

# Environmental Enigma



FROM ITS BEGINNINGS IN SAXONY in the latter half of the 14th century, forestry has always been an environmental undertaking. Its main thrust has always been to tame the wild forest for man's use and enjoyment by managing the ecology instead of letting it run rampant.

The first attempts to manage the forest environment came about as a combination of economics and ecology. The economic basis was the transportation distance which could be reached by a man and his sons leaving the security of their walled town at daybreak, traveling with horse and wagon to the wood, felling and gathering their harvest, and returning within the walls by dark. The ecology was perpetuation of the tree species useful to man by coppice, natural seedfall, and, later, by transplanting wild seedlings to places needing them. Man was adapting himself to his environment and he quickly realized that he had no choice but to grow trees within his economic reach or he would go without their service for shelter, warmth, furniture, and tools. In time, this basic response of adaption to, and management of, the forest environment spread to every part of the world..

## U. S. Forestry: Early Years

Nowhere did forestry take hold more slowly than in the United States, until only a quarter century ago. This was principally because no other country was blessed with such abundance of trees of such great variability in utility nor was so well able to direct the flow of settlement. The vast area of the United States could only have been settled as quickly as it was because of the abundance of forests throughout its length and breadth, with the notable exception of the Great Plains and the

western deserts. It is significant that these were the regions of the country to be settled most slowly and today support the smallest populations.

Once a balance was reached in timber demand and supply in the United States, only a short 25 to 30 years ago, forestry really got started in earnest. During the last quarter century forestry in America has advanced as far as it did in two centuries in Europe prior to 1900.

Even in these early years American forestry benefited from the fact that men had been trained in the science and art of forestry for more than four decades. Much of the basic research necessary to reproducing desirable species and using their harvest wisely had already been done. Men had also learned how to harvest and process wood more efficiently than in most other parts of the world, so that cities could be furnished with homebuilding materials, paper, conveniences, communications, and many other essentials for civilization.

While it hasn't been so thought of previously, forestry is an environmental science. It is concerned with biology, engineering, and economics: biology, for growing and protecting an inventory of healthy trees; engineering, for their harvest, protection, processing, and use; and economics, for supplying people with their needs at competitive prices. Growing, protecting, harvesting, manufacturing, and marketing trees, and then repeating the process, crop after crop, to serve generation after generation of people, is the primary environmental aim of forestry.

## Milestones: 1905-1940

From the time that Gifford Pinchot and five other pioneer foresters started the Society of American Foresters 70 years ago, forestry accomplishment has been growing by leaps and bounds. The first big milestone was the establishment of the National Forest System in the U.S. Department of Agriculture in 1905. The second was the beginning of cooperative protection against fire with the federal government, the states, and the private owners under the aegis of the Weeks Law of 1911. The third was the cementing of that protection partnership by the Clarke-McNary Act of 1924 whose principal architects were W. B. Greeley and E. T. Allen. Clarke-McNary, besides solidifying the previous advances in



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cooperative protection against fire, started the cooperative federal-state nursery program for supplying trees to farmers for their woodlots and set the stage for more massive educational efforts to prevent man-caused forest fires and to intensify interest in planting trees.

The fourth was the McSweeney-McNary Act of 1928 which authorized the unparalleled system of federal forest experiment stations, the Forest Survey, and Forest Taxation Inquiry. The experiment stations and the federal forest products laboratory at Madison, Wisconsin have led the way in basic research on every aspect of trees in relation to our environment—developing better tree-planting techniques, better trees through genetics, and better nailing patterns for housing components. The Forest Survey found out how much timber the nation had, how much was being consumed through harvest, how much was being lost to insects, disease, fire, and old age, and how much was being replaced through growth. The Survey gave us our first real timber balance sheet, and through periodic updating, has indicated the trends to allow some reliable measure for assessing public policies which will determine whether we will be able to satisfy the nation's needs for all the products and services which can only come from the renewability of our forest environment. The Forest Taxation Inquiry, first conducted by Fred Rogers Fairchild, concluded that the customary property tax didn't fit the economics of tree growing, and in fact, discouraged, limited, or prohibited it, and, therefore recommended a modification. Some states have tried to develop such modifications, but in most states property taxes which neither recognize the long-term nature of the timber crop nor adequately allow for the largely uninsurable risks inherent in timber growing are the rule.

### Progress: 1940-1969

The fifth milestone was the beginning in the state of Washington in 1940 of the "keep green" idea. Designed to educate the public to reduce man-caused forest fires, it soon spread to most states through industry-state cooperation, and was later augmented by Smokey Bear. This movement, a prime environmental protection activity, has probably reached more Americans than any other forestry program in our history. It confuses no one; people really understand the part they play when they are asked to "keep their state green."

The sixth milestone was the establishment of the Clemons Tree Farm by Weyerhaeuser Co., also in the state of Washington, in 1941. Expanding the idea into a nationwide vehicle for encouraging private forest owners to grasp their forestry opportunities was a joint contribution of the West Coast Lumbermen's and Pacific Northwest Loggers Associations, succeeded eight years later by the Industrial Forestry Association. Today there are more than 34,000 certified tree farms, located in every state, except Alaska and Hawaii, and their holdings comprise 75 million acres. On some of these lands you'll find the most intensive forestry practiced anywhere on earth.

The seventh milestone was the Federal Forest Pest Control Act of 1947, largely the creation of the West-

ern Forestry and Conservation Association, which set the stage for the same kind of cooperative protection of forests against insects and disease, as the Weeks and Clarke-McNary Acts did for fire long before. Under this cooperative umbrella, trees were saved for man on millions of acres where, had the environment been unprotected, defoliators, bark beetles, and other pests would have cleaned the forests out for generations—much more completely than the worst forest fire.

The eighth milestone was the Cooperative Forest Management Act of 1950, which significantly increased the joint federal-state effort in the education of the some 3 million individual, non-industrial forest owners in the United States as to their forestry opportunities. Coupled with the tree farm movement, these educational efforts have stimulated much interest in and application of forestry, when and wherever local economics supplied the motivation.

The ninth milestone was the Multiple Use-Sustained Yield Act of 1960, which declared a policy for management of the national forests for timber, water, wildlife, and forage for domestic livestock and recreation. It also declared wilderness as one of the multiple uses. This marked the beginning of significant and continuing controversies over which areas of national forest were to be managed for either limited or broad service to the public.

The Multiple-Use Act was soon followed by other "environmental" legislation—the Wilderness Act in 1964; the Land and Water Conservation Fund Act, also in 1964; the Wild and Scenic Rivers Act in 1968; and the National Environmental Policy Act in 1969. These all contain purpose statements which seem to deify environment as a sacred cow. They are popular acts because they reflect what most city dwellers think they want in the rural areas of the nation—a pretty playground to which they can escape from their own daily environment, which they have been propagandized into believing is really unfit for humans. So they escape to a different environment when the practice of forestry could improve theirs by better housing, more conveniences, better watersheds, better wildlife management, and prettier countryside as a backdrop for every kind of outdoor play from picnicking to skiing.

### Five Distinct Eras

From the beginning of applied forestry in the United States to the present posture of environmental concern and widespread lack of appreciation for forestry, the development of public policies has significantly influenced the practice of forestry on all ownerships in the United States. Evident in this development are five distinct eras in American forestry: *crusade*, *protection*, *research*, *application*, and *environment*—one major step at a time, based upon need, knowledge, and favorable economic and political climates.

The crusade was shrill, its propaganda exaggerative, but its purpose was pure—to keep America supplied with trees.

The protection era was born in the flames of the 1910 blowup in the Bitterroots. No one knows how many

million acres of America's forests were burned over annually before World War I, but as late as 1939 it was nearly 30.5 million acres. In 1940, at the beginning of the keep green movement, it was 26 million acres; less than 18 million in 1945; dropping to 15.5 million in 1950, 8 million in 1955, 4.5 million in 1960, 2.5 million in 1965; and back up to more than 4 million in 1968. But the trend is down, thanks to a responsive public and a scientifically trained and experienced cooperative fire prevention and control force numbering almost 100,000 men. The record of forest fire prevention and control has chalked up an enviable environmental plus for the nation.

The research era brought much of the biological, engineering, and economic knowhow essential to keeping America's forest lands fully productive. It is still continuing, but the blush is off. The basic breakthroughs which taught us how to handle most of our tree species, how to use their wood, and how to reap the bonuses of multiple benefits from forests managed for all or most of their multiple-use potential, are in the toolkit now. The new horizon in research is now the discovery of newer techniques to solve some of the biological mysteries of insects and disease and the fulfillment of the bright promise of genetics in tree and wood improvement.

The application era, in progress for only a quarter-century, has seen American foresters substantially increase reforestation to "green up" the environment everywhere. Starting with the old burns and other deforested areas up through 1925 there had been only 1,600,000 acres planted in the whole country by all owners. Now that much is planted annually. Through 1968, there was a total of 30,000,000 acres artificially reforested by planting and seeding. In Washington and Oregon alone there have been one billion trees planted in the last 30 years. This era has seen the first commercial application of genetics to improve America's forests and the widespread use of thinning. Thinning not only improves the productivity of forests through more ideal spacing, but is now yielding substantial quantities of raw material for every kind of product from fence posts to plywood. Better protection of forests against pests has also been an environmental contribution of this era. Removal of beetle-susceptible trees before they are attacked and the salvage of infested trees while the broods are still in them to safeguard living trees, are now standard practices. Fertilizer too is being applied to speed up tree growth.

Another great contribution of America's forests to her total environment in the application era has been the building of more homes since 1945 than in the previous three centuries. More than 40 million homes have been built in the last quarter-century, 80 percent of them from wood—the only renewable building material. Another environmental contribution of forests applies directly to the economy. The growing, protecting, harvesting, manufacturing, and marketing of timber crops is the fourth largest business in the nation. This gigantic enterprise, operating on over 500 million acres in every state and in almost every community of 200 people or more, employs 1.5 million persons, furnishes an annual payroll of \$7.5 billion and contributes more than \$30 billion annually to our gross national product. It also

provides the transportation network with 10 percent of its freight. With about 50 percent of our annual timber harvest going directly into home building—the best single barometer of the health of the nation's economy—trees could easily be called America's most important environmental asset.

### The Environment Era

We are now in the environment era of American forestry. It resembles the earlier crusade era because once again the voices are shrill, the propaganda persuasive, and its promoters and perpetrators endowed with the same religious zeal. The only difference between the crusaders and the environmentalists is that while they sound and act alike ("the end justifies the means"), they don't think alike. The crusaders wanted forestry to work as an environmental science, while the environmentalists ignore the knowledge that through forestry trees can be a renewable resource and that forestry can be practiced for the enhancement of the environment—both in the forest and in the city.

Where does the road lead now? We are at the environmental crossroads. We should pause and heed the time-honored admonition of "stop, look, and listen." First a moment of silence, and hopefully of truth, then look down the track both ways—one way to the woods, the other to town. If someone is talking, listen. Hear him out. If he opts for environment without understanding that forestry is doing so as well, let him know what forestry is doing for him—a comfortable home; edification through newspapers, magazines, books, TV, and radio; comforts and conveniences such as sanitary packaging and soft tissues; modish furnishings; and the numerous other benefits derived from forestry. Then take him to the woods and show him how trees grow, how they're harvested, protected, and processed for enhancement of the environment. Tell him that multiple use is not a myth, a fad, a smokescreen, but something that works if land is sincerely managed for that purpose.

It's strange that a national endeavor of such proportions as forestry, which has gained economic acceptance—people like its products, jobs, freight, and taxes—doesn't make the grade today either socially or politically. Is it because of economic and scientific illiteracy? Or is it the result of forestry's foes being more persuasive than its friends? Certainly ignorance or unacceptance of forestry as a constructive form of land management and use is the environmental enigma of the day. But we can't lie down, roll over, and play dead if we are to make the continuing and lasting contribution we want and know how to make for the country.

With a rededicated forestry profession and a forest industry that, despite today's soft market, is spending additional millions each year to improve its forestry, the nation will grow trees in ever-increasing abundance for its citizens yet unborn. No country in the world ever survived without wood, and as the nonrenewable resources of the earth are used up, wood will take their places with ever increasing frequency. We are dedicated, as a profession, industry, and nation to provide every family with a decent home. Without forestry, it can't be done. □