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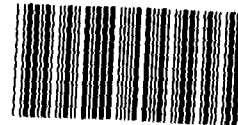
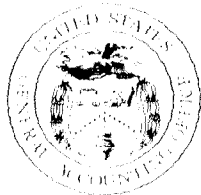
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Report to the Chairman, Subcommittee
on Forests, Family Farms, and Energy,
Committee on Agriculture, House of
Representatives

March 1991

FOREST SERVICE

Better Reporting Needed on Reforestation and Timber Stand Improvement



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Resources, Community, and
Economic Development Division

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The Honorable Harold L. Volkmer
Chairman, Subcommittee on Forests,
Family Farms, and Energy
Committee on Agriculture
House of Representatives

Dear Mr. Chairman:

In response to your letter of September 13, 1989, and subsequent discussions with your office, this report addresses the reliability of Forest Service reporting on (1) national forest land needing reforestation or timber stand improvement (TSI)¹ and (2) national forest land where reforestation or TSI activities have been successful. The National Forest Management Act of 1976 (NFMA) (P.L. 94-588) requires the Forest Service to identify land needing reforestation or TSI and to certify that reforestation and TSI activities have achieved acceptable results.

Results in Brief

Forest Service headquarters does not provide specific enough guidance to regional offices on how to define and when to report reforestation and TSI needs or the successful completion of reforestation and TSI activities. As a result, Forest Service reporting on these activities is inaccurate and inconsistent, and the Congress does not have reliable information to assess the Forest Service's progress in meeting its objectives under NFMA.

The Forest Service has established a goal of limiting the amounts of national forest land needing either reforestation or TSI to no more than 1 million acres each at any given time. At the beginning of fiscal year 1990, the Forest Service reported that about 1.2 million acres of national forest land needed reforestation and an equal amount needed TSI. We found that the Forest Service understated reforestation needs because it failed to report acreage that required reforestation following forest fires or other natural disasters in a consistent or timely manner. In addition, Forest Service national statistics on TSI needs did not provide the Congress and the Forest Service with a reliable basis for making funding

¹ Reforestation includes both natural regeneration and the planting or seeding of new trees where timber harvests or natural disasters have removed or destroyed existing stands. Timber stand improvement means thinning stands of relatively young trees (whether planted or naturally regenerated) or taking other actions to increase future harvest yields, such as applying herbicides or pesticides.

decisions about immediate goals. Differing regional practices on what needs were reported and when they were reported resulted in inconsistent overall needs assessments.

Forest Service reports to the Congress also understated figures on land where reforestation and TSI had achieved acceptable results because none of the Forest Service's nine regions certified and reported all reforestation and TSI achievements. As a result, the Congress does not have an accurate assessment of the Forest Service's reforestation or TSI achievements.

Background

The Forest Service, an agency of the U.S. Department of Agriculture, manages about 191 million acres of public land, mainly in 156 national forests. It manages these forests for multiple uses, such as timber production, fish and wildlife habitat, and outdoor recreation. The Forest Service has designated 55.8 million acres as suitable for timber production.

To provide the nation with a stable, continuous supply of timber, NFMA contains specific directives on regenerating national forest land. NFMA requires the Forest Service to identify land needing reforestation or TSI and to certify successful reforestation and TSI activities. NFMA further requires that harvested timber be fully replaced for future harvests, and limits timber sales from national forest land to levels that can be maintained "in perpetuity."

Regeneration of forests is essential to support this policy. Because time elapses before national forest land can be replanted following harvests or natural disasters, an inventory of unreforested land is to be expected. When the Congress passed NFMA in 1976, however, a backlog of land in need of reforestation totaling more than 3.1 million acres had developed. NFMA required the Forest Service to report its progress in reforestation and identify the funds necessary to eliminate the backlog within 8 years. The Forest Service reported that it had reduced the backlog to approximately 827,000 acres in need of reforestation by the end of fiscal year 1985. NFMA also required the Forest Service to identify the funds needed to prevent the development of a TSI backlog. At the beginning of fiscal year 1990, the Forest Service reported that national forest land needing reforestation and TSI stood at about 1.2 million acres each.

Reports on Reforestation and TSI Needs Not Reliable

To ensure regeneration of timber on national forest land, NFMA requires the Forest Service to report annually the amount of land that needs either reforestation or TSI. Forest Service reports understated reforestation needs because not all needs resulting from forest fires and other natural disasters were identified and reported on a timely basis. As a result, some needs remained unreported. The Forest Service also reported TSI needs inconsistently because regional practices for reporting these needs differed.

Reforestation and TSI Needs Exceed Goals

The Forest Service, in its fiscal year 1991 budget document, stated that its goal was to limit the amount of land that needed reforestation or TSI to no more than 1 million acres each at any given time.

The number of acres the Forest Service has reported as needing reforestation has increased annually for the past 5 years, primarily because of increased timber harvest levels and a higher than average number of forest fires. In the five years from the beginning of fiscal year 1985 to the beginning of fiscal year 1990, reforestation needs reported rose by almost 403,000 acres, or about 49 percent, from about 822,000 acres to over 1.2 million acres. (See app. II.)

The number of acres the Forest Service has reported as needing TSI has decreased in the past 5 fiscal years by more than 325,000 acres, or 21 percent, from over 1.5 million acres to about 1.2 million acres. (See app. III.) According to Forest Service regional personnel, the TSI inventory could increase because of the amount of reforestation work completed in recent years.

The Forest Service Assistant Director for Silviculture, who is responsible for managing reforestation and TSI activities, said that the Forest Service recognized the need to reduce the number of acres needing reforestation or TSI to goal levels. In his opinion, it will require 3 to 5 years to reduce reforestation needs to these levels through (1) reduced timber harvests, which will decrease the amount of national forest land to be reforested, and (2) reforestation of increased amounts of burned land.

Reforestation Needs Understated

NFMA requires that all national forest land needing reforestation be reported to the Congress annually. The Forest Service manual calls for the regions to report reforestation needs, but does not clearly specify how these needs are to be identified and reported. We found that the nine Forest Service regions used several different methods to identify

and report reforestation needs resulting from forest fires or other natural disasters.

- Three regions reported their needs based on the number of acres they estimated had been burned or otherwise affected by natural disasters. These estimates were not based on the completion of silvicultural plans as they were in some of the other regions.²
- Five regions reported reforestation needs for areas affected by fires, insects, or diseases only after silvicultural plans had been prepared. For example, in Region 5, a 1987 fire in the Stanislaus National Forest burned an estimated 60,000 acres of timber that the Forest Service believes should be reforested. By fiscal year 1989, the region had developed silvicultural plans for the reforestation of only 34,000 of these acres. The region will not report a reforestation need for the remaining 26,000 acres until silvicultural plans for those acres are developed.
- One region had no firm policy on reporting reforestation needs. In some cases, it reported needs only on the basis of those acres for which silvicultural plans were completed. In other cases, it reported needs on the basis of estimates of the number of acres affected by fires, insects, or diseases.

Regions that omitted acreage from reports until after the development of silvicultural plans, as in the case of the Stanislaus National Forest, understated needs. Of the approximately 476,000 acres of national forest land burned in fiscal year 1989, almost 397,000 acres, or about 83 percent, were in the five regions that did not report reforestation needs until silvicultural plans had been prepared for the land affected.

We did not attempt to determine the total extent of the understatement or other potential inaccuracies in the reporting of reforestation needs. However, Forest Service personnel agreed that because the regions inconsistently identified and reported reforestation needs, the potential for unreliable reporting to the Congress increased. In their view, Forest Service headquarters needs to direct regions on how to report reforestation needs. According to the Forest Service Assistant Director for Silviculture, the Forest Service is preparing such instructions, which it expects to finalize by the end of September 1991.

²A silvicultural plan is a document prepared by a certified silviculturist—a person trained in the growth, care, and reestablishment of trees—describing the types of trees to be planted and the techniques to be used to improve a timber stand on national forest land.

TSI Needs Inconsistently Reported

To provide the Congress with information to make funding decisions, NFMA also requires the Forest Service to report all TSI needs annually. As in the case of reforestation needs, the Forest Service manual requires regions to report TSI needs but does not clearly specify how these needs are to be defined. We found that each Forest Service region followed its own criteria for defining TSI needs. As a result, inconsistencies such as the following existed in the TSI needs reported:

- Four regions reported TSI needs only for land for which silvicultural plans had been completed. These plans encompass work to be done in a 1-to-5-year period.
- One region reported TSI needs on the basis of estimates of work planned within the next 3 years. These estimates are developed before completion of silvicultural plans.
- One region reported TSI needs in a similar way, but based these needs on estimates of work planned within the next 5 years.
- In the remaining three regions, practices varied even within the regions themselves. For example, in one region some ranger districts reported TSI needs on the basis of estimates of work planned in the upcoming year without having completed a silvicultural plan, while other ranger districts reported TSI needs only for land for which a silvicultural plan had been prepared.

Although the Congress needs information to make funding decisions for each fiscal year, Forest Service regions generally do not indicate which portion of their TSI activities are to be undertaken in any given year. This practice, along with inconsistencies in reporting, leaves the Congress and the Forest Service without reliable information with which to make funding decisions about these immediate goals.

Forest Service regional personnel acknowledged that different regional practices resulted in inconsistent reporting of TSI needs. In their opinion, Forest Service headquarters needs to give better direction to regions on how to define and report TSI needs.

According to the Forest Service Assistant Director for Silviculture, the Forest Service is preparing additional instructions to help the regions define and report TSI needs, and expects to finalize these instructions by the end of September 1991. He also said that it is reasonable for the regions to identify not only TSI activities to be undertaken in the coming year, but also activities to be undertaken in the longer run. In his opinion, the regions can identify TSI activities relatively accurately up to 3 years into the future.

Achievement of Results Underreported

NFMA requires the Forest Service to inspect lands on which reforestation or TSI has been conducted, certify that the activity has achieved the desired results, and report the certified totals to the Congress annually. We found that none of the Forest Service's nine regions were certifying and reporting all reforestation and TSI achievements. As a result, the Congress does not have an accurate assessment of the Forest Service's reforestation or TSI achievements.

Reforestation Achievements Understated

According to the Forest Service manual, national forest land is considered successfully reforested when seedlings have reached sufficient height—usually in 5 years—to compete with adjacent vegetation for moisture, nutrients, and sunlight. Forest Service regional line officers or certified silviculturists make this determination. National forest land that cannot be certified as successfully reforested must be returned to the inventory of land needing reforestation.

None of the nine Forest Service regions certified all successful reforestation achievements. For example, a Region 3 official estimated that at least 50 percent of the region's naturally reforested land was not certified, a Region 5 official estimated that approximately 50 percent of all of the region's reforested land was not certified, and a Region 10 official estimated that 20 to 30 percent of the region's naturally reforested land was not certified.

Regional officials gave various reasons why not all reforestation achievements had been certified, including lack of specific guidance on the certification process from Forest Service headquarters and lack of sufficient time on the part of regional line officers or certified silviculturists to complete reforestation certifications. According to regional officials, to ensure that all reforestation achievements are certified, headquarters needs to give better direction on the need for certification and how it is to be achieved.

We believe the responsibility for certifying reforestation achievements could be shared, allowing certifications to be accomplished more efficiently and reported more accurately. When implementing the reforestation standards specified by certified silviculturists, forest technicians could also certify that reforested stands of timber complied with the standards. According to the Forest Service Assistant Director for Silviculture, technicians have the ability to complete certifications because doing so involves comparing reforested timber stands with specified

reforestation standards. Regional officials said that forest technicians were already doing the field work necessary to make certifications.

TSI Achievements Understated

We also found that none of the nine regions certified all TSI accomplishments. For example, a Region 5 official estimated that at least 50 percent of the TSI achievements were not certified, a Region 8 official told us that almost 40 percent of the TSI achievements were not certified, and a Region 3 official said that approximately 50 percent of the TSI achievements were not certified.

Regional officials again cited lack of clear direction from headquarters and lack of time on the part of regional line officers and certified silviculturists as the reasons the regions did not complete certifications of TSI achievements.

Delays in certifying TSI achievements are unnecessary. Unlike reforestation achievements, which require verification that activities were successful before certification occurs, TSI achievements could be certified immediately after the work is performed. Because TSI contractors are not paid for their work until the regions ensure that TSI activities are completed in accordance with contract requirements, the regions could certify and report TSI achievements when they review them for compliance and approve contractor payment. This approach, assuming proper internal controls to ensure the certification process is producing accurate results, would permit quicker reporting of successful TSI achievements and correct some of the current underreporting. The Forest Service Assistant Director for Silviculture agreed that TSI achievements could be certified at the time contracted work is approved for payment.

Conclusions

Overall, the Forest Service does not report accurately and consistently on reforestation and TSI needs or the successful completion of reforestation and TSI activities. As a result, the Congress does not have reliable information to assess the Forest Service's progress in meeting NFMA objectives. The Forest Service can improve the accuracy of the information it reports on reforestation and TSI by developing more uniform guidance, ensuring that regions are consistent and thorough in applying the guidance, and taking better advantage of available staff and data.

Recommendations

We recommend that the Secretary of Agriculture direct the Chief of the Forest Service to take the following actions:


-
- Ensure that the additional guidance the Forest Service is currently preparing on reforestation and TSI needs instruct the regions to (1) identify and report all reforestation needs resulting from forest fires or other natural disasters on a more consistent and timely basis, (2) identify and report all TSI needs on a more consistent and timely basis, and (3) report all TSI work planned for the coming year.
 - Improve guidance on the certification of reforestation achievements and permit forest technicians to certify these achievements.
 - Improve guidance on the certification of TSI achievements and, in doing so, accept approvals of TSI contract payments as certification of successful TSI achievements.

We discussed our findings and conclusions with Forest Service officials, who agreed they were accurate and fair, and their comments have been incorporated where appropriate. However, as requested, we did not obtain official agency comments on a draft of this report. As agreed with your office, unless you release its contents earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies to the appropriate Senate and House Committees; interested Members of Congress; the Secretary of Agriculture; the Chief of the Forest Service; the Director, Office of Management and Budget; and other interested parties.

Our review was conducted in accordance with generally accepted government auditing standards. Appendix I contains the details of our objectives, scope, and methodology.

This report was prepared under the general direction of John W. Harman, Director, Food and Agriculture Issues, who may be reached at (202) 275-5138. Major contributors to this report are listed in appendix V.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General

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Abbreviations

GAO	General Accounting Office
NFMA	National Forest Management Act
TSI	timber stand improvement

Objectives, Scope, and Methodology

In a September 13, 1989, letter, the Chairman, Subcommittee on Forests, Family Farms, and Energy, House Committee on Agriculture, requested that we evaluate the Forest Service's program for maintaining the nation's supply of timber on national forest land. This was of particular concern because the question of whether or not planned Forest Service timber sale levels can be maintained into the future has become increasingly controversial. This report addresses two components of the Forest Service's timber management program—reforestation and timber stand improvement (TSI). As agreed, we focused on assessing how well the Forest Service defines and reports reforestation and TSI needs and activities. More specifically, we reviewed the reliability of Forest Service reporting on

- national forest land needing reforestation or TSI, and
- national forest land where reforestation or TSI activities have been successful.

We collected information to determine (1) whether Forest Service regions accurately and consistently report all reforestation and TSI needs as well as successfully completed reforestation and TSI activities, (2) why reporting problems exist, and (3) the effects of not accurately and consistently reporting reforestation and TSI needs and achievements. We analyzed Forest Service data to obtain this information.

To obtain general information about the reforestation and TSI programs, we interviewed officials and reviewed program files at Forest Service headquarters in Washington, D.C., and at the 9 Forest Service regions, 12 national forests, and 13 ranger district offices listed in appendix IV.

The examples used to illustrate our results were not selected based on a statistical sample, but were developed from our discussions with Forest Service officials. We conducted our review between January and August 1990 in accordance with generally accepted government auditing standards.

Reforestation Needs in Acres

Fiscal year	Reforestation needs reported	Change from previous year^a	Change from 1985
1985	822,166	^b	^b
1986	827,109	4,943	4,943
1987	847,711	20,602	25,545
1988	1,099,376	251,665	277,210
1989	1,176,158	76,782	353,992
1990	1,224,804	48,646	402,638
1991 ^c	1,142,203	(82,601)	320,037

Note: Data are from the beginning of the fiscal year.

^aThe number in parentheses indicates a decrease.

^bNot applicable.

^cEstimate.

Source: GAO analysis of Forest Service data.

TSI Needs in Acres

Fiscal year	TSI needs reported	Change from previous year^a	Change from 1985^a
1985	1,547,223	^b	^b
1986	1,451,500	(95,723)	(95,723)
1987	1,417,826	(33,674)	(129,397)
1988	1,231,463	(186,363)	(315,760)
1989	1,282,450	50,987	(264,773)
1990	1,221,901	(60,549)	(325,322)
1991 ^c	1,204,303	(17,598)	(342,920)

Note: Data are from the beginning of the fiscal year.

^aNumbers in parentheses indicate a decrease.

^bNot applicable.

^cEstimate.

Source: GAO analysis of Forest Service data.

Forest Service Regions, National Forests, and Ranger Districts Contacted During This Review

Region	National Forest	Ranger District
1	Flathead Kootenai	Swan Lake Three Rivers and Libby
2		
3		
4		
5	Stanislaus	Calaveras, Groveland, Mi-Wok, and Summit
6	Gifford Pinchot Siskiyou Willamette	Blue River and Lowell
8	DeSoto Ouachita	Black Creek
9	Chippewa Nicolet Ottawa Superior	Deer River Watersmeet and Bessemer
10		

Note: The Forest Service does not have a Region 7.

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