



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

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The Honorable Herman E. Talmadge  
Chairman, Committee on Agriculture  
and Forestry  
United States Senate

Dear Mr. Chairman:

Your letter of May 26, 1976, confirmed an earlier informal request that our Office review the [back-up data supporting the National Forest Products Association's discussion paper of May 10, 1976, in opposition to S. 3091--the proposed National Forest Management Act of 1976--as reported out of your Committee and the Committee on Interior and Insular Affairs. Insofar as time permitted, we were to analyze the Association's documented data and inform you of the results within 4 weeks. It was agreed that the analysis would address the Association's contentions that:

- (1) Timber supply from national forests lands will decrease by 20 percent over the next decade.
- (2) The ability to meet housing goals will be decreased by approximately 200,000 homes each year.
- (3) The non-declining sustained timber yield policy will result in the waste of an estimated 180 billion board feet of timber worth more than \$9 billion in terms of 1976 dollars.
- (4) The decline in timber supply will increase wood product prices enough to add \$1,200 to \$1,400 to the cost of an average new home.
- (5) Many regional economies would be adversely affected by irregular or reduced national forest harvest levels.

On May 14, 1976, we asked representatives of the Association to provide us with back-up documentation supporting its May 10 discussion paper, especially the contentions listed above. We were told that some of the statements in the paper had been made on the basis of the Association's experience,

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professional judgment, and long working relationship and association with the Forest Service. Other statements were said to have been based on notes and pieces of scattered data that would have to be pulled together for us. We were asked to wait a week for this information and agreed to do so.

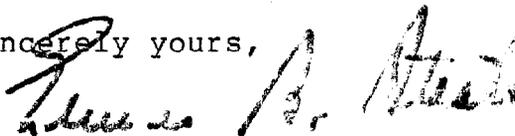
On May 21 the Association advised us that its back-up documentation was still incomplete. When we would not agree to wait any longer because of the reporting deadline we had to meet, the Association furnished us with a copy of the information it had compiled and said that additional information would be furnished to us as it became available.

An Association representative told us that, based on a reading of the Senate report (Report No. 94-893) accompanying S. 3091, the Association believed that some of its problems with the bill had been eliminated but that some new problems had arisen. We were told that the Association no longer believed that the May 10 discussion paper accurately represented its views. It was not made clear to us, however, whether a revised discussion paper would be prepared.

At various times during the ensuing 3 weeks, Association representatives discussed their views with us by telephone and furnished us material on various matters relating to their stated problems with S. 3091.

Our observations on the data furnished us by the Association on the five points listed above are presented in the enclosed summary of observations. We trust this will satisfy the purpose of your request.

Sincerely yours,



Comptroller General  
of the United States

Enclosure

SUMMARY OF OBSERVATIONSTimber Supply

The Association estimated that the timber supply provided by national forests--presumably the Forest Service lands in the national forests--would decrease by 20 percent over the next decade if S. 3091 were enacted in its present form. Association representatives told us that several provisions of S. 3091 would contribute to a timber supply reduction by restricting timber production. S. 3091 would amend the Forest and Rangeland Renewable Resources Planning Act of 1974 in several respects and redesignate the present sections of the act.

- (1) Redesignated section 6 (d) (H) (iii) would require the Forest Service to assure that timber production is not a management goal on lands where the estimated cost of production will exceed estimated return. Production costs are to include only direct timber production costs and not access, protection, revegetation, and administrative costs for multiple-use purposes. The Association thinks it likely that this provision would curtail timber management and production in areas where land is of comparatively low productivity, such as the Southwest and Rocky Mountains.
- (2) Redesignated section 6 (d) (H) (iv) would provide that increases in allowable harvests based on intensified management practices shall be made only upon demonstration that such practices justify increased allowable harvests and that the outputs projected are being secured. The Association explained that, depending on the point in time when credit would be taken for increased timber yields resulting from intensified management practices, reduced harvest levels might have to be established by the Forest Service.
- (3) Sections 18 and 20 of S. 3091 would amend existing legislation to facilitate forestry resource management programs. The Association stated that under these changes, multi-purpose roads and other forest improvements could be funded entirely from timber receipts.

The Association said that this could increase the burden on timber purchasers and discourage them from buying timber in areas where timber values would be insufficient to cover road building, logging, and other requirements. It believes the impact would be greatest in the Southwest and Rocky Mountain areas where timber stands have a lower value and access costs are often high.

#### GAO observations

Association representatives explained that the estimated 20-percent decrease in timber supply from Forest Service lands was not documented but was based on its experience, professional judgment, long association with the Forest Service, and its understanding and interpretation of the bill language. They said that the estimate resulted from a quick analysis of the bill to provide some idea of what the reduction might be and that it was a preliminary figure which could change after a more thorough analysis of the bill and the language of the Committee report on the bill. (The effect of a 20-percent reduction in national forest timber on the nation's total timber supply is discussed in a subsequent section under "Housing Costs".)

From our reading of the material furnished by the Association, its primary concerns with the provisions of the bill listed above seem to stem from uncertainties as to how the provisions might be interpreted and implemented and how potential timber purchasers might react to various possible interpretations, rather than from the results of an economic analysis of clearly defined parameters and constraints. The Association believes that some clarification of these provisions is needed to clear up such uncertainties. For example, it is not clear to the Association which specific costs and values are to be considered under redesignated section 6 (d) (6) (H) (iii), and at what point in time or over what period of time they should be compared.

In this connection, the Association gave us a paper showing possible implications of two different methods of relating production costs to economic return--the capitalizing method and the expensing method. However, although the paper raised questions regarding different interpretations of how the Association thought redesignated section 6 (d) (6) (H) (iii) could be applied, the data shown seems to relate to hypothetical situations and not specifically to how the timber supply would be affected by that section of the bill.

In summary, the basis for the Association's estimate of a possible 20-percent reduction in timber supply from Forest Service lands is not documented and is somewhat conjectural. We note that the Committee report on S. 3091 states that it is not the intent of the bill to prevent the sale of marketable timber. Even if it could be shown that some undetermined amount of timber would not be available from Forest Service lands because of some provisions of S. 3091, the Association seems to assume that other sources of supply will not be utilized more intensively. This is doubtful. In the case of Forest Service lands and harvest levels, reallocations or more effective applications of management resources to productive timber areas could offset, partially or fully, the adverse effects on harvest levels which the Association envisions. Moreover, as the supply of timber falls behind demand and prices increase, it seems reasonable to assume that more timber would be harvested from non-Forest Service lands, imports would be increased, exports decreased, etc.

Because the unsupported 20-percent factor also was used in estimating the impact of S. 3091 on the nation's ability to meet its housing goals and on the price of houses, the Association's estimates of those impacts are also questionable.

#### Housing Goals

The Association estimated that the decline in national forest timber supply that would be caused by enactment of S. 3091 would decrease the nation's ability to meet housing goals by 200,000 new homes a year. We were not furnished any documentation to support this contention, but were told that it was a quick estimate based on

- the assumption that national forest timber supply would decrease 20 percent,
- application of the 20 percent to a stated 10 billion board feet annual harvest level for national forest timber, and
- dividing the result by the amount of lumber (10,000 board feet) estimated to be in an average house.

#### GAO observations

There is no valid support for the contention that 200,000 less homes would be built each year if S. 3091 were enacted.

First, the estimate is based on the unsupported premise that national forest timber supply would decrease by 20 percent.

Second, the estimate is based on the unrealistic assumption that all of the timber that would not be harvested would have been used for housing construction. Timber is used for a wide variety of purposes on which a reduction in the supply of timber could be expected to impact. It seems reasonable to assume that the available supply of timber would be used for the purposes that generated the greatest demand--one of these purposes could very well be housing.

Third, some idea of the impact that an assumed increase in lumber prices (resulting from an assumed decrease in supply) might have on the demand for new houses can be obtained from using information contained in testimony by the National Association of Home Builders during hearings on S. 3091 in March 1976. According to this testimony, the average sales price of a single family house built during the first 9 months of 1975 was approximately \$38,500, and the average cost of lumber and other wood products used in the construction of this type of house was \$5,262--or 13.7 percent of the sales price. The testimony also indicated that housing starts for 1976 would only reach a range of around 1.4 to 1.5 million units.

If one were to assume that the price of construction lumber and wood products would increase by an unusually large amount--say 25 percent <sup>1/</sup>--the price of a new house would go up by 3.4 percent. If one also were to assume that annual housing starts would be near what they were in 1974--1.4 million--the National Forest Products Association's estimate of a 200,000-unit decrease would represent a 14 percent drop in housing starts. It seems unlikely that a 3.4 percent increase in the price of a new house would cause the demand for housing to decrease that much.

#### Timber Harvest Policy

The Association stated that adoption of section 11 of S. 3091 would require the Forest Service to follow the principle of non-declining sustained timber yield and would

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The approximate figure used by the Association in estimating the impact of a timber supply reduction on housing costs.

result in the waste of 180 billion board feet of old-growth timber worth over \$9 billion.

#### GAO observations

Section 11 of S. 3091 would establish in law what has been, and is, the general policy and practice of the Forest Service; namely, the establishment of timber harvest levels at a rate no higher than can be maintained from one decade to the next in perpetuity on a sustained-yield basis. It would be inaccurate to say that this results in a waste of \$9 billion of national forest timber. Under the Forest Service policy, old-growth timber on Forest Service commercial timber lands will eventually be harvested except for losses from death and decay and from fire and other disasters. However, the harvest of old-growth timber stands is spread over a longer period of time than the Association believes to be proper.

The Forest Service recognizes that cutting old-growth timber stands on an accelerated schedule and replacing them with healthy young trees would provide opportunity for increased timber growth on national forest lands. However, because the implications of any change in this Forest Service policy would have major consequences on timber supply and price, the environment, economic stability of timber-dependent communities and businesses, multiple-use forestry management, and other important considerations, we believe it essential that there be a mechanism to assure that the Congress consider and specifically approve any policy change in this area. Section 11 of S. 3091 would provide such assurance.

#### Housing Costs

The Association estimated that enactment of S. 3091 would increase wood product prices enough to add \$1,200 to \$1,400 to the cost of an average new house. This estimate was based on the following.

- Testimony by the National Association of Home Builders during hearings on S. 3091 included information on the construction costs of an average single family house built during the first 9 months of 1975. Costs of lumber and other wood products were said to total \$5,262.
- Forest Service data shows that Federal national forest lands account for about 25 percent of the nation's

annual harvest of softwood sawtimber--the major raw material for construction lumber and plywood. Assuming a 20 percent reduction in national forest timber supply, the Association computed a 5-percent reduction in the nation's total timber supply.

--Using simulations of the Adams' model <sup>1/</sup> of softwood lumber and plywood markets, the Association estimated that a 5-percent supply reduction (during the period 1976-1980) would result in a 20-percent increase in the softwood lumber price index and a 38.5-percent increase in the plywood price index during that period.

--Assuming the above, a 20-percent price increase in softwood lumber would increase the price of lumber in the average single family house by \$1,052 ( $\$5,262 \times .20 = \$1,052$ ), and a 38.5-percent price increase in plywood would increase the price of the same house by \$2,026 ( $\$5,262 \times .385 = \$2,026$ ). According to the Association, if each type of wood product were weighted according to the volumes used in constructing the average house, the price increase would probably fall within the range of \$1,200 to \$1,400.

#### GAO observations

The central factor in the housing cost increase estimated by the Association is the assumption that timber supply from Forest Service lands will drop 20 percent and will reduce the nation's total supply by 5 percent. As previously discussed, this assumption is undocumented and open to question.

Beyond this, the Association's price elasticity estimate is based on a model that we have not seen. We would have to study it in order to judge whether it is adequate for projecting the effects that changes in supply have on price. We noted, however, that the Association did not use the model's estimates of demand elasticity directly to estimate the price

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This is an econometric model developed by Darius M. Adams of the Forest Service to obtain estimates of the response of softwood stumpage and wood end-product prices to changes in national forest timber harvest schedules.

changes for the period 1976-1980. Rather, it extrapolated the values based on the model's price changes for two other periods (1980-1990 and 1990-2000). In doing so, the Association introduced a bias which tended to overestimate the response of price to change in supply.

On the matter of price elasticity, we noted (without study) that a Forest Service document entitled "An Assessment of the Impact of S. 2926 on Forest Service Timber Programs and the National Economy" includes a preliminary estimate that a 50-percent reduction in national forest softwood timber supply would increase wholesale lumber prices by an estimated 15 percent or more and wholesale plywood prices by a larger percent for the period 1980-1990. This differs considerably from the Association's estimate that a 20-percent reduction in national forest softwood timber would increase lumber prices by an estimated 14.3 percent for the same period. It would not be reasonable to believe that a 50-percent reduction and a 20-percent reduction in national forest timber supply would have about the same impact on the price of lumber--an increase of 15 percent compared with 14.3 percent. This raises a further question as to what impact an assumed reduction in timber supply would have on the cost of a house.

#### Regional Economies

The Association stated that enactment of the present version of S. 3091 would cause many regional economies to be adversely affected by irregular or reduced national harvest levels, particularly in 11 western states where national forests are said to comprise approximately 50 percent of the total land area and to supply a high percentage of the commercial timber harvest to dependent industries. The Association was also concerned that the bill would cause a negative effect on the ability of western areas to serve eastern markets.

#### GAO observations

Association representatives did not provide any specific documentation in support of these contentions. Instead, they furnished us a listing of six regional studies which were described as discussing the importance of timber resources and forest products industries to local employment and the economic base of selected counties. Two of the studies were made by the Forest Service's Pacific Northwest Experiment Station, three were made by universities, and one was made by

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the Washington Forest Protection Association. Three of the studies were made in the 1970's, one was made in 1963, one was made in 1957, and one was undated.

We did not attempt to obtain and analyze these studies because they did not relate specifically to the provisions of S. 3091. Whether the circumstances and assumptions on which these studies were based would result from enactment of S. 3091 seems purely conjectural. As a point in fact, the listed description of one of the studies indicates that it was predicated on the assumption that clearcutting would be banned. One of the major purposes of S. 3091 is to allow clearcutting as a timber management practice when warranted.