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Briefing Report to the Chairman, Subcommittee on Environment, Energy, and Natural Resources, Committee on Government Operations, House of Representatives

February 1990

TIMBER SALES PROGRAM

Issues Surrounding the Timber Sales Cost Reporting System

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February 28, 1990

The Honorable Mike Synar
Chairman
Subcommittee on Environment,
Energy, and Natural Resources
Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

Your letters of February 17 and April 27, 1989, asked that we respond to issues regarding the implementation of the Forest Service's Timber Sale Program Information Reporting System (TSPIRS). On November 16, 1989, we presented the preliminary results of our review in testimony before your Subcommittee (Forest Service Cost Accounting For Timber Sales (GAO/T-AFMD-90-4). To further respond to your request and to focus on the most significant issues you raised, we formulated 17 questions related to the implementation of TSPIRS, which are answered in this briefing report.

RESULTS IN BRIEF

In general, we believe TSPIRS was implemented as intended. However, experience gained by the Forest Service while testing the system during fiscal years 1987 and 1988 has indicated that changes are needed. Among the changes being considered by the Forest Service are (1) separately disclosing the costs of road construction and (2) modifying the method for computing the cost of growing timber.

We compared the costs reported in TSPIRS to costs reported in the Forest Service's general accounting system, and we believe that TSPIRS is reporting all significant direct timber costs. We note that the Statement of Revenues and Expenses and the Economic Account report differ with respect to the types and amount of cost reported. That difference is primarily because the former report portrays a pro rata share of costs incurred during the reporting year, whereas the latter report includes costs and benefits anticipated to occur in future periods.

Finally, we believe TSPIRS information is becoming increasingly useful to the Forest Service and the Congress as a means of monitoring the financial condition of the timber sales program and the effect of timber harvesting on other national forest resource programs. We discuss these and other issues in greater detail in appendix I. That appendix also provides information on the background of TSPIRS' development as well as on its underlying concepts and the kinds of information it reports.

OBJECTIVES, SCOPE, AND METHODOLOGY

As agreed with your staff, we visited the following locations to review the implementation of the TSPIRS fiscal year 1988 Statement of Revenues and Expenses and Economic Account report:

-- Chequamegon National Forest, Wisconsin;

-- Lolo National Forest, Montana;

-- Okanogan National Forest, Washington;

-- Santa Fe National Forest, New Mexico; and

-- Sierra National Forest, California.

We also interviewed Forest Service officials at the Northern Regional Office in Missoula, Montana; Southwestern Regional Office in Albuquerque, New Mexico; and the Washington, D.C. headquarters. Our work was done between July and November 1989.

In a 1987 report to the Congress, the Forest Service described the content and reporting structure of TSPIRS. We reviewed that report and examined the Forest Service's headquarters instructions for preparing the Statement of Revenues and Expenses and Economic Account report. We also visited the previously mentioned forests to determine if the Forest Service implemented TSPIRS in accordance with the original design.

Aside from the general question of whether TSPIRS was implemented as intended, we also examined the following areas related to the timber sales cost reporting system during our review. These areas represent the essence of the issues raised by the Subcommittee.

-- How road costs are accounted for.

-- Whether the formulas used for computing timber sale and growth activity costs need to be changed.

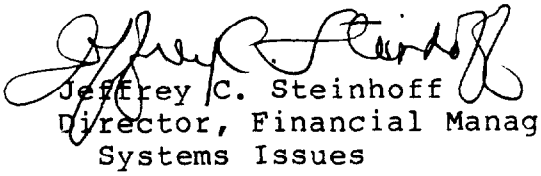
-- Whether any significant timber related costs were excluded from TSPIRS reports.

-- Whether information in the Statement of Revenues and Expenses and the Economic Account report is consistently reported.

-- Whether TSPIRS information is useful to the Forest Service and the Congress.

As requested by your staff, we did not obtain comments from the Forest Service on this report. However, we discussed the issues presented in our responses to the questions in appendix I with Forest Service officials. They provided their perspective on these matters, which we considered in preparing this report. As agreed with your office, unless you publicly announce the contents of this report earlier, we will not distribute it until 30 days from its date. At that time we will send copies of the report to the Secretary of Agriculture, the Chief of the Forest Service, various congressional committees, and other interested parties. Please contact me at (202) 275-9454 if you or your staff have any questions concerning the report. Major contributors to this report are listed in appendix II.

Sincerely yours,



Jeffrey C. Steinhoff
Director, Financial Management
Systems Issues

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QUESTION 1

WHY WAS TSPIRS DEVELOPED AND WHAT ARE SOME OF ITS UNDERLYING CONCEPTS?

RESPONSE

For several years, members of the Congress and public interest groups have expressed concern that the Forest Service loses money on its timber sales program. In 1984, we issued a report on the cost of timber sales entitled, Congress Needs Better Information on Forest Service's Below-Cost Timber Sales (GAO/RCED-84-96, June 28, 1984). Subsequently, the Subcommittee on Interior and Related Agencies, House Committee on Appropriations, asked the Forest Service a number of times for detailed information regarding the costs and revenues associated with timber sales. The Forest Service responded that its accounting system could not provide the detailed information the Subcommittee was seeking. Therefore, in 1986, the Subcommittee asked us to assist the Forest Service in designing a system to portray costs incurred in planning, executing, and controlling the timber sales program.

We outlined the basic design for a cost accounting system to provide information about the timber sales program in an April 21, 1987, report to the Subcommittee entitled, Timber Program: A Cost Accounting System Design for Timber Sales in National Forests (GAO/AFMD-87-33). The timber sales program cost system was based on the following premises:

-- Each forest within the Service would serve as the management level, or cost center, for developing and reporting timber sales cost information, with summarized information at the regional and national levels.

-- The system would provide information which compared costs and revenues.

-- Standard procedures and definitions would be developed by the Forest Service to ensure that costs and revenues were treated uniformly and consistently.

Because the Forest Service needed the flexibility to adapt a basic design to its operating structure and procedures, we did not develop the cost accounting system in detail. Further, the Service needed to determine how the design could best be implemented and utilized within the agency.

Concurrent with its work in developing the detailed design for the timber sales cost accounting reports, the Forest Service developed requirements for reporting information on two other aspects of its timber sales program. This additional information

is related to (1) the timber sales program's estimated future economic benefits and costs in relation to all forest resource programs and (2) the income and employment opportunities expected to result from timber harvest activities.

Together, the three types of information (financial, economic, and income and employment opportunities) comprise TSPIRS, which the Forest Service anticipated would provide a more complete reporting of the costs and benefits of its timber program than was previously available. The Forest Service provided information from TSPIRS to the Congress for the first time in 1987. This information resulted from a test of the system conducted during that year.

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QUESTION 2

WHAT REPORTS ARE PROVIDED BY TSPIRS AND WHAT KINDS OF INFORMATION DO THEY SHOW?

Response

TSPIRS provides the following three reports:

-- the Statement of Revenues and Expenses,

-- the Economic Account, and

-- the Employment, Income, and Program Level Account.

The Statement of Revenues and Expenses

The Statement of Revenues and Expenses reports (for each forest and at the regional and national levels) revenues and controllable expenses,[1] as well as payments to the states from timber sales receipts. In addition, it shows the results of operations from the timber sales program during a fiscal year and shows timber volume harvested during the year.

The receipts from timber sales are reported as revenue. Revenue also includes the value of roads built by timber purchasers for the Service and collections from purchasers for brush disposal projects and other work performed by the Forest Service.

Expenses reported include all single-year costs relating to the administration of timber sales contracts, timber program overhead, and payments made to the states. A pro rata share of multiyear costs is also reported as expense. Multiyear costs include the following expenses:

-- planning and preparing specific areas for timber harvesting;

-- fertilizing and thinning the forest timber stock and constructing roads to access the tracts of timber which will be harvested under existing contracts, as well as those to be harvested in the future years; and

-- depreciation of timber facilities.

These multiyear costs are accumulated into three separate cost pools. The sale activity cost pool accumulates costs in the

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[1]Controllable expenses are those expenses which managers can actually control at the organizational level being reported on--for example, forest expenses at the forest level.

first category; the growth activity cost pool accumulates costs related to the second category; and the facilities depreciation cost pool accumulates costs in the last category. Costs accumulated in these pools are allocated to cost of operations each year based on formulas which are intended to link these costs to the revenue they produce.

The Economic Account

The Economic Account report provides the estimated future positive and negative effects of the current year's timber harvest on all of the forest's resource programs. Some of the estimated effects will involve the receipt or outlay of cash, and some will not. Since not all of the effects can be valued using market prices, some subjectivity exists in preparing the estimates. For example, the year's timber harvest on a forest may be thought to adversely impact certain recreational opportunities for which the Service does not receive user fees. While in this case lost revenue to the Forest Service is not an issue, Forest Service economists have conducted research to estimate the economic value of these recreational opportunities to forest visitors. The Service uses these estimated values to express estimated losses of these recreational opportunities in dollars.

Since the costs (cash outlays) and positive or negative effects shown in the Economic Account report are projected to occur in the future, the Forest Service discounts all dollar values in the report to current year dollars. The report then nets negative and positive effects to obtain total present benefits. Finally, total estimated costs (cash outlays) are subtracted from total estimated present benefits (or added if a net negative present benefit) to derive the net present value.

The Employment, Income, and Program Level Account

The Employment, Income, and Program Level Account reports the estimated value of the forest timber program in terms of employment opportunities provided and income produced in communities surrounding the forests. Income statistics include estimates of the salaries and federal, state, and local income taxes paid by those associated with timber harvest activities on the national forests. The report also provides timber program production statistics, such as volume of timber harvested, acres harvested, acres replanted, and miles of road built.

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QUESTION 3

WHY IS IT NECESSARY FOR THE TSPIRS STATEMENT OF REVENUES AND EXPENSES TO MATCH REVENUE WITH COST?

RESPONSE

The proper matching of revenue and expenses is a fundamental principle of accounting and financial reporting in government as well as in the private sector. To provide useful information and a proper matching of revenue and expenses, our accounting requirements[2] provide that income and expenses, as well as the cost of assets and liabilities, be recognized on an accrual and not on a cash basis. For TSPIRS, this means that revenue is recognized when timber is harvested by the purchaser--not when it is paid for by the purchaser. The Service's costs related to that timber are reported as expenses in the same period, regardless of the period in which they were paid.

As we discussed in our response to the previous question, the Service incurs three types of costs in connection with its timber program activities. Since some of these costs span a number of years, an allocation method that recognizes only a proportionate amount of expense against any one year's timber sales revenue was devised. Therefore, when revenue is matched with the cost of generating the revenue, a better measure of program performance is achieved than would be possible under other methods of accounting for transactions, such as when cash is received or paid.

In examining the timber program, we found that the relationship between the Forest Service's timber sales revenues and its costs is the timber harvested. Thus, TSPIRS is intended to match costs and revenues on the basis of the annual volume of timber harvested. In the instance of timber sales costs, the costs are apportioned over the total volume of timber under contract. For timber growth costs, the costs are apportioned over the total volume of timber grown for harvest. The Forest Service plans to modify its method of determining these growth costs. (See question 7.)

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[2]The Comptroller General is required under 31 U.S.C. 3511 to establish accounting principles and standards for the federal government. These principles and standards are prescribed in Title 2 of GAO's Policy and Procedures Manual for Guidance of Federal Agencies.

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QUESTION 4

HAS TSPIRS' STATEMENT OF REVENUES AND EXPENSES BEEN IMPLEMENTED IN ACCORDANCE WITH THE BASIC DESIGN OUTLINED BY GAO IN 1987?

RESPONSE

The Forest Service has generally implemented the TSPIRS Statement of Revenues and Expenses in accordance with the basic design. We reviewed a 1987 Forest Service report to the Congress, which contained a detailed description of the reporting framework and content of the Statement of Revenues and Expenses. We noted no significant difference between the Forest Service's report and the original design. However, as we discussed in our 1987 report, and in response to other questions in this report, aspects of the basic design may need reevaluation and periodic change in order to avoid overstatement or understatement of costs.

The Forest Service implemented an automated financial reporting process, which helped ensure that TSPIRS data are generally produced in accordance with the original design. The Department of Agriculture's National Finance Center in New Orleans, Louisiana, maintains a computer program which automatically extracts and stores timber costs from the Forest Service's general accounting system. The finance center automatically computes sale and growth activity cost pool expenses using the formulas established and the information extracted from the accounting system.

The Department of Agriculture's Fort Collins Computer Center in Fort Collins, Colorado, maintains a data base of timber sales receipts and harvest volume. Each month, the computer center transmits receipt and volume data to the National Finance Center where, along with the timber cost data, they are maintained and reported in the TSPIRS Statement of Revenues and Expenses. The Statement of Revenues and Expenses compiled by the finance center is transmitted to each forest, regional office, and Forest Service headquarters.

TSPIRS was in a testing phase during fiscal years 1987 and 1988. As such, the information reported for these periods may not be comparable because these periods were used to resolve any implementation problems encountered. The first "official" TSPIRS reports will show timber revenues and expenses for fiscal year 1989.

We believe that the Forest Service has been generally conscientious in implementing the design of TSPIRS. It has been willing to consider suggestions for improvements and has actively questioned and discussed the issues involved. The process of further refining the system will continue to improve its capabilities and usefulness as a management tool.

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QUESTION 5

IS THE FOREST SERVICE SATISFIED WITH THE TSPIRS DESIGN?

RESPONSE

The Forest Service has advised us that it is satisfied with the design of TSPIRS. We believe that the Service is making progress in learning how to use the information available from the system to enhance its management of the timber sales program. This issue is discussed further in our response to question 16. However, any new system requires modifications to address implementation problems, and the Forest Service is currently exploring ways to modify TSPIRS information.

In 1989, the Service asked a public accounting firm to study whether TSPIRS conforms to generally accepted accounting principles. The firm has completed its work and has made several recommendations for modifying TSPIRS. It advised the Forest Service, for example, to capitalize certain road preconstruction and construction costs as an addition to permanent land value and to discontinue recognizing a share of these costs as an expense attributable to timber sales. This proposal is discussed further in our response to question 11. The Forest Service is evaluating all of the firm's recommendations, and modifications to TSPIRS may result.

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QUESTION 6

HAS THE SALE ACTIVITY COST POOL EXPENSE FORMULA PROPOSED IN GAO'S 1987 BASIC DESIGN BEEN MODIFIED BY THE FOREST SERVICE, AND WHY DOES THE COST ASSOCIATED WITH THIS POOL FLUCTUATE FROM YEAR TO YEAR?

RESPONSE

Since purchasers often harvest timber sold to them over a 3-to 5-year period, the sale activity cost pool was designed as a means to compute the current year's portion of multiyear costs directly related to selling timber. The formula for computing these expenses was originally intended to determine the annual selling expenses of the timber sales program by dividing the balance of costs in the pool by the total timber volume under contract. The result was to be multiplied by timber volume harvested during a year and was expected to represent the annual cost incurred in marketing timber contracts.

Prior to releasing TSPIRS' 1987 reports, the Service discovered that it had mistakenly modified this formula. Rather than using the volume under contract for the entire year, the volume under contract at the end of the year was used. This factor resulted in a different amount for timber under contract being used in the ratio for determining annual selling expense than would have resulted under the original TSPIRS basic design. Annual selling expenses for that year would have been misstated had this error not been found and corrected.

To correct the problem, the Forest Service changed this factor of the sale activity cost pool formula to one which represents volume actually harvested during the year plus volume under contract at the end of the year. Because it is a way of expressing the volume under contract for the entire year, we believe that this change meets the intent of the formula initially proposed in 1987.

The amount reported as sale activity cost pool expense would be expected to fluctuate from year to year. Since the volume harvested fluctuates from one year to the next due to market factors, sale activity cost pool expense will rise or fall accordingly. This is a normal and expected result of using the sale activity cost pool formula.

QUESTION 7

DID THE FOREST SERVICE IMPLEMENT THE GROWTH ACTIVITY COST POOL FORMULA IN ACCORDANCE WITH GAO'S 1987 BASIC DESIGN, AND WHY DOES THIS COST FLUCTUATE ANNUALLY?

RESPONSE

The Forest Service implemented the growth activity cost pool formula in accordance with our basic design of 1987. However, in our 1987 report, we commented that the growth activity cost pool formula must be reevaluated and changed periodically to reflect changing conditions. Also, the growth activity cost pool balances should be reviewed annually to determine how realistically they portray what is actually happening on the forests. Both GAO and the Forest Service agree, based on the experience gained since 1987, that the estimate of harvestable timber used in the present formula now needs modification to better match the cost of growing timber with revenues derived from harvesting timber.

As originally envisioned, the growth activity cost pool formula sought to recognize and match long-term costs related to growing large tracts of timber for harvest. Amounts in this pool are not specifically identifiable with a particular harvest unit. For example, a single road may be constructed with the intention of using it to access several sales within a given tract of timber over a long-term period, as well as including the road into the overall forest transportation system.

As part of the 1987 basic design, we suggested a formula for determining the annual growth activity cost pool expense which was intended to divide the previous and current years' unamortized costs in the pool by the total volume of harvestable timber that a forest will produce over the average life cycle of the timber stand. (By unamortized, we mean those costs that have not yet been matched with revenues.) The result was to be multiplied by timber harvested during a given year to determine the annual growth activity cost.

The Forest Service recognized early in the implementation of TSPIRS that in some instances, the way the growth activity cost pool expense formula was implemented may not properly recognize expense. The central problem identified by the Forest Service is that a theoretical estimated volume over the timber rotation period was used to represent the amount of timber which would be harvested from the forest. The estimated volume determined this way may not be correct in comparison to the volume which actually will be harvested. In those instances where volume is overstated, use of the estimate would underallocate costs to the present harvest. That is, too little cost would be shown for a particular year. Thus, the year-end pool balances (the unamortized costs) would inappropriately increase over time. The reverse would be true if the volume is understated.

During the implementation phase of the TSPIRS project, the Forest Service deferred any changes during the test period in fiscal years 1987 and 1988. The Service, however, hired a consultant in 1988 to review the system. The consultant recommended that the way the total volume of harvestable timber is estimated be changed. The new estimate would be made by averaging the actual yearly harvest volume and multiplying it by the timber growth period. The consultant believed that this would result in a better, experience-based estimate of the timber actually to be harvested, resulting in a more proper matching of cost with revenues from harvesting timber.

The Forest Service is currently considering the consultant's recommendation. We believe, however, that alternatives in addition to those suggested by the consultant could be explored by the Service. One alternative might be to relate costs in the pool (the formula's numerator) to the equivalent board footage of timber currently available for harvest and timber expected to be harvested. We agree, though, that the way the Forest Service estimates total harvest volume needs modification to more realistically estimate it over the timber life cycle, which will allow a more proper match of cost and revenue.

As is the case with the sale activity cost pool expenses discussed in the previous question, the amount reported as growth activity cost pool expenses fluctuates from year to year. This occurs because amounts harvested are subject to annual fluctuation. Since the formula matches cost with timber harvested, as the harvest rises or falls, the amount of expense reported each year will naturally vary in direct proportion to that fluctuation.

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QUESTION 8

HAVE THERE BEEN PROBLEMS IMPLEMENTING TSPIRS?

RESPONSE

We found that the Forest Service has experienced several problems implementing TSPIRS, which is not surprising for a new system. For example, the Forest Service reported some costs as expenses which should not have been recognized as expenses for that year. This was particularly true in the case of a portion of the costs incurred in road construction. Undelivered orders, that is, goods or work ordered but not received, pertaining to road construction, and road preconstruction costs were added to the balance of the growth activity cost pool before the related roads were built and ready for use.

Reporting such transactions as part of the cost from the growth activity cost pool at that time overstates expense in the years before the road is usable because it overvalues the growth activity cost pool balance. However, we note that this overstatement would be offset if such transactions occur in roughly equal amounts from year to year. Even so, if the system is to conform to accrual principles in federal accounting requirements, the Forest Service will need to charge undelivered orders to the proper accounting period in the future.

In addition to this problem, we encountered difficulties in verifying the accuracy of the beginning balance in the cost pools because historic documentation to support the opening balances was not available. TSPIRS amortizes certain long-term growth costs over the timber life cycle. Since the Service did not begin using TSPIRS at the point in time when it first acquired the timber property, each forest had to construct an opening balance for the growth activity cost pool.

Road costs are currently a major component of the growth activity cost pool. Thus, forests attempted to determine the historical net book value of roads built to access timber by researching costs going back as far as 50 years. Forest personnel found that historical records were often not available to provide the necessary data. Lacking historical information, forest personnel estimated the current value of older roads in the growth activity cost pool. The Forest Service had little choice, and its solution was practical, considering the circumstances.

While, from an audit standpoint, the lack of historical records placed us in a position where we could not vouch for the accuracy of these estimates of road values, we reviewed the practices used by the forests we visited to construct the opening road balances. We found that the methodology used was logical.

For example, the staff of the Lolo National Forest had no documentation of the cost of timber roads built before 1959. In determining the value of the pre-1959 roads, forest engineers first estimated the total mileage of those roads. To calculate their cost, forest staff used the forest's 1987 average cost per mile to construct roads and discounted that amount to allow for inflation in prior years. An allowance was then made for depreciation of the roads. This approach seemed reasonable to us. Since documentation was lacking, some estimate had to be made of the value of roads, and we do not have an alternative method which we would recommend to be used to reconstruct prior year costs.

We are presently completing an audit of the Forest Service's financial statements. This work may indicate additional problems encountered by the Service in implementing TSPIRS.

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QUESTION 9

WHAT ROAD COSTS ARE CURRENTLY INCLUDED IN TSPIRS?

RESPONSE

All costs related to constructing timber roads which will be included in the permanent transportation system of a forest are currently included in TSPIRS' growth activity cost pool. These include costs for engineering, roadbed construction, and road surfacing, as well as for the structural costs of bridges and culverts.

Roads built to access timber to be harvested as part of one particular sale are not a part of a forest's permanent transportation system. Normally, these costs are borne by the timber purchaser. However, in any instance where the Forest Service pays for this type of road, the basic design calls for the cost to be included in the sale activity cost pool.

Road preconstruction and construction costs included in the TSPIRS growth activity cost pool are amortized on the same basis as other costs in the pool. This issue is discussed further in our response to question 10.

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QUESTION 10

WHAT DID THE SERVICE'S CONSULTANT SAY ABOUT THE TREATMENT OF ROAD COSTS?

RESPONSE

The Forest Service's consultant recommended that TSPIRS would better comply with generally accepted accounting principles if road preconstruction and some construction costs were capitalized as an addition to permanent land value. This recommendation would delete these costs from the growth activity cost pool. They would be reported, in total, as an asset on the balance sheet of the Service.

Also, to better comply with generally accepted accounting principles, the consultant recommended that culverts and bridges be depreciated over their average useful lives, removed from the growth activity cost pool, and reported as a separate line item. Road maintenance cost would be treated as an annual expense.

We believe the consultant's recommendation regarding permanent capitalization of some road costs would better comply with generally accepted accounting principles. However, if implemented by the Service, some TSPIRS report users may feel that information regarding the cost of the annual timber sales program is being omitted.

These costs can, however, be looked at in another way by users of TSPIRS reports. We believe that the Service's objective in the timber sales program could be to earn a fair return on amounts invested in the program. In determining the amounts invested in the timber program, permanently capitalized road costs would be considered as part of the investment in the program. Under this concept, the program, over time, would be expected to yield sufficient profit to pay a fair return on all the amounts invested, including the cost of roads and any other amounts invested in assets employed in growing and selling timber. The Congress and other interested parties could receive this type of analysis as part of TSPIRS reporting.

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QUESTION 11

COULD A USEFUL LIFE BASED ON TIME BE USED FOR ROAD DEPRECIATION?

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RESPONSE

Yes, it could. Generally, accounting for depreciation seeks to match the cost of an asset with the revenue generated by that asset. In some instances, an asset will wear out over time, while in other instances, the asset will wear out with use.

When the Service originally established TSPIRS, the system was designed to equate asset usage with timber harvest volumes. This concept has been criticized by many public interest groups because they believe that it will charge road costs to operations over a period of time that is greater than the useful life of a road.

In examining this area, the Service's consultant suggested that it would be appropriate for the system to instead depreciate road surfaces, culverts, and bridges based on their useful lives expressed in years. We asked engineers at the forests we visited about the useful life of road surfaces, culverts, and bridges. In their view, the surface of a road wears out and a new surface must be applied every 3 to 25 years--depending on the amount and type of traffic using it. Regarding the useful life of culverts and bridges, these engineers estimated a useful life of from 20 to 50 years.

As discussed in the prior response, the consultant recommended that the cost of roadbeds be permanently capitalized and not depreciated. We asked engineers at the forests we visited about the useful lives of roadbeds. They said that they believed the life of a roadbed is indefinite. Further, they believe that once a roadbed has been established, it generally requires no further construction work unless the roadway is altered at a later date.

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QUESTION 12

SHOULD ALL ROADS BE INCLUDED IN TSPIRS COSTS, EVEN THOSE CLOSED AFTER THE HARVEST?

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RESPONSE

Another controversy concerning road costs is that, while they are currently amortized as the timber is harvested from the forest, roads are often reported as closed after a specific timber harvest. Some users of TSPIRS reports question why roads reported as closed are amortized in the growth activity cost pool when the original TSPIRS design stated that roads permanently closed after the harvest would be amortized in the sale activity cost pool.

We questioned Service personnel at the forests we visited about permanently closed roads. We were told that very few roads are permanently closed after one harvest.

According to Service personnel, road projects are planned before a sales contract is negotiated. During this process, forest engineers take into account the long-term transportation needs of anticipated sales within a tract of timber during the timber life cycle. Timber roads are extremely costly, and the Forest Service normally does not wish to incur the cost of building a road for a single series of near-term harvests. We were told that roads are temporarily closed after the harvest to avoid annual maintenance expense, as well as to meet certain wildlife and recreational objectives. According to the Forest Service, these roads are not permanently closed; they remain available for future harvests later in the timber life cycle.

In those cases where a road is temporarily closed, the Service's inclusion of these costs in the growth activity cost pool would be consistent with the underlying concept of TSPIRS. The value of roads abandoned and permanently closed would be removed (that is, written off) both from the asset section of the Forest Service's balance sheet and the TSPIRS in the year in which the road is closed and determined to be no longer useful. (The response to question 10 discusses the treatment of road costs further.)

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QUESTION 13

WERE ANY SIGNIFICANT TIMBER SALES PROGRAM COSTS EXCLUDED FROM TSPIRS?

RESPONSE

We compared the cost elements in TSPIRS to the cost elements reported in the Forest Service's general accounting system. Based on this comparison and our knowledge of timber sales costs developed over a number of years of reviewing this program, we believe that TSPIRS is reporting all significant timber related direct costs.

We recognize, however, that there may be differences of opinion in this area. Road maintenance, land line location, and fire protection costs and other costs which benefit all Forest Service programs are examples of costs which some believe should be but are not included in TSPIRS. We specifically looked at the treatment of these costs.

We were told at the forests we visited that most road maintenance costs are incurred when a timber road is being used to harvest timber. We reviewed provisions of a standard timber sales contract and noted that it requires the purchaser to perform or pay for these maintenance costs, not the Forest Service. Further, Forest Service policy states that if a timber road is frequently used by visitors or other forest traffic, the forest will assume responsibility for a portion of the maintenance.

Land line location costs are incurred to establish ownership through surveying and marking boundaries. 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. Therefore, we believe land line location costs are a direct cost of adherence to property laws rather than the timber sales program. We do note, however, that if a timber sale is planned on or near the forest boundary, forest staff will survey and mark the boundary to ensure that forest activities do not result in trespass on nonforest property.

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

Fire protection costs are incurred to both prevent (pre-suppression) and combat timber fires (suppression). As such, fire protection costs benefit all of a forest's resource programs.

However, a portion of fire protection costs are not presently allocated to the timber program. In addition to fire protection costs, there are other types of costs which benefit all Forest Service activities, such as regional and headquarters general and administrative costs. A portion of these costs is also not presently allocated to the timber program at the forest level. Further, the Forest Service incurs some costs in operating its timber program which benefit its other programs but which are not allocated to these programs. While the Forest Service is not allocating joint costs because it believes reasonable allocation methods to do so are unavailable, it recognizes that these situations can overstate or understate costs of Forest Service programs.

The Forest Service is developing a new system--the All Resources Reporting System--to report the costs related to all of its resource programs, including the timber sales program. In designing this system, the Forest Service is considering how to allocate joint costs to each resource program.

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QUESTION 14

WHY ARE AMOUNTS SHOWN ON THE TSPIRS ECONOMIC ACCOUNT REPORT DIFFERENT FROM THOSE ON THE STATEMENT OF REVENUES AND EXPENSES?

RESPONSE

The Statement of Revenues and Expenses and the Economic Account report differ with respect to reporting time frame, type of cost reported, and the source of cost data. The Statement of Revenues and Expenses discloses costs actually recognized during the reporting year on an accrual basis. The sources of the data in this financial report are the Forest Service's automated accounting systems. As discussed below, the TSPIRS Economic Account report has a different focus.

The Forest Service believes, and we agree, that a 1-year depiction of timber program revenues and expenses provides an incomplete picture of the financial and economic benefits of managing timber resources on forest land. Therefore, they designed the Economic Account report to portray an estimate of future cash flows.

To prepare the Economic Account report, forests project future timber program receipts and costs using data from several sources. Among these sources are

-- forest land management plans,

-- the TSPIRS Statement of Revenues and Expenses, and

-- other historical cost and receipts data maintained by forest timber staffs.

For example, the Chequamegon National Forest staff assumed that roads constructed to remove timber from the acres harvested in fiscal year 1988 would need reconstruction in future years when the acres would be harvested again. The forest engineers estimated the cost to reconstruct timber roads, and the forest timber staff used mathematical formulas to compute the future value of the reconstruction costs in the year it was anticipated that the reconstruction would occur.

The Forest Service also believes that timber harvesting provides positive and negative economic benefits which are not measurable through traditional market transactions. Therefore, the Economic Account report assigns dollar values to the anticipated effects of the timber program on nontimber resource programs.

For example, the Okanogan National Forest wildlife program staff believe that some of the areas harvested in 1988 resulted in a decline in habitat quality for deer. The wildlife staff wanted

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to quantify the negative impact in dollars for their fiscal year 1988 Economic Account report. A forest biologist assumed that the forest deer population would decline in the future as a result of harvest activities within areas used by deer. The biologist estimated the decline in population and correlated the decline with a loss in the number of visits made to the forest by deer hunters.

Since the Forest Service has published research concerning the economic value of a day of hunting and established the value in dollar terms, the biologist was able to express the negative impact in dollars and use mathematical formulas to compute the future value of the economic loss to hunters.

Forest staff discount all future timber and nontimber program costs, revenues, and impacts to present dollars. Anticipated negative effects, such as the loss of hunting opportunities on the Okanogan National Forest, are subtracted from anticipated positive effects and timber revenues to derive total present benefits. Anticipated costs are subtracted from total present benefits to obtain the net present value of current year timber harvest activities.

The Forest Service is presently changing the time frame over which revenues, effects, and costs are computed in the Economic Account report. Starting with the fiscal year 1989 TSPIRS report, the Economic Account report will report revenues, effects, and costs incurred before and during the harvest. With this change in time frame, the Economic Account report will include actual revenues, effects, and costs incurred prior to and during the reporting year, as well as an estimate of future costs and benefits.

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QUESTION 15

WHAT IS THE METHODOLOGY USED FOR COMPILING THE TSPIRS ECONOMIC ACCOUNT REPORT, AND HOW DOES IT COMPARE WITH THAT USED FOR COMPILING ITS STATEMENT OF REVENUES AND EXPENSES?

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RESPONSE

During our visits to the forests, we reviewed the methodologies followed in preparing the fiscal year 1988 Economic Account report. We found that the methodologies varied among the forests, whereas a standard method was prescribed to compile data for the Statement of Revenues and Expenses.

The procedures for obtaining data for the Statement of Revenues and Expenses were established by Forest Service headquarters staff. In most cases, revenue and cost data coded in a predetermined manner are automatically extracted from Forest Service accounting systems by a computer program and stored in a data base for TSPIRS financial information. The data base automatically computes total revenue, expenses, and the net gain or loss from timber sales.

However, preparation of the Economic Account report requires certain assumptions regarding the costs and receipts incurred in connection with future harvests, the timing of the harvests, and the effect of timber harvesting on nontimber outputs. These assumptions were, for the most part, made independently by the staffs of each forest.

The instructions for compiling economic data indicated that headquarters officials did not expect each forest to follow an identical process because of differences in the amount and quality of relevant information among forests.

For example, Forest Service instructions for compiling the Economic Account report asked each forest to estimate receipts from future harvests on the acres of timber harvested in fiscal year 1988. The instructions suggested that the forests use the best available source of information for projecting future timber prices, such as data used in the forest resource planning process, or more recent information if forest planning data are out of date.

Not all forests used the same sources of data in projecting future timber receipts. For example, the Santa Fe National Forest staff used actual timber receipts received from purchasers over the latest 5-year period to project timber values. Staff at the Lolo National Forest, however, used data collected by the state of Montana which reflected the prices paid to timber cutters for cut logs delivered to a mill. The state data covered the most recent 3-year period. The staff at the Lolo adjusted these data to project the price that the purchasers will pay the forest for the timber before it is harvested.

We also noted that at the forests we visited, staff did not always estimate future costs in the same manner. For example, at the Chequamegon and Sierra National Forests, staff did not project general administrative costs when determining the cost of overseeing future harvest activities. The Lolo, Okanogan, and Santa Fe National Forests' staff did include these costs when estimating future harvest expenditures.

General administrative costs are a significant portion of timber program expenditures, and the instructions for preparing the Economic Account report asked the forests to consider them in their projections. For example, general administrative expenses as reported in the fiscal year 1988 Statement of Revenues and Expenses for the Sierra National Forest were in excess of $820,000, or over 11 percent of that forest's controllable expenses for that year.

Variations in determining the present value of future timber revenue and costs, such as in the example just described, cause differences in the economic values reported among forests. These variances can affect the comparability of Economic Account reports among individual forests and national level analysis of overall timber program economic results. Current TSPIRS Economic Account reports may, therefore, be most useful in analyzing the economic results of the timber program at individual forests.

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QUESTION 16

HOW IS THE FOREST SERVICE USING TSPIRS REPORTS IN MANAGING THE FORESTS?

RESPONSE

Since TSPIRS reports have been available for only 2 years, and on a test basis, Forest Service managers are still in the early stages of using the information to adjust timber program operations. The Forest Service is currently devising a set of guidelines for analyzing the cost-effectiveness of all national forest timber programs. A draft of these guidelines directs Forest Service managers to use TSPIRS reports as a starting point in evaluating the efficiency of their timber operations, particularly those operations for which expenses exceed revenues.

The objective of the proposed guidelines is to reduce the number of sales for which expenses exceed revenues. The draft guidelines state that if a forest timber program is operating at a financial net loss which is not offset by mitigating economic or social benefits, the forest should consider increasing minimum bid rates or offer fewer sales.

We believe TSPIRS will assist the Forest Service in analyzing ways to improve the efficiency of the national forest timber program. The usefulness of the TSPIRS Statement of Revenues and Expenses will grow over time. In future years, Forest Service managers will have several years of data available with which to monitor long-term increases or decreases in revenue and expense trends. Managers will then be able to spot changes in cost, as well as trends, and could attempt to adjust program activities to better manage controllable costs.

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QUESTION 17

IS TSPIRS INFORMATION OF BENEFIT TO THE CONGRESS?

RESPONSE

Yes. The TSPIRS Statement of Revenues and Expenses is the first report available to the Congress which attempts to provide information on the timber sales program's financial activities using appropriate accounting procedures applied on a consistent basis. However, this statement alone will not show the Forest Service's financial condition, which would also require considering a balance sheet portraying the Service's assets, liabilities, and net assets.

In addition, the current Economic Account report provides the Congress with an estimate of the net present value of the Forest Service's timber program. While the Economic Account report conforms to accepted principles of economic analysis, it makes assumptions about the future and attempts to quantify unknown economic parameters. Therefore, the actual results may not achieve expected outcomes.

The congressional conference report accompanying the Forest Service's fiscal year 1990 appropriation urges continued development and improvement of TSPIRS. As is the case with any new reporting system, adjustments and refinements to TSPIRS will be required. As the Forest Service continues to study the system and incorporates changes, the reports generated should become increasingly useful to the Forest Service and the Congress. Once the changes are implemented, the Congress should have enhanced information on the timber sales program's revenues and expenses for each forest and region, as well as for the entire program.

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