WISCONSIN AND THE PROBLEM OF NATURAL RESOURCES

An aged Beloit woman tells the story of how, one night when her husband had gone into town and was late in coming home, she became so frightened at the howling of the wolves that she called in an old woodsman to stay with her until her husband returned. The woodsman had to stand with his back against the door to keep the wolves from breaking it down and bounding in!
A Wisconsin forest on the ground.
Erosion is eating away this $50,000 farm in Jackson County.
When the first settlers came to Wisconsin, they found so much woods and wild life that they started in at once to get rid of some of it in order to make more room for themselves.

It did not take them long, pouring into the state as they did, to get rid of the bears, the wolves, the elk, the buffalo, and the deer. The wild fowl soon followed—pheasants, swans, cranes, wild geese, ducks and quail. A few quail stay with us; a few ducks and geese pass over in the spring and fall. But in our cities there are thousands of children and even adults who never heard "Bob White"; who never saw a wild fowl except in the zoo.

The settlers swung their axes doggedly against the oppressive forests. In southern Wisconsin they hacked away at the beautiful hardwoods, piled up the wood and burned it. They did their job so thoroughly that today you can drive from Madison to Oshkosh, from Madison to Janesville and Beloit, from Madison to Milwaukee and never see a real woods—a great dense area of trees which give a grateful mile of cool shade in the summer, of warmth and protection from the wind in winter. They did it so thoroughly that southern Wisconsin seems now more bare than Illinois, Indiana, Missouri and other states which began their life with less of the riches of the forest than did Wisconsin. They did it so thoroughly that the children of southern Wisconsin can have no conception of the wonder and glory of the October days of their grandparents.

It is true that even October days were not all wonder and glory. The forests, especially the evergreen forests of the north, have always held a menace over the lives and property of those who settle among them. When we look out from the trains and cars at some of the peaceful villages and prosperous cities of northern Wisconsin it seems hard to believe that these were once the scene of terrible disasters which sometimes wiped out whole settlements. One of the worst of these tragedies was on Sunday night, October 8, 1871, when eleven hundred people were burned to death in the village of Peshtigo in Marinette county. Senator Stephenson tells how "a number of people took refuge in the river and stood for an hour or two in the water, all but blinded and suffocated by the intense heat and smoke, while the fiery turmoil raged on all sides of them. But most of the population had been overtaken in their houses or on the streets by the sudden outburst and were numbered among the missing. Every house was gone and only twisted ruins marked the places where the factory, mills, the supply store, and other buildings had been." Strangely enough, this was the night when the people of Chicago were standing in the waters of Lake Michigan driven there by the greatest fire in the history of the city.

The early settlers in southern Wisconsin wasted the trees they cut. Later settlers did not. The prairie states to the south were filling up rapidly. They offered a market for the trees Wisconsin people did not want. Lumbering became the great industry of Wisconsin. The evergreen forests of the north were not destroyed uselessly as were the hardwoods of the south. They furnished wood to the nation.

Within twenty years after the beginning of the heavy immigration of settlers to Wisconsin, the people began to notice that they had done their work too thoroughly in many places. They had cut and killed and fished recklessly until some of the finest resources—birds, fish and forests, were almost gone.

It is too late to remedy some of the destruction. The birds that are gone cannot be brought back. The Eskimo Curlew has disappeared from the shores of Lake Superior. The passenger pigeon which used to travel in countless millions over the middle west, has entirely disappeared. The last known passenger pigeon died at the Cincinnati Zoological Garden in 1914 at the age of twenty-nine years. The quail or Bob White is one of the best friends the farmer ever had. He has saved them thousands of dollars a
year from losses due to noxious weeds and insect pests. He is the most effective enemy there is against the potato beetle. But he is going so fast that experts say his case is almost hopeless.

Apparently one of the earliest state-wide attempts to control reckless waste of wild life was in 1851. It was forbidden to kill prairie chickens, quails, woodcock or pheasant, between February 1 and August 1. A five dollar fine was the penalty, one-half to go to the informer; one-half to the county for the care of the poor.

In 1853 fishing was regulated. The use of nets and seines on inland lakes of less than twelve square miles, and the use of gill nets in inland streams or water courses were forbidden. These laws were amended year by year. In 1873 the legislature provided $500 for the propagation of fish and the introduction of better kinds of fish.

In 1874 three fish commissioners were appointed. One man, Mr. James Nevin, served on this commission from 1882 to 1921—almost forty years. The policy of propagation has been continued and expanded until today there are more speckled trout in our streams than there were fifty years ago. The first fish hatchery was established near Madison in 1876. There are now trout hatcheries at Madison, Bayfield, Wild Rose, Sheboygan, Sturgeon Bay and St. Croix Falls; black bass hatcheries at Minocqua and Delafield; pike at Eagle River and Spooner. Thousands of people come to Wisconsin every year to fish, bringing in several million dollars.

The forests have not fared as well as have the fish, although we did begin quite early to worry about their fate. In 1867 the legislature directed a committee to inquire into the question "Whether the destruction of the forests of this state, now going on so rapidly will tend to diminish the moisture of the atmosphere, to increase the degrees of cold in winter and the heat in summer, or otherwise, and whether, owing to the want of information in individuals and the shortness of their lives, it is the duty of the state to interpose its authority to prevent an undue destruction of forest trees where they now exist, and to encourage their cultivation where they are deficient."\(^1\)

The chairman of this committee was Increase A. Lapham, a Wisconsin pioneer of whom we may be proud. He had come to Milwaukee from Michigan in 1836. As a mark of the confidence of his community, he had been made register of deeds, without pay—a most important position in those days of numerous disputes over the possession of land. He is best known in the nation as the "father" of the weather bureau. He became thoroughly convinced, by careful experiments, that storms could be foretold and many lives and much valuable property saved thereby. It was he who induced the government of the United States to undertake the prediction of storms.

Mr. Lapham and his committee made a vigorous report "On the Disastrous Effects of the Destruction of Forest Trees now going on so rapidly in the State of Wisconsin."\(^2\) It is so good that it might well be reprinted and used as a reader in our public schools. Here is one of the gloomy pictures with which he tries to awaken the people.

"Clearing away the forests of Wisconsin will have a very decided effect upon the climate and productions, and therefore upon the inhabitants themselves. The summers will become hotter and more oppressive; the winters colder; both the cold blasts of winter and the hot winds of summer will have full unobstructed sweep over the land; the dryness of the ground will be increased; springs dried up; rivers cease to flow at some seasons of the year, and become floods at others; the soil on sloping hills washed away; loose sands blown over the country preventing cultivation; snow will accumulate in

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1 Chapter 36, General Laws, 1867.
great drifts in some places, while other places are left bare and unprotected; the ground will become frozen to great depth; vegetation retarded in the spring; the productiveness of the soil diminished; thunder-storms will be increased in number and violence; and there will be more hail and more heavy damaging rains.

"Under these changes of climate and productiveness, the people being deprived of so many of the means of comfortable living, will revert to a condition of barbarism!"

"While we are holding out inducements for the oppressed of all the earth to make new homes in our midst we are planting the seeds of decay, that will sooner or later render their homes miserable, and send these people and their posterity to other more favored lands, for that home they will have failed to find here.

"Of the consequences of the destruction of the forests to the future inhabitants of the state we can only judge from the experience of other countries where selfishness, folly, and want of proper appreciation of the wants of the future, have already brought upon them the evils that may be soon looked for here. Consult the history of Egypt, of Palestine, of Greece, of Italy, and we shall see that the original fertility and productiveness of a country may be destroyed; a country capable of sustaining a dense population of happy, prosperous and civilized people, may be converted into one of comparative sterility where the scanty population living in tents, or rude huts, are but little above the lowest of the human family. Such may be our future unless we profit by their example."

He urges that the state should interfere to prevent all this destruction.

"A state that finds authority to regulate the times and seasons when its citizens may catch fish, or shoot game, may certainly assume such as may be needed to preserve the civilization of the present times; it would require no greater stretch of power to regulate the cutting of timber where it would obviously entail a public calamity, or to encourage its production where it is so much needed for the public good.

"One of the most serious evils this state has to contend with is the purchase of large tracts of land by persons who reside in some other state, or who, if residing here, still have no permanent and living interest in the land. It is purchased by such persons, not for the ordinary, legitimate and proper purpose of converting it into a farm or homestead for himself and family, but solely with a view of stripping it of its valuable timber. Leaving the worthless trees and bushes to encumber the ground, he sells it for what it is worth, and renews his depredations upon other lands. He builds fine houses in a distant place—he destroys the fair face of nature here. Surely there should be some means devised to compel such men to spare at least a belt of these noble trees for the purposes contemplated in this report. Their interest should be made to yield to that of men who are to become the permanent occupants of the land, and whose interest in the state will induce them to improve and adorn it, rather than to injure and destroy it."

For twenty years after the report was made, nothing fundamental was done about it. Then, in 1895 a state fire warden and local wardens were provided for, and regulations were passed for the prevention of fires. In 1903 a state board of forestry was created. This board through its state forester, made plans for a far reaching program of developing as a forest reserve, the drainage and school lands of the state; of regulating the cutting of the timber on privately owned land; of acquiring more forest land; and of reforesting cut-over lands.

But there appeared to be an obstacle in the way of the development of state forests. This was the provision of the state constitution (Art VIII, Section 10), that "The
State shall never contract any debt for works of internal improvement, or be a party in carrying on such works.’ This was amended in 1910 to permit the state to appropriate money ‘for the purpose of acquiring, preserving, and developing the water power and the forests of the state.’ But when a case was brought before the Supreme Court of the state in 1914, the court said that the amendment was void. All sorts of mistakes had been made in passing it. It had been given different titles at different times. The records did not show that there was any roll call in 1909. It was a bad slip on the part of a legislature which prides itself justly on its carefulness and accuracy.

So we had to start all over again. In the fall of 1924, the people again had put up to them a forestry amendment. Again they passed it. It was just like the one they adopted fourteen years before except that it does not mention water power. It gives the legislature power to develop forests whenever it is ready.

Until the constitution was amended the state could not buy cut-over lands for reforestation. It could not use its own forests for commercial purposes. It could and did accept and hold land donated to it for forest purposes by the federal government and by private individuals or corporations. It could also, and it did, buy parks for recreation spots.

Included in the land which the state now owns are Devil’s Lake Park, in Sauk county; Peninsula-State Park, in Door county fronting on Green Bay and Ephraim Harbor; Nelson Dewey State Park on the bluffs overlooking the spot where the Wisconsin unites with the Mississippi; Interstate Park on the St. Croix river; Patterson State Park, twelve miles south of Superior, in which are the beautiful Manitou Falls of the Black River; Brule Park, along the Brule in Douglas county; Perrot Park along the bluffs of the Mississippi twenty-five miles north of LaCrosse; Cushing Memorial Park, a tiny plat of eight acres west of Milwaukee; Northern Lakes Park; Shot Tower area, at Spring Green; the Old Capitol at Belmont; Rib Hill in Marathon county; and several hundred thousand acres of school and forest land in Vilas and adjoining counties, given to the state by the federal government. These latter include several hundred islands in the northern lakes set aside by the federal government in 1912 for forestry purposes.¹

Protecting the forests we have, and restoring some of those we have destroyed, is of far more importance than many people imagine. We need the forests for wood. We cut some 700,000,000 feet of lumber annually, but we require for our buildings and our wood using industries more than a billion and half feet each year. We import from other states some eight or nine hundred million board feet at an annual cost in freight alone, of about ten million dollars.²

A study of Wisconsin’s wood using industries in 1910 shows the largest to be the pulp and paper industry, using balsam, hemlock, poplar, and spruce. Sash, doors and finish come next, using ash, basswood, birch, butternut, chestnut, cypress, Douglas fir, elm, gum, hemlock, mahogany, maple, Norway pine, oak, poplar, redwood, western spruce, western pine, white pine and yellow pine. Third is the making of boxes, using a little ash and balsam, but chiefly basswood, beech, birch, butternut, hemlock, Jack pine, Norway pine, poplar, tamarack, and white pine. About the same amount is used for all sorts of furniture, including chairs. These articles are made of ash, basswood, beech and birch, chestnut, elm, gum, hemlock, mahogany, maple, oak and walnut.

¹ For description of these parks, see articles on Wisconsin Parks, by C. L. Harrington in the Blue Book for 1923, page 53, and the 1927 Blue Book.
² Report of Forestry Committee of the Engineering Society of Wisconsin. 1925
Other products made from wood are agricultural implements, bee hives, boats, caskets, excelsior, handles, refrigerators, toys, trunks, vehicles, windmills, tanks and silos.\(^1\)

As choice wood has become scarce, the need for study of the properties and best possible uses of the various woods has been felt. The Forest Service of the federal government wanted a laboratory for their work, but had not enough money to build one. They asked the various universities if any of them could furnish the laboratory. The University of Wisconsin offered to furnish the building, heat, light, and power. The Forest Products Laboratory at Madison was the result.

This laboratory is busy all the time on behalf of the wood industries of the whole country. It is working on preservatives, testing the strengths of woods, experimenting on glues; on products that can be taken from woods; and on the fungi which attack wood. The laboratory in 1921 had made over a half million strength tests, specific gravity and moisture tests; and had classified the tested woods for various purposes. For example, it has determined the best kind of wood and design of construction for barrels and boxes for different uses.

In this laboratory are machines capable of applying breaking strains of from 10,000 to 200,000 pounds. There are tumbling drums to test boxes. One of these can take boxes weighing as much as half a ton and shatter them slowly or quickly. The time it takes to shatter them shows their strength. The laboratory has on a small scale all the machines used in paper making, and experiments constantly with them. During the war the laboratory was most useful. It was able to show how to dry wood in a hurry so as to make it ready for immediate use. It tested wood for airplanes and tested the strength of various designs of aircraft parts. It developed water resistant glues for airplane construction. It worked out the standard for boxes and crates for supplies bought for the government. It found the woods needed for ship building. It recommended to the railroads a substitute to meet the shortage in coal tar creosote. It developed a highly absorbent charcoal for use in gas masks for protection against chlorine. It worked out a way to produce cellulose from wood to be used as a substitute for cotton linters. It developed several types of shrapnel nose plugs. It gave courses of instruction to airplane, box and dry kiln inspectors. With an expense of two million dollars over a period of ten years, it is estimated to have saved American industries annually about thirty million dollars.

There are plenty of problems still to be solved. The surface has scarcely been scratched in working out economy of wood in box production, in the substitution of built up for solid wood; in the preservation of woods from fire, decay in mines, in salt water and under various conditions; in extracting the by-products of waste in lumbering and milling; in the saving of wood in pulp and paper making; in fighting fungus which results in pulp decay; in saving waste in the process of manufacturing furniture, vehicles, and other wood articles; in fixing economical standards for cutting.

But saving woods alone will not solve our problem. We must have a sure and steady supply for our industries.

There are several ways by which a state may help in the solution of the forest problem. First it may protect both state owned and private forests from fire. Wisconsin is one of the twenty states which by spending at least an equal amount, receives federal funds for the employment of lookouts and patrols for fire protection for forests along the watersheds of navigable streams. In spite of this, the Forestry Committee of the Engineering Society of Wisconsin in 1925 pointed out the astounding fact that Wisconsin loses every year through fire and cutting two hundred thousand acres of forest.

Second, the state may furnish small trees to private owners. Wisconsin is one of the states which furnishes trees for planting at small cost.

Third, the state may so adjust the taxes on forest land that it will not be a burden to the owner to hold it without cutting. The legislature of 1927 greatly lightened but did not entirely remove the burden for Wisconsin landowners.

Fourth, the state may furnish expert advice and assistance to private owners. In a few states forestry is taught in the public schools. In others the farmers are urged to take extension courses planned to help them in the planting and management of their own wood lot. In some of the eastern states, paper manufacturers and railroads own the forests from which they get the supply of wood necessary to their business. Some of them are practicing cutting and planting along scientific lines which will insure their future supply.

Fifth, the state may regulate cutting in private forests. This is done in European countries. In some places, such as the watersheds of streams, a man would have to get permission to cut a tree and agree to replace it. The Engineering Society of Wisconsin in the report mentioned above, says that we have cut or lost by fire five or six billions of acres of land in Wisconsin and that in the last fifteen years there have been replanted but 2400 acres.

Sixth, the state itself may own and grow forests. This is a common practice, both in Europe and in the United States. The United States itself owns 152 National Forests of about 155,407,920 acres. New York has a state reserve of 1,825,882 acres in the Adirondack and Catskill Mountains. Pennsylvania has more than 1,000,000 acres of state forest, chiefly in the mountains in the central part of the state. Minnesota has 43,000 acres now in state forests and approximately 1,000,000 acres of school lands which are to be made into state school forests. Michigan has 589,000 acres; Wisconsin 400,000 acres; South Dakota 75,000 acres in the Black Hills; New Jersey 13,720 acres; and New Hampshire, Vermont, California, Connecticut, Indiana, Massachusetts and Maryland, from 2,000 to 9,000 acres each.

In France, Germany and Switzerland, many cities and villages own their own forests. One such forest in Germany was so profitable before the war that it paid all the expense of city government, without resort to taxation. The city of Fitzburg, Massachusetts, was the first in the United States to acquire a community forest. Several cities in Massachusetts have followed Fitzburg's example. In New York state, about 200,000 acres have been acquired by forty or more communities, including Rochester, Glen Falls, Gloversville and New York City. Cincinnati and Oberlin, Ohio, and several cities of Colorado now own forests. About 35,000 acres are owned by New Jersey cities.¹

The whole problem of saving the resources we have left and of adding to them is one about which the next generation is going to hear constantly. Already leaders are lining up together to plan the campaign.² Among them are representatives of organizations interested in preserving the sports of the state. There are farmers who want to see land classified and forestry put on its feet as a branch of agriculture. There are paper manufacturers who want to see the source of supply of their raw materials preserved. There are workmen who want to see the great industries in which they are engaged retained in this state. There are water power owners who fear for the rivers and streams if the forests disappear. There are local communities built around wood

industries and dependent upon a continuous wood supply for their existence. There are railroads which will lose their freight if the wood products fail them. There are individuals and communities dependent upon tourists who will no longer be attracted to Wisconsin if the forests and game disappear. There are public minded citizens who have no special financial interest in the forests and forest industries but who love the outdoors and lament the loss of beauty and the health giving qualities of forest and stream, of lakes and birds. They fear that future generations will pay dearly for the unscientific rashness with which we and those who came before us have destroyed nature’s balance in this favored spot.