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REPORT TO THE CONGRESS



More Usable Dead Or Damaged Trees Should Be Salvaged To Help Meet Timber Demand

B-125053

Department of Agriculture
Department of the Interior

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

~~701735~~ / 096055

OCT. 5, 1973



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

B-125053

To the President of the Senate and the
Speaker of the House of Representatives

This is our report that, to help meet timber demand, more usable dead or damaged trees should be salvaged on Federal forest land administered by the Forest Service, Department of Agriculture, and the Bureau of Land Management, Department of the Interior.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget, and to the Secretaries of Agriculture and the Interior.

Sincerely yours,

A handwritten signature in cursive script that reads "James B. Stacks".

Comptroller General
of the United States

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ABBREVIATIONS

BLM	Bureau of Land Management
GAO	General Accounting Office

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

MORE USABLE DEAD OR DAMAGED TREES
SHOULD BE SALVAGED TO HELP MEET
TIMBER DEMAND

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D I G E S T

WHY THE REVIEW WAS MADE

GAO wanted to find out whether two Federal agencies, which manage about 90 percent of the commercial forest land managed by the Federal Government, could do more to salvage usable timber.

Photos throughout the report illustrate various aspects of the salvage problem.

FINDINGS AND CONCLUSIONS

Only a small portion of trees killed or damaged annually by insects, diseases, fire, wind, and other elements on commercial forest land managed by Agriculture's Forest Service and Interior's Bureau of Land Management (BLM) are being salvaged. 34 8

~~Demand is growing for such wood products as lumber and plywood, especially in the housing industry. A shortage of timber is predicted also.~~

Although Forest Service and BLM policies place high priority on minimizing avoidable waste by harvesting usable dead or damaged timber, both agencies could more effectively use the salvageable timber on their lands.

The agencies could develop and use timber sale preparation, contracting, and contract administration procedures and practices tailored especially for promptly salvaging scattered timber which otherwise would be left to deteriorate. This would not necessarily interfere with the regular harvest of live timber.

Potential for improved Forest Service salvage program

According to Forest Service data, about 6 billion board feet of Forest Service sawtimber--timber suitable in size and quality for manufacturing lumber and plywood--dies each year. This is equivalent to about 50 percent of the total volume of timber harvested from Forest Service land in fiscal year 1972. (See p. 8.)

Only a small portion of the dead timber is salvaged. For example, Forest Service data showed that on its land in Oregon, Washington, and California, where 3.2 billion board feet of sawtimber is killed annually, only about 10 percent was harvested.

Some usable dead or damaged timber was not salvaged because of inaccessibility or environmental considerations. Large volumes, however, were not being salvaged,

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even though these problems did not apply. (See p. 9.)

Forest Service officials at a national forest in California estimated that 20 million board feet of usable dead timber could be harvested in that forest each year, compared with about 6 million board feet salvaged in 1972. Additional examples are included in the report. (See p. 9.)

The Forest Service usually obtained the salvage of dead or damaged timber with the regular harvest of live timber or through special salvage sales. However, it generally did not develop and carry out plans to salvage small, scattered volumes of such timber. (See p. 11.)

Under its sale preparation, contracting, and contract administration procedures and practices--designed primarily for competitive sale of relatively concentrated volumes of live timber--salvage sales generally required more manpower and funds per board foot than did regular sales.

Some Forest Service field offices had developed and used plans and simplified sale preparation, contracting, and contract administration procedures and practices tailored especially for salvaging dead or damaged timber. These procedures had timesaving features which allowed field managers to provide for the harvest of more dead timber than could have been harvested following regular procedures.

Forest Service field managers at one district in northern California estimated that using modified sale procedures had enabled them to annually sell an additional 2 million to 3 million board feet

of dead timber that normally would have been left to deteriorate. (See p. 15.)

The Forest Service has not directed all its field offices to take similar actions. Such direction is needed Service-wide to insure that all field offices provide for as much salvage as practicable without disrupting the regular harvest of live timber.

Some Forest Service field offices also used special contracts, such as negotiated contracts, to sell small quantities of dead or damaged timber. The law, however, limits the Forest Service's authority to negotiate contracts for selling timber to quantities having an appraised value of up to \$2,000. (See p. 19.)

The Forest Service estimated that, if this limitation were increased to \$10,000, an additional 20 million board feet of dead or damaged timber could be salvaged annually.

Legislation (H. R. 8509) to give the Forest Service this increased authority for both regular and salvage sales was introduced in the House of Representatives on June 7, 1973. (See p. 21.)

Potential for improved BLM salvage program

BLM estimated that about 280 million board feet of timber was killed each year on its land in western Oregon--where about 90 percent of its harvesting activities occur--and that, as of 1969, about 2.2 billion board feet of usable dead timber had accumulated on that land. (See p. 26.)

BLM estimated that about 35 percent of such timber was accessible and that it was salvaging about

98 million board feet a year. However, BLM field officials told GAO that additional volumes of accessible scattered dead trees could be harvested if additional personnel and funds were made available.

Although BLM had established and was implementing a planned program for salvaging dead or damaged timber, GAO believes that an opportunity may exist for BLM to salvage more such timber--within existing funding and manpower levels--by using sale preparation, contracting, and contract administration procedures and practices tailored especially for timber salvage. (See p. 26.)

RECOMMENDATIONS

The Forest Service should

- direct its field offices to develop and use (1) plans for salvaging the maximum feasible volume of scattered dead or damaged trees, (2) simplified sale preparation and contract administration procedures which would lower the cost of and reduce the time for salvaging scattered dead or damaged timber, and (3) special contracts and contract provisions which would help insure the prompt removal of scattered dead or damaged trees and
- evaluate the progress of its field offices in developing and carrying out such plans and special procedures and insure that the most effective procedures are applied whenever appropriate. (See p. 23.)

BLM should

- consider using, to the extent

feasible, timber sale preparation, contracting, and contract administration procedures and practices similar to those that have been or will be developed by the Forest Service, tailored especially for salvaging scattered volumes of timber. (See p. 26.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

Agriculture stated that this report should be helpful in its efforts to reduce the amount of unused material on forest land. It agreed that more timber could be salvaged systematically and cited actions that it would take to implement GAO's recommendations. (See p. 24.)

Interior said it would continue to seek methods to harvest dead and dying timber to the maximum extent possible and would consider using sale preparation, contracting, and contract administration procedures tailored especially for timber salvage when the Forest Service develops them successfully. (See p. 27.)

MATTERS FOR CONSIDERATION BY THE CONGRESS

The Forest Service and BLM would be able to promptly salvage more usable dead or damaged trees and thus help meet the Nation's timber demand if:

- The Congress acted favorably on House bill 8509 to increase the Forest Service's authority to sell timber without advertisement.
- The actions recommended in this report were implemented.

CHAPTER 1

INTRODUCTION

The Forest Service, Department of Agriculture, and the Bureau of Land Management (BLM), Department of the Interior, manage about 114 million acres, or about 90 percent, of the total commercial forest land managed by all Federal agencies. Of the 114 million acres, the Forest Service manages about 80 percent and BLM manages about 20 percent. This land contains about 40 percent of the Nation's commercial timber.

The agencies sell timber under contract to thousands of purchasers, ranging from large corporations to individuals, which are responsible for harvesting and removing the timber from the forests. The agencies' fiscal year 1972 gross receipts from timber sales were \$413.5 million.

Each year insects, diseases, fire, wind, and other elements kill or damage many trees on Forest Service and BLM land. According to Forest Service officials, insects and diseases generally affect overmature trees more severely than younger trees. Older trees, however, generally have higher values because of their quality and volume. If promptly salvaged, dead or damaged trees,¹ particularly older ones, are as good as or better than some live trees for making lumber, plywood, and other products.

Because of the growing demand for wood products, especially lumber and plywood for housing construction, we made this review to evaluate whether Forest Service and BLM policies, procedures, and practices were adequate to minimize avoidable waste of usable timber by promptly salvaging dead or damaged trees.

¹Damaged trees are live trees that should be salvaged to avoid loss of usable wood.

LEGISLATIVE OBJECTIVES AND REQUIREMENTS

Federal laws¹ require the agencies to manage their land for a sustained high-level output of the resources--timber, range, recreation, watershed, fish, and wildlife--to meet public demands without impairing the land's productivity. The agencies' forestry activities are also subject to the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321) for promoting safe, healthful, productive, and esthetically and culturally pleasing surroundings.

TIMBER SUPPLY

The President's Cabinet Committee Task Force on Softwood Lumber and Plywood reported in 1970 that the growing demand for timber in this country could produce a shortage by 1974, which could constrain achieving the Nation's housing goals unless effective programs were developed to expand timber availability. In response the President directed the Secretaries of Agriculture and the Interior to formulate plans that would permit an increased harvest of softwood timber consistent with sustained-yield and environmental-quality objectives.

The Forest Service has indicated that its lands' harvest level--11.7 billion board feet in fiscal year 1972--can be increased to about 20 billion board feet by the year 2000 if sufficient funds and manpower are available on a timely basis to carry out more intensive forestry practices designed to increase the timber growth rate. BLM has indicated that it intends to continue harvesting at about its 1972 level--1.5 billion board feet--throughout the decade.

The Congress and the public have been concerned about whether the timber output from federally managed lands can be increased or even continued at current levels without depleting the timber supply and sacrificing multiple-use and

¹The Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528) governs the management of Forest Service land. The act of August 28, 1937 (43 U.S.C. 1181a), and the act of July 31, 1947 (30 U.S.C. 601), govern the management of BLM lands. In managing its land, BLM also follows multiple-use and sustained-yield objectives.

environmental-quality objectives. Officials in four Forest Service regions have indicated that the Forest Service may have difficulty in increasing the future timber harvest because of acreage reductions in commercial forest land due to growing demands to use such land for recreation, wilderness, and other purposes.

According to the 1970 task force report, a timber supply shortage could occur even if the Forest Service increased its harvest level. The report stated, in part, that:

"Even if the Forest Service is authorized to move ahead promptly with a program for greater intensity of management, with due regard to environmental objectives, the increase in the timber harvest from National forests for 1974 would not be much over 2 billion board feet. An additional 6 billion board feet might be obtained from private holdings and larger net imports. This would still leave an apparent gap of about 3 billion board feet, or more than 5 percent of indicated demand. If these forecasts are correct, the gap would presumably be closed with higher prices, accompanied by accelerated substitution, and possibly a shortfall in the number of units built. While these estimates cannot be precise, it is evident that the balance will be at best precarious."

Because of the projected shortage, it is important that the agencies make every effort to minimize avoidable waste of usable dead or damaged timber.

CHAPTER 2

POTENTIAL FOR IMPROVED FOREST

SERVICE SALVAGE PROGRAM

LARGE VOLUMES OF ACCESSIBLE DEAD TIMBER NOT SALVAGED

The Forest Service could more effectively use the timber supply on its land by promptly salvaging more usable dead or damaged trees. Because deterioration begins soon after a tree is killed or damaged, prompt salvage is essential to avoid waste. (See picture 1.) The Forest Service manual states that, to meet the responsibility of utilizing national forest timber without avoidable waste, an obvious responsibility is to harvest usable dead or deteriorating timber first.

On the basis of a study completed in 1972, the Forest Service estimated that insects, diseases, fire, wind, and other elements kill about 15 billion board feet of sawtimber each year on Federal, State, and private forest land. The study showed that about 40 percent of this total, or 6 billion board feet, was killed on Forest Service land. This is equivalent to about 50 percent of the total volume of timber harvested on Forest Service land in fiscal year 1972. On the basis that it takes 10,000 board feet to construct a typical one-family house, this 6 billion board feet, if harvested, would provide enough lumber to build 600,000 houses each year.

Because certain tree species remain usable for some time after they are killed, the volume of usable dead timber in the forests at any time is substantially greater than the annual volume killed. For example, the Forest Service estimated that, as of January 1970, about 50 billion board feet of usable dead sawtimber had accumulated on Federal, State, and private land. According to Forest Service data, about 25 percent of that total was on Forest Service land in Oregon, Washington, and California.

The Forest Service study showed that the annual volume of dead sawtimber salvaged on Federal, State, and private land was equivalent to only about 6 percent of the volume

killed each year. The study did not show how much of this salvage was on Forest Service land nationwide. Forest Service data showed, however, that on its land in Oregon, Washington, and California, where about 3.2 billion board feet of sawtimber is killed annually, a total of only about 340 million board feet of dead sawtimber was harvested each year. Forest Service headquarters officials told us that this estimate probably excluded substantial volumes of dead timber harvested along with live timber in regular sales but that they did not know how much.

The estimated volumes of dead sawtimber did not include (1) usable dead trees smaller than the size normally considered as sawtimber or (2) damaged live trees in need of salvaging. The dead or damaged sawtimber that is salvaged is usually harvested with regular sales of live timber or through special salvage sales. The rest remains on the land until it deteriorates. Although the data in our report primarily relates to the salvage of dead sawtimber, our findings, conclusions, and recommendations apply equally to damaged live trees that are usable and should be salvaged.

Some of the usable dead timber--agency records did not show how much--was not salvaged because of (1) inaccessibility or (2) steep slopes, highly erodible soils, or other environmental and forest-use considerations. Information from several field locations, however, indicated that large volumes of usable dead trees were not being salvaged, even though these problems did not apply. Some examples follow.

--Officials at a national forest in California estimated that 20 million board feet of usable dead timber could be harvested in that forest each year.

(Some of this material is shown in picture 2.) The officials estimated that they salvaged 6 million board feet in 1972.

--Officials at a national forest in Oregon--where about 70 million board feet of dead timber has been harvested each year--estimated that an additional 20 million board feet of scattered dead timber could be harvested annually in that forest. (Some of this material is shown in picture 3.)

--An official at a national forest in Idaho told us that the amount of dead and damaged timber salvaged annually from that forest could be increased from 2.5 million to 12 million board feet if the salvage program were intensified. (Some of this material is shown in picture 4.)

Field officials told us that the scattered locations of individual or small groups of dead trees (see picture 5) made it difficult and time consuming to prepare and administer salvage sale contracts. They stated further that this problem made it difficult to include enough volume in a contract to offset harvesting costs and make the sale attractive to potential buyers.

According to the officials, under existing sale preparation, contracting, and contract administration procedures and practices--designed primarily for the competitive sale of relatively large concentrated volumes of live timber--developing and carrying out plans for increasing the salvage of small, scattered volumes of dead or damaged sawtimber would require more manpower and funds than are available.

As discussed in the following section, we believe the Forest Service can take certain actions to help overcome these problems.

OPPORTUNITIES FOR MORE EFFECTIVELY USING
AVAILABLE MANPOWER AND FUNDS TO INCREASE
SALVAGE OF SCATTERED TREES

Although some field locations had developed plans and special procedures and practices for salvaging scattered dead timber with available manpower and funds, the Forest Service had not directed all its field offices to develop and use

- adequate plans for salvaging the maximum feasible volume of scattered dead or damaged trees,
- simplified sale preparation and contract administration procedures which would lower the cost of and reduce the time for salvaging dead or damaged timber, and
- special contracts and contract provisions which would help insure the prompt removal of dead or damaged trees.

Planning for salvage sales could be improved

The Forest Service generally has not developed specific periodic plans to salvage dead trees before they deteriorate. Its long-range and annual planning for timber sales is designed primarily for mature and overmature trees, which may or may not include some scattered dead trees in the sale areas. Officials told us, however, that large numbers of dead trees are scattered over areas where no sales are planned before they deteriorate.

The field locations we visited salvaged some accessible scattered dead trees not included in planned live timber sale areas, but such efforts usually were not based on definite plans and were sporadic. For example, officials of one national forest in the Intermountain Region initiated a systematic salvage program during the 1973 season in two of the forest's ranger districts.¹ The officials estimated

¹The Forest Service's 155 national forests are divided into 721 ranger districts.

that, if the program were established forestwide, the forest's annual salvage harvest should increase from 2.5 million to about 12 million board feet. A forest official told us that the other districts in that forest would implement the program during the next year, if the first two districts encountered no serious problems.

The salvage program involves (1) subdividing the forest into areas large enough to include sufficient volumes of scattered dead or damaged timber to make it attractive to potential buyers, (2) assigning a harvesting priority to each area, and (3) carrying out, on the basis of the priorities, a continuous program for harvesting scattered dead or damaged trees.

Several Forest Service field managers we contacted stated that a planned, continuous timber salvage program is needed to insure that the maximum feasible volume of this material is harvested. Some representatives of timber industry firms told us that, without such a continuous program, they would be unable to recover their investment in equipment needed for salvage operations. (See picture 6.)



6. This self-loading logging truck is used in harvesting dead timber to add mobility to the logging operation.

(GAO Photograph)

Sale preparation and contract administration procedures could be improved

Existing sale preparation and contract administration procedures are designed primarily for competitively selling relatively concentrated volumes of live timber. They involve extensive fieldwork and officework, including:

- Making preliminary surveys to find and delineate sale areas; to consider transportation systems, logging methods, and multiple-use needs; to assess the economic feasibility of the sale; and to make rough estimates of the timber volume and the costs of removing and processing it.
- Preparing environmental analyses or environmental statements.
- Designating the timber to be included in the sale.
- Cruising to make more precise estimates of volumes and values and doing such other preliminary work as determining the types of logging methods to be used, the level of fire protection needed, and the level of restoration work needed after harvesting.
- Analyzing and consolidating the preliminary survey and cruise information and preparing the appraisal and timber sale contract documents.
- Administering the contract, including field checking for compliance with contract requirements and measuring the volume of timber removed from the sale area.

Several field managers who had made salvage sales told us that they had generally followed the same sale preparation and administration procedures for salvaging individual trees or small groups of trees as for harvesting a large number of trees concentrated in a relatively small area. They said that, because most salvage material was scattered and low in volume per acre, salvage sales required about twice the amount of time per board foot to prepare and administer than regular sales required, and they were therefore unable to increase the salvage of dead timber without additional funds and personnel.

According to several field managers, the additional time was required mainly for the cruising, marking, and contract administration functions, because these involved traveling through the sale areas. This difference was reflected in cost information the Forest Service reported during Senate and House appropriation hearings for fiscal year 1973. The information showed that for fiscal year 1972 the cost of preparing and administering regular harvest sales averaged \$4.41 per thousand board feet as compared to \$7.80 for thinning¹ and salvage sales.

Some field managers we contacted said that, if they followed existing procedures and concentrated their resources on harvesting more dead timber, they would not be able to prepare enough timber sales to meet their overall harvest goals. As a result, many scattered dead trees are left to deteriorate.

Field managers at some locations had either tested, or initiated on a regular basis, special timber sale preparation and administration procedures designed specifically for salvaging scattered dead timber. We also noted that a State timber management agency used special sale procedures for salvage sales. These special procedures had timesaving features which allowed the field managers to provide for the harvest of more dead timber than could have been harvested following the regular procedures.

For example, one national forest in the Pacific Northwest Region awarded a contract for salvaging an estimated 2 million board feet of widely scattered dead timber in one district. The contract covered 8,075 acres, which is considerably larger than the normal sale area. The regional office approved the sale as a test of simplified procedures to facilitate covering larger areas. Shortened cruising and appraisal procedures were used. The types of trees to be cut were designated in the contract, but individual trees were not marked. All timber removed from the sale area was to be measured.

¹Thinning is cutting selected trees in immature stands to allow the better quality trees to grow at an increased rate.

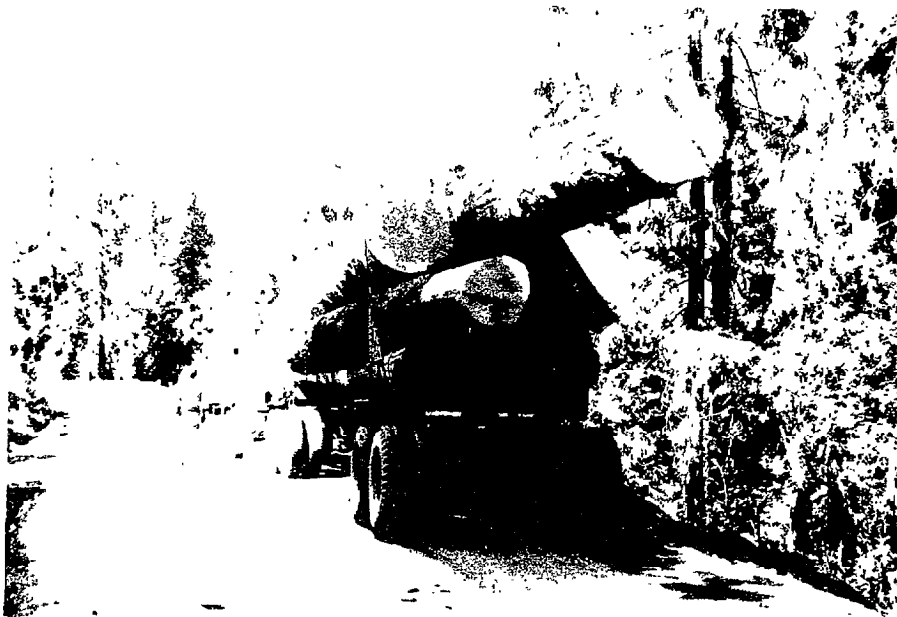
To help insure that the sale was awarded to a qualified contractor, each bidder was required to submit a certification and signed affidavits, from three reputable persons with forest management responsibility, that the bidder had performed satisfactorily on previous salvage sales. This requirement was intended to reduce the potential for contract administration problems.

The sale also required that the contractor (1) go through the entire sale area each year of the 2-year sale period, cutting dead trees meeting the contract specifications, and (2) remove from that area all dead trees containing specified net volumes and located within certain distances from a road.

In permitting simplified procedures to be used in this test case, the acting regional forester requested comments from the forest supervisor on their success and possible use in future salvage sales. At the time of our fieldwork, operations under the contract were in process.

The field managers who prepared and were administering the sale told us that the simplified procedures greatly reduced sale preparation time and that they had not experienced any increased contract administration problems. The field managers estimated that, if all potential sales of this type were made in that district, the salvage of dead trees outside the live timber sale areas could be increased from 2 million to 8 million board feet annually.

Forest Service field managers at one district in northern California also used modified sale preparation procedures to reduce the time required to prepare salvage sales. They estimated that the changes had enabled them to sell an additional 2 million to 3 million board feet annually of dead timber that normally would have been left to deteriorate to a worthless condition. (See picture 7.)



7. Truckload of timber removed from a salvage sale area set up with modified preparation procedures. Forest Service, California Region.

(GAO Photograph)

The modified procedures included making a rough estimate of the volume rather than a detailed cruise. The contracts specified the types of trees to be cut but eliminated the marking of individual trees. In addition, the sales covered large areas up to 20,000 acres to include enough volume to attract purchasers. The district's field managers told us that precise estimates of volume before harvesting were not necessary because the volume was measured as the timber was removed from the sale areas.

In another national forest in northern California, officials at one of the forest's six districts had established a 3-year salvage sale program. Under this program, the district had adopted several timesaving features, including the use of (1) rough volume estimates, small sample cruises, and volume data from completed nearby sales rather than detailed cruises, (2) a description in the contract of the types of timber to be harvested rather than individual tree marking, and (3) a standard appraisal, based on value and cost experience from past salvage sales, rather than an individual appraisal for each sale.

The field managers also determined what types of logging equipment the operators in their area were using so that sales could be planned accordingly. They obtained information on the cost and feasibility of using various types of equipment, such as mobile cable yarders, which in some instances can extend the range of salvage logging opportunities farther from existing roads. This information was then disseminated to operators in the area attending agency-sponsored meetings.

A Washington State forestry official told us that he was able to significantly reduce the time required to prepare salvage sales on State forest land by (1) marking only the trees to be harvested in a small sample unit of the sale area and leaving the remainder for the purchaser to mark according to State marking rules and (2) reducing the amount of cruise data gathered to about one-fourth of that gathered on the State's regular timber sales. The official said that sales under these procedures had resulted in the timber's being harvested satisfactorily and timely.

Local Forest Service officials initiated the special procedures tested or adopted in the above Forest Service locations. Most of the Forest Service field locations we visited or contacted had not initiated such actions, and the Forest Service had not directed all field offices to develop and use special procedures tailored for prompt and efficient salvage of scattered dead trees.

Special contracts and contract provisions could be used

Forest Service timber sale contracts usually provide for selling standing trees to the highest qualified bidder at not less than their appraised value. These contracts often do not promote the prompt salvage of dead timber because:

- The volume of usable dead timber in a potential sale area may not provide sufficient revenue to enable potential purchasers to offset the cost of cutting it, removing it from the forest, and converting it into wood products.
- The location and condition of dead or damaged timber may make it impracticable to obtain competition for a sale because of the need for prompt removal.

In the first case, service contracts under which loggers are paid to cut and remove the timber may be needed when the timber cannot be sold but would be wasted if not harvested. In the second case, a negotiated salvage sale may be desirable, but the law limits the Forest Service's authority to negotiate contracts.

Also, in some cases the Forest Service has had problems insuring that contractors cut the dead timber before it deteriorates because its contracts generally do not establish or provide for enforcing strict harvesting schedules. Such schedules and provisions for expedient actions if the contractor does not harvest on schedule could help insure timely harvesting.

Service contracts as an alternative

Several field managers told us that, in some instances, they had been unable to offer salvageable dead timber for sale because the small volume involved in individual tracts would not provide enough revenue for a prospective purchaser to recover costs. Some of the field managers told us that, in such instances, a service contract would be desirable; if necessary, a separate contract could be made with a user. This method might result in additional costs to the Government, but such costs could be offset by subsequent receipts from the sale of the timber and land management benefits,

such as greater environmental protection and improved productivity. Also, dead timber would be used instead of wasted.

Some large private timber companies use service contracts that enable them to harvest scattered dead timber on their land. For example, one company we visited contracted with loggers to remove dead timber from its land and transport it to a storage area. The timber was then processed in the company's plants or sold to another company. A company representative told us that, although the cost of using service contracts in such instances often exceeded the selling price of the timber, the company obtained the overall benefits of avoiding waste and improving the condition of its timberland.

In fiscal year 1971 the Forest Service's Pacific Northwest Region tested the feasibility of using service contracts for harvesting some dead timber to control insects and disease. The region awarded two service contracts to remove about 485,000 board feet of beetle-infested lodgepole pine. The purchasers were required to find and remove the infested trees. Under one contract, the purchaser was paid for the service and permitted to keep the logs; the other contract allowed the Forest Service to retain title to the logs. In the latter contract, the purchaser was required to haul the logs to either of two mills, which had agreed in advance to purchase them from the Forest Service.

Regional officials told us that these contracts were successful in salvaging usable dead trees and that they would like to use them in the future. One official said that the timber would have deteriorated if it had not been removed under these contracts. Another said that, although lack of funds limited the use of more service contracts, he believed the overall land management and environmental benefits that would result from removing and using the dead timber would exceed the costs.

Negotiated contracts as an alternative

The Organic Administration Act of June 4, 1897 (30 Stat. 35), authorized the Forest Service to sell, without advertisement, quantities of timber having an appraised value of up to \$50. After several subsequent increases,

the act of May 27, 1952 (16 U.S.C. 476), raised this limit from \$500 to \$2,000. The Forest Service had not requested another increase since 1952.

The House report (H. Rept. 82-1852) on the bill enacted in 1952 recognized that selling small quantities of timber at its appraised value, without competitive bidding, promotes efficiency, expediency, and good governmental relationships. According to the report,

- the sale of small quantities of timber without the expense, time, and paperwork involved in advertising and receiving competitive bids is desirable,
- small negotiated sales helped in the orderly harvesting of national forest timber and benefited the local economy, and
- purchasers could act as independent contractors if the timber sold this way was sufficient in quantity to give them a reasonable amount of income.

We believe these views are particularly appropriate for scattered volumes of usable dead or damaged trees which will be wasted unless harvested.

On the basis of the estimated average value (\$10 per thousand board feet) of national forest timber cut in 1951, the \$2,000 limit would have allowed 200,000 board feet on the average to be sold without advertising. From 1951 through fiscal year 1972, the estimated average value of sawtimber rose to \$28 per thousand board feet. Accordingly, the \$2,000 limit effectively restricted the volume that a negotiated contract could cover in 1972 to 71,000 board feet on the average.

Forest Service headquarters officials told us that, because of the increasing timber values, the limit needed to be increased to allow a greater volume of timber to be sold without advertisement.

Several of the field managers we contacted had often sold small quantities of dead timber within the \$2,000 limit without advertising. They told us, however, that more salvage sales could be made if the limit were increased. The Forest Service estimates that, if the limit were increased to

\$10,000, an additional 20 million board feet annually could be salvaged.

BLM has authority under the 1947 act cited on page 6 and implementing regulations to negotiate timber sales (1) with no volume limit if it would be impracticable to obtain competition for the sale or (2) up to 250,000 board feet if it would be in the public interest to do so.

One BLM timber manager had used this authority to sell 55,000 board feet of sawtimber and 100,000 board feet of cull log chip material with an appraised price of about \$4,000. This manager said that the sale was negotiated with a particular operator because BLM felt that the operator was capable and willing to take the extreme care necessary to remove the timber with minimum damage to the existing road. He believed the value of the material was not worth the risk of selling it by competitive bidding and having an unsatisfactory operator harvesting the timber and possibly damaging the road. This was not a salvage sale, but Forest Service field officials told us similar conditions existed on some national forest land containing dead or damaged trees and that negotiated sales would be preferable in such cases.

In April 1973 we suggested to the Department of Agriculture that the Forest Service develop and submit to the Congress a legislative proposal to (1) increase the dollar limit on the value of salvage timber that could be sold without advertisement or (2) establish a provision specifying the volume of salvage timber that could be sold without advertisement if competitive bidding were not appropriate.

The Forest Service subsequently drafted a bill to increase its authority to make both regular and salvage timber sales of up to \$10,000 in appraised value without advertising. The bill (H.R. 8509) was introduced in the House of Representatives on June 7, 1973, and referred to the Committee on Agriculture for further consideration.

The Forest Service also told us that it would seek legislative authority to use a shorter advertising period than the 30 days now required by the 1897 act so that it could salvage timber more promptly.

Strict harvesting schedules needed

The Forest Service generally did not include in its contracts for harvesting dead and damaged timber strict harvesting schedules and provisions for prompt enforcement actions when the purchaser delayed the harvest. Such schedules and provisions are needed to help insure that purchasers harvest dead or damaged timber before it deteriorates and loses value.

For example, in 1968 one national forest in the Pacific Northwest Region made four sales of timber--about 12 million board feet in total--to one purchaser to harvest trees killed or damaged by beetles. The sales were made to harvest the timber before it deteriorated and to curtail the spread of beetles to live trees.

All four contracts provided that, unless the timber was harvested by April 1970, the purchaser would be required to pay (1) an additional 25 percent of the bid price as liquidated damages and (2) an amount equal to the value of the wood lost through deterioration due to the delay.

The contracts, however, did not establish strict cutting schedules to insure that harvesting was started promptly and continued systematically throughout the contract period. Therefore, the Forest Service did not have a basis for taking prompt alternative actions, such as terminating the contract and negotiating with another purchaser to have the timber harvested before it deteriorated, if the purchaser was delayed.

As of November 1972, only about 2.5 million of the 12 million board feet had been removed. A Forest Service official stated that about 20 percent of the total timber sale volume had deteriorated and become unusable since the sales were made. Another Forest Service official said that the spread of insects was not curtailed.

Although the contract provided for the contractor to pay the Government for the value of the wood lost through deterioration, that wood was wasted.

CONCLUSIONS

The Forest Service should provide for salvaging as much dead or damaged timber as is practicable without interfering with the regular harvest of live timber. To do this, it needs to develop continuous salvage plans and develop and use timber sale preparation, contracting, and contract administration procedures and practices tailored especially for the prompt salvage of scattered volumes of timber which would otherwise be left to deteriorate. The objective of such modified procedures should be to reduce the manpower and funds needed for each salvage sale.

The actions of some Forest Service field officials to develop plans and special procedures for salvaging dead or damaged timber appear to have accomplished more salvage than would have been otherwise possible with existing manpower and funds. The Forest Service should direct all its field offices to take similar actions when appropriate, although the specific procedures may have to vary among field locations.

The legislation pending before the 93d Congress to increase the volume of timber that can be sold without advertising should, if enacted, enable the Forest Service to sell greater volumes of dead or damaged timber (1) without the expense, time, and paperwork involved in advertising and receiving competitive bids and (2) when competitive bidding is not appropriate.

RECOMMENDATIONS TO THE SECRETARY OF AGRICULTURE

We recommend that the Forest Service

--direct its field offices to develop and use (1) plans for salvaging the maximum feasible volume of scattered dead or damaged trees, (2) simplified sale preparation and contract administration procedures which would lower the cost of and reduce the time for salvaging scattered dead or damaged timber, and (3) special contracts and contract provisions which would help insure the prompt removal of scattered dead or damaged trees and

- evaluate the progress of its field offices in developing and carrying out such plans and special procedures and insure that the most effective procedures are applied whenever appropriate.

AGRICULTURE COMMENTS AND OUR EVALUATION

Agriculture (see app. I) stated that our report should be helpful in its efforts to reduce the amount of unused material on forest land. Although it stated that the salvage problem was not a simple one, Agriculture substantially agreed with our recommendations and cited actions that would be taken to implement them.

Agriculture said that salvage covered a wide range of variables in that timber values and sale preparation costs varied widely depending on tree species, size, volume, and/or location. It pointed out that these variables must be combined in acceptable sale procedures to permit offering timber promptly, with reasonable preparation costs, while protecting the public interest.

Agriculture agreed, however, that more timber could be salvaged systematically, although additional information and research was needed to accurately estimate the volume of dead or dying material that could be economically harvested in each Forest Service region. It said that substantial amounts of such material could not be used because of its location, lack of value, or damaged condition.

In response to our recommendations, Agriculture commented that the Forest Service would:

- Issue a national policy requiring each forest to develop and implement a salvage plan.
- Remind regional foresters of the flexibility they have in sale preparation and administration procedures.
- Compile and distribute to the regions a list of simplified procedures found to have been effective under certain conditions.

--Hold field officials accountable for meeting salvage sale plans and thereby provide incentives for them to use the most efficient and effective procedures.

--Evaluate these procedures during normal field inspections.

We believe that, if the above actions are implemented and if the Congress acts favorably on the proposed legislation (H.R. 8509) to increase the Forest Service's authority to make timber sales without advertising, more usable dead or damaged trees could be efficiently and effectively salvaged to help meet the Nation's timber demand.

CHAPTER 3

POTENTIAL FOR IMPROVED

BLM SALVAGE PROGRAM

In its policies, BLM recognizes the need to prevent avoidable waste of timber and has established objectives to (1) promptly harvest timber damaged by storms, fires, insects, diseases, or other elements and (2) give highest possible priority to selling and removing salvage material.

In 1966, after studying the potential timber production from thinning and from dead timber salvage operations on its western Oregon land--where 90 percent of its harvesting activities occur--BLM established a salvage program with a planned annual harvest level. In July 1971 this level was set at 27.5 million board feet a year.

Officials of BLM's Oregon State office and several district offices in Oregon told us, however, that additional volumes of accessible scattered dead trees could be harvested if more personnel and funds were made available. For example, one district official estimated that his area could effectively use six more employees to find, sell, and administer sales for the harvest of scattered dead trees.

BLM has estimated that about 280 million board feet of timber is killed each year on its land in western Oregon and that, as of 1969, about 2.2 billion board feet of usable dead timber had accumulated on that land.

BLM headquarters officials estimated that about 35 percent of the total volume of dead timber--both newly killed and accumulated--on BLM land is accessible. They estimated that, under their current salvage and regular sales programs, they are harvesting about 98 million board feet of dead timber a year.

BLM personnel follow the same procedures and practices for salvaging scattered dead or damaged timber as they do for regular sales of relatively large concentrated volumes of live timber. Salvage sales generally require more time per unit of output to prepare and administer than regular sales because of the scattered locations and low volumes per acre of most salvage material.

Because of the volume of timber not being salvaged and BLM field officials' comments that they could salvage more timber if they had more personnel and funds, an opportunity may exist for BLM to salvage more dead or damaged timber--within existing funding and manpower levels--by using sale preparation, contracting, and contract administration procedures and practices tailored especially for timber salvage.

RECOMMENDATION TO THE
SECRETARY OF THE INTERIOR

We recommend that BLM consider using, to the extent feasible, timber sale preparation, contracting, and contract administration procedures and practices, similar to those which have been or will be developed by the Forest Service, tailored especially for salvaging scattered volumes of timber.

INTERIOR COMMENTS

Interior (see app. II) stated that it recognized the importance of prompt salvage although BLM's policy to conserve maximum amounts of usable wood by promptly salvaging dead or dying trees had been restrained occasionally by economic, fiscal, and regulatory considerations. It stated that it would continue to seek methods to harvest dead and dying timber to the maximum extent possible within those constraints and would consider using sale preparation, contracting, and contract administration procedures tailored especially for timber salvage when they are developed successfully by the Forest Service.

CHAPTER 4

SCOPE OF REVIEW

We reviewed (1) applicable legislation, (2) Forest Service and BLM policies, procedures, and practices in locating and salvaging trees killed or damaged by insects, diseases, fire, wind, and other elements, and (3) the agencies' pertinent records and reports. Also, we visited several areas, accessible by road, where dead timber was deteriorating.

We made our review at the Forest Service's experiment station and regional office in its Pacific Northwest Region; seven national forests in Oregon, Washington, Idaho, and California; BLM's Oregon State office and its five western Oregon district offices; and the two agencies' headquarters offices in Washington, D.C. More than 60 percent of the sawtimber killed annually on Forest Service land is found in the national forests in the four States we visited and about 90 percent of all BLM timber harvesting activities occur in western Oregon.

We obtained the views of (1) headquarters, regional, and local Forest Service and BLM officials, (2) representatives of several private timber associations and logging firms, and (3) an official of a State forestry department. Also, we discussed, with responsible representatives of several private timber companies, their procedures for harvesting dead trees.

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

2400

JUN 21 1973

Mr. Richard J. Woods, Assistant Director
Resources and Economic Development Division
General Accounting Office
Washington, D.C. 20250



Dear Mr. Woods:

We have reviewed your draft report on "Actions Needed to Promptly Salvage More Usable Dead or Damaged Trees to Help Meet Timber Demand." The Report stresses the large volume of salvage material developed each year and the need to salvage as much as possible. Your report should be helpful in our efforts to reduce the amount of unused material.

We do believe your report oversimplifies the salvage problem. It should stress that salvage covers a wide range of variables. Sale values range from low to high depending on tree species, tree size and volume. Sale preparation costs range from low to high depending on volume and area. Some tree species deteriorate more rapidly than others. We must combine these variables in acceptable sale procedures to permit offering timber in a timely fashion, with reasonable preparation costs, and at the same time protect the public interest. Your report should also point out that substantial amounts of dead and dying material cannot be used because of isolated locations, lack of value or length of time that causal agents (ie. insects, disease) have affected the trees.

We agree that we can probably salvage more timber on a systematic basis. Figures on salvage material harvested are extremely hard to substantiate because of differing opinions over what constitutes "salvage." We do believe that substantial amounts of salvage material is removed in regular "green" sales. In addition, about 540 million board feet (Scribner decimal C) of salvage timber was sold in addition to green sales in Regions 5 and 6 in calendar year 1972. The 540 million includes both dead and dying timber. We recommend that the report state that additional statistical data should be gathered and research undertaken to estimate the current volume of dead or dying material in each Forest Service Region that can be economically harvested.

Recommendation: "Forest Service direct its field offices to develop and use (1) adequate plans for salvaging the maximum feasible volume of scattered dead or damaged trees, (2) simplified sale preparation and contract administration procedures which would lower the cost of and reduce the time for salvaging scattered dead or damaged timber, and (3) special contracts and contract provisions which would help insure the prompt removal of scattered dead or damaged trees."

Comment: We believe most Forest Service officers recognize the need to promptly salvage dead and dying material. A major objective of managing National Forest timber is to "reduce hazards of loss by fire, wind, insect and disease through proper silvicultural practices . . ." (FSM 2402). Forest Service policy directs Forest Service officers (FSM 2403.5) "To select and budget for cutting in approximate order of priority those timber stands most urgently in need of silvicultural treatment. These include stands that are: (1) deteriorating because of advanced age or damage from climatic factors, disease or insects; (2) - - - -."

We will issue national policy that requires each Forest to develop and implement a salvage plan. We believe forest plans should emphasize that periodic reviews of salvage potential will be the key to an effective program. Salvage opportunities and consequently plans can change dramatically in a short period (ie. blowdown, fire, insect attack). We also expect District Rangers and Forest Supervisors to maintain a strong regular sale program. Rangers and Supervisors face a continuing challenge of evaluating relative costs and benefits to create a proper balance between regular and salvage sales.

Intense competition for timber in many areas has eliminated the small independent logger. Often these operators, who only need to get out a few loads per day to make a profit, can best handle salvage sales of scattered timber. The regular offering of a reasonably constant volume of salvage sales may help to encourage small operators.

We do not believe it would be wise, because of the many variations service-wide, to prescribe procedures from this office which should be followed in sales preparation and sale administration. We intend to remind Regional Foresters of the flexibility they do have (i.e., sales at standard rates, administrative use, thumbnail appraisals and informal advertisement). We will also, compile and distribute to the Regions, a list of simplified

procedures found to have been effective under certain conditions. We must emphasize that we cannot condone unacceptable resource damage nor lack of contract compliance in the name of salvage.

We believe that new regulations and contract language on debarment and timber use will help insure prompt removal. The debarment regulation was published in final form in the May 23, 1973, Federal Register. An emergency directive incorporating the Regulation into the Forest Service Manual was approved on June 5, 1973. The use regulation was published in draft form in the Federal Register on May 15, 1973. Implementing contract language on timber use should be in final draft form by August, 1973.

We plan to increase our volume of tree measurement sales and eventually phase out scaling. This means that estimates of sale volume will have to be more accurate and more time will have to be spent on sale preparation. Increased sale preparation activity will provide more opportunity to evaluate and assess salvage conditions and possibilities. Tree measurement sales should provide more incentive to remove usable material.

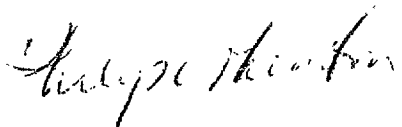
Recommendation: "Evaluate the progress of field offices in developing and carrying out plans and special procedures to salvage the maximum feasible volume of dead and damaged timber and to ensure that the most effective procedures are applied wherever appropriate."

Comment: We do plan to hold line officers accountable for meeting salvage sale plans. This will provide maximum incentive for them to use the most efficient and effective procedures. We plan to evaluate field procedures during normal functional assistance trips and inspections.

[See GAO note, p. 32.]

UNAVAILABLE

Sincerely,



Philip L. Thornton
ACTING CHIEF, FOREST SERVICE

GAO note: Deleted material pertained to a proposal not included as a recommendation in the final report.



UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 11 1973

Mr. Max Hirschhorn
Deputy Director, Resources and
Economic Development Division
General Accounting Office
Washington, D. C. 20548

BEST DOCUMENT AVAILABLE

Dear Mr. Hirschhorn:

The Department has reviewed with interest the draft of your proposed report, "Action Needed to Promptly Salvage More Unusable Dead Trees to Help Meet Timber Demand; Department of Agriculture, Department of the Interior." (B-125053)

Although only a very small section of the report is concerned with the policies and practices of the Bureau of Land Management in this Department, we recognize the importance of the subject. The Bureau's policy to conserve maximum amounts of usable wood by promptly salvaging dead or dying trees has on occasion been restrained by economic, fiscal, and regulatory considerations. We will, however, continue to seek methods to harvest dead and dying timber to the maximum extent possible within those constraints. We will be most happy to consider the use of sale preparation, contracting, and contract administration procedures tailored especially for timber salvage when they are developed successfully by the Forest Service as recommended in the proposed report.

Sincerely yours,

Richard P. [Signature]
Assistant Secretary of the Interior

APPENDIX III

PRINCIPAL OFFICIALS RESPONSIBLE FOR ADMINISTERING
THE ACTIVITIES DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
<u>DEPARTMENT OF AGRICULTURE</u>		
SECRETARY OF AGRICULTURE:		
Earl L. Butz	Dec. 1971	Present
Clifford M. Hardin	Jan. 1969	Nov. 1971
ASSISTANT SECRETARY, CONSERVATION, RESEARCH, AND EDUCATION (note a):		
Robert W. Long	Mar. 1973	Present
Thomas K. Cowden	May 1969	Mar. 1973
John A. Baker	Aug. 1962	Jan. 1969
CHIEF, FOREST SERVICE:		
John R. McGuire	Apr. 1972	Present
Edward P. Cliff	Mar. 1962	Apr. 1972
<u>DEPARTMENT OF THE INTERIOR</u>		
SECRETARY OF THE INTERIOR:		
Rogers C. B. Morton	Jan. 1971	Present
Walter J. Hickel	Jan. 1969	Nov. 1970
ASSISTANT SECRETARY, LAND AND WATER RESOURCES (note b):		
Jack O. Horton	Mar. 1973	Present
Harrison Loesch	Apr. 1969	Jan. 1973
Harry Anderson	Aug. 1965	Jan. 1969

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<u>Tenure of office</u>	
<u>From</u>	<u>To</u>

DEPARTMENT OF THE INTERIOR (continued)

DIRECTOR, BUREAU OF LAND

MANAGEMENT:

Curtis J. Berklund	July 1973	Present
Burton W. Silcock	July 1971	Mar. 1973
Boyd Rasmussen	July 1966	June 1971

^aTitle changed from Assistant Secretary, Rural Development and Conservation, in January 1973.

^bTitle changed from Assistant Secretary, Public Lands Management, in March 1973.

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