

Federal Participation in Measures for Better Forest Practices.

Address by

Lyle F. Watts, Chief, Forest Service
Maryland Conservation Forum, Baltimore, Md.,
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Maryland Steps Forward in Forestry

In putting its Forest Conservancy Districts Act of 1943 into effect, Maryland is taking a long step forward in forestry. Its progress will be watched closely by other states, by the forestry profession, and by the forest products industries throughout the Nation.

Maryland's law is noteworthy in that it recognizes the need for more positive action to assure better forest practices on private lands, but does not spell out the silvicultural details. It provides for the setting up of district forestry boards and for local participation in promulgation of rules of forest practice which are to have the force of law. This is in line with recommendations made by the Forest Service to the Joint Congressional Committee on Forestry in 1938. While the wording of the Maryland law is somewhat indirect, public regulation is clearly involved. But let's not be carried away by any emotional reaction against regulation as an evil to be resisted,

Under the law, every person owning 3 acres or more of forest land is required to arrange for restocking of his land after cutting, to leave conditions favorable for regrowth, to refrain from cutting immature timber except for stand improvement and to maintain adequate growing stock. Such regulation is not regimentation. It leaves wide latitude for individual initiative. It does not involve taking over any private business. It does no more than establish safeguards to the public interest in proper management of a basic natural resource.

Such a law brings to bear upon forestry a truism enunciated by George Washington in a letter to John Jay in 1782 when he wrote: "Experience has taught us that men will not adopt and carry into execution measures the best calculated for their own good without the intervention of a coercive power." The pertinence of this statement to our discussion is apparent when we consider that in Maryland, under the cooperative plan of offering technical services to private owners that has been in operation for 30 years, only 5 percent of the woodland has been examined as the basis for management plans and only 1 percent has actually been marked for cutting to meet forestry objectives.

Our democracy has not found it inconsistent with basic principles of freedom to exercise regulatory authority in other fields. Compulsory education for our youth, for example, has long been recognized as basic to progress in democratic government. Your state forester has emphasized that application of rules of forest practice under the new law will be primarily an educational job. And I think the real significance of public regulation of forest practices is clarified when it is viewed as compulsory education in forestry, -- education that holds promise of raising the general level of voluntary and intelligent individual action in forest management to a higher point than actually required by the law.

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In the light of widespread concern about the extension of federal activities in the states, I think it is significant that the framers of the Maryland Forest Conservancy Districts Act evidently anticipated and desired federal participation. In fact, it is the duty of the district forestry boards to secure the cooperation and assistance of the United States and any of its agencies as well as the agencies of the State. It is therefore appropriate to discuss what the Federal Government is prepared to do and what the Forest Service thinks it should do to obtain better forest practices on private forest lands throughout the country.

Federal Government Aims to Help Private Owners

At the outset I want to make it perfectly clear that the Department of Agriculture believes that it is sound public policy to make good forest practice attractive to private owners. A major objective of the Department's forest program is to give private owners and operators every reasonable encouragement and aid.

Of fundamental importance in this connection is the comprehensive research at the regional forest experiment stations and the Forest Products Laboratory. For more than 20 years the Forest Service has been building up knowledge of the growth habits of our principal commercial species. This research has provided the essential technical background for methods of cutting that will perpetuate the forest. It has shown the economic advantages of selective cutting. Research at the Forest Products Laboratory opens up new fields in pulp and paper making, wood plastics, and other forms of chemical utilization. It helps wood to compete in older markets by improving its serviceability through timber engineering, seasoning, conditioning and preservation. Research requires long years of persistent effort. It is indispensable to progress in better forest management. It is an invaluable service that private owners as a rule cannot provide for themselves.

The Federal Government is participating in another basic and indispensable service to all forest land owners through cooperative fire protection. In the last fiscal year, with war emergency funds supplementing regular Clarke-McNary Act allotments, the Federal Government contributed almost \$200,000 of the \$442,000 expended for forest fire protection in Maryland. Federal cooperation with the States will undoubtedly be substantially increased if S. 45, a bill that passed the Senate last July and is now before the House, is finally enacted.

It is generally recognized that the public interest in adequate protection from fire transcends individual property rights. Forest land owners have long accepted the restrictions imposed by the forest fire laws of the several states. It is worth noting in passing that the restrictions on private owners contemplated in the regulation of cutting practices do not differ in principle from those imposed for fire protection.

In service to individual owners the Federal Government functions through the State in the production and distribution of forest planting stock, in the educational program of the Extension Service, in woodland demonstration projects, and in farm forest marketing projects. The service provided in the marketing projects during the past 2 years is proving particularly effective. The project foresters, working within the limits of an area with which they can become personally familiar, are not only assisting owners in selling their timber crops advantageously, but also are demonstrating methods of cutting which maintain productive growing stock and give stability to their forestry operations. It is probable that these project foresters will play a large part in the application of forest practice rules under the Forest Conservancy District Act, since this act calls for the employ-

ment of a forester in each district to advise owners with regard to forest problems.

The Federal Government is giving aid directly to individuals through the Federal Land Banks, through F. S. A. loans and advice, through the complete farm plans furnished by the Soil Conservation Service, and through woodland demonstration projects. Beyond this the Forest Service is prepared to assist the non-farm and industrial owners in the preparation of plans for the management of their forest properties. Furthermore, as a wartime measure, the Forest Service has a number of men working in counties not served by farm forest marketing projects, to stimulate and facilitate the output of lumber and other forest products.

The legislative program advocated by the Forest Service would further encourage good forest management by provision for long-time forest loans and by providing forest insurance at reasonable rates.

In the face of all these aids to private owners it is difficult to rationalize the fears of those who charge that because the Forest Service has advocated public regulation of forest practices it aims to undermine private forest enterprise. Actually the Forest Service aims to put private forest enterprise on a much sounder and more permanent foundation.

It is encouraging to learn that in Maryland the effort to establish legal standards of forest practice is viewed as an extension of public guidance rather than as an encroachment on individual freedom.

Public Interest in Forest Practices is Nation-wide

George Washington emphasized the necessity for coercive action to get people to adopt measures for their own good. It is important to recognize also that the notion that individual and social aims are always in accord is open to question. Too often the individual is motivated by desire for immediate gain which in the final analysis proves to be at the expense of the community. Exploitation of soil and forest is patently in this category. So, the government must intervene and restrain the individual on behalf of the community.

In this connection, I should like to quote from "The Wind Blew from the East" by Ferner Nuhn:

"Title to a certain piece of earth is one of our more or less useless human fictionsThe only true title to things is use, and good use in the long run is good title, while bad use is bad title. We will soon lose what we cannot use well, no matter how sure we are that we own it."

Applying this thought to our forest problem I want to point out that no owner making good use of his land as judged by criteria of good forest practice need feel any encroachment on his title through the type of public regulation proposed by the Forest Service. But I believe that such regulation is a necessity because of widespread and traditional misuse of so much private forest land.

To reiterate oft-quoted facts that must be familiar to most of you: One sixth of our commercial forest land, some 77 million acres, is essentially unproduc-

tive as a result of destructive cutting and fire. A large part of the remaining area is only partially productive. The stand of sawtimber in the United States appears to have been reduced 40 percent in 30 years prior to the war. Depletion of basic growing stocks has not yet been checked on more than a small fraction of the privately owned forest area. Although we have enough forest land to produce timber for all foreseeable needs, if it is properly managed, we will probably have double the present rate of growth in order to meet future requirements. For annual sawtimber growth is little more than half of wartime drain and our estimates indicate that total consumption in the years ahead is likely to be even higher than at present if timber is available at prices that people can afford to pay.

Proper forest land use is a matter of national significance with which the Federal Government must be concerned because timber is such an important item in the national economy. The war has shown how vital an abundant timber supply is for national security. Internally, people in the industrial sections of the East and in the sparsely wooded or treeless agricultural areas of the Middle West and Plains States have an interest in the productivity of the major timber-producing States of the South and the far West. The Federal Government cannot evade responsibility for protecting their interests in the permanent timber supply.

And the watersheds of great streams which provide hydroelectric power to turn the wheels of industry or water to irrigate agricultural crops do not conform to state lines. Protection of the forests from destructive cutting is as important as protection from fire. And it is just as important for flood control and the regulation of streamflow as it is for timber production.

This, in brief and only in part, is the basis for my conclusion that the Federal Government must take active leadership in the nation-wide application of measures that will prevent forest destruction, check further forest deterioration and keep forest lands reasonably productive.

Federal Standards of Forest Practice

What I wish to make clear at this point is that I do not believe our national forest problem can be successfully met on the basis of state legislation alone. State programs such as that upon which Maryland has embarked, do not eliminate the need for federal legislation.

In order to assure nation-wide adherence to satisfactory levels of forest practices, the standards for regulation should be established by federal law. This does not mean that the States could not administer forest regulation within their borders in accordance with their own procedures and institutions. But it would mean that the local rules of practice adopted by the States should not fall below the standards set up in the federal law. And the Department of Agriculture should have authority to act directly in any State which failed to enact suitable legislation and enforce adequate rules of practice.

State action in this field should not be delayed by the fact that the federal legislation does not yet exist. Inauguration of a regulatory system takes time. Development of adequate rules of forest practice to meet various local conditions calls for a high level of group thinking. It will involve a lot of intensive educational effort. States like Maryland that push forward on their own initiative will have a distinct advantage over those that hold off. It may not

be possible at the outset to set forest practice at the level which may ultimately be desirable. But it is to be expected that experience will lead to a general improvement in forest operations and a gradual raising of the levels of required practice. Thus States which inaugurate regulation at a very low level may need to strengthen their standards when a federal system comes into operation, while States which have attained high standards may find no amendment necessary. The Maryland law appears to provide a framework sufficiently broad to function effectively within the pattern suggested. Final judgment as to the adequacy of the Maryland program must, of course, wait upon the formulation and application of local rules of practice by the District Forestry Boards.

As a guide to thinking and action in the States, it is appropriate to outline in some detail what the Forest Service thinks the federal standards should require. In the first place rules of forest practice should include provision for protecting forest lands against fire. The responsibility of owners and operators in connection with logging, and in disposal of inflammable material resulting from logging operations should be defined. The rules should also provide for protection from insects and disease, including such measures as the disposal of slash, unpeeled logs, or diseased and insect-infested trees when necessary and reasonable. Finally the rules should safeguard the proper use of forest lands and prevent improper exploitation by

- (a) Providing for adequate restocking after cutting with trees of desirable species and form;
- (b) Prohibiting premature or wasteful cutting in young stands;
- (c) Providing for reserving a sufficient growing stock of desirable trees to keep the lands reasonably productive;
- (d) Preventing avoidable damage to uncut trees or young growth;
- (e) Regulating grazing to prevent damage to tree growth and protect the watershed; and
- (f) Prohibiting clear cutting, or limiting the size of a tract that may be clear cut, except where clear cutting is silviculturally desirable or the land is to be put to some other suitable use.

The intent of these standards is clearly to maintain a growing stock of trees of desirable species and of a size larger than seedlings and small saplings wherever practicable. The level of required silvicultural practices would usually fall somewhat below that attained on the national forests and the more intensively managed private lands. The standards would not of themselves assure sustained-yield management.

In preparing rules of forest practice, forest lands within each administrative area should be classified with reference to such factors as forest type and conditions, topography, prevalence of insects or diseases or other relevant factors. The rules should apply uniformly to all lands within each such class. The several provisions that I have mentioned would be applied to each class so far as they are applicable and necessary, but the rules need not be restricted to these specific provisions. Insofar as practical, rules of practice should be couched in descriptive terms readily understood by landowners. To provide flex-

ibility in the application of good practices to a particular property opportunity should be given for any owner to operate under a working plan for his own property that would not fall below the level of the prescribed rules for the classes and conditions involved.

It is my firm belief that state and Federal Governments must collaborate in a plan of public regulation such as I have outlined. Not only should the States that undertake to administer such forest regulation themselves expect financial aid from the Federal Government, but the Federal Government should expect cooperation rather than opposition from the States in cases where it becomes necessary for it to take over the job or where the State prefers to have it do so.

I am not seriously concerned about the problem of enforcement. Of course, it will take money -- and your state forestry department is seriously handicapped by lack of an appropriation with which to work right now. But administration of the regulation I envisage in an atmosphere of helpful official guidance and assistance should have far-reaching educational effects. It is probable and indeed desirable that most owners will soon be led to give their lands more intensive management than will be required by the law. Such an outcome will simplify the task of enforcement, but will by no means eliminate the need for having standards of forest practice established by law.

Forestry Means Human Welfare

In closing I want to congratulate the people of Maryland on the constructive manner in which its new plan to improve private forest practices is being worked out. And I want to assure you that we in the Forest Service want to do all we can to help put your program on a truly satisfactory basis.

For success in this program means more than the conservation of a basic resource. It means jobs for workers, opportunities for enterprise, and lifeblood for rural communities which contribute so much to our American way of life.

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WHERE ARE THE GOAL POSTS?

address by

Lyle F. Watts, Chief, Forest Service
Southern Forestry Conference, Atlanta, Ga.,
January 20, 1944

Occasionally we read of a football player becoming confused and running the wrong way to down the ball behind his own goal posts. Likely as not the player turns out to be one of the best trained and most competent men on the team. How disconsolate he becomes when he realizes his mistake!

Such a setting for my remarks is in line with an item entitled "Let's get our Signals Straight" announcing this meeting in the December issue of the "Forest Farmer." In defining the objectives of the conference, the editor suggested that some of the players on the Southern Forestry team do not know where the goal posts are!

But before attempting to find out where the goal posts are, or to agree on signals, let's be sure we are playing on the same team. We all wear jerseys showing the same colors of conservation and economic progress, but as I review statements by your leaders which appeared in "The Forest Farmer" in 1942, I see your president out there running with the ball in direct opposition to the Forest Service. And I wonder if you should have invited me in to help fix up the signals for your team. So let's go into a huddle to straighten this out. But remember there is a sharp limit on the time we can debate amongst ourselves. If we dally too long before going into action a penalty will be imposed and we will have that much further to go.

What is the Game?

I hope I am not wrong in assuming that we are all playing the same game. Do we not all strive for economic progress in the South through strengthening and expanding the forest industries? And do we not all recognize that better protection and better forest management are essential to the expansion and sustenance of prosperous forest industries?

We are all convinced that forestry can play a vital part in the diversified agriculture to which the South is turning. And we believe that forest farming may be the economic solution for millions of acres which are now more of a liability than an asset to the counties in which they are located.

I hope that you believe as firmly as I do that the welfare of the people of the South and the conservation of forests are interdependent. It is shortsighted to suppose that forest industries can be on a sound basis with labor generally in poverty and the small landowners under constant economic pressure. A prosperous South must be based on economic health for all of the people. On the one hand labor efficiency will be increased by giving more of the coming generation an adequate education and to inculcate higher standards of individual responsibility and initiative. On the other hand, I believe that a

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more intelligent and skilled labor group will facilitate expansion of the primary forest industries and open the way for the secondary industries that we all hope to see established in the South. And this will react to the benefit of small owners. Fabricating and chemical industries based on wood or gum, in turn, hold much promise of further raising the level of living for the entire community.

As I appraise your basic objectives, we are playing the same game. And I wonder whether there is any organization in the South in better position to stimulate progress than the Forest Farmers Association Cooperative. For the crux of the forest problem here is in the small owners, who not only provide most of the timber for the thousands of small mills that now account for the bulk of the cut, but also supply much for many large plants. Forest landowners should be a most constructive influence because they view the problem from the most fundamental angle, namely the productivity of the forest itself. If they are properly organized and imbued with the concept of growing timber as a crop, the possibility of wasteful exploitation under the pressure of industrial demand will be reduced. The facilities for converting the timber into manufactured products will appear as servants rather than despoilers of the land. But to attain its full stature, an association of landowners like this must keep its vision high and be guided by social welfare in a large sense. It should not be bound by any traditional political dogma or special group interest.

What is the Goal?

Having defined the direction we are going, it should not require much discussion of statistical detail to find out how far we have to go. The Forest Survey has published its findings on the resource situation and you are all familiar with the picture.

But we must guard against over-optimistic interpretation of local resource relationships which prevailed in the depression years when much of the Survey data were gathered. The impact of the war has rendered the balance between growth and drain less favorable. It has accentuated the sawtimber depletion that has characterized the long-time trend.

Furthermore, we must remember that the stand deterioration that follows repeated heavy cutting and "creaming" is of more significance than bare statistics of volume change. And we now realize that we must guard against "inflation" in the use of volume data obtained in the Survey because the system takes in all trees no matter how scattered they are or how small the stand. In a concrete case in another region where small ownership predominates, discounts of more than 20 percent have been found necessary to translate similar survey data into volumes actually available for industrial use.

It is also worth emphasizing that forest productivity is roughly proportional to the volume of growing stock. Salvation does not lie in "cellulose forestry" with rotations that yield only trees suitable for chemical conversion. Plenty of wood for such conversion will be available as a by-product of management aiming at high-quality sawtimber. But sawlogs cannot be cut from seedlings and saplings. Good growth requires ample growing stock.

To get perspective for defining the goal of Southern Forestry we must consider the outlook for wood use and think about the South in terms of national needs. But so much has been written on the new era of wood, which we seem to be entering, that I need not dwell on the many new uses opening up in the field of chemistry. And you will not need to be convinced that new engineering techniques for conditioning wood and facilitating its use for construction will enable wood to hold its place in competition with other materials. Furthermore, there can be little doubt that, in addition to domestic demands, requirements for reconstruction abroad may bring opportunities for export that will tax the productive capacity of our forests.

All in all, recent developments support the soundness of the national goal of annual growth proposed by the Forest Service in 1938. This goal of 21.4 billion cubic feet, including some 68 billion board feet of sawtimber, compares with wartime consumption and losses of less than 17 billion cubic feet, involving perhaps 60 billion board feet of sawtimber. In the economy of abundance on which post-war prosperity must be built, we should plan for an annual forest crop substantially greater than what we are using now. When we recall that wartime drain is almost twice our current annual growth, the forestry task before the Nation becomes clearer.

The South has a Great Opportunity and also a Large Responsibility

The South has pointed with justifiable pride to its vast acreage of forest land. It has extolled the virtues of the remarkably prolific and commercially useful species which are so widespread. It has not been slow to appreciate the natural advantages of easy logging conditions. It is beginning to realize the opportunity for integrated management to produce naval stores, pulpwood, poles, piling and sawlogs. Even stock raising is recognized as having a place in southern forest management. And the South knows that the products of its forest industries are in demand in the great industrial and agricultural zones of the north and central states.

But I wonder if the South has realized the extent of its responsibility to the Nation in meeting future timber requirements. Balancing all factors in the various regions it seems likely that the South should supply about half of the Nation's future output. Now let's see where we stand in relation to such a goal. Before the forests were subjected to the accelerated depletion incident to the war, current growth in the South, exclusive of the mountain region, was estimated at 5.6 billion cu. ft. with 18.6 billion bd. ft. of sawtimber. Evidently to supply half of a national goal of 21.4 billion cu. ft., it will be necessary to double current annual growth in the South.

Considering that second growth pine stands are now less than 50 percent stocked, this goal is not at all extreme. But, let us not be deceived as to the magnitude or difficulty of the job! Our forestry team will have to fight hard and long to overcome the obstacles which lie between it and the goal. We shall have to work shoulder to shoulder, using every formation that offers promise of advancing the ball.

Tactics which have been tried in the past have not proved adequate. The kind of progress experienced in the years before the war in my judgment does not justify the over-optimism and complacency that are so prevalent in the South. Without allowing for disparity in the basis for the estimates which would tend to exaggerate the change, the figure for annual growth in 1938 was only 0.8 billion cu. ft. greater than that used for 1930. Thus, even if that increase could be accepted at face value, we could not hope to double the growth in less than 50 or 60 years. But we cannot be sure that even such a prospect is justified. The apparent increase in annual growth in the years preceding the war developed when the annual cut was largely supplied by stagnant old growth. Now almost all of the cut must be borne by second growth. And a huge pulp industry has arisen to impose an additional demand of 7 million cords annually upon the young timber.

I want to tell you what impressions I gained from about 8 weeks traveling in the South and talking with informed people. I was encouraged by the number of owners who are really getting into sustained-yield management and I saw a lot of forest land in good condition. But my impression is that there still is much more bad than good forest practice. I think you will all agree that heavy cutting, and particularly premature liquidation of promising young timber, is working with uncontrolled fire to hold down the volume of growth accruing each year. In some sections it may lead to a shortage of trees available for turpentine.

I am appalled by our failure to solve the problem of fire control. When I drove from Jacksonville to Lake City, Florida, last summer I saw practically no country outside the relatively small area state-protected or federally-owned, that had not been burned hard during the previous winter and spring. We shall have to break up this combination of destructive cutting and uncontrolled fire if we are to make any real progress toward the goal.

Let me repeat, our future national welfare requires that forest productivity in the South be doubled. You have, therefore, a responsibility going much further than striking a balance between growth and drain at whatever level you happen to find yourselves. But in this goal also lies the chief hope for much of the industrial expansion so eagerly sought by the South.

Federal Aids Facilitate Progress

For more than 20 years the Forest Service has been laying the groundwork for this increased production and industrial expansion through its farflung research on the growth, reproduction and management of the principal commercial species, on forest planting, on the economics of forestry in the region, on increasing the efficiency of naval stores operation, on methods of seasoning lumber, on the chemistry of pulp and paper making, etc.

For a similar period the Federal Government has been aiding and encouraging the States and the landowners in the protection of forests from fire. Considering the traditions of the region accomplishments in this field are substantial. The problem is especially difficult because controlled use of

fire in the woods appears to have a legitimate place - at least in the longleaf pine belt - in keeping inflammable undergrowth under control, in aiding reproduction, especially of longleaf pine, and in maintaining desirable forage conditions for livestock.

Through the various State and Federal agencies the Government has also worked to give the people an understanding of and interest in the forestry game. Particularly significant are the farm marketing projects inaugurated during the past 2 years. In each of these projects a competent technical forester is put to work, studying the problems and needs of farm woodland owners in an area no larger than he can deal with on the basis of personal acquaintance. Especial attention is given to helping the owners market most advantageously the timber that needs to be cut, and to advising them on the best methods of cutting. Results so far indicate that this is an effective way of making good players out of the thousands of small owners.

I will not take time to mention other forms of cooperation that have been recommended or extended to private owners to encourage good forest management.

Getting the Signals Straight

One of the most important matters we must decide if we are to advance toward the goal is who is going to carry the ball. In general, I think we can all agree that as far as possible the private owners should carry the ball themselves. But there are areas of such low productivity that private owners cannot be expected to carry through. In other localities commercial forests have been so extensively stripped that restoration will involve several decades. Because private owners are likely to drop the ball under such circumstances, the public must stand ready to pick it up and carry on.

The necessity for public ownership of forest lands in the South is doubtless much less than in the mountains and critical watersheds of other regions. But let's not overlook the signal for public acquisition and let's be ready to use that play to the extent necessary to maintain progress toward our goal.

We will need quite a variety of plays to provide suitable opportunities for private owners of all sorts to carry the ball. A few have had many years of successful experience in this forestry game. They have shown such resourcefulness and ability that all we need to do is give them the ball and let them drive ahead.

For the vast majority, however, our signals will need to provide protection against possible tacklers. One play holding promise for progress is for a large group to move forward together, pooling their strength by organizing for joint action in a cooperative association.

Numerous instances will occur where an owner is thrown back when short-sighted liquidation by his neighbors deprives him of adequate primary outlets for his timber. Or again operators seeking to maintain good forestry standards may find the growing stock upon which they must depend for their future raw material supply undermined by the indiscriminate cutting of competitors. To meet

such contingencies, our signals must provide that the public provide protection, such as is contemplated in our proposals for the regulation of cutting and related practices on private forest lands. This, I believe, is essential to keep the field clear for effective running by all owners, large and small.

It is at this point that our team has not pulled together. Every time the signal is called for the public to join the play in this way, someone calls for time out and argues for a different strategy. Apparently many of the players want only to be given a free hand, notwithstanding the fact that games are won by coordinated team work.

Are the Rules Adequate?

But, I must hasten to add that I do not wish to imply that the confusion which arises when the signal for public regulation is called is due solely to selfish interest. What is really being expressed is difference of opinion as to the adequacy of the rules of the game. In advocating public regulation, I am suggesting that new rules are needed. In this I am sensitive of what is taking place in other regions as well as in the South. In respect to forest resources, this country has now reached a point where it can no longer rely primarily on the virgin stands. In hundreds of localities throughout the country, depletion has reached such an advanced stage that we can no longer escape the necessity of doing something more comprehensive and more effective than our limited efforts to date. Under the old rules, too many people are being hurt.

In the course of human affairs our concepts of government and interdependence undergo progressive change. We have never experienced total war before. It should be apparent by now that the playing field is bigger than it used to be. We can never go back to the assumptions of national isolation which dominated so much of our thinking before the war. And as a corollary to this it is inevitable that we must temper our desires for individual freedom, and concede that government must have broader controls to fully serve the public interest.

The war is showing us that the game must be played much faster. Rules that might have seemed adequate under a 60 or 70 billion dollar national economy will not suffice at a tempo of 130 billion dollars annually. The game is also going to be more open because of improvements in transportation and log handling. More players will be in action that counts because we shall have to depend so largely on the small owners and the small operators. Such a game requires stronger controls and closer coordination.

Some of the players particularly those connected with the forest industries, object to rules controlling cutting and related practices because of their experience with restrictions imposed by war agencies. But the arbitrary edicts necessitated by war must be differentiated from basic rules to protect the public interest at all times. The forest regulation that I have

advocated does not involve interference in ordinary business transactions; neither does it impose a load of reporting and accounting. The cost need not be excessive.

Another source of confusion is the unfounded assumption that because the Forest Service has advocated rules for a better game, it is seeking authority for itself. It has been charged that regulation of cutting and other forest practices means displacing private enterprise and taking over management of land or industry by the Government. My recent address to the National Lumber Manufacturers Association in Chicago entitled "A Forest Program to Help Sustain Private Enterprise" should dispel any such misapprehension. In the Forest Service we fully appreciate that administration of regulation will involve plenty of "headaches" and endless hard work. The "power" which some people picture as so alluring will return no benefits to those charged with responsibility. Regulation is not an end in itself. The easy course would be for us to avoid it altogether. But the Forest Service has a Nation-wide responsibility that it cannot avoid. It believes that new rules must be adopted and it counts on responsible organizations like this to consider the need objectively.

The States now have the power to keep forest lands within their borders reasonably productive. I have suggested that general standards of forest practice be defined in federal legislation, but that the federal government take direct action only when the States fail to enact and enforce suitable legislation. However, I want to emphasize that "Rose Bowl" or "Orange Bowl" rules cannot be left to each contestant to formulate as he pleases. If the national game is to be a success, the teams in all sections of the country must use similar rules.

Really, is there anything in the program I have recommended which would not encourage rather than impede the States in fully developing and protecting their forest resources and forest industries? From the standpoint of sheer self interest, it would seem that the South should welcome every aid and stimulus in developing the great potentialities of its forest resources.

Conclusion

In conclusion, it may be helpful to recall who are the real opponents in this forestry game. Neglect, fire, waste, destructive cutting, selfish interest, political interference, social exploitation - these are the opponents that have worked through forest depletion and deterioration to set us back dangerously close to our own goal line.

I have used this football analogy, knowing full well that it is far from perfect. Rarely can any such analogy be carried through without inconsistency. I trust it has served to express some things about which I am very much in earnest in a way which will appeal to your imagination. And if as a result we can agree on what is the goal of forestry in the South, it may lead to more sympathetic understanding and more constructive discussion of the details of procedure.

So let us ask again, "Where are the Goal Posts?"

Are they at the line of maintaining unlimited independence? The formation of this cooperative association should provide a convincing object lesson on the futility of complete individual independence when a common interest is to be served.

Are they at the point of balancing forest drain against annual growth? Not if the level of a pre-war depression year is accepted as the measure of success.

Or are they set far out in the public interest, where the South's expanding forest economy will yield half of the generous output of a prosperous Nation?

A wise answer to this question and a determined effort to achieve the goal is of the utmost importance. Dependence on wood in wartime is so critical that the Nation cannot leave the future to chance. The next generation will not have an abundance of virgin timber at its disposal as we have had.

The Nation is looking toward the South for a far-sighted forestry program. It counts on the united effort of landowners, timber operators, manufacturers, conservation agencies, and the public. It sees the crossbar of social progress for the South held proudly aloft on the twin goal posts of sound industrial development and forest management yielding double the present annual growth.

Beyond this goal, in a very real sense, will be found national defense and security.

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A FOREST PROGRAM TO HELP SUSTAIN PRIVATE ENTERPRISE

Address by

Lyle F. Watts, Chief, Forest Service

at meeting of

National Lumber Manufacturers Association

Chicago, Illinois, December 13, 1943

Introduction

I am glad of this opportunity to discuss with this forest industry group some of the problems which face the forestry enterprise in America. It will make for progress and understanding if you, who have a direct financial stake in our forests, know the views of myself and the public organization which I represent.

I do not believe it necessary to spend much time here discussing the basic facts of the forestry situation. You know, as well as I do, that the situation is not satisfactory. You know that timber depletion has curtailed industrial activity in many communities and will have a like effect in many more. You know that much too little of present day cutting on private lands is according to good forest practice. You know that much second-growth timber is being cut prematurely. You know that almost 60 percent of the forest land in the South is still without organized fire protection. You know that annual sawtimber growth is far below the level of what can and should be used in an economy of abundance.

On the other hand, you are well aware of the increase in good forest practice on private lands in recent years. The number of owners, who have adopted long-range forestry programs, leaves no doubt that private forestry is a practical proposition. And it is my impression that the

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owners whose forestry programs have been most successful have not been content with minimum practices to keep their lands productive. They have generally found it advantageous to go into timber growing more intensively and to organize for sustained yield.

I suppose that if we were not concerned about maintaining wood as an important and generally available material for construction, fabrication, and chemical conversion, we could be content with the gradual spread of good forest practice. But we are concerned about the markets for lumber and other forest products and we do not want to have those markets impaired by scarcity and the competition of other materials. So we cannot complacently accept the cumulative depletion of productive growing stocks in the East and the unsystematic liquidation of virgin timber in the West which inevitably undermine those markets.

A Three-Point Program

I have been studying this forestry problem from the standpoint of the welfare of the people and the Nation for many years. I have been close to the situation successively in the Intermountain Region, the Inland Empire, the Lake States, and the Pacific Northwest. During the past year I have traveled widely in the East and South, absorbing what I could from all sources, including forest owners and operators and the woods themselves. I am convinced that the public must act in a far more comprehensive manner than heretofore to stop destructive cutting, to facilitate good practices by private enterprise and to acquire such lands as may not otherwise be given the management dictated by the public interest. I believe that such public action will prove beneficial to the forest industries.

The public action which I believe to be necessary has three equally important elements. It may be likened to a tripod used by the surveyor to obtain firm support for his instrument on uneven ground. Three legs are the minimum needed to get firm support and three legs are easily adjusted to a variable base. Our program must stand firmly throughout the country on the uneven ground of forest depletion, growth capacity, logging conditions, economic environment, ownership status, and attitudes. It must be adaptable to frequent and perhaps drastic changes in these conditions. Its three legs give it that stability and adaptability. Take away any one of them and our instrument for progress will be out of balance.

Public Cooperation

The first leg of our tripod is public cooperation with private owners. Our American democracy is based largely on private enterprise. We want to encourage private enterprise in every legitimate way to provide the production, the employment, and the security upon which the welfare of the people depend. In the past we have placed major emphasis on public aids and cooperation to establish forest conditions for permanence and stability in the dependent industries, and to protect watershed, recreational, and other values inherent in forest lands.

Cooperation from the Federal Government has been a potent factor in the increasingly effective fire protection in most of the States in forested regions. Federal aid and action have been invaluable to the States and to forest land owners in the control of forest insects and

diseases. Government statistics on forest resources; the production and distribution of forest products; lumber, log and stumpage prices; etc. are constantly used by the forest industries in the conduct of their business.

Federal aid has made possible the employment of extension specialists to work with the farmers in 43 States for better woodland management. By reason of federal grants, forest planting stock has been available to farmers at very low cost, though on too small a scale. Advice and aid on forestry problems have been included in the programs of the Soil Conservation Service and the Farm Security Administration. During the past year the services of 82 foresters cooperatively employed by the State and Federal governments have been made available to farmers in 296 counties to aid in the development of regular woodland income by proper marketing of forest products. And I do not refer here to the Timber Products War Project sponsored by the War Production Board to stimulate output of small mills.

Through the regional forest experiment stations and the Forest Products Laboratory, the Government provides a program of research. This is constantly improving the technical basis for profitable forest management and for more efficient processing and use of wood. It is also opening up new fields for wood utilization.

It was research that defined the relations between weather and fire that now permit localized forecasting of fire danger. Research was needed to discover how to combat bark beetles and blister rust, and

how to protect seedlings in forest tree nurseries from damping-off and white-grubs. Through research we are learning the conditions necessary for successful reproduction of commercial species. Research has shown how profits may be increased by selective cutting that leaves the smaller trees to grow. Among the many contributions to better processing and use of forest products, I need only mention that research developed methods of kiln-drying which represent savings of millions of dollars in transportation costs now that the country depends so largely on the deep South and the far West for its lumber supply. Although the value of thorough-going research can hardly be overestimated, public service in this field, except for the work in forest products, has been curtailed year after year.

The leg of public cooperation can and must be made much stronger to bear its share of the full load of the timber-growing enterprise this country needs. To this end the Department of Agriculture reported favorably on two bills broadening public aid to forest landowners that passed the Senate last summer. One of these increases the authorization for cooperative fire protection; the other provides for cooperative sustained-yield management of federally administered and intermingled private land. The Department has also reported favorably on bills to provide the authorization needed to complete the Forest Survey and keep it up-to-date.

To strengthen the leg of public cooperation technical advice in the preparation of management plans and in utilization problems should be made generally more available. Assistance should also be available for the establishment of small-owner forest cooperatives. Public credit facilities should be broadened more adequately to meet the needs of those striving

to build up depleted forest properties and to organize for sustained yield. Insurance on standing timber should be underwritten by the Government. Taxation should be adjusted so as not to impose inequitable burdens on the forestry enterprise.

Public Acquisition

Since private enterprise alone cannot and will not solve the Nation's forestry problem in all its ramifications, we must look to the second leg of our tripod -- public acquisition of certain forest lands. Within the borders of national forests and purchase units already established are 50 million acres of private land. Of these some 36 million acres should be acquired by the public. The Forest Service, in collaboration with State forestry officials, has estimated that, for reasons of public welfare, perhaps 50 million acres outside of existing national forests and purchase units, should be given national forest status. For perhaps another 50 million acres, State or community ownership seems desirable.

Public acquisition is advocated primarily for lands unsuited for private ownership. For example, productivity of a large portion of the Ponderosa pine country is too low to provide adequate incentive for timber growing to private capital. Other lands lie at such high altitude or in such rough and inaccessible country as to be unattractive for private ownership after the original timber is cut. Still other lands have been so denuded as to offer no prospect of income for many decades. Unless held as part of a generally productive property, private ownership cannot be expected to rehabilitate such lands. Public ownership is also needed

to insure proper management for certain lands where watershed or recreational values predominate. Finally, it is important that the Government own certain tracts of good timberland that vitally influence timber management on adjacent national forest lands or affect the welfare of dependent communities.

For a number of years the rate of public acquisition of forest land has declined. This reflects a general lack of appreciation of the magnitude of the country's forest problem. Whether we like it or not, a substantial increase in the acreage of public forest ownership is inevitable. The adjustments involved will be easier and problems of restoration simplified if the necessary acquisition can be systematically and expeditiously carried forward. Legislation recommended by the Federal Real Estate Board for more dependable financial contributions to local governments should facilitate a more adequate purchase program.

Public Regulation

The third leg of the tripod, needed to safeguard the opportunity for private enterprise, is public regulation to keep reasonably productive all forest lands outover in the future.

I can add little to the ideas on forest regulation included in my annual report to the Secretary of Agriculture, a preview of which constituted a widely publicized speech that I made at Milwaukee in September. In brief, I believe that basic Federal legislation is needed to assure satisfactory standards and nation-wide application. These standards should:

- (1) Provide for protecting forest lands against fire, insects, and disease, and
- (2) Safeguard proper use of forest lands and prevent improper exploitation by
 - (a) Providing for adequate restocking after cutting,
 - (b) Prohibiting premature or wasteful cutting in young stands,
 - (c) Providing for reserving a sufficient growing stock of desirable trees to keep the lands reasonably productive,
 - (d) Preventing avoidable damage to uncut trees or young growth,
 - (e) Regulating grazing to prevent damage to tree growth and protect the watershed, and
 - (f) Prohibiting clear cutting except where it is silviculturally necessary or the land is to be put to some other suitable use.

Believing that the States should be given the opportunity within such a framework to shoulder the responsibility for handling regulation within their borders, I have suggested that the Secretary of Agriculture be authorized to take direct action only where suitable State legislation is not enacted and where enforcement or the practices established are not adequate. At the outset, however, the Secretary of Agriculture would set up a representative advisory council at the national level through which the groups most directly concerned in the application of the law could express their views on any phase of its administration.

There is ample precedent for the belief that enunciation in legislation of soundly conceived standards of forest practice will bring order out of chaos and supplant suspicion on the part of industry by whole-hearted

cooperation for the common good. Certainly those operators who are already practicing sound forestry would have nothing to fear. And the confidence with which organized industry is encouraging enlistment in the "Tree Farm" movement would be ill-founded if the imminence of such public regulation threatened to undermine the position of those who had made the effort. In my opinion public regulation will prove to be a most effective educational tool. Arbitrary application as a punitive measure would doom it to failure.

I must say a word about the potentially splendid publicity regarding the Nation's forestry enterprise sponsored by the forest industries. It seems regrettable to me that so much of this gives the impression that little not already being done on private land is needed to assure the Nation ample timber supplies for the future.

I know, of course, that there is honest difference of opinion as to the need for public regulation of cutting practices on private lands. Then, too, among those who recognize the need, there is room for differences as to whether state or federal control is most desirable. Although industry spokesmen take pride in the part industry has played in the adoption of State regulations for fire protection and in initiating cutting regulations in a few states, I know that many, probably most of you, really are opposed to any extension of either State or Federal regulatory powers.

I am at a loss, though, to understand the obvious attempt by opponents of the regulation I have advocated to write into my statements ideas which simply do not exist. Does it lead to real public understanding to broadcast the idea that I seek to displace private enterprise by nationalization of the forest industries?

I doubt if any of you would claim that the railroads, the public utilities, radio broadcasting, the meat packing industry, or industrial labor itself has been "nationalized" because they are subject to federal regulation. And nothing in the regulation of forest practices that I have advocated could be rightly characterized as nationalization. It does not contemplate taking over industry, nor acquiring forest lands that private owners desire to hold. It does not dictate how much or when an owner may cut, nor who he shall hire to do the work. It deals only with preventing forest destruction and deterioration and keeping forest lands reasonably productive -- indubitably matters of great public concern.

In closing, I repeat that many of you approach this problem with a different philosophy than I do. Perhaps we cannot get together. In the final analysis the people must decide. My concern is that they be fully and frankly informed. An issue so vitally affecting the welfare and security of the common man can and must be resolved in the public interest. The program I have suggested to assure ample supplies of forest products at prices within the reach of the man on the street and the farm, provides a firm foundation for thriving and diversified forest industries.

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THE NEED FOR THE CONSERVATION OF OUR FORESTS

Address by
Lyle F. Watts, Chief, Forest Service
at meeting of
Friends of the Land, Chicago, Ill., Nov. 12, 1943

Recently, in an address before a section of the Society of American Foresters at Milwaukee, Wisconsin, I discussed the Nation's forest situation. I presented the need for reasonable public control of the treatment of private forest lands. In commenting on that paper, a friend of mine in the National Lumber Manufacturers Association alleged that, "In normal periods the basic American forestry problem is not one of scarcities but of surpluses, not of timber famine but of timber abundance." Today I want to explore that philosophy because, if it is true, there is really no occasion for much concern about forest conservation.

If I sense the times rightly, an economy of abundance is a major world objective--widely recognized and earnestly striven for as an essential element in a lasting peace. This certainly was the keynote of the recent United Nation's Food Conference at Hot Springs, Va. There freedom from want of food was declared to mean "a secure, an adequate and a suitable supply for every man." To make this ideal a reality, it was estimated that 40,000,000 additional acres would be needed for increased food production in this country.

Some of this land will come from areas now in forest. This reverses the thinking of the depression years, when reduction of the acreage in cultivation and reforestation of submarginal farm lands were given major emphasis. But the acreage available for timber crops has always been ample. So the philosophy of abundance which dominated the Food Conference when applied to forestry throws the emphasis where it belongs -- not on the acreage involved, but on forest productivity and proper management.

The amount of useable wood that can be supplied annually as a crop depends as much upon the volume and character of the growing stock -- or forest capital -- upon which growth accrues as upon the acreage and fertility of the land. If lumber and other forest products are to be generally available at reasonable cost, it will be necessary to maintain, well distributed in all forest regions, a stand of timber capable of yielding in annual growth more than enough merchantable wood for the country's needs.

In discussing this question of scarcity versus abundance, I want to make it clear that forestry is something more than boards, ties, cordwood, and other forest products. To me forestry has a human side. It encompasses permanent communities with prosperous industries and a stable tax base. It means good schools, public health, and attractive homes. It means security for the worker to invest in a home and for the butcher, the baker, and beauty shop keeper to invest in a business. In short, what I am interested in is the extent to which our forest resources may contribute to a better livelihood and greater happiness for all the people.

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I must confess that I cannot rationalize the economic thinking of my industry friend who in one breath says, "We want forest products at low costs now and in the future," and in the next postulates that abundance constitutes an obstacle to attaining that goal. Evidently the lumber industry has an entirely different philosophy than that which motivated the United Nations Food Conference. But since the crucial factor is the existence or lack of surplus timber supplies rather than whether we view such surpluses as liabilities or assets, let us inquire where these surpluses may be.

Are the timber surpluses in New England?

I took a trip up there this summer and saw plenty of forest acres but not much merchantable timber. Seventy percent of New England is forest land, but 75 percent of all the wood products consumed in New England comes from outside the region. The only evidence of surplus, so far as I know, is in small low-grade material which cannot be marketed even under the intense demand of the huge industrial population.

The hurricane of 1938, followed by abnormal wartime requirements for box boards, has left only scattered remnants of merchantable white pine in central New England. Scarcity of stumpage forced several of the leading operators in Massachusetts to move out of that State last year. Even in the wild lands of Maine, most of which have been gone over several times by logging operations since Colonial times, the average cut of pulpwood, taking all that is considered merchantable from the ground, is estimated at only 4 cords per acre. Such an average certainly implies no troublesome surplus of available timber.

But don't take my word for it. After all, I have only been in New England a couple of times. Listen to what men who have been intimate with New England conditions for years have to say.

Victor Cutter, prominent businessman and recently Chairman of the National Resources Planning Board for New England wrote in 1943, "The situation is ghastly here at present. I have not seen any decent lumber coming out of New England." And Henry Baldwin of New Hampshire in a recent report of the National Resources Planning Board on "Forestry in New England" declares, "Present conditions obviously demand some sort of improvement Only a drastic reversal of present cutting practices together with more effective protection can restore adequate growing stocks."

Are they in Pennsylvania?

Not so many generations ago Pennsylvania was the leading source of the Nation's lumber supply. In 1941 it ranked twenty-third among the States with an output of less than 1 percent of the total. The original pine forests have been largely replaced by scrub oak and other hardwoods as a result of fire following logging.

The anthracite region, about two-thirds of which is forest land, highlights the results of forest depletion. Here the coal mines require huge quantities of timber which the adjacent forest land is capable of producing. Yet "operators scour the country for timber large enough to make props" and find only one-third of the amount needed. Only 9 percent of the forest can be classed as sawtimber.

Are they in Virginia?

The Forest Survey for Virginia showed sawtimber growth in 1940 some 25 percent in excess of drain by cutting. So perhaps we should find the timber surplus here. But of what significance is an excess of growth over drain when lumber output is only about half of what it was 30 years earlier? The decline in Virginia's lumber output is a reflection of sawtimber scarcity. Stands with as much as 8,000 board feet per acre occupy less than 4 percent of the total forest area. More wood was consumed by non-lumber use than for lumber in 1940.

And when we examine this margin of growth we find that it is chiefly in the inferior Virginia pine and in oak less than 20" in diameter. In the Piedmont, if cutting continues at the 1940 rate, all loblolly and shortleaf pine over 13" in diameter will be gone in 30 years. And wartime increases in cut for the Coastal Plain in all probability have stopped the upward trend in loblolly and shortleaf pine growing stock noted there in 1940.

Are they in the Appalachian Mountains?

The hardwood forests in this region have been exploited for many years. "Creaming" has removed most of the better trees and the residual stands are usually of poor form or defective. Logging is difficult in the rough mountain territory so that once the high-grade timber has been removed from the "coves" it is often impractical to operate the poorer timber on the slopes. Repeated logging of the larger holdings has left much of the residual timber scattered in small tracts, often held by non-resident owners. Operators now face the necessity of ferreting out such tracts to maintain production. And a destitute rural population is urgently in need of a more adequate resource.

Another indication that this region is not burdened by a surplus of merchantable timber is the suggestion of lumbermen that National Forest timber be sold during the war without competitive bids to the operators most urgently in need, because bidding runs the stumpage prices too high!

Are they in the Deep South?

The Coastal Plain and Piedmont regions of the Deep South contain over 150 million acres of land wonderfully adapted to tree growth but not well suited for other purposes. All but a small fraction of the old-growth timber has been cut so that any surplus must be in second growth.

Almost three-fourths of this great acreage is in thrifty second growth, yet the growing stock is rated at less than half of what it should be. Some 10 million acres, mostly in the longleaf pine belt of the Coastal Plain, lie denuded. Only one-fourth of the total cubic volume of pine is sawlog material and almost three-fourths of that is in trees less than 16" in diameter. In spite of the ease of reproduction and the exceptionally rapid growth of the more valuable pines, hardwoods now account for almost 60 percent of the cubic volume of all trees.

With the rapid disappearance of old-growth timber the number of large mills has steadily declined. Closing of several mills in communities primarily dependent upon the forests has been reported in the press during the past year.

Recently one of the leading lumbermen of the South told me that 5 years hence only two major sawmills would be left in Florida. The young second growth is being combed relentlessly by thousands of small mills. And in addition a giant pulp industry consuming more than one-third of all the pulpwood used in the United States is now competing with the sawmills for desirable stumpage.

Perhaps the second growth in this region has been most prolific in southeastern Arkansas. Here, if anywhere, the alleged problems of surpluses should be observable in the community. But a trip through that section left me with impressions of prosperous towns and active, satisfied people; quite in contrast to what I saw in sections where timber was not so plentiful. Timber growing is a common topic of conversation in southeastern Arkansas, but I found no one complaining about too much.

Since we do not find surpluses a problem in regions where growth has been prolific, we must look to the West where the impact of industrial use has been more recent, and where original stands were heavier, if not more extensive. But before doing that, let's take a look at the Central and Lake States where timber depletion has been most severe.

What about the Central States?

The timber supply is vital to the great agricultural States of the Middle West. The situation became so acute in 1942 that two large farm cooperatives bought sawmills in distant forest regions in order to be sure of having the lumber they needed.

Had the forests of this region been given proper care from the beginning, farmers might still be able to meet many of their needs from local timber. Most of the older barns in southern Ohio and Indiana, for example, were built of yellow poplar. Yellow poplar grows almost as fast as any of our softwoods and is just as easily worked. But today it is far too precious to put into barns. It is no longer a significant part of the stock of the local lumber yards.

All the big pine operations are now gone from the Missouri Ozarks. Output of softwood lumber in Missouri in 1942 was only 30 million board feet. Yet in 1899 most of the three-fourths billion board feet of lumber cut in that State was softwood.

Throughout the hill country from eastern Ohio to western Missouri, millions of acres of once magnificent hardwood forests have degenerated into mere brush cover. Many of the hardwood industries of the Ohio and Mississippi Valleys must now pay heavy transportation charges for raw material from other regions in order to continue operation. Some of them face extinction.

Forest depletion and soil deterioration have left a relatively heavy rural population poverty-stricken. Here the blighting effects upon people of the exhaustion of national resources should dispel any illusion that scarcity is not a critical social problem.

What do we find in the Lake States?

The Lake States affords one of the most serious chapters of our forest history. Here are some 52 million acres of generally level forest land,

favorably located with reference to important industrial and agricultural sections. Extensive clear cutting and uncontrolled forest fire have made a large part of this area an economic liability.

This region, whose forests housed the cornbelt and rebuilt Chicago after the great fire, now imports five-eighths of the lumber needed to meet its own requirements, even after these have been curtailed to about 70 percent of the level which prevailed in the 1920's.

The white pine and red pine which contributed so bountifully to the development of the Middle West are now little more than memories. Although some old growth--chiefly hardwood--still remains, the most significant aspect is the large proportion of inferior species, notably jack pine and aspen, in the second growth.

More than two-fifths of the cubic foot growth is of aspen--a short-lived species of limited use. Should we cite this as a surplus, since most of it will rot and die before it can be used? Perhaps, but don't lose sight of the fact that output of lumber in the Lake States dropped from 8-1/2 billion board feet annually for the 2 decades prior to 1900 to about three-fourths of a billion in 1938 and 1939. And even under all the pressure for war production it did not rise above 1-1/4 billion in 1941 and 1942.

While we read of the closing of large sawmills at Rhinelander and Oconto, Wisconsin, during the past year, second growth in Minnesota is being exploited to supply Wisconsin pulp mills. And uncut timber is so scarce that destructive logging operations are being pushed into the rough and scenic Porcupine Mountains in spite of a storm of public protest against clear cutting. In the press competent foresters are reported as saying that at the current rate of cutting "less than five years will see the finish of this last great harvest of Michigan hardwood."

Can Surpluses be found in the Inland Empire?

The timber of Idaho and Montana was almost untouched up to 1900. But the wave of depletion is rolling through this country with startling speed. In Idaho the 5 northern counties were opened up first and were soon pretty thoroughly exploited. Output reached a peak of 705 million board feet in 1925. In 1937 it was only 292 million. Obviously payrolls in these northern counties declined in about the same ratio as lumber production. Towns like Sandpoint and Coeur d'Alene were hard hit -- and Spokane turned its eyes from the panhandle of Idaho to the Grand Coulee Dam.

The increased output now coming from the five counties farther south rests on a precarious base. Only one-tenth of the 10 million acres of forest in North Idaho is in white pine sawtimber---yet this tenth is bearing the brunt of current cut. White pine output is now 2-1/2 times what the forests can sustain.

Are they in Eastern Oregon?

I know well the ponderosa pine country of the Northwest. I make the flat statement that no major pine producing unit in that area can continue long to supply anything like its present cut.

In Klamath County, Oregon, the largest ponderosa pine producing center, not

more than 5 of the 14 large mills now operating will be in existence 10 years hence. Only 1 has reasonable assurance of more than 25 years. Woods workers face migration or possibly a shift to industries not now in the picture.

A similar situation exists on the Deschutes plateau to the north. The City of Bend, which doubled in population between 1920 and 1940, as the lumber business expanded, faces inevitable retrenchment 10 or 15 years hence. The Deschutes Plateau, where lumbering is the major economic activity, now produces about 400 million board feet annually. This is more than three times its sustained-yield capacity. An annual payroll of about \$5,000,000 is involved in the lumber industry here, but the impact of forest depletion will be felt by the merchants, the professional people, and the filling station keepers as well as by those employed in the sawmills.

Burns and Prineville are the sawmill centers for 2 Oregon units operating on a more stable basis. Large-scale lumbering is of more recent origin and operations have been carefully planned for integrated use of public and private timber. But there is not enough timber to sustain even these communities at the level of wartime cutting!

Are they on the West Coast?

Having looked in vain for timber surpluses in other important forest regions, we turn at last to the West Coast. It is possible that my friend believes that the fabulous forests of the Douglas-fir region alone are more than sufficient to supply the Nation's needs, for here in the rough mountainous corner of the country comprising only 6 percent of the Nation's commercial forest land is to be found one-third of all our standing sawtimber.

As forest depletion becomes more acute in other regions, we have come to draw more heavily upon the Douglas-fir region; and we shall have to continue to do so for many years. But this is costly. The freight rate to Chicago, for example, is about \$17 per M board feet. And it is easy to overestimate the importance of this region in the national picture. Even under wartime pressure for production, lumber cut from this region has not constituted much more than 25 percent of the total. The stand of hardwoods is insignificant. And in any realistic appraisal of future supply, it is unlikely that this region will account for more than 10 percent of the Nation's timber requirements after the accessible virgin timber has been cut.

But even within this region, the apparent surplus is local in character. The only area still largely undeveloped is a portion of southern Oregon. In the older districts, notably around Puget Sound, the bulk of the readily accessible sawtimber has been removed. Sawmills have shut down and pulp mills have assumed greater importance. The available stand is no longer as large as the growing stock needed to sustain a cut commensurate with the growth capacity of the land.

Several years ago business men of Gray's Harbor adopted a slogan, "Two billion or bust!" They reached their first objective - and then the closing of saw-

mills brought them close to the second when the war came to the rescue.

The lower Columbia River district with 170 large mills and 40 billion feet of sawtimber is already feeling the pinch of scarcity. About half of the private sawtimber belongs to 2 large companies. Most of the other mills face difficulty in getting the timber they need for long-time operation.

Additional evidence of scarcity of high quality timber needed for special uses is reflected in pressure to obtain Sitka spruce and Douglas-fir for veneer logs from the Olympic National Park. If surpluses were a major problem, why should the forest industries clamor so loudly to open the Park for logging?

Finally, it must be emphasized that a substantial part of the old growth timber reported in the Pacific Northwest is of doubtful accessibility. Only about half of it was in a zone that could be operated under the price relationships which obtained in the period 1925-1929.

Are Industry Forestry Programs Based on Timber Surpluses?

In spite of the assertion that "the basic American forestry problem is not one of scarcities but of surpluses," I question whether many of the leaders in the forest industries believe that to be true. The good forestry programs adopted by many private owners would seem to point to an opposite view. For example:

Was it fear of surplus that led the Great Northern Paper Company which already owned 1- $\frac{1}{2}$ million acres of forest land in Maine to expand its holdings in the years just before the war? Has Finch, Pruyn and Company in New York been worried about surpluses in pursuing its forestry program on some 200,000 acres in the Adirondacks for the past 20 years? And did the Armstrong Forestry Company, with some 84,000 acres in Pennsylvania, undertake thinnings in young stands under the pressure of surpluses?

Was it troublesome surpluses that caused some 35 pulp companies in the South, most of them established there within the past 10 years, to acquire almost 5 million acres of forest land as a backlog for the future?

Was it a prospective surplus in the South that caused such operators as the Johns-Manville Company, the Chesapeake Corporation and the Chesapeake-Camp Corporation in Virginia, the Superior Pine Products Company in Georgia, the W. T. Smith Lumber Company and the Alger-Sullivan Lumber Company in Alabama, and others to adopt good forestry programs?

Is it to defend themselves against the dangers of surplus that such owners as the Crossett Lumber Company and the Fordyce Lumber Company in Arkansas, the Urania Lumber Company in Louisiana, and the Southern Kraft Division of the International Paper Company employ technical foresters to designate what trees to cut? If so, the danger must be acute, because the Crossett Company believes it necessary to have one forester for each 50,000 acres and Southern Kraft had 70 men in its forestry department in 1941.

Was it a surplus that led the Nekoosa-Edwards Paper Company in Wisconsin to operate a forest tree nursery and plant trees each year? And was it because of a surplus that the Goodman Lumber Company in Wisconsin began to conserve growing stock by selective logging?

Was it a national surplus that gave the J. Neils Lumber Company the courage to undertake sustained-yield management for its relatively slow-growing ponderosa pine at Klickitat, Washington, and Libby, Montana?

Was it impending surpluses that led the Weyerhaeuser Timber Company, by far the largest private forest landowner in the West, to inaugurate a forestry program on its principal operations? And to establish the Clemons Tree Farm and the Vale Tree Farm in Washington for the husbanding of young timber? And I wonder if the Crown Zellerbach Company, West Fork Logging Company, and others who have adopted selective logging in the Northwest thought that surpluses might endanger the success of their operations.

Did a group of lumbermen in the Northwest deliberately undertake to add to a known surplus when they joined hands in the establishment of the fine cooperative tree nursery at Nisqually, Washington? And has the National Lumber Manufacturers Association itself been misleading timberland owners by encouraging them to enlist in the "Tree Farm" movement to grow more timber?

Frankly, I guess those folks, and many more I could name, undertook forestry because they were convinced it was good business in itself rather than as a response to regional or national timber scarcity. Nevertheless, all these industrial forestry programs clearly show that we are entering an era of timber growing and that the philosophy of timber exploitation must be left behind.

Perhaps the bug-a-boo of surpluses that has been raised is really one of excess sawmill capacity in some localities. At any rate pressure to liquidate speculative timberland investments has resulted in plant capacities that cannot be sustained and that frequently burden the operators with financial problems.

Or the bug-a-boo of surpluses may reflect the large volume of small, low-grade or inferior timber for which no assured market exists. Such material renders large areas unfit for commercial operation. Elsewhere it must remain in the woods often as waste.

I suspect that the real reason for the talk about surpluses is to counteract the suggestion that the public ought to require good forest practice on private lands. But the accomplishments of those timberland owners who already have forestry programs should convince anyone that destructive cutting is unnecessary.

My friend made reference to the "timber famine publicity of the last half century," which, he said, "has helped to put the forest problem in a false national perspective." I agree that folks won't freeze for lack of shelter. And we won't have to eat off the ground for lack of lumber to build tables,

chairs, and floors. But that is not the point. A strong nation needs an abundance of resources and wood is one of the most versatile and indispensable raw materials known.

As a matter of fact, the timber shortage publicity of a previous generation has not been discredited. It was a significant factor in the establishment of the National Forests. It helped crystallize sentiment for organized fire protection. And it contributed to the far-reaching educational effort which has brought perhaps one-fifth of the private forest land under management.

These are substantial accomplishments. But in spite of them, the fact remains that the Nation's timber stand was reduced at least 37 percent in the 3 decades between 1909 and 1938. We have seen how the basis for forest industry has been lost in many localities as local supplies waned. People already go without the lumber they might use if the kind they need were readily available at reasonable price. Without the constructive results of the early publicity, timber shortage might have been even more widespread and acute.

To gloss over the facts of forest depletion is dangerous. We cannot continue indefinitely to allow destructive cutting, fire, and other forces to hold annual timber growth below the level of what can and should be used in an economy of abundance. The war is now accentuating the Nation's forest problem. It has highlighted shortages of critical species and of high grade timber. It has led to premature sacrifice of young growth to meet the huge requirements for low grade lumber. Yet total consumption has been no greater than in earlier years when timber was more plentiful.

I want to close by stating my conviction that a comprehensive legislative charter is needed to give effect to a well-rounded national forest policy and to strengthen the foundation for timely post-war action in the forestry field. Such a charter should provide for:

1. Regulation of practices on private forest land under federal leadership in more positive form than financial aid to the States alone. The States, however, should be given opportunity to enact and effectuate regulation, meeting standards defined in the federal law, themselves.
2. Better protection from fire, insects, and disease, and a broadening of public aids to facilitate good private forest management.
3. Public acquisition of forest lands where watershed or recreational values are so important, or growth conditions so adverse, that private owners cannot be expected to give the management required by the public interest, and of certain areas of merchantable timber, control of which may vitally influence the management of adjacent National Forest lands or affect the welfare of dependent communities. There are perhaps 150 million acres of forest land now in private ownership for

which public acquisition is the only solution. For much of this the task is one of reclamation in its truest sense - the return of unproductive land to productivity. The present condition of the land is the result of social errors; its return to productivity constitutes a proper public function.

Enactment and implementation of such a charter will give substantial assurance that we shall always have productive forests with plenty of timber at prices that will encourage use. Failure to act means an aggravated scarcity - not of forests but of commercial timber. Action is needed not so much to protect investments in timberlands and manufacturing facilities, important though they are, as to sustain the livelihood of the common people and to protect the value of their homes.

By building a strong forest economy, making constructive use of one-third of our land heritage, the program suggested will provide "a secure, an adequate, and a suitable supply" of timber for every man and will contribute to the structure of security and better living, which we hope will mark an enduring peace.

CONTRIBUTION OF FORESTS TO IRRIGATION

Address by Lyle F. Watts, Chief of the Forest Service, read by Regional Forester Peck at the Annual Meeting of the National Reclamation Association, Denver, Colorado, October 28, 1943.

Water is life. Nowhere in our country is that more realized than here in our West. Nowhere is there greater interest in the water problem. No one is more appreciative of the day-to-day value of water than the irrigation farmer. No organization is more concerned with the relation of water to the life and development of our West than the National Reclamation Association.

Water is life because of its relation to the soil and to the growing of crops. And this is the aspect of it that today directly concerns both of us - you, the water users, and we the foresters, as wild land managers. You, representing many and varied reclamation interests, are concerned mainly with problems growing out of the availability and use of water. We, the foresters, are concerned with the problem as to how best to handle the forest lands on which much of the water originates so that thirsty farm lands may have maximum quantities of usable water.

Most irrigation water is derived from mountain country, high above and often far distant from the irrigated area. Some of this water comes from snow banks above timber line, but most comes from that great area of mountain land which lies below timber line but well above the Plains. Here fall the deepest snows, the heaviest and most dependable rains. This is the area mostly covered by forests.

This western forest of spruce, of fir, of pine, of woodlands and chaparral - and covering about 250 million acres, is a multiple-purpose resource. It provides a variety of benefits which affect us all in one way or another. It serves a wide variety of purposes. Its values are enormous and cannot be appraised in full.

As a producer of wood, this forest contains some two-thirds of the entire standing timber of the country. In some instances, it is so close to markets and the wood is so useful that almost every sizable tree has commercial value. Such forests are a temptation to strip off the rich crop regardless of consequences. The deteriorated condition of some areas today bears silent witness that some one harvested the timber with no thought for other products and services. The condition on other areas shows that the ripe timber can be removed without destroying the cover.

Within the forest grow many lesser plants - grasses, herbs, and shrubs. The forage on these lands now feeds over 4 million cattle and 16,000,000 sheep during a part of the year. This mountain area is also the home of much of our big game - elk, deer, bear. Furthermore, it provides recreation for millions of our fellow citizens who turn to the hills to escape the heat of the valleys and the plains.

In addition to its value for timber, forage, recreation, or other purpose, this forest land has an enormous value as a water producer. In some localities, its value for watershed purposes may far exceed the value of any

other product or service. It is the primary source of perhaps 90 or 95 percent of all the water supplies found west of the 100th meridian. It is the fountainhead of every western stream used for irrigation, power, or domestic supply. It is the area from which most ground water basins are replenished. On the other hand, it is also the area which, if mistreated, produces many of the floods and the sediments which damage reservoirs, canals, and ditches. Because of these forest values and because of these relations, you, the water users of the West, have a direct and immediate concern in it.

The relation between forests and water has long been recognized. The first forest "reservations" to be set aside from the public lands were for watershed protection. Since then, the Congress has further recognized this relation by creating other public forests, by authorizing acquisition by purchase, donation, and exchange, of land to be added to the National Forests, and by providing annually for forest fire control not only for timber production, but in the interest of navigation, water conservation and flood control.

Practically all water users recognize the value of forest land as a producer of water. The support which the National Reclamation Association has given the forestry movement confirms this. However, it may not be amiss for me to present some of the more recent findings of our research, which help portray how much forests and water have in common.

Our Forest Service research program covers many activities - timber growing and protection, the economics of forestry; range management, the utilization of forest products, and the effects of land management on water. Of primary importance to you is the last. At four of our six western experiment stations, studies of these water relations are in progress. Some deal with how much of the water is used by trees; some with the effect of forests on streamflow; and some with the relation of forests and other natural vegetation to floods and erosion. Some are laboratory studies, others use small watersheds - singly, in pairs, or in triplicate - to obtain the needed data. In all of them, the practical problems of forest and water relations are kept constantly in mind.

The results of this research in forest influences are badly needed. They are needed to provide the basis for the management of the wild lands on the important watersheds of our country. They are also needed to help in the solution of some of your water problems. Just now, even though so badly needed, because of wartime conditions this research is on a strictly maintenance basis.

Now for some highlights from this research in forest influences.

1. Water users are interested in sustained streamflow. Each day that snow melt is delayed, each day that high flows are maintained, the more valuable water becomes, especially to those using water directly from the streams.

Our research is finding that snow accumulations last longer in young stands that have been thinned than in dense woods. Consequently, it is believed that small openings here and there in sapling stands will help in delaying the snow melt. Best results are obtained when these openings are given a somewhat circular shape with a diameter about equal to the height of the surrounding trees. Snow that is held by the

branches gets to the ground, it is blown into these openings, it is shaded from the sun and protected from evaporation, and melting is delayed. How much the peak flows from a treated watershed can be retarded and how much longer the flow will be sustained as a result is yet to be determined. Also not yet determined is whether the operation will be a profitable one.

2. Water users are interested in the amount of water available for reservoir storage.

It now appears possible that application of certain forest practices can actually increase the water yield. The Rocky Mountain Forest Experiment Station has learned that additional run-off can be obtained by certain treatment given the high-mountain lodgepole pine forest. By a selective process which removes certain types of trees with large and heavy branches, a number of water losses can be prevented. First, there will be a saving of some 3 inches of water which otherwise would be lost through evaporation of snow caught by the crowns and which never reaches the ground. Then, another inch or more of the summer rains can be saved from evaporation. Although these summer rains in the Rockies do not generally increase stream flow, they do maintain the soil moisture so that at the end of the summer season, the soil is not thoroughly dried out. Consequently a smaller volume of snow melt is required to satisfy the moisture deficit and thereby to produce flow. All in all about 5 inches of water can be saved and made available through the kind of cutting practiced in this mature forest. If we can continue to get the same kind of results as we have in the past three years, in some areas at least, it may be possible to make available more water for irrigation purposes. This treatment is also practical from an economic standpoint as it produces timber enough to make the operation profitable.

3. Water users are also interested in the amount of water used or transpired by vegetation.

Although the western studies are not yet far along, results from two eastern studies are of interest. In one, a study of the amount of runoff from a small water shed and including both surface and sub-surface flow, indicated that as much as 18 inches of water could be transpired by hardwood forest during a single season. However, it should be remembered that this was in an area with 80 inches of rainfall annually, that the trees were those with high moisture requirements, and that their roots were close to the water table throughout the entire growing season. The results of this study support the belief held by many throughout the west that cottonwoods and related vegetation along ditches and in areas with a high water table, will use about as much water per acre as farm crops. But, before you cut down all our willows and cottonwoods, be sure that the shade, beauty and comfort of these trees, to say nothing of the firewood being produced, are not worth their cost in water.

Those of you who have watched the hourly flow of the smaller streams are acquainted with the daily variation in flow--highest flow at night, lowest flow during the hottest part of the day. We have

found that when the moisture-loving vegetation, even the brush, is removed from along stream banks this periodic drop in the afternoon was eliminated. Just how much water may be saved on the average we yet do not know. Indications are that it may amount to as much as 5 percent of the daily summer flow in some localities. What such treatment will do to the fishing remains to be seen; it may be so harmful as not to be desirable, even if economic.

4. Water users are also interested in knowing in advance how much water is to be available in the streams.

Although snow surveys are enabling excellent predictions to be made for water from the snow-pack, the increased flows from summer storms has heretofore been neglected. The Southwestern Forest and Range Station has, however, developed a method of predicting the summer flow delivered by Salt River into the Roosevelt Reservoir. This forecast, based upon the behavior of one of the small streams on the Sierra Ancha Experimental Forest, has permitted some astonishingly correct predictions. However, because of the great variability in summer rainfall and plant cover conditions, much greater refinement is needed before the method can be applied generally. At the Appalachian Station in western North Carolina, somewhat similar forecasts have been surprisingly accurate and are coming into use by the TVA and various power companies as a basis for operating hydro-electric reservoirs and plants.

5. Water users are interested in getting water for their crops when it is needed.

Since 1914, our Intermountain Station in Utah has had two small high mountain watersheds under observation. At first, one had a fairly good cover and the other a scanty one. Both were grazed in such a way as to maintain the density uniformly throughout the first five-year period. The surface runoff from the area with the scanty cover during the first 5-year period was 2.5 times that from the area with a denser cover. This excess water came off mostly as flash floods and carried 25 times the silt load of the other. After several years during which both small drainages were ungrazed the cover density was reversed. The reversal in use reversed the results. The area which originally gave the smaller results has in the past five years become the high yielding area both in amount of surface runoff and silt, with the excess water again in the form of a silt-laden flash flood.

This helps explain why at times water users find ditches so clogged with sediments that water is unavailable. For example, Minersville in the Sevier Lake drainage and not far from the two watersheds, found itself not so long ago almost without water when its main canal could be used only 8 days in one season. Summer storms on depleted forest range lands resulted in flash floods which filled the main irrigation canal with sediments 6 times in one year. Two draglines were required to clean some 40,000 cubic yards of debris from the canal. As a result, local irrigation assessments were increased 500 percent and crop production on the irrigated lands was seriously curtailed.

I have attempted so far to present a few illustrations showing how our watershed research is providing information on specific water problems.

Let us see something of their application. Several years ago we made a survey of the watershed lands of the country. Of approximately 250 million acres of forest lands in the West we found that about 65 percent were critically significant in their water relations because of their location, soil, or character of cover. On an additional 25 percent these water relations were of sufficient consequence to warrant special concern.

Of these forest watershed lands about 130 million acres are in various types of public ownership or control. Some are State, county or municipal lands; some are Indian lands; some Parks, some public domain; the remainder, half of the total, are National Forests. About two-thirds of all these varied public lands have critical water relations. On many of them management and administrative practices are such as to safeguard water supplies. However, we must admit that some of these lands - and I do not exclude the National Forests - are not in as good shape as they ought to be. Furthermore, range conditions on some of the public lands are not satisfactory. Too many livestock and improper use of the range have sometimes resulted in deterioration of the natural cover. Fire-control measures have not yet been adequately intensified. Although timber cutting and logging on most public lands are usually done with due regard to water supplies, there are instances where satisfactory results are not obtained.

About 120 million acres of our western mountain watersheds are in private ownership. Of them, 60 million acres have major watershed influences, and 20 million have moderate influences. On those privately owned watershed lands where the timber has not been cut or where there has been but little grazing, conditions are as good as can be found anywhere. On some important watersheds, private owners have followed practices which have not injured either the water, the soil, or the future forest crop. Unfortunately, these owners are in the minority for most private owners have used and are using practices which are not only injuring the forests, but are damaging water relations as well. Logging on these lands is often done in such manner and grazing is often so heavy or the livestock so poorly managed that valley agricultural land values are threatened. Some already have been destroyed.

Let us take a look at one important watershed, the Boise River watershed in Idaho. Here recent investigations show that nearly 3 million cubic yards of sediment are annually contributed to the river from various abuses of the foothill and mountain slopes in that drainage, exclusive of the area above Anderson Ranch Dam. The cost of removing this eroded material from the reservoir, canals, and farm ditches has been estimated in excess of \$350,000 each year. This is equivalent to an annual assessment of about \$1 an acre for each acre of land on the 7,000 irrigated farms in this Boise area. Put in another way, each irrigated acre is indirectly paying a tax of \$1 a year in large part because of present and past abuse of headwater lands. And there are indications that the amount of eroded material is increasing annually rather than decreasing. Furthermore, these losses are taking place in spite of the existing program of headwaters protection, administrative policies, and present legislation. That such losses are not decreasing is evidence we have not yet reached that level of protection and management which will insure the safety and well-being of this area.

Whose lands are involved? Everybody's. No single agency or individual is primarily responsible, but collectively, all agencies and owners are responsible. Some land is in Federal ownership, some in State or other local public hands, and the balance is privately owned. It is because of such scattered responsibilities that some positive action by all is necessary. Although conditions in the Boise area may not apply generally, they do show how the management of watershed lands can affect western agricultural economy.

What is needed to make sure that these watersheds are so handled that they will contribute to agriculture in maximum degree?

- (1) Better fire control is needed.
- (2) Deteriorated slopes must be rehabilitated.
- (3) The vegetative cover be supplemented with engineering measures.
- (4) Improved pastures must replace some natural range.
- (5) Fewer livestock and better management on forest ranges are essential.
- (6) Conservative logging practices must replace destructive ones.

Until these measures are adopted we shall continue to have situations where the water users in the lowlands will pay for avoidable lack of water, irregular flows and sedimentation, caused by land misuse on the slopes. How can they be put into effect?

Much of our high mountain watershed lands in the West are in public ownership. This suggests continuing vigilance on the part of the water users to see that these public lands are so used and administered as to safeguard water values. Where laws or regulations do not provide for adequate protection of watershed values, they should be amended or revised.

There is a sizeable acreage of forest watershed lands still in private ownership on which the vegetative balance is so delicate, or on which corrective action in case of misuse is so costly, or where the jumbled ownership pattern precludes proper handling, as to make public ownership the only feasible way of safeguarding the public interest. Here, too, the responsibility for seeing that the needed action is taken rests heavily upon the water users.

But there is much forest watershed land that can stay in private ownership so long as it is handled with regard to watershed values. In order to give this assurance some form of public control of forest and range practices is needed. I realize that this is regulation. I know full well that any limitation whatever of what one can do with his property is not popular. Yet where public interest in adequate water supply is so great I see no other effective assurance.

Public ownership of certain additional lands and public regulation of practices on private lands should be accompanied by certain essential public aids to the private owner. Public cooperation in protection against fire, insects, and disease should be broadened and strengthened. The public should participate in the cost of reseedling or reforesting the land where that is needed.

Technical advice and assistance in proper management to the property should be afforded. Credit adapted to the requirements of forestry should be provided. More research to improve the basis for management and utilization practices is necessary.

It is my firm belief that the only sound solution to the problem lies along the lines indicated: Better management of public watershed lands, public acquisition of certain other lands, and for the balance, public regulation and a strengthening of public assistance. For all of these more research is needed.

And again, I want to emphasize the fact that you, the water users of the West, have a vital stake in these lands.

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Address by
Lyle F. Watts, Chief, Forest Service, U. S. D. A.
at meeting of
Wisconsin-Upper Michigan Section,
Society of American Foresters, Milwaukee, Wisconsin

September 20, 1943
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War Activities of the Forest Service

The forests of the United States are being called upon for a tremendous output of materials essential to the war. The indispensability of wood and of wood products becomes more apparent with each month and the difficulties of meeting the demands become more acute as the tempo of war increases. Truly, wood is one of the critical materials in this conflict.

Under these circumstances the Forest Service is devoting its energies to projects that contribute to the war effort. Peacetime activities have been put on the shelf for the duration to the extent consistent with our public responsibilities.

To meet wartime demands the National Forests are being made to contribute to national needs as never before. Despite shortages of manpower to handle the timber-sale business, the cut from the National Forests in the past fiscal year, established an all-time high. The total cut was 2,359,463,000 board feet -- 7 percent more than the previous year and 83 percent above 1939. The value of the timber cut exceeded 8-1/2 million dollars.

I mentioned the handicap of manpower shortage. It will interest you to know that the Forest Service has lost to the armed forces more than 1,500 men and women with civil service status. I need not tell this audience that

(Over)

the proportion of young, technically trained, timber, range, and wild-life men has been high. These are the people who did most of the cruising, scaling, marking and supervision for timber sales, and it has been difficult indeed to increase timber sales in the face of this loss. Yet it has been done. Standards of work may have suffered somewhat, but we think that this has not been too serious.

Of special importance is the program for obtaining Sitka spruce from the National Forests of Alaska. Working under the most difficult winter conditions, contractors engaged by the Forest Service delivered the first raft of logs to Puget Sound in January. The yield of aircraft quality lumber from the Alaskan logs is exceeding all expectations. Including hemlock and spruce not suitable for aircraft, which are being sold to Alaskan sawmills for military use there, output is now up to the goal of 10 million board feet per month which was set at the outset. It will probably not be possible to maintain this output through the coming winter months.

The National Forest range has also been making an important wartime contribution. Careful management, including continued adjustment of livestock numbers to the carrying capacity of the range, is making it possible to obtain maximum production of meat, wool and hides without damage to the resource. Stockmen are being urged to market their livestock early to ameliorate the domestic food situation and to supply greatly expanded western consuming centers with grass-fat beef.

Going beyond the National Forests, the Forest Service has been collaborating actively with the War Production Board, the Office of Price Administration, and other agencies in studying requirements, supplies and

output of forest products and in providing a wide range of allied information. The Branch of Research has brought together a group of men headed most energetically by George Trayer, who recently represented the Forest Service on a mission sent to England to study the problems of lumber supply. They have shown outstanding versatility and resourcefulness. As an example of the extent to which W.P.B. has learned to depend on our men, the Requirements and Supplies section has recently been asked to provide information on the quantity, character and style of winter underwear which would be needed for logging operations in northern New England and the Lake States.

During the past year the Forest Service has also given a lot of study to the problem of stimulating the production of lumber and other forest products. It was recognized early in 1942 that output was lagging and that small mills in particular were having difficulties with radical shifts of markets and complicated procedures incident to doing business in wartime. The Forest Service joined with the War Production Board in proposing a plan to utilize its far-flung field organization and to enlist cooperation of state agencies to extend aid to owners and operators and otherwise to stimulate maximum output. This plan was violently opposed by the lumber industry which saw in it a threat of federal regulation of cutting practices, and alleged that the need for the proposed services did not exist.

After months of delay, during which some of the proposals were put into operation without Forest Service assistance, the original plan was dropped. Yet the War Production Board, facing increasing shortages in lumber supply, found that additional effort to maintain output of forest products was essential. A modified plan, the Timber Production War Project,

now in operation in a number of eastern states, uses our facilities to provide service, especially to small operators, in meeting the many inevitable procedures incident to total war; to aid in securing a timber supply for mills not now adequately provided with standing timber; to aid in obtaining firm contracts for the output of logs and lumber; and to provide technical guidance to assure efficient use of available manpower and equipment. The state forestry departments and extension services are collaborating actively in the program. It is worth noting that the President's approval of the modified plan was subject to the understanding that where federal aids were advanced, there must be provision to prevent destructive forest practices.

Even before this plan was put into operation, 70 foresters assigned by the Forest Service in cooperation with the States to marketing projects, involving 280 counties in eastern States under the Norris-Doxey Farm Forestry Act, have been instrumental in stepping up production locally and in channeling farm timber into essential war industries.

Protection of the forests from fire has assumed new significance as a result of the war and this has been recognized in emergency appropriations by Congress. To the normal problem of minimizing damage to forest resources, has been added the necessity of maintaining uninterrupted service from power plants, transmission lines, railroads, and industrial plants in forested areas, the need to prevent smoke palls which might interfere with air transport or aircraft warning service, and the threat of sabotage. Military installations and the presence of large numbers of soldiers in and near forested areas added to the hazard while the difficulties of fire control were enhanced by the shortage of trained guards and fire fighters. Indicative

of the potential disruption and damage to war industry and transportation which forest fires may cause, as well as of the importance of wood in the war, is the record of two enemy incendiary bombings which occurred in the forests of western Oregon. Fortunately neither resulted in a serious outbreak.

I presume foresters here are generally aware of the prominent place the Forest Products Laboratory is taking in the war effort. To me the work being done at the Laboratory is simply unbelievable. In providing data and specifications on the use of wood for aircraft; in designing economical crates and containers for all sorts of military supplies and equipment, including anti-aircraft guns, armored trailers and cars, as well as munitions and other supplies; in training inspectors for wood products and packaging; and in broadening the use of plywood, plastics and other chemical derivatives of wood, outstanding contributions have been made.

Less well known, perhaps, is the progress that has been made by research in increasing output and conserving labor in the critical naval stores industry. Using chemical treatments, gum yields in commercial operations have been increased 25 percent. For the long pull substantial progress has also been made in the selection and rooting of strains of pine yielding 2 to 3 times as much gum as their associates of the same size and vigor.

Valuable assistance has been rendered the military in camouflage planting problems. Some of this work was only possible because of accumulated knowledge gained from pre-war investigations. On the other hand, some of the newer findings will have permanent value for the future. For example, treatments to reduce transpiration may permit forest planting

to be done at almost any season of the year and may extend the area that may be successfully planted to much more adverse sites.

I should not close this brief sketch of the wartime activities of the Forest Service without reference to the guayule rubber project, the success of which will, I believe, lead to early authorization for expansion beyond the limitation established last spring when it appeared that further use of irrigated land for guayule might interfere unnecessarily with food production. On June 30 over 23,000 acres had been planted. It is probable that the project will be expanded to an area of 150,000 acres within the next two years. Much of the expansion, if undertaken, will be in Texas and the Southwest where competition for food cropland and for labor is not so acute as in California. Seven nurseries, aggregating about 3,500 acres in extent, are ready with sufficient stock for next year's planting. About 400 tons of high quality rubber were manufactured from mature shrub harvested in 1942. Experimental plantings of Russian dandelion and of goldenrod are also being carried forward. It is planned to harvest part of the 1943 plantings of both these crops in order to extract a few tons of rubber for testing purposes.

Planning for Peace

Productive forests constitute so vital a part of the national economy that we must not fail, while making the utmost contribution to wartime needs, to be planning for peace. Demobilization of the armed forces and the release of labor from war industries is likely to be accompanied by a period when it may be necessary to undertake a very large program of public works in order to provide full employment.

Forests and intermingled forest range offer a large field for public works that may be readily developed in post-war years. Restoration of forests on non-productive land by planting; rehabilitation of run-down forests by weeding, thinning, and pruning, and other timber stand improvement; range reseeding; fire hazard reduction; control of injurious insects and diseases; expansion in the forest recreational facilities; and improvements of the wild-life habitat; all call for a large amount of labor with a minimum of other expense. Such work can be quickly started and easily suspended without excessive loss when the need for employment declines. It is work which is worth while in itself and should be carried forward on public forests as a continuing program in any event.

Beyond that there is need for a large amount of construction for the development, protection and utilization of public forest areas. Only half of the road system planned for the National Forests is now built, and of satisfactory standard. Shifts in range management to make the National Forests contribute most fully to the livestock economy of the West under changing conditions will require new water developments, additional fencing, and other improvements. The success of the partly completed Arroyo Seco flood control project on the Los Angeles National Forest in stabilizing one-fourth million cubic yards of channel debris during heavy storms last January and the effective protection afforded valley lands, home sites and public utilities by range reseeding and contour ditching in the Intermountain region indicate that we have only begun the upstream work which is desirable for watershed protection and flood control.

The volume and geographic distribution of work in these fields may be greatly expanded by pushing the acquisition of millions of acres of forest land which seem destined for public ownership.

In planning for public works, I am anxious that foresters do not lose sight of the fact that the need for emergency public works can be kept down as the volume of employment furnished by private industry is kept up. In communities primarily dependent upon forest industries, the level of permanent industry that can be sustained is directly related to the economic productivity of the adjacent forest land. Far more fundamental than relying on the forest as a source of relief employment, is a forest policy that will contribute to the security and stability of private employment by assuring continued productivity of forest lands.

If the forests are to make their optimum contribution to the welfare of the Nation, it will be necessary to provide for better care and management than they have thus far received. An economy of abundance depends upon maintaining the productivity of natural resources at a high level; yet today, after decades of agitation and educational effort, the bulk of the cutting on private forest lands is not under any plans for perpetuating the productivity of the resource and one-third of the private forest area, including a large part of the best timber-growing land in the South is still without organized fire protection.

Looking to the future, there is good reason to believe that post-war needs for lumber and other forest products will, in the aggregate, continue at or near the wartime level. Declining needs for war purposes will be offset by pent-up demands for housing, wider application of new techniques

for using wood in construction of all kinds, the upward trend in utilization of pulp and paper products and other developments. Moulded plywood developed for aircraft will doubtless find post-war use in automobiles, furniture, and perhaps other items. Plastics made largely or entirely from wood have only begun to find commercial uses. And the manufacture of alcohol from lignin is indicative of the field which may be opened by chemical research and industrial engineering.

With pressure from abroad to help supply the huge quantities of lumber that will be needed for the reconstruction of war-torn Europe added to a domestic demand already almost double the rate of annual saw-timber growth, it should be obvious that only by the most aggressive measures can we hope to bring saw-timber growth in line with needs.

Forest Regulation Needed

Some familiarity with this region and with 3 regions in the West, coupled with trips that I have recently taken into the deep South and the Northeast convince me that comprehensive forest legislation, including but not limited to regulation of cutting practices, is now more urgently needed than ever before. In making this statement I am not in the least overlooking or discounting the many examples of good forest management by private owners in almost every section of the country.

In this region I need no more than mention such operations as the Goodman Lumber Company or the Nekooska-Edwards Paper Co. Out in Oregon and Montana the J. Neils Lumber Company has a sustained-yield program fully equalling in intensity National Forest operations in the ponderosa pine type. The fire protection system on the Clemens Tree Farm of the Weyerhaeuser Lumber Company in Washington goes far beyond what we have been able to provide for the National Forests.

Without prejudice to what is going on in other regions, I believe I was most stirred by what I saw in the South. In the Forest Service we have always emphasized the social value of productive forests and have striven to make the National Forests contribute effectively to the welfare of local people. But nowhere have the public forests done any better than Mr. Harley Langdale who is building up an intensive forestry program on about 100,000 acres near Valdosta, Georgia. Mr. Langdale is not only going far beyond minimum requirements in turpentine practices and timber cutting, but he is providing improved living conditions for the people who work on his property. Houses are refurbished, fish ponds are constructed, and bird food is planted to insure good hunting. It was reported to me that Mr. Langdale's war output had not been handicapped by labor problems as has been so generally the case in the South and elsewhere.

And to refer to Crossett, Arkansas, which has so often been cited as an outstanding example of integrated utilization and community development. The thing that impressed me most was current plans to split the 5 districts, into which the half million acre property had previously been divided, so that the 10 technical men responsible for timbermarking and other forestry work would average only about 50,000 acres each. They talk in terms of a 10-year cutting cycle. Here again is an intensity of management equal to that of the National Forests.

But with all these and the many others that might be listed, I saw much more destructive cutting than good forestry. To me the basic facts on the Nation's forestry situation are clear enough. We do not need any

further refinement of statistics or survey of war impacts, desirable as that may be, to determine what our policy should be. The war has served to exaggerate the trend of forest deterioration and depletion which was only partially and temporarily relieved during the depression of the thirties.

There is nothing to be gained by dodging the fact that, except in localities where virgin timber still dominates, we cannot continue indefinitely to cut more than we grow without impairing future forest productivity. But our land has the capacity and we should have the determination to meet the challenge. For if we take steps to improve and build up the productive growing stock by Nation-wide application of good forest practices, the annual growth can be increased to a level which will supply our people and industries with ample timber for all foreseeable needs at reasonable cost, and a margin will be left for export or for emergency use.

The most urgent need is to stop destructive cutting so that the productivity of every acre now bearing merchantable timber may be retained. I want to say with all the force I have that Nation-wide regulation of cutting practices on private forest land under strong federal leadership is absolutely essential if needless destruction of productive growing stock is to be stopped.

It is unfortunate that a well-financed publicity campaign sponsored by the forest industries during the recent past should tend to cultivate public complacency when the situation with respect to our forest resources is so unsatisfactory. As head of the agency chiefly concerned with the public interest in maintaining the productivity of our forests, I cannot let the misleading publicity of the forest industries pass unchallenged.

This campaign creates the impression that little not already being done on private land is needed to assure the Nation ample timber supplies for the future. It implies an inevitable increase of annual growth when as foresters we know that the usable growth depends upon merchantable growing stock and that it cannot increase if destruction of the productive growing stock is indefinitely continued. It exaggerates the extent and adequacy of industry progress in good forest practice.

Since a forthright facing of the facts would not be inconsistent with the alleged objectives of the industry, namely "to perpetuate the supply of forest products through sound forest management and to promote understanding of forest ownership and enterprise." I cannot escape the conclusion that the real object of this campaign is to ward off public regulation which was recommended in one form by the Department of Agriculture in 1940, brought before Congress in several forms since then and proposed for legislation in 14 States during the past winter.

I think it fair to state that the need for public regulation is now recognized by many informed people. But conservation leaders are not in agreement as to the responsibility of the Federal Government in such regulation. It is my firm belief that regulation by state action unsupported by strong federal legislation cannot be effective. Furthermore, I do not believe that financial aid to the States to meet the costs of regulation will induce reluctant or strongly independent States to enact appropriate

regulatory legislation. Nor will it give adequate assurance that the level of practices will be set at a satisfactory level. In order that Nation-wide regulation of cutting practices may come promptly and be reasonably uniform in standards and enforcement, federal legislation is needed which will as a minimum give the Secretary of Agriculture authority (1) to set the standards for required forest practices; (2) to pass on the practices adopted by the States; (3) to inspect enforcement; and (4) to take direct action where suitable state legislation is not enacted and where enforcement or the standards established are not acceptable.

Of the three major lines of public action which I would advocate for a comprehensive national program in forestry--namely, regulation of forest practices on private lands, aid to forest landowners, and increased public ownership--regulation has invoked the most controversy.

It is quite probable that the larger part of the job of public acquisition will fall to the Federal Government. This does not in the least discount the desirability of an enlarged program of state and community forests.

The Federal Government should also play an important part in the aids and incentives offered to private landowners. Federal contributions loom large in fire control and extension services. Forest research has made its most substantial contributions in the work of the federal forest experiment stations and the Forest Products Laboratory. The forest survey would be a hopeless jumble if left to uncoordinated state action. The fields of forest credit and forest insurance could not be safely underwritten on a state basis. All these clearly call for action on a national level.

In the light of the significance of forest conservation for national defense and national welfare, the interdependence of States in regard to timber supply, and the extent to which the Federal Government must function in the fields just mentioned, it is strange that the question of federal responsibility in respect to regulation of cutting practices has appeared so controversial.

Without prejudice to the capacity and ability of several strong States to shoulder the public responsibility for keeping forest lands within their borders productive, it is true that many of the States where action is most urgent, will have great difficulty in handling the job effectively. And only under federal leadership can the public have assurance of uniformity of policy between States and of freedom from undesirable competitive conditions arising either from temptation or pressure in individual States to keep standards low.

The time has come to look beyond the exigencies of war to assure full and continued productivity of our vital natural resources. A comprehensive forest policy in which regulation of forest practices must go hand in hand with better protection, expansion of public aids, increased public ownership and continuing research will prove indispensable in the structure of security which we hope will mark an enduring peace.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO



WASHINGTON

C
SUPERVISION
Programs
(Regulation)

October 5, 1943

Regional Foresters
and Directors

Dear Sir:

At the close of the Regional Foresters' and Directors' conference last spring, I stated that as soon as I had seen something of forest conditions in Regions 7 and 8 I would advise you of my views on public regulation. I have spent 7 weeks in the field in Region 8 and 2½ weeks in Region 7. I am now prepared to fulfill my promise.

It is perfectly clear to me that effective Nation-wide public regulation of forest practice on private land is essential. I say this with full appreciation for the good work being done by many operators and owners. In fact, the successful application of good forest practices to some private holdings, both large and small, in almost every region with which I am familiar convinces me that public regulation is the next logical step in American forestry. The argument that forestry on private lands is impracticable has little substance in the face of the examples on the ground. Yet only about one-fifth of the private forest land is handled with conscious regard for real forestry needs.

Unfortunately, a campaign for complacency with regard to the forest situation has recently been gaining momentum. It is aimed, for one thing, to forestall public regulation or at most any Federal participation in it beyond giving financial aid to States. It is in the public interest that the public know the facts of the forest situation; that it not be misled as to true conditions and trends. As the Federal agency with primary responsibility in this field, the Forest Service has an unescapable duty.

I have explored the possibilities of public regulation based on State action unsupported by Federal legislation. I can find nothing to indicate that such regulation would be generally effective.

I have considered the possibilities of Federal participation through the Clarke-McNary Section 2 type of procedure. For one thing, the 137 million acres of forest land still without organized fire protection after all these years deadens any enthusiasm for applying this method to secure

(Over)

2-Regional Foresters and Directors-October 5, 1943

regulation. The fact that the only Federal leverage to encourage action would be withdrawal of Federal support leaves me cold. Even cooperative fire control itself might be jeopardized in States where regulation is lacking, ineffective, or actively opposed. There is a real likelihood that this type of legislation would result in the over-all forest situation losing ground in many States. Certainly it isn't the type of legislation we should favor.

Yet I am convinced that active State participation in a national program of forest regulation is highly desirable. In reaching this decision I have considered our recommendation to the Joint Congressional Committee on Forestry, existing public sentiment, the situation of State forestry agencies, and the judgment of many key men in the Forest Service. Based on these considerations it is my opinion that forestry as a whole will benefit most through a plan of regulation that will afford the States opportunity to enact and, with Federal financial assistance, administer regulation in accordance with federally prescribed standards. Provision for direct Federal action is necessary within those States that are unwilling or unable to meet the Federal standards.

This is in brief the plan recommended to the Joint Congressional Committee on Forestry by the Department and the Forest Service.

Such an arrangement of course necessitates basic Federal legislation. I hope such legislation can be enacted whenever it is practicable and appropriate. We are not sponsoring or soliciting support of any specific bills. However, you are free to advise anyone who is interested in my views as to the necessity for Nation-wide forest regulation and the method or plan that I favor.

There need be no uniform pattern to which a State law must conform to enable the State to qualify for Federal cooperation under such a plan. A State law, among other things, ought to establish a definite responsibility of a single State agency for administration; provide for classification of forest land to which regulation is to apply; prescribe objectives and principles or standards consistent with those of the basic Federal act for guidance in the formulation of specific rules of forest practice; and make the regulation mandatory. I believe it very desirable to provide, through representative boards or otherwise, for the advisory participation of such groups as forest land owners, the forest industry, forest laborers, and consumers in the formulation of the specific rules of practice. Bureaucratic administration and capture of the regulatory machinery by the interests to be regulated must be prevented.

We should be willing of course, if requested, to advise State folks in formulating State legislation. We therefore intend later on to send you further suggestions that may be helpful to you in complying with such requests.

3-Regional Foresters and Directors-October 5, 1943

Under the plan of regulation indicated above, rules of forest practice become extremely important. Basic to their formulation is an understanding of the standards or principles of practice contemplated. My "C-SUPERVISION-Programs" letter of June 14 was designed to facilitate this understanding. You will recall, among other things, it was indicated that the level of silvicultural practice thus visualized would generally fall somewhat below that obtained on the more intensively managed private land and on the national forests.

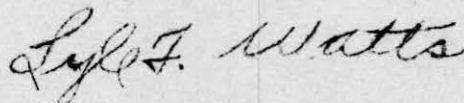
The suggested rules that you have submitted have been carefully reviewed in the light of that letter by a committee in this office. The committee appraisal and some specific suggestions are covered in memoranda by the committee which will be sent you in a few days. I am in general accord with the committee's appraisal and suggestions.

These memoranda will be transmitted to you with the thought that the rules thus far formulated, and suggestions, are illustrative rather than final, even for the specific classes of forest conditions covered. They do serve as specific expressions of the standards of practice contemplated. There will have to be a further refinement in the classification of forest conditions, and additional study in determining the final rules.

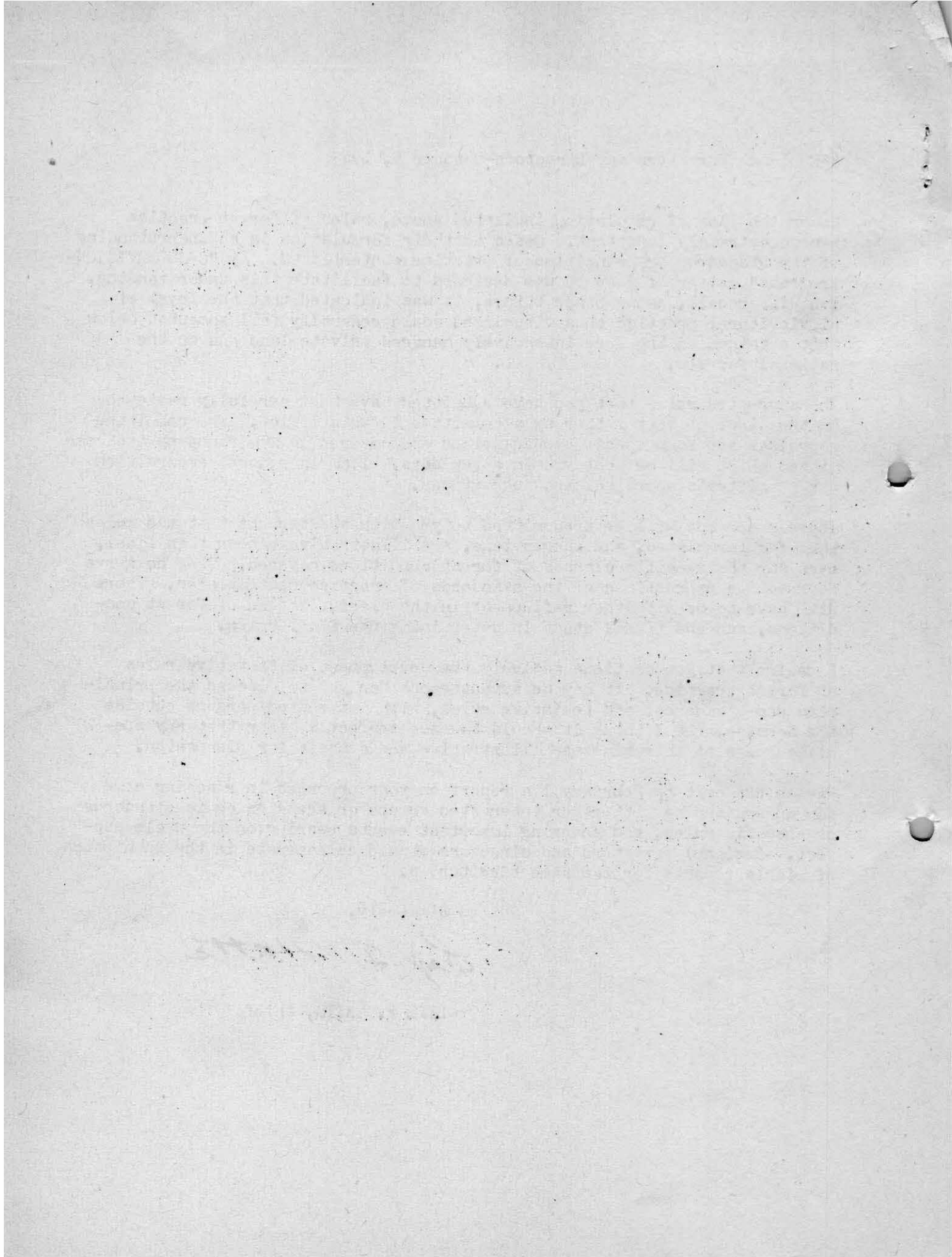
I desire that you continue actively the development of tentative rules of forest practice. It may be advantageous for you to discuss the principles and standards, and tentative rules, with interested persons outside the Service, but I think it should be made perfectly clear that any specific rules at this time are illustrative and a basis for discussion.

Please transmit by February 1 a report on your progress in reaching common understanding with other interested groups or agencies as to standards or specific rules, and covering important events bearing on the whole subject. Regional foresters and directors should collaborate in the submission of single reports for the same territories.

Sincerely,



LYLE F. WATTS, Chief



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WASHINGTON

1107C

C
SUPERVISION
Post-War Planning

November 1, 1943

To: Assistant Chiefs and Division Chiefs, W. O.
Regional Foresters and Directors

From: Lyle F. Watts, Chief

Subject: Post-War Planning and Action Programs

I have asked that copy of the attached memorandum be sent you in order that you may know how we have defined the "responsibilities and organization relationships at the Washington Office level for post-war planning".

A somewhat similar division of responsibilities for this activity between "O" and any other post-war planning unit each Region may have would probably be desirable in each Regional Office, for various reasons including the maintenance of reasonably clear cut lines of communication between the respective units in this office and the field. At any rate, it will be appreciated if each Region will keep me informed as to major assignments to post-war planning activities.

Attachment

MEMORANDUM FOR THE DIRECTOR
FROM: SAC, [illegible]

DATE: [illegible]

SUBJECT: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
WASHINGTON

C

SUPERVISION

Post-War Planning

November 1, 1943

To: Washington Office Assistant and Division Chiefs

From: Lyle F. Watts, Chief

Subject: Post-War Planning and Action Programs

The purpose of this memorandum is to outline responsibilities and organization relationships at the Washington Office level for post-war planning. In doing so it is recognized that there are three principal aspects of this work:

(A) Development of major policies, and the general principles to govern the planning and formulation of major programs and measures, including conferences thereon with other agencies and intra-Forest Service coordination, all at the top level, requiring participation by the Chief or his representative.

(B) The planning of special programs and measures by the Forest Service - not currently involving budgetary submittals or fund transfers, and not including public works.

(C) The planning of specific public works programs and projects within the framework of (A) and (B) above, including the summarization, correlation and integration of these programs and projects into the overall Forest Service programs for post-war action.

Until such time as a fresh look is taken, which may perhaps become necessary in case funds for large scale detailed works project planning are received, the following authority and functions concerning this work are being delegated and assigned as follows:

In general: (see following pages for more specific details)

The group (A) field of responsibilities is assigned to Mr. Marsh.

The group (B) activities will also be the responsibility for Mr. Marsh who will assign them in collaboration with the appropriate branch chief, and the planning will be the direct responsibility of the branches and subject matter divisions within their respective fields of work.

(Over)

2 - W. O. Assistant and Division Chiefs - November 1, 1943

The group (C) activities will be the responsibility of the branches and their component divisions within their respective fields of work with AM&I, through its Division of Operation acting as "Operation" for all Branches, being assigned the responsibility for initiating, guiding, coordinating and overall reviewing programs prior to consideration by Marsh and Staff.

More specifically:

1. Assistant Chief Marsh will represent the Forest Service on the Department's Interbureau Coordinating Committee and in other post-war planning contacts of a general nature at the Washington level; act as advisory coordinator as needed for the post-war planning work of the several branches within the framework of Departmental plans; and be responsible for post-war planning correspondence of a general nature in the Washington Office. It is expected that incident to his field travel, Marsh will facilitate understanding and collaboration by our field offices with the Regional Interbureau Committees. He will be responsible for the preparation of major policy matters for Staff consideration and action. He will keep the Staff advised on the major aspects of the planning program and will clear those matters which are sufficiently important to warrant Staff action. To help in redeeming this responsibility it is essential that Branch and Division Chiefs keep him currently informed of significant matters pertaining to post-war planning.
2. Mr. Meginnis, who has been assigned the post-war planning work in this office, will report directly to Marsh, who will be responsible for his assignments in the post-war planning field. In the event that the full time of Meginnis is not needed on this work, he will be assigned to other divisional activities during which assignment he will be responsible to the Division Chief in charge.
3. All dealings with the Interbureau Committee and all assignments to its advisory committees and working groups will be cleared through Mr. Marsh. The Interbureau Committee has already commenced to designate national activity leaders, advisory committees, and/or working groups to aid in the formulation of plans and programs covering the various subjects proposed for consideration at the Milwaukee Conference. For example, Garver has been selected to represent the Forest Service on "Rural Industries". The Forest Service will perhaps be called upon to designate representatives for other advisory committees and on working groups in various subject matter fields. Branch Chiefs will be responsible for the selection of subject-matter specialists.
4. Our representatives on advisory committees will be responsible on behalf of the Forest Service for seeing that the plans and programs in the specific fields or segments of fields assigned to the Forest Service are properly developed. They will cooperate with appropriate divisions of the Forest Service and with approval of the Branch Chief concerned will obtain the loan of specialized assistance at this and

3 - W. O. Assistant and Division Chiefs - November 1, 1943

- the regional level when needed. They will undoubtedly find it necessary to correspond with Forest Service representatives on the Regional Committees, but for the time being such correspondence will be channeled to the Branch Chief and Marsh for clearance. Marsh should be kept currently informed by advisory committee members of actions taken by the advisory groups at the Washington level, as well as any action taken by the specialists when in the field.
5. The branches and their divisions will be responsible for guiding, supervising, and administering the planning for, and development of, special programs (Group B activities) within their respective functional fields, subject to such overall correlation and coordination as deemed essential by Marsh and the Staff.
 6. The Branches, acting through AM&I Operation as their joint "Operation" office, will be responsible for guiding, supervising and administering the planning for, and the development of, post-war public works programs (Group C activities) within their respective functional fields, subject to such overall correlation and coordination as deemed essential by Marsh and the Staff. For example, Operation, with clearance through appropriate Branch Chiefs, will be responsible for obtaining, and dealing with the Department on, detailed financial estimates and other basic data needed for performing the detailed budgetary operations and processes concerned with post-war planning and development programs. It will compile, correlate, and when necessary prepare estimates, budgetary statements, reports, justification and related data for consideration by the Branch Chief, Marsh and the Staff. It will perform other services and action in its responsible fields.
 7. Similarly, the other service divisions will be responsible for performing work in their responsible fields of action. Fiscal Control will be responsible for fiscal, accounting and audit operations; Personnel Management for those matters involving personnel; Information and Education for handling informational and educational phases of the post-war program, etc.
 8. For the present, all divisional correspondence involving post-war planning and the development of post-war action programs should be routed to the Branch Chief concerned and cleared with Marsh to the extent that Group A and B (above) activities are involved, and with Operation for all others, in order that the program will develop on a coordinated basis.
 9. Copies of all material on post-war planning and program development should be made for and sent to Room 1003 for placement in the Central Files. A complete - consolidated - file will thereby be available in one place subject to call, as needed.

These assignments of responsibilities and functions are for immediate application. Any instructions, now outstanding, in conflict with the provisions of this memorandum are hereby superseded to the extent of such conflict.

Copy of this memorandum is being sent all Regional Offices for their information.

The first part of the report deals with the general situation of the country and the progress of the work done during the year. It also mentions the various committees and sub-committees that have been formed to deal with different aspects of the work.

The second part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education.

The third part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education. The third section deals with the work done in the field of public relations and the fourth section deals with the work done in the field of administration.

The fourth part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education. The third section deals with the work done in the field of public relations and the fourth section deals with the work done in the field of administration.

The fifth part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education. The third section deals with the work done in the field of public relations and the fourth section deals with the work done in the field of administration.

The sixth part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education. The third section deals with the work done in the field of public relations and the fourth section deals with the work done in the field of administration.

The seventh part of the report deals with the work done during the year. It is divided into several sections, each dealing with a different aspect of the work. The first section deals with the work done in the field of research and the second section deals with the work done in the field of education. The third section deals with the work done in the field of public relations and the fourth section deals with the work done in the field of administration.

PUBLIC WORKS PROGRAMS FOR FOREST DEVELOPMENT

by

L. F. Watts
Chief, Forest Service
U. S. Department of Agriculture

PUBLIC WORKS PROGRAMS FOR FOREST DEVELOPMENT

by
L. F. Watts
Chief, Forest Service
U. S. Department of Agriculture

(Delivered by R. E. Marsh, Assistant Chief of the Forest Service, at Meeting of the American Civic and Planning Association, Omaha, Nebraska, June 14, 1943)

Scope of the Program

It is appropriate that a discussion of works programs on our forest lands should follow the discussion of water power, reclamation, and flood control. Management of forest lands is vitally related to projects in these fields. Measures for the protection and improvement of forests on the headwaters of major streams contribute inevitably and materially to the safeguarding of water power installations, of reservoirs impounding water for reclamation projects, and of various flood control structures; they increase their efficiency, and prolong their period of usefulness. A forest-work program, no less than power and reclamation projects, opens up new fields of economic activity and develops new sources of national income.

At the outset, let me point out that it is not my intention to confine this discussion to the National Forests. The National Forests comprise only a small part of the land capable of producing timber of commercial quality and quantity. They by no means measure the opportunities for advancing our post-war economy through forest work.

Justification for extending a public works program to private forest lands need hardly be sought. The public has a large stake in the forest as a natural resource, irrespective of ownership, and has already assumed large responsibility for the protection of all forest lands from fire, insects, and disease. Forest planting on farm lands has been subsidized for years, and public loans have been made for the construction of privately owned timber-processing plants. Indeed, the scope of public work on private forest lands might be greatly expanded, were it backed by assurance that such lands would be kept productive and managed with due regard for the public interest. Meanwhile, public ownership gives greatest assurance that improvements and facilities constructed as public works projects will be adequately maintained and that the public interest will have priority in the management of the resource.

Advantages of Forest Work

Before outlining the activities that may be undertaken for the development of our forests, it is worth while to point out certain characteristics of forest work that justify its place in a comprehensive program of public works.

For one thing, forest lands are widely distributed and are available for useful employment in many parts of the country. For another thing, most of the tools and equipment needed for this work are not highly specialized and are generally ready at hand. Much of the work can be done with simple hand tools. Trucks, tractors, bulldozers, graders, air compressors, and concrete mixers--the heavy equipment most generally needed--are standard items in commercial use, and experienced operators and mechanics can generally be picked up in any community. Under adequate technical direction forestry projects can absorb a large number of unskilled men.

Forest work can be readily organized to be handled from camps. Problems of the homeless worker and of overcrowded urban areas may be relieved by this means; but the work is also particularly adapted to the employment of local residents in rural localities. Where need for rural employment and supplementary farm income is greatest, a large volume of potential forest work is generally available.

Beyond all this, to my mind one of the most significant aspects of any program for post-war public works in the forest is what this kind of work may mean to the young men returning from war. A great responsibility rests upon those of us who will have a part in taking them back into pursuits of peace. These are most certainly and satisfyingly assured in the useful, healthful, absorbing tasks involved in a forest works program.

Finally, forest work is suitable for a prominent place in a public works program because it does not compete with any established industry. Instead, it tends to facilitate and enlarge the field for private industry.

Forest Activities Adapted to Public Works

Acquisition of Forest Land

Millions of acres of forest land in private ownership have been reduced to nonproductive condition by shifts from crop agriculture, by erosion, destructive forest practices, or fire. Because so long a time must elapse before these lands can again yield income, the cost of rehabilitation is often more than private owners may be expected to bear. Public ownership offers the best opportunity of restoring such land to economic productivity. Much of it should be brought into the National Forests by purchase and exchange. State, county, and municipal forests should also absorb a substantial acreage. Also, where the public interest in non-income-producing benefits is paramount, as on critical watersheds, public ownership is essential. During the past 20 years the Forest Service has been studying local conditions throughout the country in order to determine the location, extent, and priority of forest lands that should be in public ownership.

Acquisition of forest land by the public should, then, be an important part of a public-works plan. The consolidation of existing and the establishment of new public-forest units may provide larger opportunity for public works in sections where the field is limited and the need for employment great.

The very process of acquisition on a large scale requires much labor, since it involves preliminary field examination, survey, appraisal, title examination, etc. For such work the Forest Service maintains a skeleton organization of experienced and skilled men, upon which an employment program could be rapidly expanded to handle field and office work requisite to care for several millions of acres a year, without delay, at any time that funds are made available.

Fire Protection

Protection against fire is indispensable in the conservation of forest resources. Some degree of protection is now afforded 75 percent of the forest land in the United States, but this protection is by no means adequate. An area almost as large as Montana and Idaho, mainly in the South, is still without organized protection. The urgent task of providing organized protection for forest lands not now so protected and of intensifying protection elsewhere, should be a major objective of a post-war public works program.

A wide variety of projects are involved such as provision for detecting, reporting, and attacking forest fires in the shortest possible time. These involve comprehensive area surveys, mapping of forest fuel types, analysis of the most effective lookout coverage, and location of essential transportation and communication facilities. Lookout towers and cabins must be erected, telephone lines set up, and transportation facilities, landing fields, water holes, fire-crew barracks, equipment warehouses, and radio stations provided. All these detection and suppression activities will absorb large numbers of workers; but the largest volume of employment will be used in hazard-reduction tasks, such as the felling of snags, the construction of fire-breaks, and the elimination of inflammable material along trails, roads, and railroads and in the vicinity of camp grounds and recreational areas.

For such work on the existing National Forests and other public lands, not counting maintenance and other activities, about a million man-months would be needed, and four-fifths of this would be for hazard reduction. Obviously most of this work would be in the West where the bulk of the public lands are located. Estimates of the additional manpower required for the protection of private forest lands are not available; but it is generally recognized that present protective efforts on private land are less than half of that is needed, and that the volume of hazard reduction is fully as great as on comparable public land.

Control of insects and disease is another forest-protection activity for which the needed labor is not ordinarily available. Elimination of current and gooseberry bushes in the white pine regions in order to eradicate blister rust makes the most immediate call for men. Bark beetle control is an important activity in the ponderosa pine forests of the West. In the East, control of the Dutch elm disease and spruce beetle may require many workers.

Resource Development

But protection against fire and other destructive forces is only the beginning of the job of developing the nation's forest resource. If we are to maintain economic timber production, a huge amount of work in

reforestation and timber stand improvement must be undertaken. Through misuse and neglect, large areas have been rendered nonproductive; also much of the land in second growth is only partly productive, because of inadequate stocking, the presence of inferior species and cull trees, and the inroads of fire, insects, and disease.

The forests on other large areas have been wrecked by natural catastrophes such as fires and storms. An example is the great Tillamook burn in western Oregon, where almost one-quarter of a million acres of forest, mostly heavy timber, was destroyed within a few August days in 1933. The land, nearly all privately owned, is now little better than a barren waste -- perhaps even worse, for it constitutes a potential source of conflagrations that may sweep into surrounding unburned forests. Naturally of high productivity, it could be rehabilitated but this would necessitate a longer period of waiting than most private owners are willing to contemplate.

Another example is the central New England area, where the great hurricane of September 1930 blew down hundreds of thousands of acres of timber, seriously damaged many hundreds of thousands besides, and created a worse forest-fire hazard than the region had previously known. Here again, the resources of many of the private landowners have been inadequate to undertake the necessary measures of rehabilitation.

Estimates for 1938 indicated that for the country as a whole some 77 million acres were in need of planting. The magnitude of this job can be realized when I tell you that through all the years up to 1940 only 3½ million acres had been planted successfully by all agencies, public and private. A program involving the planting of 32 million acres in a period of 25 years by or with the assistance of public agencies has been suggested. This program would require the expansion of existing nursery facilities to at least 3 times their present capacity. This nursery expansion should begin now, in order that the seedling and transplant trees may be ready for the men seeking employment in the post-war period.

These men will be needed also for cultural operations such as wooding, thinning, pruning, and cutting or girdling of overtopping and worthless trees, to improve the quality and quantity of timber in second-growth forests and on restocking areas. Such work requires efficient technical supervision and, handled on a large scale, presents a problem of organization and administration. But it calls only for simple skills and inexpensive tools.

Selection of forest lands for timber stand improvement work should be governed largely by economic considerations. Work should be concentrated first on relatively accessible areas where prospective timber values are high. A 25-year program involving some 65 million acres has been suggested.

A permanent system of roads and trails is essential for effective management and use of public and private forest lands. Construction of roads will provide access to the large bodies of unreserved virgin timber still untapped in the West, especially the Northwest, and will facilitate sustained-yield forest management everywhere. Roads, trails, and landing fields make areas of potential fire risk quickly and easily accessible, and also open up the scenic and sporting resources of the forests for public enjoyment.

Road construction will constitute an important part of a works program on public forest lands. To a large extent, it must be considered a public responsibility on other lands also, because public and private lands are often intermingled and because access to a given forest area is usually determined by topography of adjacent country rather than property lines. For the country as a whole, we shall need to construct more than 12,000 miles of forest highways, 105,000 miles of forest development roads, and 160,000 miles of trails. Two-thirds of the highway construction is needed on Federal lands and about two-thirds of the forest development roads and trails on private lands. Completion of the entire road and trail system would require some 8 million man-months of work.

Other activities in the development of forest resources need only be mentioned to indicate the scope of potential forest work. Upstream watershed improvements to control run-off, prevent erosion, equalize streamflow, and conserve an environment favorable for fish, constitute a field that we are only beginning to understand, but to which research and experience of the past 10 years point the way. Development and use of the forage resources on national-forest ranges also present opportunities for worthwhile public works. Improvement of stock driveways, range reseeding, control of rodents and noxious weeds and improvement of water supplies are some of the important activities that will contribute to the development of the forest range resource.

The increase in recreational use of the National Forests is evidence of public appreciation of the recreational facilities installed during the past decade. Additional camp grounds, mountain trails, ski-runs, shelters, etc., are certain to be well used. Again public works may serve as a medium for furthering the construction of such recreational improvements. New development should not, of course, encroach upon the 14 million acres which have been set aside as wilderness areas.

Research and Administrative Improvements

As more and more private forest land is put under management, and as more intensive use is made of the national and other public forests, the need increases for extending and refining the technical basis for forest and range management and for more efficient and diversified use of forest products. The research staff of the Forest Service could, if it had the manpower, do much more than it has ever done in carrying experimental operations beyond the test-tube stage. A public-works program could be used to provide the labor for extensive installations of research facilities, such as those for watershed studies at San Dimas, California, and to carry out pilot-plant operations which may well extend beyond experimental cuttings, such as those at Crossott, Arkansas, to include logging technique.

Other opportunities for public works are found in the construction of offices, dwellings, repair shops, storage depots, communication systems, fences, and other permanent improvements required in administration of the public forests.

It is estimated that the miscellaneous improvements required for recreation, research, and administrative purposes could provide 1,600,000 man-months of employment about equally divided between public and private lands.

Significance of the Forest Work Program

The critical situation of the Nation's forest resource is the most potent argument for the large program of forest work that I have outlined, and for giving it high priority. The economic welfare of the country is vitally affected by the productivity of our forest lands.

Wartime scarcity of strategic materials has shown how indispensable wood is to the economy of the Nation. Tremendous demands for timber products for a wide range of war uses have accelerated the trend of depletion, which was only partially and temporarily relieved in the depression of the early thirties. There is much evidence to lead us to believe that, if full employment is achieved after the war, wood requirements will remain at a high level.

As the Nation's timber situation becomes more acute, the National Forests have to provide a larger share of our total timber supply than hitherto. Growing dependence on these forests is indicated by a 70 per cent increase in volume of timber sold from them in 2 years--more than double the rate of increase in lumber output for the country as a whole. Without violating established wilderness areas, other undeveloped portions of the National Forests should be opened up as soon as possible so that timber now inaccessible may be reached as needed. Furthermore, timber stand improvement and other management measures that will result in the production of timber of large size and high quality should be carried out over large areas. The importance of such measures has been forcibly emphasized by difficulties in obtaining supplies of certain items during the past year.

I have emphasized the importance of increased public ownership in the solution of the Nation's forest problem. But that should not conceal the fact that a large part of the best timber-producing land should remain in private ownership. Encouraging progress in forest practice has been made by private owners, both large and small. Especially during the immediate pre-war years the number of operating companies that employed foresters and took steps through selective cutting, reforestation, and special protective measures to insure a continuous supply of raw material for their mills increased markedly. Demonstrations of operating results, good reproduction, and gratifying growth of young timber in many forest regions have largely eliminated doubts as to the financial soundness of long-range forest planning for private owners under favorable conditions.

But with one-third of the Nation's standing timber confined to the 6 percent of our commercial forest land in the western part of Oregon and Washington, and with forest growing stock in all parts of the East and South entirely inadequate to sustain the current rate of cutting, we cannot look with complacency on continued widespread destructive cutting and the indiscriminate harvesting of immature timber. The achievement of good practice on private lands is still so far from the ultimate goal and the threat to timber depletion in many communities is so real, as still to be a matter of national concern. As a nation, our dependence on our timber supply is too vital to permit its dissipation through ignorance, carelessness, or selfish exploitation on the part of the private owner. I am convinced that continued productivity of the forest land not in public ownership can be assured only by public regulation

of cutting and related forest practices. Furthermore, I believe that such regulation to stop destructive cutting practices cannot be left to the States alone but will require as a minimum strong Federal leadership and a large measure of Federal participation.

But if the public is to impose restrictions on forest practices on private lands, the public must assist forest-land owners to meet the problems of forest management. Protection against fire, insects, and disease must be extended and intensified. Denuded land must be planted. Deteriorated stands must be rehabilitated. Methods of cutting must be adapted to silvicultural principles established by painstaking research. Technical assistance is needed in organizing forest operations, developing new uses for wood, and finding ways to eliminate waste. Small forest owners especially need help in cooperative organization to facilitate good forest management and orderly marketing of their products. The public may also encourage good practices by providing credit, insurance, and tax adjustments to meet special conditions applicable to forest enterprises.

Summary

The public works which have been suggested would contribute directly toward the maintenance and restoration of forest productivity which is at the heart of the Nation's forest problem. And increased forest productivity creates further opportunity for future employment in the woods and for sustained activity in the forest industries. It is a channel through which will flow increased national income. Forest productivity means community welfare.

Constructive, physical work on projects which contribute to the common welfare, such as those we have been discussing, should help to develop in young men seeking re-employment after the war a sound idealism and a sense of social responsibility. They will then be better prepared to do their part in communities throughout the Nation in creating the better society toward which all of us are striving.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE



ADDRESS REPLY TO
CHIEF, FOREST SERVICE
AND REFER TO

WASHINGTON

I
INFORMATION
Special Articles

July 22, 1943

Regional Forester
All Regions (with copy to Stations for information)

Dear Sir:

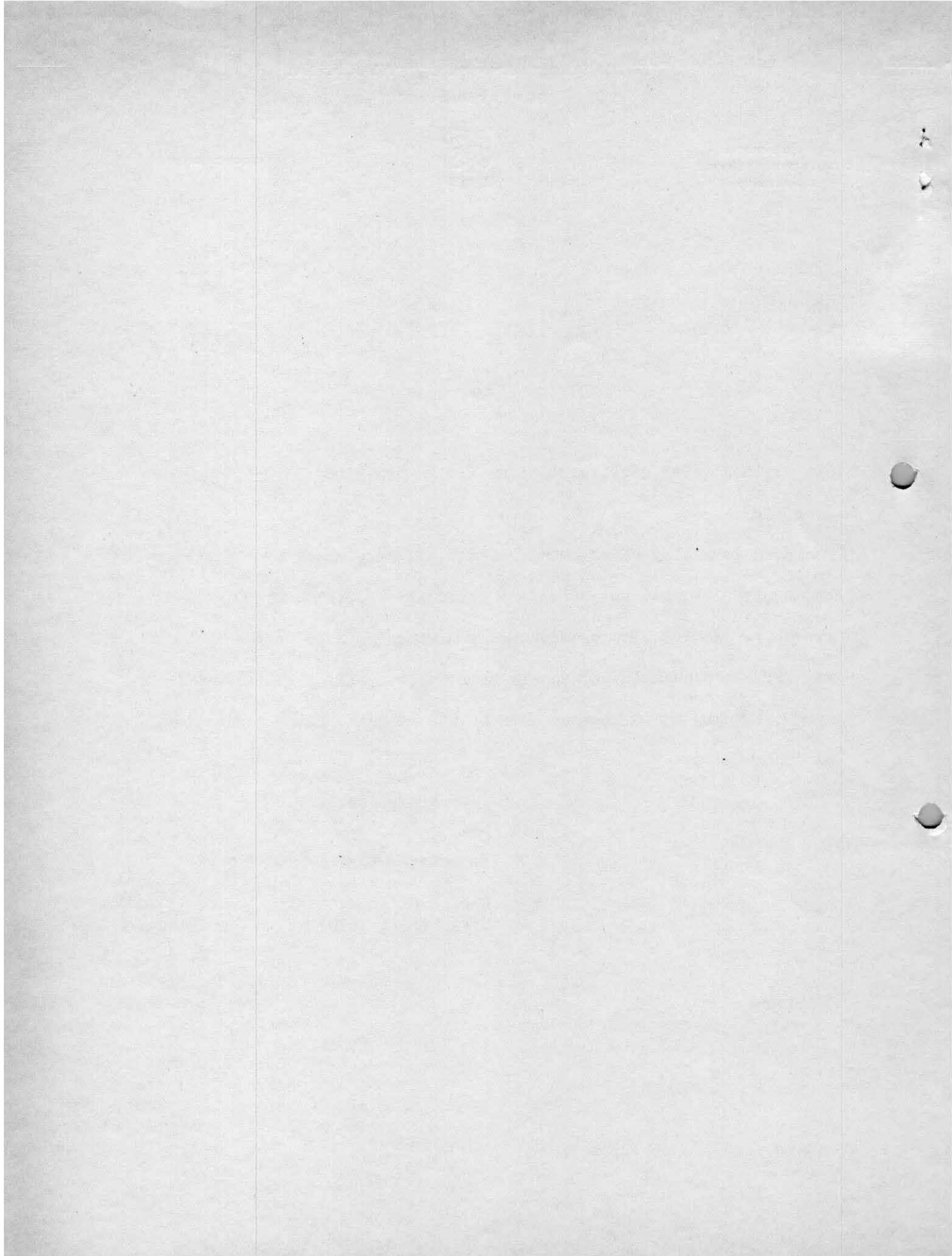
Enclosed is a copy of the summer issue of "Free America" containing the article "Forest Depletion - A Community Problem", by Chief Lyle F. Watts. We are also sending you a mimeograph copy of the article in sufficient quantity to supply your Supervisors. This shows the original text, the omissions made by the magazine being indicated by parentheses.

Very truly yours,

Dana Parkinson

DANA PARKINSON, Chief
Division of Information and Education

Enclosure



FOREST DEPLETION - A COMMUNITY PROBLEM

by

Lyle F. Watts

Chief, Forest Service

U. S. Department of Agriculture

(Published in "Free America", Summer Issue 1943. Omissions made by the magazine are shown in parenthesis.)

Forest conservation is no longer a subject which can be effectively discussed in generalities. From the standpoint of timber supply, as well as recreation and watershed protection, the critical character of our forestry problem can only be understood by going behind the over-all statistics for the nation as a whole and viewing the situation regionally, locally and in its component parts. It is necessary to get right down to the individual worker who wants security in his job and a permanent home for his family.

For more than 50 years the question of the nation's timber supply has been a matter of major public concern. The people were first aroused in the days of Gifford Pinchot and Theodore Roosevelt by predictions of an early "timber famine." Then with the culmination of agricultural expansion, and the acceleration of industrial life, public concern waned. Declining consumption of lumber, substitution of other materials for construction, furniture and other fields originally dominated by wood, and chronic threat of overproduction from mill capacity in excess of demand, led many to believe that Pinchot had been wrong, even though whole regions had been so thoroughly stripped of merchantable timber that local forest industry was little more than a memory.

Prolific second growth in parts of the Northeast and most of the South seemed to many to discount forever the possibility that a national timber shortage would materialize. Concern about timber for the future was further allayed by technological developments foreshadowing a much wider use of wood by chemical conversion. To many the prospect that pulping and chemical processes might completely supplant the use of wood in its natural form seemed so real that any forestry beyond protection from fire seemed quite needless and futile.

But continued exploitation at a rate far in excess of current growth, disturbing increases in the area of non-productive land suitable only for forests, and inescapable social and economic maladjustments in many cut-over regions led others to realize that the problem remained critical. These far-sighted leaders realized that, in spite of substantial progress with respect to national forests, systematic fire protection, and management for sustained yield by many private operators, cumulative forest depletion was still undermining at hundreds of points an indispensable part of the foundation on which national prosperity had been built.

(A comprehensive analysis, made in 1932 in response to a Senate resolution, failed to bring the divergent points of view together. Exponents of laissez-faire pointed out that as a result of the drastic slump in production and a raising of growth estimates as forest survey data became available, an approximate balance between growth and drain had been reached. But output of forest products during that period was at a discouragingly low level. In 1933 lumber output dropped to less than one-fourth the previous peak. In 1938 it had recovered only half the loss. Unemployment was a problem of major proportions throughout the country. Surely we do not wish to measure progress in terms of that period. But even then, concentration of attention on national and regional statistics masked the precarious position of many forest communities throughout the country.)

Now under the exigencies of war, requirements for forest products are again on the level which prevailed in the years before the depression. Scarcity of metals, coupled with spectacular developments in the use of wood for structural purposes and challenging vistas of new fields of use for plywood, plastics, and chemical products, now focus attention on wood as an indispensable and versatile raw material which should enjoy large and perhaps expanding outlets so long as it is abundantly available at a reasonable price.

In the light of accelerated forest depletion brought on by the war and the better outlook for future wood utilization, the problem of timber supply presses anew for solution. But even before this country entered the war, a Joint Congressional Committee confirmed the conclusion of the Forest Service that the public interest in continued productivity of private forest lands could only be protected by public control of cutting and other closely related practices on such lands.

A large part of the strategy of those who oppose public action going beyond cooperation and aid in protection and management, is based on a philosophy of complacency - using statistics for the nation as a whole to support the thesis that there is really no cause for concern. The impression is created that progress in forestry has been so widespread in recent years that a satisfactory balance between growth and drain is only temporarily deferred by wartime activity. Rapid liquidation of virgin timber in the West is glossed over as necessary to forestall losses from insects and disease and as beneficial in releasing additional areas for new growth. Viewing the picture solely on a statistical basis, it has been argued that wartime forest depletion is not serious anyway inasmuch as annual lumber cut has not exceeded 2% of the total remaining stand of merchantable sawtimber. Such complacency is dangerous.

Perhaps the most significant fact is that our eastern forests, constituting three-fourths of our total commercial forest area, now contain less sawtimber than the 6% of our forest land in western Washington and Oregon. Our continued ability to draw heavily upon the remaining virgin forests of the Northwest neither keeps mills running

nor provides employment for people in the depleted forest regions of the East. It doesn't give much help to the forest community in Michigan or Louisiana, whose sawmills have been closed for lack of timber, to know that there are 70 billion feet of almost untouched timber in Douglas County, Oregon. It doesn't help Klamath County in the pine region just over the mountains, where the timber resource is being liquidated three times faster than it ought to be!

It doesn't even help communities in other parts of the Douglas-fir region itself, where excessive timber depletion has already begun to sap the vitality of this last virgin source of forest wealth. For the Puget Sound, Gray's Harbor and the Lower Columbia River areas are already experiencing drastic shrinkage in industrial employment based on sawmills and woods operations.

Existence of a substantial area of virgin timber in the Porcupine Mountains of Michigan did not forestall the recent closing of the last big sawmill in Rhineland, Wisconsin, only 100 miles distant, at a time when the nation's need for lumber was most acute.

(The transient prosperity which results from uncoordinated sawmill development on a scale far in excess of the sustained yield capacity of the land is nowhere better illustrated than in the Ponderosa pine region of central and eastern Oregon. Klamath Falls and Bend are two bustling, overbuilt lumber communities that face inevitable and drastic retrenchment before long.)

In 1920 Klamath County had a population of only 4,800 and relatively small lumber output. Construction of modern sawmills was followed by rapid increase in population. In 1940 the census disclosed almost 40,000 people. Lumber cut, already at a 400 million bd. ft. level in 1925, exceeded 700 million by 1940. But analysis of the resource situation indicates that only five of the 15 mills now in operation will remain 10 years hence. Only one has reasonable assurance of a life of 25 years or longer. And this situation exists in spite of the fact that two-thirds of the remaining timber is on public lands where light selective logging has been or will be practiced to maintain productivity. The fact is, as things are going, it is unlikely that an output of more than 200 million bd. ft. can be sustained indefinitely. That gives a measure of the extent of readjustment which must be made within the next 20 years.

(A similar situation exists at Bend. Doubling of population between 1920 and 1940 indicates the extent of the social and economic structure which has been built without possibility of support for more than another decade or so.) The local people and the State will have to pay dearly and long for the short-lived boom which has been stimulated by uncontrolled exploitation of the private timber.) Used) at) close.

Even in agricultural sections of the East, productive woodland on individual farms has a significance which cannot be expressed in national statistics. Through a well developed forestry enterprise, net income of dairy farms in central New York, for example, may be increased about 15% on the average. Such an enterprise need not compete seriously with other farm activities as to time. It offers opportunity to more completely utilize available labor and equipment. It gives farmers a larger degree of independence and security. It may spell the difference between a profitable and a submarginal farm unit. Such economic benefits to thousands of farmers should not be neglected. They cannot be offset by the large-scale, highly mechanized logging operations of the Northwest. Nor will careful management of public forests, no matter how widely they may be distributed, compensate fully for these values which are inherent in the property of individuals living and working on the land.

The forest problem of any community or region cannot be viewed solely as one of balancing annual growth against forest drain. When the process of forest liquidation is allowed to take its course unchecked, the reduction of industrial activity which follows exhaustion of merchantable timber, will eventually lead to a balance between growth and drain at a level where the contribution of the forests to the economic life of the community is at a vanishing point!

Last summer the "model" town of Elizabeth, La., was left stranded when its major industry, a large sawmill, ceased operation because, as reported in a lumber trade journal, "The timber has been raked and scraped to the last available and purchasable tree."

In February of this year the entire town of Weirgate, Texas, was sold to a wrecking company after a life of only 25 years in which some 100,000 acres of virgin longleaf pine were stripped. Its sawmill, logging and turpentine operations are reported to have provided support for some 2,000 people.

With these industries eliminated, a forest survey might well show that forest growth now exceeded drain in these localities. But this would mean little to the people who had looked to these industries for employment. Neither would it help meet the country's wartime need for lumber.

In the long run productive capacity rather than a balance between growth and drain is the only valid criterion of progress. And the amount of usable wood that can be produced annually is a function of the merchantable growing stock or forest capital upon which it accrues.

The seriousness of the depletion of growing stock in the eastern regions is brought out by the following comparative estimates of saw-timber stands:

	1919 billion	1938 bd. ft.	Reduction
Eastern hardwoods	459.7	265.6	42%
Southern yellow pine	257.7	196.8	23%
Other eastern softwoods	133.3	80.2	40%

The reductions indicated are probably very conservative because the earlier estimates generally reported less timber than was actually on the ground in terms of utilization standards of the later estimates. Thus in a period of 20 years, the ability to sustain communities dependent upon Southern yellow pine was reduced about one-fourth and the basis for other eastern softwood production, as well as the hardwood industries, was almost cut in half.

(But no cold figures can express the distress, the months of uncertainty and the personal loss to the thousands of families that had to give up their homes and seek new employment when "their" mills closed.)

On the other side of the picture development of the full productive capacity of forest lands implies a decentralization and diversification of industry which should be wholesome and stimulating in its social significance. Because of their low value in relation to bulk, most forest products cannot well stand transportation for long distances. Primary conversion plants therefore, must be kept close to the timber. In addition, the full utilization, which is an inseparable attribute of intensive forest management, encourages establishment in the rural communities of new industries using or fabricating wood in various forms.

The town of Crossett, Arkansas, affords an outstanding example of such sound industrial and community development based on far-sighted and intensive forest management. Here pulp and paper manufacture were first added to the original lumber industry to provide effective utilization for much of the lower grade material, especially that yielded by early cuttings in second growth pines. Then a wood distillation plant was established as an outlet for the hardwood which was impeding growth of the pine in some areas. Each new development has created additional employment in the community without the threat of future collapse because each has been planned in relation to the productive capacity of the forest.

In every forest region individual operators have recognized the economic advantages of permanence for their industries and stability for the dependent communities. The number of cases where a start has been made on long-range forest management to insure a sustained supply of raw material for local industries has grown tremendously in the past decade. Many sound industrial forestry programs have been under way for longer periods.

To name just a few operations about which I have first-hand knowledge, the future holds real promise for the welfare of the com-

munities dependent upon the operations of the Weyerhaeuser Timber Company at Longview, Wash., the West Fork Logging Co. at Mineral, Wash., the Hines Lumber Co. at Burns, Ore., the Kinzua Lumber Co. at Kinzua, Ore., the J. Neils Lumber Co. at Libby, Mont., the Sawyer-Goodman Lumber Co. at Marinette, Wis. To this list anyone familiar with the South and East could readily add scores of other names.

Individual communities, with aroused leadership, can do much to insure optimum development of local forest resources and thus obtain maximum security for their people and institutions. By cooperation and planning, industry can be geared to the current capacity of the land to produce. In the new regions steps may be taken to check or discourage over-expansion. Incentives can be provided to stimulate secondary processing and fabrication of finished products to facilitate utilization of waste and to provide employment for labor released when curtailment of primary forest operations is necessary. In the older regions new industries can be stimulated for utilization of the particular species or sizes of material which can be harvested in the process of improving and building up productive growing stock.

However, as the problems of all forest communities are added together, it becomes apparent that, if the social and economic benefits of sound forest development are to be realized on a national scale, we cannot leave the solution entirely to individual operators or the local communities. The necessary financial aids and other safeguards for decentralized private enterprise are often beyond the capacity of local communities to supply. And all too frequently the communities lack strength and foresight to withstand the pressures of selfish industrial or political interests.

Federal action is needed and national welfare demands public regulation of basic forest practices, supported by public aid and assistance to private forest land owners on a large scale. For the sustained yield we should achieve on a community basis is not measured in board feet alone. It is something much broader. Sustained yield of forest products at a high level implies reasonable security for labor and a substitution of a family man for the transient bunk-house worker characteristic of the pioneer lumber industry. It justifies confidence in building, buying and improving homes. It assures a continuity of business for the local butcher, baker and candlestick-maker. It helps to maintain the tax base by stabilizing timber values on the one hand and by putting a firm foundation under real estate, business and civic improvement values on the other. The school system, the social life, and the health agencies of the community are part and parcel of sustained yield.

To a very large degree achievement of the President's goal of freedom from want and freedom from fear is inherent in the prosperous and stable communities which permanently productive forests will induce.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Forest Service

Washington, January 20, 1944

Watts Looks to South for Half of Post War Wood Supply

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The South will be called on to supply about one half of the nation's future timber requirements, now estimated at 21 billion cubic feet, Lyle F. Watts, chief, Forest Service, U. S. Department of Agriculture, told the Southern Forestry Conference of forest owners, operators, industrialists and State and Federal officials meeting (January 20) in Atlanta, Ga.

Watts said the nation appeared to be entering upon a new era of wood, with many new uses opening up in the field of chemistry and new engineering techniques enabling wood to hold its own in competition with other building materials. For the period immediately following the war, he said reconstruction requirements abroad hold promise of greatly increased export markets. This outlook, he indicated, supports the 21 billion post war estimate, which compares with current wartime consumption and losses of somewhat less than 17 billion cubic feet per year.

Citing the South's vast acreage of forest land and prolific and commercially useful trees, he wondered, he said, if the region realized the extent of its responsibility to the nation in meeting increased future sawtimber needs.

If these needs were to be supplied, he told the conference, it would be necessary to double the annual growth in the southern States, since even before the forests were subjected to stepped-up wartime cutting annual growth was estimated at 5.6 billion cubic feet, or only about half post war output to be expected of them. Sawtimber drain, he said, is already almost twice current annual growth. In this doubling of the productivity of its forests, he added, lay the chief hope for much of the industrial expansion now "so eagerly sought by the South."

Results of forestry efforts of the past 20 years in the South, he declared, still leave its forest problem largely unsolved. He was appalled, he said, "by our failure to solve the problem of fire control," and spoke of many localities where forest depletion had reached such an advanced stage that restoration could no longer be effected by private owners alone.

The chief forester advocated public regulation of cutting and other practices on privately owned forest land as indispensable, if prospective post war production goals were to be met. He told the conference that the type of regulation urged by the Forest Service would provide for direct Federal action only when and where a State failed to enact and enforce suitable legislation, and said that from the standpoint of sheer self interest the South should welcome this "aid and stimulus for developing the great potentialities of its forest resource."

Mr. Watts held that public regulation of forest practices was in keeping with broader government controls which he believed must come because of changes brought about by the war and because of the demands which a prospective 130 billion dollar a year economy, as compared to the 60 or 70 billion dollar pre-war economy, would make on the nation's resources. The type of regulation proposed, he said, was a basic rule to protect the public interest and not in any way comparable to "the arbitrary edicts necessitated by war." He declared it would not interfere with ordinary business transactions, and denied that it meant in any shape or form "displacing private enterprise and taking over management of land or industry by government."

At the same time, he said that private owners should do as much of the job of increasing the tree crop as possible, and suggested that to facilitate good forest management present federal aids to forest land owners should be strengthened and extended. He thought that government should be prepared to purchase badly deteriorated or low value forests but that the need for public acquisition in the South would be much less than in some other forested regions.

April 30, 1940.

Synopsis

of

"A FOREST PROGRAM FOR THE UNITED STATES"*
Recommended by the U.S. Forest Service

Miss Geddes
1107

Pursuant to a special forestry message to Congress by President Roosevelt on March 14, 1938, a joint congressional committee was appointed to study and report upon the present and prospective forest situation in the United States. Public hearings have been held in each of the forest regions of the country at which representatives of the general public, industrial and farm forest owners, states, counties and municipalities have had an opportunity to express their views. In Washington, D. C., during January and February the Forest Service presented certain background material to the committee and recommended an over-all forestry program, which is summarized in the following pages.

Its purpose is to produce in abundance forest products to meet future needs and to provide other forest resources in such a way as to create and maintain a nation-wide forest economy that will help solve problems of rural poverty and unemployment, and create added security and stability for labor families, communities, and forest regions.

This should be possible because most forests can be cropped, so the land on which they grow will yield continuous timber and other harvests; because forestry offers the best means of using close to one-third of all the land in the United States; because forest land helps to conserve and regulate water that is essential to all life, helps to control erosion and floods, provides food for domestic stock and wild-life, and furnishes healthful recreation for mankind.

The best three-quarters of the nation's forest land is in private ownership. It furnishes more than 95 percent of the timber cut. Because also of lack of management and of past and current abuse, and despite the real progress of the past few decades, it constitutes the major forest problem in the United States. The first and major part of the action program centers, therefore, on those private lands.

The second part of the program is for protecting, developing, and using forest land and its resources now in public ownership and management - including 176 million acres in the present national forest system - and those which come into public ownership and management.

The third part of the program concerns more adequate provision for research with respect to private and public forest lands, their resources, and services.

* For supplementary material see "Summary of Recommendations presented by the Forest Service on January 16, 1940, to the Joint Congressional Committee on Forestry with respect to A FOREST PROGRAM FOR THE UNITED STATES (March 1940).

(Over)

The program outlined below necessarily includes both legislations and the appropriations needed to make both existing and new legislation effective. The new legislation can take the form of either one all inclusive act or two or more acts.

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I. For privately owned lands primarily: Two main forms of attack to go forward concurrently, (A) public and private cooperation, including public regulation, and (B) public acquisition - community, State and Federal.

A. Public and private cooperation.

1. Cooperative fire protection

Modification of the Clarke-McNary Law, increasing the authorization from \$2,500,000 to \$9,000,000.

Financial provision for a more adequate fire weather forecast service in the Weather Bureau.

2. Cooperative protection against forest insects and diseases

Legislation to clarify the authority to establish and to finance a nation-wide first line of defense organization to discover incipient epidemics by frequent surveys, and to check them while small. Provision for epidemics which get away.

3. Extension work for forest land owners

For farm holdings: Amendment of either the Norris-Doxey Act or Section 5 of the Clarke-McNary Act to establish a county forester organization to work through federal and state extension systems to be financed on a 50-50 basis by the federal government and the States.

For industrial and other non-farm holdings: Provision for strengthening the work in this field by (a) adequate financing, and (b) new legislation. The latter may not be necessary, but if proposed should require cooperation with the states and allow for a field of direct action by the Federal Government.

4. Provision for greatly expanded extension activities as part of the effort to increase markets for forest products. This should cover the entire field of utilization with the timberland owners, forest industries, and the consuming public. Additional legislation is required.

5. Benefit payments for improved forest practices.

Provision under the AAA act for fuller recognition of improved forest practices in benefit payments, in order to make farm woodlands a more integral and valuable part of our agricultural economy.

6. Forest planting.

Amend the Clarke-McNary Act to permit distribution of forest tree seed and planting stock at not more than cost to industrial and non-farm owners as well as to farmers, and to authorize federal contributions to States of \$500,000 annually instead of \$100,000.

Provide for more adequate financing of the work authorized under the Norris-Doxey Act.

7. Cooperatives for small owners, especially farmers.

Public help needed in establishing and financing cooperatives can be furnished if other recommendations for extension, research, and credit legislation and appropriations are met.

8. Forest credits for industrial and non-farm forest owners, for farm forest owners, and for small owner cooperatives.

Comprehensive new legislation for a Forest Credits Division and Forest Credits Bank in the FCA to meet the requirements of industrial and non-farm owners.

Modifications of existing procedures and policies of the Farm Credit Administration to meet the requirements of farm owners.

New legislation to meet the needs of farmer and other small owner cooperatives.

9. Forest Taxation

Continued assistance to states in working out more equitable methods of assessing and taxing forest properties.

10. Cooperative sustained yield units

New legislation authorizing the establishment of joint sustained yield units of private and national forest timber, and the declaration of sustained yield units comprising only national forest timber. Purpose: to help stabilize communities.

11. Public leasing of private forest land

New legislation authorizing contracts or federal leasing of farm and industrial forest lands to open partially or wholly self-liquidating opportunities for relief of unemployment and for upbuilding forest resources.

12. Public regulation

Sufficient public controls, in return for public assistance to private owners, and because of the public interest in private forests, to insure that destruction and deterioration of forests will be stopped, and that privately owned forest lands will be so managed that they will (a) be kept reasonably productive, (b) insure reasonable watershed protection, (c) help safeguard local communities.

States should be given an opportunity to exercise such control, with financial assistance from the Federal Government and in accordance with approved standards in State laws and enforcement, but the Federal Government to exercise direct control if States cannot or will not do so. Comprehensive new Federal and State legislation required.

B. Public acquisition - Community, State and Federal.

Reasonable, planned, and coordinated extension of community, state and federal ownership and management of forest land. By furnishing more gainful employment in growing, harvesting, manufacturing, and using the forest resource, this will help safeguard the economic life of dependent communities and regions. It should also (a) acquire lands submarginal for private ownership. (b) Those necessary for the protection of the public interest in such ways as watershed protection, and (c) Those necessary for the protection of the public interest where for any reason private ownership cannot or will not function.

So far as is now determined, the additional acreage of private land which should be acquired and managed by public agencies is between 140 and 150 million acres. Communities and States should be given opportunity to assume as much of this as they can and will with reasonable Federal assistance to initiate and stimulate their efforts; the remainder of the public acquisition and management job to be assumed by the Federal Government. For this, the following will be necessary:

1. Amendment of the Fulmer Act (Public No. 395, 74th Congress) extending to communities the provisions now limited to States and increasing the authorization from \$5,000,000 to \$10,000,000.

2. More adequate financial provision for federal acquisition.
3. New legislation to authorize the paying for lands acquired for the national forests, by low interest bearing bonds, where the lands support timber resources from which returns will be obtainable by the time the bonds become due.
4. Amendment of existing national forest legislation to provide more equitable federal contributions to local government in lieu of taxes.

II. For publicly owned lands primarily. (the national forests)

1. Additional funds and facilities for improved protection and management of the national forests:
 - a. for further reduction of fire, insect and disease losses.
 - b. for national forest administration to help carry the heavy overload of essential work and to make national forest resources more fully meet the needs of dependent populations.
 - c. for planting. Removal of present statutory limitation in Sec. 2 of the Knutson-Vandenburg Act of June 9, 1930, on appropriations for national forest planting.
 - d. for financing the Forest Service to carry on self-liquidating logging operations in areas unattractive to private enterprise where there is a chance to salvage national forest timber or improve the stand.
 - e. for forest improvement, employing local persons, otherwise unemployed, whose natural work opportunity is on national forests; with provision for rehabilitation of stranded agricultural populations within national forests.
2. Authority to require - of persons who own timber land and who seek to purchase national forest timber - proper management of the timber land they own as a condition of being allowed to buy national forest timber.
3. Sustained Yield Units covering both privately owned and national forest lands. The purposes of this recommendation (included also as item I-A-10 of that part of the program designed primarily to help solve problems of forest land in private ownership) are (a) to offer practical incentives to owners of private land to practice sustained yield where it would not be possible or of interest for them to do it alone, and (b) to insure stability and permanence to communities dependent on forest industries.

III. Provision for forest research to expedite better practices on public and private lands, in such fields as

1. Forest management, i.e., how to grow, manage and harvest timber as a crop.
2. Protection. Forest entomology, pathology, and fire investigations to develop practices for control of forest insects and diseases inimical to timber growing, and to strengthen fire control and fire weather forecasting.
3. Utilization, to develop improved and extended uses and markets for forest products.
4. Forage, to effect better conservation and utilization of the range resources on forest and related land, and to correlate its use for grazing with timber production, recreation, wildlife, watershed protection and other uses.
5. Flood control, streamflow, and erosion, to ascertain how and to what extent, under given types of watershed protective measures on forest and related wild land, water flow can be regulated and controlled, silting prevented, and maximum usable water supplies provided for domestic use, irrigation, and other purposes; and to increase the efficiency of flood control measures.
6. Social and economic returns. Any forest program should be predicated upon an accurate appraisal and solution of economic obstacles which now prevent optimum management and utilization of forest resources in the best interests of all the people. The effectiveness of specific policies and practices should be carefully weighed from the standpoint of their net return to the individual, to the community, to the region and to the Nation. Or in other words how can the forest resource be made to render the highest social and economic service.

Another major gap is lack of information on the extent of our forest resources, the present rates of depletion and regrowth, and the probable future wood requirements for different parts of the country and for the country as a whole.

There is need, therefore, to amend Section 9 of the McSweeney-McNary act, removing the existing authorization limit for the forest survey and providing for keeping the data up to date after completion.

PROBLEMS THAT MAY NOT BE REACHED

The action program as outlined covers a whole series of forest activities, but it does not give satisfactory assurance that some critical problems will be solved.

Examples are the problems centering in the remaining old growth hardwoods of the Lake States, and the remaining old growth Douglas Fir and Redwood forests of the Pacific Coast.

In such cases all the forms of public cooperation recommended - including public regulation - would help. But even public regulation may leave a long gap during which there could be little or no cutting. Public acquisition should often help. But it might not assure a satisfactory solution because owners might not be willing to sell key areas, and because it might be too slow.

In the long run such extreme authority as would be needed to assure solution would be in the public interest. It might well be in the private interest also. But there is a question if public opinion is ready for such action and willing to pay the bill.

The following information is provided for your information and is not intended to constitute an offer of any financial product or service.

Investment and the investment manager is the primary responsibility of the investor and the investment manager is not responsible for the investment.

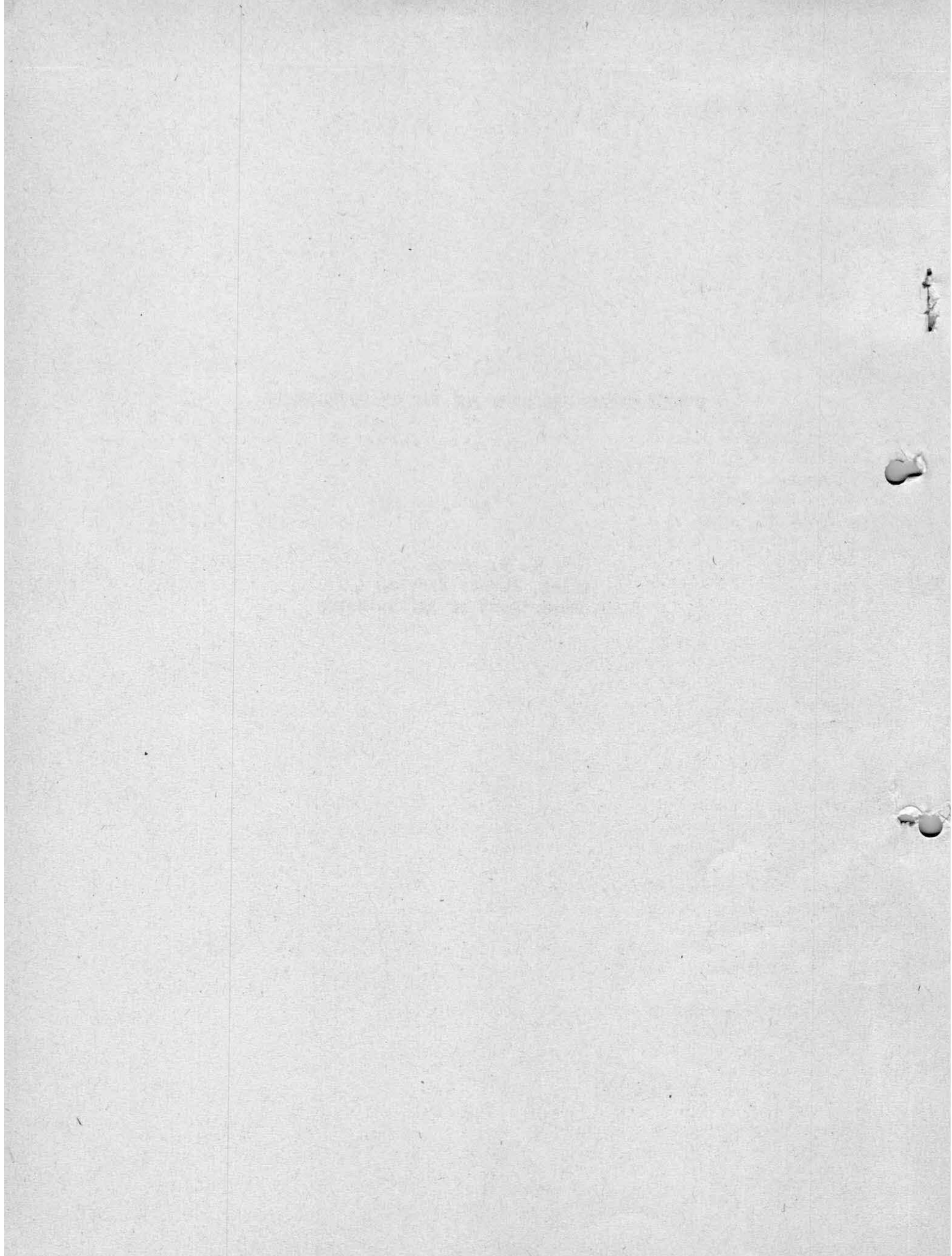
In this regard, the investor is responsible for the investment and the investment manager is not responsible for the investment. The investor is responsible for the investment and the investment manager is not responsible for the investment.

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PUBLIC WORKS PROGRAMS FOR FOREST DEVELOPMENT

by

L. F. Watts
Chief, Forest Service
U. S. Department of Agriculture



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(Delivered by R. E. Marsh, Assistant Chief of the Forest Service, at Meeting of the American Civic and Planning Association, Omaha, Nebraska, June 14, 1943)

Scope of the Program

It is appropriate that a discussion of works programs on our forest lands should follow the discussion of water power, reclamation, and flood control. Management of forest lands is vitally related to projects in these fields. Measures for the protection and improvement of forests on the headwaters of major streams contribute inevitably and materially to the safeguarding of water power installations, of reservoirs impounding water for reclamation projects, and of various flood control structures; they increase their efficiency, and prolong their period of usefulness. A forest-work program, no less than power and reclamation projects, opens up new fields of economic activity and develops new sources of national income.

At the outset, let me point out that it is not my intention to confine this discussion to the National Forests. The National Forests comprise only a small part of the land capable of producing timber of commercial quality and quantity. They by no means measure the opportunities for advancing our post-war economy through forest work.

Justification for extending a public works program to private forest lands need hardly be sought. The public has a large stake in the forest as a natural resource, irrespective of ownership, and has already assumed large responsibility for the protection of all forest lands from fire, insects, and disease. Forest planting on farm lands has been subsidized for years, and public loans have been made for the construction of privately owned timber-processing plants. Indeed, the scope of public work on private forest lands might be greatly expanded, were it backed by assurance that such lands would be kept productive and managed with due regard for the public interest. Meanwhile, public ownership gives greatest assurance that improvements and facilities constructed as public works projects will be adequately maintained and that the public interest will have priority in the management of the resource.

Advantages of Forest Work

Before outlining the activities that may be undertaken for the development of our forests, it is worth while to point out certain characteristics of forest work that justify its place in a comprehensive program of public works.

For one thing, forest lands are widely distributed and are available for useful employment in many parts of the country. For another thing, most of the tools and equipment needed for this work are not highly specialized and are generally ready at hand. Much of the work can be done with simple hand tools. Trucks, tractors, bulldozers, graders, air compressors, and concrete mixers--the heavy equipment most generally needed--are standard items in commercial use, and experienced operators and mechanics can generally be picked up in any community. Under adequate technical direction forestry projects can absorb a large number of unskilled men.

Forest work can be readily organized to be handled from camps. Problems of the homeless worker and of overcrowded urban areas may be relieved by this means; but the work is also particularly adapted to the employment of local residents in rural localities. Where need for rural employment and supplementary farm income is greatest, a large volume of potential forest work is generally available.

Beyond all this, to my mind one of the most significant aspects of any program for post-war public works in the forest is what this kind of work may mean to the young men returning from war. A great responsibility rests upon those of us who will have a part in taking them back into pursuits of peace. These are most certainly and satisfyingly assured in the useful, healthful, absorbing tasks involved in a forest works program.

Finally, forest work is suitable for a prominent place in a public works program because it does not compete with any established industry. Instead, it tends to facilitate and enlarge the field for private industry.

Forest Activities Adapted to Public Works

Acquisition of Forest Land

Millions of acres of forest land in private ownership have been reduced to nonproductive condition by shifts from crop agriculture, by erosion, destructive forest practices, or fire. Because so long a time must elapse before these lands can again yield income, the cost of rehabilitation is often more than private owners may be expected to bear. Public ownership offers the best opportunity of restoring such land to economic productivity. Much of it should be brought into the National Forests by purchase and exchange. State, county, and municipal forests should also absorb a substantial acreage. Also, where the public interest in non-income-producing benefits is paramount, as on critical watersheds, public ownership is essential. During the past 20 years the Forest Service has been studying local conditions throughout the country in order to determine the location, extent, and priority of forest lands that should be in public ownership.

Acquisition of forest land by the public should, then, be an important part of a public-works plan. The consolidation of existing and the establishment of new public-forest units may provide larger opportunity for public works in sections where the field is limited and the need for employment great.

The very process of acquisition on a large scale requires much labor, since it involves preliminary field examination, survey, appraisal, title examination, etc. For such work the Forest Service maintains a skeleton organization of experienced and skilled men, upon which an employment program could be rapidly expanded to handle field and office work requisite to care for several millions of acres a year, without delay, at any time that funds are made available.

Fire Protection

Protection against fire is indispensable in the conservation of forest resources. Some degree of protection is now afforded 75 percent of the forest land in the United States, but this protection is by no means adequate. An area almost as large as Montana and Idaho, mainly in the South, is still without organized protection. The urgent task of providing organized protection for forest lands not now so protected and of intensifying protection elsewhere, should be a major objective of a post-war public works program.

A wide variety of projects are involved such as provision for detecting, reporting, and attacking forest fires in the shortest possible time. These involve comprehensive area surveys, mapping of forest fuel types, analysis of the most effective lookout coverage, and location of essential transportation and communication facilities. Lookout towers and cabins must be erected, telephone lines set up, and transportation facilities, landing fields, water holes, fire-crow barracks, equipment warehouses, and radio stations provided. All these detection and suppression activities will absorb large numbers of workers; but the largest volume of employment will be used in hazard-reduction tasks, such as the felling of snags, the construction of fire-breaks, and the elimination of inflammable material along trails, roads, and railroads and in the vicinity of camp grounds and recreational areas.

For such work on the existing National Forests and other public lands, not counting maintenance and other activities, about 1 million man-months would be needed, and four-fifths of this would be for hazard reduction. Obviously most of this work would be in the West where the bulk of the public lands are located. Estimates of the additional man-power required for the protection of private forest lands are not available; but it is generally recognized that present protective efforts on private land are less than half of what is needed, and that the volume of hazard reduction is fully as great as on comparable public land.

Control of insects and disease is another forest-protection activity for which the needed labor is not ordinarily available. Elimination of currant and gooseberry bushes in the white pine regions in order to eradicate blister rust makes the most immediate call for men. Bark beetle control is an important activity in the ponderosa pine forests of the West. In the East, control of the Dutch elm disease and gypsy moth may require many workers.

Resource Development

But protection against fire and other destructive forces is only the beginning of the job of developing the nation's forest resource. If we are to maintain economic timber production, a huge amount of work in

reforestation and timber stand improvement must be undertaken. Through misuse and neglect, large areas have been rendered nonproductive; also much of the land in second growth is only partly productive, because of inadequate stocking, the presence of inferior species and cull trees, and the inroads of fire, insects, and disease.

The forests on other large areas have been wrecked by natural catastrophes such as fires and storms. An example is the great Tillamook burn in western Oregon, where almost one-quarter of a million acres of forest, mostly heavy timber, was destroyed within a few August days in 1933. The land, nearly all privately owned, is now little better than a barren waste -- perhaps even worse, for it constitutes a potential source of conflagrations that may sweep into surrounding unburned forests. Naturally of high productivity, it could be rehabilitated but this would necessitate a longer period of waiting than most private owners are willing to contemplate.

Another example is the central New England area, where the great hurricane of September 1938 blew down hundreds of thousands of acres of timber, seriously damaged many hundreds of thousands besides, and created a worse forest-fire hazard than the region had previously known. Here again, the resources of many of the private landowners have been inadequate to undertake the necessary measures of rehabilitation.

Estimates for 1938 indicated that for the country as a whole some 77 million acres were in need of planting. The magnitude of this job can be realized when I tell you that through all the years up to 1940 only 3 $\frac{1}{2}$ million acres had been planted successfully by all agencies, public and private. A program involving the planting of 32 million acres in a period of 25 years by or with the assistance of public agencies has been suggested. This program would require the expansion of existing nursery facilities to at least 3 times their present capacity. This nursery expansion should begin now, in order that the seedling and transplant trees may be ready for the men seeking employment in the post-war period.

These men will be needed also for cultural operations such as weeding, thinning, pruning, and cutting or girdling of overtopping and worthless trees, to improve the quality and quantity of timber in second-growth forests and on restocking areas. Such work requires efficient technical supervision and, handled on a large scale, presents a problem of organization and administration. But it calls only for simple skills and inexpensive tools.

Selection of forest lands for timber stand improvement work should be governed largely by economic considerations. Work should be concentrated first on relatively accessible areas where prospective timber values are high. A 25-year program involving some 65 million acres has been suggested.

A permanent system of roads and trails is essential for effective management and use of public and private forest lands. Construction of roads will provide access to the large bodies of unreserved virgin timber still untapped in the West, especially the Northwest, and will facilitate sustained-yield forest management everywhere. Roads, trails, and landing fields make areas of potential fire risk quickly and easily accessible, and also open up the scenic and sporting resources of the forests for public enjoyment.

Road construction will constitute an important part of a works program on public forest lands. To a large extent, it must be considered a public responsibility on other lands also, because public and private lands are often intermingled and because access to a given forest area is usually determined by topography of adjacent country rather than property lines. For the country as a whole, we shall need to construct more than 12,000 miles of forest highways, 105,000 miles of forest development roads, and 160,000 miles of trails. Two-thirds of the highway construction is needed on Federal lands and about two-thirds of the forest development roads and trails on private lands. Completion of the entire road and trail system would require some 8 million man-months of work.

Other activities in the development of forest resources need only be mentioned to indicate the scope of potential forest work. Upstream watershed improvements to control run-off, prevent erosion, equalize streamflow, and conserve an environment favorable for fish, constitute a field that we are only beginning to understand, but to which research and experience of the past 10 years point the way. Development and use of the forage resources on national-forest ranges also present opportunities for worth while public works. Improvement of stock driveways, range reseeding, control of rodents and noxious weeds and improvement of water supplies are some of the important activities that will contribute to the development of the forest range resource.

The increase in recreational use of the National Forests is evidence of public appreciation of the recreational facilities installed during the past decade. Additional camp grounds, mountain trails, ski-runs, shelters, etc., are certain to be well used. Again public works may serve as a medium for furthering the construction of such recreational improvements. New development should not, of course, encroach upon the 14 million acres which have been set aside as wilderness areas.

Research and Administrative Improvements

As more and more private forest land is put under management, and as more intensive use is made of the national and other public forests, the need increases for extending and refining the technical basis for forest and range management and for more efficient and diversified use of forest products. The research staff of the Forest Service could, if it had the manpower, do much more than it has ever done in carrying experimental operations beyond the test-tube stage. A public-works program could be used to provide the labor for extensive installations of research facilities, such as those for watershed studies at San Dimas, California, and to carry out pilot-plant operations which may well extend beyond experimental cuttings, such as those at Crosssett, Arkansas, to include logging technique.

Other opportunities for public works are found in the construction of offices, dwellings, repair shops, storage depots, communication systems, fences, and other permanent improvements required in administration of the public forests.

It is estimated that the miscellaneous improvements required for recreation, research, and administrative purposes could provide 1,600,000 man-months of employment about equally divided between public and private lands.

Significance of the Forest Work Program

The critical situation of the Nation's forest resource is the most potent argument for the large program of forest work that I have outlined, and for giving it high priority. The economic welfare of the country is vitally affected by the productivity of our forest lands.

Wartime scarcity of strategic materials has shown how indispensable wood is to the economy of the Nation. Tremendous demands for timber products for a wide range of war uses have accelerated the trend of depletion, which was only partially and temporarily relieved in the depression of the early thirties. There is much evidence to lead us to believe that, if full employment is achieved after the war, wood requirements will remain at a high level.

As the Nation's timber situation becomes more acute, the National Forests have to provide a larger share of our total timber supply than hitherto. Growing dependence on these forests is indicated by a 70 percent increase in volume of timber sold from them in 2 years--more than double the rate of increase in lumber output for the country as a whole. Without violating established wilderness areas, other undeveloped portions of the National Forests should be opened up as soon as possible so that timber now inaccessible may be reached as needed. Furthermore, timber stand improvement and other management measures that will result in the production of timber of large size and high quality should be carried out over large areas. The importance of such measures has been forcibly emphasized by difficulties in obtaining supplies of certain items during the past year.

I have emphasized the importance of increased public ownership in the solution of the Nation's forest problem. But that should not conceal the fact that a large part of the best timber-producing land should remain in private ownership. Encouraging progress in forest practice has been made by private owners, both large and small. Especially during the immediate pre-war years the number of operating companies that employed foresters and took steps through selective cutting, reforestation, and special protective measures to insure a continuous supply of raw material for their mills increased markedly. Demonstrations of operating results, good reproduction, and gratifying growth of young timber in many forest regions have largely eliminated doubts as to the financial soundness of long-range forest planning for private owners under favorable conditions.

But with one-third of the Nation's standing timber confined to the 6 percent of our commercial forest land in the western part of Oregon and Washington, and with forest growing stock in all parts of the East and South entirely inadequate to sustain the current rate of cutting, we cannot look with complacency on continued widespread destructive cutting and the indiscriminate harvesting of immature timber. The achievement of good practice on private lands is still so far from the ultimate goal and the threat to timber depletion in many communities is so real, as still to be a matter of national concern. As a nation, our dependence on our timber supply is too vital to permit its dissipation through ignorance, carelessness, or selfish exploitation on the part of the private owner. I am convinced that continued productivity of the forest land not in public ownership can be assured only by public regulation

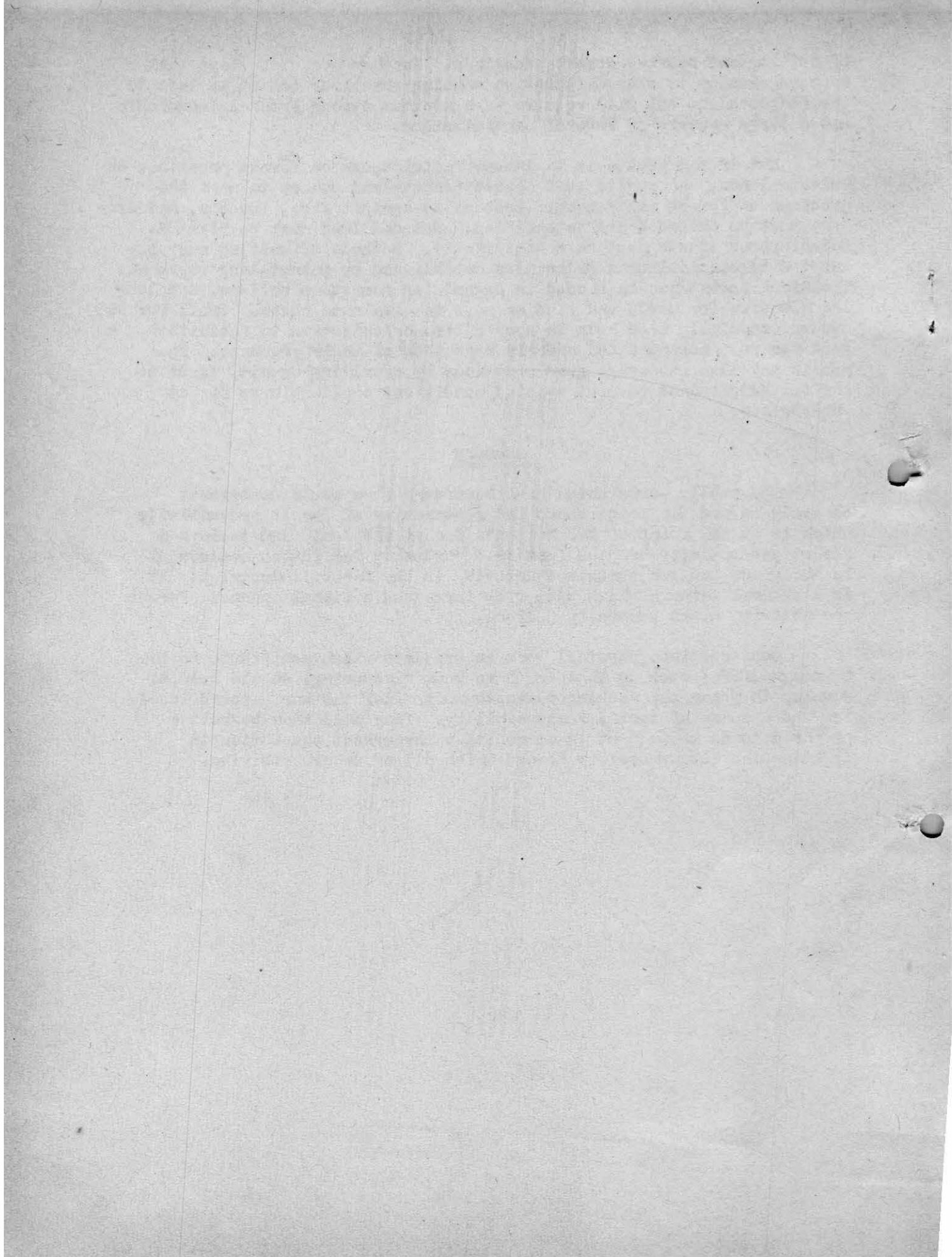
of cutting and related forest practices. Furthermore, I believe that such regulation to stop destructive cutting practices cannot be left to the States alone but will require as a minimum strong Federal leadership and a large measure of Federal participation.

But if the public is to impose restrictions on forest practices on private lands, the public must assist forest-land owners to meet the problems of forest management. Protection against fire, insects, and disease must be extended and intensified. Denuded land must be planted. Deteriorated stands must be rehabilitated. Methods of cutting must be adapted to silvicultural principles established by painstaking research. Technical assistance is needed in organizing forest operations, developing new uses for wood, and finding ways to eliminate waste. Small forest owners especially need help in cooperative organization to facilitate good forest management and orderly marketing of their products. The public may also encourage good practices by providing credit, insurance, and tax adjustments to meet special conditions applicable to forest enterprises.

Summary

The public works which have been suggested would contribute directly toward the maintenance and restoration of forest productivity which is at the heart of the Nation's forest problem. And increased forest productivity creates further opportunity for future employment in the woods and for sustained activity in the forest industries. It is a channel through which will flow increased national income. Forest productivity means community welfare.

Constructive, physical work on projects which contribute to the common welfare, such as those we have been discussing, should help to develop in young men seeking re-employment after the war a sound idealism and a sense of social responsibility. They will then be better prepared to do their part in communities throughout the Nation in creating the better society toward which all of us are striving.



Widow of Chief Lyle Watts Dies in Calif.

1983
Nell B. Watts, 95, the widow of
Lyle F. Watts, chief of the Forest
Service 1942-52, died in her sleep
March 28 at Ave Maria Convalescent
Hospital in Monterey, California.

Mrs. Watts was born January 29, 1888,
in Park City, Utah.

She is survived by a son, six grand-
children and four great-grandchildren.

improved
Revised Version
for Chief R.M. Peterson
Feb.-March 1983

Lyle Ford Watts (1890-1962)

Seventh Chief of the Forest Service (1943-1952)

Lyle Watts was born November 18, 1890, on a farm near Clear Lake, Iowa. He studied forestry at Iowa State Agricultural College, Ames, earning his B.S. degree in 1913. He later received M.S.F. and honorary D.Sc. degrees there. As a student he held two summer jobs with the Forest Service. Upon graduation Watts joined the service and he was to remain with it for most of 38 years.

Early in his career Watts had charge of timber survey work in Wyoming and Utah, then directed nursery tree planting in Idaho. He served as Supervisor of three National Forests in Idaho between 1918 and 1926. He was assistant chief for forest management in the Intermountain Region from 1926 to 1928. Then, for 15 months he organized and headed the department of forestry at Utah State Agricultural College, Logan, before returning to the Forest Service as senior silviculturist for the regional experiment station at Ogden, where he directed watershed studies. In 1931 he became Director of the regional forest experiment station at Missoula, Montana.

In February 1936 Watts was appointed North Central Regional Forester at Milwaukee, Wisconsin, during a period of establishment and expansion of National Forests in that region. Three years later he took the same post for the heavily forested Pacific Northwest Region. In the fall of 1942 he was special assistant to Secretary of Agriculture Claude Wickard for farm labor activities. On January 8, 1943, he became Chief of the Forest Service, serving during the war and postwar period when many special forest product and planning projects were undertaken.

Watts was an earnest advocate of State, private, and Federal cooperation to assure more efficient and less wasteful timber-harvesting methods by operators on privately owned land, backed up by Federal regulation. However, such Federal regulation never became law, and in this respect Watts was unsuccessful as had been his like-minded predecessors: Gifford Pinchot, Henry Graves, Ferdinand Silcox, and Earle Clapp. Nevertheless, lumbering practices did gradually improve, through the growth of large, well-financed, well-managed firms interested in permanence and stability, frequently led by the pulp and paper industry. These firms set a good example for all operators. The long threat of Federal regulation helped to hasten this change, as did the increasingly stronger laws regulating cutting methods in some major timber States.

Watts helped get much important cooperative legislation passed that advanced forestry nationwide, particularly technical services to landowners. He regarded the following as his major accomplishments as Chief: 1. A more than 20 percent reduction in cattle grazing on national-forest lands in ten years despite fierce opposition from many stockmen; 2. Maintenance of long-term sustained yields of timber on all National Forests while harvesting was being rapidly accelerated to meet greatly increased postwar demands; and 3. Implementing a policy of selecting vigorous and capable young men for leadership positions aimed at retaining the agency's forward-looking, aggressive tradition. Watts also helped start international forestry work under the United Nations' Food and Agriculture Organization, for which he received the Croix du Chevalier de la Merite Agricole from the French government and the Distinguished Service Award from the U.S. Department of Agriculture.

In 1953, after retiring from Federal service, Watts accepted appointment as chairman of Oregon's Water Resources Committee, a group instrumental in securing reform of the State's water law two years later. He was prominent in other conservation causes, particularly in the affairs of the Izaak Walton League. He served as conservation adviser to U.S. Senator Richard L. Neuberger of Oregon, 1954-59, and then to his widow Maureen Neuberger, who succeeded him in office in 1960. In 1956 Watts served on the national executive board of Conservationists for Stevenson-Kefauver and

in 1960 was on the natural resources advisory committee for the Kennedy-Johnson presidential campaign. Lyle Watts died on June 15, 1962, in Portland, Oregon, in his 72nd year.

References: News releases, articles, and clippings in Forest Service History Section biographical files.

--Frank J. Harmon

Biographical Sketch of Lyle Ford Watts (1890-1962)

By Frank J. Harmon

Lyle Watts, seventh Chief of the Forest Service (1943-52), was born November 18, 1890 near Clear Lake, Iowa, and studied forestry at Iowa State College, Ames, receiving his B.S. degree in 1913. He later received M.S.F. and honorary D.Sc. degrees there. As a student he had two summer jobs with the Forest Service, which he joined upon graduation, remaining in it for over 38 years, virtually his entire career, both in field research and land management work.

He was soon put in charge of timber survey work in Wyoming and Utah, then directed nursery tree planting in Idaho. He served as supervisor of three National Forests in Idaho, 1918-26, then as assistant chief, forest management, Intermountain Region, 1926-28. For 15 months he organized and headed the school of forestry at Utah State College, Logan, then rejoined the Forest Service as senior silviculturist for the experiment station at Ogden, directing watershed studies. In 1931 he became director of the experiment station at Missoula, Mont., supervising a broad range of research studies.

In February 1936 Watts was appointed North Central Regional Forester at Milwaukee, Wis., during a period of largescale establishment and expansion of National Forests in that region. Three years later he took the same post for the heavily forested Pacific Northwest Region at Portland, Ore. In the fall of 1942 he was special assistant to Secretary of Agriculture Claude Wickard for farm labor activities. On January 15, 1943 he became Chief of the Forest Service, serving during the critical war and postwar period when many special forest product and planning projects were undertaken.

Watts was ^{an} earnest advocate of State, private, and Federal cooperation to assure more efficient and less wasteful timber harvesting methods by operators

on privately owned land, backed up by Federal regulation as a last resort. However, Federal regulation never became law, and in this respect he was unsuccessful as had been his like-minded predecessors, Gifford Pinchot, Henry Graves, Ferdinand Silcox, and Earle Clapp. Nevertheless, conditions gradually improved through State laws and the good example of some major firms. Watts also helped get much important cooperative legislation passed that advanced forestry nationwide, particularly technical services to landowners.

Watts himself regarded his major accomplishments as Chief as a more than 20 percent reduction in cattle grazing on national forest lands in 10 years despite fierce opposition, a balanced increase in timber cut up to sustained yield levels, to meet greatly increased postwar demands, and a policy of selecting vigorous and capable young men for leadership positions aimed at retaining the agency's forward-looking, aggressive tradition. Watts also helped start international forestry work under the United Nations, for which he received an award from France. He died June 15, 1962 in Portland.

References:

Biographical file of press releases, History Section, Forest Service.

"They Never Retire," American Forests, 60:7 (July 1954), pp. 13, 52-54.

"He Guards a Forest Legacy," The Sunday Oregonian, Portland, Ore., February 21, 1943, p. 6.

Obituary, Journal of Forestry, 60:7 (July 1962), p. 582.

UNITED STATES DEPARTMENT OF AGRICULTURE
Office of the Secretary

Washington, June 5, 1952

Lyle F. Watts to Retire; Richard E. McArdle Named U. S. Chief Forester:

Secretary of Agriculture Charles F. Brannan announced today the appointment of Richard E. McArdle as chief of the Forest Service, U. S. Department of Agriculture. He will succeed Lyle F. Watts, chief forester for the past nine years, who has announced his decision to retire from active duty June 30.

Paying tribute to Mr. Watts, Secretary Brannan said: "He has been one of the most effective and courageous leaders of the Forest Service in the great tradition of its service to the American people. Under his guidance, forestry has taken a much greater part in the agricultural resources conservation program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts very much, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

Mr. Watts' retirement from active duty as chief of the Forest Service will mark the completion of a public career service of nearly 40 years. He has headed the Federal forestry agency since 1943.

Starting as a fire guard in a western national forest, he worked up through the ranks to the Nation's top forestry position. In recognition of his outstanding public service, Mr. Watts in 1950 received the Department of Agriculture's distinguished service award "for distinguished and effective leadership in advancing the conservation of forest resources in the United States and internationally." He was commended for his work in stimulating improved forestry practices in this country, for his stalwart defense of public interests in the use of forest resources, and for his important role in the development of a world forestry organization.

A career government forester, Mr. McArdle has been a member of the Forest Service for more than 25 years. Since 1944 he has served as assistant chief in charge of cooperative forestry programs. Under his leadership, the Federal programs

carried on in cooperation with the States to encourage and facilitate the protection and sound management of the country's forests have been greatly accelerated.

In the Federal-State cooperative fire control program, the area of State and private forest land under organized protection from fire now totals more than 360 million acres, and since 1944, the area that still lacks such protection has been reduced by some 60 million acres.

Cooperative production and distribution of trees for woodland and shelterbelt planting, which dropped to a low rate during World War II, last year passed all previous records. The Federal-State program to provide on-the-ground technical advice and assistance to woodland owners was developed largely during the past eight years.

Mr. McArdle's earlier governmental forestry service included the directorship of two regional forest experiment stations, where he conducted important research work on fire control and on timber growth and yield. During a year's absence from the Forest Service in 1934-35 he served as dean of the School of Forestry, University of Idaho. He served overseas with the U. S. Army during World War I.

A native of Lexington, Ky., Mr. McArdle was brought up in Norfolk, Va. He is a graduate of the University of Michigan, where he received the Bachelor of Science degree in forestry in 1923, an M. S. in 1924, and a Ph.D. degree in 1930. He served as part-time instructor in forestry at the University of Michigan from 1927 to 1930.

Mr. McArdle entered the Forest Service as a Junior Forester in 1924, and was assigned to the Pacific Northwest Forest and Range Experiment Station. One of his early research projects was a study of forest fires, and his research on the subject was interrupted several times by calls to help fight fires as a crew leader during emergency periods in the national forests. Following a three-year leave of absence for graduate study, he returned to the Service to continue his research work in 1930. In 1934 he accepted appointment by the University of Idaho to head

its School of Forestry. He returned to the Forest Service in 1935 to become director of the Rocky Mountain Forest and Range Experiment Station at Fort Collins, Colo. Three years later he moved east to assume the directorship of the Appalachian Forest Experiment Station, with headquarters at Asheville, N. C. In 1944 he was brought to Washington, D. C. as assistant chief of the Forest Service, in charge of State and private forestry cooperation, the position he has held to date.

Mr. McArdle is a member of Sigma Xi, scientific honor society, and a member of the council of the Society of American Foresters.

Prior to his appointment as chief forester, Mr. Watts' forestry career included service in four of the ten national forest regions, two of which he headed as U. S. regional forester. He also spent several years in research work, including five years as director of a forest experiment station. He was the organizer and first head of the School of Forestry at Utah State Agricultural College.

Mr. Watts is chairman of the standing advisory committee on forestry of the United Nations Food and Agricultural Organization. He took an active part in the organization and development of the forestry branch of FAO, and was technical advisor to the U. S. delegate to general sessions of FAO in Quebec in 1945, Copenhagen in 1946, in Washington, D. C. in 1948 and 1949, and in Rome in 1951. He was also a U. S. delegate to the Inter-American Conference on the Conservation of Renewable Natural Resources in Denver in 1948, and attended the United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success in 1949.

Iowa State College has conferred on Mr. Watts an honorary Doctor's degree and its Alumni Merit Award. He also was presented the Croix du Chevalier de la Merite Agricole by the French Government. He has served on the general administration board of the Department of Agriculture Graduate School. He is a fellow of the Society of American Foresters.

Mr. Watts was born in Cerro Gordo County, Iowa, in 1890. He received a Bachelor of Science in Forestry degree at Iowa State College in 1913, and earned the Master of Forestry degree at the same institution in 1928. Following short-term employment as a student assistant on timber survey work, he entered the Forest Service July 1, 1913, as a technical assistant in the Wyoming National Forest. He served successively as assistant supervisor of the Boise National Forest in Idaho, as supervisor of the Weiser and the Idaho National Forests, and as forest inspector working out of the Ogden, Utah, regional office.

It was during a leave of absence from the Federal service in 1928 and 1929 that Mr. Watts organized the forestry school at Utah State Agricultural College. He returned to the Forest Service to engage in research work at the Intermountain Forest and Range Experiment Station in Ogden. In 1931 he was named director of the Northern Rocky Mountain Forest and Range Experiment Station at Missoula, Mont. From 1936 to 1939, he served as regional forester of the North Central Region. He then became regional forester of the Pacific Northwest Region.

In 1942 Mr. Watts was called to Washington, D. C. to take charge of the wartime farm labor activities of the Department of Agriculture.

(EDITORS: Photographs of both Mr. McArdle and Mr. Watts are available for publication purposes from the Press Service, U. S. Department of Agriculture, Washington 25, D. C.)

EASTERN REGION--FOREST SERVICE
U. S. DEPARTMENT OF AGRICULTURE
PHILADELPHIA, PA.

Release Upon Receipt

Lyle F. Watts to Retire. Richard E. McArdle Named U. S. Chief Forester

Philadelphia, June 5.--Appointment of Richard E. McArdle as Chief of the Forest Service, U. S. Department of Agriculture was announced today by Secretary Brannan. He will succeed Lyle F. Watts, Chief Forester for the past nine years who has announced his decision to retire from active duty June 30.

Paying tribute to Mr. Watts, Secretary Brannan said "He has been one of the most effective and courageous leaders of the Forest Service in the great tradition of its service to the American people. Under his guidance, forestry has taken a much greater part in the agricultural resources conservation program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts very much, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

Mr. Watts' retirement from active duty as chief of the Forest Service will mark the completion of a public career service of nearly 40 years. He has headed the federal forestry agency since 1943.

Starting as a fire guard in a western national forest, he worked up through the ranks to the nation's top forestry position. In recognition of his outstanding public service Mr. Watts in 1950 received the Department of Agriculture's distinguished service award "for distinguished and effective leadership in advancing the conservation of forest resources in the United States and

(over)

internationally." He was commended for his work in stimulating improved forestry practices in this country, for his stalwart defense of public interests in the use of forest resources and for his important role in the development of a world forestry organization.

A career government forester, Mr. McArdle has been a member of the Forest Service for more than 25 years. Since 1944 he has served as Assistant Chief in charge of cooperative forestry programs. Under his leadership the federal programs carried on in cooperation with the states to encourage and facilitate the protection and sound management of the country's forests have been greatly accelerated. In the federal-state cooperative fire control program the area of state and private forest land under organized protection from fire now totals more than 360 million acres and since 1944 the area that still lacks such protection has been reduced by some 60 million acres. Cooperative production and distribution of trees for woodland and shelterbelt planting, which dropped to a low rate during World War II, last year passed all previous records. The federal-state program to provide on-the-ground technical advice and assistance to woodland owners was developed largely during the past 8 years.

Mr. McArdle's earlier governmental forestry service included the directorship of two regional forest experiment stations. He conducted important research work on fire control and timber growth and yield. During a year's absence from the Forest Service in 1934-35 he served as Dean of the School of Forestry, University of Idaho. He served overseas with the U. S. Army during World War I.

A native of Lexington, Kentucky, McArdle was brought up in Norfolk, Virginia. He is a graduate of the University of Michigan, where he received the Bachelor of Science degree in forestry in 1923, an M. S. in 1924, and a Ph. D. degree in 1930. He served as part-time instructor in forestry at the University of Michigan from 1927 to 1930.

McArdle entered the Forest Service as a Junior Forester in 1924 and was assigned to the Pacific Northwest Forest and Range Experiment Station. One of his early research projects was a study of forest fires, and his research on the subject was interrupted several times by calls to help fight fires as a crew leader during emergency periods in the national forests. Following a three-year leave of absence for graduate study he returned to the Service to continue his research work in 1930. In 1934 he accepted appointment by the University of Idaho to head its school of forestry. He returned to the Forest Service in 1935 to become Director of the Rocky Mountain Forest and Range Experiment Station at Fort Collins, Colorado and three years later he moved east to assume the directorship of the Appalachian Forest Experiment Station with headquarters at Asheville, North Carolina. In 1944 he was brought to Washington, D. C. as Assistant Chief of the Forest Service, in charge of State and Private Forestry Cooperation, the position he has held to date.

Mr. McArdle is a member of Sigma XI, Scientific Honor Society, and a member of the Council of the Society of American Foresters.

Prior to his appointment as Chief Forester, Mr. Watts' forestry career included service in four of the ten national forest regions, two of which he headed as U. S. Regional Forester. He also spent several years in research work, including five years as Director of a Forest Experiment Station. He was the

organizer and first head of the School of Forestry at Utah State Agricultural College.

Mr. Watts is chairman of the Standing Advisory Committee on Forestry of the United Nations Food and Agricultural Organization. He took an active part in the organization and development of the forestry branch of FAO and was technical advisor to the U. S. Delegate to General Sessions of FAO in Quebec in 1945, Copenhagen in 1946, in Washington, D. C. in 1948, and 1949, and in Rome in 1951. He was also a U. S. Delegate to the Inter-American Conference on the Conservation of Renewable Natural Resources in Denver in 1948, and attended the United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success in 1940.

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Mr. Watts was born in Cerro Gordo County, Iowa in 1890. He received a Bachelor of Science in Forestry degree at Iowa State College in 1913 and earned the Master of Forestry degree at the same institution in 1928. Following short-term employment as a student assistant on timber survey work he entered the Forest Service, July 1, 1913, as a technical assistant in the Wyoming National Forest. He advanced rapidly in national forest administration serving successively as Assistant Supervisor of the Boise National Forest in Idaho, as Supervisor of the Weiser and the Idaho National Forests, and as Forest Inspector working out of the Ogden Utah Regional Office.

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In 1942 Mr. Watts was called to Washington, D. C. to take charge of the wartime farm labor activities of the Department of Agriculture. The following year he was named to his present position as Chief of the Forest Service.

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RELEASE

Chief
PACIFIC NORTHWEST REGION - U. S. FOREST SERVICE
REGIONAL HEADQUARTERS, PORTLAND, OREGON

FOREST NEWS

(Information concerning the National Forests and the work of the Forest Service)

RELEASE IMMEDIATELY

R-6 N-14
6-652

FOREST SERVICE CHIEF RETIRES

Appointment of Richard E. McArdle as chief of the Forest Service, U. S. Department of Agriculture, was announced today by Secretary Brannan. He will succeed Lyle F. Watts, chief forester for the past nine years who has announced his decision to retire from active duty June 30.

McArdle began his forest service career in 1924 as a junior forester assigned to the Pacific Northwest Forest and Range Experiment Station in Portland. He worked on various research projects at the station for ten years with time out for three years of graduate study during this time.

From 1939 to 1942, Watts served as regional forester of the Pacific Northwest Region with headquarters in Portland.

Paying tribute to Watts, Secretary Brannan said, "He has been one of the most effective and courageous leaders of the Forest Service in the great tradition of its service to the American people. Under his guidance, forestry has taken a much greater part in the Agricultural Resources Conservation program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts very much, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

Watts' retirement from active duty as chief of the Forest Service will mark the completion of a public career service of nearly 40 years. He has headed the federal agency since 1943.

2 - Press Release - R-6 N-14, 6-652

Starting as a fire guard in a western national forest, he worked up through the ranks to the nation's top forestry position. In recognition of his outstanding public service, Watts in 1950 received the Department of Agriculture's distinguished service award "for distinguished and effective leadership in advancing the conservation of forest resources in the United States and internationally." He was commended for his work in stimulating improved forestry practices in this country, for his stalwart defense of public interests in the use of forest resources and for his important role in the development of a world forestry organization.

A career government forester, Dr. McArdle has been a member of the Forest Service for more than 25 years. Since 1944 he has served as Assistant Chief in charge of cooperative forestry programs. Under his leadership, the federal programs carried on in cooperation with the states to encourage and facilitate the protection and sound management of the country's forests have been greatly accelerated.

In the federal-state cooperative fire control program, the area of state and private forest land under organized protection from fire now totals more than 360 million acres and since 1944 the area still lacking such protection has been reduced by some 60 million acres. Cooperative production and distribution of trees for woodland and shelterbelt planting, which dropped to a low rate during World War II, last year passed all previous records. The federal-state program to provide on-the-ground technical advice and assistance to woodland owners was developed largely during the past eight years.

3 - Press Release - R-6 N-14, 6-652

McArdle's earlier governmental forestry service included the directorship of two regional forest experiment stations. He conducted important research work on fire control and timber growth and yield. During a year's absence from the Forest Service in 1934-35, he served as dean of the forestry school at the University of Idaho. He served overseas with the U. S. army during World War I.

A native of Lexington, Ky., McArdle was raised in Norfolk, Va. He is a graduate of the University of Michigan, where he received the bachelor of science degree in forestry in 1923, an M. S. in 1924, and a Ph.D. degree in 1930. He was part-time instructor in forestry at Michigan University from 1927 to 1930.

Dr. McArdle is a member of Sigma Xi, scientific honor society, and a member of the council of the Society of American Foresters.

Prior to his appointment as Chief Forester, Watts' forestry career included service in four of the ten national forest regions, two of which he headed as U. S. regional forester. He also spent several years in research work, including five years as director of the Northern Rocky Mountain Forest and Range Experiment Station at Missoula, Mont. He was the organizer and first head of the school of forestry at Utah State Agricultural College.

Watts is chairman of the standing advisory committee on forestry of the United Nations Food and Agricultural Organization. He took an active part in the organization and development of the forestry branch of FAO and was technical advisor to the U.S. delegate to general sessions of FAO in Quebec in 1945; Copenhagen in 1946; Washington, D.C. in 1948 and 1949; and Rome in 1951. He was also a U.S. delegate to the Inter-American Conference on

4 - Press Release - R-6 N-14, 6-652

the Conservation of Renewable Natural Resources in Denver in 1948, and attended the United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success in 1949.

Iowa State College has conferred an honorary doctors degree and its alumni merit award on the retiring chief forester. He has been presented also with the Croix Du Chevalier De La Merite Agricole by the French government. He has served on the general administration board of the Department of Agriculture Graduate School and is a fellow of the Society of American Foresters.

Born in Cerro Gordo county, Ia. in 1890, Watts received a bachelor of science degree in forestry at Iowa State College in 1913 and earned the master of forestry degree at the same institution in 1928.

In 1942, Watts was called to Washington, D.C. to take charge of the war-time farm labor activities of the Department of Agriculture. The following year he was named Chief of the Forest Service, the position from which he is now retiring.

Lake City Reporter and Gazette
Friday, June 13, 1952

3278 - ~~W. Watts~~
3101 - ~~W. Powell~~
3008 - ~~W. McC...~~
3215 - ~~W. Watts~~

McArdle Will Succeed Watts As Chief Forester

Richard E. McArdle, well known in Lake City as former director of the Southeastern Forest Experiment Station, has been named by Secretary of Agriculture Brannon to succeed Lyle F. Watts as Chief Forester of the U. S. Forest Service, upon the latter's retirement June 30 after 40 years service.

McArdle, with 25 years service, has been assistant chief since leaving the Southeastern Forest Experiment Station in 1944. He has been in charge of cooperative forestry programs developing on-the-ground technical Federal-State assistance for the last eight years.

He was born in Lexington, Ky., and lived in Virginia.

He received his B. S. in 1923, his M. S. in 1924 and his PHD in 1930, all from Michigan. He was in research work with the Northwestern Forest Experiment Station and later head of the Idaho Forestry School, then director of the Northwestern Forest Experiment Station and later of the Southeastern Forest Experiment Station.

Watts was born in 1890, received his BS from Iowa State in 1913 and his M. F. in 1918. He organ-

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THE LUFKIN DAILY NEWS
Lufkin, Texas
6-15-52
Carl G. Krueger
Lufkin, Texas

U.S. Chief Forester To Retire

WASHINGTON—Appointment of Richard E. McArdle as chief of the Forest Service, U. S. Department of Agriculture, was announced by Secretary Brannan. He will succeed Lyle F. Watts, chief forester for the past nine years, who has announced his decision to retire from active duty June 30.

Mr. Watts' retirement from active duty will mark the completion of a public career service of nearly 40 years. He has headed the Federal Forestry Agency since 1943.

Starting as a fire guard in a western national forest, he worked up through the ranks to the nation's top forestry position. In recognition of his outstanding public service, Mr. Watts in 1950 received the Department of Agriculture's Distinguished Service Award "for distinguished and effective leadership in advancing the conservation of forest resources in the United States and internationally." He was commended for his work in stimulating improved forestry practices in this country, for his stalwart defense of public interest in the use of forest resources and for his important role in the development of a world forestry organization.

Mr. McArdle, a native of Lexington, Kentucky, was brought up in Norfolk, Virginia. He is a graduate of the University of Michigan, where he received the bachelor of science degree in forestry in 1923, M.S. in 1925, and a Ph.D. degree in 1930. He served as part-time instructor in forestry at the University of Michigan from 1927 to 1930.

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ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 11-19-2001 BY SP-10/STP

T.W.O.

State Parks Extend Invitation To You For Your Vacation

The solitude of our forests, the splendor of our lakes, the comforts and conveniences of our facilities, and the hospitality of Mississippi awaits you in our state parks. The state parks of Mississippi are located throughout the great Magnolia State and are open to the public for recreation of all sorts.

Clarke Park, located at Quitman, is equipped with group camp facilities for accommodating 80 people. In addition to the group camp facilities there are 10 beautiful and spacious cabins equipped with home conveniences for you to spend a day, a weekend, a week, or even longer enjoying wholesome recreation of a type second to none.

At Holmes County State Park, Durant, group camp facilities are available to accommodate 80 people and there are 5 cabins equipped with home conveniences for families to enjoy recreation as long as they like among the splendor and beauty of the Mississippi forests and lakes.

Leroy Percy Park, located at Hollandale, has group camp facilities to accommodate 80 people and is equipped with 6 cabins for families to enjoy the luster and beauty of Delta scenes among giant hardwood trees and hanging moss.

Percy Quinn State Park, located at McComb, has group camp facilities to accommodate 250 people and 18 cabins to accommodate families with all the conveniences of home. The beauty and splendor of this park awaits the public.

Roosevelt State Park, located at Morton, has group camp facilities

the accommodation of families for overnight, weekends, or as long as you would care to stay. Swimming, boating, fishing and wholesome recreation awaits the public at Roosevelt State Park.

Shelby State Park at Hattiesburg, located in the heart of the longleaf pine section of the State has group camp facilities available for 300 people and 12 beautiful brick cabins to accommodate families for vacations. The beauty of this park is second to none and it also ranks high in fishing and many other forms of recreation.

Spring Lake Park, located at Holly Springs, has 5 spacious cabins equipped with modern conveniences to accommodate families for a week end of wholesome fun and recreation.

Tishomingo State Park, located at Tishomingo, has group camp facilities to accommodate 100 people and 13 cabins to accommodate families with all the conveniences of home for vacation, recreation and wholesome living.

Tombigbee State Park, located at Tupelo, has 10 cabins available to families for any length of time requested and is well equipped with home conveniences to make your stay more enjoyable.

Visitors will be admitted free to the parks of Mississippi for the entire season. Reservations for overnight accommodations should be made in advance by contacting the park superintendent or State Park Service, Box 649, Jackson, Mississippi. Boats may be rented for 25 cents per hour or \$1.00 per day. Facilities for swimming are 16 cents for children and 25 cents for adults. Group camp facilities may be obtained for 25 cents per person per day in groups of 50 or more or 30 cents per person per day in groups of less than 50. All picnicking grounds are available to the public free of charge. Rent on cabins vary from \$5.00 to \$15.00 per weekend and from \$12.00 to \$32.00 per week. Lodges may be rented for private parties from \$15.00 to \$25.00.

These parks have been built and maintained by the State of Mississippi and are available to you for your use. Visit your state parks and call upon your park superintendent. He will be more than glad to see that you enjoy your visit and will also give you a hearty welcome to attend as often as you wish. Fishing is available in all state parks except Tishomingo.

For further information on the state parks of Mississippi write State Board of Park Supervisors.

McArdle Named Chief of U. S. Forest Service

Richard E. McArdle has been selected by Secretary Brannan of the Department of Agriculture to succeed Lyle F. Watts as Chief of the United States Forest Service upon the latter's retirement June 30 according to telegram received today by Forest Supervisor E. R. De Silvia of the Mississippi National Forests.

McArdle has served in the U. S. Forest Service for 25 years. He was formerly Director of the Southeastern Forest Experiment Station at Asheville, North Carolina. He has served as Assistant Chief of the Forest Service since leaving North Carolina in 1944 and has been in charge of cooperative forestry programs engaged in the development of on-the-ground forestry assistance to private timberland owners through the State Forest Service.

(Continued on Page 2)

McArdle Named . . .

(Continued from Page 1)

McArdle was born in Lexington, Kentucky, and lived a good part of his life in Virginia before beginning the study of forestry at the University of Michigan where he was awarded the degrees of Bachelor of Science in Forestry in 1923, Master of Science in Forestry in 1924, and his Ph.D. in 1930. He conducted research work at the Northwestern Forest Experiment Station in Oregon and was Director of that station prior to moving to North Carolina. He was head of the Idaho Forestry School for a short period during his career.

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LYLE F. WATTS

RETIRES—Lyle F. Watts, chief of the Forest Service, U. S. Department of Agriculture, will retire from active duty on June 30, after a public service career of nearly 40 years. Watts, who served as chief forester for nine years, recently visited the Ouachita National Forest. He began his career as a fire guard, and worked up through the ranks to the nation's top forestry position. He has received numerous awards for his work in forest conservation and the development of forest resources. Watts was the organizer of the forestry school at the Utah State Agricultural college.

JUN 30 10 AM '52
S. A. ...

b-wc

Hot Springs Sentinel-Record
6-22-52

Joseph Couch
11-1-50

Reformer

, 1952.

Number 41.

SHONGELO LAKE IS RE-OPENED

Bathers Cautioned To Play Safe

"The drowning of some Smith County child or adult, which will occur if we don't all watch our step, must be prevented." This was the stand taken by the members of the Raleigh Lions Club at their meeting last Monday night while discussing the large interest which has been shown in swimming at Shongelo Lake.

Parents are urged by the club to see that their children do not go in swimming without being watched over. "That lake is deep, and it's farther across than you'd think," Lion E. A. Loftin stated. "It would be easy for a teen-ager to drown by trying to swim across.

Preacher Montie Davis recalled that he had been required to preach several very sad funerals in various localities because beloved son had drowned trying to

prove to his pals that he could swim a greater distance than they.

Ranger Joe Couch of the U. S. Forest Service remarked that the club's interest in accident prevention was well taken. "Lack of funds has prevented us from developing and officially opening the area," Couch said. "As it now stands, Shongelo is simply a part of the National Forest. It is wide open for fishing, swimming, boating, camping or picnicking by everyone, just like every other part of the Forest. No lifeguard or other attendant is on duty at the Lake and the United States cannot be responsible for death or injury to anyone using the area. I hope everyone will be careful so that no accident throws a shadow over the fun which the youngsters of the County are having there."

McArdle Made Chief U. S. Forest Service

Richard E. McArdle has been selected to succeed Lyle F. Watts as chief of the United States Forest Service upon the latter's retirement June 30 according to a telegram received by Forest Supervisor E. R. De Silvia of the Mississippi National Forests.

McArdle has served in the U. S. Forest Service for 25 years. Prior to that time he was dean of the School of Forestry, University of Idaho. He was born in Lexington, Kentucky and received his bachelor degree in forestry from the University of Michigan in 1923, Master of Science in Forestry in 1924 and doctor's degree in 1930.

Retiring Chief Watts made a

Classified

RIDE WANTED - To and from Agriculture, vicinity of junction Old Bladensburg and Piney Branch Roads, Silver Spring. Mrs Livingston, Ext. 5240-2347.

WANTED - A ride to and from Agriculture from the vicinity of 24th Avenue and University Lane. Approximately one mile to the right off New Hampshire Avenue Extended. Hours: 9:00 A. M. to 5:30 P. M. L. Lotito Ext. 5777 (¼ mile beyond Tick-Tock) Adjacent to Langley Park Area.

RIDER wanted from Seven Corners, Virginia. Call: Ed McCausland Ext. 6051

RIDE WANTED - To Agriculture from Amherst Road, Lewisdale, Maryland, vicinity Riggs and Ager Roads, and return. Call Mrs. Betty Monroe, Ext. 3547

RIDE WANTED - To and from Agriculture. Vicinity of 14th and Holly Streets, N. W. (near Alaska Avenue.) Hazel Deutsch, Ext. 2915

FOR SALE - Size 12, reversible raincoat, spring coat, beach robe. Lucia Knowlton, X-5412.

WANTED - Any new or used picture post cards. Helen Sollers, EPQ. Room 4150, Ext. 4383.

WILL PARTICIPATE in car pool from vicinity of Franconia Road and Shirley Highway to South Agriculture Building. Ext. 5584.

ROTATOR WANTED - Engleside, Route No. 1, Mt. Vernon, Virginia Area. Call Crann, X-3443.

FOR SALE - Refgr. Universal 7 ft. Good condition \$45. High chair \$4. Spiker X-2264.

WANTED—Ride from 6929 Maple St. N.W., Takoma ark, D.C. to Department of Agriculture and return. Please call Mrs. Hardaway, Br. 22707.

NEEDED—Transportation for two persons between Clifton and 14th

Lyle Watts Leaves Forest Service After 40 Years Service McArdle Named Successor



—USDA Photo.
Lyle F. Watts

Lyle F. Watts, retiring Chief of the U. S. Forest Service, intends to carry on any way he can in the interests of forest conservation, he told his fellow employees in a farewell statement on his last day of official service.

For the next few months, Mr. Watts said, he plans to do a lot of fishing. One of the things that attracted him to the forestry profession when he was a young man, he said, was the thought that it might provide frequent opportunities to go fishing along cool woodland streams. But after nearly 40 years on the job with the Forest Service, he is still waiting for a chance to really fish to his heart's content.

During his last week of official service, Mr. Watts was feted on a number of occasions by members of the Forest Service and officials

ders from their wives not to dilly-dally. Objections by the two men were usually strong enough to keep



—USDA Photo.
Richard E. McArdle

of other agencies. The Secretary of Agriculture's staff meeting on June 26 was devoted mainly to a farewell statement by Mr. Watts to associates in the Department of Agriculture. Mr. Watts formally turned over the reins to his successor as Chief of the Forest Service, Richard E. McArdle, at a meeting of the U. S. Regional Foresters and Directors of Forest Experiment Stations in Washington early this month.

"I am grateful for the wonderful opportunity I have had for nearly forty years to serve the people of America," Mr. Watts said in his farewell statement. "Whatever success I have had is due to the splendid organization and the traditions of public service of the Forest Service."

DAV Auxiliary Names Officers

TREE TIPS



JUNE

Published Monthly by Trees for Tomorrow Inc., Merrill, Wis.

1952

THE LOOKOUT TOWER . .

It is June and the countryside is lush and green. However, those who planted trees this spring will remember the 1952 season as one of extreme contrasts. Weather conditions ranged all the way from an unseasonable hot spell, with fire hazard at a peak point, to the unusual sight of a Trees for Tomorrow planting machine in operation during a snow storm near Boulder Junction on Saturday, May 10. Later the abundant and gentle rains came, and all in all the survival count should prove normal.

Stepped-up demand for use of machines in the planting of trees was the most significant factor in the trend toward large scale reforestation.

During the five and one half weeks, from April 21 to May 28, Trees for Tomorrow, using four planting machines, planted 773,000 trees for private landowners in the following counties: Vilas, Oneida, Marinette, Forest, Iron, Lincoln, Langlade and Shawano.

Machines purchased by banks in Wood, Marathon, Taylor, Vilas, Oneida, and Forest counties as well as other machines operated by counties and industry accounted altogether for the planting of 1,631,500 trees for private landowners in the region this spring.

The highest total of trees planted by machine in a single day by Trees for Tomorrow reached a new high of 24,000 seedlings in 8 hours and 15 minutes on an ideal planting site of the Lake Superior District Power Company in Iron county.

Annual free tree distribution of 500,000 seedlings by Trees for Tomorrow for hand planting, distributed in bundles of 1,000 per person, were handed over in planting demonstrations to 500 landowners.

With the spring season, 1952, hardly a matter of record, a meeting of county agents, district foresters of the Conservation Department, industrial foresters, and representatives of the Soil Conservation Service was held in Merrill on June 25 to lay down plans for 1953. Improvements and the adjustment of machines in light of this year's performance, experiences in handling crews, the routing of nursery stock, and coordinating manpower and machines for 1953 were discussed.

SIDELIGHTS ON NAMES IN THE NEWS

RESIGNED, after 40 years of service, F. G. Wilson, superintendent of cooperative forestry, state conservation department. First state extension forester, Wilson supervised the planting of the 39 year old Star Lake Plantation, was responsible for much of the planning and establishment of Wisconsin's system of county forests and land zoning.



F. G. WILSON



JAY PRICE

PRESENTED a superior service award by the U. S. Department of Agriculture in Washington, D. C., recently for outstanding ability and leadership in forestry, Jay Price, regional forester, U.S. Forest Service, Milwaukee, administers the 8 million acres of forest land in the 9th regional district. Planting one-third of a million acres of forest land in the 9th district since 1939, showing an eight-fold increase in timber production from the national forests, and twenty per-cent increase in lands put under fire protection because of forest management were among achievements listed. Last year Price was elected to the rank of fellow in the Society of American Foresters.



D. C. EVEREST

APPOINTED a consultant to the Secretary of Agriculture, D. C. Everest, chairman of the board of the Marathon Corporation, Rothschild, and a member of the board of directors of Trees for Tomorrow, will help plan ways and means of increasing activity in the control of forest insects and diseases. A meeting of consultants was held in Washington, D. C., May 26-27. Others appointed are: Walter Damtoft, Champion Paper and Fibre Co., Canton, N. C.; Ernest Kolbe, Western Pine Association, Portland, Ore.; Fred H. Lang, Association of State Foresters, Little Rock, Ark.; A. M. McAndrews, Syracuse University; and Fred W. Roewkamp, Los Angeles, Calif.

NAMED U. S. Chief Forester by Secretary of Agriculture Brannan, to succeed Lyle F. Watts, who is retiring after nearly forty years of public service, Richard B. McArdle, assistant chief, was in charge of state and private forestry cooperation. A native of Lexington, Kentucky, McArdle attended the University of Michigan, receiving his B. S. degree in 1923, his PhD degree in 1930. He has had substantial support of both industry and state foresters because of his promotion of the cooperative program in forest fire prevention and in tree planting under the Clark-McNary Act. McArdle, former dean of the University of Idaho forestry school, received a special conservation award at the AFA meeting held at Eagle River in 1950.



R. E. McARDLE



R. IHLENFELDT

ELECTED chairman of the 1953 conservation workshop for high school students at a meeting of the consultants and workshop directors held at the Trees for Tomorrow camp June 12, Roy S. Ihlenfeldt, Madison, is in charge of conservation education for the department of public instruction, has long been identified with the conservation movement in Wisconsin. He is a member of the State Curriculum Committee on conservation education and is also a member of the camp advisory committee.

KEYNOTER, F. J. Schmeackle, head of the conservation education department, Wisconsin State College, Stevens Point, told five weeks' conservation workshop student-teachers there is no other set up in the country like the summer workshop, called it a pilot plant where the interdependence of all resources can be studied first hand and their importance realized. Schmeackle brought to Eagle River the college's new nine passenger country sedan station wagon given his department for field trips by the Consolidated Water Power and Paper Company.





Associated Press Photo

New Chief Forester

Richard E. McArdle poses at his desk after being appointed by Secretary of Agriculture Charles Brannan to succeed Lyle F. Watts as chief of the Forest Service. McArdle has been a member of the Forest Service for 25 years.

McArdle New Chief Of Forest Service

The new chief of the U.S. Department of Agriculture's Forest Service will be Richard E. McArdle, Secretary Charles Brannan announced Friday.

He succeeds Lyle F. Watts, chief forester for the past nine years, who began as a fire guard in a national forest 40 years ago.

A native of Kentucky, McArdle was graduated from the University of Michigan with a Ph.D. degree in 1930. He served as dean of the school of forestry at the University of Idaho for one year.

He began his service as a junior forester in 1924.

Watts, a native Iowan, was given an honorary doctor's degree by Iowa State College and was also presented the Croix du Chevalier de La Merite Agricole by the French government.

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 U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
 THE BEND BULLETIN
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 Bend, Oregon
 (Where published)
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New Chief Picked For Forest Service

WASHINGTON, June 6 (AP)—Secretary of Agriculture Charles F. Brannan has named Richard E. McArdle chief of the forest service, succeeding Lyle F. Watts, who retires June 30.

McArdle joined the service 25 years ago as a junior forester in the Pacific Northwest. The 53-year-old native of Lexington, Ky., has been assistant chief in charge of cooperative forestry programs since 1944.

Watts, 62, has been chief forester for the past nine years. He began his career with the forest service regional offices and active in many research projects before he was called to Washington in 1942. Born in Cerro Gordo county, Iowa, Watts has represented the United States in many international meetings and is currently chairman of the standing advisory committee on forestry of the United Nations food and agricultural organization.

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 J. D. Boeck
 (Sent by)
 Portland, Ore.
 (Stationed at)

McArdle Named Watts' Successor As Forest Chief

Appointment of Richard E. McArdle as chief of the U. S. forest service was announced today by the department of agriculture through the Pacific Northwest region office.

McArdle began his forest service career in 1924 with the Northwest forest and range experiment station in Portland. He succeeds Lyle F. Watts, who one time was regional forester here.

Watts is closing out a 40-year public service career, effective June 30. He has headed the forest service since 1943.

In this area McArdle began as a junior forester and worked on various research projects for 10 years with time out for three years of graduate study. He holds a doctor's degree.

Since 1944 he has served as assistant chief under Watts, in charge of co-operative forestry programs.

In his 25 years with the service he has directed two regional forest experiment stations. In 1934-35 he was dean of the forestry school at the University of Idaho.

A native of Kentucky, he was reared in Norfolk, Va., and studied at the University of Michigan.

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 Portland, Ore.
 (Stationed at)



AP Wirephoto

NEW CHIEF—Richard E. McArdle poses at his desk in Washington after he was named by Secretary of Agriculture Charles Brannan to succeed Lyle E. Watts as chief of forest service. Watts has signed. McArdle has been member of forest service more than 25 years. He formerly was head of the Pacific Northwest forest experiment station here.



Denver, Colorado

June 5, 1952

SPECIAL EDITION

CHIEF LYLE WATTS TO RETIRE JUNE 30

NEW CHIEF -- RICHARD E. McARDLE

Appointment of Richard E. McArdle as Chief of the Forest Service, U. S. Department of Agriculture, was announced today by Secretary Brannan. He will succeed Lyle F. Watts, Chief Forester for the past nine years, who has announced his decision to retire from active duty June 30.

McArdle came to Colorado in 1935 and organized the Rocky Mountain Forest & Range Experiment Station at Fort Collins, where he served as Director for three years before transferring to Asheville, North Carolina, as Director of the Appalachian Forest Experiment Station.

Paying tribute to Mr. Watts, Secretary Brannan said: "He has been one of the most effective and courageous leaders of the Forest Service in the great tradition of its service to the American people. Under his guidance, forestry has taken a much greater part in the Agricultural Resources Conservation Program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts very much, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

Mr. Watts' retirement from active duty as Chief of the Forest Service will mark the completion of a public career service of nearly 40 years. He has headed the Federal Forestry Agency since 1943.

Starting as a Fire Guard in a western national forest, he worked up through the ranks to the Nation's top forestry position. In recognition of his outstanding public service, Mr. Watts in 1950 received the Department of Agriculture's Distinguished Service Award "For Distinguished and Effective Leadership in Advancing the Conservation of Forest Resources in the United States and Internationally." He was commended for his work in stimulating improved forestry practices in this country, for his stalwart defense of public interest in the use of forest resources and for his important role in the development of a world forestry organization.

A native of Lexington, Kentucky, McArdle was brought up in Norfolk, Virginia. He is a graduate of the University of Michigan, where he received the Bachelor

of Science Degree in Forestry in 1923, M.S. in 1925, and a PH.D. Degree in 1930. He served as part-time instructor in forestry at the University of Michigan from 1927 to 1930.

McArdle entered the Forest Service as a Junior Forester in 1924 and was assigned to the Pacific Northwest Forest & Range Experiment Station. One of his early research projects was a study of forest fires, and his research on the subject was interrupted several times by calls to help fight fires as a crew leader during emergency periods in the national forests.

Following a three-year leave of absence for graduate study he returned to the Service to continue his research work in 1930.

In 1934 he accepted appointment by the University of Idaho to head its School of Forestry.

He returned to the Forest Service in 1935 to become Director of the Rocky Mountain Forest & Range Experiment Station at Fort Collins, Colorado, and three years later he moved east to assume the Directorship of the Appalachian Forest Experiment Station with headquarters at Asheville, North Carolina.

In 1944 he was brought to Washington, D. C. as Assistant Chief of the Forest Service, in charge of State and Private Forestry Cooperation. The position he has held to date.

Mr. McArdle served overseas with the U. S. Army during World War I. He is a member of Sigma XI, Scientific Honor Society, and a member of the Council of the Society of American Foresters.

Since 1944 he has served as Assistant Chief in charge of Cooperative Forestry Programs. Under his leadership the Federal programs carried on in cooperation with the states to encourage and facilitate the protection and sound management of the country's forests have been greatly accelerated. In the Federal-State cooperative fire control program the area of State and Private Forest Land under organized protection from fire now totals more than 360 million acres. The area that still lacks such protection has been reduced by some 60 million acres. Cooperative production and distribution of trees for woodland and shelterbelt planting, which dropped to a low rate during World War II, last year passed all previous records. The Federal-State program to provide on-the-ground technical advice and assistance to woodland owners was developed largely during the past eight years.

Mr. Watts was born in Cerro Gordo County Iowa in 1890. He received a Bachelor of Science in Forestry degree at Iowa State College in 1913 and earned the Master of Forestry Degree at the same institution in 1928. Following short-term employment as a student assistant on timber survey work, he entered the Forest Service July 1, 1913, as a Technical Assistant in the Wyoming National Forest. He advanced rapidly in national forest administration, serving successively as Assistant Supervisor of the Boise National Forest in Idaho, as Supervisor of the Weiser and the Idaho National Forests, and as Forest Inspector working out of the Ogden, Utah, Regional Office.

During a leave of absence from the Federal Service in 1928 and 1929, Mr. Watts organized the Forestry School at Utah State Agricultural College. He returned to the Forest Service to engage in research work at the Intermountain Forest & Range Experiment Station in Ogden. In 1931 he was named Director of the Northern Rocky Mountain Forest & Range Experiment Station at Missoula, Montana. From 1936 to 1939 he served as Regional Forester of the North Central Region. He then became Regional Forester of the Pacific Northwest Region.

In 1942 Mr. Watts was called to Washington, D. C. to take charge of the War-time Farm Labor activities of the Department of Agriculture. The following year he was named to his present position as Chief of the Forest Service.

Mr. Watts is Chairman of the standing Advisory Committee on Forestry of the United Nations Food and Agricultural Organization. He took an active part in the organization and development of the forestry branch of FAO and was Technical Advisor to the U. S. Delegate to general sessions of FAO in Quebec in 1945, Copenhagen in 1946, in Washington, D. C. in 1948 and 1949, and in Rome in 1951. He was also a U. S. delegate to the Inter-American Conference on the Conservation of Renewable Natural Resources in Denver in 1948, and attended the United Nations Scientific Conference on the Conservation and Utilization of Resources at Lake Success in 1949..

Iowa State College has conferred an Honorary Doctors Degree on Mr. Watts, as well as its Alumni Merit Award. He was also presented the Croix Du Chevalier De La Merite Agricola by the French Government. He has served on the General Administration Board of the Department of Agriculture Graduate School. He is a Fellow of the Society of American Foresters.

Watts

~~Mr Gandy~~
~~Watts~~
~~Mr Ardle~~

RECEIVED
JUN 18 1952
CHIEF - I & E

Is this OK for Press
Clippings sheet?

Parkinson

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OK by me
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6/12/52

Dana: —

Believe Lyle & Mac will be interested in this editorial. It was entirely spontaneous on part of Post. They asked me what I thought of Mac & I told them he was tops in the country for the position and, like Lyle Watts, no appearance.

JK

EDITORIAL PAGE SO THE PEOPLE MAY KNOW

THE DENVER POST

MONDAY, JUNE 9, 1952

Eye on the Future

THE retirement of Lyle F. Watts from the position of chief of the U. S. forest service, department of agriculture, follows closely on a shakeup of the Denver office of the forest service.

Having reached the age of 62 and having completed forty years of service, Mr. Watts is entitled to rest and leisure. For nine of those forty years he has been in charge of the forest office.

During his tenure there have been some bitter controversies with ranchers who have grazing permits on the national forests. Even in the heat of battle, however, Mr. Watts has always had the respect of all parties and those who have honestly disagreed with his views have counted him as a man of principle and vision.

Changes in the Denver office of the forest service have been made in the hope of ushering in a new era of co-operation with forest users, without relaxing those range practices which are necessary to preserve the usefulness of the forests themselves.

Mr. Watts' retirement does not seem to be a part of that program to promote better feeling. Friends of our forests—and there are millions

of them—will be watching Mr. Watts' successor, however, in the event any deviation from proper conservation policies should occur.

The successor, R. E. McArdle, is eminently fitted to head the forest service. In his hands our forest resources should be safe from exploitation.

Brannan Names McArdle Chief of Forest Service

Secretary Brannan yesterday appointed Richard E. McArdle, veteran Government forester, as chief of the Agriculture Department's Forest Service.

He will succeed Lyle F. Watts, chief forester for the past nine years, who is retiring June 30.

Mr. McArdle has been a member of the Forest Service for more than 25 years. He is a native of Lexington, Ky., and a former resident of Norfolk, Va. He has been an assistant chief in charge of co-operative forestry programs since 1944.

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R. E. McArdle to Head U. S. Forest Service

Richard E. McArdle, organizer and founder of the Rocky Mountain forest and range experiment station at Fort Collins, Colo., has been named chief of the U. S. forest service according to word received from Washington Friday.

McArdle will succeed Lyle F. Watts, chief forester the last nine years, when he retires from active duty June 30, the announcement said.

McArdle came to Colorado in 1935 and organized the forest and range experiment station. He served as director of the station three years before his transfer to Asheville, N. C., as director of the Appalachian forest experiment station.

PRaised BY BRANNAN.

Secretary Brannan of the agriculture department praised McArdle in announcing his appointment.

"He has been one of the most effective and courageous leaders of the forest service in the great tradition of its service to the American people," Brannan said.

"Under his guidance, forestry has taken on a much greater part in the agricultural resources conservation program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

"Watts' retirement marks the end of forty years as a member of the forest service. He has been chief of the department since 1943. He began his career with the agency as a fire guard in a western national forest. In 1950 he received

the department of agriculture's distinguished service award for leadership in advancing conservation of forest resources in the United States and internationally.

NATIVE OF KENTUCKY.

McArdle is a native of Lexington, Ky. He grew to manhood in Norfolk, Va., and graduated from the University of Michigan with a bachelor of science degree in forestry in 1923. In 1925 he received his master's degree and in 1930 his Ph.D.

He entered the forest service as a junior forester in 1924 and was assigned to the Pacific northwest forest and range experiment station. One of his early research projects was a study of forest fires. In 1934 he accepted appointment by the University of Idaho as head of its school of forestry and returned to the forest service in 1935 to become director of the Rocky Mountain station at Fort Collins.

In 1944 he was brought to Washington as assistant chief of the forest service in charge of state and private forestry co-operation, a position he held until his appointment Friday.

McArdle served overseas with the army during World war I.



Morning, June 7, 1952



LYLE F. WATTS
... retiring chief forester

* * *

Successor Named To Retiring Chief Forester

PORTLAND —Richard E. McArdle, formerly of Portland has been appointed chief forester of the U. S. Forest service, the regional office here reported Friday.

He succeeds Lyle F. Watts, who will retire June 30. Watts was regional forester here from 1939 to 1942.

McArdle who entered the Forest service in Portland as a junior forester in 1924, has been assistant chief in charge of co-operative forest programs since 1944.

In 1934 he took a year's leave of absence from government service to serve as dean of the forestry school at the University of Idaho.

RICHARD E. MCARDLE APPOINTED CHIEF OF THE UNITED STATES FOREST SERVICE

Alaska's First Pulp Mill Construction Now Under Way

To Be Finished In Two Years: Cost is Estimated At \$45 Million

The first contingent of construction workers, numbering 75, have arrived in Ketchikan, Alaska to start work on the installation of Alaska's first pulp mill, the U. S. Department of Agriculture announced recently. Officials of the Forest Service stated that this project will involve an investment of \$45,000,000 and that is the largest industrial enterprise in Alaskan history. Two years will be required to complete the plant.

The mill is being installed by the Ketchikan Pulp Company, a concern which is jointly controlled by the Puget Sound Pulp and Timber Co., a large established pulp producer of Bellingham, Wash., and the American Viscose Co. of Philadelphia, one of the largest rayon manufacturers in the United States. It will produce high grade dissolving wood pulp which will be sent to the eastern seaboard area of the United States for processing into rayon cellophane in plants of the same company.

300 Tons Daily

Wood for the mill will come from the Tongass National Forest, which covers most of the heavily timbered area of southern Alaska and is under the administration of the Forest Service. The timber-cutting contract held by the company provides for a 50-year supply of wood for a mill of 525-ton daily capacity. The initial plant will produce 300 tons daily, but the capacity is scheduled to be raised to a higher figure within a few years.

All logging is to be done in accordance with good forest practices as prescribed by the Forest Service. Salmon spawning streams and recreational and scenic features will be protected. The pulp mill is so designed as to prevent pollution of the tidal waters on which it will stand.

This mill is but one of five or six planned in the area. (Cont'd on Page 4, Col. 2)



The new Chief Forester of the United States Forest Service, Richard E. McArdle, (left) replaces Lyle F. Watts, (right) who retires after 40 years of active service.

Lyle Watts Retires After 40 Years of Active Service

Appointment of Richard E. McArdle as chief of the Forest Service, U. S. Department of Agriculture, was announced recently by Secretary Brannan. He will succeed Lyle F. Watts, chief forester for the past nine years who announced his decision to retire from active duty.

McArdle began his forest service career in 1924 as a junior forester assigned to the Pacific Northwest Forest and Range Experiment Station in Portland. He worked on various research projects at the station for ten years with time out for three years of graduate study during this time.

From 1939 to 1942, Watts served as regional forester of the Pacific Northwest Region with headquarters in Portland.

Great Leader

Paying tribute to Watts, Secretary Brannan said, "He has been one of the most effective and courageous leaders of the Forest Service in the great tradition of its service to the American people. Under his guidance, forestry has taken a much greater part in the Agricultural Resources Conservation program and has become an essential part of American agriculture. His other associates and I will miss Lyle Watts very much, but we are pleased at the prospects of having his advice and counsel readily available during his well-earned retirement."

Watts' retirement from active duty as chief of the Forest Service will mark the completion of a public career service of nearly 40 years. He has headed the federal agency since 1943.

Starting as a fire guard in a western national forest, he worked up through the ranks to the nation's top forestry position. In recognition of his outstanding public service, Watts in 1950 received the Department of Agriculture's distinguished service award "for distinguished and effective leadership in advancing the conservation of forest resources in the United States and internationally." He was commended for his work in stimulating (Cont'd on Page 11, Col. 1)

OREGON STATE UNIVERSITY FORESTRY STUDENTS LEARN ON SCHOOL FOREST

Curriculum Includes Logging and Sawmill Operations

Under the guidance of Dean of Forestry, P. M. Dunn, the students of the Oregon State University Forestry School, Corvallis, Oregon, receive a well-rounded education in the forestry field. Supplementing their classroom work, students learn by practical application in their own school forest.

The McDonald Forest and

Peavy Arboretum are comprised of a total of 6,604 acres of second growth Douglas fir forest land. Managed by the School of Forestry the lands were acquired through gifts, purchase and trade.

The McDonald Forest is used for the following purposes:

1. To provide an outdoor laboratory for field training of students in the School of Forestry.
2. For use as an experimental and research area in the various (Cont'd on Page 4, Col. 1)



An important part of the Oregon State University School of Forestry operations, logging roads are kept in top condition the year 'round by an Allis-Chalmers model D motor grader.