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THE LUMBER INDUSTRY IN THE UNITED STATES

by

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## THE LUMBER INDUSTRY IN THE UNITED STATES

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You have asked me to talk briefly about the lumber industry, its resources and facilities, and its present and prospective status as a major reliance in the event of war. Your interest, I take it, is not in entertainment but in information, and especially in information which may be converted to practical use in the planning and administration of national defense.

I suppose that you are expected to have also the same broad understanding of other industries generally with whose products you may deal. That assumes a broader understanding of our American industries, their products, facilities and services, than most persons possess. But I recognize that our national interest in wartime is probably more dependent upon the promptness, the extent and the skill of industrial mobilization than on any other single factor. This is probably also the most difficult because of the wide variance of local and regional conditions.

I understand that you are interested primarily in basic information on:

1. Our forest and timber resources, their qualities, quantities and accessibility.
2. The present condition and future prospects of maintenance of these resources through wise conservation and reforestation.
3. The facilities of the lumber industry for supplying timber products.
4. Transportation, distribution and delivery conditions.
5. Standardization of grades and sizes of lumber and the facilities for inspection and certification.
6. How the lumber industry itself is organized for production and distribution of its products and for effective cooperation with public agencies responsible for planning and mobilization for national defense.

### EVOLUTION OF MANUFACTURING

The lumber industry is the oldest American manufacturing industry. It was the first of the pioneer industries. It provided the Colonies with their principal shelter and practically all their construction materials. Even today, notwithstanding all

the developments of manufacturing industry and transportation, timber is still the most widely useful material of construction, capable of convenient and diversified uses; and the industry still has many of its rugged pioneer characteristics.

Notwithstanding great advances in mechanization, trees must still be cut in the woods, largely by muscle and brawn. Natural physical obstacles must still be surmounted. The conditions of logging are still determined not by Man but by Nature; and Nature is hard to harness and control. The lumber industry is an interesting subject for historical study. In fact, a knowledge of its history is essential to an understanding of present timber supply and of present lumber distribution.

The first settlers in North America found a land of forests which had to be cleared to provide farm land. The forests were only incidentally a source of building material. Primarily they were an obstacle to the agriculture necessary to food supply. Logging and lumbering then were strictly local industries.

As communities grew and populations were extended, the forests became less of barriers to settlement and more of reservoirs of building materials needed by the rapidly expanding colonies. Lumbering followed the forests and gradually lost its character as a local enterprise. Transportation increased in importance as the source of timber supply became more remote. Merchants, who specialized in distributing lumber, replaced local sawmill operators in the older towns and cities.

Today vast quantities of lumber are shipped across the country for use 3000 miles from their origin. Yet, small local lumbering operations continue in many of the older sections, such as the Northeastern States, in forested areas logged repeatedly during the past two or three centuries. In the aggregate these local lumbering operations still furnish over 40 per cent of their local lumber supplies.

The New England States retained leadership in the production of lumber until nearly 1850. The principal supply sources then shifted to New York and Pennsylvania; then about 1875 to the Northern Lake States; about 1900 to the South; and since the war to the Pacific Coast. It was not until 1919 that the Northwest attained the lead in lumber production, a position which it still holds. The half century from 1875 to 1925 was the period of greatest national lumber production and of the development of large sawmill units.

### CAPACITY TO PRODUCE

The first sawmills were locally owned and operated generally by an individual, like the neighborhood custom grist mill, driven by water power. Steam sawmills date from the introduction of the circular saw about 1830. Steam power and circular saws facilitated the development of larger producing units. American mechanical ingenuity provided equipment to produce lumber faster than the demand increased. This country never was faced, - and unless we do foolish things which we need not do, never will be faced, - with either a timber famine or a shortage of sawmill capacity. There is today a lumber producing capacity sufficient, within a reasonable period, to produce 75 per cent more lumber than the country now is consuming.

The half century ending in the twenties was the period of greatest lumber production. In many years it exceeded 40 billion feet. It was also during this period, especially during the first quarter of this century, that the great public furor was raised over an impending exhaustion of standing timber. This was the era of heroic "Timber Famine" propaganda. This had two major results: 1st, a rampant timber speculation; 2nd, the building of an immense Federal forestry enterprise, developed around the National Forests now administered by the U. S. Forest Service. But the Timber Famine did not materialize. Timber speculation flattened out. Timber ownerships fell into financial distress. More and larger sawmills were built to liquidate timber holdings before taxes and interest charges devoured them. This is one of the major reasons for the present over-capacity. Meanwhile the huge National Forests and the gigantic Bureau to administer them have been maintained by constantly increasing Federal Appropriations.

When the "Timber Famine" was invented little consideration was given to reproduction and second-growth timber on cut-over lands, or the timber growing possibilities of abandoned farms resulting from unwise agricultural settlement during the earlier days. A leading trade journal recently carried an interesting story of the plans of a large timber enterprise, of Pondosa, Oregon, to build and operate a sawmill in Northwestern Pennsylvania on lands originally logged 70 years ago by the grandfather of the present Oregon owner.

## SMALL SAWMILL UNITS

Small sawmill units will continue to be of increasing importance particularly in the South and in the Northeastern States. This is a logical development. But it involves for you and for us a difficult problem of economic indigestion. For example, we know of a farmer in nearby Virginia who owns 10,000 acres of second-growth timber. He is not now operating his sawmill. But he will as soon as the price increases perhaps a dollar a thousand feet. Hundreds of similar operators will do likewise. This results in an increase in production at the same time that price increases in this highly competitive product may be expected to restrict demand. Perhaps this is the balance wheel of the industry. In any case it illustrates:

First, the impossibility of any combination in restraint of trade in lumber manufacture; and

Second, within the industry the elasticity sufficient to respond promptly, within a comparatively short period of time, to any emergency demand for ordinary building lumber.

## RETAIL DEALERS IN LUMBER

Lumber manufacture has grown typically from small local mills to large operations, many of national scope. So also has distribution developed from the local producer who was at the same time the local distributor, to a rather complex network of producers and distributors of lumber. The retail lumber dealer is the prevailing local contact of the lumber industry with the general public. Retailers, - about 20,000 in the United States, - maintain their establishments, many of them lumber stores, in nearly every community. Their business is to assemble stocks of lumber of various species, sizes, and grades, and to make these stocks available to the local public as needed.

Many retailers advertise that they can furnish a board or a carload; and this is literally the truth. Independent retail lumber distribution came into existence when the sawmills ceased to be nearby local enterprises. At first it was a comparatively simple business. Only a few items and perhaps only a single species had to be handled. This is no longer the case. The public now demands a wide range of choice. Many species must be available. The up-to-date retail dealer must assemble his stocks from many sources. Yards in the

District of Columbia handle dimension cut in South Carolina, siding from Florida, finish from California or Arkansas, timbers from Oregon, shingles from Washington, and flooring from Tennessee or Wisconsin. Retail dealers may buy their lumber direct from manufacturers or perhaps even more often through wholesalers.

LUMBER WHOLESALERS

In normal lumber distribution some manufacturers have a sufficiently diversified production in large enough quantities to enable them to maintain sales contacts direct with retail dealers. The operations of most manufacturers, however, will not justify a sole sales organization. Their products must enter the major channels of trade through wholesalers. Many small mills, although nominally independent, are often grouped into relatively large marketing units through a wholesale dealer who handles their products and who usually finances and hence largely dominates them. Over half of the lumber ordinarily reaches retail distributors and industrial consumers through wholesalers. The percentage, in the case of Government purchases, is usually greater. Some wholesalers, but few if any manufacturers, specialize in Government business.

The wholesaling of lumber may be roughly divided into two classes, namely:

1. Selling a variety of lumber products to all wood users in a small territory; or
2. Selling a specific product over a wide territory.

Wholesale lumber distribution follows no standard pattern. A few wholesalers maintain large stocks in distributing yards from which almost any ordinary order can be filled. Such yards usually have seasoning and remanufacturing facilities similar to those of inland sawmills. This is characteristic of the hardwood lumber trade. Other wholesalers have offices only, - No warehouses or yards. Another classification of wholesale distributors, usually called "Commission Salesmen" do not own the lumber they sell, but sell entirely from lists furnished them by manufacturers who pay an agreed commission on sales. Then, of course, you are familiar with the wholesalers who specialize on government business which in turn is ordinarily different in requirements and terms from either industrial or retail business.

## THE MANUFACTURING INDUSTRY

The manufacture of lumber in all its forms and products is one of the country's major industries. In 1929 it represented nearly \$10,000,000,000 of invested capital. It employed nearly 1,000,000 persons to produce 3-1/2 billion dollars worth of goods. It has always ranked high among the basic industries in number of wage-earners and in total wages paid. Probably in no other major industry are there such vast differences in size, in products and in facilities of individual plants. In no other large industry is domination by a few individuals or a few groups so conspicuously absent.

Of the 15,000 sawmills less than 500 account for more than half of the total cut. But no one company produces as much as 3 per cent of the product. Sawmills are generally owned individually or by small closely held stock companies. There are few lumber companies whose securities will ordinarily be found in the financial markets. Holding companies as ordinarily understood do not exist in the lumber industry. The industry is still characteristically individual. That is at the same time an element of its strength and of its weakness.

Even the associations, about which I may have more to say, have no controls over production or the determination of selling prices. The comparatively uncontrolled production and distribution of lumber is a safety valve. But it has its great disadvantages, both to industry and public. To it may be largely attributed the periodic outbursts of overproduction, shattered price structures, and the resulting demoralization of industry and employment. At such times the larger sawmills, with their higher costs, prevailing higher wage scales, and better quality products, are hard put to it to maintain themselves in competition. But with the aid of more complete current trade information, the periods of overproduction and price fluctuations are becoming less extreme and of generally shorter duration.

## TRADE ASSOCIATIONS

All branches of the lumber industry have important common problems. These can best be studied and solved by group action. Trade associations have become an outstanding feature of the entire industry. Retail lumber dealers have their local, state, and regional groups, federated in their

National Retail Lumber Dealers Association. The wholesaler distributors are efficiently organized; and more recently the Commission Lumber Salesmen.

MANUFACTURERS' ASSOCIATIONS

The lumber manufacturers are organized without reference to state lines. The community of interest lies usually in the species. Hence, the manufacturers organizations are defined by similar products, not by geographical boundaries. To illustrate: The Southern Pine Association comprises between 400 and 500 individual companies manufacturing Southern yellow pine lumber. The Southern Cypress Manufacturers Association operates within the same territory as the Southern Pine Association, but with respect to a different species. Similarly the Southern Hardwood Producers, Inc., representing the manufacturers of all hardwood species in the South. A manufacturer may belong to more than one association.

The activities of the regional associations are generally similar. Directly or indirectly all of them maintain grading and inspection services. Some have excellent technical and research facilities. Experienced men represent them in the consuming markets. Export inspectors are available both in manufacturing and market territory to aid the maintenance of uniform grading standards. Most of the associations have facilities to handle matters of traffic, trade promotion, legislation, forestry, statistics and trade relations.

As individual manufacturers find a common focus of interests in their regional associations, so these similarly coordinate their mutual interests through a federation of associations: The National Lumber Manufacturers Association. The National supplements the activities of the regional associations from a broader viewpoint and on a national scale. It does not maintain an inspection service. But it represents the regional associations in the determination of basic standards on which the systems of lumber grading and inspection are founded. The Association devotes much effort to building code work, - in behalf of the proper building uses of all species. In addition to its headquarters office in Washington it maintains field offices in several of the more important cities.

## RESOURCES OF THE INDUSTRY

I have not wished to burden you with statistics. But in discussing the timber resources of the country, in order to talk to you clearly and to the point, I will have to resort to exact figures. A reasonable estimate of the probable annual domestic consumption of lumber is from 20 to 25 billion board feet. The transportation of this volume if by rail would require over 1,000,000 carloads. Current stocks in storage at sawmills usually amount to about 1/3 of the annual requirements. To supply this quantity an educated estimate ten years ago showed the total stand of saw timber as slightly less than 1700 billion feet. This figure is gradually being revised upward as more accurate data are becoming available through the National timber survey conducted by the Forest Service. Because of better forest protection, more general reforestation, safer logging methods, and more complete utilization, the annual growth is increasing. It will so continue for some years.

Assuming reasonable care, the present and prospective growth of the forests is adequate permanently to supply prospective domestic lumber requirements with a substantial surplus for export. In event of a national emergency the domestic consumption probably would be reduced. Increased quantities may be cut to supply unusual demands over a long period if necessary.

This is the general national picture. Of course there are desirable species which are not now and never were plentiful; some which once were abundant but now scarce; others which are abundant, and in the future will so continue. One of the striking features of the timber stand is its great variety and its wide distribution throughout the United States. This country has more extensive and more widely diversified accessible timber resources than any other nation.

## TRANSPORTATION OF LUMBER

No one mode of transportation is favored exclusively by shippers of lumber. Rail, water and truck transportation in many areas may be used almost interchangeably, depending upon relative costs and service features. Some products are almost invariably shipped by rail; others by water or by rail or by a combination of both. Most of the southern yellow pine dimension and boards in the local Washington market, for example, is

transported by truck. It comes from mills as distant as 400 miles, sometimes more. The ponderosa pine finish comes by rail from Oregon, California and Montana; the Douglas Fir dimension and timbers by water through the Panama Canal to Norfolk or Baltimore and thence by rail or truck; the hardwood flooring and trim by rail. Probably more lumber moves by rail on government contracts than privately because of the preferential land grant rates which greatly reduce rail transportation costs. The motor truck is an increasingly important factor in lumber transportation of which you may make important use.

#### STANDARDS OF SIZE AND GRADE

Equally important are the standards of size and grade. The importance of these nationally recognized standards is perhaps not generally realized. It is because of these American Lumber Standards that you may now buy standard dressed and matched boards of cypress from Florida or of Norway pine from Wisconsin or of West Coast hemlock in Washington, and find that they match. The common basic standards of the American lumber industry explain why the same named grades of Douglas fir and southern yellow pine dimension may ordinarily be used for similar purposes. Similarly the corresponding grades of the various soft pines of the North and West. The grades are not identical but they conform to the same basic standard. The lumber in these major groupings, even though of different species, is from a use standpoint practically interchangeable.

The development of the American Lumber Standards was not accidental. It resulted from a threatening situation of almost indiscriminately variable sizes and uncoordinated grades. But the general acceptance of the idea of basic grading and nomenclature standards was the outcome of years of diligent work of the lumber associations, with the warm cooperation of consumers of lumber and under the auspices of the U. S. Bureau of Standards.

#### THE CENTRAL COMMITTEE ON LUMBER STANDARDS

Prior to 1922 there were no nationally uniform standards for lumber. It had become evident by then that the variance in dimensions of lumber, particularly, which was the effect of non-uniform manufacturing practices, was

making needlessly difficult the ordinary specifications and uses of lumber, especially in building. The effect of this condition can readily be appreciated. From one manufacturer a buyer might obtain 2 x 4's measuring 4" in width, while the same nominal size supplied by another might be  $3\frac{1}{2}$ ",  $3\text{-}5/8$ " or  $3\text{-}3/4$ ". At the instance of the National Lumber Manufacturers Association, the United States Department of Commerce in 1922 sponsored the National Lumber Standardization Conferences. Following a series of Conferences marked by unusual enthusiasm, a Central Committee on Lumber Standards was appointed by the Secretary of Commerce to represent, not only the manufacturers and distributors, but also the consumers of lumber. The early work of this Committee culminated in 1924 with the promulgation by the National Bureau of Standards of Simplified Practice Recommendation No. R 16 on Lumber. This first lumber standard was the result of many conferences of industry, consumer and public representatives. It was in these conferences that the famous "battle of the thirty-second" was fought, establishing the finished thickness of a standard one inch board as  $25/32$  of an inch. The wisdom of the thorough consideration given to size standards for lumber at the early conferences is demonstrated by the fact that today, after 15 years, the sizes then established are still the standards of American lumber.

As with nearly all standards, the lumber standards have not been static. Improved manufacturing practices have brought improved trade practices. A better public and trade understanding brought a demand for extensions of the lumber standards; therefore, to accommodate the progressive developments of the industry, the American Lumber Standards have been revised three times. Each revision has been by action of consumers, dealers and manufacturers through the agency of the Central Committee on Lumber Standards. There have been many changes in its personnel. Today its members are designated by various national organizations, as the American Society of Civil Engineers, American Institute of Architects, American Railway Engineering Association, and industry associations such as the National Lumber Manufacturers Association and the National Associations of Wholesale and Retail Lumber Distributors. The appointment of members to the Central Committee is confirmed by the U. S. Bureau of Standards.

The Committee is a semi-public agency. Its function is the maintenance and gradual improvement of the American Lumber Standards. The Committee during the past year has recommended a revision of the 1929 edition of these Standards. The proposed revisions with minor modifications have been

approved generally by consumers, dealers and manufacturers. It is expected that they will be soon published as the applicable American Lumber Standards.

In the current revision the Central Committee devoted a year to analyzing and studying the original revision proposals of the manufacturers. It sought and obtained expert advice from individuals and organizations. After a number of conferences, the revised proposed revision was referred to the National Bureau of Standards with the recommendation that it be submitted for approval to representative producers, distributors and consumers.

#### APPLICATION OF LUMBER STANDARDS

The American Lumber Standards include standard sizes for lumber, a standardized basis for the formulation and application of grading rules for softwood lumber, including yard lumber, shop lumber and structural timbers. In accordance with this provision, associations of manufacturers have developed grading rules for each species. No single grading rule is applicable to all kinds of lumber. The varying characteristics of species, conditions of manufacture, and use requirements make impracticable any nationally uniform rule. But grading rules for fir and pine, although not identical, have been developed from a common base. Each affords the same degree of protection to the consumer. Each defines adequately manufacturing, inspection and shipping practices. Both conform to the basic provisions of the Standards.

The American Lumber Standards in effect is a technical publication. Its provisions are of greater significance to those who are concerned with the technical features of lumber production and use. Included, however, in the Standards are a number of provisions of importance to every lumber user. Probably the most significant of these has to do with the identification and certification of lumber grades.

#### LUMBER INSPECTION AND CERTIFICATION

The associations employ qualified official inspectors who are responsible to the association, not to any individual manufacturer. Most association inspectors travel; some in the consuming sections to check shipments as received and to adjust the occasional complaints. Others travel in the

producing territory, visiting frequently the association mills to check the mills' shipping and inspection practices and to direct the training of mill graders. Usually when orders so specify they will, for a stated and uniform fee, inspect and load shipments of lumber and issue certificates of inspection thereon for individual shippers.

The nominal cost of this service is ordinarily paid by the purchaser. Association certificates of inspection are available to any manufacturer. Certificates of inspection are commonly used in connection with shipments of specialty lumber and deliveries on unusually exacting specifications. Sometimes certificates are used with less than carlot deliveries from retail yards. But association grade-marks are better adapted to identify the quality of such purchases. Certification by supervised grade-marking is usually both convenient and inexpensive.

One of the functions of association inspectors is the training of mill graders. These graders, unlike the official inspectors, are employees of the individual lumber manufacturers, not associations. But their work is supervised by association inspectors. They must demonstrate proficiency in applying the applicable grading rules. Mill graders qualifying with an inspection rating of not less than 95 percent may be licensed by the Association also to apply its grade-mark. A mill grader's license may be revoked if the accuracy of his inspections falls below the required 95 percent. This seldom is necessary. Graders are usually much interested in maintaining their preferred rank as skilled workmen.

#### GRADE MARKS

A grade-mark consists of a combination of simple symbols which shows:

- (1) The name of the Association under whose rules the lumber is graded,
- (2) The grade of the lumber, and
- (3) A mark of mill identification

Such marks signify that the lumber marked conforms to the requirements of the grade as marked and that the inspection has been made by a licensed grader.

As a result of this supervised inspection control of lumber grade-marking, purchasers are ordinarily enabled

to obtain exact specified grades. Grade-marks and certificates of inspection have been valuable to consumers as well as to the manufacturers of lumber. Much of the dissatisfaction formerly caused by manipulation of lumber grades, due in part, at least, to inadequate inspection safeguards, has been largely eliminated by careful specifications and by quality identification with grade-marks or official certificates of inspection.

During the last few years the inspection and grade-marking system has been put to a severe test by the tremendous purchases of lumber by the Federal Government. Surprisingly few complaints have arisen where identified lumber has been required. Occasionally manufacturers report that they are unable to supply grade-marked lumber. Occasionally it is charged that the practice of grade-marking is part of a combination in restraint of trade. Occasionally a manufacturer complains that because he does not belong to an Association he cannot bid on government contracts. This is not so.

Lumber manufacturers' associations have assumed the obligation of providing grade-marked lumber where specified on government contracts, regardless of the mill from which the lumber is shipped. If a manufacturer, who for any reason, good or bad, is not a member of an Association publishing official grading rules, is awarded a Government contract, he may upon direct application to the Association sponsoring the applicable grading rules, obtain promptly the services of an Association inspector who will grade-mark the lumber shipped on such a contract. The cost of this service, of course, is paid by the manufacturer. The lumber associations do not uniformly offer this service on lumber sold to private individuals. But they can and do so provide grade-marking for lumber sold to the United States Government.

Again it is sometimes complained that the cost of grade-marking is prohibitive. Reference to Schedule 39 of the Procurement Division of the Treasury Department, which lists the contract prices for grade-marked lumber, should sufficiently answer this. When a comparison is made between the prices of grade-marked lumber and non-grade-marked lumber, the actual difference in quality and value is usually not given adequate consideration. The small cost of grade-marking, - and it really is nominal for a mill with qualified inspectors, - is of course always included in the bid price. From the standpoint of cost and value, it is

significant that the public demand for grade-marked lumber is almost everywhere increasing.

#### RE-INSPECTION

Despite all reasonable care with grade-marks and certificates of inspection, occasional controversies arise over the quality of lumber shipped. To adjust such complaints the Association claims inspectors are required to re-inspect lumber. On Government contracts particularly, they go farther than this. The inspectors make every effort to explain the application of grading rules to receiving officers. In many cases they direct a re-inspection by the Government inspector himself. So that he may have a more complete understanding of the grading of lumber.

#### PROCUREMENT OF LUMBER

Finally a word as to the procurement of lumber. The purchase of materials and supplies by Government agencies has important unique conditions. Bids must be taken and awards made to the low bidder. The fact that certain materials, though higher in initial dollar cost, may be lower in value terms, is ordinarily no consideration in Government procurement. Reliance, therefore, must be placed on accurate and complete purchase specifications, and, even more important, upon compliance with the specifications.

I do not speak authoritatively on the procurement of commodities in general when I say that the most dependable satisfactory procurement of lumber may be accomplished by adherence to a definite schedule in preparing invitations to bid. Most of the difficulties in connection with lumber purchases may be traced to a careless or uninformed specification. If, for example, a procurement officer specifies a grade higher, or lower, than needed, either he will have to pay more than necessary, or he will obtain material not adequate for the purpose intended. In either case, he won't be satisfied. If, as is the case in one of the divisions of the War Department, specifications are written for lumber that is non-standard in size, the costs are bound to be needlessly higher, deliveries slow, and satisfaction unlikely. Especially in procurement under the urge of emergency, maximum reliance upon the customary standard grades and sizes in the lumber trade is desirable.

We suggest, therefore, the consideration of the following schedule for use in the procurement of lumber. Its

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use is practicable It will insure free and open competition It creates no possibility of discrimination It provides the best available assurance that deliveries will conform to the specifications:

- (1) Determine accurately the standard size, grade and condition of seasoning adapted to the use intended
- (2) Determine the various species which acceptably meet these requirements
- (3) Specify only American Standard sizes and workings unless for extraordinary reason special sizes must be used, or unless peculiar local conditions make advisable the use of non-standard sizes
- (4) Specify quantities in terms of number of pieces in each required item, size and grade, and in feet, board measure
- (5) Require that "each piece of lumber, or bundle, bear the grade mark and trade mark of the Association under whose rules it is bought, and a mark of mill identification", or that each shipment be accompanied by a certificate of grading (inspection) issued by the Association under whose rules it is bought "
- (6) Require compliance with the specifications on the part of the vendor.

AVAILABILITY OF LUMBER FOR EMERGENCY NEEDS

The large capacity for lumber production, and the adequate reserves of standing timber and stocks of sawn lumber, are no doubt important in determining the availability of lumber in the case of emergency Without a definite plan of procurement, understood by both industry and Government, needless difficulty may be met in obtaining promptly the lumber needed for the construction of cantonments, hangars, warehouses, shops, and the multitude of buildings needed by a large army. If emergency procurement is haphazard, the possibilities of duplication of orders, transit shipments, chaotic bidding and disorderly deliveries

will be needlessly multiplied

The War Planning Board might well perhaps prepare a definite plan for emergency procurement and make it available for the information and deliberate study of the lumber trade. Possibly a committee or board, composed in part of competent civilians, experienced in manufacture, transportation, and procurement of lumber, would be valuable for such a purpose. Perhaps a semi-public committee, organized along the lines of the Central Committee on Lumber Standards, would be most serviceable. The lumber industry, through its far-reaching organizations in every branch of the trade, has facilities for mobilizing industry interest in and cooperation with, any procurement program which you may determine. I need not assure you that those facilities are always at your service.

"The Lumber Industry"

By Dr. Wilson Compton

Discussion

October 20, 1938

Q -- In general terms, how much of a factor are timber fires in the United States?

A -- It's hard to put that in statistical terms, Major Gano. It is correct to say that more forest land is burned over than is cut over. That is still unfortunately the fact. Most of the lands burned over, however, is cut-over land. So the loss of timber, if you want to measure it that way, is not so great, but the loss of protective growth in the future is probably just as great and, frankly, it's a very fortunate thing that with our national habits of outdoor morals we do have these very great reserves of standing timber that I talked about. If we had as meagre resources as, for example, Germany, that would be a great factor. I don't want to discount the fire hazard, but I believe that the combination of public and private efforts is gradually catching up with that. For a period brought into being by the automobile when cigarette smokers, campers, etc., didn't understand that if they made a fire they had better put it out, this was more serious. By and large, there is about 20,000,000 acres of forest lands burned over in the South or maybe it's \$20,000,000 worth of timber damaged by forest fires annually, but there is progress being made in meeting it.

A -- There are two terms I'd appreciate being straightened out on. timber stand is cut and it becomes lumber but some of that lumber is

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still timber. What is the limitation upon the timber?

A -- A timber is defined as sawn lumber of minimum dimensions not less than five inches. It's a large piece of lumber. There is some confusion in the word timber. Timber sometimes means standing timber and sometimes a timber means a piece of sawn lumber of large size cut out of a log. There are plenty of lumber men also confused about that.

Q -- This question really has three parts. In the first place part of the timber supply of the Nation is in the national forests and part in privately-owned land. I haven't had a chance to read this pamphlet but I saw a figure indicating that about twenty per cent of it was in the national forests and 80 per cent in privately - owned lands. The first part of my question is this. As to quantity, what is the relation of timber in privately-owned land as to that in national forest areas. The second part deals with over-cutting. I believe you defined over-cutting as being the relation between timber removed from the land and timber replaced through growth during the same period. Now, the second part of my question is this. Does over-cutting exist in the industry as a whole in the United States at this time? The third part of my question relates to the better quality of lumber. Does over-cutting exist in the lumber of structural grade?

A -- National forests in area are about twenty per cent and in timber stand are a little less than 40 per cent. Now of the matured timber standing in the public forests which are practically all national forest reserves there are also state reserves, but you are probably thinking of public forest reserves. As to your first question, there isn't any important difference between the quality of timber in the national forests and in the privately-owned forests, but there is on the average a considerable

difference between the accessibility of the timber in the national forests and in the privately-owned lands. The privately-owned forests, generally speaking, are much more accessible. There are certain large areas of the national forests that are just as accessible as any private-owned forest and that is being increased by the gradual acquisitions by the Government under the national purchase program which has doubt \$50,000,000 or \$60,000,000 worth of timber forest lands, not so much merchantable timber but land on which future merchantable timber will be available.

Your second question now. There is over-cutting if you balance the present growth against the present cut. Taking the whole industry, I think what you probably to know is the difference between different major areas; for example, in the northeast there is an under cutting of about one half the ratio of growth, or two-to-one with the cutting. In the South, it's just the opposite - or rather not the opposite, but the cutting is still considerably greater than the growth, not quite in ratio of two-to-one. In the western forest areas there is a little more difficulty in making comparison because the timber out there is largely mature timber. Some of it hasn't any growth because the decay balances the growth. There won't be any growth until that timber is cut. If it were possible to handle all our national forests, or rather all the forests of the nation, as a single unit and apportion the cutting and the utilization in the way that would make the whole forest area of the country handled to the best economic advantage, there would, of course, be more cutting on the stands that carry mature timber that is deteriorating, over-ripe - let us say because that timber is useful.

and contains some of the best grades, probably the highest grade timber we have got. But there is no growth on this land as long as it stands there. The only way to put forests on that grade land is to cut the mature timber off. So I think as a fair comparison between the North, East and South it might be correct to say that the cutting of timber in the West and the western forests could be increased and maintained at an increased rate permanently, if it were done in an orderly way. There is no over-cutting in the sense of destroying the permanent forest capital. There is no over-cutting in some localities but as a general characteristic of the whole areas there is no over-cutting. As regards your last question - well, most of that comes from the West and the South. There is no over-cutting in the West except in the terms of the type of production that can only come from the timbers that are - let's say - three or four hundred years old. There won't be that type permanently whether it's under public or private ownership. But other than that I think that the probable fact is that there is no over-cutting of structural timber in the West. There is still some in the South but as the growth advances in the South, and the growth is rapidly catching up and the re-forestation is rapidly catching up with the cutting in the South, that probably won't be true there either. I don't know if there is any exact statistical measure of the answer to your question. I suppose it's more a matter of opinion. But this can be said safely - this forest service being conducted in the last several years by the Government by which they're actually making a survey on the ground with large numbers of investigators, not counting every tree, but taking sample areas that are probably close to being representative, is disclosing a surprising situation. A much greater approach to a balance between new

growth and consumption exists than even the most ardent enthusiast thought there was. You're not so much interested in that perhaps but this shows that in the southern hardwood area, even now with still a great amount of virgin timber to cut on land which isn't growing anything but the new growth is between ninety and ninety-five per cent of the present cut. The new merchantable growth, with proper protection, of hardwood will grow just as advantageously as soft wood. Of course, the whole South is lousy with pine

Q -- If I may be permitted one more question - to what extent is re-forestation being practiced by the owners of privately-owned land? I know in the Northwest which once had magnificent forests there's not much visible in the way of growing small second growth timber. It seemed to me from what I have observed that the lumber industry was very ready to cut the timber but very ready to leave the forestation to some Government agency. Are they doing anything about that?

A -- I think that is a fair criticism of the industry, but by and large or - let us say - the past twenty-five or fifty years on an average, but there has been a vast improvement in that particular respect in the last five or six years. I think that the most striking transitional point was the N.R.A. during which as a part of the code there was a definite undertaking to have the owners who were also manufacturers re-forest. This didn't apply to the non-operating timbers that they had left. They had to leave the lands in condition for re-forestation. It was predicated on the assumption that the proper type - or rather if Nature were given a proper chance it would do the re-forestation. There is no doubt that that had a very important effect. The evidence that the momentum that was accumulated has in very largely maintained is important to the industry. A representative

recently reported that about seventy per cent of the progress that had been developed under the code was still being maintained, I think it has been more in the South and West, but it's improving also in the North. Now you may go out there and still see some of the same land I'm talking about - the new cut-over land. There is still some problem about the land which was cut over. That's a very different problem. Nature, however, has, despite the abuses which man has done, a fairly good job done on a lot of those areas. If you saw them many years ago you would find a substantial difference now. But the real progress is being made and is not reforestation of the land that for years had been cut over with not very much done but a better condition of the lands currently cut over. As to that I think it's fair to say that there is about 80 per cent performance which compares very favorably with what could have been said about ten or fifteen years ago. Frankly, I don't want to give you the impression that there is any reason for pride on the part of the industry in the extent of its progress in that field but I do think that it is making good progress especially in the last five years.

Q -- You compared our resources with certain forms but I don't believe you mentioned any South American country. I saw a figure that a student reported to the newspapers, a student who is quite an authority, and he stated that Brazil or Argentina could produce far more lumber from their sources than the United States including Alaska. Is there any competition on that source right now and could you tell us whether those figures are probably accurate?

A -- I'd hate to dispute the expert testimony of an unnamed man, particularly when his expertness is authenticated by newspapers. But I think this ought to be said about South American timber resources in

general. They are vast; there is no doubt about that, but I think statistically this gentleman is probably correct, but practically all of this is exceedingly hard hardwood. Most of it is very inaccessible. It's there but what on earth anybody could do with it I don't know. I'd say it is less available in any common sense terms than the remote Siberian timber. It's mostly hardwood; that's a deficiency of the South American timber, but what they can get out is very good. As Henry Ford went down there several years ago thinking he could convert and get out timber on the same large scale production as has been done here in the United States, and even Henry Ford threw it up as a bad job after a few years. I think the real answer to it is that the timber in Brazil is not as good timber for common uses - certainly not for building uses and that is what you are interested in - is soft woods and is very inaccessible and hard to get out.

Q -- What troubles can we expect to experience in attempting to go in the market and buy black walnut for gun stocks?

A -- I don't think you could get that much walnut for gun stocks. You couldn't get it as quickly as you could get the type of ordinary standard lumber that I have been talking about. Of course, there is a lot of walnut available. I have a farm over here in Virginia. I think there are probably thousand stocks there. I think the walnut is there but there is no such thing as an easy mobilization of those resources. There are widely scattered walnuts here and there but it's all over the eastern forests and there is all a lot of it there. I suppose the kids that hunt walnuts in the fall would be of more service than any one in the industry. I don't mean to be facetious about it, of course.

Q -- I don't think your remark is facetious at all. I know the

commercial and high grade arms makers are resorting today to just that - they send out scouts and buy a tree I wonder whether the sources of things like that could be bought in any quantity of young stock material in a reasonable time?

A -- I think the only available walnut supplies for that purpose are those in the eastern forests but walnut is just scattered here and there. There is no such thing as a pure stand of walnut. There are some places where walnut in small areas predominates or used to. The Ohio basin in southern Indiana and Ohio had a great deal of hardwood stands that were walnut but I think that is practically all gone in those concentrated areas. Probably if it were necessary to accumulate walnut it would be just as you say.

Q -- Can you imagine that the Government had about twenty per cent of the forests and in merchantable timber about forty per cent? Is there any relationship in the matter of cutting that into the proportion maintained in the cutting on the forests the Government has?

A -- Cutting on purely publicly owned lands is very much smaller than on the privately-owned land. That is consistent with the purpose of it. Where we set up as national forests reserves and one of the major purposes was to provide the assurance of adequate supplies in the event of what twenty-five or fifty years ago was expected to be timber shortage or timber famine, so the policy has always been a very conservative utilization and I suppose probably now not more than five or six per cent of the lumber cut and certainly not more than ten per cent in any one year is off the public forests. That is all done by private manufacturers, privately-owned logging and manufacturing companies. They make contracts for the cutting of certain timber from the national forests which is intermingled with their

own private land.

Q -- You also mention in your address that a proper plan of the cutting of timber might indicate that there were certain territories in the West that ought to be cut because the timber was matur. I wonder if our national economy now has developed to a point in our Government timber where that might be true?

A -- That is probably true Most of the over-matured timber happens to be in private ownerships. I think that is probably due to the fact that it is in the lower elevations The acquisition of land by private ownerships antedates these large scale reservations and the reservations were simply withdrawing from the public lands but the public lands have been opened to private purchase for more than a century and of course the more accessible lands are the ones that were first bought, leaving in the public ownership the higher elevations which have been less accessible and hence had not been purchased by private purchasers in prior years The way the scientific explanation is given I don't know but it seems there is not much relatively of the timber in public ownership which is in the condition of over-maturity there is of timber in private ownership but the same principle would apply just as you have said there is no question of that, it's merely a matter of degree. Over a period of time there will be more cutting on the national forests. There may have been six to ten per cent a few years ago. It's only three per cent now but the general guiding policy of the Government has been as long as there is an over-production of lumber and timber off the waste lands there will be no pushing of the public lands in production except where it is - let us say - necessary or desirable to develop a sustained yield operation where publicly owned timber is intermingled with

private timber and the whole can be maintained permanently as a sustained yield unit. In those cases the Government has made the cutting of the public timber available on bid but usually going to the company that has the intermingled private timber so as to provide a permanent operating unit. I think that would probably be the policy and will probably be carried on but the percentage, whether it's three or six or ten, gradually will increase.

Q -- Dr. Compton, you have touched on our methods to be pursued in procuring lumber for Government uses and I don't think that too much stress can be laid on the proper methods in procuring lumber for our cutting that is demanding that the Government be grade-marked or that it be furnished on a certificate of inspection. There is one point that I want to ask you. Is there - or - do you think - there is some order of preference to you that would come grade marked ahead of the certificate or vice versa. It would attach to the lumber grade marked and in that way become entangled with any other lumber that isn't grade marked and that might be furnished a certificate of inspection. There might be some question about that lumber at some time. The point is whether it would be more to the advantage for the Government to have all the lumber grade marked or to permit it to be furnished on the certificate; of course, the Government can inspect the lumber which it buys. Which method of inspection would discourage considerably due to the fact that you do govern the qualified inspectors?

A -- I suppose there are a number of factors that would have been considered. I think it likely - leaving out the question of expense - that the association would serve inspection which means that the lumber has not been inspected before shipment by a qualified inspector who is not employed by the men who make the shipment but by the association and in response to the

association will probably, on the average, produce more exactly in conformance with the specifications. On the other hand, it costs more. It is the certificate of inspection which costs about fifty cents a thousand feet. A \$1.50 grade mark would be a very small fraction. It depends on the ingenuity of the mill and the facilities of the mill. I happened to be down in Louisiana at a large mill just two weeks ago where they have a unique branding device. All the finished lumber that comes out of that mill is branded with a die that not only inks it but impregnates the ends and puts a light coating of paraffine over it so that the ink can't wash out and that costs about one-third of a cent a thousand feet. On the other hand, other mills mark by hand and don't have these mechanical devices that may cost more than is practicable but I am told that there are some which cost more than that one. I would say that aside from the cost factor, the range, grade mark and the way one is on the certificate of inspection between fifty and a dollar and a half which were, of course, this additional factor that there are only a certain number of figures inspectors and there might be more delay under some circumstances if you were trying to get a large sale. There might be some delay in getting shipments with a certificate of inspection and the large volume coming from a single area that you might not have if you used grade marking systems. A little more simple, not quite so dependable, is the assurance of getting exactly what your firm ordered.

Q -- In the event a purchaser receives a shipment of lumber accompanied by a certificate and he is still not satisfied that the shipment meets the specifications, what would you suggest is the best method to determine that?

A -- I believe it is always possible to get a re-inspection through the office of the inspector of the association and if it turned out that the original

inspector was wrong, who'd pay the expense I should think the controller-general would unless it's specifically set up in the appropriate letter that it will not permit of the use of any funds for inspection, so unfortunately right or wrong it fell on that one who sells the lumber, pays the bill. That is, to the Government in private purchasing there is set up an American standard - five per cent tolerance permitted and the loser in the inspection loses to the tune of the bill. Whether he is right or wrong he has to pay the bill.

Q -- Of all the timber cut, about what percentage is pulp wood? Is there any idea of conserving our pulp wood resources by permitting the rather large import of news print principally from Canada and other countries or is it just a question in that case of proper production costs plus favorable tariff rates?

A -- As to your first question, I am not sure just what the comparison of volume is. I suppose it's in this pamphlet somewhere between the volume of wood that goes into pulp wood and lumber. In that connection I found that the amount of lumber used and only for wooden boxes and crates is about fifteen per cent of all the timber cut and I was hoping to get an average percentage on that going into pulp wood. I don't know what the percentage is and I shouldn't guess. On the matter of imports there is nothing of importance. We are getting more pulp, we are importing more pulp and more news print and more pulp wood than ever before. That all comes in free of duty, unfortunately. Personally, I don't think there is any net gain, resulting from encouraging any further importation of foreign production for any reason. There is the assurance of re-forestation. We have got this latent potential basic forest resource. Ten times as much as the figures

we used on Germany will only be kept producing timber if there is the present prospect of markets for the production. We have the potential forest resources for a very large surplus and we have been classified by the State Department and its negotiations with foreign trade agreements. We are importing just twice as much products as we are exporting. A potentiality of pulp and paper products, especially in the South, exists. That is gradually creeping up. Large paper and pulp plants in the South use Southern yellow Pine. Of course, what comes from our domestic goods will be produced by that amount of importation, not necessarily an exact amount but proportionately reducing the importation of foreign wood. My feeling is that more good would result from the encouragement of the right sort of a combination between pulp, the utilization of pulp, than of small sizes of domestic lumber, the gradual diversion of only the larger and better size of timber to saw mills and sawn lumber uses, and still larger lumber to veneer wood. The small timber would go to its most useful use and the very large for veneer and plywood. That would be far more advantageous than deliberately inviting further importation of pulp or paper, especially when, as I say, we have this lop-sided balance now. There is no country in the world that sustains this unbalanced arrangement of imports to exports with forest resources. That involves a lot of questions of tariffs and trade agreements, etc., that could go into that thoroughly.

Q -- Mr. Smith -- (Remarks) I don't think there is very much I could have said. I have had contact with some of you gentlemen here in the past and expect to in the future. I can only say I think now that in connection with the work of the National Association we try to be of service to the Government as well as to private individuals in the matter of reforestation along

technical lines as well as along economic lines. Consequently, we have declared different types of handbooks and information that apply in effective ways. I have a few samples of them. We have a type which is recommendation of lumber for specific uses. There are technical handbooks for design purposes. We invite your questions and queries. We are here at 137 Connecticut Avenue and we'd be pleased to hear from any of you who have technical problems.

Mr. Marsh - (Remarks) I think it mighty fortunate to have here today the most imminent authority on lumber in this country and I would like to emphasize to you one point which the doctor made, that was the last point when he said that it required compliance with the specifications. I have been down a few states below here, and have had occasion to see some great marketing material which was two grades below what was specified. I'm not going into minor details, but don't sit by and specify goods that is of unusual size or getting out is difficult, insist on getting what you specify or don't be so damned particular on what you do specify. In this particular case somebody was entirely too particular, so much so that the job just had to go ahead and they finally accepted two grades below what was specified. I want to emphasize that very good point that the doctor made.

Colonel Miles - I think we are all indebted to Dr. Compton for a very fine talk on lumber industries in the United States, and I hope we are to have the pleasure of hearing him again.