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Forest Service Is Making
Progress in Developing
a Nationwide Geographic
Information System

Statement of
JayEtta Z. Hecker, Director, Resources, Community, and
Economic Development Information Systems
Information Management and Technology Division

Before the
Subcommittee on Interior and
Related Agencies
Committee on Appropriations
House of Representatives



Mr. Chairman and Members of the Subcommittee:

We appreciate this opportunity to testify on Forest Service action to develop integrated geographic information system (GIS) and administrative information system capabilities. As you requested, we will provide an overview of the progress the Service has made in addressing the major weaknesses of the GIS proposal we described in our testimony and report to the Subcommittee last year.¹ As you recall, we concluded that the Service was not ready to acquire a nationwide GIS because required--and necessary--steps in its design and development were incomplete. Such steps are essential for controlling risks in the design and development of major information systems.

Our observations today are preliminary and limited in scope; they are based on the revised approach that was outlined to us at a recent briefing from and subsequent interview with the Forest Service and the MITRE Corporation, the new engineering adviser for this system. In addition, since our analysis last year focused solely on the proposed GIS, our observations pertain only to that component of the project, even though the project as a whole embodies a complete replacement and upgrade of the Service's entire administrative system.

¹Forest Service Not Ready to Acquire a Nationwide Geographic Information System (GAO/T-IMTEC-90-10, May 2, 1990) and Geographic Information System: Forest Service Not Ready to Acquire Nationwide System (GAO/IMTEC-90-31, June 21, 1990).

Overall, while the Forest Service appears to have made real progress in addressing many of the concerns we raised last year, it appears to us that some of its efforts are not totally consistent with federal and Agriculture Department's systems development practices.

As you recall, we concluded last year that the Forest Service was not ready to procure a \$1.2-billion nationwide GIS because it had not adequately adhered to accepted systems development practices. The Service analysis of alternatives was narrow and incomplete, the cost/benefit analysis was seriously flawed, and the data and system performance requirements were inadequately defined.

On the basis of the limited information we have on the Service's current approach to acquiring a GIS, we believe it plans to undertake a number of measures to address the concerns we raised last year--improving its coverage of some of the critical elements of the required alternatives, cost/benefit, and requirements analyses.

Regarding the evaluation of alternatives, the Service now appears to be more flexible in configuring GIS capabilities for its 880 sites and plans to evaluate how to best determine configuration requirements during a planned pilot phase. While this represents progress, the Service does not address a related concern--assessing alternatives that would use GIS capabilities to fundamentally

rethink and improve the way it performs its mission. Therefore, the Service's approach focuses largely on automating its current ways of doing business.

As to the cost/benefit analysis, the Service recognizes the need to improve its estimates of costs and benefits and plans to do so before awarding a contract for this project. This approach, however, is not consistent with accepted systems development practices because the cost/benefit analysis will be completed later than required and will not be used to help determine the most cost-beneficial alternative.

In the area of requirements analysis, the Service is now developing more specific data and system performance requirements for incorporation into its request for proposals. Although details of the Service's plans are not yet available, this approach appears to be consistent with accepted practices, and is necessary for competitive bidding.

In sum, while the Service's new approach could reduce much of the risks and improve the design and justification of this major acquisition, some uncertainties remain. The Forest Service has sketched out some promising directions, but firm conclusions regarding the adequacy of the Service's readiness to proceed must await more defined plans.

Mr. Chairman, this concludes my statement. I will be pleased to answer any questions that you or other members of the Subcommittee may have at this time.