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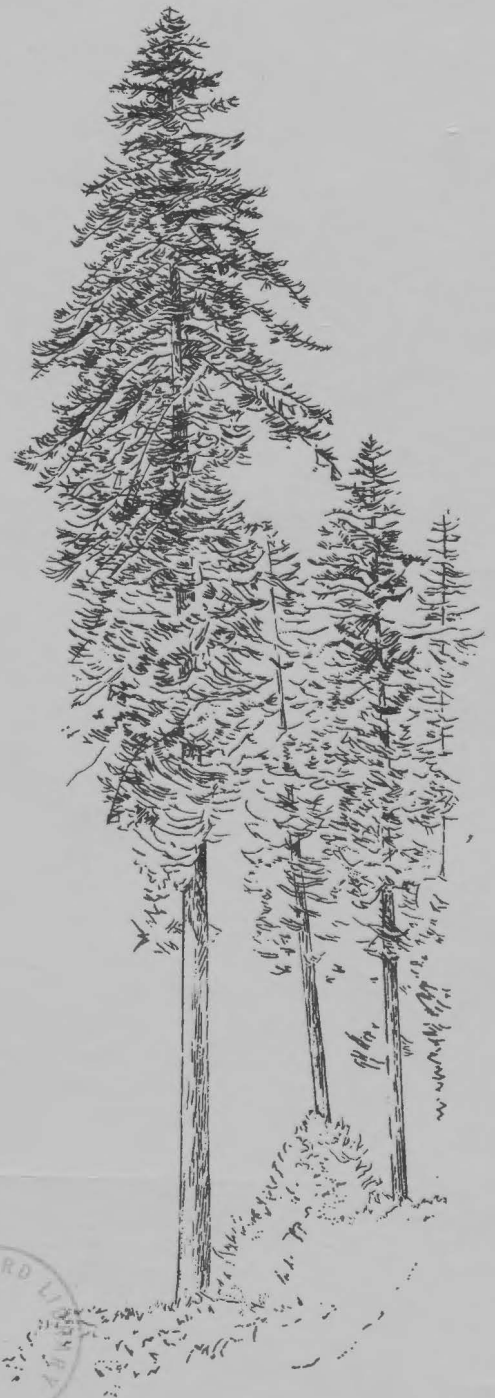
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Economic Impacts of an Intensified Timber Management Program

Research Paper WO-23
July 1974



United States Department of Agriculture

Forest Service

ECONOMIC IMPACTS OF AN INTENSIFIED TIMBER MANAGEMENT PROGRAM

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PREFACE

This report presents estimates of changes in timber product prices, consumption levels, consumer expenditures, and national income that would result from an intensified timber management program on nonindustrial private and National Forest lands described in a recent Forest Service report "The Outlook for Timber in the United States." It also contains a discussion of the possible impacts of the intensified program on profits, employment, and payrolls; and a review of selected multiplier studies with a listing of recent literature on multiplier analysis.

The research for this report was carried on by the author while under a temporary appointment with the Division of Forest Economics and Marketing Research, Forest Service, during the summer of 1973.

McKillop, William.

1974. Economic impacts of an intensified timber management program. USDA Forest Service, Division of Forest Economics and Marketing Research, Washington, D.C. Research Paper WO-23, 16 p.

This analysis shows that substantial benefits would accrue from an intensified softwood sawtimber management program described in the recent Forest Service study, "The Outlook for Timber in the United States." It was estimated that in the year 2000 output of softwood timber products would be 7 percent higher and prices 5 percent lower with this program than they would be if the program was not undertaken. Savings to consumers, which would result from program-induced changes, were estimated to be \$484 million in year 2000; net secondary benefits were estimated to be \$472 million after allowing for the reduction in output of substitute materials. Substantial secondary benefits were estimated for other years in the study period.

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INTRODUCTION AND HIGHLIGHTS

The recent Forest Service report on the timber situation,¹ "The Outlook for Timber in the United States," contains projections of timber demands to 2000 under alternative population, economic, and price assumptions; and projections of timber supplies to 2020 under alternative management assumptions. It also contains estimates of increases in softwood sawtimber supplies that might be realized from continuing programs of intensified management on private nonindustrial and National Forest commercial timberlands which would yield more than 5 percent return on the investment.

The Forest Service projections of softwood sawtimber demands and supplies are shown in table 1.

¹U.S. Department of Agriculture, Forest Service. 1973. The outlook for timber in the United States. Forest Resource Rep. 20, 367 p.

The projected quantities that would be demanded and supplied if softwood timber product prices did not rise relative to other commodities show "demand" exceeding "supply." This means that timber product prices would have to rise relative to other commodities to bring supply and demand into balance. Alternatively, if softwood timber product prices rise by 1.4 percent annually in relation to other commodities, demand and supply are approximately balanced in 1980, but thereafter demand would be reduced because of the rapid relative price increases. The third group of figures indicates what might happen if softwood timber product prices experienced a once-and-for-all relative price rise of 30 percent. The quantity supplied in the year 2000 at this price level would fall short of the quantity demanded unless a program of intensified timber management was undertaken. Demand and supply levels for all

Table 1.—Quantities of softwood sawtimber demanded and supplied from U.S. forests under alternative price assumptions

Item		1970	1980	1990	2000
1970 relative prices ¹ 1970 dollars		119	119	119	119
Quantity demanded ²	billion board feet	46.2	57.9	65.6	71.8
Quantity supplied ²	do	46.2	46.8	47.4	47.0
Quantity supplied with intensified management ²	do	n.a.	n.a.	n.a.	n.a.
Rising relative prices ³ 1970 dollars		119	137	157	181
Quantity demanded ²	billion board feet	46.2	48.2	48.9	49.1
Quantity supplied ²	do	46.2	48.0	49.6	51.0
Quantity supplied with intensified management ²	do	n.a.	n.a.	n.a.	n.a.
Relative prices 30 percent above 1970 ⁴ 1970 dollars		119	155	155	155
Quantity demanded ²	billion board feet	46.2	44.7	50.6	56.7
Quantity supplied ²	do	46.2	50.8	50.0	48.6
Quantity supplied with intensified management ²	do	n.a.	52.4	52.7	53.3

¹Base price: weighted average price (1970 dollars) per thousand board feet for softwood lumber, softwood plywood, and other softwood products. Estimated by national average appraised selling price in Forest Service sales for calendar year 1970.

²Op cit. The outlook for timber in the United States. Table 155, p. 216.

³Base price of \$119 rising at 1.4 percent per year compound growth rate. The 1.4 percent rate represents a weighted average of 1.5 percent for softwood lumber and 1 percent for softwood plywood.

⁴Base price of \$119 plus 30 percent.

n.a. = not available.

three assumptions indicate that in the absence of intensified management, softwood timber product prices would have to rise for supply and demand equilibrium to occur.

Table 2 shows the "equilibrium" prices and production levels, that is, the levels that would prevail with supply and demand in balance. Estimates are shown with 1970 levels of timber management (with "some adjustments for recent environmental constraints on National Forest harvests") and with the program of intensified timber management referred to above.

These data show that softwood timber output will be 50.4 billion board feet and product price will be \$175 per thousand board feet in the year 2000 if the intensified management program is not undertaken. Adoption of the program will lead to a 7 per-

cent (3.6 billion board feet) increase in output and a 5 percent (\$9) decrease in price. Because of the nature of the program the major timber supply impact occurs after it has been in operation for some time. The impact of the program was analyzed for a 50-year period by the Forest Service. Gains due to the program were predicted to increase steadily from its inception to the end of the period of analysis. Since impacts are assessed in this report only up to the year 2000, the net program benefits may be underestimated.

Impacts of intensified management on consumer savings and national income

The implications of the intensified management program in terms of savings to consumers and national income are presented in table 3. Savings

Table 2.—Estimates of "equilibrium" price and output levels for softwood sawtimber and changes due to intensified timber management

Item	1980	1990	2000
Current management			
Output billion board feet	48.9	49.8	50.4
Price per thousand bd. ft. ¹ 1970 dollars	140	155	175
Intensified management			
Output billion board feet	50.3	52.3	54.0
Price per thousand bd. ft. ¹ 1970 dollars	137	150	166
Change due to intensified management			
Output billion board feet	+1.4	+2.5	+3.6
..... percent	+2.9	+5.0	+7.1
Price ¹ 1970 dollars	-3	-5	-9
..... percent	-2.1	-3.2	-5.1

¹Estimate rounded to nearest dollar.

Table 3.—Secondary benefits from intensified timber management, 1980, 1990, and 2000

Item	1980	1990	2000
<i>Millions of 1970 dollars</i>			
Savings to consumers ¹	+166.3	+278.9	+483.8
National income generated by increase in timber products output	+170.7	+332.9	+530.6
Change in national income due to decrease in output of substitute products	-174.5	-340.3	-542.5
Secondary benefits	+162.5	+271.5	+471.9

¹Computed from price and output data before rounding.

to consumers plus national income generated by the increase in timber products output represent the gross secondary benefit to society. However, the output of substitute materials such as structural steel will be lower than it would have been if the program of intensified management had not been undertaken. The reduction in national income due to this decrease must be deducted from the gross benefit.

The analysis shows that savings to consumers will be substantial. For instance it is estimated that they will amount to 484 million dollars in the year 2000 alone. The net effect on national income due to the increase in wood products output and the consequent decrease in output of industries producing substitute goods is negligible in comparison. For example, the net effect in the year 2000 is estimated to be a decrease in national income of only 12 million dollars. The overall secondary benefits in the year 2000 are therefore estimated to be approximately \$472 million. They are estimated to be approximately \$163 million and \$272 million for 1980 and 1990 respectively.

Discounted benefits

Table 3 shows only secondary benefits in selected years. A fuller analysis requires examination of benefits and costs over all years in the study period. Results of such an analysis are presented in table 4. Overall secondary benefits for the 30-year period are shown to be \$6.7 billion before applying discount factors. These benefits amount to \$2.8 billion if they are discounted to the present time using a 5-percent discount rate. They amount to \$1.3 billion when discounted at 10 percent. The costs of the intensified timber management program were estimated to be \$69 million per year. If these are discounted and deducted from the above benefits, net benefits of \$1.7 billion and \$663 million are obtained with 5-percent and 10-percent

discount rates respectively. As illustrated in table 3 substantial net benefits would occur even with higher interest rates.

Other impacts of intensified management program.

The quantitative analysis in this report has been restricted to the impacts of the intensified management program on consumer savings and national income. This program would also have direct and substantial impacts on profits, employment, and payrolls in the timber products industries and those producing substitute products. The analysis suggested, for example, that an intensified program would increase employment and payrolls in the timber industries. Such potential gains could be important in relation to programs to combat poverty both directly and indirectly as a means of stemming the flow of low-income families to densely populated urban areas. In addition, it should be noted that the timber industries provide a wide spectrum of employment opportunities for skilled and unskilled workers.

Intensified management programs may also be important in relation to the national goal of achieving price stability through combating inflationary trends in the economy. Direct price controls can be effective in certain industries manufacturing timber product substitutes such as steel and aluminum. These industries have high concentration ratios and cost-push inflationary characteristics because of their systems of administered prices and powerful labor unions. Recent experience has indicated that direct price controls do not appear to be a practical way of controlling prices in highly competitive industries such as timber processing. A more feasible inflation control measure in these industries is to

Table 4.—Total discounted and undiscounted benefits and costs for period 1970-2000 of intensified timber management¹

Item	Undiscounted	Discounted at —			
		5%	10%	15%	20%
..... Millions of 1970 dollars					
Overall secondary benefits	6,699	2,761	1,313	721	456
Primary costs	2,070	1,061	650	453	344
Net secondary benefits	(²)	1,700	663	268	112

¹Benefits and costs measured in constant 1970 dollars. Primary benefits such as increased stumpage revenue are not included.

²Not applicable.

stimulate increased output. The greatest obstacle to increased output of timber products in the recent past has been inadequate log supply. Intensified timber management is one of the major means by which this obstacle can be overcome in the long run.

Intensified management programs would represent a two-pronged attack on the balance-of-payments problem. They would permit the export of timber products to Japan and other countries; and at the same time they would help stem the rise in timber imports from Canada.

It should be noted that the distribution of economic effects were not investigated. The distribution of effects may be as important as their overall magnitude. A more comprehensive analysis

might consider, for example, the impact on income distribution between occupational classes and the effect on regional stability and rates of growth. Such an analysis was not possible under the constraints of the present study but represents a fruitful area for future investigation.

Finally, issues such as aesthetic quality, water and air pollution, rates of use of nonrenewable resources, and optimal rates of growth of the national economy were not considered. These may also be important. Various studies have indicated, for example, that the air, water, and land pollution resulting from the production of materials such as steel, concrete, aluminum, and plastics is of much greater magnitude than for softwood timber products such as lumber and plywood.

METHODOLOGY AND ANALYTICAL ISSUES

The theories and methods of welfare economics are basic to the analysis of changes in economic and social benefits discussed above.

The theory of welfare economics depends on the establishment of a social welfare function for the determination of optimal allocation of commodities and resources. The social welfare function is conceived to be an aggregation of individual utility functions on a value judgment basis. The concept in its purest sense is of little practical value.

The social preference criteria of Kaldor, Hicks, and Scitovsky represent attempts to judge whether a given change in the economy is socially preferable to the existing state (Henderson and Quandt).² Kaldor's criterion, for instance, says that state A of society is preferable to B if those who gain from A could compensate the losers and still be better off than they would be if state B prevailed. Such criteria are obviously of limited usefulness in choosing between real-world alternatives. Proxy measures of changes in social net benefit are necessary to assess the desirability of intensified timber management programs.

Two types of measures used here are changes in consumer outlays for timber products and substitute materials and changes in the size of national income.

Changes in national income resulting from a program, such as intensified timber management which shifts supply schedules, must be interpreted with care. A reduction in the price of certain commodities resulting from an increase in supply could conceivably lead to a reduction in gross national product measured in undeflated dollars. A price reduction arising from an increase in supply represents, however, a gain in real income. Consumers can obtain a bundle of goods with the same utility as before for less expenditure; the amount saved may then be used to purchase additional goods and services. An overall reduction in consumer outlays for timber products and substitute materials due to an increase in supply must be regarded as a real gain in social benefit.

²Henderson, James M., and Richard E. Quandt. 1971. *Microeconomic theory*. Ed. 2, 431 p. McGraw-Hill, New York.

Effects on consumer outlays

Types of consumer outlays relevant for this discussion are outlays for timber products such as lumber and plywood, substitute materials, and housing and other end products utilizing wood-based materials. Analysis of the effect of intensified timber management programs is best conducted using the supply-demand framework diagrammed in figures 1 and 2.

Figure 1 shows the effect of intensified timber management on timber product markets for a single period. S represents the supply without intensified management; S' represents the shifted schedule due to intensified management. Consumer outlays for timber products without intensified management is represented by OCAH; with intensified management they would be OJBH. The net change in consumer outlays for timber products would therefore be (GKBH - JCAK). The magnitude and direction of the change depends largely on the elasticity of demand.

Decreases in timber product prices brought about by intensified management would likely lead to an increase in supply of final products such as housing which utilize wood-based materials. This increase in supply would result in a change in consumer outlays of the same type as depicted by (GKBH - JCAK) in figure 1.

An assessment of the impact of intensified management, of course, should not count both the change in consumer outlays for intermediate products and the change for final products. Recognition should, however, be given to the fact that decreases in consumer outlays for competitive products such as structural steel could occur as represented in figure 2. The decrease in the price of timber products causes demand for the substitute product to decrease from D to D'. Consumer outlays for the substitute product thus decrease from IMRT to ILNU. The magnitude of the decrease depends on the elasticity of supply for the substitute product as well as on the degree to which the demand shifts.

One method of measuring gains to consumers would be to estimate the reduction in outlays for final products such as housing brought about by programs of intensified timber management. Such an approach is, however, less feasible than es-

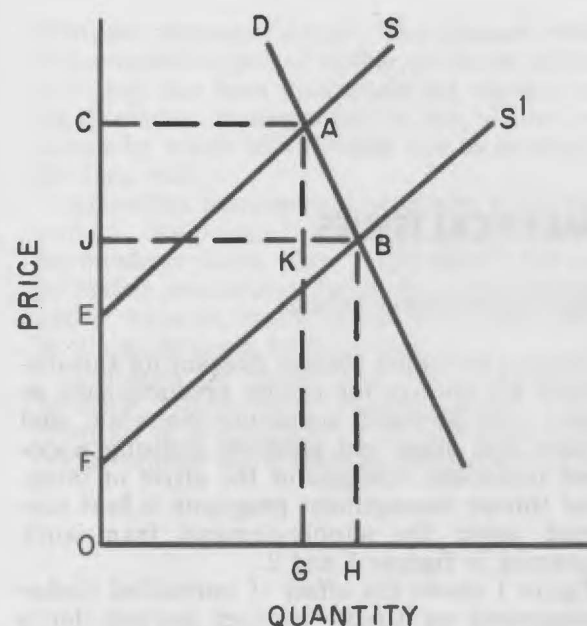


Figure 1.—Supply and demand for wood products under intensified timber management.

timating the overall reduction in consumer outlays in intermediate markets. This involves estimating the net change in outlays for timber products such as lumber and plywood and the reduction in outlays for substitute materials. The overall change may be represented by $(GKBH - JCAK)$ in figure 1 minus $(LMRN + UNRT)$ in figure 2.

Estimation of the potential reduction in outlays for substitute products $(LMRN + UNRT)$ would involve analyses of supply and demand for substitute products. This was not feasible, so proxy measures of this reduction were used. It was reasoned that the increase in output of timber products evaluated at the "new" prices (those that would prevail with intensified management programs) would be an appropriate measure of the reduction in outlays for substitute products. This was considered to be a conservative estimate since it is unlikely that consumers will switch products unless the resulting bill is lower. Thus the area $GKBH$ was taken as a proxy measure for $(LMRN + UNRT)$. The overall reduction in consumer outlays may therefore be estimated by the area $JCAK$ which represents the level of output of timber products without intensified management multiplied by the price reduction brought about by intensified management.

Effects on profits, employment, and payrolls

Change in output and prices in the forest products sector due to intensified timber manage-

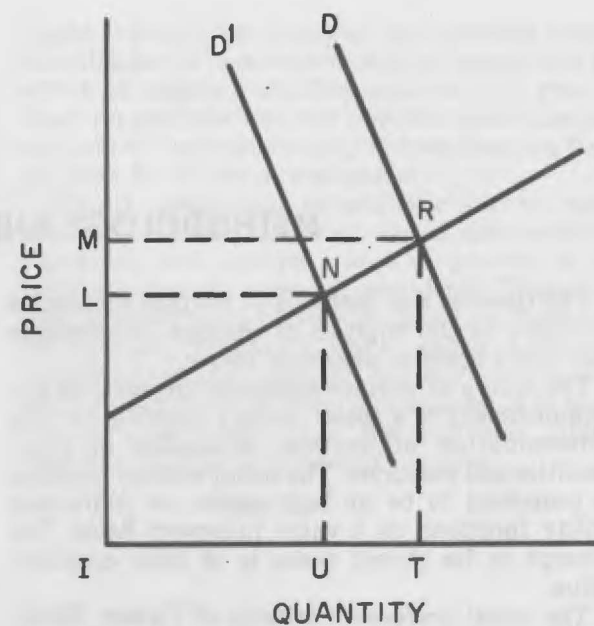


Figure 2.—Supply and demand for substitute product.

ment programs may have a direct effect on profits, employment, and payrolls in a number of sectors including stumpage sector, logging and timber processing sector, sectors producing substitute materials, and final product sectors using wood materials.

The potential effect on profits may be highlighted by reference to figures 1 and 2. In theory, the area under the supply schedule represents the total cost of production, and as Mishan³ points out the area between the price line and the supply schedule represents an economic rent, loosely termed "producers' surplus." The "surplus" is synonymous with the aggregate of business profits accruing to individual firms because of variation in long-run cost structures due to such things as differences in management talent and access to scarce factors such as land and capital.

The gain to owners of logging and timber processing enterprises due to intensified management would therefore be represented by an area similar to $(FJB - ECA)$ in figure 1. The gain to firms, such as homebuilders, utilizing wood products in their production processes may be similarly represented. It is of course recognized that profit levels of firms making materials competitive with wood products could be reduced because of intensified timber management. This

³Mishan, E. J. 1971. Cost-benefit analysis. Praeger. New York.

reduction would be represented by area $LMRN$ in figure 2. Lastly, it is possible that some owners of stumpage will not benefit from intensified management and the demand schedule facing these owners will shift backward. A supply and demand framework similar to the one displayed in figure 2 is applicable. The loss to these stumpage producers would be represented by an area similar to $LMRN$.

Hypothetical supply and demand relationships for labor are shown in figures 3 and 4. An increase in the supply of stumpage under intensified timber management will probably lead to an increased demand for inputs by timber processors, and demand for labor will increase from DW to DW' . It is hypothesized that supply of labor relationships have a reversed "L" shape—perfectly elastic initially at the going wage (WW) but ultimately becoming inelastic at some maximum level such as ZW . The increase in employment due to intensified management is shown in figure 3 as $(YW - XW)$. With intensified management programs the demand for substitute products would be lower than without intensified management and demand for labor by industries producing substitute products would be DC' rather than DC as shown in figure 4. The corresponding reduction in employment would therefore be $(YC - XC)$. Wage rates in substitute products industries may be higher but these industries may have higher capital-output ratios on the average than timber processing. The increase in man-years of employment in timber processing

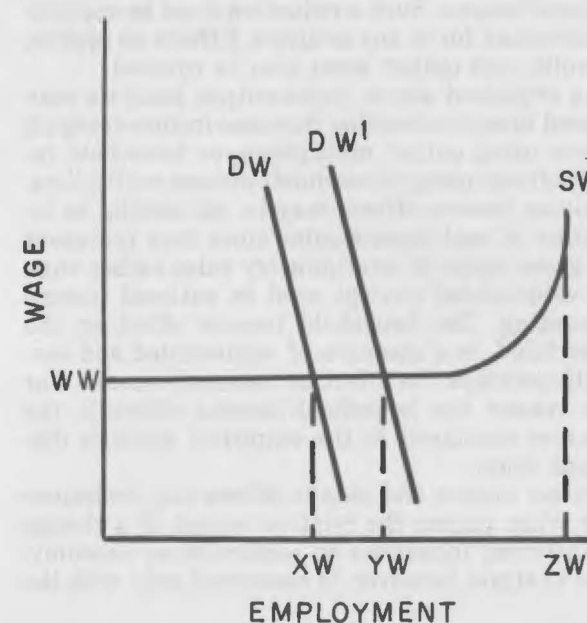


Figure 3.—Demand and supply for labor in forest industries.

is thus likely to be greater than the decrease in employment in the substitute industries.

The net change in payroll levels will depend on the magnitude of wage differentials in the forest industries vis-a-vis substitute product industries.

Effects on the general economy

Although the most obvious impact of intensified timber management programs is on employment or payrolls in the forestry and timber-processing sectors, or in sectors producing materials that are substitutes for wood products there will be impacts on other sectors of the economy, especially those which supply inputs to the sector under study.

This economic interdependence means that a change in one sector may have a reverberating, "multiplier" effect throughout the whole economy. For example, a one-million-dollar change in the output of the timber-processing sector means an increase in employment in that sector and an increase in the output of sectors supplying inputs to it. This is only the first round effect. Households receiving the extra income spend it and thus stimulate new output. Industries supplying inputs to the timber-processing sector increase their purchases from other sectors which in turn may increase their output, work force, payments to households, and purchases of inputs. This process continues with the effect becoming smaller and smaller in successive rounds. The concept of a multiplier is used to represent the total impact.

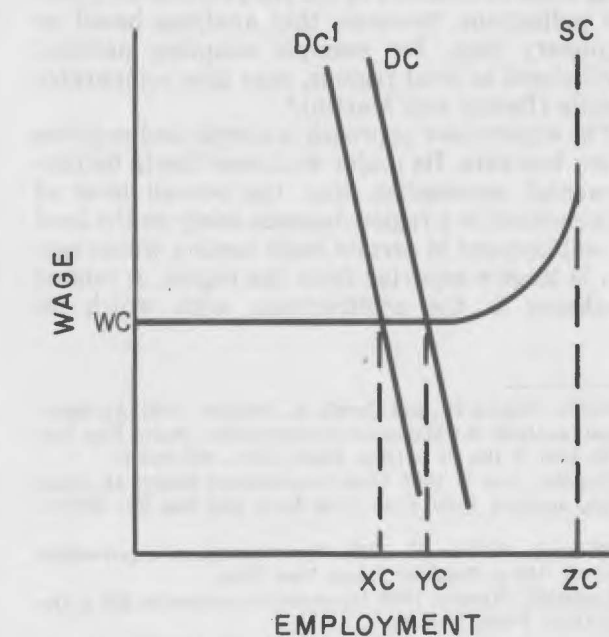


Figure 4.—Demand and supply for labor in substitute product industries.

Multipliers may be output multipliers, income multipliers, or employment multipliers. The output multiplier for a given sector (sometimes referred to as a business income multiplier) is the total increase in output of all sectors combined (in dollar terms) generated by a \$1 change in the output of the sector (Little and Doeksen).⁴ The income multiplier for a given sector is the total change in income of all households in the economy due to a \$1 change in the payments to households by the sector. "Payments to households" cover wages and salaries, business profits, etc. Bradley⁵ defines two types of income multiplier. Type I covers only the direct and indirect income effect; type II covers also the "induced" income effect which results from the increase in final demand due to households spending the increase in payments to them. The employment multiplier for a given sector is the change in employment in the whole economy due to a unit change in the labor force in the sector.

Three tools are available for estimating the magnitude of multipliers: (a) export-base (economic base) theory, (b) input-output (interindustry) analysis, and (c) econometric-simulation models.

The input-output approach is covered in a number of well-known texts such as Miernyk⁶ and Leontieff⁷ and need not be described here. Its advantages as a device for handling complex interindustry relations clearly outweigh its defects such as the assumption of linear production relations. Input-output analysis can be expensive if primary data must be obtained by survey procedures. There are indications, however, that analyses based on secondary data, for example adapting national coefficients to local regions, may give comparable results (Boster and Martin).⁸

The export-base approach is simple and requires much less data. Its major weakness lies in its fundamental assumption that the overall level of employment in a region depends solely on the level of employment in certain basic sectors whose output is largely exported from the region. A related weakness is the arbitrariness with which in-

dustries or parts of industries are classed as basic or nonbasic.

The econometric-simulation approach has received much less use to date than the other two methods and its potential has perhaps not been fully realized. Cross-section or time series data are used to estimate systems of relationships which explain economic phenomena such as the level of regional income and employment in terms of key variables such as output or employment in industries of interest. The impact of varying the level of key variables is then determined by computer simulation. A study by Arthur D. Little, Inc.,⁹ is one of the few cases in which this approach has been tried in relation to natural resource development or management.

The input-output approach was judged to be most appropriate for the empirical analysis presented in the next section. The export-base approach was rejected because of its arbitrary nature and because of its doubtful validity in analyzing national effects. The econometric-simulation approach was not considered feasible because of the unavailability of estimated models. Dependence was therefore placed on estimates of income effects and multipliers obtained using the input-output approach.

Several types of effects of an intensified management program have been discussed so far, including effects on consumer expenditures, and direct and indirect effects on income, employment, and output. As mentioned previously, an overall reduction in consumer outlays for timber products and substitute products represents a real gain in national income. Such a reduction must be explicitly accounted for in any analysis. Effects on profits, payrolls, and output must also be covered.

As explained above, input-output analysis may be used to estimate either business income (output) effects using output multipliers, or household income effects using (household) income multipliers. Business income effects may be misleading as indicators of real income gains since they represent the gross value of interindustry sales rather than the value-added concept used in national income accounting. The household income effect on the other hand, is a measure of value-added and correctly portrays the effect on national income. For this reason the household income effect is the measure employed in the empirical analysis discussed below.

Direct income and output effects may be important when gaging the relative impact of a change on different industries or sectors of an economy. This analysis, however, is concerned only with the

overall magnitude of effects rather than with their distribution. Furthermore the household income multiplier, as estimated by input-output analysis, takes into account both direct and indirect effects. It represents the effect on profits and payrolls in those sectors directly affected by programs of intensified timber management, and in any other sectors throughout the economy in which changes are induced. Only the household income effect was investigated in the empirical analysis. Direct effects on income and output were not computed. Employment effects were not analyzed either, on

the premise that they would be highly correlated with changes in national income.

The above discussion outlines the theory and methodology available for estimating the impact of the intensified timber management program described in the recent Forest Service report on the timber situation.¹⁰ The material in the following section describes the development of quantitative estimates of the impacts on consumer expenditures and national income.

¹⁰Op cit. The outlook for timber in the United States.

⁴Little, Charles H., and Gerald A. Doeksen. 1968. An input-output analysis of Oklahoma's economy. Okla. Agric. Exp. Stn. Tech. Bull. T-124, 31 p. Okla. State Univ., Stillwater.

⁵Bradley, Iver E. 1967. Utah interindustry study: An input-output analysis. Univ. Utah, Utah Econ. and Bus. Rev. 27(7):1-13.

⁶Miernyk, William H. 1965. The elements of input-output analysis. 158 p. Random House, New York.

⁷Leontieff, Wassily. 1966. Input-output economics. 257 p. Oxford Univ. Press, New York.

⁸Boster, Ronald S., and William E. Martin. 1972. The value of primary versus secondary data in interindustry analysis: a study in the economics of the economic models. Ann. Reg. Sci. 6(2):35-44.

⁹Arthur D. Little, Inc. 1966. The impact of the proposed Redwood National Park on the economy of Del Norte County. San Francisco. March.



EMPIRICAL ANALYSIS

The beginning point in the analysis was the Forest Service projections of softwood timber demands and supplies and the assumptions on relative prices (table 1). These data were used to estimate demand and supply relationships by means of both least squares and graphical analysis. The relationships are presented in equation form in table 5. It should be recognized that these estimates are based on a number of assumptions. For example, it does not take into account the fact that supply schedules used are interdependent; i.e., a high harvest level in 1980 will, because of depletion of timber inventory, shift the 2000 supply schedule more than would a low harvest level in 1980. Demand may be similarly affected because of irreversibility of substitution trends; for instance, a high price in 1990 may lead to a greater backward shift in the demand schedule in later years than would a lower price. Nevertheless, the estimated equations must be regarded as "best available" at the present time.

Consumer savings

The most appropriate estimate of savings to consumers, as explained above, is the timber products consumption level that would prevail in the absence of the intensified management program multiplied by the reduction in price brought about by the program. This allows for a reduction in ex-

penditures for substitute products as well as for the increase in expenditures for wood products. These savings are shown in table 3.

National income

The other component to be assessed in estimating overall gains due to intensified management was the net effect on national income of increasing the output of timber products and decreasing the output of substitute products. As a preliminary step, a review was carried out of selected studies dealing with the estimation of multipliers associated with forestry and the forest industries. This review, presented in Appendix A, suggested a number of possible multiplier values depending on the region being studied and the method of analysis.

No single value was judged appropriate for this study in view of the need to cover the national situation and to give comparable treatment to the forest industries and to industries producing substitute products. The 1963 national input-output model of the U.S. Department of Commerce¹¹ was therefore used to calculate household income multipliers. These multipliers were type I and did not include any possible induced effect due to expan-

¹¹U.S. Department of Commerce. 1969. Input-output structure of the U.S. economy: 1963. US Dep. Commer., Off. Bus. Econ., Surv. Curr. Bus. 49(11):16-47.

Table 5.—Softwood timber demand and supply relationships for years 1980, 1990, and 2000

Item	Year	Equation ¹
Demand	1980	P = 264.697 - 2.540Q
	1990	P = 263.768 - 2.182Q
	2000	P = 310.453 - 2.682Q
Supply without intensified timber management	1980	P = -277.683 + 8.544Q
	1990	P = -591.333 + 15.000Q
	2000	P = -587.763 + 15.132Q
Supply with intensified timber management	1980	P = -292.706 + 8.544Q
	1990	P = -635.500 + 15.000Q
	2000	P = -651.514 + 15.132Q

¹P = Price per thousand board feet in 1970 dollars.
Q = Output in billion board feet.

sion of final demand resulting from an increase in household spending. Type II multipliers would have allowed for this induced effect, but the substantially greater computational effort was not warranted in view of the fact that expansion in final demand due to increased output of one sector would be offset due to decreased output of the other sector.

Consideration was given to computing weighted average multipliers covering groups of industries. Studies by Koenigshof¹² and others suggest, however, that the most likely type of product substitution deterred by intensified timber management programs would be the replacement of lumber by steel in floor and wall framing. Multipliers and household income effects were therefore, computed only for the lumber and wood-products sector and for primary iron and steel manufacturing. They are as follows:

	Lumber and wood products	Primary iron and steel
Income effect	0.89	0.91
Income multiplier	2.45	2.14

¹²Koenigshof, Gerald A. 1974. Comparative in-place cost between wood and steel residential floor and wall framing. USDA Forest Serv. Res. Pap. WO-22, 56 p.

Table 6.—Computation of income effect due to intensified management, 1980, 1990, and 2000

Item	1980	1990	2000
Increase in wood products output due to intensified management billion board feet	1.4	2.5	3.6
Wood products price per thousand board feet with intensified management 1970 dollars	137.00	149.60	165.60
Increase in output of wood products due to intensified management million 1970 dollars	191.8	374.0	596.2
Household income effect per \$1 of output for wood products dollars	0.89	0.89	0.89
National income generated by increase in wood products output million 1970 dollars	170.7	332.9	530.6
Household income effect per \$1 of output for primary iron and steel dollars	0.91	0.91	0.91
Reduction in national income due to decrease in output of substitute products million 1970 dollars	174.5	340.3	542.5
Net reduction in income due to intensified management million 1970 dollars	3.8	7.4	11.9

APPENDIX A—REVIEW OF SELECTED MULTIPLIER STUDIES¹

Several analyses of multiplier effects for the forest industries sector have been offshoots of general input-output studies. Bradley (1967) in 1963 conducted an interindustry study for the State of Utah; his lumber and wood-products sector included sawmills, millwork plants, household furniture, and other furniture products. The type II income multiplier for this sector was estimated to be 1.95, implying that for every \$1 increase in payrolls in lumber and wood products \$1.95 of household income will be generated. This includes the effect due to households respending any income received in the form of wages, profits, etc. Bradley noted that sectors with high direct income payments to households tended to have lower income multipliers.

The lumber and wood-products sector ranked 27th out of 39 sectors in terms of the income multiplier. In terms of direct payments to households it ranked 15th. Approximately 37 cents out of every dollar spent by this sector went to households. Sectors with the highest income multipliers were food retail (4.96), livestock (4.33), and building-general contractors (4.02). Bradley estimated that the income multiplier associated with the "traveler" industry (including tourism) was about 2.40.

The output multiplier for lumber and wood products was 1.32, giving it a rank of 30. In other words a \$1 increase in output might be expected to generate a total increase of \$1.32 in the output of the processing sectors of the Utah economy (including lumber and wood products). Food retail (2.37), building-general contractor (2.19), and livestock (2.10) were, again, the major sectors in this respect.

Sandoval (1968) utilized the 1960 input-output model of the New Mexico economy in a similar manner. He determined that the type II income multiplier for lumber and wood products was 1.97 (or 2.23 if respending by government as well as by households was allowed for). Lumber and wood products ranked about 10th out of 42 sectors in terms of income multipliers. Approximately 31 cents of every \$1 spent by the lumber and wood-products sector went directly to households. Value added by the sector represented about 0.5 percent of the State total.

¹Thanks are due to H. F. Kaiser for providing many of the references.

Rafsnider and Kunin (1971a) developed an input-output model for Idaho for 1967 based on national coefficients. Forestry and forest industry was covered by the following 10 sectors:

- Forest, Greenhouse and Nursery Products (FGNP)
- Forest and Fishery Products (FFP)
- Agricultural, Forestry and Fishery Service (AFFS)
- Logging Camps and Logging Contractors (LCLC)
- Sawmills and Planing Mills (SPM)
- Millwork (M)
- Veneer and Plywood (VP)
- Other Wood Products (OWP)
- Pulp Mills (PM)
- Paperboard Mills (PB)

In 1971, as a follow-up to this study they examined the effect of varying Forest Service harvest levels in the State (Rafsnider and Kunin, 1971b). Variations considered were a 25-percent decrease and 100, 200, and 300 percent increases in cut. Changing the level of timber harvest was represented by changing the level of output of the Forest and Fishery Products Sector. These changes influenced deliveries to final demand in the following sectors: Forest and Fishery Products; Agricultural, Forestry and Fishery Services; Forest, Greenhouse and Nursery Products; and Meat, Animals and Miscellaneous Livestock Products (MALP). A patently inappropriate assumption of the analytical procedure was that total gross output would change for only the Forestry and Fishery Products sector. This meant that exports of saw logs would be necessary with increases in timber harvest, and importation of saw logs would take place if the timber harvest was decreased. Because of this assumption the results of their study must be viewed with caution. A major conclusion of the study was that a 25-percent decrease in Forest Service harvest levels would lead to a decrease in total income in Idaho of 1.6 million dollars and that a 100-percent increase would lead to an income increase of 6.6 million dollars. Their estimates of multipliers for the Forest and Fishery Products sector were: output multiplier (1.32); income multiplier (1.38); employ-

ment multiplier (1.21). The income multiplier appears to be type I and thus would not include the effect of respending by households.

The study by Herbst (1972) was an application of the Rafsnider-Kunin input-output model to a two-county (Valley-Adams) area. The effect of changing the allowable cut on Forest Service lands was assessed by allowing variation in total final demand for the output of (a) logging camps and contractors and (b) sawmills and planing mills. Exports were the only component of final demand allowed to vary. Harvest levels investigated were 100-, 50, and 25-percent increases, and decreases of similar magnitude. Allowance was made for the fact that the Forest Service supplies only 60 percent of the logs used in the Valley-Adams area. A reasonable assumption was made that local forest industry had capacity available to log and process any increase in cut and that any additional requirements for labor could be obtained locally. Herbst computed changes in total gross output, payrolls, and value added, and estimated, for example, that a 100-percent decrease in the level of Forest Service cut would lead to a decrease in total gross output of approximately \$15 million.

A recent study (FORMA) by Drake, Randall, and Skinner (1973) demonstrates the versatility of the input-output approach in analyzing the impact of a variety of Forest Service actions. The 1960 New Mexico model described by Sandoval (1968) was adapted to a seven-county area in northern New Mexico after updating to 1968. This northern New Mexico model had 29 sectors, including sectors for (a) logging contractors, (b) sawmills and planing mills, (c) other wood-processing and furniture. In addition, households and four Forest Service activities (range, timber, recreation, and "other") were treated as individual, endogenous sectors. An interesting adjunct to the input-output model was a matrix of occupational labor coefficients (OLC) covering 21 occupational groups. The objective of this development was to allow the study team to investigate the differential impact of programs on individual occupational groups. The use of the OLC matrix in this connection is discussed in Drake (1973).

Some of the case studies considered in the FORMA investigation were new programs for road construction or maintenance; change in grazing fees or grazing allotments; reduction in mining activity; and establishment of a handcrafted furniture enterprise. The case study of primary interest here was, however, an assessment of the impact of shifting \$1 million from the Forest Service timber management budget into the budget for recreation. This change resulted in a \$9 million decrease in the gross output of the region including a \$1.4-million loss in household income. It appeared that distinct changes would occur in the

level of employment and its distribution between occupational groups. For instance, it was estimated that modest gains would accrue in the office worker and lower skilled worker classes and that substantial reductions in employment would take place in the craftsmen and operatives class. It was estimated that there would be an overall reduction in regional employment of 103 man-years.

The study by Kaiser and Dutrow (1971) encompassed three subregions in the South: South Atlantic, East South Central, and West South Central States. They presented output, income, and employment multipliers for the South as a whole for a variety of sectors in the forest economy. For example, they report output multipliers for logging contractors (1.65), pulpwood producers (1.34), sawmills and planing mills (1.87), veneer and plywood mills (2.13), and pulpmills (2.02). Income multipliers were presented in terms of changes per \$1 change in final demand for the sector. This information may be used to compute type I income multipliers for various sectors such as logging contractors (1.14); sawmills and planing mills (1.72); veneer and plywood plants (1.86); and pulpmills (3.60). Information on employment effects may be similarly used to compute employment multipliers representing the change in regional employment generated by a one-man-year increase in employment in a given sector. These multipliers were 1.16 for logging contractors; 1.62 for sawmills and planing mills; 2.11 for veneer and plywood plants; and 3.71 for pulpmills.

Analysis of forest resource issues in the above mentioned studies was conducted by adapting information from more general input-output models. Bromley, Blanch, and Stoevener (1968), Reimer (1970), and Hughes (1970a), on the other hand, developed input-output models from primary data with the specific purpose of analyzing such issues.

Reimer studied the impact of establishing new forest industries in four counties in southern Indiana. He reported a total output multiplier for the forestry and wood-using sectors of 3.14. Hughes conducted a comprehensive study of the role of forestry in the economy of Itasca County, Minnesota. He reported that direct payments to households represented 63 percent of every dollar of sales (mainly stumpage) by the timber production sector. For timber operators and sawmills the percentages were 39 and 29 respectively. He obtained output multiplier estimates of 3.45, 3.00, and 3.11 for timber production, timber operators, and sawmills respectively. Having obtained such multipliers, he proceeded to consider the impact of various changes in the county's economy. Of particular interest was his estimate of the impact of making available an additional 50,000 cords of pulpwood stumpage with a total value of \$75,500.

He estimated that an additional \$185,000 of sales by other sectors (including households) would be generated if such a volume were sold.

Bromley, Blanch, and Stoevener in their study of Grant County, Oregon, developed a model with 14 processing sectors including a lumber sector which represented all wood processing in the county. The output multiplier for the lumber sector was 1.28, giving it a rank of 6th out of 14. In terms of impact on household income the lumber sector ranked 7th with a multiplier of 1.17. It should be noted, however, that this was a type I estimate which did not include the effect of responding by households. The multiplier would have been larger if households had been treated as an endogenous sector.

The studies referred to above are all based on input-output analyses. Several studies using the export-base approach are of interest. Johnson (1972) estimated that 43 percent of total employment and 51 percent of total personal income in western Montana came either directly or indirectly from the wood products industry. Multiplier estimates were derived by dividing total employment or earnings by the level of basic employment or earnings. She defined manufacturing, Federal Government, agriculture, mining, and railroads as basic (primary) industries. Her employment multiplier estimates were 3.07 for the State and 2.73 for western Montana. Estimates of income multipliers were 3.09 and 3.29 respectively.

As a supplementary part of the study Johnson examined the potential impact of a reduction in timber harvest levels. She estimated that a 20-percent reduction (150 million board feet per year) would lead to a loss to the wood products industry of 750 jobs and \$7 million in wages, salaries, and proprietors' income. The Statewide impact was assessed at 2,370 jobs and \$22 million in income (approximately 1 percent of Montana's total employment and income in 1969). Local impacts were estimated to be much greater; for instance, it was speculated that employment in western Montana might decline by 3 percent and income by 5 percent. It was also estimated that a 30- to 35-percent reduction in timber harvest (approximately 250 million board feet) might lead to a 1.4-percent decline in employment and a 1.7-percent decline in personal income for the State as a whole. For western Montana, these figures were 5.1 percent and 7.8 percent respectively. It is interesting to note that the 30- to 35-percent reduction in cut

was thought to be the effect that an immediate ban on clearcutting would have.

Convery (1973) in a small-area study in Tennessee designated basic sectors on a judgment basis in a manner similar to that of Johnson. Basic sectors were agriculture, forestry and fisheries, mining, and basic manufacturing. He estimated that each basic job in 1970 generated 0.91 other jobs; that is, his employment multiplier estimate was 1.91. He also made estimates of the timber volume "required" per employee in saw-log harvesting (261 M board feet), pulpwood harvesting (471 M board feet), sawmilling (74 M board feet); and pulp and paper manufacturing (164 M board feet).

Maki in his Pacific Coast studies (Maki, 1967 and 1968; Maki, Schallau, and Beuter, 1968) used the excess-employment techniques to estimate the portion of the employment in each area which was engaged in economic base activities. This technique accepts the national distribution of employment among industries as a norm. Any industry in a local area or region with employment in excess of this norm was considered to be producing for export markets. This allowed him to construct "timber-dependency indicators" for various areas, defined as the percentage of excess employment in the area which was in timber-dependent manufacturing and forestry activities. He used an export-producing employment multiplier which is estimated by either the ratio of total employment in an area to the level of (1) commodity-producing employment, or (2) excess employment. His multiplier estimates for the Douglas-fir region are 2.6 using commodity-producing employment and 6.0 using excess employment. The commodity-producing estimates for individual areas within the region were consistently lower than the estimates based on excess employment. This disparity is not unexpected since commodity-producing employment will always be greater than excess-employment because of production for local markets.

In concluding, mention should be made of the study by Hair (1963). He estimated value added attributable to timber by apportioning value added in an industry using wood or wood products in proportion to the cost of various materials consumed. He estimated that about 6 percent of gross national product originated in timber-based activities and that about \$25 of value added was associated with every \$1 of timber harvested.

APPENDIX B—LITERATURE ON MULTIPLIER ANALYSIS

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McKillop, William.

1974. Economic impacts of an intensified timber management program. USDA Forest Service, Division of Forest Economics and Marketing Research, Washington, D.C. Research Paper WO-23, 16 p.

This analysis shows that substantial benefits would accrue from an intensified softwood sawtimber management program described in the recent Forest Service study, "The Outlook for Timber in the United States." It was estimated that in the year 2000 output of softwood timber products would be 7 percent higher and prices 5 percent lower with this program than they would be if the program was not undertaken. Savings to consumers, which would result from program-induced changes, were estimated to be \$484 million in year 2000; net secondary benefits were estimated to be \$472 million after allowing for the reduction in output of substitute materials. Substantial secondary benefits were estimated for other years in the study period.

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August 21, 1974

MEMORANDUM FOR: KEN COLE
FROM: NORM ROSS
SUBJECT: Timber Policy Study

I agree that the interagency working group should remain intact and proceed with the recommended outline of study. I do not, however, agree that a new Domestic Council Committee on Timber Policy should be established.

The Timber Task Force should be supervised by the existing Domestic Council Committee on Environmental Resources. This Committee is chaired by the Secretary of the Interior; the Secretary of Agriculture is the Vice Chairman; the Attorney General, Secretary of Commerce, Director of the Office of Management and Budget, Chairman of the Council on Environmental Quality, Administrator of EPA and the Under Secretary of the Army are members. A new Committee on Timber Policy would consist of the same principles as mentioned above and would therefore be duplicative.

Attached for your consideration is a draft letter from you to General Haig.

Attachment

NROSS/pt 8-21/74
cc: WH central files



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

AUG 20 1974

MEMORANDUM FOR KENNETH R. COLE

FROM: FRANK G. ZARB

SUBJECT: TIMBER POLICY STUDY

As I mentioned earlier, the President has directed that the Timber Task Force be supervised by a Domestic Council committee. If you agree, I propose that the interagency working group remain intact and continue its work. I have attached an outline of our study for your review.

Further, I would suggest that the working group take its policy direction from, and reports to, a Domestic Council committee. Thinking that you would agree with this approach, I have drafted a letter from you to General Haig which outlines such a plan.

Attachment



DRAFT7ROSS 8-21-74

MEMORANDUM FOR GENERAL HAIG

FROM: KEN COLE

SUBJECT: Timber Policy Study

At the President's direction, the Timber Task Force will be supervised by the ^{Domestic Council} Environmental Resources ^{on Environmental Resources} Committee of the Domestic Council.

The organization of the current interagency working group chaired by Frank G. Zarb will remain as is. The interagency group will report to and take policy guidance from the Domestic Council Committee.

The project has been outlined (copy attached), tasks are being assigned, and a draft report will be completed by mid-November.

Attachment



Revised 8/14/74

Analysis of Timber Supply Problems and Policy Options

I. Brief overview of timber supply problems

A. Does price instability constitute a problem for which additional or different Federal actions would be appropriate?

1. Review price behavior to determine the extent of price fluctuations over past five years.
 - a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
2. Projections of price for next five years.
 - a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
3. Factors affecting cyclical price behavior
 - a. Housing cycle
 - b. Other demand factors
 - c. Transportation
 - d. Labor
 - e. Industrial capacity
 - f. Industrial inventory policy
 - g. Futures market
 - h. Short-run price responsiveness of private growers
 - i. Foreign supply and demand
 - j. Short-run elasticities of supply and demand
 - k. Federal Policies
 - (1) Harvesting policies
 - (2) Policies affecting demand
 - (3) Budget policy
 - (4) Other
4. Who benefits and who loses from price fluctuations?
 - a. Timber growers
 - (1) Federal
 - (2) Other public
 - (3) Industry
 - (4) Other private
 - b. Forest products industry
 - c. Industries producing substitute materials
 - d. Housing industry



- e. Other users of forest products and substitutes
 - f. Home owners
 - g. Prospective home buyers
 - h. Income classes
 - i. Forest-products-industry-dependent communities and regions
 - j. Other users of Forest lands
5. Other implications of price instability
- a. Do price fluctuations lead to inefficiencies in the timber sector, resulting in higher costs and/or lower profits?
 - b. Effect of price instability on housing and on other sectors that are major timber purchasers.
 - c. Effect of price fluctuations on profits of timber growers and processors.
 - d. Short run supply response to price fluctuations.
 - (1) Private
 - (2) Federal
- B. Do prospective long term (5-25 years) increases in relative timber prices constitute a problem for which additional or different Federal responses are appropriate?
- 1. Review price projections to year 2000, examine plausibility of assumptions underlying forecast.
 - a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
 - 2. Factors affecting long-run price behavior
 - a. Trends in domestic demand
 - b. Trends in foreign demand
 - c. Long-run price elasticity of demand
 - d. Trends in foreign supply
 - e. Long-run supply curve of private growers; rate of return necessary to induce investment
 - f. Rate of technical progress
 - g. Competing uses of forests
 - h. Environmental issues
 - i. Availability of sawtimber on Federal forests
 - j. Federal policies
 - (1) Reforestation and growth policies
 - (2) Harvest policies
 - (3) Budget policy
 - (4) Tax policies



3. Implications of projected long term price increases.
 - a. Who benefits and loses?
(see list under I-A-4)
 - b. Effect on rate of return of investment.
 - c. Other implications.
4. Implications of substitution of other materials for wood.
 - a. Environmental
 - b. Impact on exhaustible resources

II. Evaluation of Federal timber policy options, with particular attention to the problems identified in Part I.

- A. Objectives of Federal forest management
 1. Timber prices, present and future
 2. Federal receipts and expenditures
 3. Water quality and quantity
 4. Recreation and wildlife
 5. Esthetics
 6. Other environmental considerations
 7. Community stability
 8. Other
- B. Specifics of timber management policy objectives
 1. Reforestation and growth policies
 2. Harvesting, sales, and road-building policies
- C. Review and analysis of current policies
 1. Reforestation and growth
 - a. Level of investment
 - b. Allocation of investment among projects, regions, applications; degree of concentration on most productive lands
 2. Harvesting policies
 - a. Interpretation and application of even-flow concept; allowable cut
 - b. Establishment of rotation length
 - c. Clearcutting vs. uneven age management
 - d. Geographical scale of working circles
 - e. Contractual arrangements
 - f. Road building



D. Identification and evaluation of policy options

1. Reforestation and growth

- a. Level of investment
- b. Allocation of investment
- c. Implications of policy options

2. Harvesting

- a. Alternatives to even flow
- b. Rotation length
- c. Clearcutting vs. uneven age management
- d. Geographical scale of working circles
- e. Contractual arrangements
- f. Road building



5
Handwritten notes
L

THE WHITE HOUSE
WASHINGTON

INFORMATION

July 26, 1974

MEMORANDUM FOR:

THE PRESIDENT

FROM:

ROY L. ASH

SUBJECT:

Timber Policy Study

The Office of Management and Budget is currently organizing an inter-agency working group to undertake a study of timber policy. The working group will be under the general supervision of an interagency task force that is chaired by Associate Director Frank Zarb. The working group will prepare an options paper by November 15.

Timber supply has been reviewed on a continuing basis since 1969. Several interest groups have urged a number of Federal actions to increase timber supplies. However, the analyses undertaken thus far have failed to deal adequately with the underlying economic issues; consequently, few policy improvements have been implemented.

The importance of timber as a national resource, and the political sensitivity of the periodic fluctuations in timber prices, argue for further analysis, oriented toward the most pressing policy issues. The study will deal with the following issues:

(1) What changes in policy, if any, should be adopted to make the supply of timber from national forests more responsive to short-term changes in price?

(2) What measures, if any, should be taken to increase the efficiency with which Federal timber resources are used?

The working group will review existing data, giving particular attention to the recently published Report of the President's Advisory Panel on Timber and Environment. A number of alternative institutional arrangements, pertaining to the sale of timber, will be examined to determine whether it would be desirable to give the private sector a larger role in managing and harvesting timber in our national forests. The working



-2-

group will meet with representatives of the leading interest groups, notably industry and conservationists, to ensure that their groups have an opportunity to contribute.



THE WHITE HOUSE
WASHINGTON

*Hold
Return*

August 21, 1974

TO : WARREN HENDRIKS

FROM: NORM ROSS

The attached memo to Ken re the
Timber Policy Study and my draft
response is for your attention,
as we discussed.



To:
Norm
Ross

Per Mr
Conversano
Thanks
John

FROM: NORM ROSS

TO : WARREN HENDRICKS

August 21, 1964

WASHINGTON
THE WHITE HOUSE

10/19/64
H/mt
19/mt

THE WHITE HOUSE

WASHINGTON

August 21, 1974

MEMORANDUM FOR: KEN COLE
FROM: NORM ROSS
SUBJECT: Timber Policy Study

I agree that the interagency working group should remain intact and proceed with the recommended outline of study. I do not, however, agree that a new Domestic Council Committee on Timber Policy should be established.

The Timber Task Force should be supervised by the existing Domestic Council Committee on Environmental Resources. This Committee is chaired by the Secretary of the Interior; the Secretary of Agriculture is the Vice Chairman; the Attorney General, Secretary of Commerce, Director of the Office of Management and Budget, Chairman of the Council on Environmental Quality, Administrator of EPA and the Under Secretary of the Army are members. A new Committee on Timber Policy would consist of the same principles as mentioned above and would therefore be duplicative.

Attached for your consideration is a draft letter from you to General Haig.

Attachment



MEMORANDUM FOR GENERAL HAIG

FROM: KEN COLE

SUBJECT: Timber Policy Study

At the President's direction, the Timber Task Force will be supervised by the Domestic Council Committee on Environmental Resources.

The organization of the current interagency working group chaired by Frank G. Zarb will remain as is. The interagency group will report to and take policy guidance from the Domestic Council Committee.

The project has been outlined (copy attached), tasks are being assigned, and a draft report will be completed by mid-November.

Attachment



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

AUG 20 1974

MEMORANDUM FOR KENNETH R. COLE

FROM: FRANK G. ZARB

SUBJECT: TIMBER POLICY STUDY

As I mentioned earlier, the President has directed that the Timber Task Force be supervised by a Domestic Council committee. If you agree, I propose that the interagency working group remain intact and continue its work. I have attached an outline of our study for your review.

Further, I would suggest that the working group take its policy direction from, and reports to, a Domestic Council committee. Thinking that you would agree with this approach, I have drafted a letter from you to General Haig which outlines such a plan.

Attachment



8/19/74

MEMORANDUM FOR GENERAL HAIG

FROM: KENNETH COLE

SUBJECT: TIMBER POLICY STUDY

At the President's direction, we are forming a Domestic Council committee on Timber Policy.

The organization of the current interagency working group chaired by Frank G. Zarb will remain as is. The interagency group will report to, and take policy guidance from the Domestic Council committee.

The project has been outlined (copy attached), tasks are being assigned, and a draft report will be completed by mid-November.



Revised 8/14/74

Analysis of Timber Supply Problems and Policy Options

I. Brief overview of timber supply problems

A. Does price instability constitute a problem for which additional or different Federal actions would be appropriate?

1. Review price behavior to determine the extent of price fluctuations over past five years.
 - a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
2. Projections of price for next five years.
 - a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
3. Factors affecting cyclical price behavior
 - a. Housing cycle
 - b. Other demand factors
 - c. Transportation
 - d. Labor
 - e. Industrial capacity
 - f. Industrial inventory policy
 - g. Futures market
 - h. Short-run price responsiveness of private growers
 - i. Foreign supply and demand
 - j. Short-run elasticities of supply and demand
 - k. Federal Policies
 - (1) Harvesting policies
 - (2) Policies affecting demand
 - (3) Budget policy
 - (4) Other
4. Who benefits and who loses from price fluctuations?
 - a. Timber growers
 - (1) Federal
 - (2) Other public
 - (3) Industry
 - (4) Other private
 - b. Forest products industry
 - c. Industries producing substitute materials
 - d. Housing industry



- e. Other users of forest products and substitutes
 - f. Home owners
 - g. Prospective home buyers
 - h. Income classes
 - i. Forest-products-industry-dependent communities and regions
 - j. Other users of Forest lands
5. Other implications of price instability
- a. Do price fluctuations lead to inefficiencies in the timber sector, resulting in higher costs and/or lower profits?
 - b. Effect of price instability on housing and on other sectors that are major timber purchasers.
 - c. Effect of price fluctuations on profits of timber growers and processors.
 - d. Short run supply response to price fluctuations.
 - (1) Private
 - (2) Federal
- B. Do prospective long term (5-25 years) increases in relative timber prices constitute a problem for which additional or different Federal responses are appropriate?
1. Review price projections to year 2000, examine plausibility of assumptions underlying forecast.
- a. Several major softwood lumber and plywood products.
 - b. Several major species of sawtimber stumpage by ownership classes.
2. Factors affecting long-run price behavior
- a. Trends in domestic demand
 - b. Trends in foreign demand
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Mark
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THE WHITE HOUSE

WASHINGTON

INFORMATION

July 26, 1974

26
MEMORANDUM FOR:

THE PRESIDENT

FROM:

ROY L. ASH

SUBJECT:

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-2-

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THE WHITE HOUSE

WASHINGTON

January 7, 1975

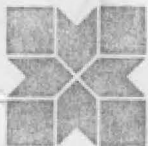
TO: NORM ROSS

FROM: DON WEBSTER *DW*

Attached is background material for your meeting ~~January 10~~ with representatives of the ~~forest~~ industry. The meeting will be held from ~~10:00 a.m. to 11:15 a.m.~~ in the Roosevelt Room.



17



**National Forest
Products Association**

John F. Hall
Vice President
Forestry Affairs

Forest Industries Building • 1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036 • 202/332-1050

January 3, 1975

Mr. Donald Webster
Deputy Director
Office of Public Liaison
The White House
Washington, D.C. 20500

Dear Don:

Enclosed is some background material for the meeting you have arranged for forest industry spokesmen and White House advisors January 10. This is similar to material we gave to Agriculture Secretary Butz and his staff on December 16.

We don't intend to cover all of these issues on January 10, but will focus on what we consider to be key items which need top Administration attention. These include the waste of existing and potential timber resources that is occurring and will continue to occur on the National Forests under present levels of management and under present management policies. This is addressed under the first topic on Forest Regulation - The Evenflow Non-declining Yield Policy. At the meeting we will show specific examples of how adherence to this policy is wasteful of timber now standing in the National Forests and how future productivity is not being enhanced.

The second item of major importance is that on Land Use Planning - Land Classification. This program as it is being applied to the National Forests is resulting in an unwise reallocation of potentially productive timberlands into categories of reduced forest management.

The forest products industry has presented specific recommendations to the Forest Service on these basic issues. Our letters of October 18 are enclosed. The Forest Service response has not shown the way to resolve these issues.



Alaska Loggers Association • American Hardboard Association • American Institute of Timber Construction • American Plywood Association • American Wood Preservers Institute • Appalachian Hardwood Manufacturers, Inc. • California Redwood Association • Canadian Wood Council • Federal Timber Purchasers Association • Fine Hardwoods—American Walnut Association • Hardwood Dimension Manufacturers Association • Hardwood Plywood Manufacturers Association • Industrial Forestry Association • Maple Flooring Manufacturers Association • National Oak Flooring Manufacturers Association • National Particleboard Association • National Woodwork Manufacturers Association • North American Wholesale Lumber Association • Northeastern Lumber Manufacturers Association, Inc. • Northern Hardwood and Pine Manufacturers Association, Inc. • Red Cedar Shingle & Handsplit Shake Bureau • Southern Cypress Manufacturers Association • Southern Forest Products Association • Southern Hardwood Lumber Manufacturers Association • Western Wood Moulding and Millwork Producers • Western Wood Products Association.

As we and others have mentioned to you in meetings in late November, it is imperative that top Administration advisors become aware of the serious problems that now exist and are certain to continue and increase if current policies concerning management of the National Forests are not corrected. Timber supply for both long-term and short-term needs is being jeopardized.

For the past twenty years, the timber supply problem has periodically required the attention of the Administration's top officials under emergency conditions. Advance review and planning can not only reduce the potential problem but provide a long-term solution.

Industry participants in the January 10 meeting will include:

Paul F. Ehinger, Senior Vice President, Edward Hines Lumber Company, Westfir, Oregon and Chairman of NFPA's Timber Supply Task Group and Federal Timber Purchasers Committee

Robert E. Stermitz, Assistant Group Manager, Building Products Division, Southwest Forest Industries, Phoenix, Arizona and Vice Chairman of NFPA's Timber Supply Task Group and Federal Timber Purchasers Committee

Vern L. Gurnsey, Vice President, Boise Cascade Corporation, Boise, Idaho and member of NFPA's Timber Supply Task Group

Richard G. Bennett, Executive Vice President, Bennett Lumber Products, Inc., Princeton, Idaho. President, National Association of Independent Lumbermen and a member of NFPA's Timber Supply Task Group

Donald E. Dyson, Vice President, Seaboard Lumber Co., Seattle, Washington and member of NFPA's Federal Timber Purchasers Committee

Ralph D. Hodges, Jr., Executive Vice President, National Forest Products Association, Washington, D.C.

W.D. Hagenstein, Executive Vice President, Industrial Forestry Association, Portland, Oregon

George A. Craig, Executive Vice President, Western Timber Association, San Francisco, California

Joseph W. McCracken, Executive Vice President, Western Forest Industries Association, Portland, Oregon

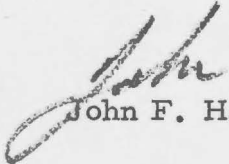


Joseph B. McGrath, Vice President and General Counsel, National Forest Products Association, Washington, D.C.

John F. Hall, Vice President - Forestry Affairs, National Forest Products Association, Washington, D.C.

Enclosed are several additional packages of the background material for you to distribute to those whom you have invited to the meeting.

Sincerely,



John F. Hall

cc: All industry participants.

Additional attendees:

Charles E. Nichols, Treasurer
United Brotherhood of Carpenters and Joiners
of America
Washington, D.C. 546-6206

George G. Casseday, President
Western Council of Lumber, Production
and Industrial Workers
Portland, Oregon 503/228-0235



BACKGROUND

Manufacturers of lumber and plywood are, in many areas of the country, heavily dependent for raw material upon the National Forests. Since over one half of the softwood sawtimber volume in the U.S. occurs on National Forest lands, the Federal government is, to a very large degree, in a monopoly position as to the national softwood sawtimber supply. Forest Service policies, procedures and practices regarding management, regulation, disposal and renewal of Federal timber have a profound effect not only on local lumber and plywood manufacturers, but upon the supply of their products required to meet consumer needs.

Unfortunately, these agency policies, procedures and practices have failed to recognize adequately the critical importance of National Forest timber supply to the social welfare and physical needs of the American people. On the contrary, the result of many Forest Service actions has been to reduce timber supply unnecessarily or to make it much more costly with negative effects upon both social and economic conditions. In fairness to the agency, at least some of this has been the result of an increased public interest in the environment and the tremendously accelerated demands that National Forests furnish all kinds of recreation opportunities without regard to other values. Response to these pressures has resulted in undue discrimination against timber supply goals whenever real or imagined resource use conflicts have occurred.



It is the purpose of the paper to explore the various aspects of this problem and to suggest ways in which modification of Forest Service policies, procedures, and land management practices could greatly improve the timber supply picture while at the same time meeting and advancing environmental, recreational and other purposes of the National Forests. This discussion will concentrate on both the policy questions and procedure problems involved in the issues of forest regulation: nondeclining yield, land use planning--land classification, decentralization of the Forest Service, problems of agency compliance with the National Environmental Policy Act, and the National Forest timber sale program. The prevailing attitude of agency employees toward commodity production will also be discussed as a factor influencing decisions in all other areas.



Areas in which Forest Service Administrative Policies or lack of them are making it difficult for the forest industry to supply the wood needs of the Nation.

1. Forest Regulation - The Evenflow Non-declining Yield Policy

This issue concerns annual timber harvest rates. It is presently one of the most controversial management issues on the western National Forests. The question has been subject to emotionalism and misinformation.

Old-growth forests in the West contain a much larger volume of timber than will be present after the forests are placed under scientific management for timber growing. This is because the timber volume has accumulated over very long periods of time, in many cases several hundreds of years. In a managed forest, trees will reach final harvest age at between 40 and 120 years, depending upon tree species, forest productivity and other factors. The average age at which mature trees are planned for harvest is termed the rotation.

In many ways the old-growth forests are warehouses for timber - not increasing in bulk, but subject to loss and damage. Young growing forests by comparison are similar to factories annually producing new, sound wood fiber.

Due to the "surplus" timber volume present in an old-growth forest, it had been the normal practice to set the level of harvest at a rate which is greater than forest productivity could sustain over the long run. This will bring land rapidly into production that is now covered with decadent



stands, contributing little in terms of net growth, and will utilize the "surplus" volume which otherwise would be lost to insects and disease. After the old-growth timber is removed, the harvest level would be reduced to that level which can be sustained by the annual productivity of the forest under current or planned forest management practices.

This technique of planning for an "allowable harvest falldown" after old-growth timber is removed is in keeping with the principles of sustained yield management. Long-term forest productivity is not jeopardized, nor are environmental constraints reduced.

In 1973, the Forest Service reversed the policy of allowing a significant allowable cut fall down and equated "evenflow" with "non-declining yield." Under its present guidelines, there must be no more than a one percent drop in allowable harvest in any ten-year plan period. Under current management practice, this means very long rotations -- often 175 years or more -- and usually results in significant drops from current harvest levels. The new timber management plan for the Gifford-Pinchot National Forest, one of the first plans written under the non-declining yield policy, showed a 30 percent drop from previous allowable harvest levels.

The drop in allowable harvest resulting from the non-declining yield policy causes tremendous waste. This was recently shown on a National Forest in California by the Western Timber Association using Forest Service data and the Forest Service's computer program (Resources



Allocation Model). Eliminating the non-declining yield policy resulted in a significant increase in allowable harvest. The volume represented in the increase would be lost if the non-declining yield policy is imposed. Environmental policies were assumed to be equal for both cases.

This waste is easy to recognize even without the use of a computer program. If allowable harvest is not to drop over the next two or three hundred years, then it must be set initially at a level equal to the long-term productivity of the forest. In an old-growth forest, large volumes of timber presently existing must be allowed to collapse and go to waste because utilizing this surplus volume would inevitably mean a later drop in harvest rate. In old-growth forests, non-declining yield is an untenable principle, yet it is one which the Forest Service has refused to abandon.

For the past year the Forest Service has been developing a report describing various methods of determining allowable cut, with the advantages and disadvantages of each. Publication of the report has been repeatedly delayed. Furthermore, delay in the resolution of the forest regulation question is being justified by the fact that the report is not completed. This report should be given a commitment commensurate with the potential importance of the forest regulation issue.

2. Land Use Planning - Land Classification

Most National Forests are presently engaged in the land use planning process. One aspect of land use planning is the classification of land into resource capability units or zones based upon the ability of the land to



produce resources consistent with protection of environmental quality.

A number of problems presently plague the land planning - land classification process within the Forest Service. The lack of strong national direction and the absence of clear goals has made it impossible to translate national needs into local outputs based upon resource capability. At present, local political pressures may influence output decisions much more than national priorities.

Another problem is that commodity production often appears to be unreasonably discriminated against when land classifications are made. Many National Forest land use planners have little or no background in the practical aspects of forest management. In addition, economic analysis often plays a minor role in classification decisions. These trends must be reversed.

Forest management must be recognized as a necessary and extremely important aspect of National Forest administration and one that is economically attractive and fully compatible with most other uses of forest land.

3. Decentralization of the Forest Service

There is a lack of strong policy direction to the field from the upper levels of the Forest Service. Major policy and land use decisions are being made at the local level with very little direction from above. This situation is justified by the Washington Office as an inevitable result of the decentralized decision making process in the agency.



The concept of decentralized decision making is not in itself unsound. However, a prerequisite for a proper decentralized decision making process is development of strong central policy and the setting of goals and priorities. It also requires development of management control mechanisms, both to supply data upon which sound land management decisions are based and to insure accountability of individuals within the organization for their decisions. An appreciation of the need for these prerequisites is absent or only weakly expressed in the upper levels of the Forest Service.

The Forest Service has become increasingly incapable of coping adequately with the tremendously increased demands for National Forest resources. In response to local demands and pressures, field units are forced to make major land use decisions without guidance on how national policy and goals should be translated into local resource outputs. Lacking this guidance, local decisions are often made to reduce conflict and controversy -- controversy often created by small, but extremely vocal groups dedicated not to multiple-use of the forests as prescribed by law but to discriminatory single use which prohibits other uses. Once made, local land use decisions are politically very difficult to change.

The situation that permits local interests to override national needs is general within the Forest Service and is reaching serious proportions. The only feasible solution is for the Forest Service's Washington Office to reassume leadership in assuring that national policy and goals are properly



translated into appropriate outputs from individual field units.

4. Problems of Compliance with NEPA

The Forest Service has had a difficult time implementing requirements of the National Environmental Policy Act (NEPA). Last year it is estimated that it cost the agency about \$22 million, or about five per cent of its total budget, to implement NEPA. Even with this great effort and expense, there continue to occur successful court challenges against Forest Service programs for non-compliance with the Act. Clearly, something is wrong.

Some Forest Service problems with NEPA implementation have been the result of the excessive decentralization of the agency which has resulted in a lack of guidance from the Washington or Regional Offices in proper preparation of Environmental Impact Statements (EIS's). Another problem stems from reluctance of decision makers in the agency to open the process to public review due to the scrutiny and criticism which would result from the public involvement required by NEPA. Prior to NEPA, the public was given little opportunity to comment effectively on the agency's programs. A third difficulty has resulted from the fact that the Forest Service has not made proper use of lawyers to review the legal adequacy of NEPA procedures and impact statements. Use of lawyers has been viewed primarily as a means to defend challenges in court, in which case, it can be readily argued, the horse is already out of the barn.



5. Problem of Agency Attitude Toward Commodity Production

One of the current problems most difficult to deal with in the Forest Service is not related to any particular issue. It is a problem of attitude toward commodity production in general, and timber management in particular. Many Forest Service field managers presently view timber as something which should be grown only when it will not conflict with any other use of the land, i.e., watershed protection, visual management, recreation, wildlife management, etc. Timber management is often unnecessarily constrained when a potential conflict is envisioned. It is inaccurately seen as an inevitable negative impact on all other potential uses of the land.

Many purchasers of Federal timber have in the last few years observed an increasing adversary attitude in Forest Service sale administrators. It is as if the logging operator is viewed as one whose actions must be strictly controlled rather than as one whose cooperation in the solution of mutual problems should be solicited. This attitude problem is increasing and is jeopardizing the cooperative relationship which formerly existed between timber purchasers and Forest Service sale administrators. It is probably one of the single greatest joint problems facing the Forest Service and timber industry today.

One recent facet of this problem is the increased use of specialists to review timber sale planning, preparation, and administration. Specialists in soil science, hydrology, archeology, landscape architecture and



other fields have a legitimate function to help insure that environmental impacts are minimized consistent with other multiple use goals. Unfortunately, these specialists have no responsibility for insuring that the productive goals of the agency are met. They presently have the limited role of reviewing and criticizing proposed sales. Many times they have very limited practical field experience and are reluctant to recognize tradeoffs or compromises between resource uses. It is much easier to say "no" to a proposal than to suggest an alternative which will balance more acceptably resource tradeoffs which are inevitable when land is under multiple use management.

6. Forest Service Timber Sale Program

A. Timber Sale Contract Requirements

In the past few years, contractual requirements imposed upon National Forest timber purchasers have become more complex and expensive. Some legitimate requirements are based upon increased public interest in the environment and reflect a desire to reduce the impact of timber management on other resource values. But many of these practices are not only unnecessary from an environmental standpoint but are, furthermore, not good land management. In fact, many of these practices, such as excessive design standards applied to forest roads, are impudent land management practices since they cause excessive and unnecessary damage to other resource values, such as fisheries, water quality and aesthetics. A serious consequence of the excessive road



design standards presently being applied by the Forest Service, is that severe environmental impacts which usually occur are wrongly being linked in the public's mind to logging and timber management.

Unnecessary requirements are also a misallocation of public resources which could be better used for other purposes. Excessive and costly requirements also effectively limit timber supply, because many forest areas do not have sufficient timber value to offset the cost of these requirements, and thus are considered "deficit" or marginal. More prudent requirements would make these areas available to supply the wood needs of the nation.

Following is a list of functional areas where present Forest Service practices should be reevaluated to see if they are really justified for a public land management agency engaged in multiple use management:

1. Road Design Standards - Unnecessary standards with regard to road width, grade, and alignment are causing excessive resource damage in many areas, particularly in the steep slopes and fragile soils of a number of western National Forests. In addition, timber purchasers whose expertise lies primarily in harvesting and processing timber are increasingly required to construct sophisticated engineering structures, such as large multiplate culverts with concrete head walls and steel or concrete bridge spans, or to apply crushed rock and asphalt concrete paving on logging roads. Often there is not an adequate allowance in the timber appraisal to subcontract these jobs.



Rocking and paving, required on existing roads, are frequently justified as an erosion prevention measure, when past experience has not indicated erosion as a problem on that particular road. A comprehensive economic analysis is often not a part of Forest Service evaluation of the need for a design standard or engineering structure. This is true even though thousands, or even hundreds of thousands, of dollars may be involved. An economic analysis based upon realistic and supportable data should be a normal part of any evaluation of design and engineering requirements.

2. Excessive Slash Cleanup - Increasingly high levels of slash cleanup are being required, not only that associated with road construction, but also in logging units. Slash cleanup has a legitimate role in reducing fire hazard in logged areas, or in reducing the aesthetic impact of logging in view areas. However, uniform and "broad brush" slash cleanup standards often are being applied to all areas without a good evaluation of their applicability in specific situations.

3. Logging Systems - There is an increasing specification of sophisticated logging systems such as helicopters, short-span skyline and long-span skyline systems. Advanced logging systems have a legitimate place in the harvesting of timber from ecologically sensitive areas. However, these systems increasingly are being required in areas for which their need is questionable. Many areas which have been successfully logged using ground equipment with no apparent resource damage are being



designated for helicopter or skyline yarding. This is not only a waste of public funds, but is an unnecessary burden on timber purchasers who are asked to invest hundreds of thousands of dollars in advanced yarding equipment for use in areas in which it really may not be needed.

B. Sale Appraisal Procedures

Due to high inflation rates, particularly with regard to petroleum products, there is a need for prescribed updating of the cost data used in timber sale appraisals. While some regions are doing a very good job in developing current cost data, other regions are using data which may be six months or more outdated. This performance must be improved. A six month delay may cause a 10 percent or more underestimate of the cost of some items.

C. Timber Sale Performance

Some regions are falling far behind in their commitment to offer timber sales. This situation is aggravated by the combination of a falling lumber market combined with increased contract requirements regarding roads, slash cleanup, and logging systems, which is producing a large percentage of deficit sales in some regions.

D. Transfer of Purchaser Credit

Existing timber sale contracts provide that credits for work performed on specified roads be applied against the value of stumpage harvested on the same sale. Most timber purchasers would like to have Effective Purchaser Credit, earned on one timber sale, transferable to



another timber sale under contract to the same purchaser on the same National Forest.

Purchasers would be able to reduce working capital requirements by applying excess Purchaser Credit from advanced road construction on one sale to other going sales requiring cash deposits. Such transfers would expose the government to no risk. Reductions of cash payments on one sale would be offset by higher cash payments on other sales. Such ability to transfer Purchaser Credits would remove strong incentives for timber purchasers to conserve working capital by delaying accomplishment of road construction until the start of log hauling. It would be a strong incentive for purchasers to construct roads in advance of logging and, hence, simplify sale administration by reducing conflicts between road building and logging, presently a prime source of conflicts between the Forest Service and timber purchasers. Advanced construction of roads would also reduce environmental impact by giving roads at least one year to stabilize before logs are hauled. Allowing transfer of Effective Purchaser Credit would have no affect on receipts to the Federal government or to counties which receive 25 percent of receipts. Transfer of Effective Purchaser Credit has broad industry support and would be extremely helpful in improving industry's use of cash in National Forest timber sales.

The use of the transfer of Effective Purchaser Credit between standard timber sales should not be confused with the transfer of so-



called "ineffective" Purchaser Credit arising in "deficit" sales to other sales under contract to the same purchaser. Ineffective Purchaser Credit is that arising when timber stumpage values on a sale are not sufficient to offset road development costs. In 1972, the Comptroller General ruled that allowing the transfer of Purchaser Credit in such "deficit" situations would constitute the exchange of timber in one area for road construction in another and was without statutory authority.

Recommended Actions With Regard to the Forest Service Timber Sale Program

1. An economic analysis based upon sound data should be required as one basis for decisions regarding road design standards, i.e., alignment, grade, rock and paving, as well as for engineering structures.
2. Slash disposal standards should be reevaluated. The agency must improve the application of these standards so that they reflect a more realistic response to on-the-ground situations and conditions.
3. Advanced logging systems, such as skyline and helicopter systems, should be required only where environmental conditions warrant their use. Improvement must be made in training sale planning personnel in the design and application of sophisticated logging systems.
4. All planned sales should be reviewed to see if reasonable changes can be made in road design standards, slash disposal requirements, and logging systems requirements, so that the large number of "deficit" sales being offered is reduced.



5. Sales should not be offered unless the appraisal reflects current cost data and market indexes. The performance of some regions in this regard can be greatly improved.

6. The transfer of Effective Purchaser Credit earned on one timber sale to other timber sales under contract to the same purchaser on the same National Forest should be permitted.

7. Reforestation-Intensive Forestry

There is a need for an increased commitment to reforestation of presently unstocked forest land and to application of intensive forest management practices not only on the National Forests, but on private lands as well. Three recent government studies all concluded that the only way to meet the nation's projected wood supply needs is more intensive management of the nation's 500 million acres of commercial forest land.

The recently established Forestry Incentives Program was a significant attempt to improve forest management on private land by providing Federal assistance to landowners for reforestation and timber stand improvement. To discontinue funding for the program as the President recently recommended to Congress would be a severe, if not fatal, blow to this infant program. This program must be maintained at least at a level near last year's program.

The President has proposed establishment of a large number of public service jobs if unemployment reaches unacceptable levels. If



such a program is established, a substantial portion of the program should be applied to much needed work on the National Forests.

Critical needs are for providing road access to presently undeveloped forest land, for timber stand improvement activities, and for reducing the present backlog of unstocked commercial forest land. A public works program of this type would not only serve to provide much needed jobs in hard-hit rural areas, but would also contribute significantly to meeting the future wood needs of the nation.





National Forest
Products Association

Ralph D. Hodges, Jr.
Executive Vice President

Forest Industries Building • 1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036 • 202/332-1050

October 18, 1974

COPY

Mr. John McGuire
Chief, Forest Service
U.S. Department of Agriculture
12th and Independence, S.W.
Washington, D.C. 20250

Subject: Timber Management Planning on National Forests

Dear John:

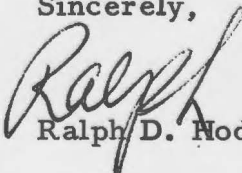
The Timber Supply Task Group, which was formed by the National Forest Products Association earlier this year, has been exploring various opportunities for optimizing the output of forest products from the National Forests while still providing for consideration of environmental impacts and the requirements for other uses of National Forest lands. One aspect of this problem to which the Task Group has devoted considerable attention is timber management planning on the National Forests and forest regulation policy.

Attached to this letter is a summary of some of the ideas developed by the Task Group, including a recommended change to the even flow subsection of 36 CFR 221.3. I would like to request a meeting to discuss these ideas with appropriate Forest Service timber management people. The timing of this meeting should probably follow the release and discussion of the report on allowable cut alternatives if it will be released soon. However, if the release of this report is to be further delayed, the importance of this question would indicate the desirability of setting a date for a meeting on the subject in the near future.

This letter contains one of four written recommendations which the National Forest Products Association will be transmitting to you. The other three cover the subjects of land classification, funding needs for National Forest roads, and reporting of performance.

We look forward to discussion of this important subject with you and your staff in the near future.

Sincerely,


Ralph D. Hodges, Jr.

Enclosure



Alaska Loggers Association • American Hardboard Association • American Institute of Timber Construction • American Plywood Association • American Wood Preservers Institute • Appalachian Hardwood Manufacturers, Inc. • California Redwood Association • Canadian Wood Council • Federal Timber Purchasers Association • Fine Hardwoods—American Walnut Association • Hardwood Dimension Manufacturers Association • Hardwood Plywood Manufacturers Association • Industrial Forestry Association • Maple Flooring Manufacturers Association • National Oak Flooring Manufacturers Association • National Particleboard Association • National Woodwork Manufacturers Association • North American Wholesale Lumber Association • Northeastern Lumber Manufacturers Association, Inc. • Northern Hardwood and Pine Manufacturers Association, Inc. • Red Cedar Shingle & Handsplit Shake Bureau • Southern Cypress Manufacturers Association • Southern Forest Products Association • Southern Hardwood Lumber Manufacturers Association • Western Wood Moulding and Millwork Producers • Western Wood Products Association.

TIMBER MANAGEMENT PLANNING TO OPTIMIZE NET PUBLIC BENEFITS

Disposal of National Forest timber under management plans is governed under 36 CFR 221.3, which states in part:

(a) Management plans for National Forest timber resources shall be prepared and revised as needed, for working circles or other practicable units of National Forests. Such plans shall:

* * *

(3) Provide, so far as feasible, an even flow of National Forest timber in order to facilitate the stabilization of communities and of opportunities for employment.

The forest industry proposes that Subsection (a)(3) be amended to read:

(3) Obtain maximum net public benefits in (i) the utilization of timber surplus to sustained yield needs, (ii) the selection for harvest of various timber types, age classes and stand conditions, (iii) the choice and application of silvicultural practices, and (iv) the selection of short-term harvest levels to fit varied national and local community needs while achieving sustained yield over the long-term.

The National Forests are a great reservoir of resources including, outside of classified Wilderness and other areas of restricted use, more than half of the Nation's supply of commercial softwood sawtimber. This valuable inventory and the timber growing potential of the lands that support it deserve wise use. They should be managed to provide maximum net public benefits.

To Meet the Needs of People

According to the Multiple Use-Sustained Yield Act of 1960, "National Forests' resources are to be managed so that they are utilized in the combination that will best meet the needs of the American people. . . not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output."

It follows reasonably that economic analysis (in accord with the National Environmental Policy Act of 1969) is an appropriate but not necessary controlling forerunner to land use classifications of portions of the National Forests. However, such an analysis deserves even more consideration in the development of timber harvesting plans on those limited areas classified as the Standard Component of the commercial forest lands on the National Forests.

"Commercial forest land" is that capable of growing crops of industrial wood and not withdrawn (such as for "Wilderness") from timber utilization by statute or administrative regulation. The commercial forest land on the National Forests that can contribute to systematic timber production under



sustained yield principles is divided into three components:

Standard, on which crops of industrial wood can be grown and harvested without the special considerations affecting management of the other two components;

Special, such as in travel influence zones, water influence zones, and crest zones, where resource values other than timber are given primary consideration; and

Marginal, where physical considerations, such as soil instability, difficulty of access, and low timber values, do not permit or justify the use of conventional harvesting techniques.

Even Flow Policy Rejected

Timber on lands in the Standard and Marginal Components and the growth potential of those lands are economic assets that can be used well or wasted, with important consequences to the American people. Dr. Marion Clawson, Director, Land and Water Program, Resources for the Future, Inc., and a member of the President's Advisory Panel on Timber and the Environment, has written:

"To a very substantial extent, the national supply of timber and the price of lumber and other forest products is what the Forest Service makes them to be. With half the volume of standing softwood sawtimber, the National Forests cannot be managed as if the markets were, somehow, 'given'; they are made, to a substantial degree, by the Forest Service."

Dr. Clawson has noted: "The panel specifically rejects the concept of even flow as applied on National Forests on a relatively local basis . . . Harvesting mature old-growth timber on an even flow constraint requires immense inventories of timber, with slow growth or no growth at all, for several decades; the economic costs are very great indeed. The panel report suggests that the sustained yield allowable cut from National Forests can be increased considerably, if the requirement of even flow from relatively small areas is relaxed."

Losses Through Mortality and Decay

Thus, in the western old growth forests, timber management with an even flow objective is wasteful. Many millions of acres scheduled for growing crops of timber now support excessive volumes of deteriorating old growth timber which shall be replaced with young forests capable of using the growth potential of the land. The even flow approach meters out the excess volumes over many decades -- a hundred years or more in some cases. The consequences are loss of valuable timber through mortality and decay as well as failure to utilize the growth capacity of the land. Sawtimber mortality alone on the National Forests in 1970 amounted to 6 billion board feet.

Forest communities often are injured rather than helped by the even flow policy and its new variation, the non-declining yield policy. Improved transportation systems for timber, diverse wood products manufacturing and increased



forest industry employment provide communities with a broader resource base (including non-federal timber not considered in Forest Service planning) than was anticipated when the even flow policy was adopted. Communities suffer because they are unnecessarily denied raw material that would support higher employment and increased community benefits. In most instances, deviation from even flow non-declining yield by larger early harvests would result in capture of prospective future mortality with no reduction in future harvest levels. National and county receipts are substantially lower than what they would be if the wasting timber were utilized.

Monopoly Power Should Be Recognized

Even flow and its variation "non-declining yields" cause unnecessary scarcity and high costs for consumers. On March 14, 1974, Professor Henry J. Vaux, former Dean of the University of California School of Forestry and Conservation, a Fellow of the Society of American Foresters, and an internationally known forest economist, illustrated the problem when he said to a California audience:

"Surplus growing stock, as I define it, can logically be regarded as a non-renewable resource -- something that is there, cannot be economically renewed, and can in many circumstances reasonably be treated like a mineable resource. The question that ought to be faced with respect to this part of the timber inventory is: Given this economically non-renewable timber volume, what policy goals ought to be sought in liquidating it: Both the non-declining yield approach and the earlier one-rotation liquidation approach when applied on a working circle by working circle basis, seem to imply an objective of local community stability. Fifty years ago this objective might well have been an appropriate one. But today, with log hauls of up to 200 miles not uncommon, I doubt that community stability is going to be very much affected one way or the other by how surplus growing stock is handled.

"I suggest that a more defensible objective, one which is in the interests of California wood consumers, California forest industries, and California communities dependent on forest industry, would be to use the surplus growing stock so as to dampen for a while the long-term rise in stumpage prices which has been characteristic of the last 70 years. Time doesn't permit me to develop this alternative in detail here. But if the surplus growing stock were managed on a regionwide basis with the specific purpose of checking the rise in stumpage prices, the surplus seems to be big enough to provide some significant leverage on prices for at least the next two or three decades. I believe that if we continue with our present timber supply policies, real stumpage prices in California could easily go to twice even their present levels by the year 2000. Under present policies there is little that can be done to avoid such stumpage price increases over the next few decades. But judicious use of National Forest surplus growing stocks for the purpose of moderating that increase could probably limit the rise to something like 50 percent of what it would be under present policies. Such a result would make both wood consumers and the industry better off during the next three decades. Equally important, it would buy some time for the greatly enlarged timber growing investments I have advocated to have some effect on stumpage supply.



"I'm perfectly aware that my suggestion means the Forest Service would be openly in the business of controlling stumpage prices, and for some people in both the Forest Service and industry I'm sure that is an unpleasant thought. To those people I would only say that the Forest Service already is de facto in the business of controlling stumpage prices in much of California. The Forest Service now owns 60 percent of the sawtimber in the State and a much higher percentage of it in some subregions. Thus, whether anyone likes it or not, the Forest Service in fact has substantial technical monopoly power over the stumpage market. All that my suggestion does is ask that this plain fact be recognized and used for some reasonable public purpose, rather than being ignored as it presently is."

To Optimize Human Benefits

Unmanaged forests can be particularly complex and irregular products of nature. They are usually a mixture of trees of different species, varied ages, irregular spacing, varied health, etc. These characteristics differ in importance as to their effects on the ability of a commercial forest to meet man's needs. Modification of a natural forest to improve timber yields requires various treatments involving differing costs and benefits.

The President's Advisory Panel on Timber and the Environment reported that in 1970 the commercial forest lands on the National Forests grew only 39 percent of what might reasonably have been expected as compared to 59 percent for forest industry lands and 49 percent for all classes of ownership. In March of 1974, the Chief of the Forest Service reported that on the National Forests "there are now 3.3 million acres which should be reforested as rapidly as resources for doing the job can be made available." A much greater area supports forests that need other treatments to increase yields.

Each of the possible initial and subsequent treatments in the Standard and Marginal Components has its own costs and benefits. Such treatments may include site preparation, planting or seeding, the use of genetically superior or improved stock, precommercial thinning, overstory removal and other release cutting, fertilization, and various harvesting techniques. With due consideration of environmental factors, the practices should be selected to obtain maximum public benefits through increased timber yields.

National and Local Social Consideration

The renewable timber resources of the National Forests have substantial contributions to make toward the achievement of social objectives. Full employment, a decent home and a suitable living environment for every American family are national goals established by the Congress. Wood is one of the most common materials for home construction and numerous other uses. Its harvest, processing, and application to meet human needs provides employment for millions.

Relative unemployment commonly is greater in National Forest areas than elsewhere. In 1970, 20 percent of the Nation's households were suffering housing deprivation. These problems financially impact other segments of our society.



Judicious use of wood currently wasted on the National Forests, and efficient harnessing of the growth potential of the commercial forest areas, would do much to meet these social problems at national and local levels. The potential benefits of such an effort and the costs of non-performance must be considerations in timber management planning.

Policy Change Essential

Optimizing net human benefits -- the avoidance of waste -- should be a guiding principle in preparation of plans for the management of National Forest timber. It will require a systematic analysis of all costs and benefits, including the cost of holding billions of dollars worth of deteriorating surplus inventory and the social costs of unnecessary housing deprivation and unemployment. To do this, the Government must re-examine its even flow policy in recognition of the opportunity it has to make life better for millions of Americans now and in the future.

National Forest Products Association
Timber Supply Task Force
October 15, 1974





UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Washington, D. C. 20250



2410
DEC 5 1974

Mr. Ralph D. Hodges, Jr.
Executive Vice President
National Forest Products Association
Forest Industries Building
1619 Massachusetts Avenue, NW
Washington, DC 20036

Dear Ralph:

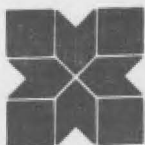
We have read with interest your discussion of optimizing output of forest products from the National Forests, and your proposal to modify the section on evenflow in Regulation CFR 221.3. The evenflow policy, as you are aware, is one of the key policy issues that we are reviewing in the paper "Policy Issues Related to Sustained Yield on the National Forests." We had hoped to have a draft of this paper ready for review early this fall. At this time we are completing an internal coordination review, and hopefully, will send out review drafts early next year.

We think it is premature to comment on your proposal until we have had an opportunity to review public comments from our forthcoming draft paper covering this issue. We concur with your suggestion that a meeting to further discuss the issue is desirable.

Sincerely,

JOHN R. MCGUIRE
Chief





**National Forest
Products Association**

Ralph D. Hodges, Jr.
Executive Vice President

Forest Industries Building • 1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036 • 202/332-1050

October 18, 1974

COPY

Mr. John McGuire
Chief, Forest Service
U. S. Department of Agriculture
12th and Independence, S. W.
South Building
Washington, D.C. 20250

Subject: Land Classification

Dear John:

As you know, the National Forest Products Association earlier this year formed a Timber Supply Task Group to explore various ways of optimizing the output of forest products from Federal lands, while at the same time giving due consideration for environmental impacts and the requirements for other uses of National Forest resources. One aspect of this question to which the Task Group has given considerable attention is the impact that land classification has on the allowable harvest. This is a very important question which is having significant impact on timber output from National Forest lands in the West. The Task Group has developed a draft of a new land classification regulation which is attached to this letter for your consideration.

I would like to request that, after you and your people have a chance to study this draft regulation, we plan a meeting on the subject of land classification with regional participation from the Forest Service and the forest industry. One of the objectives of such a meeting would be to achieve some uniformity in approach and application of land classification procedures.

This letter contains one of four written recommendations which the National Forest Products Association will be transmitting to you. The other three cover the subjects of timber management planning, funding needs for National Forest roads, and reporting of performance.

We look forward to further discussion of this important subject with you and your people in the near future.

Sincerely,

Ralph
Ralph D. Hodges, Jr.

Enclosure

Alaska Loggers Association • American Hardboard Association • American Institute of Timber Construction • American Plywood Association • American Wood Preservers Institute • Appalachian Hardwood Manufacturers, Inc. • California Redwood Association • Canadian Wood Council • Federal Timber Purchasers Association • Fine Hardwoods—American Walnut Association • Hardwood Dimension Manufacturers Association • Hardwood Plywood Manufacturers Association • Industrial Forestry Association • Maple Flooring Manufacturers Association • National Oak Flooring Manufacturers Association • National Particleboard Association • National Woodwork Manufacturers Association • North American Wholesale Lumber Association • Northeastern Lumber Manufacturers Association, Inc. • Northern Hardwood and Pine Manufacturers Association, Inc. • Red Cedar Shingle & Handsplit Shake Bureau • Southern Cypress Manufacturers Association • Southern Forest Products Association • Southern Hardwood Lumber Manufacturers Association • Western Wood Moulding and Millwork Producers • Western Wood Products Association.

IMPACT OF LAND CLASSIFICATION ON THE ALLOWABLE HARVEST

The Timber Supply Task Force of NFPA propose the following regulation for Title 36 of the Code of Federal Regulations:

251.22 Land Classification

In all land classification, which results in elimination, deferral, or restraints on commodity production and use activities, there shall be full consideration of the impacts of such actions on national supply, on local and regional economies and social values, on Government income and rates of return on investment, and on national benefits obtainable from maintaining export trade in forest products. Future recommendations for such land classification shall be made only after study has demonstrated that the public interest will clearly benefit by such action. In land use planning actions, withdrawals from commodity use of more than 1,000 acres of commercial timberlands may be made only if approved by the Chief of the Forest Service.

Discussion

A dominant factor in the determination of the allowable harvest from the National Forests is the land base available for commercial timber production. Each acre that is removed from the base, and each production restriction imposed on the other commercial timberland, reduces the forest available for harvest and places increased burden on the remaining acres. For these reasons, land classification decisions should be based on thorough analysis and balanced consideration of all future needs of society -- natural environment, economic and social.

Classifications by Statute

Classifications are both statutory and administrative. The most significant of the former, the Wilderness classification, fully excludes timber harvest. Other classifications such as a wild river, national recreation area, or national scenic trail are statutory designations which can materially reduce timber yields.

The Preservation Coalition is seeking virtually complete conversion of National Forest roadless areas into Wilderness status. An objective of a Wilderness system of 60 million acres is being openly advocated.

In 1973, the Forest Service inventoried 56 million acres of roadless area on which 18.9 million acres are commercial timberlands with an estimated allowable cut capacity of 2.75 billion board feet annually. From these roadless areas, 12.3 million acres have been selected as study areas for possible recommendation for Wilderness status. These study areas contain 3.5 million acres of commercial timberlands with an estimated allowable cut of 300 million board feet annually. These 3.5 million acres are withdrawn from the commercial forest land base on which harvest cutting capacity is determined. Possible restoration to the commercial forest land base is contingent on a determination that lands are eliminated from consideration for Wilderness status.



The balance of commercial timberlands in the inventoried roadless area - some 15.3 million acres - are withdrawn from timber utilization or cultural activities until completion of land use plans and environmental impact statements which support non-Wilderness alternatives. The timber resources on such lands continue as part of the base for allowable cut determinations unless, and until, an area is approved by the Chief for study for possible recommendation for Wilderness study.

Newly issued instruction, FSM 8262, calls for consideration of roadless areas adjacent to the new study areas in the preparation of unit reports. These instructions invite expansion of the Wilderness recommendations resulting from this new study program.

The 3.5 million acres of commercial forest lands recently placed in deferred timber resource availability status is roughly 4 percent of the total commercial forest land in the National Forest system. Recent trends lead us to believe it is quite possible that, in the absence of corrective action, a considerably larger area of commercial forest lands in the inventoried roadless area will end up in Wilderness status through enlargement of or additional study areas.

Classification by Regulation

36 CFR 251.23 authorizes the Chief of the Forest Service to establish experimental forests, experimental ranges, and research natural areas. The research natural areas which must be retained in an unmodified condition are not available for timber management purposes. Experimental forests are excluded from the regulated harvest of the National Forests in order to facilitate the conduct of research on cultural and harvesting programs.

Classification by Land Use Planning

In the land use planning procedure, timber management of commercial timberlands may be either eliminated or put under restraints. Virtually all such restrictive classifications, other than for Wilderness and for research, come through the land use planning process. Land use planning is done in relatively small units which focuses attention on local considerations and impacts. If regional and national considerations are to receive attention, these matters must be covered in instructions under which the land use planners will work.

Particularly because land use planning is in an early phase of development and application on the National Forests, there should be controls over large scale withdrawals of commercial timberlands from timber management activities. A requirement that withdrawals of more than 1,000 acres must be approved by the Chief of the Forest Service is included in the proposed Secretarial Regulation.

Classification in Timber Management Planning

In timber management planning, a land classification system is used. Four classes of land are used - standard, special, marginal and unregulated. The unregulated category is minor and may be disregarded for purposes of



this discussion. In essence, the standard class includes lands subject to normal and full scale timber management; the marginal class is land where physical characteristics require modification of normal practices; and the special class is where man-caused constraints limit production. The "special" component is identified in the land use planning process prior to timber management planning. The marginal class is identified in the timber management planning process.

Some Precautions for the Conduct of Land Use and Timber Management Planning

As with any planning system, the manner in which it is applied determines how useful it will be. Getting correct and proper application is a very significant problem and, therefore, of great concern to the forest industry.

After checking and observing the planning systems in application, several suggestions for strengthening their application have become apparent:

1. The attitude or policy of the Forest Service on timber production must be clearly expressed to all planning personnel.
2. In timber management planning, the goal should be to hold the impact of "marginal" and "special" classes on allowable harvest to as low a level as consistent with prevailing conditions.
3. There should be strong attention directed to moving "marginal" harvest to "standard" as rapidly as applicable constraints can be met.
4. Some flexibility in judgment in the application of the classification system should be permitted to meet on-the-ground management problems.
5. Classifications should not be decided solely on the basis of input from special interest groups. Such decisions should be on the merits of the case.
6. A system is needed to develop and transmit to all planners any new techniques or recommended changes in planning procedures.
7. A most careful system of inspection and supervision of the planning process should be established. This is needed both at the Region and National Forest level.
8. Special techniques should be developed to obtain advice and judgments of technical consultants on the preliminary process of classification.
9. Before finalizing any classification, it should be discussed with owners of significant amounts of intermingled or adjoining private forest land.
10. A system of communication involving technical questions encountered in land classification should be set up so that planners and researchers are in constant relationship.
11. Areas placed in various classifications should not have buffer zones adjoining nor should there be buffer zones around Wilderness areas since such zones are contained within the Wilderness area itself.



12. Great care must be exercised in controlling local adaptations and desires of planning personnel which might modify or change the intent of the basic land classification instructions.

Classification must be subject to periodic review in order to improve the decision making process and to incorporate changing conditions and ideas which develop. By this process of prompt and effective revision, the system of classification can be made most useful and effective. The land use planning decisions should be made to maximize public benefits. Timber management planning should have the objective of optimizing timber yield to satisfy public needs.

National Forest Products Association
Timber Supply Task Group
October 15, 1974





UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Washington, D. C. 20250



5500
DEC 5 1974

Mr. Ralph D. Hodges, Jr.
Executive Vice President
National Forest Products Association
Forest Industries Building
1619 Massachusetts Avenue, NW
Washington, DC 20036

Dear Ralph:

We welcome a meeting with you and selected members of the Forest Industry on the subject of Land Classification. We agree some Regional participation would be desirable.

We prefer to discuss the specifics of your proposed regulation in a meeting. However, in general, our initial reaction is that the proposed regulation and discussion, with minor variation, is already covered by law and policy. It is through sound processes such as land use planning that the existing condition of competing uses are analyzed considering all the natural, social, and economic environmental needs of National, Regional, and local societies.

It is also through such processes that we optimize timber and other outputs where possible. The key point is that acres of land are also a dominant factor for uses other than timber. The variable is investment.

We look forward to discussions concerning the subject.

Sincerely,

John

JOHN R. McGUIRE
Chief



WHITE HOUSE MEETING
on
TIMBER SUPPLY

January 10, 1975

Order of Presentation

Introduction of Issues

Paul Ehinger

Gifford Pinchot National Forest

Joe McCracken

Missed Opportunities

George Craig

Effective Investments

Robert Stermitz

Jobs, Housing, Economy and Inflation

W.D. Hagenstein

Labor's Interest

Charles Nichols

Summary

Vern Gurnsey



THE WHITE HOUSE

WASHINGTON

December 19, 1974

MEMORANDUM FOR:

GARY SEEVERS, CEA
JOHN HILL, OMB
NORMAN ROSS, Domestic Council ✓
MIKE DUVAL, Domestic Council

FROM:

WILLIAM J. BAROODY, JR. (B)

In recent weeks my office has held several meetings with leaders of the forest products industry with respect to policies of the U.S. Forest Service which they believe are highly inflationary.

I have agreed to call together a number of government officials with responsibility in this area in order that they may hear a more formal briefing on this subject and question the industry leaders.

I would appreciate it if you could attend this meeting on Friday, *Calendar free*
January 10 from 10:00 a.m. to 11:30 a.m. in Room 102,
Old Executive Office Building. Will you please let Don Webster
(456-6246) know whether you will be able to participate. This
meeting has been rescheduled from December 13.

cc: Bill Seidman
Robert Long
John McGuire
Paul Vander Myde

attend yes X NO —

Called OKing



THE WHITE HOUSE
WASHINGTON

December 2, 1974

MEMORANDUM FOR:

PHIL CAMPBELL
DON CRABILL
ROBERT LONG
JOHN McGUIRE
NORMAN ROSS ✓
GARY SEEVERS
PAUL VANDER MYDE

FROM:

WILLIAM J. BAROODY, JR. B

In recent weeks my office has held several meetings with leaders of the forest products industry with respect to policies of the U.S. Forest Service which they believe are highly inflationary.

I have agreed to call together a number of government officials with responsibility in this area in order that they may hear a more formal briefing on this subject and question the industry leaders.

I would appreciate it if you could attend this meeting on Friday, December 13 from 10:00 a.m. to 11:30 a.m. in Room 100, Old Executive Office Building. Will you please let Don Webster (145-6246) know whether you will be able to participate.

cc: Bill Seidman

*I called &
cancelled
rfr.*

*Do you
want to
attend? -*

*you have a
meeting on the
Water Resource
Council at
that time -*

EE

