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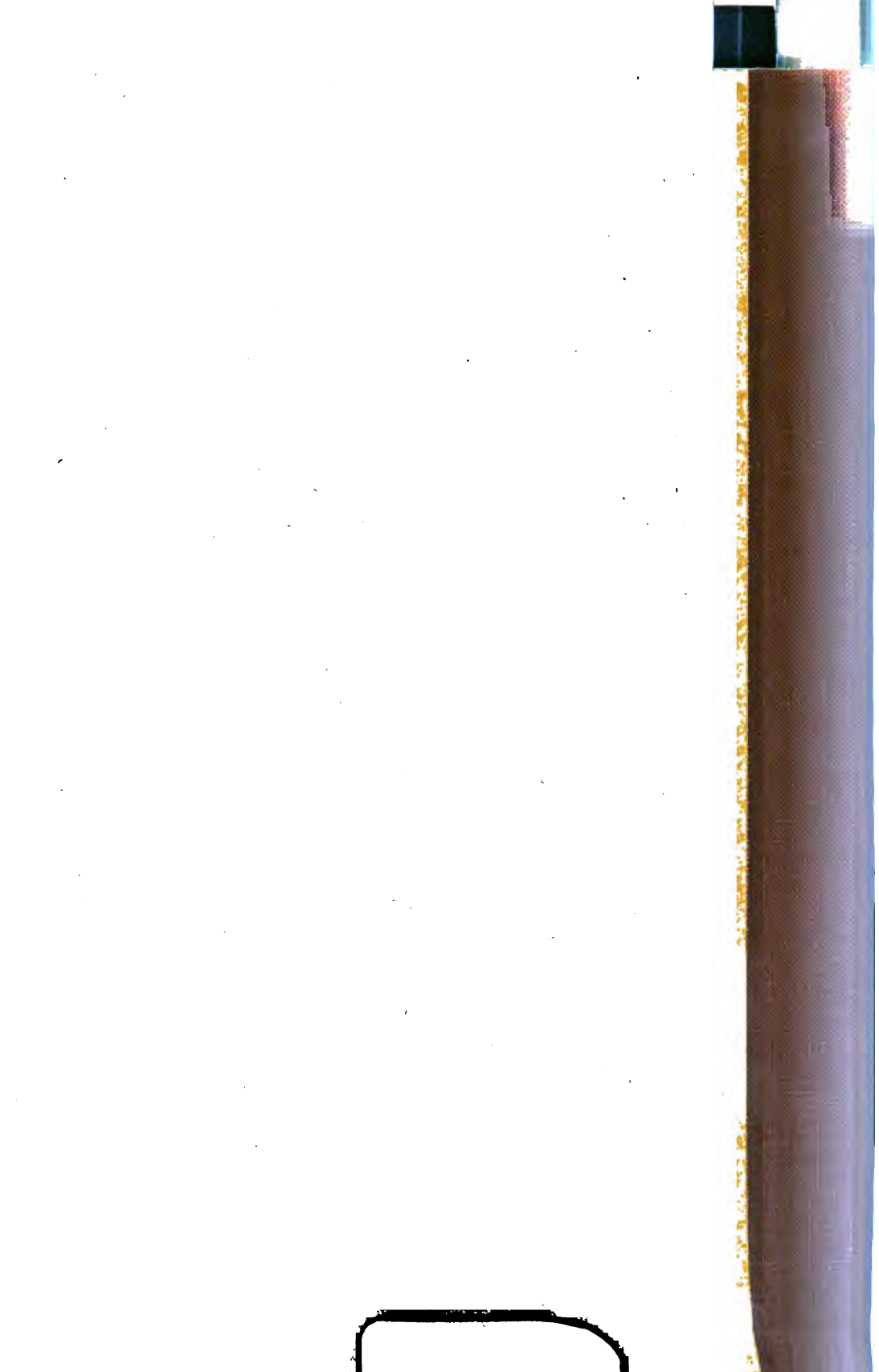
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OFFICIAL PROCEEDINGS

OF THE

February, 1910, Meeting

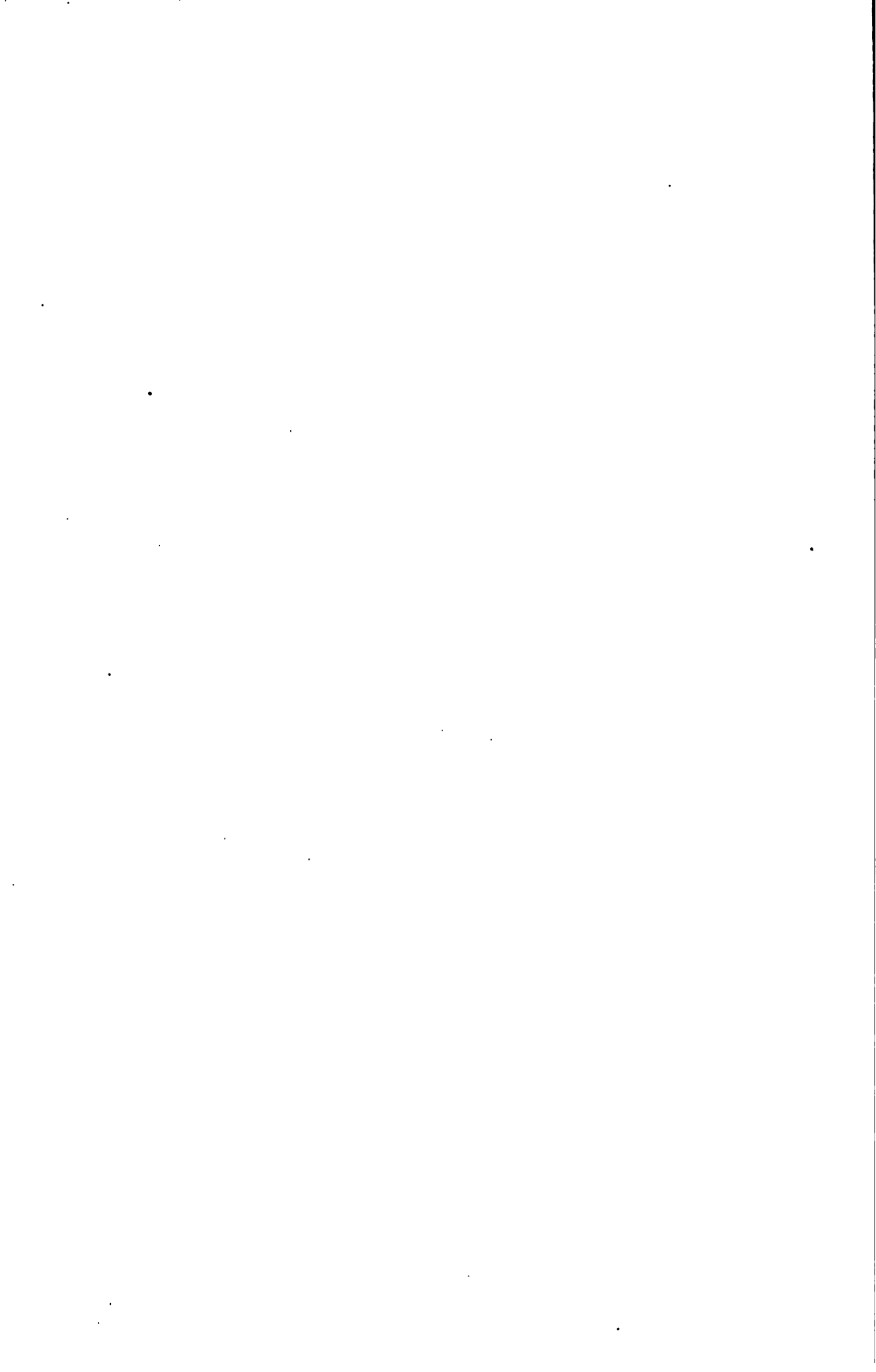
OF THE

**Oregon State Board
of Forestry.**

**Including Forest Fire Report for 1909, and Committee
Report on Insect Depredations**



**SALEM, OREGON
WILLIS S. DUNIWAY, STATE PRINTER
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**PROCEEDINGS OF THE FEBRUARY MEETING OF THE
STATE BOARD OF FORESTRY**

A called meeting of the State Board of Forestry was held February 7, 1910, at 11:30 A. M., in the Governor's chambers at Salem, Oregon. There were present F. W. Benson, chairman, Salem; R. W. Stevenson, Forest Grove; H. C. McAllister, Salem; S. C. Bartrum, Roseburg; L. S. Hill, Cottage Grove, and A. B. Wastell, secretary, Portland.

The chairman stated that if there were no objections the reading of the minutes of the last meeting would be dispensed with.

The only absent member of the Board was E. R. Lake, of Corvallis, and the secretary reported his understanding that Mr. Lake had been given a leave of absence from the Oregon Agricultural College to take up special work of the Department of Agriculture of the Federal Government, requiring his absence from the State for a period of one year, and that Mr. G. W. Peavy had been appointed to succeed Mr. Lake at Corvallis. The secretary was instructed to communicate with Mr. Lake and suggest that inasmuch as his absence would lap into another appointive term it would be advantageous to the State Board if he would arrange so that Mr. Peavy, by virtue of his position at the Agricultural College, could be appointed an active member of the State Board of Forestry as authorized by the act creating the Board.

The secretary then presented his report, as follows:

REPORT OF SECRETARY.

Since having assumed the secretaryship of the Oregon State Board of Forestry, August 31, 1909, by appointment of the Governor, vice Edwin P. Sheldon resigned, we have endeavored to handle the duties of the office with due regard to its importance, and at this meeting called by the Governor to review the work of the past fire season which closed September 30, 1909, we beg to report as follows:

We are impressed with the tremendous importance of the forests of the State of Oregon which comprises one-sixth of the standing timber of the United States, and in reviewing the forestry situation we realize the important duty resting on this Board in relation to husbanding and safeguarding in every way possible the forest resources of the State.

In reviewing the situation we find, in addition to the State Board of Forestry, that other agencies are also at work

striving to perpetuate and preserve the natural resources of this commonwealth, namely, the Oregon State Conservation Commission, a sister board, created by legislative enactment at the last session, as well as two voluntary associations, termed the Oregon Conservation Association and the Oregon Forestry Association, each comprised of popular membership, the latter being an organization of women who have taken up this important work. You will observe that two of these organizations have for their object the conservation of all natural resources, while the State Board of Forestry and the Oregon Forestry Association are distinctly organized for the purpose of perpetuating the forest resources.

It has been the pleasure of this Board to exist harmoniously with these other organizations, and considerable advantage has been gained through such co-operation.

If the State Board of Forestry was maintained with proper financial backing this Board would properly assume the executive and administrative needs of forestry development, while the publicity feature would be taken care of by the other organizations; this would be the ideal relation which should exist. The duty of this Board would be to supervise the patrolling and policing of the forests of the State through the services of competent state fire wardens directed by a state forester. On account, however, of the inadequate appropriation the work of this Board is also confined to the publicity feature, and even in this direction we are limited by a \$500 appropriation to cover two years' requirements, which by the act is designed only for services of stenographer and postage, so that funds are not adequate to furnish fire wardens, who serve without pay, the postage to send in the monthly fire reports requested of them or letters in connection with their work, nor to distribute often or widely printed publicity matter. The act creating the Board, however, gives the privilege of unlimited printing by the State Printer.

Upon receipt of an offer in June, 1909, from the Oregon Conservation Association to furnish copy and pay for the distribution of publicity matter, if printing would be undertaken by this Board, such authorization was approved and requisition made on the State Printer to print 60,000 leaflets and 15,000 posters, cautioning the public to exercise care and to prevent forest fires, which were distributed by the Conservation Association during the past season, with excellent results.

Thirty thousand of these leaflets were distributed by the 1,000 fire wardens who were enrolled by the State during the past fire season, 3,000 leaflets by the Harriman lines, 1,000 leaflets by the Oregon Water Power Railway Company, 1,000 posters by postmasters, 5,000 leaflets and 2,000 posters

by the lumber manufacturers and loggers, several thousand leaflets by hardware stores when shipping ammunition to interior towns by enclosing several copies in each package of ammunition forwarded, as well as placing leaflets in packages delivered over their counters in Portland; 1,000 posters by the Harriman lines for use in stations, several thousand leaflets by the members of the Oregon Conservation Association by enclosing as inserts in their mail. There were also posted by the fire wardens of the State 3,000 cloth warning notices in new districts.

As indicated above, 1,000 citizens were enrolled as fire wardens during the past season. Of this number, 135 were paid fire wardens in the employ of the timber owners, 170 were in the employ of the forest service, in the national forests, while the remainder included 661 road supervisors and 34 sheriffs of the several timber counties who served last season as wardens without any compensation. Special credit should be given to these men, most of whom in cheerfully accepting the appointment stated that they would do what they could in connection with their regular duties, and they proved invaluable in distributing publicity matter which was sent them, and which, through this medium, has reached a large number of people in rural districts whom it would have been impossible to reach in any other way.

These men issued permits to set fires when, in their judgment, such action was warranted and when the applicants for permits were unable to reach the regular paid wardens on account of being in remote districts. Some adverse criticism has been made as to lack of judgment by road supervisors in issuing permits while acting as wardens, but we must grant that errors in judgment are possible in the best of us, and considering the large number of men who were given new responsibilities over such large areas, without either adequate instruction or supervision, also the benefit that was gained through awakening their personal interest and through them the interest of their neighbors, and by reason of more extended supervision of the forest area we feel that these advantages offset the few instances in which poor judgment was exercised.

During the 1908 season there were 280 fire wardens enrolled, while in the 1909 season 1,000 fire wardens were enrolled as previously detailed. Reports of fires occurring in the forests were not received as promptly or in as large numbers during the 1908 closed season, and through the receipt the past season of fire reports we were able in conjunction with the forest service to compile a very comprehensive report giving the record of fires in 1909.

This fire report for 1909 is filed herein as a part of this report.

STATE BOARD OF FORESTRY

REPORT OF FOREST FIRES IN THE STATE OF OREGON, 1940

(Total reported for State, including National Forests)

County	Num-ber of fires	Area burned over			Merchandise timber destroyed			Number human lives lost	Expenditures fighting and pre-venting fires	
		Mer-chantable timber—acres	Sec-ond growth—acres	Cut-over land—acres	Total acres	Board feet	Loss in value, if it had been manufactured		Loss in value, stock burned	By State, county, or town
Baker	28	266.5	606	630	1,502.5	210,320	2,790 3/4			184 3/4
Benton	11			401	401					71 1/4
Clatsop	14	230	50	284	514	2,180,000	23,920,000			2,000 3/4
Columbia	21	265	50	1,369	1,767	2,470,000	40,110 3/4			2,171 1/4
Coos	8	680	487	331	951	18,175,000	263,970 3/4			2,441 3/4
Crook	24	1,314	1,411	1,411	4,136	1,764,000	26,100 3/4			1,118 1/2
Curry	8	2,012	728.5	1,265	3,300.5	5,520,000	26,000 3/4			1,491 1/4
Douglas	49	2,265	740	31	3,036	9,520,000	21,200 3/4			1,178 3/4
Gilliam	*									
Grant	16	1,189	175	6	1,370	1,667,000	5,081 3/4			1,188 3/4
Harney	2		240	95	335					188 3/4
Hood River	27	17,025	385	1,630	18,440	1,904,400	1,404,400 3/4			1,000 3/4
Jackson	82	4,000	1,700	1,630	5,700	9,520,000	126,510 3/4			1,001 3/4
Josephine										
Klamath	14	9			9	90,000	1,170 3/4			4,000 3/4
Lake	8	8			8	44,000	828 3/4			8 3/4
Lane	66	1,172	651	14,074	15,901	6,752,000	27,770 3/4			2,100 3/4
Lincoln	2			100	100					25 3/4
Linn	8	10		2	12	100,000	1,800 3/4			200 3/4
Malheur	1	†								201 3/4
Marion	5			81	81					410 3/4
Morrow	6									1,481 3/4
Multnomah	6	†								
Polk	6						8,745 3/4			

This report shows that there were 413 fires, burning over an area of 61,037 acres, and that a total of 191,213,500 feet, board measure, of merchantable timber was destroyed. If this timber had been manufactured into lumber it would have represented an approximate value of \$2,485,776.

Comparison with the State of Washington brings out some interesting and impressive facts. We find that Washington had 1,309 fires but only lost about 150,000,000 feet of standing timber, while Oregon lost nearly 200,000,000 feet with but one-third the number of fires.

It is admitted that the hazard in Washington was greatly increased on account of a very dry season; also, that a large proportion of Washington fires were caused by sparks from locomotives. In Oregon most of the locomotives are oil-burners, considerably reducing the fire hazard on this score, in addition to which we well know that our railroad mileage is far less than in Washington, which also reduces the hazard to the forests. Furthermore, considering the large number of fires and yet the comparatively small amount of timber destroyed in Washington, credit must be given to the effectiveness of the organized effort of private timber owners through the Washington Forest Fire Association, as well as to the State and Government, which participated so fully in this work. In Washington the State expended \$15,705.24; individuals and lumber companies expended \$34,308.52; while the forest service expended \$11,710.80, making a total of \$61,724.56. In Oregon no money was spent by the State in this direction. Individuals and lumber companies expended \$36,164.71, while the forest service expended \$5,220.84, making a total of \$41,385.55. From the reports we also note that a few big fires in remote districts of Oregon continued burning for weeks, covering a large area, whereas in Washington the fires were subdued promptly through having fire fighting forces available. Oregon's lack of preparation would certainly have occasioned a tremendous loss if the season had been as dry and if as many fires had started in this State as in Washington.

We have received a great many suggestions from various sources during the past season which are worthy of consideration, and beg to submit such suggestions which seem to warrant our careful consideration.

"Berry-pickers are responsible for more fires than any other cause.

"The hunting season is responsible for a great many fires, through its opening during the close fire season when everything is dry, and when anybody who can raise a dollar for a license, and borrow an old shotgun, can trespass in the forests, whether of private or public ownership. These are the classes of people who give the most trouble, and it would be impossible to get wardens enough to watch them.

"Stock-raisers and homesteaders cause a great many fires east of the Cascade Mountains, and while we might congratulate ourselves on

the few fires reported, as a matter of fact in inaccessible districts large fires occasioning great loss raged during the past season.

"One of the greatest harms resulting from the fires in standing timber, is that the seedlings springing up are killed off by the fires running through the forests, older trees not being much damaged, but the loss of the new growth is irreparable.

"There is only one proper way to handle this thing, and that is to have an absolutely close season for three months, under which proposition no permits would be issued to any one to burn anything; until this is done, you will have the same condition that we are having now, namely, the people who have slashings will burn at the very driest and most dangerous season of the year, without regard for the resulting loss to adjoining timber owners, for whom the foothill ranchers have small regard."

It is our conclusion that fighting forest fires cannot be prosecuted successfully by private individuals without some sort of organization. It is impossible also to bring the power to bear to carry on the work, except as conveyed by the State. Under the conditions under which this Board operates the exercise of the police power must be extended to the employees of private timber owners who serve as state fire wardens and who have proven in the main faithful and to have used good discretion, but on account of being employed by timber owners in private capacity, they are looked upon with suspicion by the general public.

Many timber owners who now maintain their own private patrol frequently find their effort is fruitless on account of the carelessness of neighbors, who make no effort at protection and who are affronted by any suggestion designed to make him take greater precaution, because the State Fire Warden is in the employ of the timber owners.

The need of a more flexible fire law has been brought to our attention, and the suggestion has been made that Oregon should be divided into two zones, each covered by regulations in regard to fire permits which could be issued with much less hazard in the Willamette Valley than in the foothills; that by drawing a line north and south, passing through Coburg, Springfield, Oregon City, Silverton, and Lebanon, on the east, and a few miles from Roseburg, Forest Grove, and Corvallis, on the west, between which more latitude could be given as to permitting fires than in the foothill zones, where a close restricted season could be established with systematic patrol.

The question of insect depredation of our forests is a matter of great importance, which is being investigated by a committee of the Oregon Conservation Association in communication with Dr. A. D. Hopkins, of the Bureau of Entomology.

We bring to the attention of this Board the very complete report filed at the December meeting of the Conservation

Association, and suggest that the proceedings of this meeting, including the fire report and the report of the committee on depredations of insects be ordered printed by this Board for wide publicity, and we bring the assurance that the Oregon Conservation Association will undertake the distribution of such pamphlet if authorized.

We ask the members of this Board for their suggestions for our government during the coming close season, and thank each member for past co-operation, urging upon them the need for much personal effort in the very important work of this Board, which we have confidence can accomplish very much in arousing public sentiment, even though it labors under the disadvantage of such an inadequate appropriation. Of the appropriation \$345 has been expended to date, leaving only \$155 to cover the requirements of the current year.

To close this report and place before you many practical comments and suggestions which we fully endorse we quote in part as follows from a recent address on "The Future of the Forest," by E. T. Allen, former district forester, United States Forest Service, now forester, Oregon Forestry and Conservation Association:

"The future of the forest, generally and ultimately, is not particularly hard to foretell. It is not as dark as many think. The wide-spread destruction in China and other countries held up to us as awful warnings is not likely to be repeated in the United States, at least not to any such excessive extent. Our people are too intelligent. There has been, and will be, much bad forest use, but the general result may be fairly accurately prophesied. The pressure of growing realization of the situation by the public, together with voluntary adoption by timber owners of plans tending to improve and perpetuate their business, will see to it that land chiefly valuable for forest production is wisely put to that use. Some of it, probably less than at present, will be controlled by the Government. Much will be in state reserves, for the tendency is for states to go into this business as a means of better handling the lands they have and, once started, they are likely to acquire delinquent tax land and cut-over lands in too bad condition to warrant private reforestation.

"On the other hand, the increase of population and corresponding demand for agricultural products is certain to force a reduction of forest growing area.

"The rapidity and extent of the reduction of timber area in the United States can only be conjectured. Aside from soil considerations, it will be greatest in the most thickly settled portions of the country and where warmth and rainfall favor agriculture. It is certain that land now considered too remote, rough and poor will be utilized. Personally, we believe this change of standards and values will be greater and quicker than we like to admit, and that in calculating our future forest production, in order to assure us that the prediction of a timber shortage is a false alarm, many authorities reckon too large an area of perpetual forest land just as they fail to reckon a prodigiously increased consumption.

"At any rate, we premise a gradually reducing forest producing area, perhaps 25 per cent under state and federal control, and 75 per cent in private hands. We have said the latter, as well as the former,

will be under conservative forestry management. When it will all be so is merely a question of time. Economic laws leave no alternative.

"To follow the practice of every speaker on this subject, we must refer to Germany and France, where they spend \$11,000,000 a year on forest management and get a net return of \$30,000,000. The American is too good a business man to pass up a proposition of that kind. We have not reached German conditions yet, and probably will not while the subject interests you and me, but we do know that our consumption increases prodigiously every decade. We know that 50 years ago there was scarcely a lumber-user west of the Mississippi River, and we know something of the settlements, mines, railroads, and cities that have developed there since to use lumber. It is a poor westerner who doubts that the next 50 years will see a far greater development.

"Now let us consider what is most needed from the public. We think we will agree unanimously on better fire laws with State help in enforcing them, and in patrol, better tax laws, and better public sentiment without which laws are of small effect. These are the foundations on which everything must be built.

"The public and the lawmakers have got to be shown the importance of the lumber industry. Taking this region for an example, they must be shown that it brings nearly \$100,000,000 a year into Oregon and Washington and that this immense sum is—cannot help being—shared by all persons and industries. It is circulated in every artery of their agricultural and commercial life. Forest resources are every bit as important to them as to the lumberman. In many ways more so, for if they are exhausted, he can move or change his business, while the dependent industries can't.

"They must be shown the effect of taxation. How as a great taxable resource timber helps support their state and county government. The cost of government is bound to increase as population grows, so they confront the problem of diminishing timber to tax and consequent heavier burden on other property. Show those in the timber counties that as they force cutting by taxes and burn the rest, they will have to pay all the taxes as well as pay more for their houses, fences, and fruit boxes. Show them where they lose by assessing cut-over lands so high you must abandon them to be reburned into a desert. Such lands pay little tax in the long run. The income of the county would be far greater if the burden was made so easy at first that you can afford to protect it and start a crop which some day they can tax. See that every citizen knows the effect of forests on irrigation, on floods, and on water powers. See that they realize that cut-over and burned areas are really as important to them as virgin timber, because they should be growing timber against that future time when the consumer's question may not be, "What must I pay for a board?" but, "Can I get a board?" Above all, talk to them about fire in a way they can understand. Don't threaten them with the law half as often as you tell them that timber makes pay checks and that, on every thousand feet burned, while the owner may lose \$2 in stumpage, the community loses \$10 in wages.

"Work for flexible laws, with non-political trained authorities that understand varying conditions to enforce them as conditions warrant. The narrow, inexpert, or prejudiced man, be he lumberman, conservation enthusiast, or politician, is the man you have to fear, and his name is legion. He is beginning to fool with a big problem and is not going to let go till something happens. I say again, don't ignore him. Study the problem yourself and beat him to it."

Upon motion the report as read was adopted and the Board proceeded to consider the suggestion of the secretary that

the deputy game wardens and deputy fish wardens be appointed fire wardens, if such duties would be consistent and agreeable to the chiefs of these departments, both of whom were present. Considerable discussion was held favoring the suggestion, and finally upon motion of H. C. McAllister it was ordered that deputy game wardens, deputy fish wardens, water bailiffs, and hatchery men, be appointed state fire wardens in line with the suggestion of the secretary, with the understanding that these men would be directed respectively by the State Game Warden, and State Fish Warden, who would direct them as to their duties in relation to forest protection. The motion was duly seconded and carried.

Upon motion it was determined that all of the timber owners of the State would be addressed by the secretary about May 1, 1910, asking them for the number of wardens whom they may desire to have appointed, with a list of names of such, detailing the territory which they will cover so as to avoid conflict of authority as much as possible within the same territory, and the secretary should thereafter send out regular appointments to such appointees, with a letter detailing their duties, etc.

Upon motion it was determined that the secretary should use discretion in the appointment of such road supervisors and sheriffs as may be reinstated in districts not covered by paid fire wardens, and that every effort should be made to have a fire warden available in each district to whom application could be made by homesteaders and others when they want to set a fire. In the discussion that followed it was stated that public sentiment is changing rapidly in regard to the improvement of forests and the need for public interest in protecting them from fire, and that residents are endeavoring to observe the law by applying for permits and should be accommodated wherever warranted, and proper explanation given when it would be hazardous to set a fire.

Upon motion of S. C. Bartrum, regular quarterly meetings were established for the State Board of Forestry to be held in the Governor's chambers at Salem at 11 A. M. on the second Monday of January, April, July, and October.

Upon motion of H. C. McAllister, the chairman of the Board was authorized to appoint a committee of three to be known as the legislative committee, who should take up with the next legislature and endeavor to obtain additional and remedial legislation in connection with the act creating the State Board of Forestry, to permit more effective work of this Board. Thereupon the chairman of the Board appointed as such committee A. B. Wastell, S. C. Bartrum, and L. S. Hill.

In the discussion following, there was an evident concensus of opinion that it was the Board's duty and privilege to conduct a vigorous educational campaign during this year for the purpose of enlisting the active co-operation of the citizens of the State in adopting every precaution against forest fires, and to this end a motion prevailed that in line with the recommendation of the secretary in his report that the proceedings of this meeting, including the secretary's report and as an addenda, include therein the report of the committee of the Oregon Conservation Association on insect depredation of the forest. This pamphlet to be printed by the State Printer on the requisition of this Board, with the understanding that such pamphlets will be distributed by the Oregon Conservation Association to the newspapers of Oregon, the members of the last legislature, the postmasters of Oregon, the notary publics of Oregon, and the county officials of Oregon, as well as to all conservation associations, timber owners, etc.

The secretary made a strong plea for earnest, consistent work by each member of the Board, to impress upon citizens and legislators that they should recognize the necessity for protecting our great forest resources from fire, and to this end provide sufficient appropriation to support a salaried State Fire Warden and proper organization, as is done in both Washington and California, as well as in many eastern states with far less forest resource.

No other business appearing, the meeting adjourned.

Respectfully submitted,

A. B. WASTELL,
Secretary.

ADDENDA

FIRST REPORT OF THE COMMITTEE APPOINTED BY THE OREGON CONSERVATION ASSOCIATION TO INVESTIGATE THE DEPREDACTIONS OF INSECTS INJURIOUS TO FORESTS—THIRD QUARTERLY MEETING, DECEMBER 20, 1909.

By H. D. Langille.

The matter of insect depredations was brought to the attention of the Oregon Conservation Association at the September quarterly meeting, and a resolution was passed urging our representatives in congress to secure a larger appropriation for the Bureau of Entomology of the Department of Agriculture with which to carry on its investigations. A committee, consisting of J. C. Stevens, W. L. Finley, and H. D. Langille, was appointed to investigate the subject and report at the next quarterly meeting. Favorable responses as to willingness to cooperate have been received from our congressional delegation and from eastern timber owners, who in turn referred the matter to their respective delegations.

Your committee corresponded with the different state educational institutions of Oregon and Washington to ascertain what work, if any, had been done along the line of forest insect investigations. The replies received indicate that almost no attention has been given to the subject, although several expressed interest and willingness to assist so far as the limited resources of the institution would permit.

During some months past correspondence has been carried on with Dr. A. D. Hopkins, in charge of forest insect investigations of the Bureau of Entomology at Washington, and much valuable information has been received from this source. Mr. Langille's part of the report of the committee has special reference to the attitude of the Bureau of Entomology toward this association, the work it has done in determining the nature of the insect pests which destroy forest growth, and the measures recommended for protection against it; also some notes based upon his own observations. This report is as follows:

That the Bureau of Entomology may be relied upon to assist forest owners in any way practicable with the small appropriation available is evident from the letters I have received from Dr. Hopkins:

"In reply to your letter 57-X of the 15th inst., I beg to say that we have noted with much interest and gratification your kind interest in our work on forest insects, also your plans for taking the matter up with the timber owners of your region. * * *"

"Your reference to conditions in Clatsop County is of special interest, since I have visited that section, and we made quite extensive investigations at a station located at Hoquiam, Washington, for two seasons to find, if possible, the insect which was the cause of enormous destruction of timber in Clatsop and Tillamook counties in 1889-91, which, it is said, was caused by the defoliation of the hemlock and spruce 'by a measuring worm which transforms to a whitish moth.' This evidently resembled the pine butterfly. The trouble extended over parts of Clatsop and Tillamook counties, killing all of the hemlock and Sitka spruce in a belt between an elevation of 450 and 1,200 feet above tide. The Douglas spruce, pine, and cedar were not injured, thus indicating that it must have been a different insect from the pine butterfly. Apparently there has been no repetition of the work of this particular insect since 1891, or at least we have not been able to locate it. The old dead timber you saw in Clatsop County was evidently the remnant of timber killed at that time. The great amount of dead timber was the cause of very destructive forest fires which killed much of the remaining living timber.

"We shall be glad at any time to give you any additional information which will help you in your efforts to interest timber owners in the importance of the insect problem. It is especially gratifying to note that the Oregon Conservation Association will take the matter up.

"We were rather disappointed that the National Conservation Commission did not give more attention to the subject of forest insects.

"Our quite extensive investigations of the forest insects of Washington and Idaho indicate that the bark beetles known as the Douglas fir beetle, the western pine beetle, and the mountain pine beetle are by far the most important insect enemies of northwestern forests, and we are glad to note that as a result of your personal examination you realize the importance of the insect problem in its relation to the conservation of forest resources. It is only through such realization by timber owners that we can hope to interest them in the practical value of the results of our investigations or secure the proper and most economical application of the methods of control which we have found yield the best results.

"Your request for one of our experts to deliver a series of lectures upon the subject of depredations by insect enemies of forests and the opportunities it would offer us to get in direct touch with timber owners and others who are so intimately concerned in the prevention of avoidable losses of their timber, is fully appreciated, and it is a sincere disappointment to us that we cannot avail ourselves of this opportunity to render the desired service. The rapidly increasing demand for our attention to important forest insect problems in all sections of the country, together with our limited force of experts on the subject and the small amount of funds appropriated for expenses, require the most rigid economy and the concentration of our efforts to working up the results of investigations, for dissemination through publications and correspondence. It is hoped, however, that the increasing public interest in the subject and a realization of its real importance will soon lead to a sufficient increase in our appropriations to enable us to carry out our plans for enlarging the scope of the work and the location of field agents and experts in different sections of the country, where they will be immediately available for giving advice and instructions on the subject of insect control to the owners of timber. In the meantime, and under existing conditions, it is probable that you and other members of your association who are familiar with the more practical side of the subject, as regards the local conditions and the needs and opportunities of insect control can do far more than any 'scientist from Washington' towards interesting the average timber owner in the practical importance of the insect problem and the character and extent of losses through the death and decay of standing timber and reduced values and profits of logging and manufacturing operations.

"The facts brought out in our circulars, bulletins, year-book articles, etc., will give you the data for argument, and we shall be glad to furnish you with additional facts through correspondence as it may be required to clear up the obscure points until we can locate an expert in your section.

"I may say that it is the policy of this bureau to avoid sensational agitations relating to the depredations by forest insects, but through plain statements of the facts as determined by our investigations we are endeavoring to secure the best practical results from the dissemination and practical application of the knowledge thus acquired.

"We have your letter of the 1st inst., with enclosure of circular letter and clipping from the Oregon Journal relating to the action taken at the quarterly meeting of the Oregon Conservation Association in the matter of insect depredations in the forests of Oregon and adjoining states. It is needless to say that this action is most gratifying and encouraging to me, and that it is particularly appreciated by the chief of the bureau.

"The interest manifested by the members of your association in the subject of insect depredation opens up a field of splendid opportunities for us to render the required services in the formulation of a practical policy of insect control for the area in which the members are specially interested. Such a policy would not only be applicable to Oregon, but, with slight modifications to meet the requirements of different forest conditions, could be made to apply to the forest areas of the Pacific slope and western Rocky Mountain region from northern California and northern Nevada to British Columbia. Therefore, the efforts of the association to bring about some definite action along this line should be of special interest to the timber owners of the entire region.

"It should be made clear that the work of investigating the insects of that region has been done by the writer and his assistants during special exploration trips, and at special field stations at different times between the spring of 1899 and 1906. Therefore, we are quite familiar with the habits of the principal insect enemies of the standing timber and of the crude and finished products, and we have also determined practical methods of controlling some of the more destructive species.

"With this knowledge of the insects, it seems to me that the present need is not so much for further technical investigation, but for the dissemination of the acquired information, already available, and for its direct practical application by the owners of the timber. With these needs in mind, it appears that the most promising line of effort to meet the present requirements is

through your committee, especially in movements to interest the principal timber owners in the character and extent of damage and losses caused by insects which kill trees, and those which reduce the value of the product by boring into the wood of dying and dead trees, saw logs, etc.; also, to call attention to the practicability of preventing a large percentage of these losses by the proper adjustment of forest management and lumbering methods, which, with little or no additional cost, will contribute to the protection of the forest resources and to greatly increase the profits on investments and lumbering operations.

"When the timber owners or their managers have a clear understanding as to how insects contribute to the destruction or waste of forest resources; the extent of such losses as compared with losses caused by forest fires alone; some of the absolutely practical methods of controlling certain of the more important insect pests, and come to realize fully the necessity of expert advice in the consideration of the insects and the proper specific methods to adopt for each species, the conditions will be most favorable for the establishment of insect control policies on a sound and permanent basis.

"Without this essential educational work as a basis for practical results, our efforts to render assistance to the practical owner through our publications and correspondence will avail little. Therefore, if your committee will undertake to pave the way by getting in direct touch with the principal timber owners, and *do the part you can do best* in giving general information on how the insects cause losses, and how important it is as a strictly business proposition to give the matter special consideration and to ask for and apply the expert advice to be furnished by this bureau, we will gladly *do the part we can do best* in telling them what particular insect is responsible for a given injury and what can or cannot be done to prevent it. Then when a specially important case of depredation is reported and we have evidence that the local facilities and conditions are favorable for the successful prosecution of control work, we will make a special effort to put an 'expert on the job' to give advice and instructions relating to the more essential details with the object of making the case serve as a practical demonstration. In fact it is our policy (under the present requirements of economy of men and funds) to *concentrate our efforts where there seems to be the greatest need and where the best facilities and opportunities are offered for the successful prosecution of the work of technical investigation and practical demonstrations.*

"It seems quite important that there should be an outline or plan of procedure for the attainment of certain desired objects, both through the independent action of your committee and through its co-operation with this branch of the bureau, since it will be under such a plan that we can determine to what extent lantern slide specimens, special information, etc., are to be furnished to assist in your part of the work.

"As indicated in my letter of September 10, your committee can do more good towards disseminating the desired non-technical information relating to the general character of insect damage and the character and extent of the losses caused by them in an effort to arouse public interest than could be accomplished by the more technical man from this or other public institution. However, it is important that you should have a technical advisor and, if it is your desire to refer all technical matters, including specimens for identification, requests for specific advice on special insects and problems to this bureau, we will be very glad to co-operate with you and to meet you more than half way.

"We would be glad to have further suggestions from you as to what extent you will be able to carry on the educational features of the work, after which, if you so desire, we will suggest a plan of procedure so far as it relates to the attainment of the primary objects of our special work on forest insects.

"Again assuring you of our sincere appreciation of the action of the Oregon Conservation Association and our desire to help your committee in any way we can, very truly yours,

"A. D. HOPKINS,
"In Charge Forest Insect Investigations."

From these letters it is obvious that the things necessary for us to do are (1) to arouse timber owners to a realization of the fact that trees do not die without cause, and that in the majority of instances where single trees or groups of trees die the destruction is due to insects; (2) that an expert on the ground is not required in determining the cause; (3) that the habits of such insects as have caused the only notable loss throughout this region have been studied and plans formulated for their extermination; (4) that bulletins have been published which clearly illustrate these pests and their workings; (5) while we cannot hope to exterminate them from the forests which cover a wide and undeveloped region, it is possible to successfully combat them

