

Quantity of Logging Waste by Species, expressed in Percentage of Volume in Original Stand -- 1929\*

	Douglas Fir	Western Hemlock and "White" Fir	Sitka Spruce	Western Red Cedar and Other Species	All Species in Original Stand
District -	Percent	Percent	Percent	Percent	Percent
Puget Sound -	16.4	32.3	12.9	17.1	21.2
Grays Harbor -	15.1	25.0	6.3	12.2	16.8
Willapa Harbor -	8.7	30.0	----	10.0	13.6
Columbia River -	20.7	28.1	3.4	40.3	22.3
Willamette Valley -	20.8	52.7	----	20.5	21.9
Coos Bay -	16.7	54.3	----	30.6	26.9
Total	16.0	32.3	7.6	20.7	19.7

\*Example -- If among other species a given stand of timber in the Puget Sound district contains 20,000 ft. b.m. of western hemlock, 32.3 per cent of this amount, or 6,460 ft. b.m. will be left after logging as waste -- assuming average conditions as indicated in the table. (This condition has been improved within the past 5 years.)

### 3. Factors in the Reduction of Logging Waste

A large proportion of the logging waste is the direct result of breakage in log making. As suggested previously about 10 per cent of the timber on the average is badly broken in felling and bucking it into logs, with the breakage not infrequently running considerably higher. Obviously, if breakage could be reduced there would not be so much logging waste. Moreover, with breakage reduced to the minimum, the percentage of relatively small and short logs that are now utilized at little profit would be reduced considerably, a substantial gain in itself.

There are a few operators who still cling to the old day-wage system of paying fallers and buckers. They are willing to sacrifice the higher production which usually results from the "bushel" or contract system, for closer and better timber utilization. The manager of one of the largest logging operations of the region claims that paying the fallers and buckers on a day-wage basis is the only way that excessive wood losses in felling and bucking can be avoided.

That the commonly-used bushel system, which provides for payment on the basis of output, tends to place a premium on carelessness and faulty methods is recognized by many loggers. They hope by more direct supervision or through modification of the system to eliminate its

objectionable features: A few loggers, for example, are now paying their fallers on a basal area basis instead of the scale of the used portion of the tree. Penalties for unnecessary breakage have so far not only proven unsatisfactory but they have been hard to enforce. This is something that the labor organizations of the region dealing in logging should give considerable thought to. Certainly, the day-wage system should hold more allure to the labor organization than the so-called bushel system;

Pre-logging or re-logging, either of which is a two-step method of yarding in contrast to the commonly-used one-step method, holds much promise for reducing logging waste. Going over the ground twice, each time using the most economical equipment and methods, represents a departure only in the case of saw-logs; the pre-logging of poles and piling or both the pre-logging and re-logging of shingle bolts has been practiced for years.

For the past few years a pulp and paper company of the region has been developing a method for logging economically relatively small logs and broken chunks. It first tried re-logging with more or less standard equipment and with only fair success. Then it investigated the possibilities of pre-logging, coming to the conclusion that re-logging, at least for their type of ground and timber, was the better of the two methods. The re-logging system finally adopted by the company made use of a light, mobile, gasoline-driven yarder mounted on a caterpillar. This system apparently gave very satisfactory results, and is coming into greater usage daily.

In a period of four months the company salvaged 4,000,000 board feet of small logs and chunks from the slash of recently cut-over land. The logs averaged about 150 board feet, with some as short as 12 feet and others only 4 inches in diameter. To determine the quantity and character of logging waste before and after re-logging, measurements were made by the Forest Service on sample plots located under comparable conditions. In stands of almost pure western hemlock and white fir, averaging 79 trees and about 80,000 board feet per acre, the major or initial logging operation left about 12,000 board feet of waste per acre, or slightly more than 15 per cent of the original stand. After re-logging, 2449 feet, or only slightly more than 3 per cent of the original stand of timber, was found on the ground unutilized. The re-logging operation was found to have salvaged 9,551 board feet per acre, or an amount equal to 12 per cent of the timber stand.

Since the bulk of the timber cut in the Douglas fir region is made into lumber, the market for and value of this product naturally exerts the greatest influence upon the character of timber utilization in the woods. While sawlogs are utilized for veneer, cooperage, shingles, paper pulp, and similar products, it is their use for lumber that in large measure fixes their value and determines utilization standards. Therefore, anything that can be done to extend the lumber

markets of the region (particularly the lower grades of common lumber) and to stabilize lumber prices will tend to reduce logging waste; this is fundamental and is so recognized by all students of the problem. Right now the West Coast Lumbermen's Association is making a special effort to broaden the markets for forest products of the region and to stabilize production and markets. The Association, however, has not gone far enough. The lack of research in broadening markets is evident in the lack of development in the pulp industry alone.

#### 4. Sawmill Waste

Not all the so-called sawmill "waste," such as, slabs, edgings, trimmings, sawdust and bark, is really wasted. From this waste most mills make lath, handle squares, pulp chips, pulpwood, fuel wood, hogged fuel, sawdust and other by-products. They also use large quantities of sawdust and hogged fuel for the production of domestic power and live steam for use in their own plants. Only a part of the so-called sawmill waste is sent to the refuse burners as true waste. Yet, in a survey completed in 1930-31, it showed an annual accumulation of sawmill waste amounting to more than 619,000,000 cubic feet. Add to that the logging waste at the time of 610,000,000 cu ft., and you have the enormous sum of 1,229,000,000 cubic feet (solid measure) of wood. It is difficult for anyone to comprehend such a tremendous volume, but it takes on startling aspects when one realizes that the total annual growth of all the forests in the Douglas Fir Region of western Oregon and Washington is placed at only one billion cubic feet.

This large volume, however, does not represent all of the waste which occurs in the region. It does not include the loss of wood in the planing mills, box-shock factories, shingle mills, veneer and furniture factories, and other remanufacturing plants through which large quantities of wood pass before reaching the ultimate consumer.

Until recently, owing to the abundance of sawmill waste, there has been no competition for its use. The sawmill operators in the years gone by have been glad to sell it for almost any price offered, but since markets for sawmill waste pulpwood and for hogged fuel and sawdust have developed, there has been a rapidly increasing demand for it. The value of western hemlock mill waste for pulpwood has entirely eliminated the use of this species of wood from the manufacture of lath. The pulp and paper industry has simply overbid the lath industry for the use of this material. At present the waste wood from practically every hemlock sawmill in the region is tied up by the pulp and paper industry or its subsidiaries on long-term contracts. The hogged fuel market has also become of such importance that most of the accessible sawmill waste not used for higher purposes such as pulpwood, lath, handle squares, etc., is bought up under contract for use as hogged fuel.

These illustrations indicate a steady upward trend in the competition of uses for sawmill waste and with the introduction of a few more commercial developments requiring waste wood for raw material there is little doubt that an increased value on mill waste will result, possibly to the point where even the sawmills will begin to conserve in their use of it as sawmill fuel.

#### 5. Future Factors in the Utilization of Waste.

It is even probable in the very near future that the value of what is now called "waste" will far exceed the present value of the lumber of which the waste is the result. A few chemical engineers have gone so far as to predict that sooner or later even lumber will be a by-product of what will then be a wood-chemical industry. It is pointed out by them that from wood fibers fully three dozen varieties of industrial materials may be composed or constructed, and about 300 industrial and commercial compositions may profitably be made from the volatile material found in wood.

The discovery that western hemlock wood is suitable for the manufacture of high-grade pulps materially improved the utilization of this species, both in the woods and at the sawmills. More than 50,000,000 cubic feet (solid measure) of mill wood waste are now annually being recovered in the Douglas fir region and used in making high-grade chemical pulps. Most of the waste used for the purpose is obtained from sawmills making western hemlock lumber. But as nearly three-fourths of the primary forest products of this region are made from Douglas fir, it follows that most of the waste wood is of this species. It is believed that strong, light-colored papers can be economically made from Douglas fir wood and with this purpose in mind, Congress made a special appropriation in 1930 of \$25,000 for an investigation of the pulping qualities of Douglas fir and other western woods. How satisfactory these experiments have been the writer has been unable to determine. However, if satisfactory methods for making desirable paper from Douglas fir have been developed the lumber and paper-making industries of the Pacific Northwest should benefit greatly and a considerable quantity of the waste from this species may also be used for this purpose.

Another recently-discovered use for western hemlock sawmill waste is in the form of "Alpha" pulp for subsequent manufacture of such commodities as artificial silk ("rayon") and the transparent wrapping material known as "cellophane."

There are many other possibilities in the development of useful by-products which may be made from wood waste. The Tannin, for example, available in the bark of western hemlock trees now being logged is sufficient, no doubt, to supply all of the tanneries of the country, but at present practically none of it is being used. Research, some years ago, found that a very good substitute for

gasoline as a motor fuel can be made from wood. So far this product has been unable to compete with the price of gasoline, but it is understood that the cost of the two products is not greatly separated. The development of an economical process for the manufacture of this new motor fuel now being successfully used in an experimental way in Germany, France and in this country, may alter the entire economic picture with far-reaching effects upon the wood-using industries of the Pacific Northwest where wood is so plentiful.

A very small beginning has been made in bringing to light some of the economic possibilities of wood for uses other than lumber. No one can predict the outcome of fundamental research with cellulose and lignin. If the results so far accomplished in the economic use of cellulose made from wood fiber are examples of what may be expected, then science, undoubtedly, is destined to bring forth many developments that will have a far-reaching effect on forest economics and do much to solve the wood-waste problem.

It is the contention of many that the volume of logging and sawmill waste in the Douglas fir region is so great that only scientific discoveries or mechanical and economic developments, almost revolutionary in scope, will materially affect utilization. The findings of the U. S. Forest Service survey, however, show that nearly three-fourths of all the sawmill waste is already being used in some form. It is true, though, that comparatively little has been accomplished directly toward making use of the great quantities of waste wood now being left in the woods by some of the logging operations, but with the development of markets for new by-products made from wood and an increased demand for lumber, this condition has gradually improved. The standards of utilization, for instance, in logging have been affected for some years by the expansion and growth of the west coast pulp and paper industry alone.

According to Mr. Hodgson: "If all of the various wood-saving industries are completely integrated so that each may utilize the raw material which cannot be used by the other in such a way that no part of the sawlog is wasted, if fundamental research relating to the principal constituents of wood, such as cellulose, lignin, gases, oils and acids, is given financial encouragement, and if the markets for the various commodities which may be made from wood are sufficiently studied and followed up by the right kind of merchandising, then the combined effort will not only provide an outlet for the rest of the sawmill waste but a large portion of the logging waste as well. The complete and highest utilization of wood waste and, in fact, the development of good forest management itself, in the Douglas fir region, will depend directly upon the character of sustained effort which is put into such a plan."

# G. REFORESTATION OF DENUDED AREAS

In the United States today, as a result of logging, forest fires, and the unwise selection and improper use of agricultural land, at least 135 million acres, not long ago fertile and productive, are now denuded and unproductive. The idleness of the great acreage is not, however, its worst feature. Far more harmful in terms of public welfare is the capacity inherent in such lands for rapid deterioration or for causing damage to other lands and waters through erosion. Forest lands are being logged off at a rate close to 850,000 acres annually, and each year an average of more than  $1\frac{1}{2}$  million acres of worn-out agricultural lands, not more than half of which will revert to forest naturally, are being dropped from use. Continuation of this increase in acreage of idle and unproductive land will create a burden such as no nation can withstand indefinitely and continue prosperous.

The chief causes of devastation, now as in the past, are cutting and fire. Either one can cause devastation, but the bulk of the damage is the result of fire after cutting. The conditions set up by logging invite fires and increase their damage. About three-quarters of the area devastated currently is in pine, fir, and other softwood stands, in which cutting produces large accumulations of highly inflammable slash and debris. A single fire in such slash may, and frequently does, destroy all young growth and trees of seed-bearing size, leaving the area incapable of restocking by natural means.

Among other causes of devastation is overgrazing. This has brought about considerable criticism in this State to the Taylor Grazing Act. Insects and disease may complete the destruction of trees weakened by fire, as often happens in second-growth stands of the southern pines. All causes sometimes combine on a single area. On the Pacific Coast the estimated area of forest land devastated annually from these combined causes amounts approximately to 115,000 acres.

Since January, 1920, twice as much acreage of timberland has been logged in Washington as in Oregon; indicative of the accelerated rate of logging in Washington. Sample strip surveys show that much of this "recent cutover" land is either non-restocked or poorly stocked with young trees, and owing largely to recurring fires, in an unstable condition. There are about 2,160,000 acres of this type in the two States, and adding to it the 2,200,000 acres of deforested burns and older non-stocked cutover, makes a total acreage of 4,360,000 acres of idle forest land in the Douglas fir region of Oregon and Washington. Some idea of the magnitude of this area can be obtained by comparing it with the total agricultural area in the region, which is about 4,670,000 acres, or only a few hundred thousand acres larger than the idle forest land acreage.

In order to get a little background on the question of natural reforestation, let us look into the processes of growth involved in the Douglas fir region. As Douglas fir is so superior a tree and is the one upon which the lumber industry of this region is built, it is natural that we should give it first consideration at this time. However, the remarks dealing with the natural reforestation of Douglas fir will have general application as a whole to the other trees native to the district.

\* Seed, of the Douglas fir, is produced in abundance from the time the stands are about 25 years old until they are decrepit. Bountiful seed crops are not annual, but occur perhaps two or three times per decade; about every third year practically no seed is borne. There is considerable uniformity the region over in the heaviness of the seed crop.

Douglas fir seed (as well as that of its principal associates, cedar and hemlock) ripens in late August, the cones open, and much of the seed is released then. With damp weather the cones partially close, and when they open again on dry days more seed is released. In this way the dispersion of the seed is continued through the fall and early winter. An appreciable amount of good seed can be found in the cones in midwinter.

A light-winged Douglas fir seed is borne away from the parent tree by the wind and is subject to the wind's vagaries. The seed dispersed on still days naturally alights close by; in high winds it may fly far. The maximum distance at which seed trees can do effective seeding is not known; it depends, among other things, upon topography, the season, and the amount of seed dispersed. Crusted snow could easily increase the distance that winter-sown seed may be carried by wind. Birds and animals undoubtedly have a role in disseminating some seed. The more abundant the source of seed, the greater the effective seeding distance. A single seed tree naturally will not seed effectively for as great a distance as a solid bank of timber. Beyond a quarter mile on level ground even a large mass of trees will probably not do effective seeding, and even up to that distance they may take several years to seed the ground thoroughly.

Much freshly logged and burned land is seeded up by adjacent uncut timber, which is often close enough to be effective until cut in the advancing logging operation. In the case of the aforementioned logging operation in which the writer commended the cleanliness in regard to waste, not a single seedling was left on an entire mountain slope. This was doubly criminal because the mountain-side faced the west, and with the prevailing winds southwest and northwest, this operation practically precluded any further seeding than was accomplished when the forest was still there.

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\* See "Timber Growing in the Douglas Fir Region" by Thornton T Munger, Bulletin 1493 -- United States Dept. of Agriculture.

An acre of virgin forest during a favorable seed year bears hundreds of thousands of seeds. These fall to the ground, and many are eaten by birds, insects and animals; some decay. Others alight on favorable spots and germinate the following spring, but these seedlings which start in the shade of the virgin forest are almost sure to succumb the first season. Some seed fails to germinate and yet falls on ground favorable for its preservation -- perhaps it is covered lightly by the leaf fall or by animal activity, and so is "stored" in the cool duff. The disturbance of the ground by logging naturally buries some seed in mineral soil. A small percentage of this stored seed probably remains viable past the first season, and that which escapes injury when the virgin forest is cut and the slash burned germinates the succeeding spring in response to the warmth of the sunlight on the burned, logged-off land. Where there are crown fires in virgin timber, this stored seed seems to be a very potent factor in insuring prompt reforestation. On logged and not too severely burned lands some reproduction undoubtedly comes from stored seed, at least when a good seed crop has been borne the preceding autumn. The rest of the reproduction -- if any -- comes from seed blown from near-by seed trees and standing timber. The proportion from each source depends upon circumstances.

The theory has sometimes been advanced that broadcast slash burning is a necessary measure in securing reforestation, in that it bares the ground and stimulates germination; but detailed study by the Forest Service strongly points to the conclusion that reproduction of Douglas fir starts more promptly and more abundantly where the slash is not burned. A comparison of a considerable number of burned areas with similar but unburned logged-off land, in each case quite recently cut over, shows 10 or more seedlings on the unburned to every seedling on the burned ground.

The chief reason for slash burning as a forestry measure is to reduce the fire menace of the vast amount of dry litter, that there may be less chance of accidental fire later. For most of the Douglas fir region broadcast slash burning has been accepted by lumbermen and foresters as an essential practice, a "necessary evil." Nevertheless, a slash fire, no matter how intensely it burns, never leaves an area immune to subsequent fires.

Following the first slash fire, various weeds -- mostly those not found in the virgin forest -- take possession of the ground and create a vegetative cover which, dying and drying up each year, adds greatly to the inflammability and to the danger of subsequent fires. Chief among these weeds are fireweed, hawkweed, pearly everlasting, bracken fern, and thistle. After five years or so, if the area is not reburned, these plants give way to bushes such as hazel, alder, salmonberry, vine maple, and elderberry, and to tree saplings; and with the decrease in the annual plants and the increase in the shade-producing and less combustible brush, inflammability declines.



Fresh seed that becomes mixed with mineral soil or lies in a protected spot may escape destruction by the slash fire, but tender seedlings cannot. This is something to remember. If logged-off land carries a supply of seed -- either that shed by the forest before cutting and stored in the duff or that blown in by nearby-standing timber after logging -- it is better to burn the slash before that seed has germinated than to delay the burning until after the seed sprouts. Up until two years ago, this was not the general practice in this State.

In short, delayed slash burning on logged-off lands is incompatible with successful natural reforestation. This is also true of second fires. Even when the fire does not run over the ground completely but burns skipingly, it injures the oncoming crop of timber seriously by making a patchy distribution of the trees, causing understocking, and fire-scarring seedlings which survive. Any fire which runs over reproducing logged-off lands, therefore, whether it be an all-killing fire or not, should be regarded as damaging to the welfare of the forest.

There is in the Douglas fir region so great an acreage of well-reforesting cut-over land that it may very properly be asked whether methods of logging used in the past have not been satisfactorily conducive to new growth, and why therefore any change in present practices should be recommended.

Competent authorities differ widely as to the proportion of logged-off land in private ownership which is reforesting. In the absence of reliable field data for the entire region it has been estimated that 60% is reforesting and 40% is barren of useful tree growth. Even if 60% is growing a new crop, that is far from satisfactory, especially when it is borne in mind that much land so classified is not bearing a fully stocked or uniformly well-stocked stand of new growth and therefore cannot be counted upon to yield the returns that the land should produce.

There is another factor to remember. The system of logging used 20 to 40 years ago gave better reproduction than follows present-day methods. Hence a smaller proportion of the land being cut over today is reforesting than in the past. Under the "bull-team" method the fire risk was less than it is under the present donkey-engine and railroad method. Freshly cut-over land then has a better chance to escape being accidentally burned and reburned.

Then there is this factor: the land logged more than two decades ago was mostly agricultural land; that now being logged is mostly land unsuited to farming. There is no doubt that the tendency of modern logging is to make conditions less favorable for timber growing than did the logging of the early days. The urgency for taking positive, conscious measures to assure reforestation after logging is double what it was 25 years ago.

An adequate growing stock is essential to a continuous cut of wood products sufficient to supply the needs of the country. The deficiency in existing growing stock is due chiefly to the deteriorated condition of cut-over and second-growth areas brought about by fire and cutting methods based on the most part on the realization of present values without regard for the perpetuation of a productive forest. In the aggregate, considerable areas are in satisfactory growing condition and are producing a reasonable amount of wood fiber, but this condition exists more by chance than design.

To summarize: fire and cutting are the most important and universal causes of forest deterioration; they also are subject in a large measure to human control. Frequently they operate together and the effects of each are difficult to separate. Insects and disease also destroy vast quantities of tree growth thus lowering the productive capacity of the forest, but they are more or less inevitable in nature. Their net effect is to contribute to and to extend the deterioration resulting from cutting and fire.

Planting is the only alternative to natural reforestation.

Critically eroded areas which might ultimately restock naturally but where reforestation is not taking place rapidly enough to afford timely protection, should be planted. Erosion on critical areas is now going on at such an accentuated rate that immediate action is justified to stop the sluicing of soil into the stream channels. In such cases we cannot afford to wait for the forest to become established naturally.

In the final analysis there are three principal reasons for attacking the unproductive land problem through the agency of forestation:

1. Value of forestation in the solution of social and economic problems arising from unwise land use.
2. Need for more extensive local timber production to meet future requirements and to stabilize wood-using industries.
3. Influence of forested land on watershed protection.

#### \*H. TAXATION AND PRIVATE OWNERSHIP

Privately owned timber lands present the most critical forestry problem because of their great area, and also because they include the great bulk of the most highly productive, and more accessible and the more easily loggable forest lands.

The main problem of the private timber industry arises from the fact that investments in standing timber and operating facilities are too large considering the possible rate of conversion and use.

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\* See Appendix "N" of Report on Columbia Basin by Pacific Northwest Regional Commission, correlated by C. J. Buck.

As has been suggested in the introduction, an immense body of timber was placed under private ownership through a mistaken public land policy. It then became subject to speculation, capitalization, taxation, and other carrying charges incident to private ownership. The conversion of timber into money became the main motive of the industry. Not only during the current depression, but for over 20 years, the pressure to liquidate has dominated the lumber industry of the Columbia Basin States. The longer that forestry property is held, the more the cost per acre and unit of timber volume arises. There is no comparable increase either in growth or in stumpage values. In many cases timber properties are bonded or otherwise mortgaged; interest charges are heavy, and with little or no income, owners, are adverse to providing funds for interest, taxation, or protection. Consequently, timber must be liquidated even by a partial or entire write-off of stumpage investment in order to furnish working capital for current carrying costs of timber and operating plants. High fire risks greatly hasten liquidation in many parts of the region.

That the existing tax system is particularly burdensome on timber held over long periods is not questioned. The average annual tax on standing timber in Idaho is about 60 cents per acre, and in Montana 23 cents per acre. In the Douglas fir region annual tax costs on standing timber range from 1¢ per M. feet or about 70¢ per acre in the heavily timbered counties, to over \$4.00 per acre, on individual tracts in the heavily depleted counties, the cost per M. increasing year by year as the timber diminishes.

According to the Washington State Commissioner of Public Lands, the various counties of the State in 1934, had 1,250,000 acres of land obtained through delinquent tax foreclosures. A large additional acreage, possibly several million acres, is delinquent but not yet acquired by the counties, due to legislation prolonging the foreclosure period.

Economists of the Pacific Northwest Forest Experiment Station recently found that of the forest land areas of 18 western Oregon and Washington counties, more than 3,200,000 acres were tax delinquent and almost 479,000 acres had been acquired by the counties for unpaid taxes. More than 37% of the area of private and county-owned lands studied was involved in long-term tax delinquency. The owners of lands, valued for tax purposes at more than \$40,000,000, had either permanently or temporarily stopped paying taxes.

The situation implies and reveals the financial distress of these land owners. It has other serious aspects. The burden of supporting local government has been shifted to the owners who are continuing to pay taxes. As this burden becomes concentrated on a smaller and smaller number of property owners, the processes of timber depletion are speeded up and lands giving little promise of yielding early income are dumped into the delinquency hopper. The cumulative effects of these processes fall heavily upon all taxpayers, jeopardizing tax-

supported institutions and services, threatening the existence of once thrifty communities, and limiting the opportunities for obtaining gainful occupation. Furthermore, the permanent welfare of the region's forest industries is being threatened by the progressive deterioration and devastation aggravated by the uncertain status of the tax reverted and reverting forest lands. When the welfare of any one of the major natural-resource industries is threatened, the entire industrial structure is weakened.

A study of Pend Oreille County in northeastern Washington gives a striking illustration of the process that is taking place in the once heavily timbered regions of private ownership, now largely cut over and for the most part burned after cutting, where but little of the land has potential uses other than timber growing. The area of public ownership is already large and clearly is growing larger.

Ownership and delinquency of land in Pend Oreille County, Wash., 1932

	<u>Area</u>	
	<u>Acres</u>	<u>Percent</u>
Area of county in forest outside national forest..	287,389	100
Public domain.....	43,498	15
State-owned.....	14,575	5
County-owned (through tax foreclosure).....	52,335	19
Delinquent 3-5 years.....	39,400	14
Delinquent 1-2 years.....	29,560	10
Small-owner acreage tax delinquent.....		49
Large-owner acreage tax delinquent.....		21

Of the total delinquent area not foreclosed (68,960 acres) 35% is 5 years delinquent, 11% 4 years, 12% 3 years, 18% 2 years, and 25% 1 year, showing that the serious delinquency situation is of long standing and not the result of the current business depression.

Most of the counties have neither finances nor desire to give these lands any protection or administrative attention. Their efforts are limited to trying to make sales of and restore to the tax roll what little of the county lands can be sold for agriculture, range, or other purposes.

The future of tax delinquent lands is one of the important problems of land management in the region. In order to overcome this difficulty two main solutions have been suggested: (1) a tax reform and credit system applying to forest lands; or, (2) reversion of delinquent county lands to the State or Federal Government.

As was suggested in Part I, the tax system on forest lands must be revised if we expect the private interests to go on a sustained yield basis. (The only other alternative is public ownership.) The reform most generally mentioned is that of a system of deferred taxes -- that is, a method of paying the taxes on timber at the time of liquidation, or cutting. This, of course, would encourage selective cutting. The lumber interests also ask for long-term credits to prevent premature liquidation, something they are unable to get from commercial banks. To meet this demand, the Fletcher Bill was introduced in the Congress.

The Bill proposes to create under the wing of the Farm Credit Administration a Forest Credit Bank, which would be authorized to make thirty-year secured loans with a minimum of \$2,500 and a maximum of 10 per cent of the banks capital and surplus to individuals, firms and corporations for practically any purpose connected with forestry operations. As is the case with other lending agencies set up under the Farm Credit Administration, there is provided in the Fletcher Bill a measure of cooperation by the industry itself through the fact that the borrowers become stockholders and as private capital is thus provided, the capital contributed by the Federal Government is retired. The borrowers will also choose a majority of the members of the district advisory councils. Under the terms of the Bill, it would have a restricted field, handling only long-term credits in connection with sustained yield operations.

In regard to the present county-owned, tax delinquent lands -- it is important that this type of ownership, which is ever increasing in acreage, be given such status that it will be protected and properly administered. As has been stated before, permanent ownership by the counties does not seem to be practicable. Undoubtedly, the best ultimate solution is to transfer these lands either to the States or to the Federal Government.

### PART III

#### I. THE OBJECTIVES OF MODERN FORESTRY IN WASHINGTON

##### Introduction

Because of the continued decline of the lumber market during the last thirty years, many alarmists in the industry have concluded that the industry will eventually collapse. In order to arrive at an intelligent conclusion in regard to the future of the industry, it may be well briefly to review the history of the uses of wood from early times.

Mr. Raphael Zon, Director Lake States Forest Experiment Station, and Mr. W. N. Sparhawk, Senior Forest Economist, in their chapter, "Trends in World Wood Consumption," have unearthed some interesting data on the history and early uses of wood, extending as far back as the ancient historic peoples of the Mediterranean region and in the valleys of the Tigris and the Euphrates.\*

Except for the mountains, these regions were poorly forested. Yet wood was extensively used, both in architecture and in naval construction, as well as in everyday life.

The Illiad and the Odyssey reflect the manner of living of the ancient Greeks in the early periods of their culture. In these poems we find descriptions of how and for what purpose and what kinds of woods were used. Similarly, the classical writers describe the use of wood in ancient Rome. There, as in Greece, wood was particularly essential for naval construction.

In the Middle Ages, European culture developed under entirely different geographic conditions than in antiquity. The centers of culture shifted from the Mediterranean region to central and western Europe. The Mediterranean lands were poorly forested, but central and western Europe during that period was typically a forested region. The forests played an important part in the economic life of the people of the middle ages, not only as a source of fuel and raw materials, but also as an inimical environment which they had to overcome in their struggle to make room for cultivation and pasturage. By the end of the fourteenth century man had conquered the forests. By the fifteenth century the conquest had gone so far that in some parts of Germany, and elsewhere, there began to be complaints of the exhaustion of forests and demands that excessive clearing be stopped.

Between the thirteenth and the fifteenth centuries wood ceased to be purely a local commodity in Europe, and timber began to be an article of international trade, transported in rafts along the rivers. Along with the development of the timber trade, grew the sawmill industry.

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\* A National Plan for American Forestry -- Senate Document No. 12, 73rd Congress, 1st Session.

The first sawmills operated by water power appeared in France in the thirteenth century, although whipsawing by hand remained the prevailing method of sawing lumber for several centuries. Wood was the dominant material for ordinary house construction during the period between the thirteenth and the seventeenth centuries.

As the cities increased in number and grew in size, the consumption of wood, the only source of fuel at that time, became very great. Supplying such cities as Paris, Vienna, and London with firewood became a vast enterprise. The Thames, even as late as the eighteenth century, served as a main channel for supplying London with firewood. Beginning as early as the fourteenth century, first in Germany and later in Sweden and England, there was a notable growth of the metallurgical industry, which required great quantities of charcoal and firewood. The glass and pottery industries also came to the front. The growth of these industries, located largely in the forests, together with the growing consumption by the cities, brought on a shortage of fuel wood. In the eighteenth century there arose throughout western Europe an acute fuel crisis. The shortage of wood led even to the curtailment of the metallurgical industry. Laws were passed, for instance, prohibiting construction of metallurgical plants nearer than 22 miles from London. The shortage of firewood was caused by the exhaustion of the nearby forests or those within hauling distance of the rivers. Large supplies of timber remained, but owing to the difficulty of transportation these were as good as nonexistent.

Meanwhile, the demand for timber for many other purposes had been growing by leaps and bounds. A very important use was for ship construction. Between the sixteenth and eighteenth centuries was a period of rapid growth of the navies and merchant marine of Spain, France, Holland, England and other countries. In the time of war many vessels were sunk or damaged and the demand for wood for naval construction greatly increased. However, at the beginning of the nineteenth century many parts of Europe still had large forests and preserved to a considerable extent the stamp of wooden culture.

The industrial revolution, beginning toward the end of the eighteenth century, brought mankind to the age of coal and iron, steam and electricity. Coal gradually took the place of wood fuel, charcoal, and peat. Iron and steel crowded out wood to a large extent from the construction of ships and bridges, and in the manufacture of implements of every kind. It would seem that the replacement of wood with coal and iron would have ended or greatly reduced the demand for wood. It would seem that the consumption of wood and the destruction of forests in the age of coal and iron should have become much less than in the eighteenth century.

All signs apparently pointed to a permanent decrease in the use of wood. But this was not to be. The new era of capitalism was characterized by a period of industrial expansion which gradually extended to a large part of the world, continued throughout the nineteenth century,

and reached into fullest development in the period just before the World War. Agriculture, freed from the bonds of the feudal system and stimulated by the industrial expansion, also entered upon a new phase of development in western Europe. The industrial expansion was accompanied by building of railroads and other means of transportation, development of mines, construction of new factories and houses, and a general rise in the standard of living of the masses. Chemistry opened new fields of use for cellulose, for which wood was the best source. Wider education of masses brought greater use of paper for books and newspapers. Increased trade required boxes and containers of various sorts. With the improvement of the lot of the industrial worker and the peasant, there came a demand for better houses, more furniture, and wooden articles for household use.

As a result of this wave of industrial expansion, wood regained its prominent place in the economic life of the people, although it was used in different forms than before. The industrial revolution of the nineteenth century, which at first threatened to destroy the markets for wood, in the end stimulated the use of wood in the most unexpected industrial enterprises and this widened its markets. This demand was so great that some of the industrial countries were unable to meet it from their own timber supplies. They were forced to tap the resources of other countries which possessed a surplus of forest wealth. This brought about a world trade in timber of a magnitude not dreamed of in the period before the industrial revolution.

The United States was an especially lavish consumer of wood during the nineteenth century. The population was doubling every 30 years. Farms, towns and cities were multiplying at a phenomenal rate. A network of railroads was being extended from the Atlantic Ocean to the Pacific, and from Canada to the Gulf of Mexico. Industries of all kinds were growing at a rate which has probably never been equaled anywhere else in the world. A wealth of virgin timber, excellently adapted to a great variety of uses, was ready at hand or easily reached by railroads and waterways, and was practically free for the taking. No wonder, then, that the per capita consumption of wood in America surpassed that of most of the other industrial nations, which no longer had extensive virgin forests.

The consumption of sawed lumber and probably the aggregate consumption of wood in all forms reached a peak about 1906 or 1907. About that time the rate of population growth began to slow up, and within a few years the number of farms and the mileage of railroads reached their peaks, while at the same time the tendency to concentrate people and industries in multistoried buildings in the cities called for the use of more steel and concrete and less wood in construction. Both the per capita and the total wood consumption began to fall off, and the decline has continued, with some interruptions, ever since. The consumption of lumber has declined almost precipitously since 1929.



This decreasing rate of consumption in the United States during the last 30 years, coupled with the decreasing consumption in practically all countries since 1929, has given rise to the widespread belief that the trend of world timber consumption is inevitably downward. Not only the forest owners, but also those responsible for formulating public forest policies are questioning whether there will be any sustained demand for timber in the future. As a result of present conditions, there has been generated in this country a pessimistic psychology not unlike that which prevailed in Europe toward the end of the eighteenth century as regards the future possibilities of the use of wood. There is a feeling that wood use is at the end of an economic epoch, and that from now on wood is to play a progressively smaller part in human civilization.

But is this true? May not the present technological trends, discovery of new uses, and the advancement of organic chemistry again do for wood what the industrial revolution accomplished during the nineteenth century?

Wood is one of the most flexible of organic products. This accounts for its adaptability to the many uses for which it has been employed by mankind at different stages of his economic and social development. This should also account for the optimism in certain quarters of the future of the industry. Let us review briefly the development of the industry up to the present, and later discuss the possibilities of the future.

#### A. DEVELOPMENT OF THE LUMBER-USING INDUSTRIES

##### 1. Present Lumber-Using Industries.

The lumber and timber product industries lead all other industries in the Pacific Northwest both in value of product and value added by manufacture. The importance of lumber manufacturing is shown by the following table:

\*LUMBER AND TIMBER PRODUCTS

IN PACIFIC NORTHWEST IN RELATION TO ALL INDUSTRIES

1929

**	P.N.W.	Idaho	Mont.	Oregon	Wash.
Value of Product (in thousand dollars)	444,651	33,886	11,555	136,589	262,621
Percent of total of All Industries	28%	35%	4%	33%	33%
Value Added By Manufacture (in thousand dollars)	294,651	26,749	8,039	95,609	164,254
Percent of total of All Industries	43%	60%	13%	46%	45%
Percent of Wage Earners of All Industries	51%	72%	23%	53%	51%
Percent of Wages Paid of All Industries	52%	71%	19%	56%	40%
From United States Census of Manufactures.					

\*Includes logging camps, merchant saw mills, combined saw mills and planing mills including those engaged in manufacture of boxes; veneer mills; and cooperage stock mills. (Does not include pulp manufactures.)

\*\*Source - Appendix O, Columbia Basin Report, Pac. N. W. Regional Planning Comm.

The high percentages recorded in the preceding table clearly indicate that the economy of the Northwest is too closely tied to one industry. When the lumber market falls or recedes the entire region is adversely affected almost immediately. Add to that the fact cited by the United States Forest Service that in about 17 years, unless sustained yield management is installed, the available commercial saw-log timber now in private hands in the State of Washington will be gone, emphasizes the seriousness of this problem. A greater spread of industry is certainly most desirable and should be one of the principal objectives of both the Planning Commissions and the various Chambers of Commerce. And with the advent of continuously cheaper power this should not be so difficult of attainment. But for the purpose of this study we are more interested in the development of the lumber industry itself than in the subject of a greater spread of industry in general.

When we consider that out of the 42,775,040 acres of the total land area in this State, almost 22 million acres are in forests, or 51.2 percent; and when we further consider that the value of the products of those forests (including manufactures) in 1929 amounted to about a half billion dollars; we must conclude that the industry cannot be allowed to decay through a policy of inaction, but rather, must be given new impetus and developed into a still more valuable asset than heretofore.

While it is true that the lumber industry is now floundering in the doldrums of a depression and has little to encourage its future, much of the dilemma in which the timber industry now finds itself can be directly attributed to its own inertia in the fields of research and merchandising. Export shipments of Douglas fir from Oregon and Washington dropped from 1,447,771,000 board feet in 1929 to 521,115,000 board feet in 1935. A large percentage of this export trade was lost to British Columbia because of the Ottawa Conference between Great Britain and her colonies.

Compared with 1929, the first six months of 1936 showed: (1929 = 100%)

Production at.....	63%
No. of operating mills, at.....	66
Operating capacity used, at.....	68
Average price received, at.....	92
Gross value of production.....	59
Employment, at.....	64
Average daily wage.....	99.2

The depression took out over 2 billion feet of annual productive capacity in mills that have closed with no prospect of reopening. The mills remaining are using a little less than half of their normal capacity, as against 72 percent in 1929. This means, in 1936, about 3.5 billion feet less production and 7 million hours less employment than in 1929.

Coupled with this is the continued excessive logging waste in the Douglas fir region. The Hodgson report of 1926 awakened the industry to the appalling annual loss in timber operations, -- both logging and sawmill. But the industry admits in their own reports that logging waste is greater today than in 1926. They blame this on overproduction and excessive operating cost which they claim forces them to "skim the cream" of the forests. Most of the hemlock and No. 3 logs are left in the woods. According to a 1937 report of the West Coast Lumbermen's association: "The average West Coast sawmill cannot utilize in salable lumber grades from 15 to 20 percent of the volume of its logs (in short length, defective grades, etc.) which is normally recovered in eastern and southern lumber manufacture."

While the preceding figures show a deplorable state of affairs, does it necessarily follow that the future of the industry is to be hopeless? There are two factors which forestall a pessimistic attitude: (1) the past history of the industry: (2) the flexibility of the product.

#### Present Processing Industries

It has only been in the last few years that the lumber industry in the Pacific Northwest has given the attention due to a further utilization of the log after it reaches the sawmill. According to the Washington State Planning Council: "Planing mill capacity has been increased and the variety of products therefrom enlarged. Veneer plants obtain a maximum of finished product from the log, and furniture factories consume small pieces previously wasted. Pulp mills are using what at one time was mill and woods' waste. The manufacture of standard shapes and lengths of lumber for the construction of houses and miscellaneous buildings has been adopted by several mills. By means of such standard shapes the labor of erection in the field is very materially reduced. This practice of standard shapes and lengths corresponds, to some extent, to that of the steel mills. All these steps are encouraging evidences of a desire to find new outlets for timber products and to obtain greater wealth from the forests."

What the above statement really shows is the appalling lack of progress in processing industries which should and could have been established years ago.

#### Containers

The growing dependence of industrialized countries upon foodstuffs and raw materials of other countries, has created a large international demand for wood for packing purposes. In the United States, wooden boxes and crates in 1928 absorbed about one seventh of the entire lumber cut. In some years they have absorbed as much as one fifth of the lumber cut. Although there has been a decline in the consumption of boxes and crates since 1918, it was still ten percent higher in 1928 than in 1912.

The woods of this section are particularly adaptable to boxes and crates because of their structure and the lack of odor of many species. In the field of cooperage we are particularly fortunate. Tight cooperage for liquids and fruits and tierces for frozen fish are manufactured from Douglas fir. Butter tubs are made from spruce. Both of these woods grow prolifically in this State. Douglas fir is the predominant species. Yet, we find that in Seattle only one cooperage concern listed with the Chamber of Commerce manufactures exclusively wooden barrels, kegs and casks. Here is a field wide open for the investment of loose capital. The proper development of the cooperage industry here could do much to affect the local lumber market. While the increase in the use of steel and other metal casks has been harmful to the cooperage industry, many products of the Northwest require wooden containers for proper preservation. The principal factor in the development of the industry is an improvement in merchandising methods, especially in the field of salesmanship. On the other hand, manufacturers of boxes and crates are well represented among the industries of the State. In Seattle alone we have over 25 such establishments.

#### Veneer and Plywood

Great advances have been made in the manufacture of veneer and plywood products. Gluing processes have been invented which greatly facilitated the production of plywood, panels, and all sort of laminated sheet material. The development of the veneer industry came first in Europe and has shown a rapid growth. Plywood has become a forest product of considerable importance in world trade. The veneer industry in the United States has increased greatly in output since 1905. Over 181 million board feet of logs were used for veneers in 1905; by 1929 the consumption increased to 1,112 million board feet, or by more than 500 percent.

"In recent years the output of rotary-cut veneer has increased, due largely to improved sales methods. Where at one time plywood as panels was largely used in door manufacture, its field has expanded into general building material lines and particularly for use in concrete forms." Veneer is now used in ornamental pillars in place of the solid timber. In fact, the use of veneers and their general utility is increasing by leaps and bounds. Yet, Seattle has only five manufacturers engaged in the making of veneers, and with some of those it is only a side line.

#### Lath and Shingles

Washington is by far the heaviest producer of lath, outranking all other States. But the general consumption in the United States is declining, although at a slow rate, being influenced by substitutes like plaster boards, etc. It is conceivable that even cheaper substitutes than plaster board may ultimately be produced from some waste material, in which case lath production may continue to decline at a

more rapid rate. Since some of the substitutes are also produced from the same waste material, as masonit, firtex, etc., the competition merely results in converting the waste products, slabs, etchings, etc., into more profitable material than lath, and the substitution is, therefore, not economically disadvantageous to the lumber industry.

The shingle industry occupies a prominent place among the State's lumber industries, in 1925 converting cedar logs valued at \$12,240,000 into shingles with a value of \$19,829,280, distributing \$5,232,599 in wages to 5,000 employees, and carrying an investment of \$15,000,000 exclusive of timberlands. The industry steadily grew until 1929, when approximately 90% of the entire United States production occurred in Washington.

A continued decline in shingle production is to be expected, caused partly by decreasing supplies of cedar, partly by the competition of other roofing materials, nationally advertised and aggressively sold even in the home territory of the shingles. However, the decline due to demand will not be abrupt, or result in cessation of the industry for some time to come.

#### Wall Board

New uses of wood in the form of wall board and insulating materials are appearing constantly. No one can forecast at present what their future development may be. These newer products, like fibre containers, veneer, and wall board often take the place of wood in its original form for similar uses. Often, however, the new products, like rayon, cellophane, and other viscose products, create new fields in which wood was not originally employed.

#### Rayon

Artificial silk or rayon, much of which is made from wood fibre came into use only since 1900. In 1911 only about 2 million pounds were consumed in the United States. In 1929, the United States consumed more than 60 times as much as in 1911.

Little, up to the present time, has been done in the Pacific Northwest to build up a rayon or cellulose products industry. The raw material is here, but the cost of transportation to eastern markets has been an important factor in the failure to establish the industry on a permanent basis. Eventually, the industry will have to locate upon the Pacific Slope because of the depletion of proper woods in the East. This eventually is not far away.

#### Pulp and Paper

The use of wood for paper dates from about 1850. The paper industry, based on wood, made a phenomenal growth, particularly in the last 20 years. In 1911 the world production of wood pulp was 7,679,000 tons. In 1929 it had increased to 18,478,000 tons, or over 140%.

The average world per capita consumption of paper in 1925-27 was in the neighborhood of 23 pounds, ranging all the way from 192 pounds in the United States to less than one pound in China. Should the teeming masses of Asia alone reach the world average of 23 pounds, the paper production of the world would have to be increased by 10 million tons to meet Asia's needs alone. Japan has already increased its pulp production from 77 thousand tons in 1911 to 661 thousand tons in 1929, or more than 750 percent. The fact that the per capita consumption of pulp was increasing, up to 1929, in such countries as the United States, Great Britain, and Germany, also is an indication that even in the industrial countries the possibilities of growth have not yet reached a limit.

Daily pulp wood capacity in this region increased from 2,045 tons in 1923 to 5,797 tons in 1934, an expansion of 179 percent. Additional capacity of at least 100 tons per day has been built since then. In the production of the bleached and unbleached sulphite pulp the Pacific Northwest wood pulp production was 8.14 percent of the United States total. By 1934 it had grown to 21.84 percent of the United States total.

Until a few years ago (1926) spruce was regarded as the only source, so far as forest products were concerned, of high grade pulp. Research and development in the Northwest, combined, in some instances, with high standards of practice, have proved that western hemlock and some of the true firs (abies) are equally desirable sources of alpha cellulose. Hemlock has now replaced spruce. Douglas fir is even being used today, after extensive experiments, in the making of fine paper. While the bleaching of Douglas fir is more expensive than any other wood, it has, nevertheless, been proven successful. To such an extent has this become true that several mills are now shipping all, or nearly all, of their output to converting mills where rayon, cellophane, and other similar products are manufactured.

The species now used in the region for pulp manufacture include Sitka spruce for mechanical pulp; western hemlock for mechanical, sulphite and sulphate, some true firs for mechanical and sulphite, some Douglas fir for mechanical, soda and sulphate, and black cotton-wood for mechanical and soda. Satisfactory pulps and papers of wide variety, including the finest, are made from them.

With expanding markets for pulp and decreasing production in the older sections of the United States, the industry in this region is capable of considerable increase. The Hale Report \* demonstrates that this region, under adequate forest management, has the physical ability to supply the nation's present and future pulp wood, pulp and paper requirements. It is also believed it can meet foreign competition. Estimating total annual national requirements at 25,000,000 cords in 1950, the report allocates certain amounts to various regions. The Pacific Northwest's contribution is 7,300,000 cords of which only 1,000,000 is set aside for sulphate. However, the same report points out that, "simple modifications in cooking and the development of effective multiple-stage chlorination bleaching has brought the sulphate pulps to the

\*"National Pulp and Paper Requirements in Relation to Forest Conservation," Senate Document #115, 73rd Congress.

threshold of all purpose use." Already sulphate pulp, made from Douglas fir and hemlock, has been bleached in plants located in this section.

In any endeavor to increase the utility of the species of the region for pulp, Douglas fir demands high priority. Its use is sorely needed in strong, light-colored papers which are now heavily imported or derived largely through sulphite pulp from eastern spruce. And this objective is practically within reach at the present time. Many species, other than the spruces, hemlock and true firs, have produced satisfactory strong, light-colored papers, including southern pines, larch and chestnut. The present waste from the woods and from saw mills could support very extensive pulpwood operations.

## 2. FUTURE OF THE LUMBER-USING INDUSTRIES

### a. \*Merchandising

"Lumber, the principal forest product, has thus far largely sold itself." Several factors, unnecessary to enumerate, have contributed in the past to a strong position of lumber and obviated the necessity of strongly organized merchandising effort. But conditions of the past no longer prevail. Lumber is contesting with other materials for practically all its markets, and there is now imperative need for promotional effort in the broad sense. Until up-to-date merchandising has had a chance to show its full effects, provisions of permanently inadequate markets lack realism from the economic point of view.

"In the long run, merchandising effort must be based first, on sound foundations of quality and technical control, and second, upon coordinated sales policies that insure to the consumer material of the type and quality to meet his particular requirements." Up until 1935 the lumber industries of Washington made very little effort in presenting the prospective buyer with data as to the quality and standard of wood products. But within the last two years, the West Coast Lumbermen's Association have made an especial effort in properly presenting the qualities of their products. They now present a comprehensible handbook dealing with stress, strain, flexibility, etc. of different types of wood in the varying dimensions, which can be favorably compared with similar publications put out by the steel industry and other building-material industries.

Many prejudices against lumber will disappear as the producers take a firmer grasp of quality control and preparation of the product. Others will be removed only by educational work. For the technical buyer, especially, data regarding the properties of wood and its use in engineering structures must be made available in manuals and textbooks comparable to those available to him in the use of other materials.

"Only when lumber and other wood products are presented to the consuming public in the best possible condition, with adequate demonstration of their merits, with a catering to unsatisfied desires, and in accord with the findings of research, will it be time to consider whether the national market for such products is indeed 'Inadequate.'"

\*Extract from "A National Plan for American Forestry" -- Senate Document No. 12, 73rd Congress, 1st Session.



b. Research

There is no doubt that scientific research in wood and wood products, steadily prosecuted and the results applied, will lead to practical gains in the production and marketing of the forest yield--in the lowering of costs, in insuring greater satisfaction to the consumer in the service of the product, and in opening the way to new products and enlarged uses.

Other products have felt its influence; in fact, "scientific research is the foundation and pattern of the industrial age." Through research, products have been refined and diversified, new materials developed, mass production in old and new lines made possible with consequent cost reductions, and mass consumption awakened beyond the conception of past generations. Most of our modern industries -- steel, aluminum, and other nonferrous metals, alloys, glass, ceramics, refractories, petroleum, foodstuffs, machinery, textiles, plastics, cement, chemicals, electricity, etc. -- have come to depend on the research of the scientists and the technician for their continued progress and the expansion of their markets.

Research must show the way to radical improvements in wood construction. The convenience, low cost, and other advantages of wood must be combined with simplified, efficient, and cheap design and erection, and better preparation and maintenance of the material, to produce more durable and economical structures. Wood has lost ground competitively because of insufficient technical progress in its use. Since more than 60 percent of the lumber produced in the United States is used in the construction of buildings, it is especially important that this market be retained and expanded. Intensive research vigorously prosecuted offers the only practical way to keep wood abreast of the continuous technical progress being made by its competitors and thus to avoid unnecessary substitution of competitive materials for wood.

Wooden houses cost too much. Present designs and methods of building coupled with the normal tendency toward higher wages and shorter hours have reacted to discourage building. The obvious answer is mass production of wood units that can be assembled quickly and inexpensively in line with similar developments that are occurring in steel and concrete housing. The building trades, through their organizations, have built up a high hourly scale and have, in some instances, fought the advent of unit construction projects. However, some of them are beginning to see the advantages of continued construction by a lowering of both lumber, building material, and labor costs, which in the end offers the building employees an annual average income of much higher proportions than they now earn because of the scarcity and seasonal trends in their line of work. This enlightened outlook will undoubtedly be a boon to their trade instead of a hindrance.

The development of a complete, inexpensive fire-resistant treatment would do much to regain immense markets for wood that are now closed. Building code and underwriters' requirements limit the use of wood for exterior walls in residential, industrial, and commercial buildings in urban areas. A combined treatment embodying fire resistance, decay and insect resistance, and reduction of shrinking and swelling properties should be a major objective of the industry.

The development of a cheap glue that will be as strong, as reliable, and as permanent as the wood itself will enormously expand the opportunities in the economical and profitable use of wood. The glues thus far developed by research from blood, animal tissue, casein, vegetable proteins, and phenolic resins are excellent in many ways and a great improvement over those available in the past. As yet, however, they all fall short of the ideal in several respects. The discoverer of a glue which will meet all requirements may well revolutionize the whole lumber industry.

The above are just a few examples of what is needed in the field of research. Space prevents us from going into further details regarding the possibilities of research, such as the designing of shipping containers, the seasoning of wood, improved methods of log grading, etc., but we feel that we have at least given an inkling into the future possibilities of the wood industries by the simple expedient of increasing their research facilities.

One factor, which we have previously touched upon in Part II, alone could well revolutionize the industry -- the chemical by-products of wood. These, coupled with the improvement of pulping processes, offer the greatest speculative possibilities in the entire lumber industry. Except for the production of a small quantity of charcoal and the utilization of a negligible amount of hemlock bark in local tanneries, chemical utilization of wood in the region is limited to the pulp and paper industry.

The wood distillation industry, the development of a tannin extract industry, further experiments with cellulose products, experiments with lignin, are only a few of the possibilities in future chemical research. If the lumber industry in this region fails to take advantage of this type of research, already pioneered for them, they will have no one to blame for the continuous falling market of their products but themselves. As Mr. C. P. Winslow, Director of Forest Products Laboratory, United States Forest Service, states: "An adequate knowledge of the chemistry of wood is necessary for the development or improvement of chemical processes of wood utilization, including the manufacture of pulp, paper, rayon, and plastics. In this field lie the greatest possibilities of new wood products for new uses."

c. Summary

Consumption Trends Must Be Met

The measures advocated so very briefly in the foregoing paragraphs constitute a plea for placing the whole structure of forest markets on a revised and modern basis of consumer-service and continuing supply.

Some of the ways and means of meeting the modern challenge have been set forth with at least sufficient clarity, it is hoped, to indicate the direction of progress. It is believed that management and marketing activities may well be concentrated with special reference to transportation costs. The costs of raw material and manufacture should be reduced and quality of output improved by selective logging, and the productiveness of stands should be extended through management for sustained yield. In line with technical efficiency in the use of materials, the trend toward integration of forest-using industries in favorable locations should be encouraged, while wastes in all departments must be further reduced. Production from small holdings must be improved and adjusted to meet the standards of orderly manufacture and marketing, and merchandising must be activated on the modern plane of quality standards and technical requirements.

The apparent encroachment or intrusion of other materials in fields of wood use has been shown to be an inevitable expression of the modern age and the eagerness of consumers for now and improved products and services. The need and the responsibility for more scientific and technical research in wood and its products have therefore been specially stressed. Some of the more obvious and urgent objectives which research should follow have already been pointed out and may be briefly summarized as follows: better construction and fabrication, unit construction, better treating, coating, and gluing processes, better conversion and harvesting, keener selection and grading, the improvement of pulping processes and machine operations in paper manufacture, the development of plastics and other new and special products, basic and fundamental studies of the nature and molecular structure of wood, and the cooperation of all agencies, commercial and public, in the prosecution of these and allied lines of investigation.

"By girding themselves to meet modern demands efficiently, forest industry and forest ownership can look forward to a continued place of major service in the country's economic life," states Mr. Winslow. "The public has life-long need for, familiarity with, and attachment to wood and wood products. The Nation has a vast program of forestry at stake in the trend of wood use. The fiscal stability of local governments is bound up with profitable use of the land. The weight of public preference will be a mighty factor that may well be cultivated in stabilizing and enlarging forest consumption and in safeguarding

forest markets. It may be counted on to give wood a 'fair deal'. In return, forest industry must make sure the wood shall meet a high standard of expectation and performance, and that forest resources shall be constructively used and the supply continuously developed in accord with the general welfare."

#### B. MULTIPLE USE AND SUSTAINED YIELD MANAGEMENT

The central thought in the management and use of the resources of the national forests is to so adjust one use to the other that the greatest net public benefit will result -- to obtain the greatest total of crops, uses and services. The objective of the U. S. Forest Service and many other organizations is to apply this same principle to private forests if it is at all possible of accomplishment.

\*Timber products are not the only values derived from forest lands. Some of the other major values are those inherent in properly managed watersheds, in grazing of domestic stock, in protection of wild life, and in recreation. In multiple-use management one acre is made to do the work of three, so that the land resources of the country may be capable of providing maximum industrial and social benefits. A single exclusive use policy implies the dedication of land to one purpose and involves the loss to our civilization of other uses which might be developed through correlation and integration. Sound public economy demands development of harmonized uses controlled and regulated in the interest of all.

In Multiple use, grazing is harmonized with reproduction of timber, with soil conservation and erosion prevention, with the preservation of game, and with recreational uses. As another example, management of timber and utilization thereof can be harmonized with watershed protection, with recreation, and the preservation of wild life.

Multiple use management on a long time basis is almost entirely lacking upon privately owned timber lands. But even so, proper management of forest lands requires coordination of all types of use in a plan designed in the interest of the greater human welfare.

The objective of forestry is to provide management which will return annual timber crops of approximately equal size and value, furnish permanent employment, wages, and purchasing power, maintain stable industrial communities, and obtain the full use of the productive capacity of forest lands. This is sustained yield management. The basic conception is that of an industrial community composed of the various wood conversion factories with homes for workers and social and trade facilities permanently supported in large part by the continuous timber output of a forest area contiguous to the community.

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\*See Appendix "N", Report on Columbia Basin, by Pacific Northwest Regional Planning Commission.

A sustained yield unit may be considered to consist of three separate yet closely associated parts: (1) the basic natural resource, i.e. the forest property; (2) the manufacturing plants which convert the natural resource to useful products; (3) the social facilities provided for the people who manage the forests and man the factories. The manufacturing plants might not closely adjoin the forest or be controlled by the same interests as in the case of a forest property which produces logs for a general market such as Puget Sound. Nevertheless, the success of sustained yield management may be judged by the stability and general adequacy attained by the social and industrial facilities which are an integral part of the sustained yield unit.

According to the State Planning Council, there are four general requirements for sustained yield: (1) stable ownership of forest land, (2) unified control of sustained yield units, (3) uniform and equitable distribution of overhead charges on such privately owned, non-operable forest properties as are included in the yield units, taxes, protection charges, and administrative costs; (4) scientific control of all important biologic, commercial, and social processes.

Numerous potential sustained yield units are prevented from becoming so managed because of the multiplicity of land owners whose diverse interests prevent them from agreeing upon a logical and permanent policy for the whole unit. This condition is aggravated by ownership arrangements which are fundamentally unsuited for the business of stable and permanent management. These coupled with burdensome carrying charges result in recurring shifts of ownership which are incompatible with sustained yield schemes.

Under present economic conditions it is hardly practicable for a lumber producing company to carry the large quantity of stumpage required to place any good sized operation on a sustained yield basis. Under the present system the carrying of privately owned stumpage for more than 15 to 20 years is generally recognized as a losing game. One solution of the ownership problem, is that the public shall carry all of the stumpage resources required to form any given sustained yield unit. Private capital is then confined to the development and operation of the logging and milling facilities. Given the necessary funds, this is a direct solution to the problem in those areas where sufficient quantities of timber are available to permit sustained yield operations being established. Possibly a better solution of the problem, states the Washington State Planning Council, is for private owners to retain title in the maximum amount of stumpage which can be carried under the economic conditions existing from time to time. The public could carry the balance of the total amount required. In the writer's opinion, the first solution is the best, providing that the title to the stumpage reverts to the Government and then is released to the private operator under strict control based on selective cutting, or at least a sustained yield program.

It is to be anticipated, however, that the creation of more favorable economic conditions by such measures as deferred timber tax laws, forest credits, and similar changes will make it possible for private owners in the more favorable locations to retain sufficient lands to operate on a sustained yield basis.

"A sustained yield unit is a complex biological and social entity incorporating what is usually known as a natural balance." Technical control is essential to continuous productive management of such an entity. The technical problems upon whose solution sustained yield is contingent may be classified in three broad groups: (1) those pertaining to the art of growing forest crops (silviculture, range management, wild life management, etc.); (2) those pertaining to the utilization of forest crops (logging, milling, pulp manufacture, etc.) (3) those pertaining to problems of business and society (economics, sociology, etc.). Maintenance of complete and aggressive technical control of all these processes is a vital necessity.

The application of sustained yield management to the Northwest will unquestionably increase the ability of forest lands to employ and support labor. The silvicultural operation necessary for maximum yield will maintain forest covers and insure perpetuation of forest influences upon streamflow and control of erosion.

Sustained yield furnishes an opportunity for removing forest lands from submarginal agricultural operations and putting them to profitable use. Steady tax bases furnished by steadily productive sustained yield units and permanent industrial communities are opposite to diminishing returns and poverty stricken counties. In addition, predictable yields going to market through known centers of manufacture furnish fixed bases for long time social and industrial planning.

#### C. FORESTS AND COMMUNITY DEVELOPMENT

In their article, "Is Forestry Justified?," Mr. W. N. Sparhawk and S. B. Shaw of the Forestry Service give us an interesting insight into the lumber "boom" town and its inevitable consequence. While this process of "boom and bust" has long ago ruined the communities of the Great Lakes region, it has also made considerable headway in the Pacific Northwest. In order better to understand the process and its economic implications, it might be well to detail the functional application of this short-sighted policy.

The "boom" phenomenon which follows too rapid exploitation and liquidation of natural resources follows a more or less generalized pattern. A boom, centering around lumbering, begins with the first logging operation in a virgin-timber area. Plant and equipment are quickly installed far beyond the sustained yield capacity of the tributary forests. Other logging operations and sawmills follow the first, and production gathers momentum as it goes. At the start, the new demand

for goods and services commonly exceeds the supply. Local business which is on the ground floor prospers and expands. The vacuum is rapidly filled by influx of new enterprises. Established agricultural and business enterprises adjusted to the demands prevailing before the boom reinvest their earnings in expansion of plant capacity. For a time all goes well, but sooner or later the boom collapses and these fundamentally sound enterprises necessarily face serious loss of capital.

In the history of booms -- whether in mining, stock raising, lumbering, or recreation -- few local governmental agencies have had the wisdom or the restraint to hold public expenditures in check. As the boom gets under way and as local agriculture and business prosper and expand, increases in taxes are accepted complacently by the taxpayers. Every community desires intensely to outdo some neighboring community in the excellence of its public buildings and its roads. As the income from taxes mounts, and without calculating the cost to complete, a program of public improvements is launched. Almost without exception, the original estimates of costs are far below the actual, and the final outcome is that bonds have to be issued to complete public projects that have been undertaken. Communities under the spell of optimism and local pride cheerfully vote bonds that their governing bodies say are needed. When the peak of the boom is passed, property values decline, and the burden of local taxation begins to bear heavily on the primary raw material industry and local citizens alike.

At this time taxpayer's leagues begin to form and endeavors are made to reduce public expenditures. Usually this is difficult, because of the unyielding nature of the fixed charges for maintenance of buildings and roads and for interest and amortization of bonds. Failing in this, county authorities plead for National and State subsidies. Ordinarily these are obtained on the plea of collapse of the local government's credit and also on the plea that default on bonds must be prevented.

This boom process of too rapid exploitation reacts in a broadly similar way on the individual lumber business. Each new operation that starts contributes toward overproduction. Usually two processes then come into operation. First, the major producers in the region attempt to work out some plan of price stabilization or production control. These attempts have invariably failed. Then the individual concern must begin to analyze production costs and attempt economies which will reduce the unit cost of lumber. These economies can be effected principally through increasing production so as to spread the fixed costs over a larger output. Increase in production frequently means increases in plant and equipment. Thus earnings are reinvested and become frozen assets. As operation after operation follows this formula, overproduction becomes progressively more serious, prices are further depressed, and net return is reduced. Savings in production costs are more than wiped out by decreases in selling price.

Somewhere in this phase of the cycle the local government begins the practice of assessing a fixed amount of taxes against an annually decreasing volume of stumpage. This still further accentuates the urge for quick liquidation and reduces the chance for the individual operator to come out even. More commonly than not, the latter phases of the cycles are a scramble to cut as rapidly as possible and to sell at any price. In the wake of depressed markets, credit becomes restricted and the need for cash forces still further lowering of prices. With the end of an operation it is often found that earnings have been largely reinvested and that the total capital investment has not been retired.

Decline of lumbering is soon followed by decadence of agriculture in the region, and this in turn increases the difficulties for those who endeavor to hang on. The ultimate result is tax delinquency, land abandonment, or finally virtual depopulation of the region, with its train of economic and social wastage. The northern portion of the lower peninsula of Michigan may be taken as an illustration. For many years, while lumbering was flourishing, population steadily increased, homes were built, villages and cities grew up, a network of railroads spread over the region, and thousands of settlers established themselves on farms. Little thought was given to perpetuation of the forests, for it was believed that the region would develop as had the country farther south and that forests and forest industries would no longer be needed. But the land was not suitable for agriculture.

After a few decades logging and subsequent fires had wiped out all but a few remnants of the forests. The sawmills and logging camps which employed many thousands of men in 1889, employed only a few hundred in 1929. The railroads, no longer having timber to haul or anything to take its place, pulled out many of the branch lines and left the settlers without adequate transportation facilities. Costs of building and maintaining roads mounted, as did costs of schools and other public services. Real estate values declined. Taxes were increased. The more prosperous portions of the State were called upon more and more to help support schools and highways. Farmers, no longer able to earn wages in winter work in woods or mills, with no local market for their produce, and burdened with rising taxes, found that they could no longer make a living and gradually drifted away. Between 1910 and 1930 the number of farms in the cut-over northern counties of lower Michigan decreased by more than 15,000, or 27 percent.

When the camps and mills ceased to operate, many villages and towns lost their principal or only industries and no longer had any reason for existence. Population fell off rapidly. Many mill villages that had a population of several hundreds or even thousands joined the swelling list of "ghost" towns.

This state of affairs is not peculiar to Michigan. The same thing has happened in the other Lake States, in the Appalachian region, in the South, and already in some localities in the far west. In fact, Washington is already dotted with "ghost" timber towns.



The entire boom cycle, starting with untouched virgin timber areas and ending with local impoverishment and parasitism, has varied in length in different regions. But in the main the life of the cycle seldom lasts more than 25 to 40 years. It is disastrous alike to the lumbering business and to local communities, local government, and local business. To prevent booms, with their inevitable consequences of local impoverishment, overproduction, and migratory lumbering is one of the obligations of American forestry.

An excellent example of a community, or rather a group of communities dependent upon forest industry, is Grays Harbor County, in this State. This county, with a population of 60,000, including several modern cities, is almost entirely dependent on the forest resources. In 1928 it had 52 lumber and shingle mills and 19 other enterprises manufacturing wood products. Those, together with logging camps, employed over 10,000 persons. Millions of dollars have been spent by local interests and by the Federal Government in developing the harbor and port facilities for the shipment of lumber. There were 1,892 business firms in the county engaged in all sorts of enterprises. There were only 22,000 acres of crop and pasture land in 1928 out of a total area of 1,196,000 acres, but there were 956,000 acres of logged-off land. The total assessed valuation of the county in 1928 was close to \$38,000,000, of which more than one half represented forest land, timber and woodworking plants. Probably 90 percent or more of the other values would be wiped out if the lumber industry should cease. Obviously, the disintegration of such a group of communities or of others like these elsewhere would entail great economic loss, not only to those directly involved, but to the State and Nation as well. Fortunately, in this instance this has been realized before the forest was entirely exhausted, and plans for insuring a perpetual timber supply are now going forward.

If our forests are to do their part in maintaining permanent, prosperous communities, they must be handled in such a way that a continuous supply of timber is assured for each dependent community; that is, under the principle of sustained yield by comparatively small economic units. In this way unhealthy "boom" development can be avoided, periodic overproduction of lumber and other forest products can be prevented, all of the indirect benefits of the forest can be retained and increased, and our forests can take their place permanently as one of the basic natural resources upon which regional and national prosperity is founded.

#### D. OLYMPIC NATIONAL PARK

On the Olympic Peninsula of the State of Washington, embracing the slopes of the Olympic mountains, the people of this State and of the United States own the last great forest wilderness in their country that may still be viewed in its pristine glory.

Irving Brant, a world traveler and conservationist of national repute, describes this wilderness in glowing terms. "It is a forest," he says, "that has no counterpart anywhere in the world. Trees 300 feet in height, ten feet and more in diameter, the tallest evergreens that grow upon this earth, Douglas Firs, Sitka Spruces, Red Cedars and Western Hemlocks, in this spot have responded to the impact of moisture-bearing ocean winds upon the mountain sides, and have produced the most magnificent examples of forest growth the eyes of man have ever seen.

"Underneath these towering evergreens, dwarfed by them, yet wonderful in themselves, are spreading maple trees and alders, festooned with hanging moss like the Spanish moss of the South, while on the ground, beneath the ferns and salmonberries, a thick, mossy carpet envelops rocks and huge decaying logs, and gives the final touch of age and silence to the scene.

"Nor is this the full majesty of the Olympics. As the wooded slopes rise from the warm seashore to the colder mountain heights, they open into mountain meadows, then into Alpine tundras, and at last give way to a wilderness of snow-capped peaks and glacial cirques unrivaled in America for their tumbled majesty.... These forests and, in summer the mountain meadows and tundras, are the home of the Olympic or Roosevelt Elk -- renamed after Theodore Roosevelt -- the largest of the American wapiti, here making their last stand against the forces of destruction that have brought them elsewhere close to extinction.

"This land of marvels, almost unknown because of its wilderness character, is the property of the nation. It is part of the public domain, and belongs to the people of the United States. But it is marked for hideous destruction, unless the people protect their property."

Realizing the hurried necessity for action in order that the people might protect this great heritage, Congressman Wallgren of Washington introduced a bill in Congress three years ago setting aside a large portion of the Olympic Peninsula as a National Park. The Grays Harbor lumber interests, with logging operations on the Peninsula, along with certain other interests, immediately started a drive against the Bill. The result of this drive caused Representative Wallgren, in the interest of harmony, to revise his bill and decrease the area of the original plan. Still the opposing interests were not satisfied.

At this time the Washington Planning Council made a study of the situation. They stated in their report, in part, as follows:

"As to the large area of timberland lying west and south of the park boundaries as proposed by your committee, and included within the boundaries as proposed under the Wallgren Bill, we find that this timber is for the most part not of park caliber. It consists largely of mature forests of spruce and hemlock, valuable chiefly for pulp-wood purposes, not unusual as to size and the area not particularly scenic or attractive to the mountaineer or other prospective visitors.

"The area, in fact, is a region into which visitors virtually would never penetrate. The rainfall is excessive in the district, trails are difficult to build, and, due to the rainfall and the condition of the forest floor, would be almost impossible to maintain and would not be used. The result of including this area in a proposed park would be that the timber merely would be left to rot and no compensating public or other advantage would be gained."

This conclusion, however, was not concurred in by many people acquainted with the Peninsula, especially as to that section immediately south and southwest of the Mount Olympus Monument, and included in the Wallgren Bill. The controversy over the boundaries of the proposed park, therefore continued through another session of Congress.

A revised Bill was again introduced at the 3rd, session of the 75th Congress by Congressman Wallgren, and was later reported out favorably by the public lands committee of the House, and finally adopted by that body. The Senate modified the House Bill by cutting down the acreage originally included. After a conference between committees of both Senate and House, the Senate boundaries finally prevailed. However, a proviso was added that the President, following a study of eight months, may add from time to time such areas within the Olympic National Forest, as he deems advisable after consulting with the Secretary of the Interior, Secretary of Agriculture, and the Governor of the State of Washington providing that the total area of the park does not exceed 898,292 acres. According to the Bill, as finally passed by Congress and signed by the President the area is now fixed at 642,239 acres.

The Olympic National Park now takes its place in the select family of American National Parks and will undoubtedly furnish keen competition to Yellowstone, Glacier, Yosemite, and other sister parks. No little credit for this achievement is due to the Emergency Conservation Committee of New York, which is composed of a group of public spirited conservationists and dedicated to the preservation of American Playgrounds and wildlife. And, of course, Representative Wallgren and Senators Bone and Schwollenbach have earned the undying gratitude of the people of Washington for sponsoring and supporting this legislation. In the years to come it will undoubtedly become the leading recreation center in the nation.

There will be some, however, who will continue to feel that by bottling up so much valuable timber we will eventually destroy our pulp-mill industry. Forest experts, nevertheless, have proven satisfactorily to the Congress that through sustained yield management there is a sufficient timber supply outside the boundaries of the park for pulp purposes to furnish ten times the present capacity of the mills forever.

E. A MASTER PLAN FOR FORESTRY IN WASHINGTON\*

"In suggesting a definite plan for forest development, the Council believes that this is the most practical approach toward solution of the forest problem, and that by aiming at immediate objectives sufficient interest can be aroused to obtain these first results.

"Obtainment of the major objectives may require many years. This should not discourage us, nor should it prevent the doing of first things first. The plan presented should not be retarded as a completed piece of work, but rather as a series of first steps to be taken. The State plan should be linked with regional and national plans to the extent that may be practicable, first because the proper objectives of all are related, second to secure the aid of the larger groups in promoting helpful Federal legislation and administrative policies.

"Estimate of cost to the State has been omitted. Every dollar which the legislature may appropriate for forest purposes can be made a wise investment for the State. Progress, in large measure, will depend upon appropriations. In general, it is felt that the State forest Board should, from time to time, as the program develops make specific recommendations of budgetary needs. The first requirement is to stir the public imagination into a desire to invest in future forest prosperity."

Federal Action Recommended

"The Congress of the United States should enact necessary legislation and appropriate sufficient funds to:

- "1. Recognize and meet its full responsibility in protection of privately-owned forests from fire, insects and disease;
- "2. Provide an equitable and adequate system of compensation to States and counties in lieu of taxes upon forest lands in Federal ownership;
- "3. Greatly increase fundamental forest research to point the way for specialized study of management and utilization;
- "4. Permit, where practicable, integration of management of Federal lands and Federal management of Indian lands with other ownerships for application jointly of sustained yields;
- "5. Carry out a program of forest land and timber acquisition designed to set up sustained yield units owned and operated in connection with private and other public agencies.
- "6. Permit management of the forested public domain on sustained yield basis and its proper protection from fire;

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\*Quoted from report by Washington State Planning Council --  
Dec., 1936 -- "A Master Plan of Forestry for the State of Washington."

- "7. Provide a system of forest credits adapted to the needs of permanent forest production and utilization.

"Specifically, it is recommended that the Congress enact two measures which were prepared jointly by public and private representatives to meet these requirements and which were introduced in the 74th Congress. These were the McNary-Doxey Sustained Yield Forestry Bill and the Fletcher-Caldwell Forest Credits Bill.

"Federal administrative policy should be framed to:

- "1. Synchronize production of timber from Federal forests with production from State and private lands so that a steady flow of materials of the highest possible quality and value may be sustained.
- "2. Conduct its forest operations with proper regard for established industry and general market conditions.
- "3. Accomplish the application of the sustained yield principle upon Indian forest lands without damage to existing operations and dependent communities.
- "4. Promote domestic production of pulpwood by all appropriate means."

State Action Recommended

"The legislature should enact the necessary laws to:

- "1. Increase the present State Forest Board to seven by addition of two non-political members of recognized standing and experience.
- "2. Charge the Forest Board with responsibility for determining policies of administration of State-owned forest lands, leaving to the appropriate State officials responsibility for all details of administration and supervision of forest activities; provided, that with respect to all agencies not represented on the State Forest Board the policy-making function of the Board shall be recommendatory only.

"The legislature should provide appropriations to:

- "3. Enable the appropriate agencies of the State to administer effectively the several taxation, forest acquisition and protection laws.

"The legislature should enact the necessary laws to:

- "4. Make applicable upon all forest operations in the State the forest practice rules now voluntarily applied by members of the organized lumber and timber products industry.

- "5. Provide for deferment of taxes on standing timber in accordance with the recommendations of the State Tax Commission.
- "6. Increase the authorization for public utility bonds for purchase of lands for State forests from \$200,000 to \$300,000, and in exceptional cases where necessary to complete better administration units authorize the Board to pay up to a maximum of \$10.00 per acre for an area not be exceed 3 percent of the forest unit owned or to be acquired by the State and contiguous thereto.
- "7. Memorialize the Congress to amend the enabling act to permit selective logging of State school land forests and integration of such forests with intervening private forests on permanent sustained production basis.
- "8. Provide for research in forest management and utilization under direction of the State Forester, the Dean of the College of Forestry of the University of Washington and the Head of the Department of Forestry and Range Management of the State College of Washington.
- "9. Provide stock trespass law applicable to all State lands."

Private Action Recommended

"Forest industries should accept the responsibility and obligation to cut and protect their forest lands so as to provide for regrowth. Continuous production should be their ultimate objective. The industries should continue to participate in the joint conservation program of public and industry action formulated by the National Forestry Conference of 1934.

"We recommend and urge upon all private owners and operators continued support of organized efforts to frame and carry out a forestry plan for this State. This involves compliance with the State forest laws, sustained activities to inform the public, and increasing efforts to increase the usefulness and distribution of their products."

There you have the "Master Plan" for Forestry in the State of Washington as recommended by the Washington State Planning Council. There are many evident weaknesses in these recommendations, particularly one of a general nature; too much interest shown in the private owner who is unwilling to help himself. I wish to submit at this time a letter critical of the Washington "Master Plan" by a Forester of national reputation who, because of his present position, does not wish to have his name used. His criticism follows:

- "1. There should be included in the Planning Council report a land use plan with maps showing the areas which ought to be permanently withheld for timber production. In the case of public lands the reservation of these areas should be made now.

- "2. The private lands to be permanently reserved for production should be acquired by the Government.
- "3. The logging of timber should be done by selective logging methods to insure permanent growth. (Selective logging is never mentioned in the Council's Recommendations.) This regulation would have to be on a national scale, however, and would be very difficult to work out, perhaps impossible under present laws.
- "4. Saw timber areas should be purchased by the Federal Government.
- "5. The Government should do its own logging. They should make sales of logs instead of stumpage."

With the background given in the previous pages of this survey, the reader should be able to judge for himself whether the criticism of this forester should prevail against the "Council." However, I wish to submit a few detailed observations by a man long interested in forestry for the benefit of the student.\*

"On Page 26 of "A Master Plan" the statement is made: "Public use of the forests accounts for most of the fires and the public should bear a far larger portion of the costs than it now does." In this State, the fact has always been concealed from the public that the greatest amount of forest devastation is due to fires due to logging operations. The Copeland Report Says: "The major cause of forest devastation is fire and usually fires following cutting." (P. 47)

On Page 33 of "A Master Plan" this statement appears: "Power to regulate our forests rests with the public. That power will be most effective if it is exercised in such manner as to aid and direct the activities of men and agencies skilled by experience in the realities of forest management and utilization." By this language the undoubtedly refer to private operators. Dean Winkonwerder is one of the principal advisers of the Planning Council on forestry and in the report of the Forestry Committee, of which he was chairman, he makes this statement: "Considered from every angle, it is desirable that private initiative and ownership occupy a major place in the production of forest products on a long time basis. It is a public responsibility to establish and maintain economic and other conditions through State or Federal legislation and policy which will encourage continuous sustained yield management on the maximum acreage of forest land now privately owned."

However, it certainly would be well to compare the views set forth in the "Master Plan" with the Copeland Report (Page 11) on the effects of ownership of the forests. In dealing with the question of private ownership, this report states: (1) "It is largely responsible for forest devastation and deterioration." (2) "It is the most unstable form of forest land ownership." (3) "It is responsible for serious economic and social losses to the public." (4) "It has fallen far behind public ownership in management and administration."

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\*Excerpts from letters by Irving M. Clark.

And in his book, "The Peoples Forests" on Page 106, Robert Marshall of the United States Forest Service says: "So we see that from whatever viewpoint we may examine it, private forestry, even when aided by government subsidy, fails to safeguard public welfare.... The only way that private forestry can be a success would be for the government to pay practically all the expense of starting, developing and protecting the forests, leaving to the owners only the harvesting of the profit" -- and on Page 135: "In the final analysis, public ownership of forests is absolutely necessary, if for no other reason than that the nation is headed straight for forest bankruptcy under private ownership."

Let me call to your attention also: that the doctrine of cooperation between the public and private timber owners as a solution of the problem has been preached ever since Gifford Pinchot returned from Europe in 1891. After forty years of trial the plan is still a failure and the public ought now to face that fact. Mr. Silcox, Chief Forester of the United States, stated on March 13, 1935, in an address at New Orleans: "The public has already taken extensive action to assist the industry, but the industry, with few exceptions, has not taken seriously a readjustment of itself to get on a sustained yield basis, but has been inclined to take the position that the public should be satisfied with bare minimum woods practice requirements."

The TVA has its own forest of 125,000 acres or more, which is to be managed in the interest of a permanent community of 250 families. The logging will be done by the TVA itself instead of by private contract. By the end of this year over 42,000,000 trees will have been planted. This is the first project of the kind in the history of the United States.

The United States Forest Service has recommended in the Copeland Report a program of public acquisition of privately owned forest lands, but under the present rate of appropriations for the purpose, about seven and a half million dollars per year, it would take about 100 years to carry out their program. The recommendation in the "Master Plan" for public acquisition is found under the title: "Federal Action Recommended" No. 5. "Carry out a program of forest land and timber acquisition designed to set up sustained yield units, owned and operated in connection with private and other public agencies." The way this probably would work out in practice would mean the acquisition only of those forest areas which the private owners wanted to include within their logging operations.

Note: After making a rather close examination of both the Copeland Report's "National Plan" and the State Planning Council's "Master Plan," this writer is forced to the conclusion that the weight of the argument lies with the Government Report and to those who favor a more extensive public ownership.



## II. LABOR RELATIONS IN THE LUMBER INDUSTRY

The lumber workers, and especially those engaged in logging operations, work under conditions so different from those in most other industrial fields that their position is rather unique. This is due to the nature of the industry itself. The average lumber camp, and even many of the sawmills, are situated in thinly settled forest regions and, in many instances, cut off entirely from civilization. The resulting conditions are a peculiar mixture of "capitalism and feudalism, civilization and barbarism." Each camp is a community by itself, dominated, of course, by the employing lumberman. The lumber owner not only plays the part of employer but also that of hotel and store keeper, and in some instances delegates to himself the police power as well. The foremen or superintendents of these camps, especially where the workers are unorganized, are virtual dictators in their own domain. The result of these conditions, inhorrent and peculiar to the industry, had led to grave abuses in the past, and in some sections, especially in the South, still fosters working conditions unbelievable to the industrial workers of the cities. A brief glimpse into the logging-camp conditions of not so long ago will help us to understand somewhat better the history of labor in the lumber industry of the Northwest.

### 1. Early Logging Camp Conditions

There is no industry in which working conditions have been revolutionized to a greater extent in recent years than in logging and lumbering. Just compare conditions and note what organization has done. In the not far distant past the food of the average logging camp was of the cheap, adulterated variety. This consisted in many instances of tainted meat, cheap sausages, rancid oleomargarine, imitation jams and jellies, dried or canned fruit, canned peas, etc. Many of these cheap, adulterated foods contained preservative chemicals absolutely injurious to health and when used as a steady diet resulted in permanent disability of the worker. Add to the cheap foods, the inferior cooking generally found in lumber camps, and one must readily admit that the loggers' mess was no epicurean delight.

The living quarters, or bunk-houses, were dirty, unsanitary and overcrowded. Men were packed like sardines in double bunks built in two tiers, one above the other. In some camps mattresses were provided, but in most the bunks were filled with hay which was put in when the camp was built, and never changed afterwards. Except in some parts of the Northwest, neither sheets nor pillows were furnished, so a man came directly in contact with the blankets, which were seldom or never washed. Men were constantly coming and going, thus many different men used the same blankets during a season, and thereby created an ideal method for the spread of disease -- particularly syphilis.

In the earlier camps no drying rooms were furnished. Wet clothing was hung around the bunk-house stove, and the steam and odor from these added to the foulness of the stagnant air. There were also no cuspidors furnished so the custom was to spit on the floor, which at bedtime was covered with tobacco juice and other sputum. Open toilets in many instances were built but a few yards from the cook-shacks, and in the summer time swarms of flies would carry their filth and infection to every part of the camp. Bathhouses in the earlier days were unheard of, and many camps are still without them.

Such were the conditions in the great majority of lumber camps in the United States and Canada. In many sections these conditions have materially improved while in others no improvement is apparent. However, in the Pacific Northwest, where a large percentage of lumber workers are organized, conditions are much better than the average. Sweeping reforms were brought about by the 1917 strike, and many additional gains were made through subsequent organization. Bunk-houses are smaller and less crowded. Sheets and pillows are furnished, and there are bath-houses and drying rooms. The general sanitary conditions are greatly improved, as well as the quality of food now served to the workers.

The sawmill worker falls into a somewhat different category than the logger. His work is more highly specialized than logging. In this branch of the industry machine production is highly developed. The sawmill worker is a machine tender, and like other machine tenders, his life is a weary, monotonous grind. The amount of skill required is small, speed being the main requisite. And in the larger modern sawmills the efficiency or speed-up system has been developed to a fine science. This work is exceedingly dangerous and accidents are frequent. In most sawmill centers maimed and mutilated workers are so common they excite no comment. A large percentage of these accidents are preventable, but the installation of safety devices, as in most industrial plants, always seems to lag behind other technological improvements.

In some of the sawmill towns we still find a form of industrial feudalism holding forth. The lumber companies, besides controlling the industry of the community, generally control the merchandising of goods, the utilities, and all of the local real estate. Because of their absolute control, sheriffs, police officers, and other small business elements hasten to do their bidding. Often municipal and county office holders are employees of the company, or economically dependent on it in some way, and thus completely under its control. While this condition is not necessarily confined to sawmill towns, it is nevertheless detrimental to the worker, wherever found.

The employment office and the lumber workers. Before we go into the history of the organization of labor in the lumber industry, it might be well to touch briefly upon the relations between the unscrupulous employment agent and the timber worker -- a canker the latter has, as yet, been unable entirely to eradicate.

Lumber workers have undoubtedly suffered more from the graft of unscrupulous employment "sharks" than any other migratory worker. In many camps hiring is not done on the job, but through employment agents, and a man cannot go to work unless he brings a ticket from one of these. Foremen, in many instances, work in collusion with these "sharks" and in consideration of a rake-off from the fee, keep hiring and firing, thus creating what is known as the "three gang system" -- one gang coming, one working, and the third going back to town to buy more jobs from the employment sharks."

In some places employment agents have a practical monopoly of jobs and it is almost impossible to escape paying them tribute. These fakery are notoriously dishonest, and generally misrepresent wages and conditions. Often they send men to places where none are needed, thus not only robbing them of the fee but causing them to lose the fare as well. Foreigners and inexperienced youth are their worst victims. It is practically impossible to obtain legal redress as the workers they defraud lack the means to prosecute them.

Some years back an effort was made to curtail fee-charging employment agencies. The legislature passed the necessary legislation, but the courts intervened and called the law discriminatory and therefore unconstitutional. It is to be hoped that the new Federal-State Employment Service, which is now partially operative and will be entirely so in another year, will permanently eliminate the private employment agency. Union organization is another factor which is giving protection to workers.

## 2. History of Organized Labor in the Northwest Lumber Industry

The first lumber workers' union in this country of which we have any record was organized in Eureka, California, in 1884. It began as an independent organization, but six months after its inception it took out a charter in the Knights of Labor, and soon gained a membership of over two thousand. It had locals in Eureka, Arcata, Freshwater, and several other points in Northern California, and published a weekly paper called, "The Western Watchman." One of the primary grievances of the lumber workers in that region, and which brought about the organization of the workers, was the compulsory hospital fee. This fee was excessive, and the service given in return was of such an inefficient nature that it was practically worthless. The union, soon after its organization, forced the closing down of the company hospital and forced the head doctor to leave town for parts unknown. Among the other accomplishments of this initial organization was the prevention of rapid reduction in wages, an expose' of the land steals of the companies, and aid in reducing the hours of sawmill workers from twelve to ten. After a militant career of about five years this union was broken up by the lumber companies of the Pacific Coast wooding out and blacklisting the most active members.

Following the collapse of this first feeble attempt there was practically no organizational activity for the following decade. But at the turn of the century the Western Labor Union, an organization closely allied with the Western Federation of Miners, began to gain a foothold among the lumber workers of western Montana. In 1905, this organization, which had changed its name to the American Labor Union, was one of the unions which went to make up the I.W.W. (Industrial Workers of the World.) By that time it had gained a considerable membership.

In 1907, 1908 and 1909 there were strikes in western Montana, but these were only partly successful. In some camps in the neighborhood of Missoula the nine-hour day was gained. This section supplies the timber for the mines of Butte, and during the strike of 1908 an appeal was made to the miners to refuse to handle the timbers cut by non-union lumber workers. This request was denied by the miners' union, which broke the back of the strike. Shortly afterwards the A. F. of L. organized the territory.

In 1907 two thousand sawmill workers struck in Portland, Oregon, tying up the lumber industry of that city. The strike lasted about three weeks but no gains were made.

The organization of the Brotherhood of Timber Workers in western Louisiana in 1910, and their long and bitter struggle in the Lake Charles District is an interesting and informative bit of labor history, but has no place in this study because of the section of the country in which it took place. However, students of the History of Labor may well afford to investigate the story of that struggle as the forerunner to present-day attempts to organize the South.

In the Spring of 1912 a strike broke in the sawmills of Aberdeen, Hoquiam, and Raymond, Washington, against the ten-hour day and the low wages. This was not a well organized strike or particularly sponsored by any one labor organization. It was rather a "walk-out" by mutual consent. The demands were for an eight-hour day with a minimum wage of \$2.50. Many of the loggers of western Washington struck in sympathy, and for some weeks a bitter struggle was waged, characterized by more than usual violence. The strike lasted about five weeks and was partly successful. An increase in wages of about fifty cents a day was gained in the mills. The loggers gained the same wage increase and also won for themselves springs and mattresses for their bunks and a general betterment of sanitary conditions in the camps.

In 1913 several strikes, spotted here and there, broke out in the Northwest. Early in the spring a strike started in the Coos Bay Country of Oregon. There was also a strike in Montana, principally effective around Missoula, caused by an attempt to force a return to the ten-hour day. In western Washington there was a partial strike of loggers. Some gains were made by these strikes. In Montana a return to the ten-hour day was prevented. In other places some wage increases were gained, and food and camp conditions improved.

By this time the lumber workers were becoming thoroughly aroused. The importance and effectiveness of organization was slowly gaining recognition. The slight gains made through haphazard organization and the bitter opposition of the lumber interests, instead of discouraging them, only made them more susceptible to a wider and all-inclusive organizational drive. It was at this time that the I.W.W. made its first serious bid for acceptance. In 1916 a strong drive was made to organize the lumber workers of the Northwest. It met with immediate success, and by the Spring of 1917 thousands of lumber workers were lined up in the I.W.W.

a. The Great Lumber Strike of 1917

In March, 1917, Lumber Workers' Industrial Union No. 500 was launched, with a membership of about ten thousand. A strike was voted for the summer, and demands were drawn up, principal of which was the eight-hour day. In June the strike started and quickly spread to all parts of eastern Washington, Idaho and Montana. Three weeks later it spread to western Washington. Some of the sawmill crews joined in the general walkout. In a few weeks practically every sawmill in Washington, Idaho and Montana had to shut down for want of logs. Strike camps were formed and a system of pickets was organized to cover the whole strike zone. Owing to the extent of the strike, the great number of men involved, and the vigilance of the pickets, the attempt of the companies to recruit non-union labor in order to keep up production was doomed to failure.

Then began one of the most bitter labor struggles the Northwest has ever witnessed. In fact, it was the first large-scale conflict in a major industry in this region. Thugs and gunmen were imported, hundreds of strikers were jailed, the press carried on a campaign of villification against the I.W.W., mob law was stirred up, union halls were raided; and in some places, especially in Idaho, strikers were beaten up and run out of town. In Troy, Montana, a striker was burned to death in jail. But with all this violence and the wholesale jailing of strikers, the lumber workers stuck to their guns and the lumber industry remained paralyzed.

But as the strike progressed, it became increasingly evident that, notwithstanding the determination of the strikers, the tactics employed were bound to end in failure. The fallacy of long strikes off the job had been demonstrated many times in other industries. It was impossible to raise sufficient funds to support the strike indefinitely. With the most active strikers in jail and starvation staring the rest in the face, every day made it harder to maintain a solid front. Sooner or later enough non-union recruits would be enlisted to again open the camps and mills. The longer the strike lasted the blacker the outlook became for the strikers and inevitable failure and defeat faced them in the end.

It was at this time that the union introduced a new innovation in the category of strikes -- the strike on the job. While this innovation was borrowed from Europe, (Italy, to be exact), it had been used but sparingly in this country in any organized effort. The loggers adopted the slogan of, "Poor Work for Poor Pay." With the job strike, they decided that instead of starving on the picket line, the strikers would be eating three square meals at the expense of the employer and drawing their pay besides. These tactics would also eliminate the installing of non-union laborers on the job. So the job strike was finally agreed upon.

About the middle of September the movement back to the job started. The strikers' return was hailed by the press as a victory for the employers. Actually, it was only the beginning of a new and far more effective form of strike.

When the strikers returned to the job, instead of doing a day's work as formerly, they would "hoosier up," that is, work like "greenhorns" who had never seen the woods before. Perhaps they would refuse to work more than eight hours, or perhaps they would stay on the job ten hours for a few days, killing time. When they had a few days pay earned, they would agree to quit at the end of eight hours. At four o'clock, the prearranged signal being given, all would quit and go to camp. The usual result was that the whole crew would be fired. In a few days the employer would get a new crew and they would use the same tactics. In the meantime, the first crew was repeating the performance in other camps. With a little practice the job strikers became experts in inefficiency. A foreman always thought that he had the worst crew in the world until he got the next. The only men doing any real work were the cooks and flunkies, who were kept on the jump trying to satisfy the sharpened appetites of the strikers.

In most camps the job strike was varied at times by the intermittent strike, the men walking off the job without notice and going to work in other camps. This added to the confusion of the employers as they never knew what to expect.

Never before had these tactics been used on such an extensive scale in the United States.

It might be supposed that under the circumstances the companies would resort to a general lockout; but they were unable to do this, as there was an active demand for lumber at the time and their reserve supply was exhausted.

Shortly after the strike was transferred to the job the government placed Colonel Disque, with headquarters in Portland, in production of spruce which was needed in large quantities for the manufacture of airplanes. Although spruce production was little affected by the strike, the lumber companies purposely held it back to discredit the strikers and make it appear that they were striking against the Government. It was at this time that Colonel Disque organized the Loyal Legion of Loggers and Lumbermen in opposition to the Lumber Workers' Industrial Union.

Colonel Disque and the lumber interests finally began to realize that real concessions would have to be made if they were to get production in the lumber industry. There remained only one thing to do -- concede the eight-hour day. March 1, 1918, after official announcement by Colonel Disque on behalf of the lumber interests, the eight-hour day was recognized in the lumber industry of the Northwest.

This was one of the most successful strikes in the history of the labor movement. The efficacy of the tactics used is further emphasized by the fact that it was directed against one of the most powerful combinations of capital in the world. Two hours had been cut from the work day. Wages had been raised. Bath houses, wash houses and drying rooms had been installed. The companies were forced to furnish bedding. Old-fashioned, insanitary bunk-houses were displaced by small, clean, well-lighted and ventilated ones. Instead of bunks filled with dirty hay, beds, clean mattresses, blankets, sheets and pillows, changed weekly, were furnished. The food was improved a hundred percent. In short practically all demands were met.

b. The Bushell System

Soon after the 1917 ~~strike~~ "gyppo" and "bushell" systems were introduced. The so-called "gyppo" system refers to the letting out on contract the logging off of specified areas to small contractors. The latter generally agree to fall, buck, scale, and clean a certain area for so much money. The result is that they generally have the work done by the piece-work method of so much a thousand feet, to assure them of a specified profit. This is known as the "bushell" system, and has proved very injurious to unionism. Wherever the "bushell" system gets a foothold, union activity falls off. Piece-work and organization do not mix.

In the chapter dealing with logging waste the writer pointed out that the "bushell" system was a contributing factor in timber waste and suggested that the daily wage was a far better objective as far as unions were concerned. Today, both the A. F. of L. and the C.I.O. organizations in the lumber industry are putting forth a real effort to eliminate these practices, and have made some headway. The older workers are almost unanimous against the practice, although some of the younger element prefer piece-work. According to most of the experienced labor executives, however, the system is harmful to the men's safety, character and health.

c. History of Labor Relations -- Cont.

During the war the shipyard emergency finally came to the forefront. The workers in the Puget Sound shipyards were finally organized under the Metal Trades of the A. F. of L., and during the emergency were supported by the woodworkers' and sawmill industries. In the meantime the Loyal Legion of Loggers and Lumbermen, generally referred to as the "Four L's," had made considerable progress in the logging industry.

Samuel Gompers, then President of the A. F. of L., recognizing this strength finally instructed J. D. Brown, President of the Sawmill and Timber Workers in 1918 to support the "Four L's." Many of the workers resented this forced affiliation with an organization, originally organized by army officers, and which they felt was not representative of labor. This resentment became so marked that by 1921 the "Four L's" had lost much of the Workers' support. Nevertheless, they were strong enough at the time to wreck the international A. F. of L. organizations of the timberworkers and shingle weavers, and finally the I.W.W. The criminal syndicalism acts also contributed to the demise of the latter.

The last concerted stand made by the I.W.W. occurred in 1923. They set May 1, of that year for a general strike in the timber industry. For a short time they closed down a big proportion of the lumber operations in this State. They then again adopted their former method of going back to work and striking on the job. From then on their membership dwindled and their effectiveness as an organization gradually declined except for scattered sporadic outbursts.

Just previous to the 1923 strike, however, the Trade Union Educational League had organized in the East. The organization was Communistic in origin and, as the name implies, interested primarily in educational work. However, in 1927 a branch of the League in the Grays Harbor district called a strike which was on the whole unsuccessful. This was the only strike in this region in which the T.U.E.L. was involved. In 1929 the remnants of the League reorganized into what was known as the National Lumber Workers. Under this organization there were no strikes. Like the League they devoted most of their efforts to propaganda. But in 1935 they affiliated with the A. F. of L. just prior to the May 6th strike.

As has been shown above, there was very little labor activity during the ten-year period 1923-1933. One of the reasons for this loss of effectiveness of the labor organizations, which we have not previously called to the reader's attention, was brought about by the establishment of an Employers' Clearing House system, which practically controlled all employment in the lumber industry. This system worked as a black list. Labor leaders and those who had been active in former labor disputes were refused employment, and naturally were forced to seek greener fields.

This "Blacklist Office," as it was commonly referred to, was set up in 1923, and worked in conjunction with the fee-charging employment offices in the district. An accurate description was kept in the "Office" files of every known lumber worker. So thorough were those in charge of the "Office" that a man could not even run the gauntlet by changing his name. The blacklists were sent to the various employment offices designating who they could send to the woods and who they could not.



While the employers' excuse for conducting the "Office" was the eradication of communists in Northwest woods, the system became so bad that even the usually conservative American Federation of Labor took a decided stand against it. They isolated a single case and made an issue of it by threatening to picket the "Blacklist Office" and the Employment Agencies which worked under its direction. This eventually broke the control of this pernicious set-up, although the files are still kept intact. The final result has been to break the control of fee-charging employment agencies in the hiring of men in the lumber industry.

As a result of only a few localized controversies during the decade aforementioned and the more or less desultory activities of an occasional propaganda group, the "Four L's" hold sway until June, 1933. It was then that the N.R.A. came into existence and gave the workers their opportunity to break away from the company-controlled "Four L's." Immediately the N.R.A. became effective a representative group of the lumber and sawmill workers organized under federal charters of the A. F. of L. During the period of 1933-1935 this group organized about 7,500 men.

It may be pertinent at this point to explain to the uninitiated the exact significance of a federal charter. The A. F. of L. provides that any organized group may affiliate directly with the parent organization where jurisdiction under an affiliated International craft union is not particularly specified, or where there may be some doubt as to which International should hold jurisdiction. Government employees, for instance, who are not particularly identified with any established craft, are organized permanently under a so-called federal charter of the A. F. of L. In the case of the lumber workers, they, themselves, were not certain which International they wished to assume jurisdiction, so they first applied for a federal charter.

However, on April 1, 1935, the Lumber and Sawmill Workers affiliated with and accepted the jurisdiction of the United Brotherhood of carpenters and Joiners of America. The Carpenters and Joiners demanded jurisdiction because of a clause in their constitution giving them jurisdiction over fashioners of wood products. The organization included loggers, sawmill workers, and those engaged in manufacturing wood products, such as, doors, sashes, plywood, shingles, etc. and at the time functioned exclusively as the A. F. of L. organizational unit in the timber industry.

On May 5, 1935, a month after the Lumber and Sawmill Workers joined the Brotherhood of Carpenters, a strike was called covering the entire industry. The main issue was that of higher wages. At one time during the depression the minimum wage dropped from the established 40 cents per hour to 25 cents. As a result of the strike, the average minimum wage was increased from 40 cents per hour to 50 cents. This has been the only major strike of the organization. There have, of course, been several local strikes involving individual mills and shops.

In 1936 the Lumber and Sawmill Workers negotiated another raise in the basic minimum wage from 50 cents to 55 cents. In 1937 the minimum was again raised from 55 to 62½ cents per hour, the highest established blanket minimum the industry has ever enjoyed. Both of these raises were accomplished without strikes.

During the period 1935-1937 there were also other substantial gains made in addition to the increase in wages. In the logging industry during the depression an excessive speed-up system was installed. Young men, willing to take chances, were given preference over the older workers, increasing production in some instances from 30 to 40% per man. This speed-up system has been eliminated to a great extent through the activities of the organized workers. The work week has been reduced from 48 hours, and in some instances 60, to 40 hours per week. The eight-hour day has also been made more universal. Together with this, safety committees on the job have been recognized and a system of hospitalization installed. Through the safety committees fatalities have been reduced approximately 30%. The pioneering work of the I.W.W. in improving sanitary conditions was also continued. The results were a uniform system of sleeping conditions, establishing the universal practice of clean sheets, clean bunks and bunk houses, and bathing facilities. All in all, the organizational efforts since 1935 have resulted in substantial gains to the workers.

#### d. The Present-day Controversy

This brings us up to the present-day controversy, or jurisdictional dispute, between the A. F. of L. affiliates and the Committee for Industrial Organization. Ordinarily, an internecine struggle of this character within a single group would have no place in a survey of this type; but because of the present effect of the dispute upon the lumber industry as a whole and the potentially far-reaching effects which it may have on the future, it is deemed of sufficient import to the student of forest problems, as they affect the public, to be included here. And, of course, the present controversy must be considered an integral part of any study dealing with the labor relations of the industry.

The story of the jurisdictional controversy in the lumber industry, if gone into in detail, would be a rather lengthy one. It will be our endeavor to only touch the high-lights of the dispute, but enough of those high-lights to give us a fairly accurate picture of the entire difficulty. The writer has examined many authentic documents regarding the controversy and interviewed the leaders of both factions in an endeavor to arrive at a satisfactory conclusion as to the merits of either side. His sole endeavor was to gain the facts. And he presents them as he found them, without prejudice or bias in any way.

Although there was no organized opposition at the time the Brotherhood of Carpenters were given jurisdiction over the Lumber and Sawmill Workers Union, there was a certain resentment among a substantial

number of the rank and file because they were not consulted as to their wishes in the matter. Had a reasonable amount of local autonomy been left to the lumber workers, that resentment and opposition may soon have vanished. But the jurisdiction was made absolute by the National Executive Board of the A. F. of L., and concurred in by the regular convention in Tampa, Fla., in 1936.

According to Mr. Kenneth Davis and Mr. John Stanioch, present officials of the A. F. of L. organization, the fact that the Lumber and Sawmill Workers are classed as a non-beneficial organization in the Brotherhood is due to the differential in the per capita tax between the Carpenters and the Lumber Workers. They state that the Carpenters pay a per capita tax of 75 cents per month, while the Lumber Workers only pay a per capita tax of 25 cents per month. The Carpenters therefore feel that the Lumber Workers should not enjoy the full benefits to which they are entitled, nor should they have a voice in the internal affairs of their organization. According to Davis "The Lumber and Sawmill workers requested the special 25 cents per capita and did not desire the Carpenters' benefits. The fact that the Northwest only had one member on the executive board of Carpenters allowed that International to overrule the Northwest, so an agreement was made to refuse to take an active part in the Carpenters' organization in return for Northwest autonomy." This is denied by the group which broke away from the A. F. of L. and joined the C.I.O. The latter's contention is that the fact that they do pay a per capita tax should assure them of both a voice and a vote in the internal affairs of the organization with which they are affiliated. In other words, they raise the cry of "taxation without representation."

According to Mr. Harold Pritchett, President of the International Woodworkers of America, the C.I.O. affiliate: "... The United Brotherhood of Carpenters and Joiners gave us no representation although we paid them thousands of dollars yearly in per capita tax. We were refused organizational assistance. We were refused financial assistance, and when we entered into negotiations with the operators, the leadership of the Carpenters and Joiners went over our heads and sold us down the river." One thing is certain, from the writer's own investigation, that the Lumber Workers were refused representation in the higher councils of the Brotherhood of Carpenters. Whether the Carpenters were justified in their attitude is a moot question.

The showdown finally came during <sup>the</sup> December, 1936, International Convention of the Brotherhood of Carpenters. The Northwest sent some 30 odd delegates to the convention. "These delegates were seated without voice or vote. The delegates were so bitter after the convention that they immediately held conferences with John L. Lewis and Mr. Brophy of the C.I.O. in regards to the future possibility of affiliating with the Committee for Industrial Organization," according to Pritchett. "The revolt was practically unanimous, and included, at the time, some of the officers who have remained with the A. F. of L." This Kenneth Davis denies.

However, the real beginning of the movement in the Northwest to break away from the Brotherhood of Carpenters had its inception at a meeting of the Grays-Willapa Harbor Council of the Woodworkers' Federation on May 15-16, 1937. The Woodworkers' Federation was a coordinating body of the Lumber and Sawmill Workers locals under the A. F. of L. set-up. At this Council meeting a resolution was adopted requesting all locals in the Northwest to hold conferences on ways and means of joining the C.I.O. This resolution was subsequently forwarded to the various locals and approved by approximately 90% of them, including the Puget Sound Council of Seattle. Over the signature of Kenneth Davis, present executive secretary of the Oregon-Washington Council of the Lumber and Sawmill Workers, the present A. F. of L. affiliate, the Puget Sound Council, concurred in the original resolution and adopted a set of resolutions calling for a conference of executive committees in Portland to confer with the Maritime Federation and John Brophy, Representative of C.I.O.

The conference in Portland was subsequently held. At the conference a resolution was introduced submitting the question of affiliation with the C.I.O. to a referendum vote. According to Davis, the issue involved on this resolution resolved itself in the question of whether the referendum should be held immediately, or after the forthcoming Tacoma Convention. To quote Mr. Davis: "Our sole reason for walking out of the Portland Conference of Executive Committees (June 7 & 8, 1937) was that the resolution presented by Harold Pritchett made it impossible for the membership to become properly informed as to the merits and demerits of the C.I.O. affiliation."

However, Mr. Pritchett had a different version. He insists that during the Portland meeting Mr. Hutchinson, head of the Brotherhood of Carpenters and Joiners, arrived on the Coast and persuaded some of the leaders to bolt the organizational edict. Nevertheless, the referendum was held and the vote showed approximately 16,000 for joining the C.I.O. and between 5,000 to 6,000 opposed. These ballots were counted at the July 20, 1937 Convention at Tacoma. The real split began at this point. "The Brotherhood of Carpenters delegates refused to accept the result of the referendum as binding upon 100,000 members," states Davis, and insisted upon holding their original jurisdiction.

Following this convention the Pritchett, or C.I.O. group, secured a certificate of affiliation in the C.I.O. Since that time they have established a national union with 13 districts, 188 locals and 49 ladies' auxiliaries, totaling 250 charters. Their organization covers 18 States and 2 provinces in Canada. They claim a membership of about 100,000 in the United States and Canada, and 65,000 dues paying members in the United States. The Lumber and Sawmill Workers also claim a membership of 65,000 in the 5 Northwest States. The writer, however, has had no means at his disposal for checking the claims of the rival groups.

In the final analysis, according to Pritchett, this struggle is one of democratic control. The Brotherhood of Carpenters is a conservative organization with control largely centralized in the hands of its International officers. The lumber workers of the Northwest, educated in the democratic principle of rank and file control as exemplified originally in the I.W.W. organization, refuse to bow to the eastern control by labor leaders who do not understand their local problems. The natural result is their affiliation with the more democratic organization of the Committee for Industrial Organization.

Even if the original Lumber and Sawmill Workers Union of the Pacific Northwest had elected to stay within the fold of the American Federation of Labor, it is practically certain that they would have demanded complete autonomy or an International charter of their own.

#### e. Canadian Competition

In conclusion, the question of Canadian competition should be a part of this discussion. Very few people realize how the American lumberman is selling America short by joining the Canadian contingent of lumbermen. The writer has uncovered the startling fact that about 80% of the Canadian operations are owned and operated by American capital. For example, 62½% of the pulp for paper is produced in Quebec under American ownership.

It is cheaper to operate in Canada -- labor is cheap, they have longer hours, lower wages, and an intensive speed-up system. The Chinese tyee system of importing cheap Chinese labor on a virtual slavery basis is deplorable. Along with this, British Columbia now has a "male minimum wage act," which sets the minimum wage for sawmill workers at 40 cents per hour, and those under 21 at 30 cents per hour, with cheaper stipulations for apprentices. In practice, these minimum wage scales tend to become the ultimate maximum. With a minimum already established by organized labor of 62½ cents per hour on this side of the border, in comparison with the 40 cent minimum on the other side, it becomes increasingly more difficult to negotiate fair wage scales in the Northwest.

Because of this Canadian competition the lumber workers, along with other groups, are becoming politically minded. Labor's non-partisan league is active here, and the Washington Commonwealth Federation today has the whole-hearted support of the C.I.O. affiliates. According to Mr. Pritchett: "King County is an outstanding example. It is the trend of labor to establish itself through political action. It was the King County block that carried the last progressive program in the last session of the legislature. The Tear Gas Bill was definitely defeated then as well as the Criminal Syndicalist Law."

One other factor which entices the American lumberman to the other side is the reduction in taxes which he enjoys there. He even saves on his income tax. So when we hear the "yowl" of the American lumberman about Canadian competition, we must take it with a grain of salt.

The movement now is to exploit Washington forests and manufacture the exploited material in Canada. We manufacture some of the finest sulphite pulp in the United States, then ship a considerable amount of it to the East to be manufactured into paper, and then have it reshipped to the Pacific Coast, paying two-way freight charges for our better paper. With the cheap power which we now enjoy, there is no excuse for this.

### III. CONCLUSION

#### \*The Essence of the National Plan

"One of the most important aspects in the history of American forestry during the last 20 years has been a trial on a large scale of the relative effectiveness of private and of public forest-land ownership.

"Private ownership has held four-fifths of our commercial forest land with from 90 percent or even more of the total potential timber growing capacity. It has held the agricultural land which is being abandoned. It has also held two-fifths of the noncommercial forest land. Practically all of the major forest problems of today have grown out of this ownership. As measured by expenditures only about 10 percent of the constructive effort in American forestry is being made by it. Nearly half of this effort is so remote as to have little or no influence on the forest itself. Sustained yield management would probably have yielded higher profits to the owners under many if not most conditions than forest devastation and deterioration. Private ownership has had the benefit of substantial if not wholly adequate public aid. It has also had the benefit of regulatory laws, chiefly protection against fire.

"Public ownership, mainly in the national forests and State forests, has held three-fifths of the noncommercial but only one-fifth of the commercial forests. It has been characterized by the administration of the forest resource in the public interest and by the adoption of the principle of fully coordinated sustained yield management of the different elements of the forest resource. It has won its way through public condemnation to general public recognition and approval.

"As measured by expenditures the public contribution represents nearly 90 percent of the total constructive effort by all agencies to the solution of the forest problem, and two-thirds of this has been concentrated on the relatively small part of the land which the public has owned.

"The effort on the public forests still falls short of what is needed. From the standpoint of national coordination, however, the concentration of the major part of the constructive effort on a relatively

\*Excerpt from Copeland Report

small part of the poorer land in public ownership and a concentration of a large part of the better land in private holdings which receive only a relatively small part of the constructive effort, shows a critical lack of balance.

(Fig. 27 -- P. 77 Copeland Report)

"The plan recommended must go as far as feasible in attempting to correct this lack of balance. No national plan based on realities can do otherwise than take the results of the trial of the two forms of ownership seriously into account. The essence of the plan recommended is, therefore, in part, that the public should in the shortest possible time take over at least half of the national enterprise in forestry.

"More specifically this would mean:

Slightly more than half of the commercial forest land.

Half of the timber-growing job.

Five-sixths of the noncommercial forest land.

Three-fifths of the forest ranges.

Four-fifths of the area of major influence on watershed protection.

Eight-ninths of the areas to be set aside for forest recreation.

(These relationships are also expressed graphically in Fig. 28 -- P. 78 Copeland Report)

This recommendation would still leave to private ownership much more of an undertaking than it has yet faced, under conditions even more favorable for its success than in the past, with increased public aid, and hence with far greater responsibility.

"The ultimate public holdings of forest land, totaling 393,000,000 acres, would be divided between the Federal Government and the States in about a 3 to 1 ratio.

"On this modified distribution of ownership as a foundation falls the task and the responsibility of building a superstructure of the activity programs which constitute an essential part of the national plan. These programs cover the entire range of the management, protection, and administration of the timber, watershed, recreational, wild life, forage, and other resources which make up the forest, and are designed to make the forest meet the objective set-up of full economic and social service.

"(Senate) Resolution #175 lays particular stress on a coordinated plan for meeting the entire forest problem. That recommended is the best that can now be formulated dealing with the following major considerations:

- "1. The distribution of forest land between private and public ownership, and in the latter class between State and Federal ownership. The plan proposed is in broad terms and affords the opportunity to work out the detailed adjustments between private and public ownership and between the different classes of public ownership which are best adapted to local conditions and requirements.
- "2. Public aid that stays within the public interest that is equitable between the Federal and State Governments, and yet offers the greatest feasible assistance to private owners. Here also great opportunity is left for flexibility in application to meet local needs.
- "3. Public regulation that would cover generally accepted requirements, attempt nothing impossible, be available as a quid pro quo in the public interest for concessions to private owners, and finally, be available as a reserve measure in case of future public necessity.
- "4. Federal assumption of only that part of the undertaking which other agencies cannot or will not carry, but where necessary, assumption to the full extent of the national interest.

"The main obstacle to immediate action toward the consummation of this plan is the financial stringency of governments resulting from the depression. Undoubtedly the long-continued series of mistakes in forest-land policies and management has been one of a large group of economic and social maladjustments which have been at least a contributing cause of the depression.

"Relief must be provided anyway. It will be far better if the relief can strike at fundamental causes and attempt the solution of national problems than if it is confined to purely transient measures. Since idle men can hardly be left to starve, it will be far better to put them to work on constructive public works. Should it prove desirable from the standpoint of relief the program can be carried out more rapidly than indicated.

"Any attempt at national planning must provide for the recognition of changing conditions. One of the essentials in forest land use is, therefore, periodic revision of national plans such as here recommended, perhaps as often as every decade. This will afford the opportunity to consider not only the then existing conditions, but also to take fully into account the more and more authoritative factual data which it has been possible to accumulate, and the more and more conclusive results shown by practical trials on a large scale of different systems for meeting national objectives."



Here we have a clear and concise statement of the objectives of "A National Plan for American Forestry" as presented in Senate Document No. 12 and often referred to as the Copeland Report, minus the maze of detailed recommendations as to legislation, etc. which are not pertinent at this time to the present study.

The reader should study minutely this final chapter and then return to the section dealing with "A Master Plan for Forestry in Washington" and compare the general recommendations embodied in the two. He will soon discover the basic differences between them.

Finally, we, in the State of Washington, have a great heritage in our forests. What are we going to do with them? Allow them to be exploited as were the forests of Michigan and Wisconsin? Or are we going to conserve them for ourselves and posterity? The people of this State must know their forestry. Once they do--there will be nothing to fear.

The End

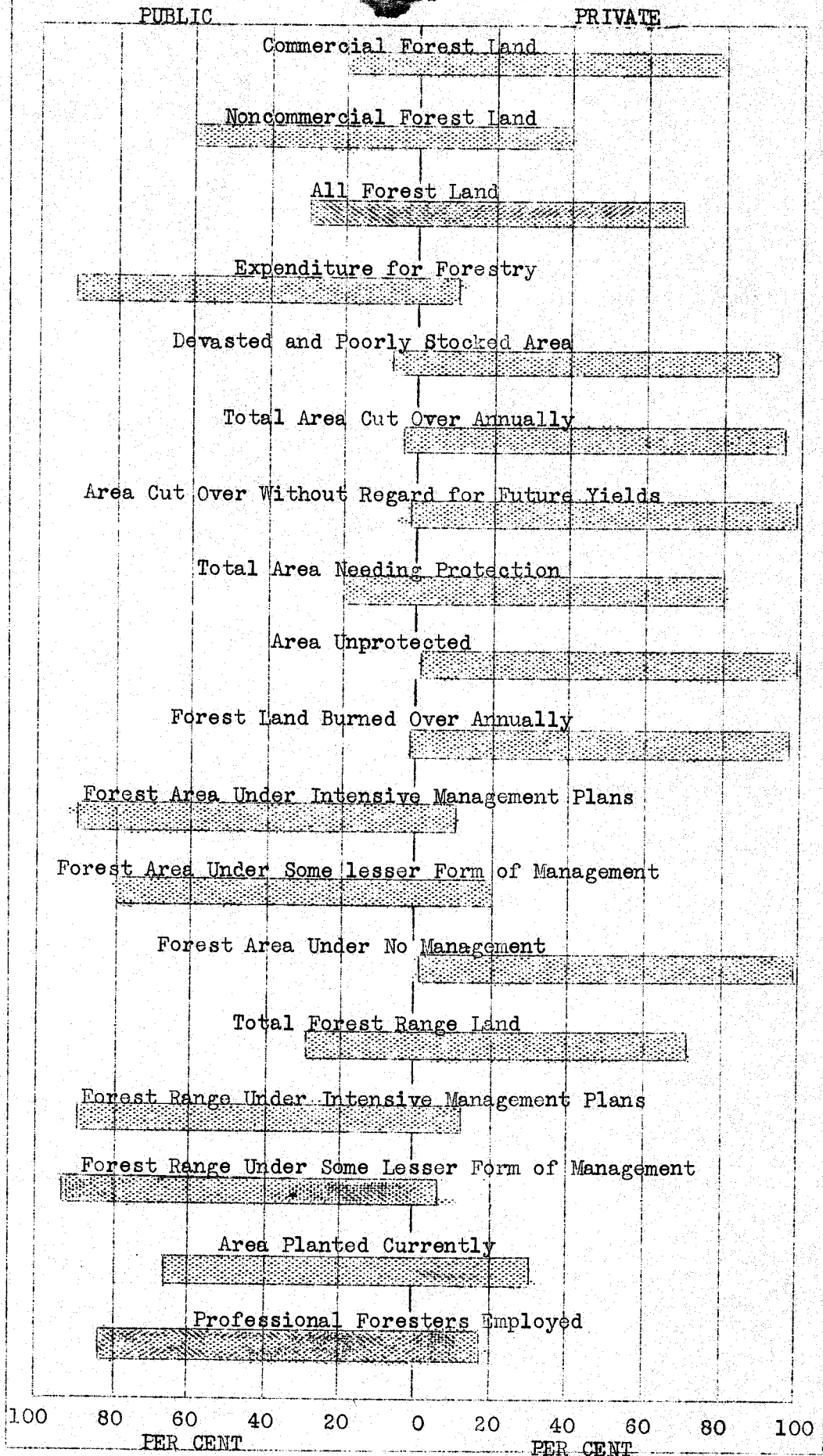
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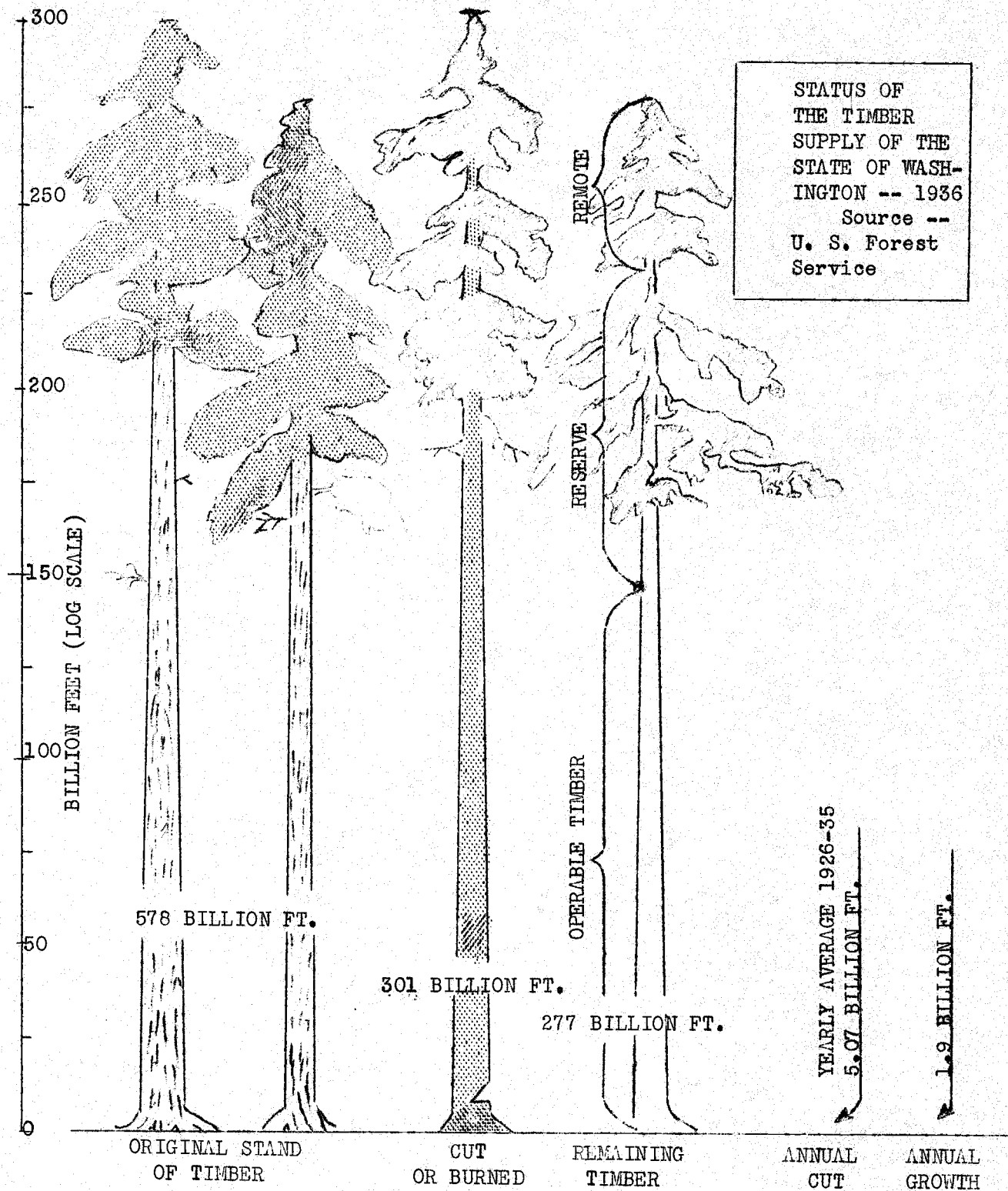
Figure 1

1952



PUBLIC AND PRIVATE OWNERSHIP AND FOREST ACTIVITIES

Figure 2



Prepared by National Emergency Council  
James E. Bradford, State Director

1313 Exchange Bldg., Seattle, Wash.

Figure 2

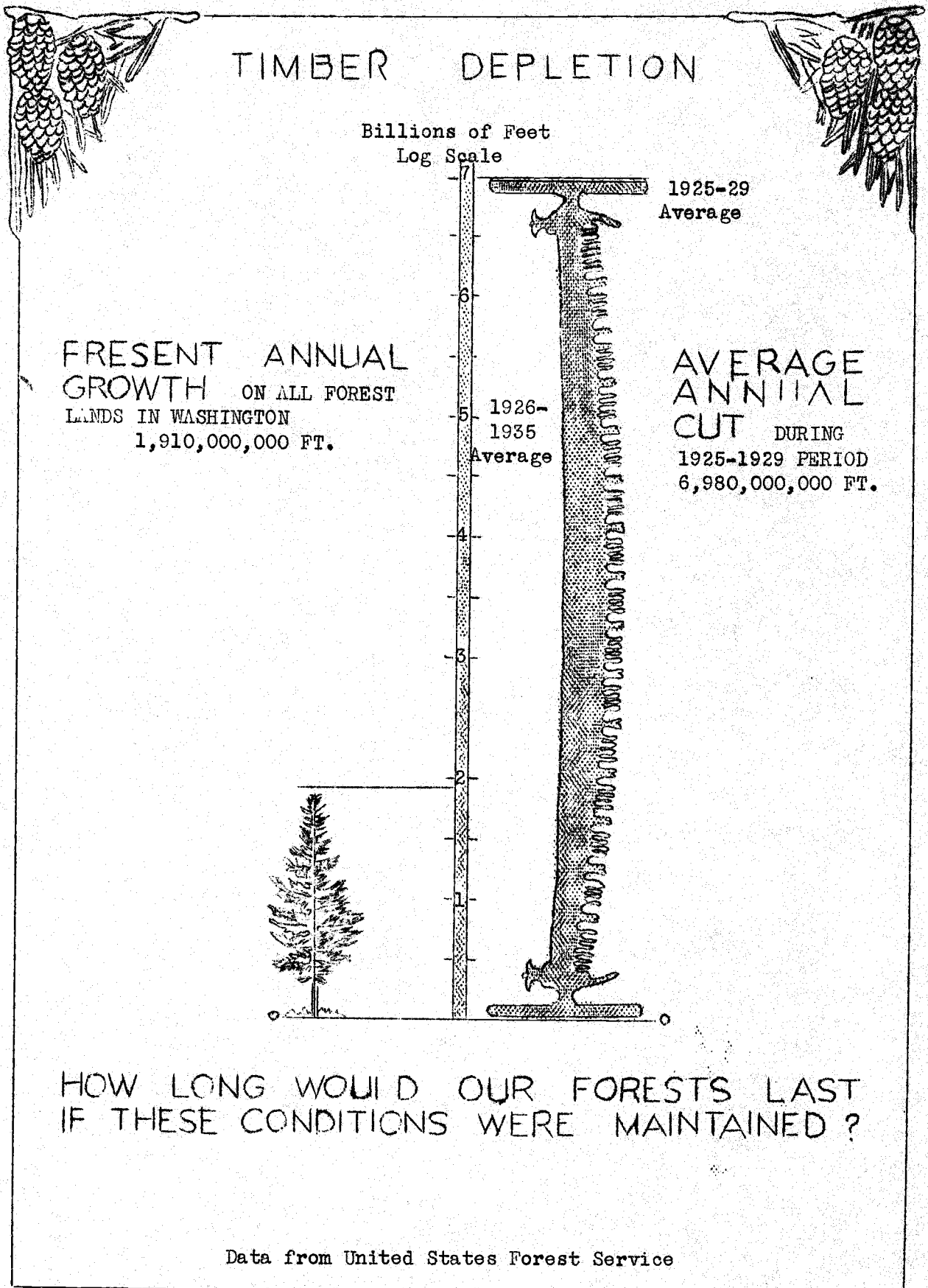


Figure 4

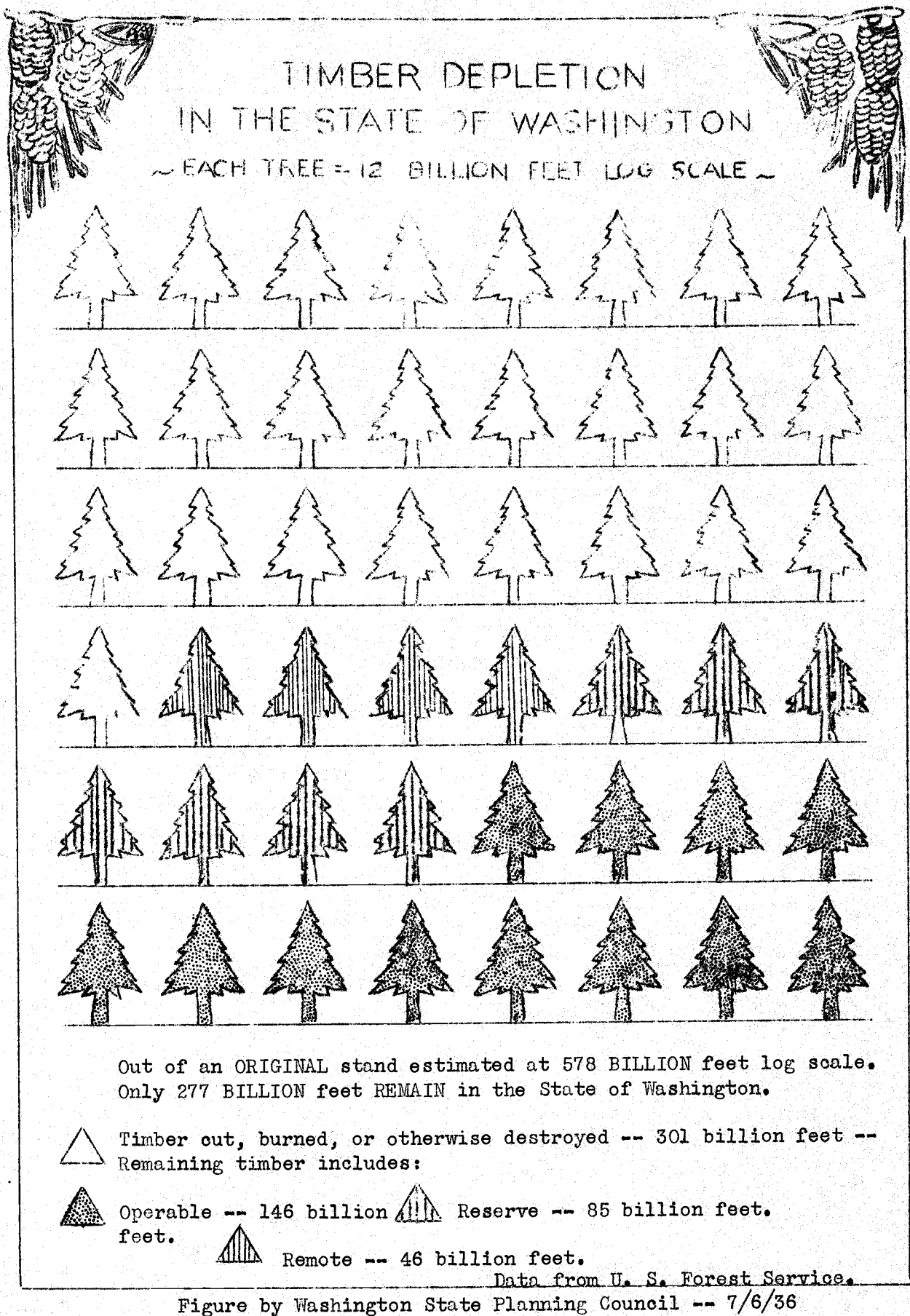
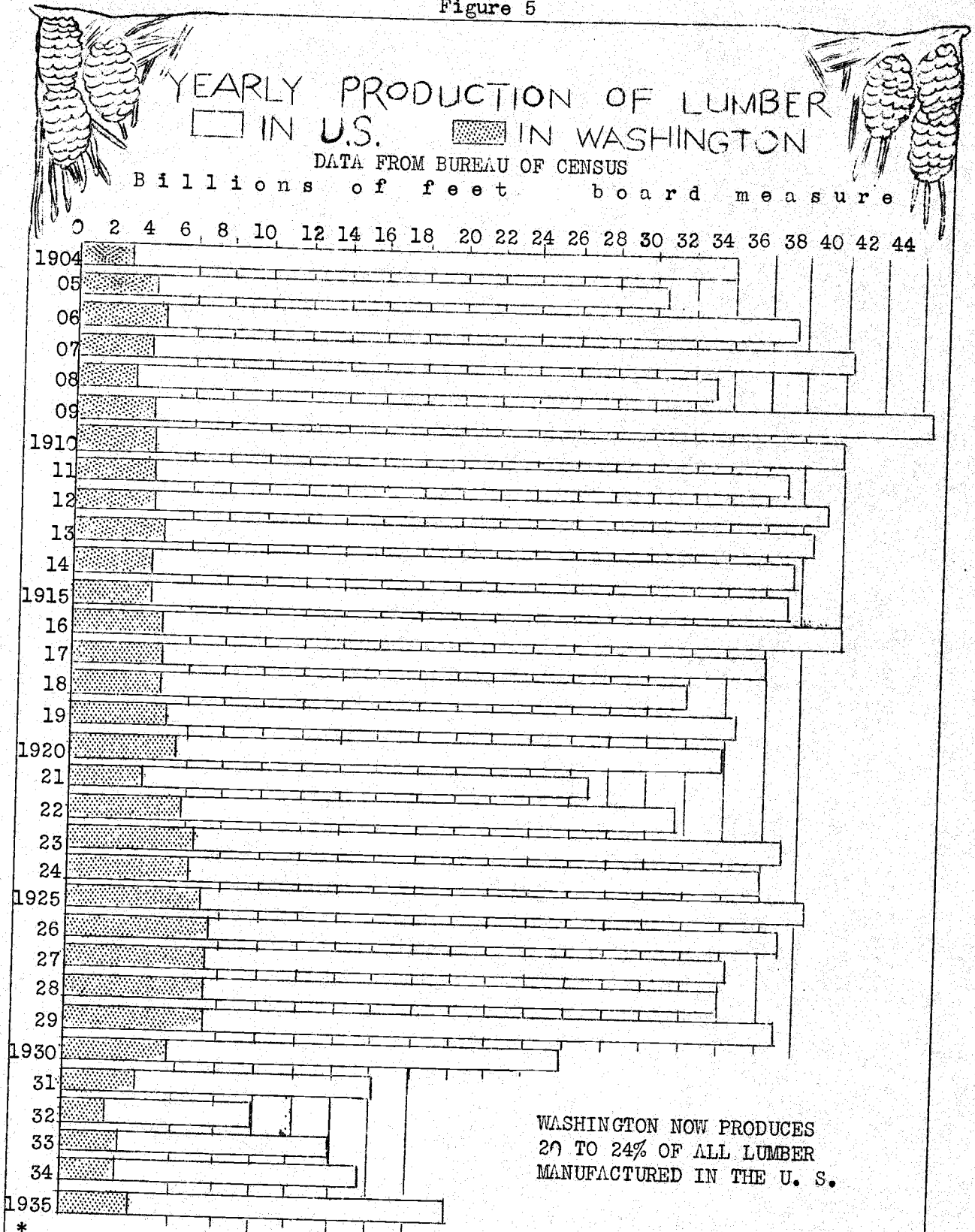


Figure 5

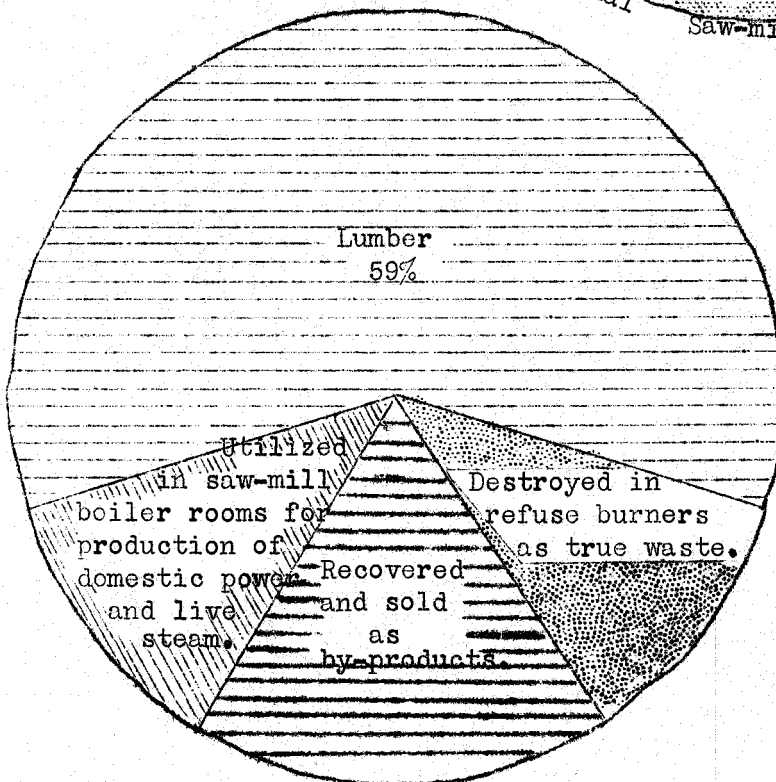
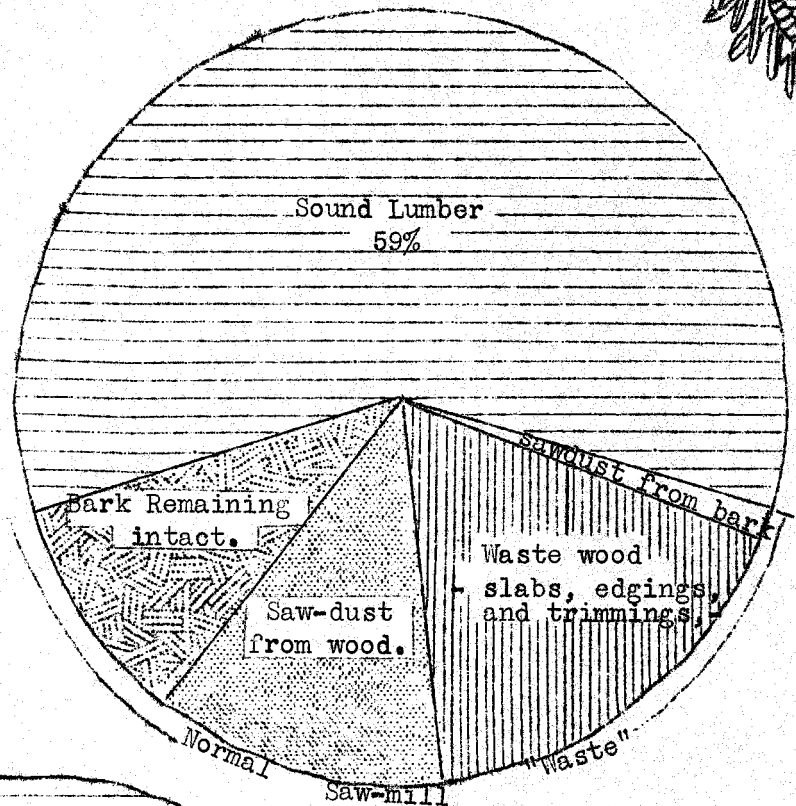


WASHINGTON NOW PRODUCES  
 20 TO 24% OF ALL LUMBER  
 MANUFACTURED IN THE U. S.



# SAW-MILL "WASTE" IN DOUGLAS FIR REGION - 1929

CLASSIFICATION OF  
MATERIAL CONTAINED  
IN SAW-LOGS USED  
IN THE DOUGLAS FIR  
REGION FOR THE  
LUMBER CUT OF 1929.



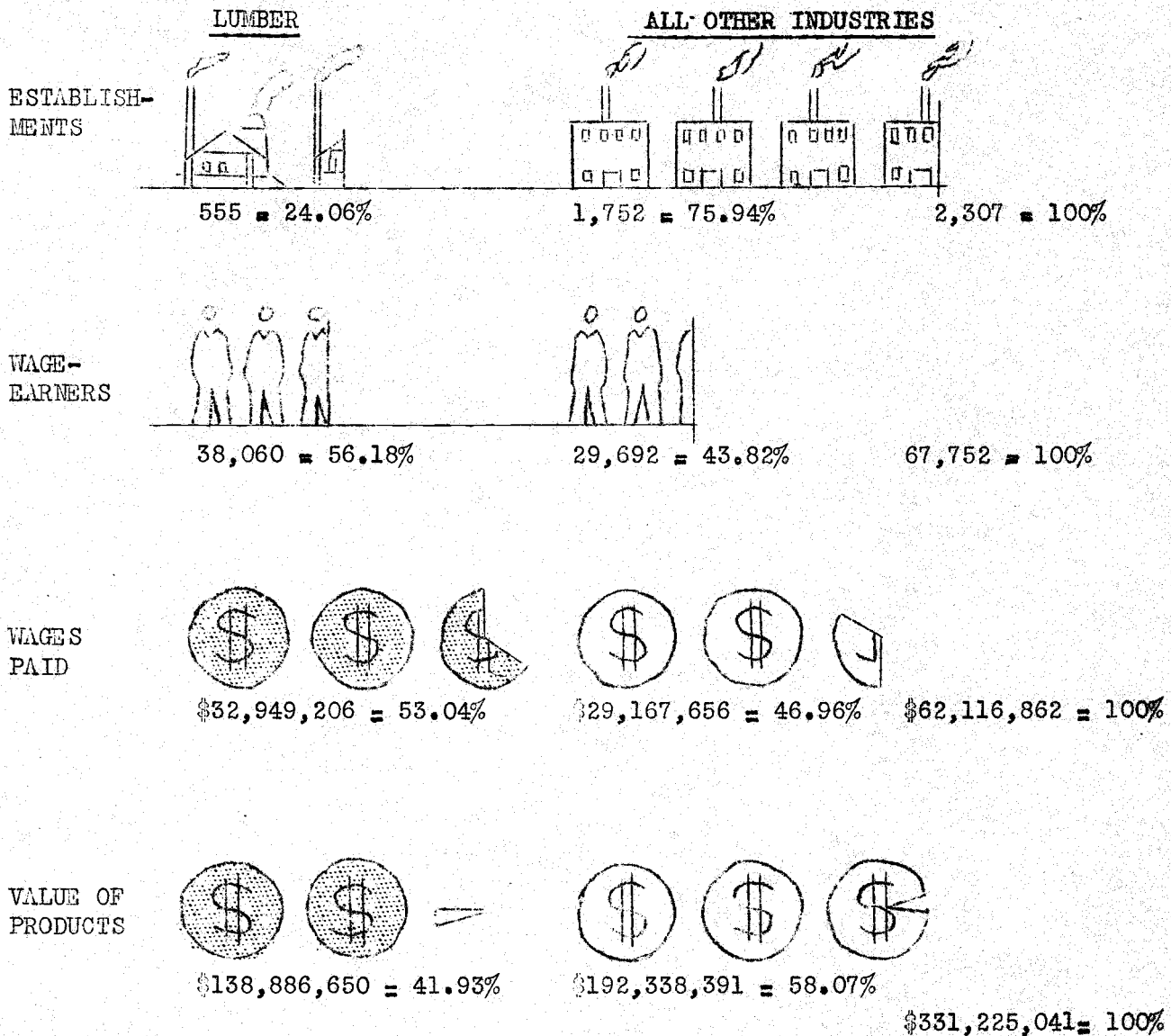
UTILIZATION AND  
DISPOSITION OF  
SAW-LOGS IN THE  
DOUGLAS FIR REGION.

Data from U. S. Forest  
Service.

APPENDIX I

Figure 7

RELATIVE IMPORTANCE OF THE WASHINGTON LUMBER  
AND OTHER INDUSTRIES, 1933



APPENDIX IFigure 8DEVELOPMENT OF  
WASHINGTON LUMBER MARKETS

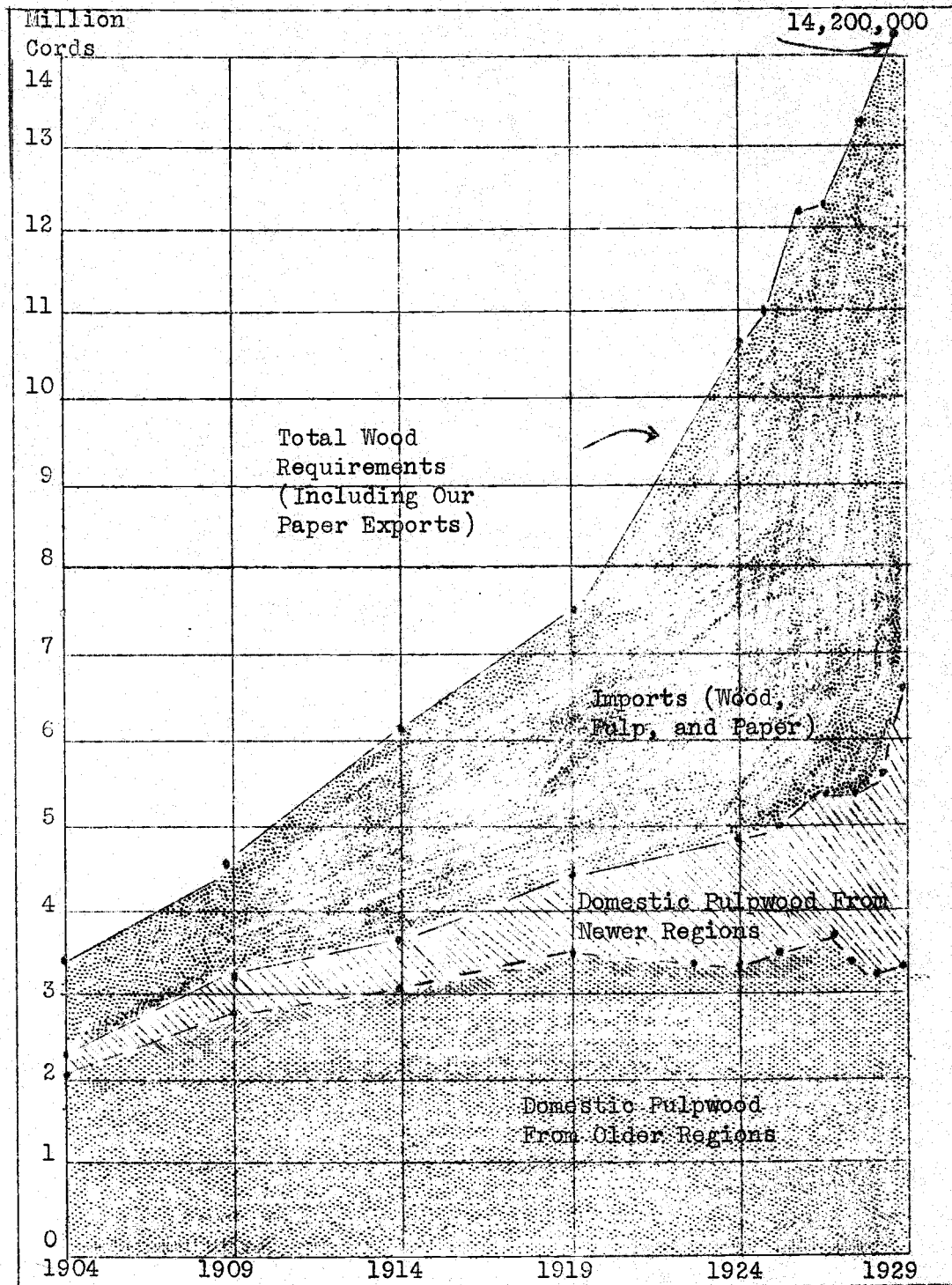
In 1934 Washington consumed 26 per cent of its own lumber production; other states, Alaska and the island possessions used 57 per cent, and foreign markets the remainder, or 17 per cent.

Every available means should be used to build up home markets, which provide the best outlet for Washington lumber.

Application of cheap hydroelectric power to some of our many raw materials -- mineral, forest or agricultural -- in the building of new industries and increased population may be an important means to this end.

APPENDIX I

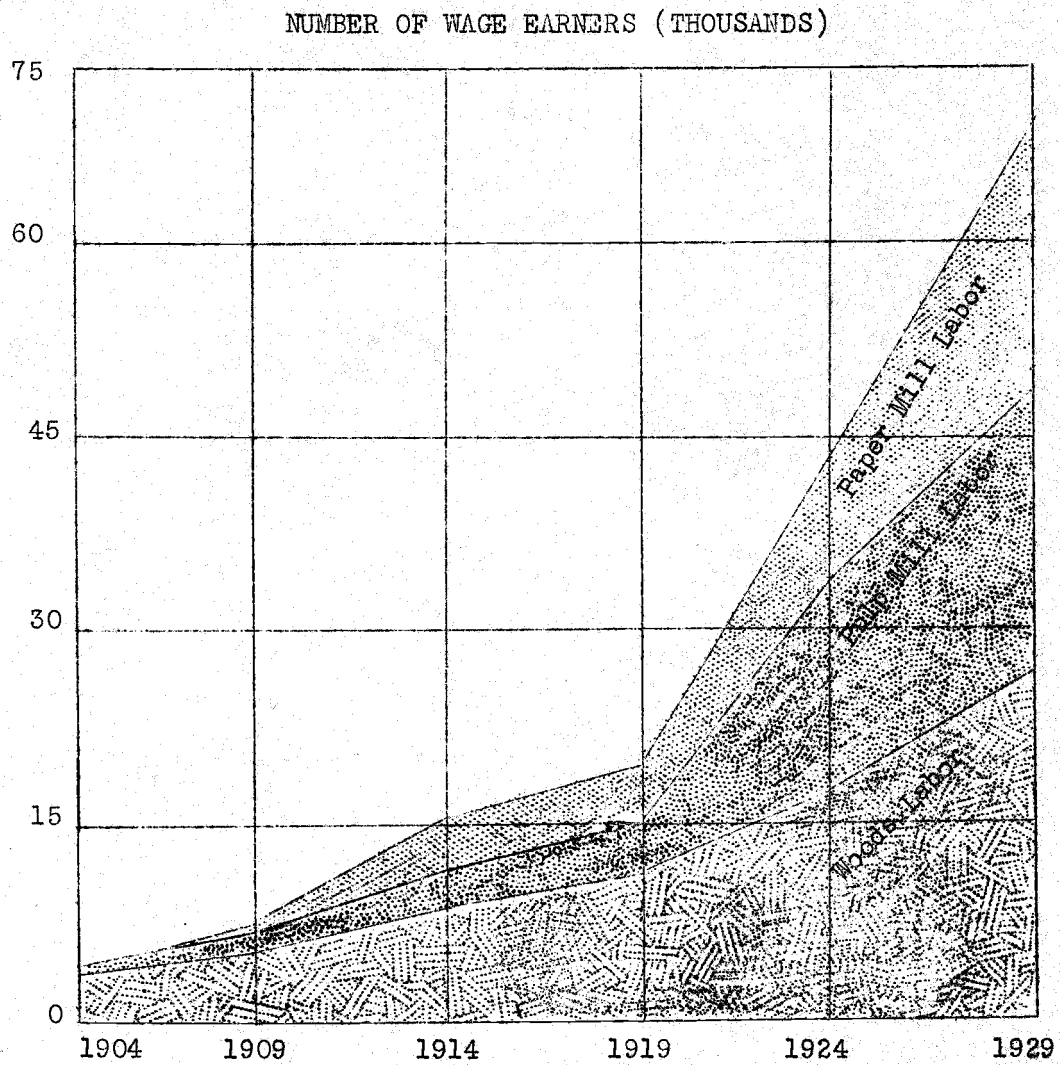
Figure 8



Dependence on imports for our pulpwood requirements has increased despite development of new domestic sources.

APPENDIX I

Figure 9



IMPORTS OF WOOD, PULP, AND PAPER CONVERTED TO WAGE EARNERS

Management and estimated value of net exports and net imports of Washington and Pacific Northwest by Commodities.

Commodity	WASHINGTON				PACIFIC NORTHWEST			
	Net Exports		Net Imports		Net Exports		Net Imports	
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
1. Logs	.....	.....	147,936	549	395,317	1,415	.....	.....
2. Posts, poles, & piling	129,869	1,136	.....	.....	322,773	2,609	.....	.....
3. Wood (fuel)	.....	.....	127,008	201	.....	.....	179,124	270
4. Ties, railroad	98,463	1,111	.....	.....	312,304	3,325	.....	.....
5. Pulpwood	.....	.....	393,854	1,682	.....	.....	264,314	1,129
6. Lumber, shingles & lath	6,921,018	142,158	.....	.....	12,208,392	254,028	.....	.....
7. Building woodwork	126,676	12,148	.....	.....	176,932	16,966	.....	.....
8. Box, crate, & cooperage materials	293,370	4,653	.....	.....	591,127	9,774	.....	.....
9. Veneer & built-up wood	85,305	6,193	.....	.....	91,535	6,654	.....	.....
10. Furniture, wood	1,051	347	.....	.....	6,078	1,943	.....	.....
11. Wood pulp	173,929	6,166	.....	.....	172,203	6,101	.....	.....
12. Newsprint paper	.....	.....	60,501	3,876	108,083	5,637	.....	.....
13. Paper bags & wrapping paper	.....	.....	8,570	762	21,365	1,872	.....	.....
14. Paperboard, pulpboard, & wallboard (paper)	.....	.....	467	24	51	.....	.....	8
15. Paper, n.o.s.	175,229	21,050	.....	.....	179,227	21,527	.....	.....
16. Products of forests, n.o.s.	30,770	5,882	.....	.....	40,582	7,784	.....	.....
Total products of forests	8,035,680	200,845	738,336	7,092	14,625,969	339,626	443,438	1,407

\*In thousands of dollars and short tons.

APPENDIX IITable BTHE DISTRIBUTION OF WASHINGTON LUMBERBY STATES AND FOREIGN COUNTRIES

FOR THE YEAR 1934

In Thousands of Board Feet			
Foreign Countries	In thousands F.B.M.	States	In thousands F.B.M.
Alaska	5,828	Alabama	1,099
		Arizona	81
Japan	146,496	Arkansas	272
		California	317,459
China	224,305	Colorado	29,376
		Connecticut	19,487
Australia and New Zealand	6,132	Delaware	23,772
		Dist. of Columbia	3,773
United Kingdom and Continent	79,368	Florida	3,012
		Georgia	923
Central and South America	36,686	Idaho	18,035
		Illinois	68,021
Island Possessions	50,801	Indiana	13,119
		Iowa	70,786
Other	16,235	Kansas	39,955
		Kentucky	1,598
Total Foreign Exports	565,851	Louisiana	5,646
		Maine	5,414
		Maryland	31,214
		Massachusetts	68,555
		Michigan	35,719
		Minnesota	79,448
		Mississippi	285
		Missouri	26,920
		Montana	30,205
		Nebraska	43,605
		Nevada	3,420
		New Hampshire	3,222
		New Jersey	102,007
		New Mexico	5,280
		New York	272,665
		North Carolina	826
		North Dakota	31,723
		Ohio	17,050
		Oklahoma	10,790
		Oregon	55,223
		Pennsylvania	69,189

Foreign Countries	In thousands F.B.M.	States	In thousands F.B.M.
Total Foreign Exports	525,851	Rhode Island	16,284
		South Carolina	1,399
		South Dakota	32,687
		Tennessee	358
		Texas	11,949
Total Distribution	Feet Board Measure	Utah	15,093
		Vermont	643
Foreign Countries and Insular Posses- sions	565,851,000	Virginia	14,824
		Washington	793,574
		West Virginia	5,764
		Wisconsin	36,620
		Wyoming	31,867
Within the United States including Washington	2,470,236,000		
Total Distribution	3,036,087,000	Total Exports to States	2,470,236



APPENDIX IIITwo examples of Labor Contracts signed in 1938

The first is a contract between the West Coast Plywood Company and the IWA Plywood and Veneer Workers Local No. 2521, an affiliate of the C.I.O. This is an excellent example of simplicity in contractual relations.

The second is a contract between an unspecified plywood corporation and a Plywood and Veneer Workers Union affiliated with the United Brotherhood of Carpenters and Joiners of America, which is in turn an affiliate of the A. F. of L.

A. C.I.O. AgreementWorking Agreement

West Coast Plywood Company, hereinafter known as the Company, and the Plywood and Veneer Workers' Union Local No. 2521, affiliated with the International Woodworkers of America, hereinafter known as the Union.

1. The Company agrees to negotiate with a committee composed of its employees who are members of the Union for collective bargaining purposes for their employees.
2. The authorized Business Agent of the Union shall have the right to meet with the Management at any time during office hours for the purpose of aiding and adjusting grievances.
3. It is agreed that the committee representing the union employees in negotiating with the company, shall be employed by the company for one year or more.
4. It is agreed that there shall be no discrimination against any employee because of activity in behalf of the Union.
5. The hours of labor shall not be more than 40 hours per week nor 8 hours per day and all time worked in excess of 8 hours per day or 40 hours per week shall be paid for at the rate of time and one-half.

Good Preference Clause

6. The following days shall be observed: Memorial Day, Fourth of July, Labor Day, Armistice Day, Thanksgiving Day, Christmas Day, New Year's Day and Sundays, and all work performed on Sundays and holidays shall be paid for at the rate of time and one-half. It is further agreed that Christmas holiday starts at 6 o'clock December 24 and ends December 25 at 12 p.m., and that New Year's holiday starts at 6 o'clock December 31 and ends January 1 at 12 p.m.

7. The union shall supply the company with a list of its unemployed union members and when a vacancy occurs, the employer shall give preference to qualified men who are members of the union.
8. Seniority rights shall apply if the employee is capable, after given a fair trial. In case of layoffs, the oldest employee shall be given preference. The Grievance Committee may present complaints on this section.
9. In case economic conditions shall change, permitting an increase in wage rates or necessitating adjustments of wage rates, such adjustments shall be made only after consultation between the management, grievance committee and representative of the Union.
10. At no time shall employees be required to act as strikebreakers, go through picket lines or go through armed guards.
11. Any employee reporting for work at their regular time, who has not been notified by the employer at least three hours prior thereto that there is to be no work, shall be guaranteed at least two hours work. In case of a break-down, the employees are to be paid for the time they wait, or sent home for the duration of the shift.
12. Any member being elected to permanent office or as a delegate to any union activity necessitating temporary leave of absence, shall be granted to such leave of absence and shall at the end of the term in the first instance, or at the end of their mission in the second instance, be guaranteed reemployment at their former standing at the then current pay. Any employee absent pursuant to any such leave of absence shall retain all rights of seniority and all other rights and privileges as employee of such company.
13. The duration of this agreement shall be from April 21, 1938, to April 1, 1939, and during the life of the agreement no strike shall be caused or sanctioned by the union and no lockout shall be entered into by the employer until every peaceable method of settling the difficulties shall have been tried.
14. Unless either party notifies the other of a desire to terminate, amend, or revise this agreement by written notice given sixty days prior to the expiration date, this agreement will automatically continue in effect until April 1, 1940. Subject to cancellation clause in paragraph 15.
15. This agreement can be revised or terminated by either party after giving 60 days' written notice.
16. In departments where less than eight-hour shifts are maintained, same shall remain in effect until an understanding has been reached by the management and the grievance committee.

17. The minimum wage shall not be less than 62 $\frac{1}{2}$  cents per hour.

SIGNED: West Coast Plywood Co., A. R. Wuest, Pres.

Plywood & Veneer Workers' Union No. 2521, W. M. Halvorsen,  
Carl Sturm, Art Saiser, George Hubacka, Henry Morris.

### APPENDIX III

#### B. A. F. of L. Agreement

##### Working Agreement

The parties to this agreement are, \_\_\_\_\_ hereinafter known as the Company, and \_\_\_\_\_ affiliated with the United Brotherhood of Carpenters and Joiners of America, hereinafter known as the Union. \_\_\_\_\_ is the assumed business name under which they operate their Longview Plywood plant. The United Brotherhood of Carpenters and Joiners of America is one of several international trade unions which affiliated together comprise the American Federation of Labor.

#### I

The Company recognizes the fact that all its hourly rated employees are members of the Union. The Company recognizes the Union as representing, for the purpose of collective bargaining, all of its employees except those acting as shift foremen and in the plant office and not paid on an hourly basis not at present in the Union, or any replacement of such personnel. It is the desire of the parties hereto that the employees covered by this agreement shall maintain membership in good standing in the Union. In order that this desire may be effectuated, and in order that the Union may discipline its members for the effective operation of this agreement, the Company agrees to release from its employ any person who fails or refuses to maintain membership in good standing in the Union. It is understood that the Union as at present affiliated is the only party to this agreement representing the employees.

#### II

The maximum hours of labor shall not be more than forty (40) hours in any one week or eight (8) hours in any one day, except in case of emergency, in which event the equivalent of one and one-half times the straight time hourly rate shall be paid for all overtime in excess of the above periods. No work shall be performed on Memorial Day, Independence Day, Labor Day, Armistice Day, Thanksgiving Day, Christmas, New Year's Day and the Monday following any of these holidays should the same fall on a Sunday, except in case of emergency, in which event an amount equal to twice the straight time hourly rate shall be paid. The Company shall not require its employees covered

by this agreement to work on Sundays, except in case of emergency, as in the case of dryer operation or maintenance work to secure full production during the six week days; in any event, any employee required to work on Sunday shall be compensated at the rate of one and one-half times the straight time hourly rate, except millwrights and watchmen who shall be considered at straight time as long as they do not work in excess of forty hours per week. The Christmas holiday shall be deemed to commence at six (6) p.m. December 24th and shall end at midnight December 25th. New Years holiday shall start at six (6) p.m., December 31st and end at midnight January 1st. All other holidays shall be for a period of twenty-four (24) hours and the beginning and termination shall be fixed by the Labor Relations Committee, hereinafter set forth. It is understood that the maximum hours per week or per day set forth in this agreement shall during the life of this agreement be altered to conform with State or Federal legislation enacted subsequent hereto reducing the work day and/or work week.

### III

The minimum hourly wage rate per hour for the particular wage classification and the list of minimum wage jobs together with minimum hourly wage rates are set forth in Exhibit A and made a part hereof. The Company shall not require its employees to accept in lieu of the hourly wages set forth in the attached memorandum, compensation based on piece work or bonus. The Company shall not enter into any individual contract with any employee covered by this agreement. It is further understood between the parties that there shall be no differentiation in the wage paid employees by reason of the sex of the employees.

### IV

If, as a result of death, labor turnover, or any other cause, a permanent vacancy should occur in a department and the job vacated pays a higher rate than the minimum, preference shall be given to employees in that particular department based upon the length of service. It is understood that this preference shall be granted only in the event that the Shop Committee requests it, and shall extend only to an opportunity to the employee to demonstrate that he is qualified to perform the work required. This provision shall not in any way effect the right of a foreman to make such temporary assignments as he may deem necessary to fill vacancies that are only temporary in their nature arising out of injury, sickness, failure to report and similar contingencies.

When it becomes necessary for the Company to reduce the working force, employees shall be laid off in the reverse order of their seniority; provided that the employee whose seniority entitled him to retention is qualified to do the work required of him.

In re-hiring, employees shall be returned to the positions they formerly occupied on the basis that the last laid off in any department shall be the first rehired. The Company shall grant without loss of seniority,

and as a matter of right to any employee covered by this agreement, a leave of absence in case of illness of himself, without loss of accrued seniority. The Company shall grant a leave of absence as a matter of right to any employee who is elected to an official position in the Union or if delegated by the Union to perform work which may necessitate temporary cessation of work for the Company, without loss of accrued seniority or the right to reemployment upon completion of the work such person is performing for the Union. It is further understood that by mutual consent of the Company and the Union, any employee may be granted a leave of absence for any cause without loss of accrued seniority. It is further understood that there shall be no discrimination against any employee because of activity in behalf of the Union.

## V

The Company agrees to give preference to members of the Union in all employment which may be made available whenever a new job becomes available. Should a vacancy occur after the list of Union members has been exhausted, the Company will notify the Union and the latter shall send an employee competent and qualified to perform the work required; it being understood that such new employee must be satisfactory to the Company. No new employee shall be issued a temporary working card except he be taken from a waiting list of not to exceed six (6) men acceptable to both the Company and the Union, and shall not be taken into the Union until after a thirty (30) day trial period in which he must prove himself acceptable to both the Company and the Union. If the Union deems such person suitable as a prospective member of the Union, such person shall within thirty days after his employment become a member of the Union. If such person is found unsuitable for Union membership the Company agrees to release him from employment. For the purpose of determining seniority, every employee who has worked an aggregate of thirty (30) days shall be deemed as having acquired regular employment.

## VI

Employees called for work but not furnished work, through no fault of their own, will be guaranteed two (2) hours' pay unless notice is given to the Union four (4) hours prior to the time that the employee is to report for work. This provision shall not apply if the plant or portion of the plant in which the employee works is shut down by reason of breakdown or other cause that the Company could not foresee in time to give notice. In the event that the plant in which an employee works is shut down after the work has commenced by a breakdown or if work must be discontinued for some cause beyond the Company's control, then the Company shall have the option of supplying other work or sending the employee home for the duration of the shift.

## VII

The officers or any duly authorized representative of the local Union shall have admission to the plant by pass from the Company at all reasonable times for the purpose of ascertaining whether this agreement is being observed by both parties. The union shall designate a Shop Committee from among plant employees, which committee shall represent the Union in adjusting any misunderstanding under this agreement which does not affect the general membership. It is understood, however, that disagreement of the representative of the Union or the Shop Committee or both, and the Company concerning the performance of any provision in this agreement shall be discussed with the local representative of the Company in the plant office and not in the plant.

## VIII

Before any employee covered by this agreement shall be suspended or dismissed the Company agrees to notify the Union and to consult with the Shop Committee. If after such consultation the Company suspends or discharges any employee the latter shall have the right to a hearing before the Labor Relations Committee, and such Committee shall have the right, if it finds that the suspension or discharge was unjustified, to order the employee's reinstatement with or without back pay, as they may find. The Labor Relations Committee shall consist of an equal number of representatives of the Company and the Union. In the event that any disagreement, misunderstanding or discharge cannot be settled by the Labor Relations Committee then the Union shall designate a third person. These three shall investigate the matter and their decision shall be binding on both the Company and the Union. In the event that the representatives designated by the Company and the Union cannot mutually agree upon a third person within five (5) days, they hereby accept E. P. Marsh, Federal Conciliator of the Department of Labor, as such impartial third person; and in the event of his inability to serve, such person as he shall select as an impartial third person. And thereafter the decision of the majority shall be binding on both the Company and the Union. Failure of any member or members of the Union to abide by the decision of the majority vote of this board of arbitration shall automatically discharge the member and sever the relation of employer and employee. Failure of the Company to abide by the decision of the majority shall make the Company responsible in damages, and a shutdown to avoid such a decision shall constitute an illegal lockout and make the Company responsible for all loss of time.

## IX

During the life of this agreement no strikes shall be sanctioned by the Union except in the event of refusal by the Company to abide by the written decision of the Arbitration Committee. It shall not be considered a breach of this agreement if the Union refuses to handle

products which the Union has declared unfair to its principles. It shall not be considered a breach of this agreement if the operations of the Company are picketed because of material declared unfair by the American Federation of Labor and members of the Union covered by this agreement fail or refuse to go through such picket line, it being understood that at no time shall the members of the Union be required to act as strike breakers by ignoring such picket line or going through such picket lines. The trade jurisdiction of the Union shall include all persons employed on production in or about the employer's plant including maintenance, and the Union shall refuse to recognize any picket line established at the employer's plant for the sole purpose of altering this jurisdiction. Nothing herein contained shall require the members to go through picket lines where the picketing is not peaceful and law enforcement inadequate. It is further understood that the Company will not be requested by the Union to participate in any dispute regarding jurisdiction which may arise between the Union and any other Labor organization.

X

The duration of this agreement shall be from March 1st, 1938, to March 1, 1939. When either party to this agreement desires to enter into negotiations for modification of the wage scale set out in Exhibit A he shall give written notice to the other party of such desire and any modifications so negotiated shall not take effect for ninety (90) days from the date of such notice, whenever the notice is given, and irrespective of the expiration date of this agreement. All other terms and conditions of this agreement shall remain in full force and effect for the entire period of this agreement unless amended or altered by mutual agreement of the Company and the Union.

\*Signed and sealed by the parties hereto this 1st day of February 1938.

\_\_\_\_\_  
COMPANY

By \_\_\_\_\_

By \_\_\_\_\_

\_\_\_\_\_  
NO.

By \_\_\_\_\_

By \_\_\_\_\_

\*The name of the Company and the names of the officials who signed this agreement were deleted at the request of the local union officials who were a party to the contract.



APPENDIX IVOLYMPIC NATIONAL PARK BILL

(Public -- No. 778 -- 75th Congress)  
(Chapter 812 -- 3d Session)  
(H.R. 10024)

## AN ACT

To establish the Olympic National Park, in the State of Washington, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Mount Olympus National Monument established pursuant to proclamation of the President dated March 2, 1909, is hereby abolished, and the tracts of land in the State of Washington particularly described as follows, to wit: (Then follows a detailed description of the boundaries) -- Are hereby reserved and withdrawn from settlement, occupancy, or disposal under the laws of the United States and dedicated and set apart as a public park for the benefit and enjoyment of the people and shall be known as the Olympic National Park, and all lands formerly included in the Mount Olympus National Monument and not included in the above description are hereby transferred to and made a part of the Olympic National Forest.

Sec. 2. That in the areas of said park lying east of the range line between ranges 9 and 10 and north of the seventh standard parallel, and east of the range line between ranges 4 and 5 west, Williamette meridian, all mineral deposits of the classes and kinds now subject to location, entry, and patent under the mining laws of the United States shall be, exclusive of the land containing them, subject to disposal under such laws for a period of five years from the date of approval of this Act, with rights of occupation and use of so much of the surface of the land as may be required for all purposes reasonably incident to the mining or removal of the minerals and under such general regulations as may be prescribed by the Secretary of the Interior.

Sec. 3. The income of each county receiving moneys from the Olympic National Forest, under the Act of May 23, 1908 (35 Stat. 260, ch. 192), as amended, shall be proportional to the total area of each county in the Olympic National Forest and the Olympic National Park combined.

Sec. 4. The administration, protection, and development of the Olympic National Park shall be exercised under the direction of the Secretary of the Interior by the National Park Service, subject to the provisions of the Act of August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes," as amended.



Sec. 5. Nothing herein contained shall affect any valid existing claim, location, or entry made under the land laws of the United States, whether for homestead, mineral, right-of-way, or any other purpose whatsoever, or shall affect the right of any such claimant, locator, or entryman to the full use and enjoyment of his land, nor the rights reserved by treaty to the Indians of any tribes.

The President may after eight months from the approval of this Act by proclamation add to the Olympic National Park any lands within the boundaries of the Olympic National Forest, and any lands which may be acquired by the Government by gift or purchase, which he may deem it advisable to add to such park; and any lands so added to such park shall, upon their addition thereto, become subject to all laws and regulations applicable to other lands within such park: Provided, That the total area of the said park shall not exceed eight hundred and ninety-eight thousand two hundred and ninety-two acres: Provided further, That before issuing any such proclamation, the President shall consult with the Governor of the State of Washington, the Secretary of the Interior, and the Secretary of Agriculture and advise them of the lands which he proposes to add to such park, and shall afford them a reasonable opportunity to consult with and communicate to him their views and recommendations with respect to the addition of such lands to such park.

Approved, June 29, 1938.

