

The Challenge of Conservation

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"WE DREAMED a great dream, of freedom and abundance," say the authors of this article; and they proceed to tell what that American dream was. Many things in this dream have come to pass, but many other things have not; they tell why and in what ways so much of our rich heritage has been wasted. Then they ask what needs to be done, and they sum up the needs in a few brief statements that constitute the challenge of conservation. That challenge is not to abandon the dream but to stick to it. The fight has merely shifted to new frontiers, and we can win it if we have a tough-minded realization of what those new frontiers are. This article is essentially a contribution to an American credo.

NORTH AMERICA has seen a swift and spectacular wasting of resources on a grand scale, particularly in the last 50 years. The western range lands have been ravaged and gullied as a result of overgrazing. Rivers have been contaminated by the dumping of filth until they are no longer habitable for fish or useful for recreation or fit for domestic water supply. Torrents of water rushing off stripped

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hillsides have intensified the savagery of floods, destroying property and lives and choking stream channels and costly reservoirs with sediment. "Inexhaustible" forests vanished before the combined onslaughts of ax and fire. Forest fires, burning uncontrolled, wiped out not only forests, but towns and human lives as well. The land itself in many sections suffered a fate similar to that of the forest, and ghost farms, like ghost towns, mark regions where the exploitation was fiercest (fig. 1). Less important than these, but indicative, is the fact that the passenger pigeon was exploited to extinction, the American bison to near extinction.

CAUSES OF EXPLOITATION

What forces caused this exploitation—this waste—in contrast with more thrifty policies that might have been pursued? The answer is not simple.

One of the chief reasons our ancestors left Europe was to find freedom. They desired to escape the oppression of the Old World. One of the restraining influences there was the necessity for conserving the natural resources. Conservation therefore seemed to be one of the distasteful restrictions of liberty that the colonists were trying to escape. To top it off, the abundance of resources that the early settlers found, together with glowing reports of still more plentiful resources to the west, made it easy to develop the legend of inexhaustibility which early arose to condone exploitation. At the same time, this legend was a convenient excuse for not allowing money making to be hampered by conservation, an excuse for ignoring the Old World necessity of husbanding the resources out of which money can be made. Even this situation was not simple, however. Undoubtedly the great need



Figure 1.—"Ghost farms" as well as ghost lumber towns mark the path of exploitation.

throughout the early days was to develop and use the natural resources of the country. Few, if any, foresaw that they would be developed with a speed unparalleled in history, so that there was real danger of going too far. Even so, the greatest destruction took place after many people well knew what was happening. There was much mention of soil exhaustion and the necessity for both building the soil and turning it to more scientific uses in the early reports of the commissioners of patents and agriculture, but soil conservation was then visualized as an individual, not as a national, problem.

Mortgages, tenancy, absentee ownership of farms have been among the major forces causing exploitation in more recent times. They have tended to put extra pressures on the land to produce more. At the same time, they have tended to discourage conservation and to make it economically difficult for the farmer to put anything back to maintain soil fertility. As evidence, the value of tenant-operated farms showed a greater proportionate decline from 1930 to 1935 than that of owner-operated farms.

Absentee financial control is one of the outstanding devices through which economic forces have encouraged exploitation. For example, in a forest region, if the local people, including the landowners, could vote on how the forests were to be handled, they probably would insist in many cases upon sustained-yield operations under which local timber industries could have permanent life. The creditors of the forest owners, however, particularly if they live at a distance, are frequently more interested in liquidating their investments than in developing permanent industries in rural sections. In fact, as long as absentee private owners and creditors have complete control, forest destruction will probably be a common practice where there is timber to be exploited.

The demands of modern war have been a primary force encouraging exploitation. Extensive plowing of the western plains for wheat growing was a direct result of the 1914-18 war. The consequences were felt even on the eastern seaboard, where dust from the Great Plains hung in the air like a pall in the drought periods of 1933 and 1935. War made its impact felt on many soils besides those of the Great Plains and on many resources besides soils. Under war conditions, the temptation was even greater than in peacetime to "mine" the soil—to take as much from it as possible without putting anything back. Steep hillsides were plowed, and the rains were allowed to wash the topsoil away. War demands hastened the cutting out of many hardwood lumber operations in West Virginia and adjacent mountain regions, and greatly accelerated the movement of the industry into the last great hardwood reserves, those in the Mississippi Delta.

Conditions after the World War brought new economic forces that encouraged exploitation and strengthened old destructive forces. Failing markets for farm produce resulted in economic pressure on the individual farmer to keep on mining the soil. As more and more farmers became tenants, the pressure on the soil resources became greater; the man who did the farming no longer had an owner's interest, and the land often had to support two families where it had formerly supported one. Not only increased tenancy but also more

and heavier mortgages encouraged exploitive farming. Widespread destructive cutting of southern second-growth timber was a direct result of the post-war crisis in cotton. When cotton slumped from 20 cents to 6 cents, the farmers turned to the forest lands that make up 60 percent or more of the area of most Southern States, where the second growth had started to bring the timber back. They went to work logging trees that in many cases had not yet grown big enough either to make good lumber or to yield decent returns to operators or employees, most of whom were farmers.

Abundant resources and freedom to exploit them naturally led Yankee ingenuity to find ways to exploit more efficiently. Thus, technology has played a part. For example, logging methods became more efficient in getting the timber out of the forest; but at the same time they became more destructive of the forest itself.

In this new country of ours, government—which in older countries was the chief force on the side of conservation—for more than a hundred years has simply acted in accord with the dominant attitudes of the people. Americans not only disliked anything that smacked of regimentation; they also felt that the best way for government to encourage growth of the new country was to give private initiative the freest possible hand in developing and using natural resources.

Not only were valuable resources given away to private interests with no strings attached, but even publicly owned or controlled lands have been subject to fierce exploitation. Farm lands, publicly owned or controlled through various agencies or institutions, have usually been, and to a large degree still are, managed with little or no more regard for conservation than the average privately owned farm. As late as 1933 vast areas of western range lands—Government-owned—were open to free public use for stock grazing with no regulation whatever. Although the giving of natural resources to private individuals with no restrictions on use or exploitation was the chief means by which Government aided and abetted waste, yet some of the worst exploitation has been on these range lands, which remained in public ownership but over which practically no conservation control was exercised, either public or private. As another example, the vast public domain of Alaska has been given virtually no protection and even today is still ravaged by fires which at one sweep burn millions of acres, damaging the soil and destroying timber, forage, and wildlife.²

WHAT IS CONSERVATION?

Conservation is a very old idea. Centuries before America was discovered, Chinese scholars wrote comprehensively and understandingly of it. Yet China has been one of the most backward nations in practicing conservation.

Despite the predominance of the exploitive philosophy, even in the early days individual Americans realized the evils of exploitation. George Washington was conscious of the bad results of soil erosion,

² In contrast with the range lands, the Alaskan public domain, and publicly owned or controlled farm lands, the national forests have been under conservation management since as early as 1891 in the States and 1892 in Alaska. The former cases represent the old policy of the U. S. Government in conservation, and the national forests the new policy, which was not adopted all at once but which has found its place gradually, spreading from one program and one agency to another.

and he not only wrote about it but developed methods for checking it on his lands in Virginia. Here, as in China, the problem has not been lack of scientific knowledge of what to do so much as difficulty in getting the principles of conservation accepted and the simple effective conservation measures practiced.

To understand conservation, it is helpful first to recall that in a real sense the basic wealth of a nation consists of its natural resources—soils, waters, minerals, forests, range lands, and wildlife. In its broadest meaning, conservation deals with the preservation and development of all forms of public values; but in the usual sense it deals with natural resources, and it is so treated here.

From the standpoint of conservation, natural resources are divided into two main groups. One of these comprises the resources that under good management produce a growth or an increase, renew themselves, or can be maintained indefinitely as a continuing source of new wealth. Soils, forests, range lands, wildlife, and to some extent water resources are in this category. The other group includes the resources that are depleted or used up by use, even under the best management. Iron, coal, oil, and other mineral resources are in this category. These categories represent, respectively, the fields of agricultural conservation and mineral conservation. The objectives and the methods in these two fields are quite different. Agricultural conservation aims primarily to preserve and in some cases to build up the wealth that produces the growth. Mineral conservation aims primarily to husband and to prevent the waste of resources that inevitably dwindle with use. In general, public interest in conservation has encompassed both of these fields, often without distinguishing between them.

The viewpoint is too often encountered that conservation means essentially giving up or foregoing something today in order to have it tomorrow. In other words, the belief is widespread that conservation must be expensive in terms of present income—that it always looks entirely to the future. This is an inaccurate view. Conservation does not necessarily mean using less today. It does mean wasting less. It is a matter of husbandry, or good management practices. Good conservation practices frequently are no more costly to apply than destructive ones. Sometimes they cost less.

It frequently does cost something to shift from wasteful or destructive practices to conservative ones, but the cost of doing this cannot be measured solely in relation to direct money returns, as private investors ordinarily reckon such costs. Nor can it be compared with complete accuracy to such expenditures as those for schools, police, and highways, which are a continuing source of expense. Rather, the cost of shifting from exploitation to conservation is a special sort of cost that a well-organized society should need to stand but once.

Another view sometimes advanced is that agricultural conservation may add to the problem of adjusting agricultural production to effective demand. It is pointed out, for example, that by conserving and building up soil fertility, a greater productive capacity will result than if exploitive methods were followed. It is sometimes asked, also, whether forest conservation might not result in such an abundance of timber that stumpage prices would decline to less than the costs

of growing it. Such things could happen, but in determining the best way to meet these problems it is necessary to recognize that the world is not static, but changing. Effective demand in the future may be much greater than at present, if for no other reason than that potential demand is now much greater. Certainly it would seem that we should look forward to the possibility of increasing effective demand and that it is the direst folly to continue the waste and destruction of natural resources merely because of the possibility that conservation might result in a greater product than markets will absorb at present prices and incomes.

There is no incompatibility between conservation and year-to-year control over the extent of use of the total productive capacity. For example, limits could be placed at any time on the acreage to be used for particular farm crops. A similar limit might be placed on the amount of timber to be cut from the forest. In this way, reasonable control might be exercised over prices. Through allocation of quotas, a fair distribution might be made of the total market opportunity.

But to rely on a scarcity of basic resources as a means of controlling current production is to create difficulty or delay in increasing production in response to expanding markets, if not to prevent such increase. Would this not be a defeatist or negative policy, inconsistent with the hopes and aspirations of a democratic society?

Conservation in a democracy means wise use of resources for the greatest good of the greatest number in the long run. This objective means that conservation must be concerned with more than the physical condition of natural resources themselves. It means relating the management of resources to the welfare and betterment of the people as a whole.

Beginnings of the Conservation Movement

As the disastrous effects of exploitation began to appear in more and more places, a strong sentiment developed among civic-minded people to stop such destruction and waste, even though it meant sacrificing some of their precious American liberty. The people of the United States gradually awoke to the need for conservation.

Active public interest in conservation was first rewarded in 1871, when growing concern over the decline of fisheries resulted in the creation of the office of United States Commissioner of Fish and Fisheries. A memorial of the American Association for the Advancement of Science 2 years later started the movement that led ultimately to the establishment of the Forest Service.³

Subsequent milestones, each marking the beginning of a particular phase of conservation, were: Creation of the Division of Economic Ornithology and Mammalogy (1886), which later became the Bureau of Biological Survey; the act of Congress empowering the President to proclaim public lands as forest reserves (1891); the changing of the forest reserves into "national forests" (1905), with a change of policy from "no use" to "wise use"; the beginning of the soil survey (1899); an act to protect Alaskan fisheries (1906); establishment of the Inland Waterways Commission (1907); creation of a mining technology

³ TRYON, F. G. CONSERVATION. In *Encyclopaedia of the Social Sciences* v. 2 (v. 3-4 of orig. ed.), pp. 227-230. 1937.

branch in the United States Geological Survey (1907), which later became the Bureau of Mines; and the organization of the National Conservation Commission (1908). In large degree the purposes of the agencies set up in this period were informational and investigative.

From 1908 to the 1930's the principal advances in conservation were in the assembling and arranging of the facts that finally began driving home to citizens of the United States the truths that this country's resources are not inexhaustible and that, owing to a more violent climate and more unstable natural conditions, conservation is even more necessary here than in Europe.

During this same period, modest beginnings were made in 1911 in the Federal purchase of lands for national forests in the eastern United States, and in 1920 Congress passed the Mineral Leasing Act and the Federal Water Power Act.

While these events were taking place in the Federal Government, many States were organizing conservation agencies to deal with game and fish, with State-owned lands, with drainage and waters, with State forests and parks. For the most part, little was done by local agencies of government, the responsibility being left primarily with the State and Federal Governments.

Up to the last decade the large-scale conservation accomplishments were in the national forests and the public parks, and in cooperative forest-fire protection. Some of the States attempted conservation of wildlife, with varying degrees of success, but little public effort had been made to encourage conservation of soil, and even the public range lands were still being fiercely exploited.

Aside from work done in the western national forests, scientific forestry was being applied only to the dregs of forests, where attempts were made to nurture the little growth left as the aftermath of destructive logging instead of preventing devastation before it happened. While substantial progress was made in protecting private as well as public forests from insects, diseases, and fire, much of the forest land still does not even have fire protection, and practically nothing has been done to protect private forests from unwise cutting. Virtually nothing has yet been accomplished to correlate the American timber industry with the growth of American forests. In one locality logging operations take everything, including small trees that should be allowed to grow for many years. In other stands, timber worth logging and ripe for the ax dies and rots in the woods.

CONSERVATION AS A NEW FRONTIER

Apparently economic and social crises were necessary before a majority of American statesmen and other leaders would seriously consider conservation as a field for action rather than mere talk and study. The crisis of 1929, deepening into the near-calamity of 1932 and 1933, spurred Americans, individually and through colleges, research agencies, and Government, to make a searching study to find out what was wrong.

As Americans have traditionally depended upon the frontier in time of economic crisis, these searchers for a solution of more modern problems looked for new frontiers--frontiers for idle men and idle

money. Students of the depression—layman as well as scientist—found that the frontier of new land was gone. They found westward migrants of the depression surging against the Pacific coast and eddying back, still drifting, in misery, want, and insecurity. Most investigators found once-fertile lands, their fertility washed or blown away, where the people either clung on in poverty or drifted away to relief rolls in the towns or to live as vagrants on the highways.

Others found the timber gone in regions where humming sawmills once meant payrolls and prosperity. There they found the people idle, and the stripped lands idle too. They found destructive logging that was taking everything from the woods—capital and all, spelling the doom of timber towns; and lumbering operations in young, half-grown forests that yielded only a pittance to the farmer loggers (fig. 2). At the same time, they found other timber that was ready for logging going to waste in the woods.

They looked then to industry. With many factories idle or partly idle, the thoughtful have asked, Why build more factories until we are able to distribute the products of those we already have?

As a result of this searching, many people, inwardly even though they may not have expressed it, apparently came to a conclusion which might be stated as follows:

We dreamed a great dream, of freedom and abundance.

We solved the problem of production with a technology such as the world had never seen. We made machines our slaves to do the work. We did it in freedom to exploit the stored resources of a rich continent, resources which fed the machines and fed, clothed, and housed us.

Now we are faced with other problems.

One of them we share with the entire world. That is the problem of learning

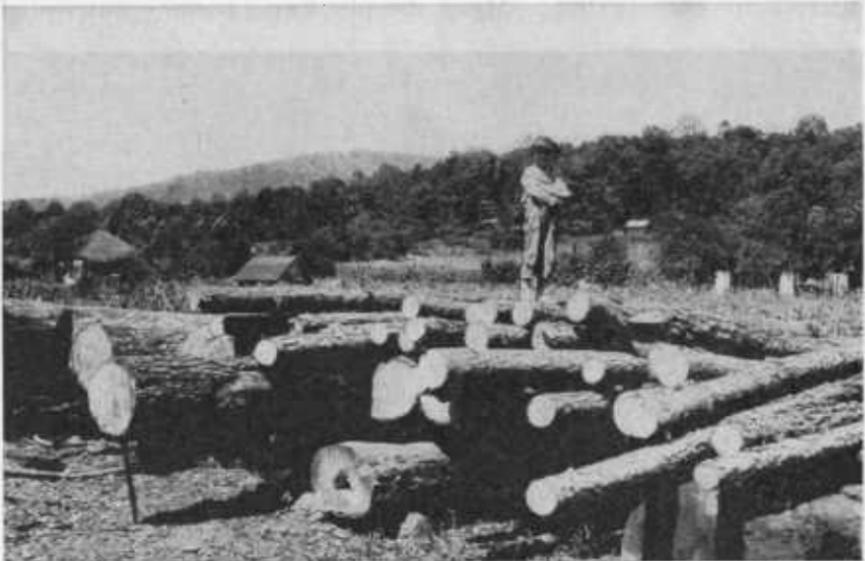


Figure 2.—Lumbering operations in young, half-grown forests yield only a pittance to the farmer loggers because the trees are too small for economic logging.

to produce for peace and not for war, for the improvement of life and not for its destruction.

Closely linked with this problem of producing for peace is the problem of distribution. We have to learn to distribute what is produced for peace—to keep money circulating—so that factories will not be blighted with idleness and people with want and insecurity until they are desperate enough to accept war.

Inextricably related to these two problems is that of conservation—of conserving the resource foundations under farms and factories, under life itself. For too long we condoned exploitation in the name of liberty and with the excuse that it was necessary to develop the country. Today conservation offers us a new frontier for investing idle money and idle labor to underwrite production and defense, to renew the American dream.

The increasing interest in conservation is not due alone, however, to a new economic understanding. Much of the interest arises from an improved understanding of less tangible values. This is popularly characterized by the longing of many present-day Americans to restore the "old swimmin' hole" of their boyhood, so that their sons can thrill to joys their fathers knew. The longing is, of course, for more than swimming holes. It is the need of a people who love the outdoors to get away from factories and offices, away from farms and towns, and go where they can swim, picnic, hike, ride, boat, fish, ski, hunt—in short, where they can play. They want playgrounds where the whole family can play, each to his liking; playgrounds where, for example, there are swings and sand boxes and a wading pool for the children, a place where mother can read or visit in the shade, and a stream where dad can go fishing. People are turning to conservation to preserve one of the basic American liberties, that of access to open country for recreation, including hunting and fishing (fig. 3).

Even the combination of a new economic understanding with the desire for outdoor recreation does not fully account for the increased interest in conservation. Many people have become interested



Figure 3.—Conservation enables sons to thrill to joys their fathers knew.

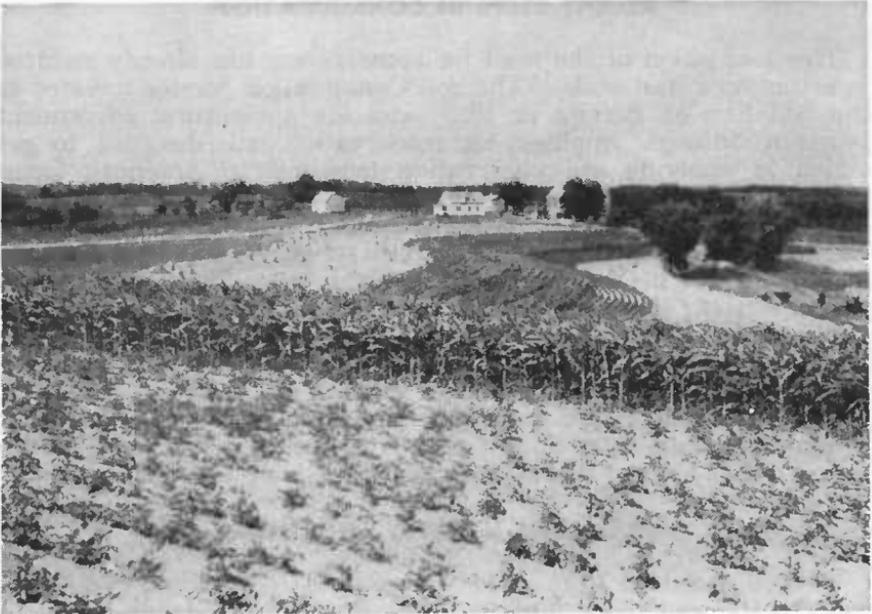


Figure 4.—Conservation means preserving the soil—the foundation under our farms and under our industries. Contour tillage and strip cropping help to do this.

through seeing what happens to the quality of human beings when the land washes away or when the forest is cut over and sawmills shut down. They have learned that "land is life," not only in an absolute sense, but also in a relative sense. Productive land can mean a better life. When soils wash or blow away or when their fertility is sapped by improper cropping, poor land is left. Liberty to exploit indiscriminately has its sequel in liberty to starve. When people settle on land that is poor they are doomed to a poor life.

The poverty, misery, ignorance, and disease of populations long stranded where the soil is inherently poor or where the sawmills once were and where the land is not fit or not needed for farming have shocked many people into becoming interested in conservation. These people are interested primarily in building up and conserving human qualities. They see conservation—wise use—of soil, of forest, of range lands as a fruitful means to humanitarian ends.

Does all this mean that we as a Nation have at last come to look upon our land as a place in which to settle down and live instead of just to camp long enough to skim off the cream of the resources and then move on? We have already settled the frontiers of new land. Today we have to build our new frontiers on the foundations of the old. Through conservation, we may yet make the American dream of freedom and abundance come true. But without conservation—conservation wisely and vigorously applied, not merely talked and written about—we may wake up some bleak dawn to find ourselves indeed a poor nation, our chances for permanent abundance vanished or seriously impaired.

RECENT STEPS IN CONSERVATION

This realization of the need for conservation has already resulted in action on a vast scale. The Soil Conservation Service (created as the Soil Erosion Service in 1933) and the agricultural adjustment program, through emphasis on conservation, are designed to get action in applying soil-conservation measures to American farms (fig. 4). The Taylor Grazing Act of 1933 was an action measure to bring the public range lands at last under responsible control and conservation. Expanded public acquisition of forest and submarginal farm lands has been a preface to action in restoring their resources and in meeting the new demands for outdoor recreation. In varying degrees it has also helped to relocate farmers who had been waging a hopeless struggle on poor land. The Civilian Conservation Corps and programs have put thousands to work in conservation.

Out of our experience with these programs, we have learned that conservation can be practiced without impairing our liberties. In fact, we have learned that to safeguard abundance is to insure liberty.

PROBLEMS NEEDING SOLUTION

The job of shifting from exploitive methods to conservation methods can now be said to be fairly begun. But we should not make the mistake of considering what has been done as more than a beginning. In fact, widespread action has not even been started in one of the greatest fields for conservation—on private forest lands. Many other difficult problems remain to be solved. The more important ones in the agricultural field—farming and forestry—are:

How to get soil conservation applied in a reasonable time on all the farms and range lands that need it.

How to improve the conditions of people living on poor lands and in isolated locations and to prevent further settlement there.

How to solve the problems of private and tax-delinquent forest lands: To protect them adequately from fires, insects, and diseases; to stop destructive timber cutting and at the same time prevent waste of good timber that now dies and rots in the woods; to rebuild forests on millions of stripped acres; to develop and open up nonfarm forest lands for recreation and other public purposes along with timber production.

How to extend shelterbelt plantings, which make farming and farm life better in the prairie regions.

How to divide conservation responsibility between Federal, State, and local Governments and private citizens in the most effective way to get the work done.

How to finance our investments in conservation so they can be treated as such and not as current expenses that threaten us with bankruptcy.

How, if we must supply the demands of war—which too often in the past have been met by unrestrained exploitation—to see that it is done with the highest regard for the laws of conservation.

How to do all these things democratically, with a minimum of restraint on individual liberties.

Altogether, these problems make a huge task, but no greater than some the United States has successfully tackled in other fields.

FARMERS IN CONSERVATION

The farmer not only feeds the world. He is at the same time custodian of its greatest resource—the farm land—and to a considerable extent of the timber and range lands as well. For these reasons, the farmer is a key figure in conservation. In fact the farmer has such a large share of the conservation job that it is only fair for the rest of the people to help him do it, as they are doing through payments for conservation practices under the Agricultural Adjustment Administration, through soil conservation demonstration projects, through aids to farm forestry, and in other ways.

Today the farmer is in an especially responsible position, not only in relation to the conservation of farm lands but of nonfarm lands as well. In many counties farmers' agricultural planning committees have already mapped out, according to their best judgment, the parts of the county which should be used for something besides farming; the areas which should be used for farming; and the questionable areas which should be given further study. In many counties the non-farming areas make up a very large part of the land.



Figure 5.—A farmers' township committee planning the use of tax-abandoned, cut-over lands in Wilma Township, Pine County, Minn. (Photo courtesy Minnesota Department of Conservation.)

As the farmer committees go on with their work, they find that the way these nonfarming areas are handled has much to do not only with conservation, but also with how well the farmer gets along. For example, in the forest regions, the farmers' taxes are lighter if there are timber industries to share the burden and if settlement in forest regions is not too scattered. Forests, even those not part of the farms, often are an important source of winter income for farmers. In many sections, forest fires endanger the farms as well as the timber. Irrigation water frequently depends on mountain forests. Nonfarm range lands provide seasonal forage for farm livestock. Local forests in good condition mean low-cost farm lumber and the saving of freight costs. Farmers, as much as any other group, are interested in using wild lands for recreation, especially for hunting.

These relationships between nonfarm lands and the farmer's welfare can be improved chiefly through solving conservation problems. Farmers' agricultural planning committees are taking an interest in planning for rural land use and for agricultural conservation as a whole, not merely for land in farms. For example, they plan the zoning of nonfarm lands against certain types of use so as to save on road, school, and other costs (fig. 5). They are striving to develop constructive programs for tax-delinquent lands. They seek means of handling large forest holdings as well as farm woodlands in ways that will perpetuate and build up local timber industries as sources of taxes, employment, and low-cost farm lumber. In these and other phases of action, farmers are playing an important role in putting agricultural conservation into effect on the land.