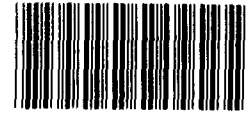


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Forest Service Cost Accounting
For Timber Sales

Statement of
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Before the
Subcommittee on Environment, Energy and
Natural Resources
Committee on Government Operations
House of Representatives



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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here to discuss the preliminary results of our work relating to the Forest Service's Timber Sales Program Information Reporting System (TSPIRS). This work is being done in response to your February 27, 1989, letter which raised a number of issues regarding the Service's implementation of TSPIRS. These issues include the following:

- Accounting for the cost of roads.
- Reporting of timber sales and growth costs.
- Reporting of all significant costs related to timber sales operations.
- Consistency of cost reports and economic analysis reports and usefulness of economic analysis information.

Today, I will address each of these areas. Overall, we believe that the Forest Service is continuing to make progress in testing and implementing TSPIRS. We found that TSPIRS is generally being implemented using the basic system design outlined in our April 1987 report entitled, Timber Program: A Cost Accounting System Design for Timber Sales in National Forests (GAO/AFMD-87-33).

BACKGROUND ON TSPIRS AND OUR WORK

In 1984, we issued a report entitled, Congress Needs Better Information on Forest Service's Below-Cost Timber Sales (GAO/RCED-84-96). Subsequently, the Subcommittee on Interior and Related Agencies, House Appropriations Committee, requested that we develop the basic design of a system which would meet the necessary requirements for a timber sales cost accounting system. We have testified regarding the Forest Service's progress in designing and implementing such a system--known as TSPIRS--before that Subcommittee during the Service's annual appropriations hearings for the past 3 years.

The objective of TSPIRS, as described in our April 1987 report, was to provide useful information to the Congress and the Forest Service. To accomplish this, TSPIRS was designed as a system of reporting the cost of the Forest Service's timber sales related activities. The Service produced financial and economic reports for fiscal years 1987 and 1988 based on testing TSPIRS throughout the Service.

The information disclosed in these reports, and consequently the concepts underlying the design of TSPIRS, were closely scrutinized by report users, including your Subcommittee. In

addition, the Forest Service hired a public accounting firm as a consultant to evaluate TSPIRS.

To assist your Subcommittee in examining the issues it has raised, we reviewed the TSPIRS reports produced by the five forests identified in attachment 1. We selected these forests in consultation with the Subcommittee staff.

TSPIRS ACCOUNTING FOR THE COST OF ROADS

In lieu of being depreciated, road costs are included in TSPIRS as a part of the cost of growing timber in a timber growth cost pool.¹ To match the costs in this pool with revenue, a proportionate share of the timber growth cost pool balance is amortized annually and reported as an expense of operations. The method of reporting the cost of roads used by the Forest Service for TSPIRS is consistent with the basic system design outlined in our 1987 report and is appropriate for cost accounting purposes. There are, however, alternatives to this method.

Alternative Treatments for Road Costs

Timber road cost is significant by any measure--either in total investment or as an annual outlay. Clearly, how this cost

¹The TSPIRS timber growth cost pool is an accumulation of deferred timber growth costs that are charged to timber sales operations.

is accounted for will affect the net gain or loss on timber sales operations.

The treatment of road costs which the Forest Service uses created considerable controversy among report users as to whether this was the most appropriate way to account for the cost of roads. This is one of the areas which the Forest Service's consultant evaluated.

The consultant's September 29, 1989, report recommended that TSPIRS' accounting for the cost of roads be changed to a method whereby initial engineering and certain construction and reconstruction costs would be capitalized as an addition to land value. Structural (culverts and bridges) and road surfacing components would be depreciated on a servicewide average useful life based on engineering experience and estimates. The cost of future maintenance of roads directly related to timber sale activities would be expensed as incurred.

The Forest Service estimates that a large part of the cost of roads falls in the categories of cost which the consultant's method would treat as permanent additions to land. The consultant's rationale is that some aspects of road construction, such as engineering and major earth moving, are normally permanent in nature. They do not wear out and have an indefinite life; therefore, they are not depreciated. The consultant reported that the impact on net gain or loss from forest

operations resulting from implementing its recommended alternative of accounting for the cost of roads would depend on the size of the forest. In smaller forests, road costs tend to be a greater percentage of overall TSPIRS costs; therefore, the impact on results from the recommended changes would typically be more significant in smaller forests. Overall, our initial reaction is that the method recommended by the consultant is a generally accepted practice that may have considerable merit.

In response to the subcommittee's request, we are also considering another alternative whereby all road construction costs would be depreciated on a straight-line basis. Under this alternative, a portion of these costs would be consistently expensed each period over the estimated useful life of roads, such as 20, 30, or 40 years. We believe, though, that adopting this alternative may be less satisfactory for purposes of matching costs with revenues than a method which matches revenue and costs as timber is harvested. Proper matching of cost and revenue is, in our view, a primary consideration in accounting for timber sales operations.

Road Cost Calculations Based
on Available Data

In addition to assessing accounting for the cost of roads, we reviewed the calculations of the investment in road costs at the forests we visited. Our review showed that the information

on which the calculations were based varied in quality and has inherent limitations. We found that there was a point at which the Service had to make an estimate of the opening road cost balances based on its judgment and historical information it had available. We could not audit these estimates since there was often no supporting documentation, such as contracts or other substantive records.

To illustrate, the Lolo National Forest had access to accounting data for the cost of roads built with Forest Service funds during the last 30 years. However, accurate data reflecting the final cost of roads built and paid for by timber purchasers² has only been available since 1983. The Lolo National Forest, therefore, estimated the value of timber roads constructed or purchased with Forest Service funds prior to 1959 by asking engineers to estimate total road mileage existing before 1959. To calculate the cost of these roads, that forest's engineers used 1987 average cost per mile data and discounted this amount to allow for inflation. In order to determine the pre-1983 cost of timber roads constructed by timber purchaser funds, that forest's staff researched timber sale contract data to obtain the cost of the roads. However, since timber contracts are sometimes entered into years before actual road

²In some cases, timber purchasers rather than the Forest Service build roads to access timber for harvest. These roads are the property of the Forest Service, which finances their construction through timber sale contract credits given to purchasers.

construction, that forest's staff had to estimate which years the roads were actually completed.

We have considered this problem and can not offer the Service any better methodology by which to create its opening balance, except perhaps performing more comprehensive engineering studies. Where records supporting opening road balances do not exist, an estimate based on the Service's best judgment must be made of the beginning cost of the roads. While we believe that establishing a more precise beginning balance for roads would be difficult, we believe that the information included in TSPIRS reports is a good faith effort to approximate the cost of roads constructed.

TSPIRS REPORTING OF TIMBER SALES COSTS

Determining the appropriate part of the timber sales cost to be charged over the sales contract period is accomplished in TSPIRS through the pooling of several years' selling costs--referred to as a timber sales cost pool. Costs incurred in selling timber generate revenue more rapidly (often 3 to 5 years) than the costs of growing timber, which is discussed later.

The Forest Service uses a formula to determine the annual charge against revenue in the timber sales cost pool. We found that, when the Forest Service applies this formula, the annual

amount charged to expense will fluctuate from one year to the next. This fluctuation does not represent inconsistent treatment of costs but is caused by a process which I will briefly describe.

The costs collected in the timber sales cost pool represent amounts incurred to market the timber, such as planning and sale preparation costs. These efforts will result in timber sales contracts, which are usually multiyear in duration and which generate revenues. The Service computes the amount to be charged as an expense to operations from the timber sales cost pool, as follows. The total value of the timber sales cost pool is divided by the total volume of timber sales under contract. The resulting figure is multiplied by the volume of timber harvested under those contracts during the year.

If the amount of harvest varies from one year to the next, then the annual amount charged as expense will also vary. Over the life of a contract, the amount charged as sales expense should equal all of the expenses incurred in marketing the timber. The sales expense charged against revenue, however, will be the average cost of marketing timber in that forest, and not the costs of specific sales. This means that the costs of both successful sales and unsuccessful sales are included in the total cost of sales.

We believe that TSPIRS correctly presents sales costs, since the Service places a number of timber offerings on the market as a part of its program, even though some offerings will not result in sales. Further, we believe that this presentation is consistent with the basic design outlined in our 1987 report.

TSPIRS REPORTING OF TIMBER GROWTH COSTS

Costs of growing timber to maturity occur over long periods of time and may not yield revenue until long after the growth cycle begins (40 years or more). These costs are currently collected in the timber growth cost pool and are reported as a cost of operations in a manner similar to costs that are aggregated in the timber sales cost pool. As with the timber sales cost pool, we believe that fluctuation of annual charges to expense is to be expected and is appropriate.

The timber growth cost pool is intended to capture the costs of growing timber to harvest. As outlined in our 1987 report, costs were to be charged to operations from this pool based on a formula that was intended to establish the average cost of producing timber on the forest. The formula outlined in our report consisted of dividing the total estimated volume of harvestable timber into the total costs accumulated in the timber growth cost pool. This figure was then to be multiplied by the volume of timber harvested during the year.

In applying this formula, the Forest Service would need an inventory of timber which represents the actual amount of timber available for harvest on each forest. Since such an inventory was not available, the Forest Service applied the formula using a theoretical estimate rather than basing the estimate on historic volumes harvested. In some cases, there are significant differences between these two factors. The Forest Service now believes that using theoretical estimates could result in too little growth cost being charged to operations in a particular accounting period and in an inaccurate matching of costs and revenues.

The Service's consultant has also studied the issue and has suggested that the Service alter the formula so that it is calculated based on the actual harvest experienced during the past years by a particular forest. Using an estimate based on historical experience would yield a more reasonable approximation of what will be harvested than the Forest Service's present method. If adopted by the Forest Service, the revised formula should result in a better matching of timber growth costs with the timber actually harvested than was experienced under TSPIRS in 1988. We are further considering whether changes related to the Forest Service's use of the timber growth cost pool may be warranted.

REPORTING OF ALL SIGNIFICANT TIMBER RELATED COSTS

Our review work to date shows that all significant costs of timber sales which can be directly related to timber growth and harvest have been included in TSPIRS reports. Nothing came to our attention that causes us to believe that significant timber sales related costs were excluded from TSPIRS.

Under our accounting requirements³ for capturing costs and matching related revenues, if a cost relates to timber sales operations it should be reported through TSPIRS. We believe that the Service is trying to meet this requirement and to capture and properly attribute all timber sales related costs in TSPIRS.

One cost, for example, which has created controversy as to whether it should be included in TSPIRS is the cost associated with establishing ownership boundaries through a procedure called land line location. The Forest Service's policy is that the determination of land line position is a normal cost of being a landowner; thus, it does not routinely include land line location as a cost of timber sales. The Service reasons that, when it is uncertain as to the exact location of its boundaries, it must survey and mark the boundaries for all of its forests. We were

³GAO's Policy and Procedures Manual for Guidance of Federal Agencies, Title 2.

told by the Service that, in many instances, the fact that it is selling timber in an area can influence the timing of when a particular portion of the boundary will be marked if the boundary has not already been marked.

Our accounting requirements provide that the cost of an asset includes all cost elements that make the asset useful for the purchaser. (In this case the purchaser would be the Forest Service.) In the case of land, cost includes all of those costs incident to acquiring land, including such items as the cost of surveying boundaries to establish ownership. Hence, Forest Service policy agrees with our requirement in this area. Accordingly, we believe that land line location costs are not a cost of timber sales.

However, land line maintenance, when directly related to a sale, is considered by the Forest Service to be a cost of timber sale operations. As such, land line maintenance will be charged to the timber sales cost pool.

CONSISTENCY AND USEFULNESS OF
TSPIRS ECONOMIC ANALYSIS REPORTS

We determined that the Forest Service did not intend that TSPIRS economic and accounting reports be prepared on a

consistent basis. Depreciation costs associated with roads are not intended to be included in TSPIRS economic analysis reports. Rather, the Forest Service included in TSPIRS economic analysis reports the present value of the cost of building future roads and maintaining existing ones. For the latter, it is the existence of a road and not its historic cost that is relevant to future-oriented economic decisions.

The Forest Service is attempting to provide information through TSPIRS on two separate bases. One basis is accounting information on the results of operations that have occurred. The other basis is economic data, which provide relevant guidance for current forest management decisions and allow report users to view the anticipated future results of each year's timber operations. As an example of the latter, the fiscal year 1988 TSPIRS economic analysis reports provided a calculation of the net present value of the benefits and costs of 1988's timber harvest. We believe that both types of information can be useful in managing forests.

Overall, the nature of TSPIRS economic information is such that it is based on broad assumptions, some of which we discuss later. We believe that the Service's approach in providing economic analysis reports is consistent with normal reporting of economic estimates, which are often prepared based on estimated projections of future occurrences rather than on historic

accounting information, such as the actual cost of constructing forest roads.

The economic computations reported by TSPIRS include estimates of the net present value of future timber harvests. This general approach conforms to accepted principles of economic analysis; however, because it makes assumptions about the future and attempts to quantify unknown economic parameters, the results are necessarily uncertain. Such computations, for example, may include dollar estimates of the impact of the timber harvest on other Forest Service programs, but these estimates may not always be exact.

This uncertainty can be seen in the following example. When timber is harvested, different kinds of plantlife grow that will be used as food by elk. The assumption can be made that when this food is available for elk, the size of an elk herd will grow, and that an increased elk herd will attract more people to a national forest to hunt. The Forest Service believes that future increases in the number of elk will provide economic benefits to hunters and reports estimates of this value in TSPIRS economic reports.

In preparing TSPIRS economic reports, the Service allows forests to use data related to a specific forest's experience in cases where forest personnel believe these data to be better

than regional assumptions. The resulting differences in applying broad assumptions can cause differences in the economic values reported among forests. Therefore, current TSPIRS economic reports may be most useful at the forest level.

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In summary, the Forest Service experienced some initial problems in implementing TSPIRS. The Service's consultant summed it up aptly, however, by reporting that "the basic concept and design of TSPIRS appears solid and based on appropriate principles of cost accounting." The consultant went on to say that, "like any young and emerging system, some fine-tuning and improvements are necessary."

I have just discussed some of the refinements that the Forest Service is considering. Additional changes to TSPIRS will likely be considered (1) as experience is gained in operating the system and as a result of the consultant's evaluation, (2) from our work with the Forest Service to design a system to report the cost of its other resources, and (3) from adjustments to TSPIRS data for financial reporting purposes that may stem from our current financial statement audit of the Forest Service. Most important, however, is that TSPIRS has started the process of providing financial information with which to assess the Forest Service's timber sales activities.

Mr. Chairman, this concludes my formal statement. I will be happy to answer any questions you or members of the Subcommittee may have.

NATIONAL FORESTS INCLUDED IN GAO'S REVIEW

EASTERN REGION

Chequamegon National Forest, Wisconsin

NORTHERN REGION

Lolo National Forest, Montana

PACIFIC NORTHWEST REGION

Okanogan National Forest, Washington

PACIFIC SOUTHWEST REGION

Sierra National Forest, California^a

SOUTHWESTERN REGION

Santa Fe National Forest, New Mexico

^aAlthough we visited the Sierra National Forest between October 30 and November 9, 1989, we had not completed our analysis of this forest's TSPIRS reports as of the date of this testimony.