

THE INFLUENCE OF FORESTRY UPON THE LUMBER INDUSTRY.

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DEVELOPMENT OF THE LUMBER INDUSTRY.

The development of the lumber industry in this country is without parallel. It now ranks fourth among the great manufacturing industries of the United States, and represents an invested capital of about \$611,000,000 and an annual outlay of over \$100,000,000 in wages. It affords through its three great branches—the logging industry, the sawmill industry, and the planing-mill industry—a means of livelihood to considerably over a million persons. The annual value of the products, which has multiplied nearly ten times in the last half century, is \$566,000,000. But although the rapid development of the lumber industry has had far-reaching results in furthering every branch of manufacture which depends upon wood, it has been fundamentally unsound in principle. The settler who cuts and sells trees without forethought from land fit only for forest growth has not enriched himself in the long run. The havoc which has been wrought in the forests of the United States has turned trees into money, but has put the balance on the wrong side of the sheet by rendering vast areas unproductive. It is the history of all great industries directed by private interests that the necessity for modification is not seen until the harm has been done and its results are felt. This fact has been emphasized in the lumber industry—in the earlier days by the instinctive feeling of the colonist against his natural enemy, the forest, and later by the remarkable inducements offered by lumbering for present profit only. The first settlers had two objects in view in their attack upon the forest—the one to clear land for their farms, the other to procure wood for their buildings, fuel, and fences. As the tide of colonization rose, and as the uses for wood in manufacture increased in number and extent, lumbering rapidly assumed the proportions of a business enterprise, and from supplying only personal wants it became profitable to supply also those of others. With an apparently inexhaustible supply of timber available, and with an insistent and growing demand, the lumber industry came to offer remarkable opportunities for money making. Step by step with its development improvement in tools and machinery took place. The changes that enterprise and ingenuity have wrought in the American sawmill are no less wonderful than those which have taken place in the

American locomotive. From "whip sawing," in which the boards were sawed out by hand, to the modern steam sawmill, with its railroad (Pl. XXX), its planing mill, and its cut of nearly half a million board feet per day, is a long step—but it has not taken much over fifty years to accomplish it. In effective methods for the harvesting and manufacture of lumber the American lumberman has no superior, nor is he equaled in his disregard for the future of the forest which he cuts.

SOME RESULTS TO BE SECURED BY CONSERVATIVE LUMBERING.

It is natural that the lumberman should not turn eagerly from a system whose only aim is to secure the highest possible present profit from the forest to one which includes provisions for the production of a second crop upon the lumbered area. Under conservative methods lumbering becomes a legitimate industry for the production as well as for the consumption of its staple. It no longer offers, however, the short cut to fortune which it proved to be so long as an abundance of timber rendered the old methods of lumbering possible. It is difficult for lumbermen generally to realize that the time for practical forestry has fully arrived. But signs more significant than any existing statistics point to the imminent failure in the supply of certain timbers in the United States. From the data available, there is no way to foretell accurately the time necessary to exhaust this supply of merchantable timber at the present rate of consumption. A good many estimates of the merchantable timber standing have been made, some of which have already proved fallacious. To predict accurately how long it will be before the United States is confronted by a timber famine would require first of all a knowledge of the composition, quality, and condition of the forests, which it would take many years to obtain. At present such an estimate is of little practical value. We do know that the supply of timber of many kinds is failing, of other kinds is almost exhausted, and of others is practically gone; that Black Walnut is no more to be had except in small quantities and at enormous expense; that first-growth White Pine is growing rapidly to be a rarity on the market; that where the supply of spruce for pulpwood and for lumber for the next ten years is to be found is a grave question before the lumbermen to-day. The list of woods accepted as merchantable lengthens from year to year, species hitherto considered valueless being harvested more and more willingly as the result of the exhaustion of more valuable kinds. In spite of steady improvement in tools, logging outfits, and mill machinery, all tending to cheapen the cost of lumbering, the price of lumber increases steadily and rapidly. These are facts more significant than predictions in terms of years of the life of the lumber industry. The exact period for which the existing supplies are sufficient is a matter of



FIG. 1.—WHIP SAWING IN THE KENTUCKY MOUNTAINS.

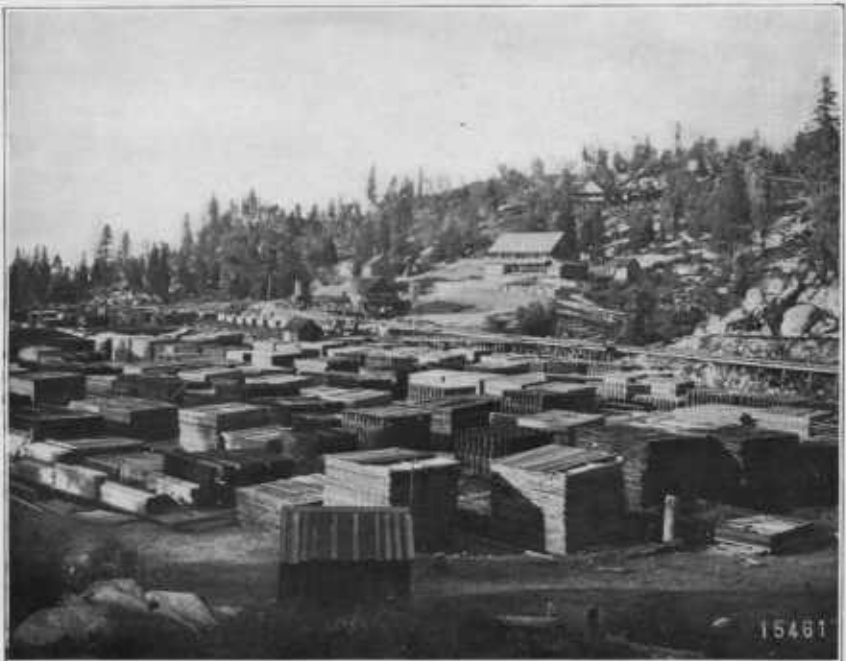


FIG. 2.—A MODERN SAWMILL IN THE SIERRAS, CALIFORNIA.



CUT-OVER RED FIR LAND.



FIG. 1.—THE RESULT OF LUMBERING AND FIRE IN MINNESOTA.



FIG. 2.—LOGGING RED FIR IN WASHINGTON.

detail. The vital point lies in the crisis which the lumber industry is approaching in the exhaustion of the material on which its existence depends. (See Pls. XXXI and XXXII.)

ELIMINATION OF THE LARGE SAWMILL.

The general application of forestry to forest lands owned by lumbermen will probably result in the gradual elimination of the large sawmill and the substitution of those of moderate size. The mammoth milling plant will be rare when only second growth is left to supply it, for the area of timber land sufficient to produce the logs necessary to run such a plant is enormous. It is reasonable to expect that the mill of moderate size, supplied by a forest whose production is equal to the mill's annual capacity, both under the same management, will become more and more the rule. The very existence of the enormous mill is the result of an abundance of timber resources, which exist no longer except in a very few sections. In Europe the long-continued application of conservative measures in lumbering has resulted in a distribution and type of sawmill little known in this country. Sawmills of large size do not exist, but in their stead small sawmills, for which water generally supplies the power, are distributed throughout the country wherever the local demand is sufficient to keep them running. Their annual cut is for the most part exceedingly small, according to our standards, and sufficient only to supply the wants of the immediately adjacent country. The mills saw largely on order, and the fact that their construction is permanent and their motive power cheap enables them to run intermittently without loss. The results are upon the whole exceedingly satisfactory. The man who wants lumber gets it promptly, and without paying an added cost for long transportation. The antiquated construction of European sawmills is often such that the American lumberman would find in them but a proof of his superior ingenuity; but the European distribution of milling plants has its strong advantages in several ways.

DEVELOPMENT OF A TRAINED CLASS OF FOREST WORKERS.

The general application of conservative methods in lumbering will inevitably result, as has been the case in Europe, in the development of a permanent class of men trained to forest work. Under present methods this result can never be attained to the same degree. The lumbering in one community is generally so short-lived that there is neither time nor necessity to train up a body of men on the ground to carry out the work. The result is that Maine and Michigan woodsmen are found working in the hardwoods of the Southern Appalachians; loggers from Wisconsin and Minnesota are helping to cut the redwood on the Pacific coast; and in each of the great timber regions there is a mingling of lumbermen from several of the others. The effect has been to develop, by constant labor at their trade under widely varying

conditions, a force of men who are unequaled for enterprise and skill in their profession; but the system has very largely failed in what is of infinitely greater importance to the permanent welfare of the lumber industry—the upbuilding throughout the country of a stable class of workers in the woods, locally trained and carrying on their work each in his own community. The advantages of such a condition lie in an equitable geographical distribution of labor, in the wholesome influence throughout the country of a class whose means of livelihood is forest work, and in the fact that all the operations of lumbering may in this way be conducted more cheaply than in any other.

INFLUENCE OF FORESTRY UPON THE PRICES OF LUMBER.

The effect upon the prices of lumber which will result from the application of forestry to the lumber industry will be strongly marked. The wide fluctuation characteristic of lumber values to-day is much more the result of conditions within the industry itself than of variations in the demand for the product of the forest. The uncertainty of available supplies, the lack of true proportion between stumpage values and lumber values, the speculative features which the industry now presents, have all tended to produce an exceedingly unstable and abnormal fluctuation in the prices of lumber, with a marked disposition toward rapid increase. Under forestry the speculative element can not exist. The cost of producing timber, plus a legitimate profit, will be the basis upon which the value of it will be fixed. The annual output of the country will be no longer a matter of conjecture, and a steady and normal range of prices for lumber will be the inevitable result.

CONCLUSION.

The influence of forestry upon the lumber industry is not a matter of conjecture. The details will have to work themselves out, but the broad results of conservative forest policy on the part of private owners are plain. The lumber industry in the United States is approaching a crisis. There is no more doubt that conservative methods will be applied to lumbering in this country than there is of the development of irrigation, of regulation of grazing, of the application of improved methods in agriculture, or of any other modification to which private as well as public interests point the way. How long it will be before the results of practical forestry make themselves generally felt it is impossible to foretell; but the fact remains that there will be established in this as in other countries in which conservative lumbering has followed wasteful lumbering a legitimate and permanent industry, characterized, as has been stated, by conditions under which speculation can not exist. Prices will continue normal and steady, and the quantity of timber produced will be the main factor in regulating consumption.