fire hazard over a large area. They divided~~ The National Park Service divided a Park into a grid with one square kilometre cells (not an adequate coverage-but it's a good start). In each cell they measured aspects of the vegetation and fuel as well as recording physical features such as slope and aspect. As you can imagine, this generated a mass of information useful not only in relation to fire management but also in many other activities related to nature conservation, for example in determining the conservation status of species and communites in the area concerned. The information is stored within a computer. ~~Using specially designed programs it is possible to show pictorally how the factors influencing hazard vary over the area of the park. The printout to the left displays the factor aspect. Apart from making spectacular wall hangings, they provide managers with a lot of valuable information.~~

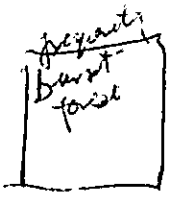
DETERMINING THE HAZARD

It is the computer package PREPLAN which enables all this information to be brought together and combined with variable weather parameters to provide an overall assessment of the degree of fire hazard. There are two aspects of fire which are often used as a measure of hazard: flame length (intensity) and rate of spread. In the diagram to the right we see a simulation of the expected rate of spread of fire given the specified weather conditions. These conditions represent a day of extreme fire danger. Even so, by no means all areas pose a great fire hazard. It would therefore be pointless, and a great waste of resources (to say nothing of the damage that could be caused) to undertake fire prevention practices such as hazard reduction burning over the whole area ~~of the park~~.

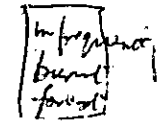
diagram from Canberra B.C.

There are some areas, however, which seem to present a serious hazard. What do you do in such areas? We think that you must then go back to those areas and make a much more detailed assessment of the natural characteristics of the area. Are we dealing with extremely rare species of plants and animals, or rare communities? If so, could fire prevention measures be just as effectively carried out elsewhere? Would hazard reduction burning actually reduce the fire hazard for a significant period of time? (it quite often won't). What would be the cost of not implementing fire prevention measures? Are the communities in the path of a possible fire, fire sensitive and of high conservation value? Would a fire seriously threaten human settlements? These are the sort of questions that have to be answered, and can only be answered once quantitative data has been obtained.

OTHER EFFECTS OF FIRE



- DESTRUCTION By fire of plant cover on steep slopes lead to soil erosion
- fires lower soil nutrients, in certain areas nitrogen losses by fires take up to 11 years to replace and phosphate losses up to 20 years to replace
- scenery can be altered temporarily by fire and permanently by frequent fires leading to changes in plant communities and loss of large trees
- animals and bird habitats can be altered by plant communities and nesting hollows being changed and destroyed



In fact, there is a lot to be lost. Soil, for example. A proportion of the nutrient pool as another example. And what about fire sensitive plants, animals and microbiota which don't have a chance to recover in the interval between control burns?

The photo of the understorey of an open forest which has been recently burnt very graphically displays some of these problems. There is not a lot of vegetation left to protect the soil surface in the event of heavy rain. And what would have been the likely gain of such a fire? Quite possibly very little- snow gum dominated forests don't usually present a very great hazard!

DIFFERENT COMMUNITIES, DIFFERENT FIRE RESPONSE

There is enormous variation between the ability of different habitats to recover from fire. Very few rainforest species have any fire-adaptation; a burnt rainforest takes 300-400 years to return, if indeed it ever does. Alpine pastures have also developed largely in the absence of fire, with the result that they are very poorly adapted to it.

Heaths, at the other extreme, require regular burning (perhaps every 15 to 30 years) for their survival. A heath which has not been burnt for fifty years becomes very simplified and senescent, and the plants and animals (such as the rare ground parrot) which depend on the heath habitat, may be lost entirely.

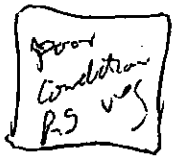
MANAGEMENT OF FIRES IN SMALL AREAS

Councils often clear roadsides and ~~fire~~ burn small reserves claiming to

- improve road conditions
- removing weeds
- reduce fire hazard

Native bush along roadsides and in undeveloped reserves when not damaged by road widening, road drainage, fence construction and fires

- prevent weed infestation
- contribute to the scenic environment
- act as wild life corridors
- offer reserves of original vegetation
- provide wind breaks



Questions that need be asked before burning or altering this vegetation are

- if not burnt to whom or what is any fire in it , a hazard?

If there is a hazard because of fuel build up - is the build up continuing over time or is it stable?

- are there ways of reducing fine fuel loads by means other than fire? e.g. raking out fine fuel by hand
- have neighbouring land holders provided themselves with adequate fire breaks?

If it is necessary to burn

- when should it be done?
- Are there any special plant communities which should be protected?
- how frequently must fires be lit to keep the hazard low?
- what will be the effect on the area of such fire frequency?

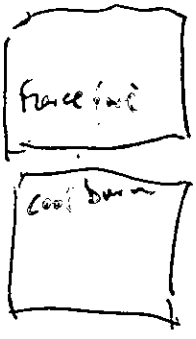
RESPONSIBILITY OF LANDHOLDERS

Many landxholders use fire to
-reduce what they see as a fire hazard to their crops
- remove old grass and encourage new "pick"
-clear regenerating bush land

Fire authorities encourage hazard reduction using fire by urging landholders "to burn off now to prevent serious summer fires"
Such blanket advice ignores
- effect on soil nutrients
-effects on native vegetation / fauna
-fire frequency
-alternatives to hazard reduction by fire
-climatic factors
As a result some of the more irresponsible land holders light fires
- in windy, dry conditions
- without any idea of how they will control the burn
- without consideration of neighbours or public land
Such land holders should be held financially responsible for any damage they do to neighbours and the public land

FIRE INTENSITY

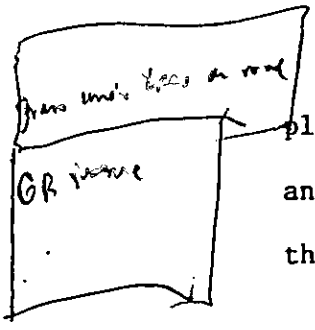
Some fires are very hot and consume much of the smaller vegetation and scorch the leaves of even the largest trees

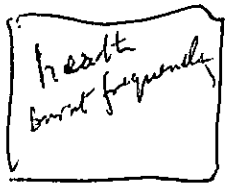


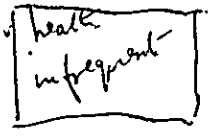
Often deliberately lit fires for reduction of fine fuel are of low intensity and heat.

-Hot fires ensure a good seed germination of many species e.g. Acacias, Banksias

-Cool fires often don't ENSURE GOOD SEED GERMINATION







FIRE FREQUENCY

Fire every year has a different effect upon plants and plant communities than fire every ten years.

Frequent fires will kill most small shrubs and certain trees - Alocasuarina, Acacias, Banksias

-Grass is not killed by annual fires and therefore takes over when shrubs are killed.

FIRE

-Fire has been a major part of sections of the Australian landscape for at least 100,000 years.

-Evolution has produced many species and communities which have adapted to fire.

-Some communities of plants need fire at intervals if they are to remain as that type of community and not become another

-Some communities of plants, rainforests, can be destroyed by fire and will be replaced by other communities.

-Certain arida areas have plants which are intolerant of fire

-Grasslands have been taken over by shrubs when fire has been excluded

-Alpine areas are seriously damaged by fire

ANIMAL RESPONSE

Mammals: The response

MAMMALS

The response of mammals varies. Burrowers such as wombats can generally escape the fire deep in cool burrows. Large mobile mammals like kangaroos can often flee, to return later and feed on the new growth. Arboreal mammals such as the greater glider however, generally die in fires, or starve later through being unable to move into occupied territory.

and Koalas

Birds The response of birds vary

- When fires occur in the spring many nesting birds must perish
- Low intensity fires have little effect upon large birds but do affect birds which live and nest in shrubs and on the forest floor.
- Hot fires by their very nature cause casualties and in spring and early summer affect nesting
- Birds forced from one area cannot necessarily move into unburnt AREAS AS THEY ARE GENERALLY OCCUPIED BY OTHER BIRDS OF THAT species

FIRE MANAGEMENT PRACTICES — DEALING WITH A THREAT

There are a number of ways humans can manage fires
- Do nothing approach
-Reduce fine fuels and so reduce wild fire intensities by more frequent low intensity fires
- Construct frequent fire breaks by clearing and maintaining areas with little or no fuel
-Modify some areas intensively by fuel reduction and fire break construction while ignoring other areas
-Or by a combination of all these points

CONTROLLED BURNING

HAZARD REDUCTION BURNING

Hazard reduction burning (fuel reduction burning, prescribed burning) can undoubtedly, under certain circumstances, reduce the risk of ignition and slow the rate of spread of a fire. It is for these reasons that it is broadly applied as the main tool in fire prevention and as an aid in fire suppression. It's usefulness, however, will vary greatly from site to site, as will the need for it. In addition, its repeated use can be very detrimental to the nature conservation values of the area.

Eucfor after [illegible] burns

For example, you can see in the photo of a burning forest that the landscape is very dissected, with a range of aspects, slopes and vegetation communities, all of which are factors affecting hazard. Despite this, the incendiaries which have been dropped from the air to light these hazard reduction burns have apparently landed at random. Thus we have a fire burning in a gully, an area of generally very low fire hazard. But it's not just

photo for Canberra

a wasted incendiary, it's a needlessly destructive one. In many parts of southern Australia gullies provide an important refuge for ecologically significant rainforest communities such as that shown in the very green photo. These communities demand exclusion from fire for their existence. What price for carelessness?

Photo of rainforest gully

The view of the forest you are getting in this photo is about as good as the view the incendiarists would be getting, and without a knowledge of the communities, which can only be obtained by extensive groundwork, they can't hope to know what they are putting the torch to. Unfortunately, it's also probably as good a view as most people undertaking ground lighting of fires are going to get!

In all probability, some of the fires you see are burning in forest of very low natural fuel load where there is little to be gained by further fuel reduction.

case that rainforest is probably gone for good. As I mentioned earlier moist gullies represent a refuge for the once more prevelent rainforest species which had the squeeze put on them by a drying climate. These communities can maintain themselves in the moister environments so long as they remain substantially undisturbed. Once you do this sort of thing to them, however, the species better adapted to the dry conditions (and to fire) such as the eucalypts and the wattles can move in and take over.

Little boys and girls shouldn't be allowed to play with matches!

FIRE TRAILS

The question of access is one of the real bogies facing natural area managers.

Probably the major controversial aspect of fire trails is how many you have and where you put them. Can you justify putting a trail through a wilderness area in the name of fire management? Or how about five or ten or twenty trails? That sort of thing is happening know. There are a large number of managers who believe that the more access the better. You've got to be able to get at the fire quickly with heavy equipment.

But is there likely to be a fire anywhere near the road you've so expensively and sometimes destructively put in? Again we come back to the question of knowing the environment you're working in. Unless you've got a good idea of where the areas of high fire hazard are and where fires which start in those areas are likely to spread, you really are running blind. The common way to try and bypass this deficiency of knowledge is to put more roads in than you think are ever going to need. And when you're working without an adequate understanding of the natural characteristics of the area, the more roads you put in the greater is the likelyhood that you will destroy highly significant natural communities. How do you justify ripping roads through one of our all to rare wilderness areas without even knowing whether there is any significant hazard there!?

The photo shows that the construction of fire trails is a major undertaking involving the time of people and heavy equipment. For this reason alone trail development should be kept to a useful minimum as it is expensive. Apart from the economics the actual dozing of a trail can have a very high environmental cost. It exposes the soil to all the forces of erosion. If you have too many trails there is no way you are going to be able to maintain them all in a non-eroding condition. When trails go through creeks as they often do they can greatly disturb the riverine environment. And, of course, the more trails there are the more places people can get to in their weed carrying vehicles. And how often have you seen a spot where one trail has become two or three or four because people have either driven to avoid a bog or a fallen tree or perhaps just gone off-road for the heck of it? These are very real costs of buliding fire trails, but they are costs which are often not taken into account.

A question which is hard to answer but which must be addressed is whether fire trails actually increase the risk of fire ignition. People are responsible

for lighting a number of wildfires, mostly unwittingly, and the more access there is, the more people there are going to be.
Of course, fire trails cannot be seen in isolation, as they are just part of an overall access network. Any decision to build new fire trails or revegetate old ones must be made in this context. The access systems for many areas need immediate review. Trails which are shown to be unnecessary should be closed and revegetated. This includes fire trails.

CONSTRUCTION OF TRAILS DURING A FIRE

At first glance, it may seem that the discussion of this topic should have been included in the section on fire trails. We do not, however, believe that tracks dozed during a fire should be considered as fire trails. The major reason why these tracks can become controversial, though, is that unfortunately this is what tends to happen. A rough track is pushed through during a fire to provide access to a particular point, and later by the power of ad-hoc management it becomes a part of the fire trail access system.

A RATIONAL APPROACH TO FIRE MANAGEMENT

The first section of this display has shown that fire is an important component of many natural communities. Prolonged human interference in natural fire regimes, both deliberately (eg, controlled burning) and accidentally (eg, dropped cigarettes) means that many ecosystems have remained in, or reverted to, earlier successional stages. In some cases subtle changes to the ecosystem (eg, loss of soil, nutrients, plant and animal species, microflora) have deflected the entire successional process onto a new path. This past and continuing destructive interference must not continue and debilitated areas must be given the opportunity to recover. All authorities managing natural areas need to develop fire management strategies which are consistent with a primary objective of nature conservation. This management must be based upon a thorough knowledge of the impact of fire on different plant and animal communities.

Such strategies must also take account of the crucial fact that fire can have a highly significant impact on many human-modified landscapes. Because we may choose to live in or near the bush and recreate in the bush, and because our crop and pasture lands sometimes adjoin natural environments, uncontrolled fires which start in those areas may represent a threat. But