

**A Half Century
of FORESTRY
in a Democracy**



Foreword

The story of forestry in America cannot be told too often or emphasized too greatly. It is a story in which Americans everywhere share a common interest and take a common pride. For three centuries forests have played a dominant role in the development of this continent and this nation.

Today the timberlands of the United States supply the ever-expanding wood needs of 150 million Americans. Truly, forests are a renewable resource. If used wisely and protected from fire, insect damage and disease, America's forests are fully capable of supplying this country's current and future wood needs.

Few Americans are better qualified to comment on forestry and forestry problems than Mr. Walter J. Damtoft. Assistant secretary and treasurer of The Champion Paper and Fibre Company, and vice president of American Forest Products Industries, Inc., Mr. Damtoft speaks with an assurance based on knowledge and long experience.

In his essay, "A Half Century of Forestry in a Democracy," he concludes that forestry, in the modern sense, has only recently come of age in America. "Its development," he points out, "affords an illustration of great progress toward the solution of a vital national problem in the traditional American way."

This essay, published here, was presented March 16, 1950 before the Pen and Plate Club of Asheville, North Carolina on the occasion of the forty-sixth anniversary of the organization's founding.

AMERICAN FOREST PRODUCTS INDUSTRIES

A HALF CENTURY OF FORESTRY IN A DEMOCRACY

by
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FORESTRY is the science of forest perpetuation through wise use. It is a live and expanding science, concerned with the ever broadening use of the forest for maximum contribution to the progress and pleasure of mankind.

In the United States, forestry is a new science. Its birth and its growth to maturity coincide with the beginning and ending of the immediate past half-century - hence it is a timely subject. It is timely, too, in that its development affords an illustration of great progress toward the solution of a vital national problem in the traditional American way - by education, demonstration and cooperation.

Americans, beginning with the earliest settlers, have been no less conscious of the vital role of forests in their daily lives than were their European ancestors. Forests have always had a profound and ever deepening influence on the life and character of humans. They are the stabilizers of stream flow, holders of the soil, habitats of wildlife, and places for public recreation, as well as the source of commercial wood products. Sentiment for their preservation and growth is instinctive.

Even in the formative days of America, this was true. In the face of limitless and overwhelming areas of forests, William Penn, in 1681, decreed that for every five acres his settlers cleared, one acre must remain in forest. In 1791 the Philadelphia Society for the Promotion of Agriculture offered medals for planting locust

trees, and about the same time a committee was named in New York to study "the best mode of preserving and increasing the growth of timber." Other proposals for forest conservation are also recorded.

None of them met with success because, economically speaking, they were far ahead of the times. Timber to the pioneer was a liability, something he couldn't give away. Cleared land was not. The forests seemed inexhaustible and inexorable.

The settlers pushed back the frontier to the prairies. The lumber industry assumed magnitude, until its demands for raw material greatly exceeded the supply of logs from land clearing. Then far-sighted individuals became greatly concerned by the common indifference to the complete liquidation of huge areas of forests and by the growth of an economic system, socially condoned, which had little thought of perpetuating natural wealth. These individuals, recognizing public apathy as a challenge, began a crusade on behalf of a national program of forest conservation.

EUROPEAN INFLUENCE STRONG

These early leaders were largely influenced in their thinking and planning by European practices and policies, inasmuch as they had either been born, or had received their education and training in Germany or elsewhere on the Continent. The group included Carl Schurz, German born Secretary of the Interior, who urged repeatedly, though vainly, the reservation of all public-domain timberlands and their protection and conservative management. Franklin B. Hough, whose address before the American Association for the Advancement of Science, in 1873, led to the authorization by Congress of the appointment of a forestry agent, was another. Others included: B. E. Fernow, the first Chief of the Division of Forestry and the first technically trained forester in the United States government service; Filibert Roth,

the first head of technical forestry work in the Department of the Interior and the first head of the forestry school at the University of Michigan; Dr. C. A. Schenck, founder of the first elementary forest school, at Biltmore in 1898; Henry S. Graves, first dean of the Yale School of Forestry; and Gifford Pinchot, first Chief of the United States Forest Service.

By the end of the 19th Century the activities of these men, individually and by group effort through the American Forestry Association, formed in 1875, had resulted in the establishment of a broad pattern of forestry for the United States. Much of the land which later became National Forests, had, through their efforts, been reserved out of the public domain. Several states, including Colorado, California, New York and Pennsylvania, had adopted forestry policies. A good beginning had been made in research activities. However, no real forestry technique had been developed to fit the forest conditions of the United States nor had there been any material application of forestry practices. The framework only had been constructed.

FORESTS SPEEDED EXPANSION

It was not until 1900 that the first students of an American forestry school were graduated. The Bureau of Forestry, which became the United States Forest Service in 1905, was established in 1901. Consequently, it may be said that the real birth of forestry in America occurred at the beginning of the current century. With the turn of the half-century it has reached maturity with a vigor which presages ever increasing accomplishments in the direction of sustaining a growing forest economy.

Our present forest situation is the culmination of 300 years of development of a continent. It involves three major phases. The first phase includes more than two centuries of cutting, burning and uprooting forests to prepare lands for agri-

culture. The second includes the period of feverish haste in logging to provide cheap lumber and other forest products in tremendous volume to meet the terrific demands of a rapidly expanding population and industrial economy. Nevertheless, overall these were constructive periods during which we developed a virgin continent into an agricultural and industrial empire at a pace unequalled in all history. An abundance of cheap lumber and other forest products played no small part in this great accomplishment.

TREE GROWING PROFITABLE

Today we are in the third phase of our forest economy, in which the growing of trees is profitable. Cash tree crops now provide inducements to private timberland owners and to forest industries to apply forestry practices. They have responded to a degree and in a manner that holds high promise for the future of our expanding forest economy.

The transition from unprofitable to profitable forestry took place during the third decade of this century. Beginning with the second decade professional foresters and leading conservationists divided into two schools. One group, the "alarmists", could not conceive that progress in applied forestry would be rapid enough, without yielding control of all forest lands to the federal government, to prevent the disaster of a timber famine. The other group, the "conservatives", had confidence that by marshalling forces and incentives indigenous to this country sufficient headway could be made toward bringing forest growth and forest drain into balance before our forest capital was exhausted. They foresaw no need for drawing upon totalitarian policies of foreign origin.

"ALARMISTS" ATTACKED INDUSTRY

The "alarmists" numbered many representatives of the United States Forest Service, including the first Chief Forester, Gifford Pinchot. In their zeal for

progress, they grew highly impatient with the forest industries for not moving faster in the application of conservative forest management practices, regardless of the economics involved. They became so antagonistic and so violent in their attacks on industry it was made to appear anti-social and un-American to have such a thing as a free-enterprise forest industry.

WRITINGS REFLECT PREJUDICES

The prejudices then created and the emotionalism engendered persist to this day. They have found so much expression in popular magazines and books that the truly great change in attitude and practice on the part of industry which has been taking place at an accelerating rate over the past two decades has been obscured.

Authors of best sellers, publications of the federal government and essayists on our impending doom, make little or no reference to any of the highly encouraging developments in private forestry. These developments are in the fields of protection and management of forests, in control of fires, in utilization of waste and previously non-commercial woods, in increased knowledge of silviculture and in development of mechanized equipment applicable to almost all phases of forestry.

ACCOMPLISHMENTS IGNORED

The "alarmists" ignore such developments and have always been prone to over-emphasize and misinterpret temporary adversity. For example, they see nothing other than disadvantage in the penalty of high freight rates when lumber must be imported into a territory from which the lumber industry has moved because local commercial forests have been "cut out." That this penalty becomes a strong factor in encouraging the development of more intensive methods of growing timber in the "cut-out" territory is a fact they overlook.

Colonel W. B. Greeley, most promin-

ent forester among the "conservatives", made a significant statement in this connection in 1922 while he was Chief of the United States Forest Service. I want to quote it, because what he said was prophetic of the basic change which accounts for the current attitude and practices of the forest industries throughout the United States. He said, "Every year the still rising cost of transportation, with its reactions upon public policy, tax laws, fire protection provisions, etc., will widen the acreage of land used for growing forest crops under more or less intensive methods."

CHANGES ENCOURAGE TREE GROWING

What Greeley really was saying was that rising values of forest products encourage tree growing. The gradual depletion of virgin timber, nation-wide, is stimulating enterprise in the growing of trees by strengthening the conviction that forestry is profitable. Therefore the basic change which is taking place is definitely economic. It is being hastened by developments in utilization of wood, resulting from scientific research, and by education in the doctrine of better forestry. It is another example of an intelligent and informed people acting in its own best interests.

There has always been a wide difference in the interpretation given to basic statistics between the protagonists of federal control of all forest lands and the "conservatives" who oppose the needless growth of bureaucracy. The "conservatives" are definitely of the opinion that the facts do not indicate a situation so critical as to justify federal interference with the activities of more than 4,000,000 owners of forest land.

Those in the federal regulation camp draw beautiful pictures of the settled culture of European countries. To them Colonel Greeley has said that he has seen enough of the French and German countryside to get the feel of a settled rural econ-

omy and of a forest system long established and never questioned. He has seen the sturdy country women coming out of the woods with great fagots of branches on their backs. Surely there is not a scrap of waste. He adds, however, that it does not follow that a system developed for crowded lands and disciplined people will stand transplanting to the free soil of the United States. "Forest technologies and skills may be borrowed from other lands but it is better that the forest policy should be indigenous to its own country. Our forest policy must reflect much more than a need for wood. It must express the national psychology, accustomed relations between government and citizen, the incentives which make the economy tick, and the accumulated experience in living with natural resources."

Ours is not a crowded land. On more than one-third of our area, some 624,000,000 acres, timber growing is practically without a competitor. That is more than all the land east of the Mississippi. Also, it is an area that is likely to grow rather than diminish. New clearings will likely be offset by abandonment of marginal farm lands.

NO TIMBER CRISIS IMMINENT

We are also fortified by a present stand of commercial timber in excess of 30 years of normal demand, without taking into account any of the current growth. Consequently it cannot be said that any crisis is imminent. Certainly there is no occasion to again indulge the fear expressed by one of our most prominent foresters following the first World War. Henry S. Graves, then Chief Forester of the United States, stated at Boston, in 1919, "The experience of the (first) World War called sharp attention to the condition of our remaining timber supplies . . . If the emergency had come 15 years from now we would have had very great embarrassment in obtaining even the lumber needed for general construc-

tion." Graves' forecast of the "great embarrassment" was timed for the year 1934 - yet as late as 1939 when the Second World War came along our forests then met the enormous demands of the great conflict. They gave to the armed forces all over the world large amounts of forest products and also supported the enormous construction program at home.

The great expansion of highways and motor transportation, and the development of bulldozers and other mechanized equipment for logging are making economically accessible great quantities of forest products heretofore unavailable.

TREND FAVORS CROPPING

Also trends in wood utilization are greatly increasing the amount of useable material in the forest and are having a profound effect on methods of forest management. We are moving away from consideration of size and form of trees in favor of consideration of volume only. We are engaging to an increasing extent in breaking down the trees into fibre, cellulose and lignin, and refabricating them into useful commodities - a development that is accelerating the transition from an old growth forest economy into one based on timber cropping. Again the inexorable laws of economics, of supply and demand, are at work - without federal regulation, and without subsidies!

FOREST GROWTH TREND UP

Over the past 30 years four successive forest inventories have been taken by the United States Forest Service, pursuant to resolutions of request by the Congress. Each succeeding inventory has shown a progressive narrowing of the spread between forest growth and forest drain. For the years 1909-1918 the ratio was estimated at 1 to 4.34, that is drain was 4.34 times growth, whereas the most recent study in 1944 indicates drain to be only 1.02 times growth. This indicates that the growth rate, in relation to drain,

more than quadrupled that of 30 years ago.

The fact that the 1944 growth and drain, for the first time, appeared to be nearly in balance, encourages us to believe our forest economy is reasonably safe and that it may ultimately be made secure. It also encourages the belief that the democratic program of education, demonstration and cooperation need not be sacrificed in favor of federal controls involving needless expansion of bureaucracy and further subordination of the functions of individuals and of states to central government.

SCHOOLS EXERT INFLUENCE

That private landowners and industrialists have been prepared to take advantage of the changing forest economy is due to the foresight of those early leaders who more than a half-century ago established the framework of our national program. The influence of America's 23 high ranking schools of forestry and 29 lesser schools with their more than 14,500 graduates have had a part in this. So, too, have the 105 forest research agencies with their 900 scientists, and the demonstrations of applied forestry on public lands by the United States Forest Service and state forestry agencies. Private timberland owners also have been encouraged by the expansion of organized fire protection.

PROTECTION PROGRESS

Twenty-five years ago a broad program of federal-state cooperation for promotion of forestry and control of fires was provided by the Clarke-McNary Act of 1924. Since then there has been a steady and progressive approach to the goal of complete protection of all forest lands of the country. The degree of progress is indicated by the fact that, in 1948, some 337 million acres of state and private lands were under organized fire protection at a cost of more than \$17,000,000,

compared with only 61,000,000 acres in 1911 with an expenditure of only \$173,000. Millions more are spent each year by private industries and landowners for fire prevention and forest protection. Unprotected lands are now less than 100,000,000 acres.

Progress in the application of forest management practices on privately owned lands may be measured by contrasting less than two million acres under sustained yield 20 years ago with more than 80 million today. This area is increasing at an accelerating rate by virtue of the awakening interest of more and more timberland owners in the profit possibilities of forestry, due to educational and promotional activities by government, industrial and private organizations, and by continuing developments in wood utilization and expansion of cellulose industries, including pulp and rayon. The employment of professional foresters by industry has increased more than sixfold since 1930. They now number at least 3000.

POTENTIALITIES OVERLOOKED

The alarmists among the sincere men of yesteryear who awakened us to our forest problem had, no doubt, left out of their reckoning the capacities of Americans to develop substitutes for the then most important uses of wood and their abilities to find new uses which greatly increase the commercial products of the forests and opportunities for profitable forestry.

Surely in 1920 Gifford Pinchot did not envision these developments when he chided one of his colleagues who expressed confidence that the lumberman would take a progressively greater interest in applied forestry. At that time Pinchot said, "He still clings to ancient legends. His view resembles the innocent belief we all held some 22 years ago, the belief that the lumberman would gladly cooperate with us foresters whenever a good chance really offered. Unfortunately the test of

experience has betrayed our hope."

Subsequent experience, however, has definitely confirmed such hope.

Chief Forester Graves in 1919 predicted that "the bulk of original supplies of yellow pine in the South will be exhausted in 10 years, and within 5 to 7 years more than 3000 manufacturing plants will go out of existence."

When he made that prediction he, of course, could not have foreseen the terrific impact of the development of the kraft pulp industry on the forest economy of the South. This expanding industry was to give forestry the greatest impetus which it has ever received anywhere, at any time. Nor was it anticipated that the discovery by a man named Mason of a method of blowing wood fibres apart by internal explosion would make possible the establishment of a new industry in an old logged out section of the South, opening up a market for waste woods and young timber.

NEW PRODUCTS, NEW PROCESSES

Also, perhaps, no one then conceived that Rudolph Weyerhaeuser and associates would restore the town and economy of the region around Cloquet, Minnesota, after a disastrous fire in 1918 had burned some 250,000 acres of timber. They did it by instituting new processes which utilize weed trees and waste woods.

Our early leaders in the forestry movement could not have foreseen the developments which have brought about 12,000 commercial products from paper. One of these products alone has saved tremendous quantities of lumber. The heavy paper bag is made from pulp which requires only one-sixth as much wood as would be necessary to form wood containers of equal capacity.

Another development which has taken place at a surprising rate is in the field of integrated manufacture of different products under the same management, in the same locality. Such operations pro-

duce pulpwood, lumber, kraft pulp or fibreboard from the same stand of timber, or even from the same tree. One such of these integrated plants even converts bark into plastic powder and fertilizer.

Such integration, and other advances in wood utilization, require exceedingly heavy capital investments in manufacturing plants. These mills are no longer migratory and therefore cannot work on the "cut-out and get-out" philosophy. High capitalization makes the assurance of supplies of wood essential. That is a simple economic truth which comes into play in a free enterprise economy.

INDUSTRY NO LONGER TARGET

Actually the growth in application of forestry practices by industry has now developed to such an extent that even the present members of the federal regulation camp have become impressed. Their timber survey of 1945 indicated 147 industrial properties in the East operating on sustained yield; and in the West one-third of the industrial forests qualifying as Tree Farms. Consequently industry is now very seldom the target of the Fair Deal regulationists.

Their impatience has now shifted to the more than four million owners of little woodlots totalling 261 million acres. It is now the bad habits of these little owners that justify a demand for federal control of all forest lands! Forest industrialists, however, are inclined to the belief that more will be accomplished by continuing the program of education, demonstration and cooperation, with such regulation as may be indicated confined to the local level of state government.

FAITH IN EDUCATION

Admittedly it is a tough and challenging job. However, definite progress is being made and it behooves those of us who decry the tendency toward socialization of our activities to meet that challenge. The pulp and paper, and the lumber industries

have dedicated themselves to this very program, and are cooperating with all public agencies in the educational field.

Education of the woodland owner has always been one of the cardinal points in our national and state forestry program. Numerous public agencies have long been at work in this field. They include the United States Forest Service, state forestry agencies, agricultural extension services, the TVA, and regional experiment stations of the Forest Service.

WORK AT WOODLOT LEVEL

In 1935 a new and very practical kind of assistance to farmers developed as a result of the Soil Conservation Act. Any farmer in a soil conservation district may obtain a working plan for his woodlot and expert help in applying it. At present the SC districts involve 120,000,000 acres of woodlots, including 12,000,000 acres of stand improvement cuttings and 700,000 acres of planting projects.

In recent years the wood-consuming industries, individually and collectively, have been greatly augmenting the educational program. Many companies employ conservation engineers to contact individual timberland owners, to mark their timber, and to prepare manuals of forestry for local distribution. Organized programs of industry are conducted by numerous groups. Among them are the Southern Pulpwood Conservation Association and the Southern Forest Farmers Association Cooperative in the South; Western Forestry and Conservation Association in the West; the New England Forestry Foundation in New England; the Independent Pulpwood Producers Association in Texas; and an organization entitled, "Trees for Tomorrow" in Wisconsin.

AFPI HAS NATIONAL PROGRAM

The most ambitious and highly effective organized industrial activity in the educational field nationally is conducted by the American Forest Products Industries,

Inc. - with an annual budget of more than one-third million dollars, financed by the pulp and paper, lumber and plywood industries. This organization sponsors three major projects, "Tree Farms", "More Trees", and "Keep America Green", all of which are stimulating an expanding interest in forest protection and management.

Whatever regulatory legislation may be needed to augment these educational efforts should be at the state level. It should follow public opinion. To be enacted in advance will predestine it to failure. Early attempts of several states to curb destructive logging have given proof of this.

In 1941 your essayist, participating in a symposium on proposed federal forest regulation before a meeting of the Society of American Foresters, referred to a then current statement by one of the finest observers in the United States Forest Service. Captain I. F. Eldredge, then head of the Federal Forest Survey, had remarked, "Within the last twenty years a change in attitude toward forests and in the practice of treating timber as a crop has come about. During the last decade particularly the traditional attitudes have changed rapidly in some regions and more slowly in others."

APPEAL TO INTELLIGENCE

Your essayist then commented, "This change of attitude represents the attainment of a goal long sought by the founders of forestry in this country . . . It has been accomplished through a program which appeals to the intelligence - by the democratic process of education, demonstration and cooperation, which inspires confidence . . . An intensification of such a program . . . will undoubtedly stimulate increasing interest and enthusiasm . . . If we encourage expansion of private forestry by a continuation of the cooperative program, we may witness within a few years disappearance of opposition to regulation by law . . . there even may arise a

demand . . . a demand for a type of legislation that will be the outgrowth of greatly increased experience with the development of forestry in a natural way, legislation that will be both practical and enforceable because it will have the support of those whom it is intended to regulate."

This is coming to pass, at the local level, at the grass roots. Eleven states have recently enacted cutting practice legislation which, for the most part, is receiving public support because it has developed from local experience by local demand and is, therefore, suited to local conditions. They include: Oregon in 1941; Virginia in 1942; Maryland, Massachusetts and Minnesota in 1943; Mississippi in 1944; Vermont and California and Washington in 1945; New York in 1946; and New Hampshire in 1949.

MUST INTENSIFY LEADERSHIP

Thus, to again quote Colonel Greeley, "In this democratic fashion, state after state is shaping the forest policy of America. The roads taken lead to the same end. Whether the starting point is forestry by tax concessions, by self-government under local committees or by statutory rules, the pay-off will be forestry by the free choice of informed men. And, education is the marker on every milepost."

Forestry has come to maturity in America, in the short span of a half-century. If we now intensify the hard work and leadership which have already gone into the spread of forestry education we shall perhaps avoid the catastrophies of some of the Old World Countries, and may look forward with some degree of confidence to an expanding forest economy. America will then have solved another problem in the American Way.



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