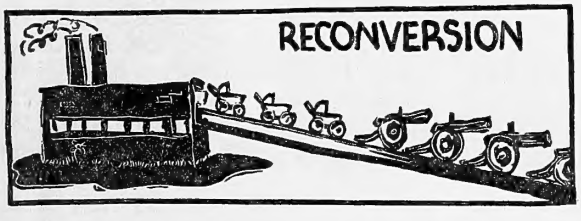
FORESTRY AND JOBS

OUR FORESTS CAN CONTRIBUTE TO POSTWAR EMPLOYMENT

Forests throughout the United States are expected to furnish employment to many workers in the postwar period. They offer opportunities for both temporary and permanent jobs—for work that will bring lasting benefits locally and nationally.

The end of the war already has caused some unemployment. How great our postwar unemployment problem will be and how long it will last will depend upon many things: How quickly war industries can convert to peacetime production; whether the demand for post-war products will continue big enough to keep all our new and enlarged plants going; what new industries might develop; whether we control inflation. It may be that pent-up civilian demands will stimulate much industrial employment in the immediate postwar period but that some time later, after these pent-up demands have been met, the most critical period will come.



In any event, few will question the wisdom of having ready a backlog of useful public projects to be undertaken if and when the need arises, to make sure that thousands of our fighting men and war workers are not left jobless now that the war is over. Federal and State Governments and many communities have been giving serious thought to planning such postwar projects.

How can *the forests* help in this immediate postwar employment problem?

Taking a longer view—beyond the matter of temporary jobs—how can our forests help to create greater opportunities for *permanent* employment in the years after the war? How can they contribute to permanent prosperity and national well-being?

KINDS OF FOREST WORK

Forest projects can and should be considered from two angles: The employment opportunities they will provide; and the value of the work itself to local and national welfare.

The Nation's forests offer a huge field of useful work. During the depression years in the 1930's they helped to meet acute unemployment problems, furnishing work for hundreds of thousands of jobless youths enrolled in the Civilian Conservation Corps. Both the forests and the CCC boys were benefited and so was the Nation. Many other unemployment relief activities also involved work in the forests.

Our forest lands, covering one-third of the total land area of the United States, call for a large amount of constructive work if they are to contribute their proper share to the national economy. Generally speaking, our forests are in a run-down condition. Large areas are growing only a fraction of what they could; millions of acres of potentially productive forest land are now virtually wasteland; millions of acres are inadequately protected against fire. Work accomplished under the CCC and other conservation work programs, valuable as it was, only scratched the surface of the huge job of needed long-time forest rehabilitation and development.

Following are some of the necessary jobs that will have to be done to get the most benefits from

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our forests. This work will furnish employment for thousands of men.

Expansion and Improvement of Fire Protection

One-fifth of our forest land area still lacks any organized protection from fire, and the protection given the other four-fifths is by no means adequate. To bring our fire protection to a suitable standard calls for:

Building hundreds of new lookout stations and repairing hundreds of old ones. Prompt discovery of fires is the first essential in effective fire control.

Improving telephone and radio communication systems. More telephone lines and radio installations are needed in forest areas so that fire-fighting forces can be promptly called into action and keep in constant touch with their sources of equipment and supply. Rapid communication is as essential in fighting fire as it is in military operations.

New equipment warehouses and improvement of existing ones. Adequate supplies and equipment, and facilities for keeping them in repair, are necessary for fire control.

Building emergency airplane landing fields. Aircraft is being used more and more in fire-control work to reconnoiter going fires and to deliver men and supplies to remote sections of the forests. Emergency landing fields located in back-country areas will make flying over forest country safer and will make possible the quick delivery of men and equipment to points near a fire that could otherwise be reached only by long, slow travel over mountain trails.

Construction of firebreaks. A firebreak is a line or trailway several feet wide cleared of all brush and other inflammable material. In the piney woods of the South, in the Lake States, and elsewhere, well-located firebreaks are a big help in checking the rapid spread of forest fires.

Hazard reduction in areas of special danger and along roads, railroads, and in the vicinity of camp grounds and recreation areas. In such areas the removal of brush, snags (standing dead trees), and accumulations of debris will greatly reduce the danger of fire.

Surveying and mapping. In many areas, additional surveys will be needed to provide the information required for effective fire control. Surveys must be made, for instance, to determine the best locations for lookout stations, and for location of roads and trails and telephone systems, airplane landing strips, and firebreaks. Fuel-type maps, which show the location of various types of vegetation and how susceptible they are to fire, are basic to intelligent fire-control planning.

Each year fires damage forests on more than 30 million acres—an area larger than all of New York State. They cost us some $45,000,000 a year in timber and property losses alone, not counting the much greater losses from watershed damage and erosion, young growth destroyed, blackened scenery, interruptions to farming and business activities and to tourist travel, and many other losses which cannot easily be measured in dollars. That organized fire protection can greatly reduce these losses has been fully demonstrated. In the 11 Southern States, for example, acreage burned on protected areas in 1943 was held to less than 3 percent of the area protected, whereas 27 percent of the unprotected area burned over. For the United States as a whole, 86 percent of the total acreage burned and 76 percent of the reported damage occurred on the one-fifth of our forest land that still lacks organized protection.

Control of Destructive Forest Insects and Diseases

Destructive diseases and insect pests cost us millions of dollars in damage to timber each year. The chestnut blight, a fungus disease which came into this country from the Orient, already has wiped out our native chestnut as a commercially important forest tree. No practicable method of checking this disease has been found. For several other serious diseases and insect pests, we still look to research to find feasible methods of control.

However, effective control methods have been developed for some of the most destructive insects and diseases. The white pine blister rust, a fungus which attacks the valuable white pine of the Eastern and Lake States and the western white pine and sugar pine of the West, is one disease for which control is possible. Like malaria, which is spread by mosquitos, the blister rust disease is spread by an alternate host—in this case, currant and gooseberry bushes. It can be controlled, therefore, by the removal of wild, as well as cultivated, currants and gooseberries from areas of white pine growth.

Approximately 28 million acres of forest land in the East, in the Lake States, and in Idaho, Washington, Oregon, and California have white pine growth susceptible to blister rust. Extensive areas have already been worked over for eradication of the disease-spreading bushes, but control work on additional areas and follow-up treatment to get bushes or sprouts that were missed in the first clean-up or have grown since will be needed. The white pines are among our most valuable timber trees. The total stand of timber potentially susceptible to blister rust has

a stumpage value of over $380,000,000. Unless this blister rust control work is carried on, future growth of this valuable timber on millions of acres will be lost.

Bark beetles (*Ips* and *Dendroctonus* species) are among the most destructive insects in the pine forests, especially in the Western States. The grubs of these beetles tunnel under the bark and by destroying the cambium or growth cells kill the tree. In some areas, bark beetles destroy far more timber than fires. In one recent 5-year period pine beetles in Washington and Oregon killed nearly as much ponderosa pine as was cut for lumber in those States and 15 times that destroyed by fire. A recent bark beetle outbreak in Colorado has killed more than a billion board feet of Englemann spruce timber.

Foresters have a rhyme which expresses feelingly, if not elegantly, what they think about these insect pests: Printable lines inform us that the "beetle *dendroctonus*—

> Lives in the bark of the pine * * *
> And he's harder to kill than a lion."

The spread of serious infestations of bark beetles, however, can be checked by selective logging or by felling and stripping the bark from, or burning, infested trees, if the work is undertaken in time. With frequent surveys to spot promptly any new outbreaks of beetle damage and with sufficient manpower to control damaging infestations, millions of dollars worth of timber can be saved annually.

The spruce budworm is an insect which attacks spruces, balsam firs, and jack pine—all important trees for pulp and paper. During a widespread outbreak of spruce budworm in 1910–20 in Quebec, New Brunswick, Maine, and northern Minnesota, it was estimated that more than 225 million cords of pulpwood was destroyed. Another serious outbreak in the Provinces of Ontario and Quebec now threatens to invade the spruce-fir forests of New England, New York, and the Lake States. Surveys in Canada showed that by 1943 about 90 percent of the balsam fir and 50 percent of the spruce had been killed on 12,000 to 15,000 square miles.

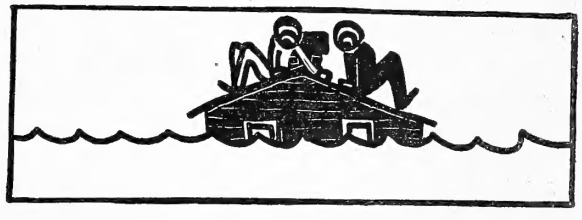
The best known method of combating spruce budworm is to apply management practices which will keep the forest in good condition to resist attack. This calls particularly for reduction in the proportion of balsam fir, especially overmature fir. In general, the type of management that discourages budworm also results in better timber yields. The new insecticide, DDT, may prove to be a practicable weapon against budworm. Even so, it will take manpower to apply it over large areas of forest.

Control measures are necessary also for the gypsy and browntail moths, which damage forest trees in the Northeastern States; for the Dutch elm disease, which menaces forest as well as shade trees; and for a number of other insect pests and diseases.

Watershed Protection and Flood Control

Nearly every year, floodwaters damage croplands and industrial properties and force thousands to flee from their homes. Many of our major streams which once ran crystal-clear today are characteristically muddy, burdened with soil washed down from ill-treated farm and forest lands. They go into flood stage on slight provocation. Millions of dollars must be spent for building and maintaining levees and other works to keep them in their channels. These are necessary defenses against raging waters. They do nothing, however, to keep the waters from raging. That must be done on the water sheds where the floods come from.

Half of the total forest area of the United States is of major watershed importance. An additional quarter has at least moderate influence on water run-off. (The remaining quarter is mainly level lands, deep sands, swamp and overflow lands where run-off and erosion problems are relatively unimportant.) Much of the western range country also is of high watershed importance. In parts of southern California the value of the brushland or chaparral forest for watershed purposes has been estimated at $300 an acre—a value rarely exceeded by high timber forest anywhere.



Measures which serve to promote good forest and range management generally will contribute greatly to water conservation and flood control. There are many watershed areas, however, where positive remedial measures will be necessary in aid of flood control. Many of these measures will, in turn, help to restore the lands to full productivity as timber-growing or livestock-grazing lands.

The needed watershed protection work in-

cludes the construction of many small check dams to stop gullying and to catch debris; establishment of contour trenches on eroding slopes in some cases; stream-bank stabilization and various other upstream engineering measures; and tree planting or establishment of soil-holding shrubs, vines, or grasses on denuded watershed lands. Intensive surveys are still needed for many watershed areas as a preliminary to the actual protection work.

Dependable supplies of water are essential to the life of our country. Several billion dollars has been invested in municipal waterworks. Western irrigation agriculture represents an investment of more than 6 billion dollars. More than one-third of the country's electric power output is generated by water power. There can be little question about the necessity of safeguarding these investments and the water supplies on which they depend.

In the Yazoo River Valley, the run-off from sample areas was checked during a flood period in which 27 inches of rain fell. From cleared lands, 62 percent of the rainfall ran off; from adjoining forest land, less than one-half of 1 percent. The cleared lands lost 34 tons of top soil per acre; from the forest land no measurable quantity of soil was washed away.

Construction and Maintenance of Forest Roads and Trails

Roads and trails in the forests are needed not only for fire protection, but also to provide access to mines, timber stands, and scenic and recreation areas, and for properly managing the forests. In our national forests the planned road system includes some 45,000 miles of roads and 22,000 miles of trails as yet unconstructed, in addition to some 93,000 miles of roads and trails now of unsatisfactory standard. Many of the national forest roads are important links of main transcontinental highways or of the State highway systems.

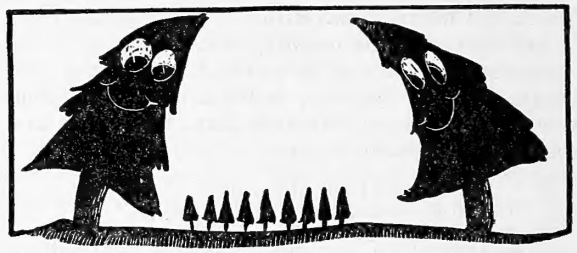
Reforestation

Some 77 million acres of forest land in the United States have been so depleted by destructive logging and fire that they are now largely wasteland. Many of these lands will have to be replanted if they are to be made productive again in any reasonable time. A reforestation program calling for planting 32 million acres in a 25-year period has been suggested by the National Resources Planning Board. The size of this job is indicated by the fact that up to 1940 only 3½ million acres had been successfully planted by all agencies, public and private.

Our idle forest land, which now makes little or no contribution to human welfare but is in many cases a dead-weight burden, covers an area approximately equal to the forest area of Sweden. Sweden's forests supply one-seventh of its national income; they create employment for one-fourth of its working population.

Timber-Stand Improvement

In second-growth and promising stands of new young growth the quality and quantity of growing timber can be greatly improved by such operations as thinning, pruning, and weeding out worthless trees. To pay its way in higher yields of timber, such improvement work should of course be confined to areas where prospective



timber values are high; but it is estimated that there are at least 65 million acres on which timber-stand improvement would be worth while. That is, the cost of the work would be amply repaid by better timber production.

Timber is an invaluable resource. It is the base for literally thousands of products; it serves our entire population in innumerable ways, not least in its availability for national defense. The United States now uses half the lumber, more than half the paper, and two-fifths of the wood consumed in all forms in the world. The full possibilities in the use of wood have not been touched.

Within the memory of men now living, a wealth of virgin timber was ready at hand and practically free for the taking. For a substantial portion of our present output of forest products we still depend on the dwindling stands of old-growth timber. They will not last forever. In the future we shall have to *grow* the timber we need.

In growing it, the timber crop can be improved by various cultural operations, just as farm and garden crops can be.

Forest-Range Improvement

In the United States there are some 345 million acres of forest land (including more than 80 million acres in national forests) which are grazed by domestic livestock. This forest range makes a substantial contribution to the production of the Nation's meat, wool, and leather. It is an essential part of the range livestock industry, which not only is the background of one of the most colorful phases of American life—and of many a popular song and movie—but represents ranch and livestock investments of more than 3 billion dollars.

Substantial portions of this forest range are from 30 to 60 percent depleted, which means that if brought up to par they could produce far more livestock and livestock products. Repeated droughts have adversely affected many areas. Millions of acres are eroding, adding to the silt load of western streams.

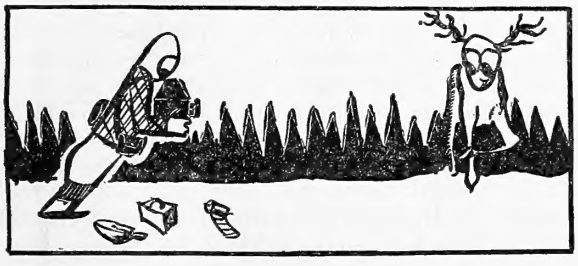
Building fences, developing water supplies, improving stock driveways, controlling destructive rodents, and getting rid of noxious plants are some of the activities that will help to restore and develop forest-range resources. A big field for useful postwar work is reseeding run-down ranges. Reseeding has immense possibilities for large-scale restoration and improvement of forage yields. In the Intermountain region and in eastern Oregon, for example, methods of reseeding have been worked out that will increase forage production on depleted forest range from 5 to 20 times.

Fish and Game Development

The wildlife our national forest lands support can be greatly increased by improving the habitat—that is, by providing better shelter, more natural food, and other conditions favorable to bird and animal life. In our fishing waters, stream-improvement work—such as protection of spawning places and building small dams to create trout pools—can provide better fishing.

In 1943 more than 16,000,000 hunting and fishing licenses were sold. The States get a substantial income from them. There is every indication that more people than ever will want to hunt and fish after the war.

It has been estimated that hunters spend annually about $1,000,000,000 for equipment, travel, and other expenses; and that fishermen spend about the same amount in the pursuit of their sport. Purchases of guns, ammunition, fishing tackle, outdoor clothing, and other equipment help support large industries and the employment of many workers. The cost of tackle and equipment, however, is the smallest part of the sportsman's expenditures. By far the larger part is for transportation, guides, boat hire, lodging, food, and incidentals, which brings income to local communities. Fish and game development work which makes for better hunting and fishing will increase such income.



Perhaps just as important is the attraction which forest lands, developed and managed to provide suitable wildlife habitat, have for people interested in nature, for camera fans, and recreationists. Such forests are also of great value to science.

New Recreation Facilities

There is a growing need for more and better hiking trails, ski runs, swimming places, camping and picnic grounds and safe water supplies for them. Recreation facilities in our national forests were generally used to capacity before the war, and there will undoubtedly be increased demand for such facilities now. These facilities become available not only to local people but to others from distant parts of the country, whose vacation expenditures increase local business.

The monetary return from recreation and tourist business before the war was estimated as about equal to that of the steel and iron industry. The returns from recreation were second only to petroleum in California, to dairying in Wisconsin, and to automobiles in Michigan. They rank first or high on the list in several other States. Tourist business is the financial mainstay for many communities.

Aside from monetary considerations, outdoor recreation is of growing importance for the physical health of our people, and for release from the increasing complexities of modern living.

WHAT ABOUT PRIVATE FOREST LANDS?

When and as the need for postwar employment arises, most of the kinds of jobs outlined above can be undertaken promptly on public forest lands—on national forests, State, county, and municipal forests. The amount of needed work on public forests alone is enough to provide many thousand man-years of employment; and public ownership gives excellent assurance that the values resulting from the work will be maintained.

A vast amount of work along similar lines is also needed on privately owned forest lands—in fact, most of the areas of greatest depletion, where the greatest need for rehabilitation work exists, are in private ownership. In the past, publicly financed work on private forest lands (as under the CCC program) has been confined to measures for the protection of existing re-

sources, such as fire protection, insect and disease control, and erosion control. Such work might be compared with the protection afforded private homes at public expense by a municipal fire department. Protection measures at public expense are generally considered justified. Fire protection, for instance, safeguards resources of value to the individual owner, but these resources also are of importance to the community. The whole community suffers when fire runs rampant. And fire is no respecter of property lines. A fire may get into an individual owner's woods through no fault of his own.

But in addition to protection work there is need, too, for restoration and improvement work on many private lands, that is, work of a capital investment nature, such as reforestation and timber stand improvement, if these lands are to be transferred from the debit to the asset side of the national ledger.

Improvement work on private lands—planting trees, for instance—would mean enhancing the value of an individual owner's property at public expense—but the increased values would likewise benefit the community. That is, they would benefit the community if the owner maintained those values permanently.

The question arises, however, whether any expenditure of public funds for *improvement* work on private land (as differentiated from *protection* work) would be justified without some guarantee that the results of the work would not be lost by subsequent failure of the owner to keep the land in productive condition. The benefits of a reforestation project, for instance, would be nullified if the resulting young timber stand was later ruined by premature or destructive cutting. The owner might cash in as soon as possible on values created at public expense without any consideration of the public interest.

Public regulation of timber cutting, designed to prevent wasteful and destructive practices, would be one way of assuring the permanence of forest improvement work on private lands. A regulatory plan has been proposed by the Department of Agriculture which would require that cutting be done according to methods that safeguard future timber growth.[1]

Some forest areas have been so depleted that they are no longer likely to be attractive to private enterprise. Many such lands are chronically tax delinquent. In such cases, public ownership has been suggested as a solution. Public purchase of substantial acreages of such lands with a view to restoring them to economic usefulness might well be a part of the postwar forestry program. Their administration as national, State, or community forests would give assurance that the cycle of devastation would not be repeated.

[1] This question of public regulation of timber cutting is such a broad and important one that it might well be a subject of separate study and discussion. A discussion outline on the problems of public regulation of forest practices, DS-26, Let's Talk About Timber Supplies, is available from the U. S. Department of Agriculture.

BENEFITS OF POSTWAR FOREST WORK

Forest protection and improvement work has certain special advantages in an employment program. Projects can be quickly organized and got under way. The work can use both skilled workers (such as truck, tractor, and bulldozer operators) and large numbers of unskilled men. Projects handled from camps can help relieve problems of the homeless worker, and many types of forest work also are particularly adapted to full- or part-time employment of local residents in rural areas. Where need for rural employment and supplementary farm income is greatest, a large volume of potential forest work is generally available.

Undoubtedly many a boy will come back from the war with his outlook on life askew or his nerves on trigger edge. Healthful outdoor work in the forest might be the best possible means of once more getting a grip on himself.

The work does not compete with any established industry. Rebuilding and improving our forest resources, in fact, will greatly enlarge the field for private enterprise. New opportunities for business activity will be opened up, and new sources of national income developed. Can you think of any more useful and constructive work than helping to make the one-third of our country which is forest land furnish a permanent abundance of products and services for the welfare of our citizens?

POSTWAR PLANS

Dealing with a crop that takes years to grow, foresters have a habit of long-range thinking. Those who have the responsibility for administering our national and State forests have long-time plans for their improvement and development. Some private-forest owners likewise have plans for postwar improvement of their timber holdings. As a matter of national policy, however, the question of whether we shall take aggressive action on a Nation-wide scale to build up our forest resources, or whether we shall let them continue on the down grade, is for the public to decide—especially if expenditure of public funds (i. e., taxpayers' money) is involved.

If we are going to do something about our forests in the postwar years, the time to start thinking about it is now.

The importance of the forests in the national economy should be apparent to everyone. Wood is an essential material, in war and peace. Forests safeguard water supplies and help prevent floods. They furnish the raw materials for industries employing millions and must supply even more if we are to maintain the volume of output needed for full employment and a high national income. They are the basis of large-scale recreation, vacation, hunting, and fishing activities, and of the many business enterprises servicing these activities.

How many of these national problems are represented by conditions in your own community? What local industries do forests support or might they support if kept productive? How much local employment is normally afforded by forest industries and activities? How much could be provided if the forests were kept in full production? What is the relation of forest watersheds to local irrigation or domestic water supplies? What is the importance of the nearby forest environment to your local tourist business?

The postwar unemployment problems we are most likely to face in our own locality in the next few years are largely a matter of speculation, but some good guesses probably can be made as to possible future developments.

For the Nation as a whole, some 100,000 prime war contracts, and a million subcontracts are being terminated. Unless the industries concerned can shift rapidly to other production on a comparable scale, a grave unemployment problem may result.

What war industries and activities in your community have been or will be closed down now that hostilities have ceased? Which ones might be converted to peacetime industry?

No one wants to see our ex-soldiers selling apples at street corners. Veterans and war workers should and no doubt will be given preference in filling many postwar jobs. Will this mean that our present youngsters, as they grow to working age, will be left out in the cold—that we shall have another unemployed youth problem, like that of the 1930's which led to establishment of the CCC?

It might be well to take a look around the home community and try to find out what forest restoration and improvement work is needed.

What do we need to attain adequate fire protection for local forests?

Are blister rust, bark beetles, or other forest insects or diseases a threat to forests in your locality?

Are there idle lands in your section that need reforesting?

Are new forest roads and trails needed?

What forest grazing and range improvements are needed?

What erosion- and flood-control work is needed to protect your community?

Could your community enjoy more recreational developments?

What is needed to improve hunting and fishing in your neighborhood?

Are there other needed forest-improvement projects?

Perhaps we can learn something from our experience with public forest employment programs in the past?

How did the CCC or WPA forestry projects work out in your locality?

What benefits did the community gain from these projects?

What mistakes were made? Was there "boondoggling"? Did the establishment of uniform, permanently located, large-size camps (as in the case of the CCC) prevent sufficient flexibility in the work programs?

What good features in these programs might be applied in the postwar forest work projects? Many small projects adapted to localities and seasons, rather than a few large-scale, long-term projects? Nation-wide organization to get the men from congested centers of unemployment to where the jobs are? Vocational training on the job? Safety precautions?

Permanent Jobs

Work projects that serve to build up our forest lands to full productiveness will increase the opportunities for *permanent* employment. Capital investments in forest and range restoration, watershed improvement, and recreational facilities not only will furnish more security for present forest industries and their dependent workers, but will create a resource basis for new jobs.

It has been estimated that if the full potentialities of our forest resources are achieved, it will develop possibilities for perhaps an additional 2½ million permanent jobs. These would include jobs in the growing, harvesting, and primary manufacture of forest products; in the further processing of timber into finished products; and in related transportation, distribution, and construction activities. They would include also new jobs in the forest-range livestock industry, and in business serving forest wildlife, forest watershed, and forest-recreation activities.

Additional new jobs—perhaps a million more—might be represented in the increased manufacture of logging and wood-processing tools,

equipment, and machinery stimulated by expanding forest industries, and in merchandising and other businesses and professions serving greater numbers of forest workers.

All this increased employment based on an increasingly productive forest resource will mean greater national income. The mass purchasing power represented by several million workers in forest-based industries will expand markets for the products which other industries supply.

It goes without saying that once the full potentialities of our forests are developed, they must be maintained. This means adequate, effective conservation. It would be sheerest folly to rebuild our forest resources only to lay them waste again in another cycle of destructive exploitation.

How Will the Costs Compare with Benefits?

Postwar forest protection and improvement work will cost money. Costs will be small, it is true, as compared with war costs—a full year's fire protection for all the forests of the country, for instance, could be obtained for the equivalent of about 1½ hours of United States 1944 war expenditures; the cost of one flying fortress would reforest some 16,000 acres of denuded land. Nevertheless, any expenditure of public funds should be weighed against prospective public benefits.

Forest protection work—expansion of fire-control facilities, hazard reduction, insect control, and the like—may be viewed as insurance against loss of existing values. Insurance against possible loss is generally considered good business.

What forest values need better protection in your locality? Merchantable timber? Watersheds? Scenic or recreation values? Generally these values far exceed the costs of protection.

Forest improvement work—tree planting, timber-stand improvement, development of recreation facilities, etc.—may be viewed as a capital investment which will pay future dividends either in yield of forest products or in other community services and benefits.

What dividends may be expected from these projects? Perpetuation of local forest products industries; opportunities to establish new industries; safe water supplies; flood control; increased tourist business—these are some of the dividends that should result. In many cases these expected returns will fully justify the costs of the projects.

And what will be the costs—in reduced community income, dwindling opportunities for employment, loss of tourist trade, etc.—if such projects are not carried out?

How About Our Children?

The full returns from some projects—tree planting, for instance—may not be realized until after our time. What is our obligation to future generations?

We have been taking from our forests not only timber that is ripe for today's use but immature timber that will be needed tomorrow. Through short-sightedness and neglect we have laid waste millions of acres that ought to be growing timber for the future. In other words, we have been robbing our own children.

Isn't it time to stop that? Isn't it our responsibility to keep our forest green and growing for our children and grandchildren?

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

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