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Office of Inspector General



Forest Service Invasive Species Program

**Audit Report 08601-7-AT
September 2010**



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Washington, D.C. 20250



DATE: September 30, 2010

REPLY TO
ATTN OF: 08601-7-AT

TO: Thomas Tidwell
Chief
Forest Service

ATTN: Donna M. Carmical
Chief Financial Officer

FROM: Gil H. Harden /s/
Assistant Inspector General
for Audit

SUBJECT: Forest Service's Invasive Species Program

This report presents the results of our review of the Forest Service's (FS) Invasive Species Program. FS' written response to the draft report is included at the end of the report with excerpts and the Office of Inspector General's (OIG) position incorporated into the relevant sections of the report. Based on the written response, we have accepted FS' management decision for all the report recommendations. Please follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer.

In addition, please note that final action on the management decision should be completed within 1 year of the date of the management decision to preclude being listed in the Department's Performance and Accountability Report.

We appreciate the assistance your staff provided to our auditors during our review.

cc:
Sandy Coleman, Branch Chief, Forest Service
Janet Roder, OIG Audit Liaison, Forest Service

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Forest Service Invasive Species Program

Executive Summary

As part of the Forest Service's (FS) mission to sustain the health, diversity, and productivity of the Nation's forests and grasslands, the agency is responsible for preventing the introduction of invasive species into the lands it manages, and combating those invasive species that have already been introduced. Whether they are plants, invertebrates, vertebrates, or disease-causing pathogens that are non-native to an ecosystem, invasive species can cause harm to the environment, the economy, and human health. The Office of Inspector General (OIG) initiated this audit to assess FS' controls over the administration of its invasive species program and to evaluate the efficiency and effectiveness of the agency's efforts to control these threats to the health of the Nation's forests.

Based on our review of the program at FS' Washington Office as well as program activities at two regions, we found that FS' invasive species program lacks many of the internal controls ordinarily associated with the effective stewardship of Federal funds, such as a proper control environment; an overall assessment of the risks posed by invasive species; effective control activities; effective communication of relevant information within the agency; and adequate monitoring of the program's performance. These internal control problems have occurred because FS relies on functional areas and field units that operate independently of one another. While FS has taken some steps to address the issue, progress has not reached a level that would ensure that these different units continue to collaborate and coordinate in an effort to achieve agency-wide goals.

Control Environment

FS has divided responsibility for the invasive species program between International Programs and three deputy areas—the National Forest System, State and Private Forestry, and Research and Development—but it has not provided any one of these areas with overall authority for the program, nor has it assigned managerial and authoritative oversight for the program. Although FS has established entities intended to help coordinate across deputy areas—first the National Invasive Species Issue Team, and then the Sustainable Landscape Management Board of Directors (SLM-BOD)—these entities have not yet effectively coordinated the many invasive species-related activities FS performs at the regional and local levels.

We also noted that FS did not assign overall authority for ensuring that regional strategies corresponded to the National Strategy and Implementation Plan for Invasive Species Management. The Washington Office informally instructed each region to develop an invasive species management strategy in line with the National Strategy and Implementation Plan for Invasive Species Management, but the Washington Office did not ensure that these strategies were completed and that they conformed to the agency's overall approach.

Risk Assessment

FS has also not inventoried the invasive species affecting forested lands in the United States, nor has it assessed the risks associated with them and the efficacy of its available treatments for combating these threats. In 2004, the agency did establish a goal of creating such an

inventory, but the three deputy areas did not collaborate with one another to reach this goal. We maintain that determining the size of the problem is fundamental to adequately managing the invasive species program.

Control Activities

Like many Federal agencies, FS will be facing a great deal of turnover in future years as many career employees retire. In our 2010 USDA Management Challenges, we identified this as a challenge facing the agency and noted that FS needed “to fully document all of its internal control activities” to ensure continuity “as [the agency] lose[s] available human capital resources.” We found, however, that the FS Washington Office has not fully documented its policies and procedures for regional- and field-level activities relating to invasive species. These policies are undocumented because FS regards the National Strategy and Implementation Plan for Invasive Species Management along with invasive species related laws and regulations as providing sufficient procedures for its employees. We do not dispute the expertise or day-to-day “know-how” of FS’ employees, but we maintain that day-to-day job knowledge should be standardized in policies and procedures so that new employees will have the benefit of this expertise even after more experienced employees have retired.

Information and Communication

Given its organizational challenges with coordinating invasive species activities among its deputy areas, FS was not always effectively sharing the information managers needed to make informed decisions about the program. For example, the National Forest System and State and Private Forestry deputy areas miscommunicated when developing an outcome measure for the invasive species program to be reported to the Office of Management and Budget (OMB). This miscommunication resulted in the agency’s performance measure excluding the National Forest System’s activities (see Finding 3). We maintain that communication problems of this sort could be solved by establishing an overall authority for the program.

Monitoring

We also found that FS was not adequately monitoring how the invasive species program was functioning. The agency cannot state with accuracy how much money it is spending on the program. Within its budget structure, FS does not have an overall budget line item designated for its invasive species program activities. Instead, FS allocates funding through various line items within each deputy area. FS identified 17 different budget line items that could potentially fund invasive species activities, but these line items also include other activities and vary based on each deputy area. Due to how FS accounts for its funds, it cannot state, for example, how much money it spends annually on the invasive species program, or how much it is spending to control any given species. Without this information, FS cannot make meaningful statements about the effectiveness and the efficiency of its invasive species program.

FS is also not performing comprehensive reviews to evaluate the invasive species program. The Washington Office does perform reviews of regional activities; however, invasive species may or may not be a component of these reviews. Even if invasive species activities are part of the Washington Office's reviews, those reviews only cover a specific deputy area. Also, regions do perform field-level reviews of invasive species program activities for individual deputy area activities, but these reviews are informal and the results were not communicated beyond the individual regional or national forest offices that performed the reviews. We concluded that the agency needs a comprehensive, formal review of all invasive species activities, cutting across deputy areas and spanning the regional structure.

Finally, we found a number of problems with how FS is reporting the performance of the invasive species program. FS' performance measures for the program rely on counting the number of acres that have been treated to combat the many different invasive species, but treatments can vary widely and the regions do not report the same treatments consistently, as FS' Washington Office has not provided them with a standard. We also found problems with the information systems FS uses to capture performance data, including interfaces so cumbersome that employees preferred to use pencil and paper, and databases that were not integrated.

These internal control weaknesses demonstrate FS' need to revisit how it has established the invasive species program, and reestablish the program with a sound internal control structure. Generally, our work confirmed that FS employees in the field were knowledgeable, industrious, and dedicated to their invasive species work; however, the agency needs to establish the invasive species program much more formally, according to the internal control standards that are the norm in the Federal Government.

Recommendation Summary

- Develop an adequate, cohesive internal control environment for managing the invasive species program. Ensure that all three deputy areas are represented and that responsibilities and accountability over the program are well established.
- Develop a plan for inventorying all invasive species, including the risk each species poses and the efficacy of available treatments.
- Document all of the invasive species program's internal policies and procedures.
- Develop and implement controls for reporting accurately how much the agency is spending to combat invasive species, both locally and nationally.
- Revise the agency's overall strategy for the invasive species program, and establish a control for revising that strategy once every 5 years.
- Implement a monitoring plan to assess the invasive species program and related internal controls. The assessments should include, but not be limited to, the program's efficiency,

effectiveness, accountability, coordination efforts, and management activities of each deputy area.

- Develop a standard for how many acres should be affected by each of the agency's treatments, and require the regions to follow those standards when reporting performance results.
- Conduct an overall review of the agency's information systems for the invasive species program and take steps to ensure that the systems are adequate to report valid data.

Agency Response

FS generally supported all audit recommendations. We have incorporated portions of the FS response, along with our position, in the applicable sections of this report. The agency's written response is included at the end of this report.

OIG Position

Based on the response, OIG accepts FS' management decisions on the proposed actions for all audit recommendations. Some of the audit recommendations will take longer than 1 year to implement. Accordingly, FS provided interim plans and milestones to demonstrate the actions the agency will be taking to resolve the weaknesses we identified.

Background & Objectives

Background

As an agency of the Department of Agriculture (USDA), Forest Service (FS) manages public lands in national forests and grasslands encompassing 193 million acres in 44 States, Puerto Rico, and the Virgin Islands. With 9 regions managing 155 national forests and 20 national grasslands, FS is the largest land managing agency within USDA, and also the largest forestry research organization in the world, providing technical and financial assistance to State and private forestry agencies. Its mission is to sustain the health, diversity, and productivity of the Nation's forests and grasslands so that they may meet the needs of present and future generations. Included in this mission is the responsibility for preventing the introduction of invasive species into the lands FS manages, and combating those invasive species that have already been introduced.

Four FS components perform activities related to managing invasive species for the agency:

- The National Forest System deputy area directly administers 193 million acres of national forests, grasslands, and land utilization projects. This deputy area is charged with policy development and on-the-ground management of national forests and grasslands. The National Forest System can treat all invasive pathogens and species on all Government-owned national forest land; however, the deputy area mainly combats invasive plants¹ and noxious weeds.²
- The State and Private Forestry deputy area cooperates with State and local governments, forest industries, and other private landowners and forest users in the management, protection, and development of forest land in non-Federal ownership. This deputy area has primary responsibility for surveying, detecting, monitoring, and managing forest insects and diseases in Federal, state, and private forest lands. State and Private Forestry is also responsible for minimizing the spread of established invasive species and lessening the damages caused by native insects and diseases.
- The Research and Development deputy area provides the scientific and technical knowledge necessary for wise natural resource policies and management decisions through research conducted at its network of forest and range experiment stations and the Forest Products Laboratory. This deputy area provides fundamental knowledge and technology on the effects of native and invasive insects, diseases, and weeds on forest and range health.
- International Programs³ has a role in formulating policy and coordinating United States support for the protection and sound management of the world's forest resources. This

¹ Invasive plants are introduced species that can thrive in areas beyond their natural range of dispersal and are characteristically adaptable and aggressive and have a high reproductive capacity.

² Noxious weeds are those plant species designated as noxious weeds by the Secretary of Agriculture or by the responsible State official (as defined by FS Manual 2080, dated November 1995).

³ Our scope did include a preliminary review of International Programs and the Research and Development deputy area's invasive species management activities. Our review concluded that the program's administrative oversight fell to State and Private Forestry and National Forest Systems.

area focuses *primarily* on invasive species that enter North America from the Asia-Pacific region and forest pests from North America that have invaded Asian countries.

The Invasive Species Problem

Invasive species are plants, invertebrates, vertebrates, and disease-causing pathogens that are non-native to an ecosystem, and whose introduction is likely to cause harm to the environment, the economy, or human health.⁴

Described by FS' National Strategy and Implementation Plan for Invasive Species Management as a "catastrophic wildfire in slow motion," invasive species have infested hundreds of millions of acres of land and water, caused massive disruptions in ecosystems, and reduced biodiversity in forests, prairies, mountains, wetlands, rivers, and oceans. Invasive species negatively affect native species by competing with them for nutrients, light, physical space, and water or food, ultimately contributing to the decline of native species. Overall, society pays a high price for invasive species, as they can cause food and water shortages, increased rates and severity of natural disasters, and disease epidemics. Due to the expansion of global trade, travel, and changing land use patterns, invasive species infestations continue to escalate rapidly and their costs to society are also increasing.

Studies have suggested that invasive plants already exist in all 50 states and over 100 million acres of land and water in the United States while continually spreading at a rate of 14 million acres per year.⁵ Invasive species typically have high reproductive rates, disperse easily, and can tolerate a wide range of environmental conditions. Since these species often lack predators in their new environments, they can impair the restoration of forest health, damage goods and services from forests, endanger native species, and increase the threat of fire since insect, disease, and invasive plant infestations also increase the volume of hazardous fuels. These fuel loads can increase the frequency and intensity of fires by providing large amounts of dry material, thereby creating the conditions and potential for catastrophic wildfires. There are at least 4,500 free-living populations of foreign plants and animals throughout the United States; of that, 675 or 15 percent are considered invasive—and of that—79 species are deemed the worst invaders. Although the most detrimental invasive species seem relatively small, they have accounted for \$97 billion in documented losses from 1906 to 1991. Given the unprecedented threats facing the Nation's forests—including climate change, catastrophic fires, and invasive species—the Secretary of Agriculture recently recognized that "there's no doubt" that our forests are "facing a health crisis."⁶

Authority to Meet the Challenges Posed by Invasive Species

In February 1999, the President signed Executive Order 13112, which authorized FS and other Federal agencies to conduct invasive species management activities through the use of relevant

⁴ As derived from *Executive Order* 13112, "Invasive Species," dated February 3, 1999, and FS' definition.

⁵ National Wildlife Refuge System, "America's Silent Killer: How Invasive Species Threaten America's Unique Wildlife Heritage."

⁶ Excerpts from August 14, 2009 speech given in Seattle, Washington by Secretary of Agriculture Tom Vilsack.

programs and authorities.⁷ This order also established the National Invasive Species Council, an inter-Departmental council that provides national leadership and oversight on invasive species, ensures that Federal agency activities are coordinated and effective, works in partnership with States, and provides for public input and participation. Executive Order 13112 directs Federal agencies to use relevant programs and authorities to:

- prevent the introduction of invasive species;
- detect, respond rapidly to, and control populations of such species in a cost-effective and environmentally sound manner;
- monitor invasive species populations accurately and reliably;
- provide for the restoration of native species and habitat conditions in ecosystems that have been invaded;
- conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species;
- promote public education on invasive species and the means to address them; and
- not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species, and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

In Exhibit A, we provide a list of other invasive species management authorities which enable FS to play a major role in the fight against invasive species.

FS' Invasive Species Management

FS has a leading role in addressing invasive species threats at the local, State, and national levels, as well as internationally. It has the responsibility and authority to provide technical and financial assistance (primarily for insect, disease, and invasive plant suppression) for all the Nation's more than 731 million acres of forest lands.⁸ To enable it to play its role in the fight against invasive species, FS has several unique characteristics and authorities, including the agency's (1) broad existing authorities and responsibilities assigned to the Chief; (2) expertise in land management, research, entomology, pathology, ecology, and countless other specialties; (3) presence across the country and around the world; and (4) relationships and partnerships with other Federal agencies and international, State, and territorial agencies and organizations with invasive species responsibilities.

The goal of FS' invasive species program is to reduce, minimize, or eliminate the potential for introduction, establishment, spread, and impact of invasive species across all landscapes and ownerships.⁹ In addition, one goal of FS' Strategic Plan for fiscal years (FY) 2007-2012 is to

⁷ The other Federal agencies are the Department of Agriculture's Animal and Plant Health Inspection Service, Agricultural Research Service, National Institute of Food and Agriculture (formerly known as Cooperative State Research, Education and Extension Service); and the Department of Interior's U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, and Bureau of Indian Affairs.

⁸ Forestlands include urban, state, private, and tribal lands, along with forested lands managed by other Federal agencies.

⁹ "Introduction" is the arrival of an invasive species in an area where it was not previously established. "Establishment" is the development of a free-living, reproducing population of an invasive species.

restore, sustain, and enhance the nation’s forests and grasslands. An objective under this goal is to reduce the adverse impacts from invasive species, pests, and diseases.

FS states that over 400 listed threatened and endangered species use and depend on national forest and grassland habitat. Supplying appropriate ecological conditions for these species is crucial to meeting the agency’s mission and its legal requirements to provide for plant and animal community diversity, species viability, and species conservation and recovery. FS identified invasive species as one of the four major threats that the Nation’s forests and grasslands will face in the 21st century.

In response to the threat of invasive species, a multidisciplinary team of specialists, managers, and researchers worked together to publish, in October 2004, a National Strategy and Implementation Plan for Invasive Species Management to guide FS in addressing the invasive species problem. The national strategy encompasses four program elements: (1) prevention, (2) early detection and rapid response (EDRR), (3) control and management, and (4) rehabilitation and restoration. These four program elements reflect the priority areas of emphasis identified in the National Invasive Species Management Plan issued by the National Invasive Species Council in 2001.

The National Strategy and Implementation Plan for Invasive Species Management states that preventing an invasive species from ever being introduced and becoming established is the most effective strategy against invasive species. Prevention efforts focus on keeping an invasive species out of the United States. EDRR efforts focus on quickly detecting and eradicating invasive species to stop them from spreading. EDRR is considered the “second line of defense” and is a critical component of any effective invasive species management program. Control and management efforts focus on eliminating and controlling the invasive species problem. When invasive species become established, a strategic approach for control is required to minimize their effects or limit their spread. Rehabilitation and restoration efforts focus on healing, minimizing, or reversing invasive species’ harmful effects. FS’ National Strategy and Implementation Plan for Invasive Species Management provides that the agency is striving to restore or rehabilitate degraded areas to their proper ecological function to prevent the emergence or reoccurrence of invasive species.

The following table shows the number of acres^{10, 11} in which FS conducted invasive insect, disease, and plant suppression, prevention, and management:

	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008
Cooperative lands (acres)	908,807	782,148	738,863	979,771
Federal lands (acres)	294,799	247,174	216,824	433,828

The invasive species program does not have a budgeted line item specifically designated for all of FS’ invasive species activities. Instead, funding is appropriated to the various budget line items that support the overarching framework of FS’ annual strategic plan for invasive species. For FYs 2005 and 2006, total funding provided under FS’ Strategic Goal 2—Reduce Impacts of Invasive

¹⁰ Cooperative lands are those that belong to States, local governments, private organizations, and individuals.

¹¹ President’s Budget Request for FY 2007 and FY 2010.

Species—was \$186 million and \$125 million, respectively. For FYs 2007-2009, FS' Strategic Goal for invasive species was encompassed under the broader Goal 1—Restore, Sustain, and Enhance the Nation's Forests and Grasslands. For this goal, there are five objectives, with one objective designated to “reduce adverse impacts from invasive and *native* species, pests, and diseases”. In FY 2007, \$2.6 billion was available for this goal; in FY 2008, \$2.7 billion; and in FY 2009, \$2.9 billion.¹²

Objectives

The objectives of the audit were to (1) assess FS' controls over the administration and reporting of the invasive species program and (2) evaluate the efficiency and effectiveness of FS' actions to reduce, minimize, or eliminate the potential for introduction, establishment, spread, and impact of invasive species across forest landscapes.

¹² The presentation of the totals is not meant to represent actual invasive species funding; however, it does illustrate the amount of funding available to be used for invasive species activities at FS' discretion.

Section 1: Internal Control Structure

Finding 1: FS Needs to Establish Adequate Internal Controls over the Invasive Species Program

Although FS acknowledges that responding to the invasive species threat poses an organizational challenge, the agency has not established the adequate and cohesive internal control structure necessary to foster program efficiency, effectiveness, and management accountability. Instead, FS' invasive species program lacks internal controls such as policies and procedures for its activities, clear management authority and responsibilities for the three deputy areas¹³ that manage invasive species, and accurate information concerning how much the agency is spending on the program. These problems have occurred because, historically, FS' structure involves functional areas and field units that operate independently of one another. For the invasive species program, FS' deputy areas are not cohesively working together to address the invasive species problem as a whole while they simultaneously deal with specific invasive species in their local environments. Without improved internal controls, FS cannot make meaningful statements about the performance of the program, whether Federal funds are being spent wisely, or whether invasive species treatments are effective or efficient.

Effective stewardship of Federal funds depends upon certain internal controls meant to ensure that those funds are used to accomplish the program's intended purpose. As described by the Government Accountability Office, the standards for internal control in the Federal Government include (1) establishing a control environment that sets a "positive and supportive attitude toward internal control and conscientious management;" (2) assessing the risks that the agency faces from both external and internal sources; (3) establishing control activities, which are the policies, procedures, techniques, and mechanisms that enforce management's directions; (4) communicating information within the agency so that decision makers are able to carry out their responsibilities; and (5) monitoring the quality of the program's performance over time and ensuring that the findings of audits and other reviews are promptly resolved.¹⁴

We found that there were shortcomings in FS' internal control structure for the invasive species program in each of these five areas. Some of these shortcomings—such as FS not determining the overall size of the invasive species problem, or not being able to state how much it was spending to combat invasive species—prevented us from evaluating the effectiveness and efficiency of FS' actions. While the agency is certainly engaged in many activities that do combat invasive species at the local level, and while FS may make some statements about the effectiveness and efficiency of those local efforts, the agency cannot make accurate, overall statements about the nationwide effectiveness of its invasive species program.

¹³ Our scope did include a preliminary review of International Programs and the Research and Development deputy area's invasive species management activities. Our review concluded that the program's administrative oversight fell to State and Private Forestry and National Forest Systems.

¹⁴ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

Control Environment

Establishing an adequate control environment for the invasive species program includes developing an organizational structure and assigning authority and responsibility in a way that contributes to internal control.¹⁵

FS' historical management approach involves dividing responsibilities for the invasive species program between three deputy areas, without any one of them having overall authority. In order to help these deputy areas work together, FS established a National Invasive Species Issue Team (NISIT) in 1998 to coordinate national issues and activities associated with invasive species management. Core program representation of NISIT consists of officials from FS' three deputy areas—the National Forest System, State and Private Forestry, and Research and Development. In addition to the core team, NISIT members, also included a multi-disciplinary set of national-level staff, which represents a variety of FS programs that are associated with managing invasive species. This collective team is intended to help plan, implement, and perform individual activities that broadly fall under the framework for invasive species management. NISIT was chartered to coordinate, collaborate, identify, and evaluate FS' capabilities and limitations and implement priorities as directed by agency leadership. In addition, to help span boundaries between deputy areas, the team was to provide guidance to the regional invasive species issue teams and receive input from them.

We contend that NISIT no longer functions as an effective intra-agency communication tool for invasive species issues. Although NISIT used to meet monthly, it currently does not meet regularly, and it no longer meets with regional invasive species issue teams. It also lacks managerial responsibility to cohesively establish and enforce policies and procedures for the program as a whole.

FS has recently taken an additional step to improve its control environment for activities spanning its deputy areas. In September 2008, FS initiated SLM-BOD to deliver an agencywide approach to vegetation management including policy, oversight, and direction. We are concerned, however, that SLM-BOD does not necessarily focus on invasive species as one of its priorities, and also that its structure resembles that of NISIT in that it does not assign managerial responsibility and authoritative oversight for the invasive species program.

We also noted that the Washington Office did not assign overall authority at a national level for ensuring that regional strategies corresponded to the National Strategy and Implementation Plan for Invasive Species Management. In late 2006, the Washington Office informally instructed each region to develop an invasive species management strategy in line with the National Strategy and Implementation Plan for Invasive Species Management. The responsibility for ensuring that these strategies were properly developed fell to each regional forester although the Washington Office informally reviewed some of the regional strategies. Three years after the Washington Office initiated the region-wide invasive species management strategy, we requested the status of those strategies for all FS regions. However, the Washington Office could not provide us with a status or copies of the strategies until after first contacting each region.

¹⁵ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

We concluded that for FS to manage the invasive species program across its deputy areas, the agency must establish a control environment that assigns authority and responsibility for the program's objectives.

Risk Assessment

As part of establishing clear and consistent agencywide objectives and supporting activity-level objectives, management must thoroughly identify the risks—both internal and external—that may affect the agency's ability to meet those objectives.¹⁶

For FS and the invasive species program, assessing the risks the agency faces means determining the size of the invasive species problem. A clear awareness of the size of this threat is essential for determining what resources should be brought to bear, whether the size of the problem is increasing or decreasing, and if the agency's treatments are successful. We found, however, that FS has not consolidated this essential information concerning invasive species, the risk they pose, and the available means for combating them. This important risk assessment has not been performed because FS has not assigned the managerial authority necessary to run a cohesive program, and the deputy areas have not collaborated to complete the assessment. Without this information, managerial decisions at the Washington Office level are not being based on vital considerations such as the potential harmful impact of the species in question and the efficacy of treatment (see Finding 2).

Control Activities

Agencies should develop and implement appropriate policies, procedures, techniques, and control mechanisms to ensure adherence to the agency's established directives.¹⁷

For the invasive species program, we found that the FS Washington Office has not fully documented its policies and procedures for regional- and field-level activities. These policies are undocumented because agency officials regard the National Strategy and Implementation Plan for Invasive Species Management, specific laws and regulations (such as the 1998 Executive Order concerning invasive species and the Noxious Weed Act), and NISIT as sufficient tools for coordinating the invasive species work among the different deputy areas responsible for invasive species management. While we found that FS employees have the expertise and knowledge to perform their job duties associated with invasive species management, FS' workforce, like that of numerous other Federal agencies, is likely to see a great deal of turnover in future years as many employees retire. In OIG's Major USDA Management Challenges' (dated August 2010), we pointed out that there will be increased pressure on staff during implementation of such laws as the 2009 Farm Bill and the Recovery Act. We believe that the programmatic changes derived from new laws, coupled with continual decline of human capital resources, would only exacerbate FS' need to fully document all of its internal control activities, such as those in the invasive species program.

¹⁶ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

¹⁷ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

We concluded that it is important that this day-to-day job knowledge be established in policies and procedures for performing program functions. Without such control activities, FS has reduced assurance that Federal funds spent on invasive species are being used in the most efficient and effective manner possible.

Information and Communication

In order to ensure the proper functioning of their programs, agencies must put systems in place to identify and record pertinent information so that such information can be communicated to decision makers in a form that enables them to carry out their duties and responsibilities efficiently and effectively.¹⁸

We found two instances in which invasive species information was not being effectively shared within FS.

- The National Forest System and State and Private Forestry deputy areas miscommunicated when developing an outcome measure for the invasive species program to be reported to OMB. During the 2004 Program Assessment Rating Tool review, OMB requested that FS provide a measure based on risk. Without involving the National Forest System, State and Private Forestry met with OMB to discuss a new measure, but the new measure excluded National Forest System's activities (see Finding 3). As a result, FS is not reporting the successes of the entire agency's invasive species program activities.
- In 2001, the Deputy Chiefs for the three deputy areas signed a memorandum of understanding (MOU) between FS and the Animal and Plant Health Inspection Service (APHIS) for rapid detection and response to introduction of non-native invasive forest insects, pathogens, and plants. The MOU expired in April 2006, but FS could not explain why it decided not to renew the MOU, or the ramifications for not having an existing MOU. Currently, no complete system for EDRR exists in FS. Rather, FS manages separate components of an EDRR system that includes collaboration and coordination efforts with APHIS and other partners. FS' lack of oversight in ensuring that the APHIS MOU remained in effect, left an already fragmented EDRR system without a key component.

Both of these problems illustrate FS' challenge in communicating important information within the agency.

Monitoring

For an agency to have adequate internal controls, it must assess the quality of its performance over time, which it accomplishes by putting procedures in place to monitor internal control as a part of carrying out its regular activities.¹⁹

We found three problems with how FS was monitoring its internal controls over the invasive species program. Above all, FS cannot state with accuracy how much money it

¹⁸ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

¹⁹ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1).

is spending on the invasive species program. Within its budget structure, FS does not have one overall budget line item designated for its invasive species program activities. Instead, FS allocates funding through various line items within each deputy area. For instance, 17 different budget line items could possibly fund an invasive species-related activity. These line items can also include other activities and each deputy area has different line items.

Due to how FS accounts for its funds, it cannot readily state, for example, how much money it spends annually on the invasive species program, or how much it is spending to control any given species. Individual regions or forests can state how much they are spending on local projects because of unofficial records they keep, but this information is not required by the Washington Office who, ultimately, are the decision makers for the invasive species program.

Second, FS is not performing comprehensive reviews to evaluate the invasive species program. The Washington Office does perform reviews of regional activities; however, invasive species may or may not be a component of these reviews. Even if invasive species are part of the Washington Office reviews, the reviews are for a specific deputy area. Also, regions do perform field-level reviews of invasive species program activities for individual deputy area activities, but these reviews are informal and the results were not communicated beyond the individual regional or national forest offices that performed the reviews. The Washington Office does not have an integrated process for capturing or analyzing the results of its compliance reviews, per deputy area or field level, to identify overall weaknesses within the invasive species program so that appropriate actions can be implemented to resolve program inefficiencies.

Third, we noted that, in October 2004, FS developed the National Strategy and Implementation Plan for Invasive Species Management for its three deputy areas to unify FS' existing invasive species activities, but that strategy has not been updated, even though the Government and Performance Results Act of 1993 (GPRA) requires strategic plans to be updated at least every 3 years. FS has also not assessed whether it has timely and effectively implemented the strategy.

We concluded that FS needs to take steps to improve its internal control over the invasive species program. As stated in OIG's 2010 Major USDA Management Challenges, USDA agencies need to implement strong, integrated, internal control systems, as agencies have a history of reacting to individual control issues rather than addressing the overall weaknesses of their internal control systems. FS' challenge is to develop a unified approach to accomplishing the mission of the invasive species program. The various deputy areas must understand and appreciate the interrelationships of their programs and work together to create a cohesive and integrated system for administering the invasive species program.

It is especially vital that FS take steps to improve its internal controls for the invasive species program since the American Recovery and Reinvestment Act²⁰ of 2009 (Recovery Act) provided

²⁰ The Recovery Act requires USDA OIG to oversee FS' (and other agencies') activities in order to ensure Recovery Act funds are spent in a manner that minimizes the risk of improper use. Any issues related to invasive species activities funded by the Recovery Act will be reported in our audits of *Forest Service's Use of ARRA Funds for Hazardous Fuels Reduction-Federal Lands (08703-1-AT)* and/or *ARRA-Forest Service Hazardous Fuels Reduction/Ecosystem Restoration on Non-Federal Lands (08703-5-SF)*

\$1.15 billion in funds to FS for projects that directly accomplish its mission, one of them being sustaining the nation's forests and grasslands. As of September 9, 2009, the Secretary of Agriculture had announced that \$127 million could be used on projects that will include invasive species. However, based on our review of FS' internal control over the invasive species program, we do not believe that FS is ready to meet the higher standard of oversight associated with this additional funding until the agency addresses the following recommendations.

Recommendation 1

Renew the memorandum of understanding with APHIS for providing EDRR to new invasive species, or establish a programwide policy of providing EDRR within FS.

Agency Response

The FS concurs with this audit recommendation. The agency will establish a program wide policy of providing EDRR within FS. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register on or before December 31, 2010. Development of the accompanying Forest Service Handbook (FSH) will begin on December 31, 2010, with planned completion on December 31, 2012.

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 2

Document all of the invasive species program's internal policies and procedures.

Agency Response

The FS concurs with this audit recommendation. During the development of the new National Forest System Invasive Species Management policy (Forest Service Manual 2900), all relevant authorities (laws, policies, executive orders, and regulations) associated with invasive species management were identified, compiled, and described. The new manual (FSM 2900) will provide Forest Service employees with a single compilation of policy guidance for all National Forest System invasive species management activities. Forest Service Manual 2900 will also provide a basis for the accompanying Forest Service Handbook (FSH) for National Forest System invasive species management activities. This future Forest Service Handbook will articulate detailed operational responsibilities, actions, guidance, criteria, procedures, and requirements for implementation of invasive species management programs pursuant to FSM 2900. All relevant sections to SPF FS Manual will be cross-referenced in the new NFS FS Manual so the user can easily move from one section to another and across Deputy Areas. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period,

the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012.

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 3

Develop an adequate, cohesive internal control environment for managing the invasive species program. Ensure that all three deputy areas are represented and that responsibilities and accountability over the program are well established, including involving regional counterparts in the program's management.

Agency Response

The FS concurs with this audit recommendation. To improve the internal control mechanisms for invasive species management on National Forests and Grasslands, the Forest Service will be issuing a new National Forest System Invasive Species Management policy (Forest Service Manual 2900) to provide employees with guidance and requirements for all related NFS program operations. FSM 2900 specifies roles and responsibilities associated with invasive species management for all leadership levels of the agency (including the Chief, Deputy Chiefs, Directors, Forest Supervisors, and District Rangers). Once established, the new FSM 2900 policy will be accompanied by a new Forest Service Handbook (FSH) which will further define the internal control requirements for managing invasive species. Cross references to other Deputy Area manual directions will be included in the Manual. In addition, to improve overall program effectiveness and ensure adequate cohesive internal control environment for all Forest Service activities against invasive species, the agency will conduct comprehensive cross-deputy area program reviews at the Regional and Local levels on a regularly scheduled cycle. These program reviews will examine all agency operations with respect to invasive species management policy, law, and other requirements, and will establish and enforce accountability expectations at all levels. These program reviews will be designed to improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure consistency across the agency.

The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period, the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012. One comprehensive Regional invasive species management review will be conducted each year, beginning December 21,

FY2011, with an additional two program-specific reviews conducted every two years (beginning December 31, 2013).

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011. One comprehensive Regional invasive species management review will be conducted each year, with the first comprehensive Regional management review to be completed by September 30, 2011.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 4

Develop and implement controls for reporting accurately how much the agency is spending to combat invasive species, both locally and nationally.

Agency Response

The FS concurs with this audit recommendation. Financial information related to National Forest System management costs and expenses are typically tracked via the Work Plan and FACTS databases. In 2009, it was noted that Work Plan did not include a full suite of work activity codes for invasive species management work. Since then, the NFS invasive species program has been working to update/modify the database to provide this capability and allow for better accounting of invasive species management expenditures at the field level, regional level, and national level. In addition the Forest Service Handbook (FSH) for National Forest System invasive species management activities will articulate detailed operational responsibilities, actions, guidance, criteria, procedures, and requirements for implementation of invasive species management programs pursuant to FSM 2900. This new Forest Service Handbook will include guidance on managing and tracking unit costs for invasive species management activities. Forest Health Protection reporting databases (Forest Accomplishment Data or FAD) are cross-linked with FACTS. FACTS can retrieve FHP data from FAD and report it as a FACTS data element. Research and Development performance and budget databases track invasive species Strategic Program Area funding and accomplishment by program area and pest. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period, the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012.

Additional Milestones: The FS will update or modify its databases by June 2011 to enable accurate reporting on how much the agency is spending to combat invasive species.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 5

Implement a monitoring plan to assess the invasive species program and related internal controls. The assessments should include, but not be limited to, the program's efficiency, effectiveness, accountability, coordination efforts, and management activities of each deputy area.

Agency Response

The FS concurs with this audit recommendation. In addition, to improve overall program effectiveness and ensure adequate cohesive internal control environment for all Forest Service activities against invasive species, the agency will conduct comprehensive cross-deputy area program reviews at the Regional and Station level on a regularly scheduled cycle. These program reviews will examine all agency operations with respect to invasive species management policy, law, and other requirements, and will establish and enforce accountability expectations at all levels. These program reviews will improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure consistency across the agency. The first cross-deputy Review will be conducted by December 31, 2012.

Additional Milestones: The first comprehensive cross-deputy review will be conducted on or before September 30, 2011. The review will include a process to improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure consistency across the agency.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 6

Revise the National Strategy and Implementation Plan for Invasive Species Management for the invasive species program, and establish a control for revising that strategy once every 5 years

Agency Response

The FS concurs with this audit recommendation. The Forest Service will convene a cross-programmatic, multidisciplinary team to review and update the National Strategy and Implementation Plan for Invasive Species Management, and establish a process for revising the document once every 5 years. We will establish the national team by July 31, 2011 to begin the revision of the Strategy which will be accomplished by December 31, 2012.

OIG Position

We accept FS' management decision on this recommendation.

Section 2: Size and Scale of the Invasive Species Problem

Finding 2: Forest Service Needs to Inventory the Invasive Species in the United States and Assess the Risks Associated with Them

Before it can begin dealing effectively and efficiently with the invasive species problem, FS must identify the size and scale of the problem, a process that should include determining the number of species involved, the risk associated with each species, and the efficacy of the treatments available for combating these threats. Such information should enable managers to make informed decisions about how FS' limited resources should best be allocated. We found, however, that FS has not consolidated this essential information. While the agency established the goal of creating a comprehensive invasive species inventory in 2004, the three deputy areas have not collaborated to reach this goal, in part because the invasive species program lacks focus, as described in Finding 1. We conclude that nationwide managerial decisions would be more effective if they were based on a complete inventory of invasive species prioritized by risk and the efficacy of treatment.

The Government Accountability Office (GAO) states that agencies should determine the risks they face from both external and internal sources.²¹ While this requirement speaks to the development of an overall strategy for an agency, we believe that FS' National Strategy and Implementation Plan for Invasive Species Management could also benefit from these standards set forth by GAO. In its 2004 National Strategy and Implementation Plan for Invasive Species Management, FS set a goal of developing a comprehensive inventory of all invasive species for all national forest lands and waters, including neighboring lands where appropriate, and conducting a comprehensive risk assessment for all invasive species. Since 1995, FS also required its regional foresters to maintain a consolidated noxious weed inventory.²²

Despite the importance of this information to facilitate making decisions about how to allocate FS' limited resources, we found that the agency has not yet made inventorying invasive species a program-wide practice. One region we visited had a comprehensive inventory of only invasive plants located within its national forest system lands, but another region did not have such an inventory. None of the regions we visited had an inventory for all invasive species on State and private lands. Moreover, the Washington Office did not require that the regions maintain an overall inventory for all invasive species.

When we spoke to FS officials about this problem, they agreed that the agency has not identified the size of the invasive species problem, but there were different opinions on the need for such an inventory and the amount of data that would have to be consolidated. While National Forest System has responsibilities for over 190 million acres, State and Private Forestry has an even bigger footprint covering all states and private lands. In searching for an answer as to why FS has not determined the extent of its invasive species problem, it became apparent that there was no one single answer. One could argue that the three deputy areas have not worked together to determine the extent of the types of invasive species, or that disagreements exist among FS

²¹ November 1999 GAO report entitled "Standards for Internal Control in the Federal Government" (GAO/AIMD-00-21.3.1). Risk assessment is the identification and analysis of relevant risks associated with achieving an agency's strategic objectives.

²² FS Manual 2080, dated November 29, 1995.

officials on how extensive the invasive species problem is, or that the science simply does not exist for capturing the magnitude of the problem. Considering the underlying causes, FS must still decide how to effectively identify the size of its invasive species problem while efficiently using the resources it has available. We noted that FS has information technology tools that could be used for developing such a comprehensive inventory, such as the Natural Resource Information System, coupled with the expertise from the Forest Health Monitoring program and the Forestry Inventory and Analysis program. However, none of these resources have been used to the fullest extent to develop a comprehensive invasive species inventory.²³

Until FS develops a programwide inventory practice, which includes assigning responsibility for gathering, consolidating, and maintaining this inventory, the agency will not have useful information for making decisions about how best to distribute its limited resources. Attempting to determine the risk posed by invasive species is ineffective if there are not complete data describing what species are present, how many acres are infested with invasive species, where the infestations are, and what treatments might be applied, with what expectation of success. Once FS has established such an inventory, managers will be better able to effectively align program activities and resources so that they can achieve the agency's strategic goal of reducing the adverse impacts from invasive species.

Recommendation 7

Develop an inventory plan including responsibilities, time frames, and benchmarks for inventorying all invasive species, the risk each species poses, and the efficacy of available treatments. As part of establishing that inventory, FS should also assign responsibilities for maintaining the inventory and ensure that all regions and deputy areas are involved.

Agency Response

The FS concurs with this audit recommendation. Setting priorities and focusing invasive species management activities in an efficient manner are critical to the future success of the National Forest System invasive species management program, and all deputy areas. The potential vulnerability of the System's diverse landscapes varies with each site, and each species. For many invasive species infestations, their impact is already so large that containment is usually the only management option. Therefore, priority landscapes would focus on surveying, detecting, and quantifying the extent of invasive species infestations. The FS will establish inventory plans for priority species on NFS lands, coordinated with all deputy areas, and conduct inventories assuming funds are available for this activity. In addition, national aerial surveys for insect and disease of forestlands (both public and private) occur every year over about 500 million acres of forests. From these nationally standardized surveys forest insects and pathogens are identified and evaluated for further action. In addition early detection of forest insects (bark beetles and wood borers) occurs in representative areas throughout the country. New pest finds are evaluated as they are found to determine the proper course of action. The FS will expand this system of early detection

²³ The Natural Resource Information System, a computerized application for storing records of invasive species surveys, inventory, and trends of infestation spread is primarily used by the National Forest System for invasive plants. The Forest Health Monitoring program, which assesses long-term forest health conditions, is managed by State and Private Forestry for forest insects and diseases. The mission of the Forestry Inventory and Analysis program, which is managed by Research and Development, is to make and keep current a comprehensive inventory and analysis of the conditions of United States forests and rangelands.

of forest insects to more groups of insects as new techniques allow. The system currently includes all FS Regions. The agency will begin development of an inventory plan for the Forest Service by December 31, 2011 which includes all deputy areas.

Additional Milestones: The agency will begin development of an inventory plan for the Forest Service by September 30, 2011 which includes all deputy areas.

OIG Position

We accept FS' management decision on this recommendation.

Section 3: Performance Accomplishments

Finding 3: FS Needs to Improve How It Tracks and Reports its Performance Accomplishments for the Invasive Species Program

Like all Federal agencies, FS is required to report accurate information concerning how well the invasive species program is performing. We found, however, that there were some problems with how FS was reporting this data. The agency had not standardized how many acres were affected by different treatments, which meant that regions reported their work very differently. Additionally, when FS reported its performance information to OMB, it neglected to include data from one of its deputy areas. And, finally, we found numerous problems with the information systems used to gather performance data—these problems decreased the probability that FS was accurately stating the results of its activities. These shortcomings in how FS reported its accomplishments are attributable to the general lack of cohesiveness in the program as a whole. Until these weaknesses are corrected, FS will not be able to report information that accurately depicts agency accomplishments in combating invasive species.

According to GAO, part of establishing an effective program includes developing controls for gathering useful information about the program’s performance and communicating that information to relevant decision makers.²⁴ Government programs are required to assess their performance, not simply in terms of how much work they do—their output—but how effective that work is in achieving their objectives—the outcomes of their work. Outcome-based performance measures (e.g., “percent of acres at risk of mortality due to insect pests and diseases, or of infestation by invasive plants on which risk is reduced”) rely on output-based performance measures (e.g., “number of acres treated”). For an agency to assess its progress towards achievement of performance goals, its performance data must be accurate and reliable.²⁵

We found four deficiencies with how FS was gathering and reporting information relating to the performance of the invasive species program. For example, staff had to estimate the acres treated for hemlock wooly adelgid (invasive insects) because of lack of guidance. In addition, other staff developed their own methodologies for determining treated acres when dealing with infestations of invasive insects and invasive feral pigs (wild hogs).

FS Needs to Develop Standards for Determining How Many Acres are Affected by its Various Treatments

FS’ performance measures for the invasive species program rely on counting the number of acres that have been treated to combat the many different invasive species; however, FS has not developed adequate standards for consistently quantifying the effects of its various treatments. Under the National Forest System Invasive Species Program Business Rules and National Standards, FS developed protocols necessary for entering and managing site-specific treatment records. However, these business rules only apply to National Forest Systems and are limited to

²³ November 1999 GAO report entitled “Standards for Internal Control in the Federal Government” (GAO/AIMD-00-21.3.1).

²⁴ Office of Management and Budget Circular A-11, Part 6, dated August 2009.

invasive plant treatments. We acknowledge that FS faces some challenges in quantifying the different array of treatments in terms of acres treated (e.g., standardizing how many acres have been treated by shooting a wild hog). However, to ensure consistent reporting of its performance, FS should establish standards by each type of treatment, as well as conduct routine follow-up with its regions to ensure they report their work according to those standards.

Instead, we found instances where regional staff were relying on their own methodology for measuring acres of invasive species treatments and reporting the results of their work:

- Regional staff were unsure how to report the “acres treated” that resulted from hemlock wooly adelgid (an invasive insect) treatments on national forest lands in FYs 2005 and 2006. Since no guidance had been provided for reporting hemlock wooly adelgid accomplishments, an official at one Forest Health Protection office was estimating the “acres treated” for each treatment. This official stated that FS needed new standards to measure hemlock wooly adelgid treatments if the work done in the field is going to be accurately reported in the database.
- Given the confusion over how hemlock wooly adelgid treatments were to be reported, officials from two national forest offices in one region established their own standards for quantifying the “acres treated” for the two methods they were using in FY 2007. They regarded an “acre treated” as 20 hemlock trees chemically treated and a single biological control agent release²⁶ as 8 acres treated. These officials developed this method on their own initiative because they perceived that a standard was necessary, but they did not consult or even advise or communicate with the Washington Office as to the measure they were using.
- One region developed its own method for quantifying the “acres treated” by shooting wild hogs. After determining that a wild hog could cause approximately 1 square mile of damage, or 640 acres, the region reported more than 100,000 acres treated in FY 2008, most of this resulting from killing hogs during organized hunts. The regional official stated that other regions were not necessarily following this practice.
- One national forest official stated that if his forest were treating an aquatic invasive species infestation, then he could count the entire body of water as treated after a single treatment, and report the number of “acres treated” accordingly.

To ensure that FS is consistently reporting its invasive species accomplishments, the agency needs to standardize how many acres are being affected by each type of treatment, and then require its regions to report their work according to these standards.

²⁶ The introduction of natural enemies, usually from the invasive species’ native range, with the intent of establishing a permanent population that will provide control of the invasive species. *United States. Department of Agriculture. Forest Service Pacific Northwest Research Station. Meeting the Challenge: Invasive Plants in Pacific Northwest Ecosystems. By Timothy B. Harrington and Sarah H. Reichard. USDA, June 2007 (http://www.fs.fed.us/pnw/pubs/pnw_gtr694.pdf).*

FS Needs to Report the Accomplishments of the National Forest System Deputy Area in its Program Assessment Rating Tool

The National Forest System and the State and Private Forestry deputy areas have similar outcome performance measures relating to combating invasive species—the National Forest System tracks “the percentage of priority acres restored against targeted invasive species” while State and Private Forestry tracks the reduction “of the percent of acres at risk of mortality due to insect pests and diseases, or of infestation by invasive plants on which risk is reduced.” However, at present, when FS is reporting its results as part of OMB’s Program Assessment Rating Tool (PART), it is reporting only State and Private Forestry’s outcome performance.

As part of the Government Performance and Results Act, OMB and Federal agencies work to assess and improve program performance so that the Federal Government can achieve better results—this is known as the program assessment rating tool, or the PART review. PART reviews help identify a program’s strengths and weaknesses to inform funding and management decisions aimed at making the program more effective. The PART therefore looks at all factors that affect and reflect program performance including program purpose and design; performance measurement, evaluations, and strategic planning; program management; and program results.²⁷

When OMB performed a PART assessment of FS’ invasive species program in 2004, it recommended that FS refine its outcome-based performance measures for program reporting. FS officials explained that, due to miscommunication between FS and OMB, the outcome measure excluded the National Forest System’s activities. FS officials stated that, even though the National Forest System’s outcome measure is not included in PART, the deputy area continues to track the data internally for reporting on the agency’s measure for its strategic plan.

We concluded that without presenting both deputy areas’ accomplishments, FS cannot report an accurate picture of the invasive species program as a whole to Congress and other stakeholders.

FS Needs to Improve its Controls over the Information Systems it Uses to Track Invasive Species Performance Data

In order to ensure the completeness and reliability of all performance measurement data, OMB requires that agencies develop techniques for verifying and validating that data.²⁸ According to GAO, agencies are also required to put in place controls that are designed to help ensure the completeness, accuracy, authorization, and validity of all transactions during application processing (i.e., application controls). Controls should be installed at an application’s interfaces with other systems to ensure that all inputs are received and are valid and outputs are correct and properly distributed.²⁹

We reviewed management controls over the information systems for the invasive species program for the limited purpose of examining whether performance data were adequately verified and validated.³⁰ We found a number of information system issues that affect the data FS

²⁷ Office of Management and Budget website information on assessing program performance using PART.

²⁸ Office of Management and Budget Circular A-11, Part 6, dated August 2009.

²⁹ November 1999 GAO report entitled “Standards for Internal Control in the Federal Government” (GAO/AIMD-00-21.3.1).

³⁰ Since this review was limited to a specific objective, it would therefore not necessarily detect all information systems control weaknesses for the entire invasive species program.

reports as part of its performance measures. In fact, one region consolidated a list of its information system problems and provided it to the Washington Office. Some of the more substantial issues could result in significant data limitations, such as a region not being able to report all of its performance accomplishments.

- FS' deputy areas use two different, discrete databases to capture invasive species treatments—the Forest Service Activity Tracking System and the Forest Health Protection Accomplishment Database.
- FS has not resolved integration problems between the Forest Service Activity Tracking System and the National Resource Information System. The National Forest System uses the Forest Service Activity Tracking System to report invasive species treatments, while the National Resource Information System shows the geo-spatial component of the location of the invasive species infestation. These two data systems are not fully integrated.
- FS uses personal device recorders to enter geographical information at the time of treatment, but they are not well integrated with the Forest Service Activity Tracking System and the National Resource Information System. There have also been numerous problems with these recorders, such as the devices not being user-friendly, not durable in the field, and not synchronizing properly. Many employees found them difficult to use and returned to recording the information using pen and paper.
- FS employees became so frustrated with the agency's information systems that they delayed entering performance data until the end of the fiscal year. One official stated that a district office employee tasked with inputting performance data into the Forest Service Activity Tracking System left his current position towards the end of the fiscal year, and thus the office did not report all its accomplishments.

Given these problems, we performed specific testing to verify whether project information was accurately recorded in the databases. Of the seven projects we reviewed in the Forest Service Activity Tracking System for one district office, only three had the same number of acres treated as reported on the daily applicator log. The differences in acres reported were not grossly misstated—they ranged from just 1 acre to about 50 acres—but the discrepancies do indicate that small mistakes may go undetected.

While we found that FS does perform reviews of its accomplishment data, for example, at the district/national forest and regional offices, managers spot-check for errors and mistakes that look out of place, and at the Washington office, officials check for accuracy in an informal manner (particularly State and Private Forestry). We concluded that the aggregate of the control risks that we observed, such as data input errors, synchronization problems, and a database that allows for incomplete and inconsistent data, are too serious for FS to rely solely on its current verification and validation methods. We believe that FS needs to take a number of steps to ensure that the performance data it is reporting as part of its invasive species program are as accurate as possible.

Recommendation 8

Develop a standard for how many acres are affected by each of the agency's treatments, and require the regions to follow those standards when reporting performance results.

Agency Response

The FS concurs with this audit recommendation. Specific guidance, standards, protocols, and requirements have been available to the field (in print, and on-line at <http://fsweb.wo.fs.fed.us/invasivespecies/>) to ensure proper and accurate record keeping for all National Forest System invasive species management activities. In addition, annual FACTS and NRIS training sessions for NFS invasive species program record keeping and reporting emphasize these requirements and teach students how to properly account for treatment acreages and follow protocols for reporting performance. Although these materials, requirements and standards were available, adequate controls/enforcement/oversight were not in place to prevent violations of national standards and reporting protocols. By prioritizing program reviews and increasing oversight and accountability for operations at the Regional and field levels, the Forest Service can strengthen the controls necessary to correct these inconsistencies and improve overall accuracy of program performance reporting. For forest insects and diseases on all acres, both public and private, nationally standardized techniques to accurately account for treatments are in place and are upgraded as new issues arise. Improvements to the NFS reporting system have been put into place in FY2010. Field reviews will enforce requirements already in place. New requirements will be established as new species are identified for treatment. For forest insects and diseases on all acres, both public and private, nationally standardized techniques to accurately account for treatments are in place and are upgraded as new issues arise.

Additional Milestones: The first cross-deputy review will be conducted on or before September 30, 2011 and will include a process to improve program effectiveness, increase accountability, and (where necessary) development of standardized operational procedures to ensure consistency across the agency.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 9

Include the accomplishments of the National Forest System deputy area in the agency's Program Assessment Rating Tool.

Agency Response

The FS concurs with this audit recommendation. The National Forest System Invasive Species Program performance measures include two key output measures which feed a national outcome performance measure. This NFS outcome measure is directly correlated with the agency strategic plan, departmental strategic plan, and the agency's Budget and

Performance Integration documents. PART assessments are no longer requested by this Administration.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 10

Conduct an overall review of the agency's information systems for the invasive species program, and take steps to ensure that the systems are adequate to report valid data.

Agency Response

The FS concurs with this audit recommendation. The Chief Information Officer is conducting an agency-wide revision of the FS information technology systems to streamline processes, ensure data is captured once and used many times across the agency, and that data bases function as intended, seamlessly. The Chief of the Forest Service and the National Leadership Council has emphasized this action as one of the agency's top priorities which includes organizational changes. This process will take several years to finalize. These corporate applications include data on surveys, inventories, and treatments. NFS, R&D, and SPF continue to work on building functional record keeping systems for invasive species information within the changing IT architecture, and will conduct a review to ensure the systems are adequate and reporting valid data by February 28, 2011.

OIG Position

We accept FS' management decision on this recommendation.

Recommendation 11

Develop and implement a formal review system to verify the accuracy of invasive species accomplishment data reported.

Agency Response

The FS concurs with this audit recommendation. Following the development of functional record keeping systems, the reports generated from National Forest System invasive species data will be reviewed at the local, regional, and national levels throughout each fiscal year. Program reviews will check accuracy of data by comparing reported information to actual work accomplished during projects on the ground. Reviews conducted by FHP occur on a 5-year cycle for every Region, and accomplishment reporting is evaluated for compliance. A review of R&D Invasive Species Program by a team composed of peers and users for accuracy, efficiency, relevance and quality occurs on a 5 years cycle. Annual accomplishment data submitted by the Stations is reviewed by cross Deputy area teams for accuracy and redundancy. As the FS moves into more integrated reviews, more aspects of the Invasive Species reporting program can be evaluated as well. NFS will begin reviews by August 31, 2011, dependent on funding. Reviews conducted by FHP occur on a 5-year cycle for every Region, and accomplishment reporting is evaluated for compliance. A review of

R&D Invasive Species Program by a team composed of peers and users for accuracy, efficiency, relevance and quality occurs on a 5 years cycle. Annual accomplishment data submitted by the Stations is reviewed by cross Deputy area teams for accuracy and redundancy. As the FS moves into more integrated reviews, more aspects of the Invasive Species reporting program can be evaluated as well.

OIG Position

We accept FS' management decision on this recommendation.

Scope and Methodology

Our review focused on FS' FYs 2005-2008 management operations of its invasive species program. We conducted fieldwork at the FS Washington Office located in Washington, D.C., where we obtained background information concerning FS' invasive species management responsibilities for International Programs, the National Forest System, State and Private Forestry, and the Research and Development deputy areas. Based on our review of the information obtained, we narrowed our scope to concentrate on invasive species management activities for the National Forest System and State and Private Forestry deputy areas, primarily in the prevention, EDRR, and control and management program area elements.³¹ The National Forest System was selected based on its primary responsibility for managing invasive plants on national forest lands throughout the United States, while State and Private Forestry was selected based on its primary responsibility for managing invasive insects and diseases on the Nation's Federal, State, and private forestlands.

Fieldwork was also conducted at FS' Southern Regional Office located in Atlanta, Georgia (Region 8); the State and Private Forestry Northeastern Area in Newtown Square, Pennsylvania;³² and the Intermountain Regional Office in Ogden, Utah (Region 4). At Region 8, we conducted additional fieldwork at the Chattahoochee-Oconee National Forest located in Gainesville, Georgia, and the National Forests in North Carolina and Forest Health Protection Field Office located in Asheville, North Carolina. At Region 4, we conducted additional fieldwork at the Ogden Forest Health Protection Field Office, located in Ogden, Utah; the Boise National Forest Office and Boise Forest Health Protection Field Office, located in Boise, Idaho; and interviewed an Uinta National Forest official at the Heber Ranger District, located in Heber City, Utah.

We judgmentally selected Region 8 based on the FYs 2005 and 2006 invasive species accomplishments reported by the State and Private's Forest Health Protection Accomplishment Database (i.e., number of projects and acres treated).³³ The State and Private Forestry Northeastern Area was selected because FS officials suggested to OIG management that a trip to this office would be beneficial in understanding the invasive species program. Region 4 was judgmentally selected based upon anticipation of its extensive invasive plant activities across the region's nearly 34 million acres of national forest lands. The National Forests in North Carolina and the Chattahoochee-Oconee National Forest offices were judgmentally selected based on accomplishment data criteria (i.e., number of projects on national forest land, number of acres treated, funding levels, and types of projects) and location of the Forest Health Protection Field Office. The Boise and Uinta National Forest Offices and the Ogden and Boise Forest Health Protection Field Offices were judgmentally selected based upon their locations in relation to the

³¹ Our scope did include a preliminary review of International Programs and the Research and Development deputy area's invasive species management activities. Our review concluded that the program's administrative oversight fell to State and Private Forestry and National Forest Systems. Also, the agency's rehabilitation and restoration efforts for its invasive species management were not included as part of the audit scope.

³² We interviewed officials from the State and Private Forestry Northeastern Area office regarding their administration of the invasive species program and reviewed invasive species program documentation. However, we did not perform testing associated with this office's program administration.

³³ At the time Region 8 was selected, the only National Forest System accomplishment data available was for FY 2005.

regional office and because they had current, ongoing invasive species projects which the audit team could visit.

In addition, we conducted field visits of eight judgmentally selected invasive species projects on national forest or State and private lands to determine what the projects were for, how they were prioritized and selected, and if the accomplishments reported for these projects were adequately supported. We visited an invasive insect project (hemlock woolly adelgid) and an invasive plant project (oriental bittersweet) in the Pisgah National Forest located in North Carolina. We also visited an invasive insect project (hemlock woolly adelgid) in the Chattahoochee National Forest and an invasive weed project (Chinese privet) in the Oconee National Forest. In the Uinta National Forest we visited an invasive aquatic project (prevention of quagga mussels, New Zealand mudsnails, etc.) and an invasive plant project (various species). We visited an invasive plant project (biological control of dyer's woad, dalmation toadflax, and leafy spurge) at the Ogden Forest Health Protection Field Office and an invasive plant project (biological control of spotted and diffuse knapweed) at the Boise Forest Health Protection Field Office.

The Washington Office and Region 8 fieldwork was conducted between February 2007 and November 2007. The State and Private Forestry Northeastern Area, Region 4, and followup Washington Office and Region 8 fieldwork was conducted between March 2009 and August 2009.

To accomplish our objectives, the audit included interviews with FS officials, and others, as deemed necessary, and examinations of invasive species policies, procedures, and activities. Specifically, we:

- reviewed applicable laws and regulations and FS policies, procedures, guidelines (i.e., the National Strategy and Implementation Plan for Invasive Species Management), and other controls governing administration of the agency's invasive species activities;
- reviewed and analyzed FS' financial statements for FYs 2005 and 2006;
- reviewed and analyzed invasive species budget information for FYs 2005 through 2009;
- reviewed external reports and program studies relative to the agency's invasive species activities such as related GAO reports, Performance Assessment Rating Tool reviews, and external reviews of Research and Development's and State and Private Forestry's invasive species activities;
- reviewed and analyzed Government Performance and Results Act documentation such as strategic plans and performance accountability reports;
- reviewed and analyzed FS internal reviews (i.e., Chief's Reviews, Forest Health Protection Director's Reviews, etc.) related to its invasive species activities;
- identified and documented the purposes of computerized data files and databases used for invasive species program accountability and accomplishment reporting;

- interviewed Washington Office officials from International Programs, National Forest System, State and Private Forestry, Research and Development, Strategic Planning and Resource Assessment Division, and Program and Budget to identify FS' controls for managing its invasive species activities;
- reviewed and analyzed FS management areas to include prioritization and allocation of resources, EDRR, accomplishment reporting, and coordination and communication between national, regional, and local levels to determine whether FS properly implemented management controls and assessed the effectiveness and efficiency of program delivery.
- reviewed and analyzed FS' EDRR activities, specifically, its current and past efforts concerning pilot programs, guidelines, and emergency funds;
- interviewed National Forest System and State and Private Forestry regional, national forest, and district/field-level officials to identify controls for managing and reporting on the invasive species program, and;
- reviewed and analyzed agency invasive species risk assessments; forest plan standards, guides, and FS management practices for resource management; risk hazard maps; priority lists; and criteria for prioritizing and selecting invasive species for management projects.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Abbreviations

APHIS	Animal and Plant Health Inspection Service
EDRR	Early Detection and Rapid Response
FS	Forest Service
GAO	Government Accountability Office
GPRA	Government Performance and Results Act
MOU	Memorandum of Understanding
NISIT	National Invasive Species Issue Team
OIG	Office of Inspector General
OMB	Office of Management and Budget
PART	Program Assessment Rating Tool
SLM-BOD.....	Sustainable Landscape Management Board of Directors
USDA.....	United States Department of Agriculture

Exhibit A: Orders or Statutes on Invasive Species Management Activities

The following orders or statutes are the primary authorities allowing FS to conduct invasive species management activities to meet resource management goals and objectives:

- *Organic Administration Act (16 United States Code (U.S.C.) 551)*: Section 1 of this Act sets forth USDA’s authority to make rules and regulations protecting national forests. This provision provides broad authority to protect national forests from “destruction by fire and depredations” and to issue regulations “as will insure the objectives of such reservation.”
- *Forest and Rangeland Renewable Resources Research Act of 1978 (Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by National Forest Management Act (16 U.S.C. 1604))*: This Act is USDA’s primary authority to conduct research activities, including research related to invasive species. The Act contains authority to conduct research and technology development on, and with applications for, all U.S. lands related to the protection, conservation, and sustainable use of natural resources. It also authorizes competitive grants to conduct research.
- *Federal Noxious Weed Act of 1974 (7 U.S.C. 2814)*: Section 15 of this act requires Federal land management agencies to develop and establish a management program for control of undesirable plants that are classified under State or Federal law as undesirable, noxious, harmful, injurious, or poisonous, on Federal lands under the agency’s jurisdiction. The Act also requires Federal land management agencies to enter into cooperative agreements to coordinate the management of undesirable plant species on Federal lands where similar programs are being implemented on State and private lands in the same area.
- *Plant Protection Act of 2000 (Public Law 106-224)*: Under this Act the Secretary of Agriculture has broad authority to carry out operations or measures to detect, control, eradicate, suppress, prevent, or retard the spread of plant pests. The Act gives USDA the flexibility to respond appropriately to a wide range of needs and circumstances to protect American agriculture against plant pests.
- *Public Rangelands Improvement Act of 1978 (43 U.S.C. 1904(c))*: Section 5 of this Act authorizes funding for on-the-ground rangeland rehabilitation and range improvements, including activities designed to control or manage invasive plants, on some of the rangelands managed by FS.
- *Federal Land Policy and Management Act of 1976 (43 U.S.C. 1751)*: Section 401 of this Act allows for range betterment funds to be used for a variety of range rehabilitation and improvement activities, specifically including weed control on certain National Forest System rangelands.
- *Cooperative Forestry Assistance Act of 1978 (16 U.S.C. 2104)*: Section 8(b) of this Act authorizes the Secretary of Agriculture to conduct activities and provide technical

assistance relating to insect infestation and disease conditions affecting trees on National Forest System lands, on other Federal lands (in cooperation with other Federal Departments), and on non-Federal lands (in cooperation with State officials, other entities, or individuals). Section 8(g) of the Act also authorizes the Secretary to provide financial assistance through the FS to State entities and private forestry or other organizations to monitor forest health and protect forest lands.

- *Hawaii Tropical Forest Recovery Act (16 U.S.C. 4502(a))*: Section 3 of this Act authorizes FS to provide assistance relating to invasive plant species to State officials, Federal agencies, and various other private entities in States with tropical forests.
- *International Forestry Cooperation Act of 1990 (16 U.S.C. 4501(b))*: Under section 602(b) of this Act, the Secretary may, in support of forestry and related natural resource activities outside the United States and its territories and possessions, provide assistance for prevention and control of insects, diseases, and other damaging agents.
- *National Environmental Policy Act (42 U.S.C. 4231)*: Compliance with this Act can serve to identify actions that are likely to affect invasive species or be affected by them. It requires Federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

Under these authorities, and others, FS delivers invasive species research and development products for vegetation management and protection; wildlife, fish, water and air sciences; resource valuation and use; and inventory and monitoring. FS' research authorities provide for the agency to conduct prevention, rapid response, control, and management activities related to invasive species and to restore an area affected by invasive species.

USDA'S

FOREST SERVICE

RESPONSE TO AUDIT REPORT



Forest
Service

Washington
Office

1400 Independence Avenue, SW
Washington, DC 20250

File Code: 1430/2150

Date: September 14, 2010

Route To:

Subject: Response to Office of the Inspector General Official Draft Report Number 08601-07-AT, "Forest Service's Invasive Species Program"

To: Gil H. Harden, Assistant Inspector General for Audit, Office of Inspector General

The Forest Service has reviewed the Office of the Inspector General (OIG) draft Audit Report No. 08601-07-AT, Forest Service's Invasive Species Program. The agency appreciates OIG's review of its invasive species program and activities. The Forest Service generally supports Findings 1 through 3 and corresponding Recommendations 1 through 11; and the need to address these issues.

The enclosed response outlines our proposed actions for each of the audit recommendations. Please contact Donna Carmical, Chief Financial Officer, at (202) 205-1321 or dcarmical@fs.fed.us with any questions.

/s/ Hank Kashdan (for)
THOMAS L. TIDWELL
Chief

Enclosure

cc: Janette Kaiser
Robert Mangold
Carlos Rodriguez-Franco
Janet M Roder



USDA Forest Service (FS)

Office of Inspector General Audit Report No. 08601-7-AT
FS Invasive Species Program

September 22, 2010

FS Response to Official Draft Report (Revised)

OIG Recommendation 1: Renew the memorandum of understanding with APHIS for providing EDRR to new invasive species, or establish a program-wide policy of providing EDRR within FS.

FS Response to Recommendation No. 1: The FS concurs with this audit recommendation. The agency will establish a program wide policy of providing EDRR within FS. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register on or before December 31, 2010. Development of the accompanying Forest Service Handbook (FSH) will begin on December 31, 2010, with planned completion on December 31, 2012.

Estimated Completion Date: FSM December 31, 2011; FSH December 31, 2012

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011.

OIG Recommendation 2: Document all of the invasive species program's internal policies and procedures.

FS Response to Recommendation No. 2: The FS concurs with this audit recommendation. During the development of the new National Forest System Invasive Species Management policy (Forest Service Manual 2900), all relevant authorities (laws, policies, executive orders, and regulations) associated with invasive species management were identified, compiled, and described. The new manual (FSM 2900) will provide Forest Service employees with a single compilation of policy guidance for all National Forest System invasive species management activities. Forest Service Manual 2900 will also provide a basis for the accompanying Forest Service Handbook (FSH) for National Forest System invasive species management activities. This future Forest Service Handbook will articulate detailed operational responsibilities, actions, guidance, criteria, procedures, and requirements for implementation of invasive species management programs pursuant to FSM 2900. All relevant sections to SPF FS Manual will be cross-referenced in the new NFS FS Manual so the user can easily move from one section to another and across Deputy Areas. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period, the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012.

Estimated Completion Date: FSM December 31, 2011; FSH December 31, 2012

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011.

OIG Recommendation 3: **Develop an adequate, cohesive internal control environment for managing the invasive species program. Ensure that all three deputy areas are represented and that responsibilities and accountability over the program are well established, including involving regional counterparts in the program's management.**

FS Response to Recommendation No. 3: The FS concurs with this audit recommendation. To improve the internal control mechanisms for invasive species management on National Forests and Grasslands, the Forest Service will be issuing a new National Forest System Invasive Species Management policy (Forest Service Manual 2900) to provide employees with guidance and requirements for all related NFS program operations. FSM 2900 specifies roles and responsibilities associated with invasive species management for all leadership levels of the agency (including the Chief, Deputy Chiefs, Directors, Forest Supervisors, and District Rangers). Once established, the new FSM 2900 policy will be accompanied by a new Forest Service Handbook (FSH) which will further define the internal control requirements for managing invasive species. Cross references to other Deputy Area manual directions will be included in the Manual. In addition, to improve overall program effectiveness and ensure adequate cohesive internal control environment for all Forest Service activities against invasive species, the agency will conduct comprehensive cross-deputy area program reviews at the Regional and Local levels on a regularly scheduled cycle. These program reviews will examine all agency operations with respect to invasive species management policy, law, and other requirements, and will establish and enforce accountability expectations at all levels. These program reviews will be designed to improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure consistency across the agency.

The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period, the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012. One comprehensive Regional invasive species management review will be conducted each year, beginning December 21, FY2011, with an additional two program-specific reviews conducted every two years (beginning December 31, 2013).

Estimated Completion Date: FSM December 31, 2011; FSH December 31, 2012

Additional Milestones: FSM 2900 Invasive Species Management Policy released in Federal Register on or before December 31, 2010 for review. The final draft will be submitted to Directives on or before June 30, 2011. One comprehensive Regional invasive species management review will be conducted each year, with the first comprehensive Regional management review to be completed by September 30, 2011.

OIG Recommendation 4: Develop and implement controls for reporting accurately how much the agency is spending to combat invasive species, both locally and nationally.

FS Response to Recommendation No. 4: The FS concurs with this audit recommendation. Financial information related to National Forest System management costs and expenses are typically tracked via the Work Plan and FACTS databases. In 2009, it was noted that Work Plan did not include a full suite of work activity codes for invasive species management work. Since then, the NFS invasive species program has been working to update/modify the database to provide this capability and allow for better accounting of invasive species management expenditures at the field level, regional level, and national level. In addition the Forest Service Handbook (FSH) for National Forest System invasive species management activities will articulate detailed operational responsibilities, actions, guidance, criteria, procedures, and requirements for implementation of invasive species management programs pursuant to FSM 2900. This new Forest Service Handbook will include guidance on managing and tracking unit costs for invasive species management activities. Forest Health Protection reporting databases (Forest Accomplishment Data or FAD) are cross-linked with FACTS. FACTS can retrieve FHP data from FAD and report it as a FACTS data element. Research and Development performance and budget databases track invasive species Strategic Program Area funding and accomplishment by program area and pest. The new NFS Invasive Species Management Policy (FSM 2900) is currently being finalized for public release in the Federal Register. The release is planned for December 31, 2010. Following the public review and comment period, the new policy (FSM 2900) will be finalized and issued to the field for implementation (planned completion for December 31, 2011). Development of the accompanying Forest Service Handbook will begin on December 31, 2010, with planned completion on December 31, 2012.

Estimated Completion Date: FSM December 31, 2011; FSH December 31, 2012

Additional Milestones: The FS will update or modify its databases by June 2011 to enable accurate reporting on how much the agency is spending to combat invasive species.

OIG Recommendation 5: Implement a monitoring plan to assess the invasive species program and related internal controls. The assessments should include, but not be limited to, the program's efficiency, effectiveness, accountability, coordination efforts, and management activities of each deputy area.

FS Response to Recommendation No. 5: The FS concurs with this audit recommendation.

In addition, to improve overall program effectiveness and ensure adequate cohesive internal control environment for all Forest Service activities against invasive species, the agency will conduct comprehensive cross-deputy area program reviews at the Regional and Station level on a regularly scheduled cycle. These program reviews will examine all agency operations with respect to invasive species management policy, law, and other requirements, and will establish and enforce accountability expectations at all levels. These program reviews will improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure

consistency across the agency. The first cross-deputy Review will be conducted by December 31, 2012.

Estimated Completion Date: December 31, 2012

Additional Milestones: The first comprehensive cross-deputy review will be conducted on or before September 30, 2011. The review will include a process to improve program effectiveness, increase accountability, and (where necessary) standardize operational procedures to ensure consistency across the agency.

OIG Recommendation 6: **Revise the National Strategy and Implementation Plan for Invasive Species Management for the invasive species program, and establish a control for revising that strategy once every 5 years.**

FS Response to Recommendation No. 6: The FS concurs with this audit recommendation. The Forest Service will convene a cross-programmatic, multidisciplinary team to review and update the National Strategy and Implementation Plan for Invasive Species Management, and establish a process for revising the document once every 5 years. We will establish the national team by July 31, 2011 to begin the revision of the Strategy which will be accomplished by December 31, 2012.

Estimated Completion Date: July 31, 2011

OIG Recommendation 7: **Develop an inventory plan including responsibilities, time frames, and benchmarks for inventorying all invasive species, the risk the species poses and the efficacy of available treatments. As part of establishing that inventory, FS should also assign responsibilities for maintaining the inventory and ensure that all regions and deputy areas are involved.**

FS Response to Recommendation No. 7: The FS concurs with this audit recommendation. Setting priorities and focusing invasive species management activities in an efficient manner are critical to the future success of the National Forest System invasive species management program, and all deputy areas. The potential vulnerability of the System's diverse landscapes varies with each site, and each species. For many invasive species infestations, their impact is already so large that containment is usually the only management option. Therefore, priority landscapes would focus on surveying, detecting, and quantifying the extent of invasive species infestations. The FS will establish inventory plans for priority species on NFS lands, coordinated with all deputy areas, and conduct inventories assuming funds are available for this activity. In addition, national aerial surveys for insect and disease of forestlands (both public and private) occur every year over about 500 million acres of forests. From these nationally standardized surveys forest insects and pathogens are identified and evaluated for further action. In addition early detection of forest insects (bark beetles and wood borers) occurs in representative areas throughout the country. New pest finds are evaluated as they are found to determine the proper course of action. The FS will expand this system of early detection of forest insects to more groups of insects as new techniques allow. The system currently

includes all FS Regions. The agency will begin development of an inventory plan for the Forest Service by December 31, 2011 which includes all deputy areas.

Estimated Completion Date: December 31, 2011

Additional Milestones: The agency will begin development of an inventory plan for the Forest Service by September 30, 2011 which includes all deputy areas.

OIG Recommendation 8: Develop a standard for how many acres are affected by each of the agency's treatments, and require the regions to follow those standards when reporting performance results.

FS Response to Recommendation No. 8: The FS concurs with this audit recommendation. Specific guidance, standards, protocols, and requirements have been available to the field (in print, and on-line at <http://fsweb.wo.fs.fed.us/invasivespecies/>) to ensure proper and accurate record keeping for all National Forest System invasive species management activities. In addition, annual FACTS and NRIS training sessions for NFS invasive species program record keeping and reporting emphasize these requirements and teach students how to properly account for treatment acreages and follow protocols for reporting performance. Although these materials, requirements and standards were available, adequate controls/enforcement/oversight were not in place to prevent violations of national standards and reporting protocols. By prioritizing program reviews and increasing oversight and accountability for operations at the Regional and field levels, the Forest Service can strengthen the controls necessary to correct these inconsistencies and improve overall accuracy of program performance reporting. For forest insects and diseases on all acres, both public and private, nationally standardized techniques to accurately account for treatments are in place and are upgraded as new issues arise. Improvements to the NFS reporting system have been put into place in FY2010. Field reviews will enforce requirements already in place. New requirements will be established as new species are identified for treatment. For forest insects and diseases on all acres, both public and private, nationally standardized techniques to accurately account for treatments are in place and are upgraded as new issues arise.

Estimated Completion Date: December 31, 2011

Additional Milestones: The first cross-deputy review will be conducted on or before September 30, 2011 and will include a process to improve program effectiveness, increase accountability, and (where necessary) development of standardized operational procedures to ensure consistency across the agency.

OIG Recommendation 9: Include the accomplishments of the National Forest System deputy area in the agency's Program Assessment Rating Tool.

FS Response to Recommendation No. 9: The FS concurs with this audit recommendation. The National Forest System Invasive Species Program performance measures include two key output measures which feed a national outcome performance measure. This NFS outcome measure is

directly correlated with the agency strategic plan, departmental strategic plan, and the agency's Budget and Performance Integration documents. PART assessments are no longer requested by this Administration.

Estimated Completion Date: September 30, 2010

OIG Recommendation 10: Conduct an overall review of the agency's information systems for the invasive species program, and take steps to ensure that the systems are adequate to report valid data.

FS Response to Recommendation No. 10: The FS concurs with this audit recommendation. The Chief Information Officer is conducting an agency-wide revision of the FS information technology systems to streamline processes, ensure data is captured once and used many times across the agency, and that data bases function as intended, seamlessly. The Chief of the Forest Service and the National Leadership Council has emphasized this action as one of the agency's top priorities which includes organizational changes. This process will take several years to finalize. These corporate applications include data on surveys, inventories, and treatments. NFS, R&D, and SPF continue to work on building functional record keeping systems for invasive species information within the changing IT architecture, and will conduct a review to ensure the systems are adequate and reporting valid data by February 28, 2011.

Estimated Completion Date: February 28, 2011

OIG Recommendation 11: Develop and implement a formal review system to verify the accuracy of invasive species accomplishment data reported.

FS Response to Recommendation No. 11: The FS concurs with this audit recommendation. Following the development of functional record keeping systems, the reports generated from National Forest System invasive species data will be reviewed at the local, regional, and national levels throughout each fiscal year. Program reviews will check accuracy of data by comparing reported information to actual work accomplished during projects on the ground. Reviews conducted by FHP occur on a 5-year cycle for every Region, and accomplishment reporting is evaluated for compliance. A review of R&D Invasive Species Program by a team composed of peers and users for accuracy, efficiency, relevance and quality occurs on a 5 years cycle. Annual accomplishment data submitted by the Stations is reviewed by cross Deputy area teams for accuracy and redundancy. As the FS moves into more integrated reviews, more aspects of the Invasive Species reporting program can be evaluated as well. NFS will begin reviews by August 31, 2011, dependent on funding. Reviews conducted by FHP occur on a 5-year cycle for every Region, and accomplishment reporting is evaluated for compliance. A review of R&D Invasive Species Program by a team composed of peers and users for accuracy, efficiency, relevance and quality occurs on a 5 years cycle. Annual accomplishment data submitted by the Stations is reviewed by cross Deputy area teams for accuracy and redundancy. As the FS moves into more integrated reviews, more aspects of the Invasive Species reporting program can be evaluated as well.

Estimated Completion Date: August 31, 2011