

FIFTH NATIONAL CONSERVATION CONGRESS

Report of the Forestry Committee

*Program of the Forestry Section
Forestry Committee Organization
Synopsis of Sub-Committee Reports*

The Forestry section program includes the presentation of ten sub-committee reports and their discussion.

IMPORTANT NOTICE—Three meetings of the Forestry Section will be held on November 17—the day before the general Congress opens. The first session is called for 10 a.m., in the Cabinet room at the New Willard Hotel. The date and hour are important. All of the section meetings will be called promptly at the hour named in the program.

WASHINGTON, D. C.

NOVEMBER 17, 18, 19, and 20, 1913

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PROGRAM OF THE FORESTRY SECTION

NOVEMBER 17

- Morning—*
SESSION 1
- 10 Call to order, etc.
 - 10:15 Report of Sub-committee on Publicity.
 - 10:45 Discussion.
 - 11:30 Report of Sub-committee on Forest Planting.
 - 12 Discussion.
- Afternoon—*
SESSION 2
- 2 Report of Sub-committee on State Forest Policy.
 - 2:30 Discussion.
 - 3:15 Report of Sub-committee on Forest Taxation.
 - 3:45 Discussion.
 - 4:30 Appointment of committees, etc.
- Evening—*
SESSION 3
- 8 Report of Sub-committee on Forest Investigations.
(Talk by Raphael Zon, chairman, illustrated by lantern slides.)
 - 8:30 Discussion.
 - 8:50 Report of Sub-committee on Forest School Education.
 - 9:20 Discussion.
 - 9:45 Talks and Discussions on Forest Insects.

NOVEMBER 18

- Morning—*
SESSION 4
- 9 Report of Sub-committee on Lumbering.
 - 9:30 Discussion.
 - 10:00 Report of Sub-committee on Forest Utilization.
 - 10:30 Discussion.
 - 11:00 Adjourn to attend opening session General Congress.
- Afternoon—*
SESSION 5
- 2:00 Report of Sub-committee on Forest Fires.
 - 2:30 Discussion.
 - 3:00 Report of Sub-committee on Federal Forest Policy.
 - 3:30 Discussion.
- Evening—*
SESSION 6
- 8:00 Presentation of Resolutions, etc.
 - 8:30 Discussion of Plans for Permanent Organization.
 - 9:30 Adjourn to attend reception given by Mrs. Pinchot.

NOVEMBER 19

- Morning—* 10:00 Water Power Session, General Congress.
Afternoon— 2:00 Forestry Session, General Congress.
Evening— 7:30 Forestry Banquet at Rauscher's.

NOVEMBER 20

- Morning—* 10:00 Forestry Session, General Congress.

The Forestry Section meetings will be held in Cabinet Room of the New Willard Hotel.

By Transfer
Geological Survey
SEP 14 1932

THE FORESTRY COMMITTEE
OF THE
FIFTH NATIONAL CONSERVATION CONGRESS
PRESENTS ITS REPORT ON THE

FORESTRY COMMITTEE ORGANIZATION



WHEN the present Forestry Committee was appointed, following the meeting of the Fourth National Conservation Congress at Indianapolis in 1912, several of the public spirited men who had followed the developments took up the question of the most effective organization to represent the mutual forestry and lumbering interests involved. The desirability of such an organization was emphasized by the presence at Indianapolis of a number of men who were no longer in need of the general educational propaganda relative to the conservation of natural resources, but attended the Congress for the purpose of meeting progressive men in their own and related lines and securing specific information helpful in the solution of their own problems.

The need for a working organization and a rallying point, where mutual and more or less technical problems may be discussed, is felt particularly by the forestry and timber interests. The Conservation Congress was originally founded on forest conservation, and while the importance of other conservation subjects is realized the time seems to have come for specific forestry work at popular national meetings, in addition to the general publicity and education. It is merely a frank admission of the facts to say that the attendance and support of the forest conservation interests would have been lost to the Congress if it had not returned to the original theme; and not only this but the active workers in forestry desired an opportunity to exchange views on technical problems, so as to take home tangible information in return for their time and expense in attending.

The Forestry Committee of the present Congress was organized with the view of meeting, to some extent at least, the conditions which existed. The Conservation Congress offered the first essential in the way of a recognized national organization, with which active forestry committee work could be associated. The second need was financial, and this was promptly met by the American Forestry Association, which provided the necessary funds. There then remained only the necessity of perfecting the proper organization of the forestry committee itself.

Various precedents have been established by older organizations for carrying on the character of work deemed most effective in this case. The plan which has given good results and is in general use is that of standing committees or sections assigned to various subjects. The American Railway Engineering Association and the International Congress of Applied Chemistry are good examples of this

form of organization. The National Educational Association has carried the idea still farther, to the point of having various independent sections, each with its own president and program. A central organization in each case holds the sections or standing committees together for the common cause. The needs of the Forestry Committee for this year seemed best met by the appointment of sub-committees to investigate and report on the more important forest conservation subjects.

As soon as this plan was decided upon ten sub-committees, with four to eight members each, were appointed. The subjects covered the more important technical problems of forestry and lumbering, and broad national questions involving legislation and regional public interests. The chairmen and sub-committee members were selected on the basis of their experience and ability to contribute new knowledge on the subjects assigned, or to compile the old in workable form. The list of committeemen is in itself sufficient evidence of the seriousness and high character of the investigations undertaken. Several topics were suggested under each sub-committee subject, and the more important selected for this year's report. Practically all details of text and arrangements were left to the sub-committeemen. It is striking evidence of the importance and public interest in forest conservation that fifty busy men should freely give their time and thought to work of this kind.

The printed reports, therefore, as presented to the Congress are not the views of rhetoric of any individual, but the mature conclusions of a body of experts, who represent all regions and all phases of forest activity. The necessary publicity to the sub-committee's findings will be given by printing and distributing the reports, by wide circulation through the AMERICAN FORESTRY MAGAZINE and lumber journals, and by distribution among trade, technical and public service organizations.

By presenting these reports at forestry section meetings and giving ample opportunity for discussion, further information will be gained and that available will be disseminated. Those who attend will receive the benefit of the information given, and, in turn, by taking part in the discussions, will contribute to the fund of available knowledge, and add facts for use in the present or future revision of the reports. Most of the subjects will continually develop new phases, and what is up to date or advanced thought or information to-day may be obsolete to-morrow. At the same time, there are fundamental principles which remain unchanged, and basic methods which when once applied need revision only in detail. No one has any thought of being able to settle at once and for good and for all the many complex conservation problems. Recognizing, however, the evolutionary nature of the development, it is apparent that the broader and better the knowledge and the closer the harmony among the various interests, the sooner will come security to the nation's timber resources and provisions for maintaining the needed supply.

It is not fitting for the Forestry Committee to pass judgment on its own work nor to outline plans for the future. It is a temporary body which will go out of office automatically at the close of the coming Congress; while as to

results, the accomplishments of the year will speak for themselves in the sub-committee reports and in the forestry speeches before the general Congress. It may not be out of place, however, to say that the form of organization adopted is in general effective, and that the results are even better than was anticipated. It is unfortunate that the present officers of the Conservation Congress, who have so consistently supported the work, and the Forestry Committee have a tenure of service so short that they can little more than inaugurate work of the kind which has been attempted.

From the standpoint of developing and establishing basic policies, and in perfecting and applying technical methods in the various fields of forest activity, an organization along the line of the present Forestry Committee is certainly needed and promises to be effective. At the same time, such work cannot be undertaken without a central national organization to lean on and funds to prosecute the work. Granting that a strong national organization is needed to carry on popular educational and publicity work, it would seem that the more specific and technical field could best be covered by a properly organized forestry committee, supported by and affiliated with the non-technical central organization.

Whatever the supporting organization and clearing house, it is certain that there exists a well-defined desire for an annual national forum of forestry and lumber interests, such as provided this year in connection with the National Conservation Congress, where views can be exchanged and problems of mutual interest worked out to practical conclusions. It would not necessarily be a large gathering, but essentially one of ways and means to accomplish many desirable things. The best basis for such a meeting would be a permanent organization for investigation and report, probably through standing committees which would be directed by a central body, either an administrative committee or the directors of the parent organization.

If specific mention was made of the individuals who have made possible a creditable showing this year, it would have to include every man on the Forestry Committee, every sub-committee chairman, and most of the sub-committee members. Mr. Charles Lathrop Pack, in his function as President of the Congress and outside of it, has given the strongest possible support to the Committee, and to him and to Col. W. R. Brown, Dr. Henry S. Drinker and Capt. J. B. White is due the credit for the financial arrangements, through the American Forestry Association, which made the work possible. For the large amount of valuable Pacific Coast data, and for cordial co-operation in all the work the Committee owes its thanks to Mr. E. T. Allen.

SYNOPSIS OF SUB-COMMITTEE REPORTS

The following is a brief summary of the work of the Forestry Committee, and its sub-committees, for the Fifth National Conservation Congress.

COMMITTEE 1

PUBLICITY

<i>Chairman</i> , E. T. Allen-----	Forester, Western Forestry and Conservation Association, Portland, Ore.
T. B. Wyman-----	Secretary, Northern Forest Protective Association, Munising, Mich.
F. W. Rane-----	State Forester, Boston, Mass.
P. S. Ridsdale-----	Secretary, American Forestry Association, Washington, D. C.
Overton W. Price----	Vice-president, Treasurer, National Conservation Association, Washington, D. C.

TOPICS ASSIGNED

1. Publicity at the meetings of various popular and technical organizations.
2. Publicity of the forestry work of the Conservation Congress, both of the general congress and of the Forestry Committee.
3. Publicity through the press, looking particularly to the arousing of public interest in fire protection, taxation, and State forestry.
4. Publicity methods and devices useful to fire associations and other forest protective agencies.

The full report of this committee as printed, covers the four topics assigned. An introductory chapter presents in a new way the necessity for publicity since: "Public education is the chief measure of progress in forestry."

Some of the conclusions of the committee are that:

1. Progress in forestry depends more on what the public will permit than upon foresters and lumbermen. Consequently, public education is of primary importance.
2. Education is a matter of publicity and publicity is a trade in itself. It cannot be practised intuitively.
3. Since no one else has the interest or the requisite forestry knowledge, foresters and lumbermen must learn this trade.
4. It is not forests, but the *use* of forests, that we seek to perpetuate. Therefore, to be sound and convincing, educational publicity must include the lumber business. So long as the public believes forestry good and lumbering bad, there will be confusion and no real progress.

In addition to presenting a full report, the sub-committee assisted during the year in preparing the forestry program and arranging section meetings, and in giving publicity to the forestry features of the congress.

COMMITTEE 2.

FEDERAL FOREST POLICY

<i>Chairman</i> , Jos. N. Teal-----	Chairman, Oregon Conservation Commission, Portland, Ore.
Hon. A. F. Lever----	Congressman, Lexington, S. C.

Robert P. Bass-----Ex-Governor New Hampshire, Peterboro,
N. H.
E. G. Griggs-----President, St. Paul & Tacoma Lumber Co.,
Tacoma, Wash.
F. E. Olmsted-----Consulting Forester, Boston, Mass.

TOPICS ASSIGNED

1. Needed legislation in national forestry.
2. National versus State control of national forests.
3. Economics of timber supply in relation to production and consumption.
4. Details of national forest administration.

The first three topics as above listed are covered by separate sections in the report. The subject is one of the broadest and most important before the country today, and is likely to become a matter of legislation which will vitally affect public interests. The whole report is a timely contribution to public knowledge on the subject.

Most of the criticism against the Forest Service concerns conditions beyond its control, which result from lack of authority or inadequate funds. The first section on "Needed Legislation in National Forestry" outlines the needed changes and increases in Congressional legislation and appropriations which will enable the Forest Service to administer the National Forests with full efficiency. It is stated that "the legislation which is needed in national forestry is primarily to extend the principles already recognized by Congress and to enable the executive authority better to put these principles into practice."

Another attempt, to wrest the national forests from public control for private exploitation, is imminent, this time under the guise of arguments and legislation for State control. Section II of the Federal Forest Policy report, on "National versus State Control of National Forests," should dampen the powder of the States' rights advocates before they reach the firing line. The facts and evidence, stated by a man like Jos. N. Teal, who is, himself, a resident of a public lands State, are conclusive and irrefutable. One of the opening sentences summarizes the incentive at the bottom of the whole States' rights movement for control of the national forests as follows: "In reality knowledge of the facts and consideration of the arguments used to substitute State for national control show that the underlying motive of the propaganda for State control has for its object the *elimination* of public forests, State or national. This fact should be known, and the issue accepted and fought out in the open instead from ambush."

Section III, on "Economics of Timber Supply in Relation to Production and Consumption," was written by Mr. E. T. Allen at the request of the sub-committee. It deals with the neglected topic of forest economics in a way which brings out many new and striking facts, particularly in relation to the sale of timber from national forests. As an indication of the character and soundness of this chapter the following is quoted: "It follows that the maximum cut from the national forests should be assured, *not during the existing period of stored*

and excessive virgin supply, or during the permanent future which will begin when adequate forest crops have had time to mature, but during the closing years of an intervening transition period."

COMMITTEE 3.

STATE FOREST POLICY

<i>Chairman,</i> W. T. Cox-----	State Forester, St. Paul, Minn.
F. A. Elliott-----	State Forester, Salem, Ore.
C. R. Pettis-----	Superintendent, State Forests, Albany, N. Y.
H. H. Chapman-----	Professor, Yale Forest School, New Haven, Conn.
J. E. Rhodes-----	Secretary-Manager, National Lumber Manufacturers' Association, Chicago, Ill.

TOPICS ASSIGNED

1. Established principles in framing, passing and enforcing State forest laws.
2. Acquirement and management of State forest reserves, with special reference to cutover lands.
3. Co-operation between States, between the States and the Federal Government, and between States and private agencies.

The rapid development in State forest organizations, based on new and old legislation, and the important part each forested State must play in the administration of our forest resources, makes this one of the most important subcommittee subjects.

The report this year is largely confined to the first topic, "Established Principles in Framing, Passing and Enforcing State Forest Laws." The established principles are stated and discussed as a basic policy, followed by a model State forest law embodying these principles in more detail. Obviously any model or skeleton law must be modified materially to meet the conditions in various States and regions, but if there is a general understanding as to fundamental principles, adaptation to local conditions becomes comparatively simple.

Owing to the large amount of valuable detail submitted by the committee, and the great interest in State legislation, which will probably lead to many suggestions and recommendations during the section meetings, it is possible that the report will be printed only in synopsis, and the revision for final printing made after consideration of the report at the section meetings.

COMMITTEE 4.

FOREST TAXATION

<i>Chairman,</i> Gifford Pinchot--	President, National Conservation Association, Washington, D. C.
<i>Acting Chm'n,</i> E. T. Allen-----	Forester, Western Conservation Association, Portland, Ore.

F. R. Fairchild----Professor of Political Economy, Yale University, New Haven, Conn.
 Dr. H. S. Drinker--President, Lehigh University, South Bethlehem, Pa.
 E. M. Griffith----State Forester, Madison, Wis.

TOPICS ASSIGNED

1. Existing tax laws and their influence on forest management.
2. Basic principles of wise forest taxation, with definite suggestions for legislation.
3. Forest taxation in other countries.
4. Bibliography for students of forest taxation.

While several individual investigators have gone far into the subject of forest taxation, and a few of the States have passed progressive tax legislation, this is the first time a body of experts has undertaken a summarized compilation of existing knowledge, with working recommendations for forest tax legislation. The four topics listed are covered under separate chapters or sections in the report.

If there is any doubt anywhere existing as to the urgency and importance of reform in forest taxation it should be dissipated by reading the following introductory paragraphs in Section II: "Next perhaps to war, taxation is the most powerful instrument of government, capable, if unwisely used, of destroying individuals, communities and industries. Few government functions are less studied by the average citizen. Probably none of its branches is less understood than forest taxation. * * * It is everywhere recognized by foresters, tax experts and political economists that the general property tax applied to forests in the United States is unscientific and discouraging to conservative management."

Forest taxation has too long been considered purely academic and theoretical, whereas it really is a problem which vitally affects the capital invested in timber, the price of lumber to the consumer, and the prosperity of States. The report states that * * * "There are two distinct influences upon the rise of timber prices. One is a true rise of intrinsic value, due to diminution of supply and growth of consumption. This alone affords any basis of profitable investment. The other is the accumulation and compounding of carrying costs which, without investment profit, *must be continually added to the selling price to prevent actual loss* * * * The general property tax upon timber, then, has an alarming tendency to become excessive and it is exceedingly difficult to meet because it is imposed annually while revenue with which to meet it is deferred. * * * From the community standpoint it threatens rapid wasteful cutting of mature timber, penalizes the growing of new timber, and for both these reasons hastens the cessation of all revenue from forest taxation and the consequent imposition of the entire burden upon other forms of property."

The basic principles of wise forest taxation are considered under the two separate heads of Taxing New Forest Crops and Taxing Mature Forests, and lead up to definite suggestions for legislation. The report is exhaustive in its treatment and specific in its recommendations, and could well be used as a working

basis for legislative action in any State. In fact, there is now available for the first time, a compendium to which any State interested in the subject can turn for sound adoptable recommendations.

An important chapter discusses "The Danger in New Tax Theories"—"the adoption of new systems framed without forestry in mind," of which conspicuous examples are "the diametrically opposed income tax and single tax."

Owing to the pressure of other duties Mr. Gifford Pinchot was unable to direct the details involved in the compilation of the report, and Mr. E. T. Allen served as acting chairman.

COMMITTEE 5.

FOREST FIRES

<i>Chairman</i> , C. S. Chapman-----	Secretary-Manager, Oregon Forest Fire Association, Portland, Ore.
D. P. Simons-----	Manager, Sound Timber Company, Seattle, Wash.
F. H. Billard-----	Forester, Berlin Mills Company, Berlin Mills, N. H.
J. S. Holmes-----	State Forester, Chapel Hill, N. C.
Coert DuBois-----	District Forester, Forest Service, San Francisco, Calif.

TOPICS ASSIGNED

1. Fire prevention by States, by the Federal Government, and by private interests.
2. Forest fire association work, with special reference to the possibility of co-operation and standard practice between the various protective associations.
3. Forest fire insurance.

One of the most hopeful developments of recent years is in the line of forest fire prevention, hence the work of this sub-committee is of prime importance, since without fire protection there can be no forestry. The report covers fully the first topic in fire prevention by States, by the Federal Government, and by private interests. The general situation, including the definite results from systematic fire prevention by private associations and other organizations, comprise the main body of the report. This is followed by a detailed discussion of the fire protection work being done in various States.

"No phase of forest work has been so actively taken up or made such marked progress as that of forest fire prevention during the past ten years.

"During the past five years there has been an increase of *over 3,000 per cent* in the area of privately owned forest land patrolled against fire; while in addition to this, 92,000,000 acres of private land has been systematically looked after and an area of some 187,000,000 acres of timber land patrolled by the Forest Service.

"Forest fires in the United States, according to the most conservative estimates since any records were available, have caused an average annual loss

of 70 human lives and the destruction of merchantable timber to the amount of \$25,000,000.00.”

COMMITTEE 6.

LUMBERING

<i>Chairman</i> , R. C. Bryant	-----	Professor of Lumbering, Yale University, New Haven, Conn.
G. M. Cornwall	-----	Editor, <i>The Timberman</i> , Portland, Ore.
J. B. White	-----	Lumberman, Kansas City, Mo.
J. F. Clark	-----	Forest Engineer, Vancouver, B. C.
F. A. Silcox	-----	District Forester, Missoula, Mont.
Adam Trieschmann	-----	Crossett Lumber Company, Crossett, Ark.
C. S. Martin	-----	Saginaw Timber Company, Aberdeen, Wash.
W. R. Brown	-----	Berlin Mills Company, Berlin, N. H.

TOPICS ASSIGNED

1. The basis of lumber costs and stumpage values.
2. The application of scientific management to lumbering operations.
3. Reports on log and lumber measures, with recommendations for standard scales.
4. Forest engineering.

The report for this year is confined mainly to the second topic listed. An appendix is submitted in the form of an excellent preliminary report on “Efficiency in the Logging Industry in the Pacific Northwest,” by C. S. Martin.

This is a committee representing particularly the manufacturing end of the lumber business, and since many widely diversified problems are involved the chairman calls attention to the fact that a complete report could not be prepared in one season. Although the committee was composed largely of lumbermen and dealt exclusively with lumbering questions, little co-operation or assistance was received from those who should be most interested. Apropos of this situation is Dr. C. A. Schenk’s truism that “the new turn in lumbering methods cannot be brought about from the outside. It will be necessary for the rejuvenation of lumbering, for the forester to become full fledged lumbermen.” If outside help will not be accepted, and less than 5 per cent of the insiders in the lumbering business who were asked for information show any interest, how can anything be worked out? After all, the theorist, considered as “a man who tries to think what he is doing” is usually the one who worked out the reforms ultimately welcomed by the “practical” man who is too busy to help.

There is a very large field for profitable investigations under the several topics named, but to carry on the work satisfactorily the co-operation and assistance of the lumbermen is a first essential. Moreover, funds should be available for the employment of a competent field man to study and compare conditions and methods and personally obtain information from operators. The various phases of forest utilization could properly be handled under the same subject heading.

COMMITTEE 7.

FOREST PLANTING

<i>Chairman,</i>	E. H. Clapp	Forest Service, Washington, D. C.
<i>Acting Chm'n,</i>	S. N. Spring	Professor, Forestry Department, Cornell University, Ithaca, N. Y.
	T. T. Munger	Forest Service, Portland, Ore.
	S. B. Detwiler	Superintendent, Chestnut Blight Commission, Philadelphia, Pa.

TOPICS ASSIGNED

1. Conditions under which commercial planting is desirable.
2. Nursery methods.
3. Field planting methods.
4. Natural versus artificial regeneration.

While a large amount of forest planting has been done, much of it might be classified as sporadic or experimental. In most planting operations too little attention has been paid to the purely commercial aspects of the question.

The sub-committee's report deals entirely with the commercial conditions under which planting is advisable. It summarizes both for technical and regional conditions, and for various classes of owners. The startling statement is made, and substantiated by figures, that \$65,000,000 is lost annually through allowing denuded and potential forest lands to remain unproductive. The urgent need of a definite financial plan for the acquirement and reforestation of denuded lands by the Federal and State Governments, and for assistance to private owners, is pointed out. Several plans covering these points are outlined.

To the main report is added an appendix, which treats in detail of the commercial conditions under which planting is commercially feasible in various regions.

Owing to the absence of Mr. E. H. Clapp on official duty in the West, Prof. S. N. Spring, of Cornell University, served as acting chairman and prepared the main body of the report.

COMMITTEE 8.

FOREST UTILIZATION

<i>Chairman,</i>	R. S. Kellogg	Secretary, Northern Hemlock and Hardwood Association, Wausau, Wis.
	Bruce Odell	Cummer-Diggins Company, Cadillac, Mich.
	W. C. Miles	Manager, West Coast Lumber Manufacturers' Association, Tacoma, Wash.
	E. A. Ziegler	Professor, Mt. Alto Forest Academy, Mt. Alto, Pa.

TOPICS ASSIGNED

1. Closer utilization in logging.
2. Closer utilization in manufacturing.

3. Closer utilization in marketing.
4. The preservative treatment of timber.

This subject, in common with lumbering, properly requires field study by a paid man in order to procure and compile satisfactory data, and the two lines of investigations could be combined.

The report of the sub-committee for this year describes clearly the economic limitations to the closer utilization of timber, and to some extent touches on the unapplied possibilities in the line of utilization. The actual developments are contingent on commercial conditions and also influenced to some extent by lack of information. Apropos of the latter, the synopsis of the report states that "The lumber industry needs more information than is yet available upon the merchantable products than can be obtained from trees of various kinds and sizes. Further investigations should be made of the costs of manufacturing many by-products, and of the conditions under which such operations are successful. The effect of unrestrained competition in timber exploitation upon our forest resources should receive serious study."

The portion of the report dealing with the conditions which prevent closer utilization is in effect a reply to the unjust popular opinion that the lumberman is responsible, either deliberately or otherwise, for the wastage of 50 per cent to 75 per cent of timber which he handles. It is pointed out that the conditions which make possible closer utilization in logging and manufacturing are: (1) Ready markets; (2) Cheap transportation; (3) Character of timber; (4) Efficient management; (5) Proper equipment. The last two are reforms which are usually within the power of the lumberman to correct, but the first three and many other conditions are due to influences entirely beyond his control.

This report should give the laymen and general public a much clearer conception of the difficulties in the way of complete, or even close, utilization of timber.

COMMITTEE 9

FOREST SCHOOL EDUCATION

<i>Chairman</i> , J. W. Toumey	-----	Director, Yale Forest School, New Haven, Conn.
Walter Mulford	-----	Professor, Forestry Department, Cornell University, Ithaca, N. Y.
C. H. Shattuck	-----	Professor of Forestry, University of Idaho, Moscow, Idaho.
George S. Long	-----	President, Washington Forest Fire Association, Tacoma, Wash.
W. B. Greeley	-----	Assistant Forester, Forest Service, Washington, D. C.

TOPICS ASSIGNED

1. Forest school education; its strength and weakness.
2. Courses or methods of teaching needed to better fit men for practical work in lumbering.

3. Secondary forest school education.
4. Function of schools in technical investigations.

Within recent years the question of technical forestry education has been thoroughly discussed at conferences called for the purpose, hence the report of the sub-committee on the general subject is confined this year to the third topic: "Secondary Forest School Education."

The need for a body of trained rangers and woodsmen has been felt ever since forestry became a national necessity, and the report deals in considerable detail with the question of the school courses, and form of training best suited to prepare men for this class of work. The teaching of forestry in public schools, and short courses in forestry for farmers and agricultural students, are also discussed.

COMMITTEE 10.

FOREST INVESTIGATIONS

<i>Chairman,</i>	Raphael Zon	Forest, Service, Washington, D. C.
	F. B. Laney	Geological Survey, Washington, D. C.
	Walter Mulford	Professor, Forestry Department, Cornell University, Ithaca, N. Y.
	C. G. Bates	United States Forest Service, Denver, Colo.
	A. G. McAdie	Director, District Weather Bureau, San Francisco, Calif.

TOPICS ASSIGNED

1. Subjects demanding investigation.
2. Responsibility for investigative work; correlation and avoiding duplication.

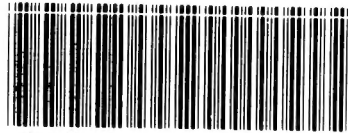
The report deals fully with the relation of forests and water, and while in part a compilation of established facts and theories, contains some new and interesting matter. The new feature concerns the effect of forests in broad continental valleys upon precipitation over continents. If this new theory is correct, as it seems to be, it provides even a greater justification for forest conservation than the accepted view of the relation of forests to stream flow. This theory has been discussed more specifically in an article entitled "The Relation of Forests in the Atlantic Plain to the Humidity of the Central States and Prairie Region," by the chairman, Mr. Raphael Zon, in *Science*, under date of July 18, 1913.

From the summary we learn that "the facts brought out in this report clearly show that there is an intimate relation between the forests, the climate, and the regularity of the flow of water in the streams.

"There are no accurate means of determining the extent of forest land necessary for the regulation of stream flow and the protection of the soil against erosion. *From the study of conditions, however, existing in other countries, it may be inferred that, in order not to disturb the natural balance, the proportion of forest land to other kinds of land must be not less than one-fifth of the total area of the country.*"

November, 1913





Fifth National Conservation Congress

President

CHARLES LATHROP PACK
LAKWOOD, N. J.

Vice President

MRS. PHILIP N. MOORE
ST. LOUIS, MO.

Executive Secretary

THOMAS R. SHIPP
WASHINGTON, D. C.

Forestry Committee

H. S. GRAVES, Chairman
FORESTER, WASHINGTON, D. C.

E. T. ALLEN

FORESTER, WESTERN FORESTRY AND CONSERVATION
ASSOCIATION, PORTLAND, OREGON

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W. R. BROWN

PRESIDENT OF THE NEW HAMPSHIRE TIMBERLAND
OWNERS ASSOCIATION, BERLIN, N. H.

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FOREST AND TIMBER ENGINEER, PHILADELPHIA, PENNA.

CHARLES LATHROP PACK, Ex-Officio

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