

D.W.R. Stewart

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REPORT

OF

CONFERENCE ON BUSH AND FOREST FIRES

HELD AT

SYDNEY, 30th MARCH TO 1st APRIL, 1926.

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FORESTS DEPARTMENT
RESEARCH BRANCH

12 JUL 1972

COMO, W.A.

Conference on Bush and Forest Fires.

REPORT AND SUMMARY OF PROCEEDINGS.

I **SUBMIT**, for the Minister's perusal, the report and conclusions of the above Conference, held in Sydney from 30th March to 1st April, inclusive.

The gathering was interstate in character, as representatives attended from New South Wales, Victoria, West Australia, and Tasmania, and the discussion brought forward many important and interesting facts. A summary of the conclusions will be found on page 3.

Important Points.

These as brought forward are as follow :—

Eighty per cent. of the loose fires which do occur originate from without and not from within the forest systems, and about 75 per cent are caused wilfully.

The careless use of fire is general, the existing fire laws and their administration are ineffective, and action on both educational and legislative lines is required to meet the position.

In addition to education and legislation, preventive organisation, and the co-operation of all public and private bodies are essentials in any scheme of protection.

Stricter regulations are necessary to govern burning operations, the use of approved spark arrestors on engines, and regarding the sale and use of wax matches.

The periodic recurrence of devastating fires is injurious to the prestige and credit of the country.

Legislation.

The Careless Use of Fires Act in this State is administered by the Chief Secretary's Department and, in the opinion of the Conference, would be more effective if vested in a Board, on which the Lands Department, the Forestry and Water Conservation Commissions, and the Department of Agriculture had also representation. The machinery of these Departments could be effectively employed to co-operate with the police, (a) in framing a preventive organisation, (b) in carrying out educational propaganda, and (c) in enforcing the provisions of the law.

Many of the provisions in existing legislation are useful, but its scope is not wide enough. It should be extended to cover the nomination of a Chief Fire Warden, the organisation of fire districts, the proclamation of burning off seasons, the appointment of (honorary) District Wardens, the powers and duties of Fire Wardens, a fuller determination of land occupiers, an extension of the purposes for which regulations may be prescribed, and generally to, as far as applicable, embody the main provisions of the Minnesota (U.S.A.) law, which is recognised as a world's model in rational fire legislation.

The whole subject is an important one in the country's interests, and the time is ripe for its review on the broadest possible preventive, protective and administrative lines. It is suggested that the first step in this direction

should be the appointment of a Board or Commission to examine the evidence, and frame recommendations for the Government's guidance in meeting the position.

Having regard to the concluding resolution of the Conference, the question is also one that might appropriately be set down for consideration at the next conference of Premiers.

R. D. HAY,
Commissioner.

The Minister for Forests.

9th April, 1926.

The following are the names of the members of the Board of Forestry established by the Forestry Act, 1924, and the names of the members of the Board of Forestry established by the Forestry Act, 1925, and the names of the members of the Board of Forestry established by the Forestry Act, 1926.

The members of the Board of Forestry established by the Forestry Act, 1924, are as follows:—
The Hon. the Minister for Forests, Chairman.
The Hon. the Minister for Agriculture, Vice-Chairman.
The Hon. the Minister for Lands, Vice-Chairman.
The Hon. the Minister for Education, Vice-Chairman.
The Hon. the Minister for Public Works, Vice-Chairman.
The Hon. the Minister for Railways, Vice-Chairman.
The Hon. the Minister for Marine and Fisheries, Vice-Chairman.
The Hon. the Minister for Labour, Vice-Chairman.
The Hon. the Minister for Health, Vice-Chairman.
The Hon. the Minister for Justice, Vice-Chairman.

The members of the Board of Forestry established by the Forestry Act, 1925, are as follows:—
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The Hon. the Minister for Labour, Vice-Chairman.
The Hon. the Minister for Health, Vice-Chairman.
The Hon. the Minister for Justice, Vice-Chairman.

The members of the Board of Forestry established by the Forestry Act, 1926, are as follows:—
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The Hon. the Minister for Agriculture, Vice-Chairman.
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The Hon. the Minister for Health, Vice-Chairman.
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The Hon. the Minister for Marine and Fisheries, Vice-Chairman.
The Hon. the Minister for Labour, Vice-Chairman.
The Hon. the Minister for Health, Vice-Chairman.
The Hon. the Minister for Justice, Vice-Chairman.

DRAFT RESOLUTIONS.

1. Fire Laws :

- (a) That the scope of general fire enactments in each State needs to be considerably extended;
- (b) That general fire law administration should be vested in a Board, representing the Lands, the Forestry, Water Conservation, and the Agricultural interests;
- (c) That the co-operation of all public and private bodies in regard to fire risk is essential to assure public safety.

2. Fire Propaganda :

That with regard to—

- (a) Publications,
- (b) Posters and dodgers, and
- (c) Press campaign,
it is desirable a campaign of publicity along these lines should be inaugurated in each State, and that it should be directed mainly on educational lines;
- (d) That special attention should be given to education on this question in schools and in such organisations as the Boy Scouts, Girl Guides, and kindred associations.

3. Forest Grazing :

That it is essential the question of grazing be considered from two stand-points, viz. :—

- (a) Mountain areas on which the risk of damage is greater; and
- (b) Other classes of land on which the risk is less.
- (c) That in all prime forest country grazing should be under control of the forest authority.
- (d) That in contiguous land essential for protection of this prime forest, and in mountain forest country, "protected" forests, and reserves for climatic and water supply purposes, it is desirable that burning-off shall be governed by conditions such as would be acceptable to the Forest Authority.
- (e) That in the internal administration of grazing on such land it is, in the opinion of this Conference, desirable that the Forest Authority should be consulted before issue of any lease, license, or permit, covering grazing.

4. Plantations :

- (a) That in the establishment of plantations 25 acres should as far as possible be adopted as the reasonable maximum area of a compartment;
- (b) That, having regard to the recurrence of abnormal conditions of risk, it is desirable the strictest attention should be given to the formation of appropriate external breaks to protect the plantations;
- (c) That it is desirable, wherever possible, that main subdivisionable breaks should be not less than 2 chains, and other internal breaks not less than 1 chain wide.

5. Locomotives :

- (a) That all engines operating upon or in the vicinity of forest areas and plantations should be equipped with proved and efficient spark arrestors and ash-pans.

6. Miscellaneous :

- (a) That weather being the uncontrollable factor in the cause of forest fires, it is desirable that research be undertaken to determine the relation between meteorological conditions and the risk of fire spread;
- (b) That regulations in regard to the sale and use of wax matches should be more *rigidly* enforced.

7. General :

- (a) That the periodic recurrence of devastating fires is injurious to the prestige and credit of the Commonwealth of Australia, and the question of prevention, therefore, demands consideration with a view to concerted action on the part of the various Australian Governments.

FIRE LEGISLATION IN THE UNITED STATES OF AMERICA.

The Minnesota law—modelled after other State laws which pioneered rational forest fire legislation—is believed to be the most complete in that country. This law in its complete form (nineteen sections) is published in the July (1896) number of "The Indian Forester."

In its construction it provides, *inter alia*—

The Forest Commissioner of the State shall be supreme in all matters relating to the prevention and suppression of forest and prairie fires. Supervisors of towns, mayors of cities, and presidents of village councils are constituted fire wardens under the Act in their respective spheres.

The Commissioner shall appoint a competent deputy to act as Chief Fire Warden, who shall represent the authority of the Commissioner, and whose duty it shall be to enforce the provisions of the Act.

The Chief Fire Warden shall have charge of the fire warden forces of the State, and shall have authority—

To mass the fire warden forces at any special point to suppress fires; to appoint additional wardens where necessary; to organise fire districts and preventive measures; to assess damage caused by fires, and to investigate the causes thereof.

The Commissioner shall provide an abstract of the penal laws of the Act with such rules and regulations in accord therewith as he may deem necessary, and forward same to fire wardens and other local authorities to post in conspicuous places as warnings.

During dangerous seasons, the Chief Fire Warden shall use such means under his command as he may deem necessary to prevent or suppress fires, and his expenses shall be paid by the State.

It shall be the duty of each Fire Warden to take precautions to prevent the setting of fires; when fire occurs or is threatened in any part of his district, to go to such place of danger and control. He shall have authority to call to his assistance any able-bodied person, and if such person refuse, he shall be liable to a stated penalty.

Any Fire Warden in the absence of the Chief Warden shall act in control, and all shall have power to enforce the provisions of the law, to arrest without warrant any person violating such, to inquire into the causes of fire, the methods of prevention and control, the damage caused, the lives lost, and shall furnish reports to the Chief Warden thereon.

Penalties are provided for wilfully or negligently setting or causing fires, for damaging or defacing fire notices, for not using approved spark arresters on railway and other engines, and generally for violating the provisions of the Act.

The Forest Commissioner is required under the Act to report annually to the Governor on its administration and operation.

Rates of pay for the services of wardens, and the amounts imposable as penalties, are also specified in the Act.

SUMMARY OF PROCEEDINGS.

Opening of Conference.

The Conference met at the Lands Department, Sydney, on 30th March, 1926. Those present were :—

- Mr. R. DALRYMPLE-HAY (Forestry Commissioner representing New South Wales).
- Mr. W. J. CODE (Chairman, Forests Commission, Victoria).
- Mr. A. V. GALBRAITH (Commissioner, Forests Commission, Victoria).
- Mr. S. L. KESSELL, B.Sc., Dip.For. (Conservator of Forests, Western Australia).
- Mr. L. G. IRBY (Conservator of Forests, Tasmania).
- Mr. A. H. CHESTERMAN, L.S. (Chairman, Closer Settlement Advisory Board, Lands Department, N.S.W.).
- Mr. J. J. BAKER, L.S. (District Surveyor, Wagga Wagga, Lands Department, N.S.W.).
- Mr. W. P. POPE (Chief Inspector, Forestry Commission, N.S.W.).
- Mr. J. S. PARRY (Inspector and District Forester, Forestry Commission, N.S.W.).
- Mr. S. M. TOUT (Acting Secretary, Forestry Commission, N.S.W.).
- Mr. L. V. WILLIAMS (Supervising Assessor, Forestry Commission, N.S.W.).
- Mr. H. J. LYNE (District Forester, Forestry Commission, N.S.W.).
- Mr. F. S. BOYD (District Forester, Forestry Commission, N.S.W.).
- Mr. C. J. CLULEE (District Forester, Forestry Commission, N.S.W.).
- Mr. A. R. SAMUELS (District Forester, Forestry Commission, N.S.W.).
- Mr. F. G. MCPHERSON (District Forester, Forestry Commission, N.S.W.).
- Mr. R. J. G. BURROW (District Forester, Forestry Commission, N.S.W.).
- Mr. G. E. RUMMERY (District Forester, Forestry Commission, N.S.W.).
- Mr. H. W. GARLING (District Forester, Forestry Commission, N.S.W.).
- Mr. C. O. LOVE (District Forester, Forestry Commission, N.S.W.).
- Mr. D. MOIR (Senior Forester, Forestry Commission, N.S.W.).
- Mr. W. A. W. DE BEUZEVILLE (Senior Forester, Forestry Commission, N.S.W.).
- Mr. W. C. WENTWORTH (Senior Forester, Forestry Commission, N.S.W.).
- Mr. J. J. McLEOD (Senior Forester, Forestry Commission, N.S.W.).
- Mr. J. FREEMAN (Forester, Forestry Commission, N.S.W.).

CHAIRMAN.

On the motion of Mr. KESSELL, seconded by Mr. CODE, Mr. R. DALRYMPLE-HAY was unanimously elected Chairman.

DISCUSSION AND EVIDENCE.

PRELIMINARY ADDRESS.

THE CHAIRMAN said that the questions at issue were of national importance, because forest fires injured the prestige and credit of the country. About 80 per cent. of these originated outside the forest areas, and, with very few exceptions, the occurrences were due to carelessness. He suggested that the deliberations of Conference should be based on the following questions:— (1) Whether existing precautionary measures were sufficient to meet normal conditions of risk and carelessness? (2) In what way could same be extended to meet abnormal conditions, as emphasised by the recent disastrous visitation? (3) To what extent could public interest be aroused and used as a factor in prevention? (4) Whether the position called for more comprehensive legislation and new administration?

FIRE PREVENTION AND CONTROL.

MR. KESSELL suggested separate treatment of general measures for fire prevention, and details of fire control and management.

MR. CODE (Vic.) said that, in Victoria, the greatest trouble lay in the mountain forests. Annual licenses for grazing were granted, and, without doubt, fully 75 per cent. of the fires were wilful. Recent experience had shown that fire-breaks were useless. Flames 40 feet high swept unchecked over $1\frac{1}{2}$ to 2 miles of country. In one district the precaution was taken of having ten fire bars as against one previously. They had fire lines and burned areas, and, notwithstanding, the mountain ash and messmate forests were swept from end to end.

Continuing, Mr. Code said that numerous small fires were attributable to burning-off by selectors. It improved the land for grazing and, in many cases, was the only way of clearing the land. Thirty-four lives were lost in the recent Victorian forest fires; and, as in the case of the South Gippsland fire some years previously, it was proved that, with a north-west wind blowing, the flames could not be checked. The only remedy would be to legislate for the imprisonment of persons found guilty of lighting fires in forest areas. The majority of the fires were lit by interested persons. Those lit by careless persons, such as campers, were comparatively few. The claims by the Fire Relief Board, arising out of the last great fire, were staggering. It was useless to fine offenders £10 to £20. Drastic legislation was essential.

MR. DE BEUZEVILLE said that practically the whole of the fires occurring within the New South Wales forest areas were started deliberately. Precautionary measures were useful in normal years; but in a period such as recently experienced no precautionary measures were of any value. Look-out towers were useless when the country was obscured by an impenetrable curtain of smoke. A fire 23 miles long in one State forest was checked for nearly a fortnight, and practically subdued, when someone rode along and fired the whole length. The main thing needed was legislation which would prohibit, under pain of heavy penalties, the lighting of fires during the summer months.

Precautionary Measures Sometimes Useful.

MR. POPE was unable to agree that precautionary measures were not useful. A sympathetic public would be a great factor in fire prevention and control. The people foresters were up against were those deliberately antagonistic. It would be difficult to catch offenders even if drastic legislation were passed. He doubted whether any law would prevent forest

fires under abnormal conditions. If State forests were not let for grazing purposes abnormal growth would result constituting a serious fire risk. Well-kept fire-breaks were certainly a safeguard. Constant and careful burning off on State forests would in a large measure prevent big fires.

Mr. BOYD was of opinion that if fire-breaks were kept clean there would be a good chance of controlling fires which swept upwards from low country due to settlers burning-off. Burning-off would considerably damage our forests. With wide fire-breaks, in anticipation of a dry summer, foresters could "back-fire" and thus effect great saves. The damage resulting from light burning would be more than compensated for by saving the larger growth.

Mr. BURROW agreed that 75 per cent. of fires occurring were incendiary, including burning-off to sweeten pastures. Preventive measures, although of little use in abnormal seasons, were urgently required in normal seasons, and should not be abandoned. It was difficult to convict offenders, and a tightening up of the existing law would be of advantage. No person with property adjoining a State forest should be allowed, without giving due notice, to burn off between September and March. In the absence of notice the fire should be regarded as *prima facie* evidence against the owner. It should also be made an offence to search for stock without permission in a State forest.

Mr. J. J. McLEOD declared that 80 per cent. of fires in his district were caused by stock owners, with the object of improving pasture. By means of protective schemes, during eight years, menacing fires on plantations controlled by him had always been subdued. Plantations could and should be protected by means of fire-breaks, advance burning, and control. Power should be taken to enter upon adjoining lands, for the purposes of taking protective measures, in anticipation of fires. Any area could be protected against fire if sufficient time and money were devoted to the task.

Public Should be Educated.

Mr. KESSELL held that the public should be educated by the persons responsible for fire prevention. But all propaganda must be along common-sense lines. With intensive management and organisation fires could be checked. Funds were not available to deal with the whole State immediately. It could only be done as forest management developed. Foresters had to recognise that settlers must burn off. But the burning should be done under control; and every grazing lease should contain the necessary provision. Graziers should also be required to burn-off their leases in sections. In the United States the relative humidity of the atmosphere had been found an important factor. Settlers were not allowed to burn-off until atmospheric conditions were favourable. That could be done here.

Mr. MCPHERSON pointed to two essential requirements—precautionary measures against fire outbreaks, and an efficient fighting organisation. The public needed educating, and stronger legislation was necessary. Fire-breaks were of great advantage. Danger spots should be located, and precautionary measures taken.

Mr. H. J. LYNE attributed success in checking fires around Taree to early, late, and night burning. There certainly should be control over persons entering State forests. Grazing with certain classes of stock ought to be encouraged by nominal rentals, as it was desirable that herbage should be eaten off. The regulations regarding careless use of fire needed tightening

up. Adjoining owners should be compelled to give notice before lighting fires. Early burning-off did no damage. He was now taking first-class timber from areas which had been systematically treated and burned for the last eight or nine years. It was most important that the rising generation (school children) should be educated in matters relating to forestry.

Mr. PARRY agreed that school children should receive instruction in forestry. But it would be unwise to exclude the public from State forests. Adjoining landholders made the best lessees of State forest areas. Protective measures and new legislation were essential. In a recent fire, due to adverse winds, fire-breaks were not of much value; but they were necessary. Wax matches were undoubtedly the cause of many fires, and their sale in forest districts should be prohibited.

Value of Fire-breaks.

Mr. CODE said he wished to make it clear that he regarded fire-breaks, watch towers, and telephones as essential in certain forest areas. He thought also that the lands and forest administrations of the various States should co-operate in the protection of adjoining forest areas. Spring and autumn firing, under supervisoins, could be done in certain areas with safety. To burn seedling growth and mountain ash, however, meant burning three parts of the seedlings on one side, after which the saplings would be "overgrowth." Thinning out would be the best course if money was available.

Mr. H. W. GARLING testified to the value of fire-breaks.

Mr. L. G. IRBY (Tasmania) said that protective measures had been successful in his State. They had, nevertheless, been fortunate, as the Tasmanian bush was very dense and would always present a serious problem. He believed in educating the younger generation in forestry, but did not entirely agree with firing for protective purposes. After the first fire for cleansing purposes, no matter how slight subsequent fires might be, they must always result in a gradual detrition. All over the world harmful results had followed burning. The aim of foresters should be to control fires, and fire-breaks were essential.

Mr. A. H. CHESTERMAN thought that a lot of the trouble could be got over by co-operation between foresters and settlers. Doubtless Conference would be able to suggest useful amendments to existing legislation. Organisation of forestry must vary according to local conditions. But in certain respects uniformity should be practicable—for instance, in regard to fire-breaks, forest guards, patrols, and such like. The regulations in force in New South Wales ought to be effective and able to cope with any ordinary demand. There was no necessity for antagonism between grazing and forestry interests. Occasional conferences would overcome difficulties. The Lands Department in New South Wales would give every assistance.

Mr. J. J. BAKER agreed with Mr. Chesterman. He was sure graziers would be willing to consult the foresters before burning-off. Propaganda was necessary. Notice boards, placed in conspicuous positions on main roads, warning those concerned of the danger of careless use of fire would help. He was an advocate of very wide fire-breaks, and the co-operation of landholders should always be sought. The first fire-break (the last line of defence) should be a 10-chain break immediately on the north-west and south of the section. It should be cleared, trees felled, and top branches burnt off. When the grass grew it could be grazed. He agreed that wax matches were a menace in forest country.

Mr. LOVE said that several recent fires in his district had been traced to railway gangers. Co-operation was necessary with the Railway Commissioners, the shire councils, and the postal authorities.

Mr. CLULEE was of opinion that if regular burning during safe periods were practised it would be more effective than fire-breaks. Fire-breaks were a means to an end, and he did not doubt their usefulness. But they would be useless to stop a big fire advancing from outside.

SECOND DAY—31st March, 1926.

Conclusions.

The following conclusions were adopted as the basis of discussion:—

- (1) That in forest practice, preventive measures, such as fire-breaks and precautionary burning, are effective under normal conditions, and should be continued.
- (2) Preventive measures are of limited value to check the spread of fire under abnormal conditions, such as prolonged drought accompanied by high winds, unless aided by wider organisation and control.
- (3) Wide-spread fire damage can only be effectively met by providing against the careless use of fire, and by public education on the subject.
- (4) The general fire laws, their administration, and the organisation for prevention and protection, demand a comprehensive review in the interests of public safety.

After discussion, conclusion No. 1, on the motion of Mr. KESSELL, seconded by Mr. MCPHERSON, was amended as follows:—

That in forest practice preventive measures such as fire-breaks and precautionary burning, are effective and should be continued; but risks are greater and costs unduly high owing to the prevalence of incendiarism throughout the timber country in Australia.

Conclusion No. 2, on the motion of Mr. DE BEUZEVILLE, seconded by Mr. KESSELL, was amended to read:—

Wider organisation and control are necessary to uphold the precautionary measures adopted to check the spread of fire on forest areas.

Conclusion No. 3, on the motion of Mr. CODE, seconded by Mr. IRBY, was adopted.

Conclusion No. 4, on the motion of Mr. McLEOD, seconded by Mr. BURROWS, was also adopted.

Facts to Sustain Conclusions.

The CHAIRMAN said that, on the previous day, statements had been made to show exactly how far precautionary burning and fire-breaks were effective. Facts were necessary to sustain the first part of the conclusion, as well as the evidence given relating to the prevalence of incendiarism.

Mr. McLEOD said that the Castlereagh State Forest had been menaced by fire every year since its establishment eight years ago. On each occasion the fires had been controlled—usually by back-firing.

Mr. BURROW stated that, during the early existence of the Pilliga East State Forest, he made a break along the southern boundary for 30 miles, clearing it for 3 or 4 chains. Every autumn and winter he burnt back from the break 2 or 3 miles, according to circumstances. During the whole eight or ten years there had been no fire from the southern quarter. It was flat country, and he depended largely upon patrolling, which was effective.

Mr. DE BEUZEVILLE declared that precautionary measures of all kinds had been effective at Bago State Forest, where they had also a plantation, during the very worst year.

Mr. KESSELL said that, in Western Australia, fire control measures had been practised in 223,000 acres of Jarrah forests, and the average area lost per annum had been about 1 per cent. Standard precautionary measures were taken in regard to plantations and the loss in five years was 20 acres.

THE CHAIRMAN: The evidence is that in New South Wales there are twenty plantations, and during the most dangerous season for thirty years past only one was seriously damaged and two slightly damaged by fire. There are eighty State forests under improvement, and in almost every one precautionary measures proved effective.

Mr. CODE said that in Victoria they had ten soft-wood plantations. One, comprising 630 acres, was totally destroyed notwithstanding the use of fire tower, telephone, and men on the spot in readiness. Only 2 acres out of 1,500 were burnt in the Bright district. None of the other plantations at which precautions were taken suffered. Due to improvement, fire-breaks and precautionary measures, no serious damage was done to the hardwood forests. Precautionary measures were easy in low country, but the mountain forests, where the serious fires had occurred, presented a difficult problem. During the fires in the stringybark and messmate country showers of sparks travelled a mile, burning everything in front of them.

Mr. IRBY said that fire-breaks plus fire-fighting methods had proved completely successful in Tasmania. ?

Sub-Committee Reviews Evidence.

An adjournment was made at noon to enable a sub-committee to review the evidence and frame resolutions. The personnel of the sub-committee were:—The Chairman, the Acting Secretary, Mr. Code, Mr. Galbraith, Mr. Kessell, and Mr. Irby.

On resumption at 2.15 p.m. the Chairman reviewed the position, and submitted draft resolutions, prepared by the sub-committee.

Resolutions.

The first resolution adopted, under the heading of fire laws, was in the following terms:—

That in the opinion of this Conference the scope of general fire enactments in each State needs to be considerably extended.

The mover was Mr. CLULEE and the seconder Mr. DE BEUZEVILLE.

THE CHAIRMAN explained that the resolution referred only to general fire laws, and did not impinge upon the fire laws operating in regard to forestry systems. It had been shown that foresters could protect their own interests. The damage came from without owing to the incompleteness of the general fire laws.

The second resolution (relating to administration) was adopted in the form following, on the motion of Mr. LYNE, seconded by Mr. PARRY :—

That in the opinion of this Conference the general fire law administration should be invested in a board representing Lands, Forestry, Water Conservation, and Agricultural interests.

The third resolution, under the sub-heading of "Co-operation," was adopted in the following terms, on the motion of Mr. GARLING, seconded by Mr. WENTWORTH :—

That in the opinion of this Conference the co-operation of all public and private bodies in regard to fire risks is essential to secure public safety.

THE CHAIRMAN said the evidence showed that fire risks were considerably increased by want of co-operation between the employees of the railways, local authorities, and telegraph linesmen, &c.

"Fire Propaganda," for the purpose of framing resolutions, was submitted under four sub-heads, thus :—(a) Publications, (b) Posters and Stickers, (c) Press Campaign; (d) Juvenile Education.

A resolution covering (a), (b), and (c) was adopted in the form following, on the motion of Mr. MOIR, seconded by Mr. BURROWS :—

That it is desirable a campaign of publicity along these lines be inaugurated in each State, and that it should be directed mainly on educational lines.

A further resolution, covering (d), was adopted as follows, on the motion of Mr. MCPHERSON, seconded by Mr. FREEMAN :—

That special attention should be given to education on this question in schools, and in such organisations as the Boy Scouts, the Girl Guides, and kindred organisations.

The next two resolutions were presented under the heading of "Grazing." The first, subdivided into "a" and "b," was carried in the following terms :—

That it is essential the question of grazing be considered from two standpoints, namely, mountain areas on which the risk of damage is greater, and other classes of land, on which the risk is less.

The other resolution was eventually agreed to in the form following :—

That in all prime forest country grazing should be under the control of the Forest Authority; and that in contiguous land essential for its protection, and in mountain forest country, protected forest, and reserves for climatic and water supply purposes, it is desirable that burning-off shall be governed by the strictest regulations and conditions.

Mover and seconder in each case : Mr. CLULEE and Mr. GALBRAITH.

Plantations—Size of Compartments.

That, in the opinion of this Conference, in establishing plantations, 25 acres should be adopted as far as possible as the maximum size for any compartment.

Carried on the motion of Mr. KESSELL, seconded by Mr. WILLIAMS.

External Breaks.

That, in the opinion of this Conference, having regard to the recurrence of abnormal conditions of risk, the strictest attention should be given to the establishment of appropriate external breaks to protect plantations.

Mover Mr. KESSELL, seconder Mr. CODE. Resolution carried.

Internal Breaks.

That, in the opinion of this Conference, main subdivisional breaks should, wherever possible, be not less than 2 chains wide, and internal breaks not less than 1 chain wide.

Carried on the motion of Mr. PARRY, seconded by Mr. DE BEUZEVILLE.

Locomotives.

The following resolution was designed to deal with three separate issues—use of fuel, use of spark arresters, and necessary precautions:—

That, in the opinion of this Conference, all engines operating upon or in the vicinity of forest areas and plantations should be equipped with proved efficient spark arresters and ash pans.

Carried on the motion of Mr. LOVE, seconded by Mr. WILLIAMS.

Meteorological Conditions.

That weather being the uncontrollable factor in the cause of forest fires it is desirable that research be undertaken to determine the relation between meteorological conditions and the risk of fire spread.

Carried on the motion of Mr. KESSELL, seconded by Mr. BURROW.

Danger of Wax Matches.

That, in the opinion of this Conference, the regulations in regard to the sale and use of wax matches should be more rigidly enforced.

Carried on the motion of Mr. CODE, seconded by Mr. PARRY.

THIRD DAY OF CONFERENCE.**Revision of Resolutions.**

The portion of the resolution dealing with burning-off on grazing leases within forest areas was amended by striking out the words "strictest regulations and conditions," and by adding in lieu thereof the words "conditions such as will be acceptable to the Forestry Authorities."

Mover, Mr. CHESTERMAN; seconder, Mr. BOYD.

At the CHAIRMAN'S suggestion the following words were added to the resolution:—

That, in the internal administration of such lands it is, in the opinion of this Conference, desirable that the Forestry Authorities should be consulted before the issue of any lease, license, or permit covering grazing.

The National Aspect.

FINAL RESOLUTION.

That the periodic occurrence of devastating fires is injurious to the prestige and credit of the Commonwealth of Australia, and the question of prevention therefore demands consideration with a view to concerted action on the part of the various Australian Governments.

Carried on the motion of Mr. GALBRAITH, seconded by Mr. CODE.

Conclusion.

CHAIRMAN'S REMARKS.

In closing the Conference the Chairman said he thought they were justified in being hopeful of some good results. A great deal would rest upon the shoulders of delegates, whose duty it would be to take action to give effect to the resolutions. He would personally strongly urge the New South Wales Government to give consideration to the arguments and resolutions of Conference.

Mr. CHESTERMAN said there should be some arrangement whereby the representatives of the various States might meet and consult before legislation was submitted. It was important that the legislative amendments of the different States should not clash.

Mr. CODE supported the suggestion.

Conference closed at 11.45 a.m. with a vote of thanks to the Chairman.