USDA
United States Department of Agriculture

Forest Service Deferred Maintenance

Audit Report 08601-0004-31

May 2017

OFFICE OF INSPECTOR GENERAL

Forest Service Deferred Maintenance

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OBJECTIVE

We evaluated whether FS controls over deferred maintenance were adequate to mitigate threats to public health and safety. Additionally, we evaluated the agency's actions to effectively reduce its deferred maintenance backlog and address previous OIG audit recommendations.

REVIEWED

We examined FS controls for assessing and reporting deferred maintenance, reviewed applicable documentation, and interviewed field, regional, and national level officials. We also surveyed 3 FS regions, observed conditions at 446 buildings, and sampled documentation for 182 dams.

RECOMMENDS

We recommend that FS implement an overall strategy to reduce its deferred maintenance backlog. The agency should take steps to reduce the number of assets in its portfolio, better ensure health and safety while maintenance is deferred, improve oversight of dams, and strengthen its reporting of deferred maintenance costs.

OIG reviewed whether FS' controls over its deferred maintenance were adequate to mitigate threats to public health and safety.

WHAT OIG FOUND

While the Forest Service (FS) implemented corrective actions from prior OIG audits to address its deferred maintenance backlog, we found that FS has not been able to reduce its longstanding deferred maintenance backlog below $5 billion and lacked an overall strategy to overcome its resource limitations. Deferred maintenance is defined as repairs that were not performed when they should have been or were delayed until a future period.

We found that $195 million of FS' deferred maintenance relates to a backlog of over 3,000 buildings that FS plans to decommission, but the associated impediments have not been addressed. Also, FS did not develop and implement effective alternative methods for addressing these areas.

During our fieldwork, we found buildings with deferred maintenance that had structural issues, mold growths, wide-spread rodent droppings, or other issues, including 20 buildings with severe health and safety concerns.

Likewise, we found that FS continues to lack an effective control structure for validating that required plans are maintained for dams and that necessary inspections of dams are performed to identify any deficiencies affecting their safety.

Finally, we determined that FS did not report its deferred maintenance accurately and consistently because written guidance and training was not available for the responsible agency officials.

FS generally agreed with our findings, and we accepted management decision on all 15 recommendations.

United States Department of Agriculture
Office of Inspector General
Washington, D.C. 20250

DATE: May 22, 2017

AUDIT NUMBER: 08601-0004-31

TO: Thomas L. Tidwell
Chief
Forest Service

ATTN: Antoine Dixon
Chief Financial Officer

FROM: Gil H. Harden
Assistant Inspector General for Audit

SUBJECT: Forest Service Deferred Maintenance

This report presents the result of the subject audit. Your written responses to the official draft report, dated May 4, 2017, are included, in their entirety, at the end of the report. Your responses and the Office of Inspector General's position are incorporated into the relevant sections of the report. Based on your written responses, we are accepting management decision for all the audit recommendations in the report, and no further response to this office is necessary.

In accordance with Departmental Regulation 1720-1, final action needs to be taken within 1 year of each management decision to prevent being listed in the Department's annual Agency Financial Report. Please follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer.

We appreciate the courtesies and cooperation extended to us by members of your staff during our audit fieldwork and subsequent discussions. This report contains publicly available information and will be posted in its entirety to our website (http://www.usda.gov/oig) in the near future.

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Background and Objectives

Background

The mission of the Department of Agriculture's (USDA) Forest Service (FS) is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of the present and future generations. Founded in 1905, FS' current portfolio includes infrastructure that was built at a time when the agency's mission was focused on timber, with ranger stations and administrative sites spaced a day's horse ride from each other.[1] Today, FS manages 193 million acres in 44 States and Territories, 154 national forests, and 20 grasslands as well as approximately 70 research laboratories and institutes and a network of experimental forests. FS currently manages nearly 40,000 administrative, recreation, and research buildings and approximately 27,000 recreational sites, such as campgrounds, picnic areas, trailheads, and interpretive sites. The agency also manages over 370,000 miles of roads, including 65,000 miles for passenger vehicles; nearly 13,000 road and trail bridges; and over 3,000 FS-owned and special use permit dam structures.

Figure 1: This FS road is 1.6 miles long with almost $70,000 of deferred maintenance. This passenger vehicle road also provides critical access for emergency fire vehicles. Photo by USDA OIG.

FS' annual appropriation for fiscal year (FY) 2016 was approximately $7.1 billion. Over the past two decades, FS experienced a shift in its budget and staff resources dedicated to wildfire operations. In 1995, fire made up 16 percent of the agency's annual appropriated budget. Yet, by FY 2015, more than 50 percent of its annual budget was dedicated to fire. Between FYs 1998 and 2015, fire staffing increased approximately 114 percent, while overall National

[1] FS was established under the Act of February 1, 1905, Pub. L. No. 58-34, § 1, 33 Stat. 628 (codified at 16 U.S.C. § 472).

Forest System staffing decreased approximately 39 percent. According to FS officials, the agency has many existing partnerships that assist with some routine maintenance and are included in the various strategies, but there is a backlog of heavy maintenance that is difficult to achieve through partnerships and volunteers. FS claims it is now at a tipping point, and the programs used for infrastructure management, repairs, and maintenance are among the programs that have experienced significant declines.[2]

Deferred Maintenance and Asset Management

Accounting standards require that Federal agencies report the deferred maintenance associated with their assets.[3] In FY 2016, FS reported $5.5 billion in deferred maintenance on its portfolio of assets. Deferred maintenance is defined as repairs that were not performed when they should have been or that were delayed until a future period.[4] According to FS data, 58 percent of the agency's administrative facilities were maintained to standard in FYs 2015 and 2016.

FS determines the status of its buildings and deferred maintenance through condition assessment surveys. For most assets—except bridges[5]—FS directs field staff to perform condition assessment surveys on a 5-year maximum revolving schedule. The results of the condition assessment surveys are then input into a component of FS' Natural Resource Management system known as Infrastructure (Infra). Infra includes modules for data entry related to asset classes such as buildings, dams, roads, and water systems.

In 2013, the Office of Management and Budget (OMB) implemented a "Freeze the Footprint" policy to freeze the Federal Government's real estate footprint and restrict the growth of excess or under-utilized properties.[6] Subsequently in 2015, OMB implemented a "Reduce the Footprint" policy directing departments and agencies to act aggressively to dispose of surplus properties held by the Federal Government, make more efficient use of the Government's real property assets, and reduce the total square footage of their domestic office and warehouse inventory relative to an established baseline.[7] In Infra, FS identified 3,374 buildings it plans to decommission.

Federal regulations governing real property disposal state that agencies are not allowed to abandon Government-owned improvements on Government-owned land.[8] Consequently, FS developed guidance to preserve facilities not currently needed, otherwise known as "mothballing." The goal of mothballing is not to fix the building, but to keep it from deteriorating while not in use. Building security is one of several specific areas described for mothballing a building. According to FS guidance, "a neat exterior sends the message that the

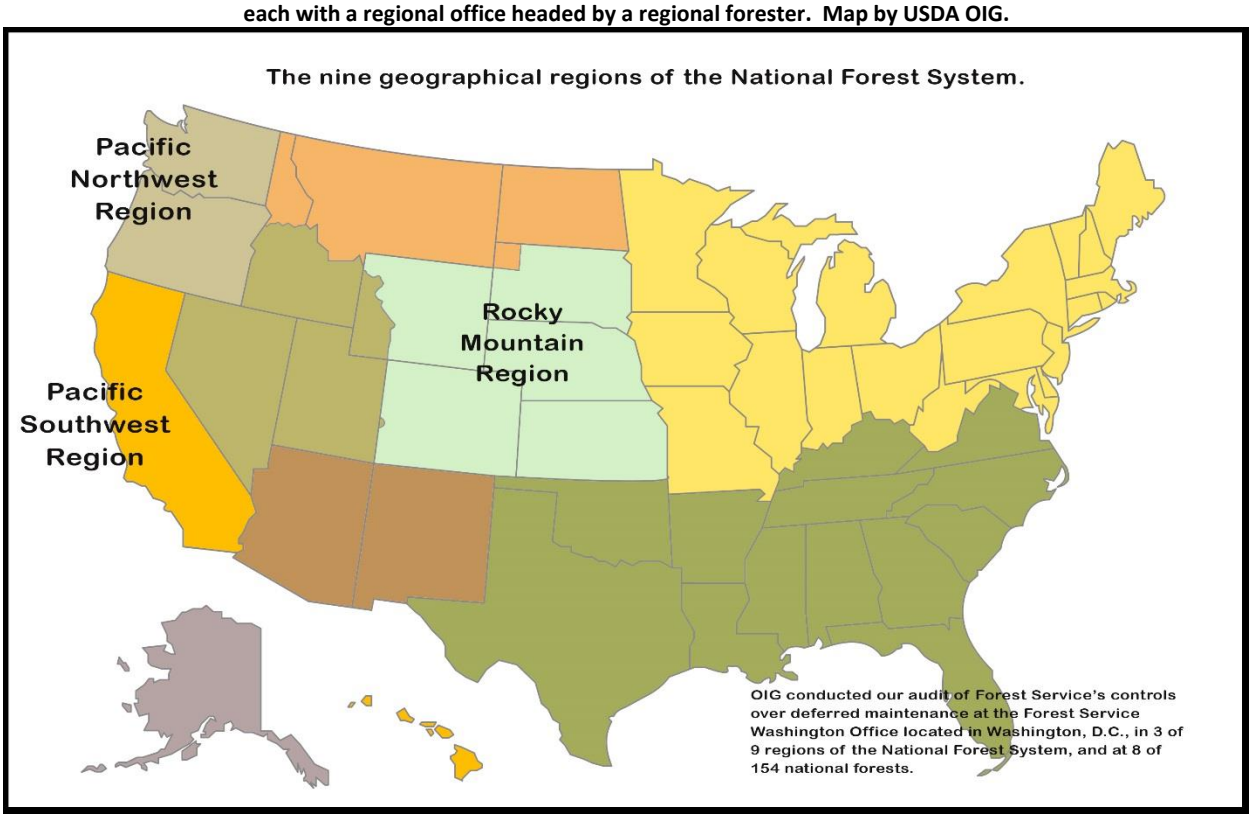
2 USDA FS, *The Rising Cost of Wildfire Operations: Effects on the Forest Service's Non-Fire Work* (Aug. 2015).
3 Statement of Federal Financial Accounting Standards (SFFAS) 42*: Deferred Maintenance and Repairs* (Apr. 25, 2012).
4 *Ibid.* ¶ 7.
5 Bridge class assessments occur on a 2-year revolving schedule.
6 OMB, *Implementation of OMB Memorandum M-12-12 Section 3: Freeze the Footprint*, Management Procedures Memorandum 2013-02 (Mar. 14, 2013).
7 OMB, *Implementation of OMB Memorandum M-12-12 Section 3: Reduce the Footprint*, Memorandum 2015-01 (Mar. 25, 2015).
8 41 CFR § 102–75.990.

building is not abandoned. Appearance may be one of the best tools (besides locks) for securing a mothballed facility. A sign explaining the mothballing project can help reinforce the message that the building is not abandoned."[9]

Organizational Structure

FS maintains a decentralized structure headed by the Chief of the Forest Service, who is located in Washington, D.C. Line officers (such as regional foresters) and Washington officials (including deputy chiefs) report directly to the Chief of the Forest Service. Alternatively, staff officers derive authority from the line officers to whom they report. The National Forest System is organized into nine geographical regions, each with a regional office headed by a regional forester. Within a forest region, supervisors of national forests and grasslands report to the regional forester and oversee the ranger districts within their forests.

Figure 2: The National Forest System is organized into nine geographical regions, each with a regional office headed by a regional forester. Map by USDA OIG.



Within FS' chain of command, responsibility for the agency's physical infrastructure and the Occupational Health and Safety program resides with the Chief, regional foresters, and forest supervisors. Regional foresters and forest supervisors assign engineering staffs responsibility to assess and maintain the agency's physical infrastructure, including its buildings and dams. Likewise, regional foresters and forest supervisors assign regional and forest safety and

[9] USDA FS, *Buying Time: Mothballing Forest Service Facilities*, at 9 (Oct. 2011).

occupational health officials responsibility to carry out the Occupational Health and Safety Program.

Safety

Along with structural safety concerns, occupational health and safety concerns can develop with under-repaired and under-utilized assets. One health concern that FS is currently addressing is hantavirus. Hantavirus Pulmonary Syndrome is a potentially fatal infection caused by airborne transmission or other contact with hantavirus-infected rodents or their urine and droppings. Barns, outbuildings, and sheds are potential sites where people may be exposed to the virus It is mainly transmitted to people when they breathe in air contaminated with the virus. One potential risk activity associated with hantavirus infection is opening or cleaning cabins, sheds, and outbuildings, including storage facilities that have been closed during the winter, especially in rural areas. There have been 659 cases of Hantavirus Pulmonary Syndrome identified in the United States since 1993, and 36 percent of the infections resulted in death.[10]

Prior Audit

In June 2006, the Office of Inspector General (OIG) examined FS' controls for maintaining the agency's infrastructure and for compiling and reporting maintenance backlog information.[11] We determined that FS had no strategy for reducing its deferred maintenance backlog, could not ensure that data recorded in Infra was accurate, did not conduct all necessary condition assessment surveys for the asset categories selected for review,[12] and inaccurately reported deferred maintenance for FY 2004.

A total of eight recommendations were issued in Audit Report 08601-02-Hy. Overall, OIG recommended that FS needed to develop and implement a system of controls to validate that (1) the agreed upon corrective actions were consistently implemented, (2) the data maintained on dams were complete and timely, and (3) the information recorded in Infra was accurate. OIG also recommended that FS develop and implement a strategy for identifying and segregating records on the agency's sustainable infrastructure (i.e., those assets likely to be repaired). FS agreed with the report's recommendations and took actions in response to each recommendation.

Objectives

Our objective was to evaluate whether FS' controls over deferred maintenance were adequate to mitigate threats to public health and safety. We also evaluated the agency's actions to effectively reduce its deferred maintenance backlog and address previous OIG audit recommendations.

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[10] Centers for Disease Control and Prevention, *Reported Cases of Hantavirus Pulmonary Syndrome* (Jan. 12, 2016), http://www.cdc.gov/hantavirus/surveillance/index.html.

[11] Audit Report 08601-02-Hy, *Followup on Recommendations Made on the Maintenance of Forest Service's Infrastructure* (June 2006).

[12] The asset classes reviewed included: bridges, buildings, dams, fences, recreation sites, roads, and water systems.

Section 1: Reducing Deferred Maintenance

Finding 1: FS Needs an Overall Deferred Maintenance Strategy

Even though FS implemented corrective actions to address issues found during a previous OIG audit,[13] those actions were not effective in significantly reducing the deferred maintenance backlog. This occurred because FS did not have an effective, overall deferred maintenance strategy to overcome its resource limitations. As a result, the agency reported over $5 billion in deferred maintenance each year since the OIG audit report was issued in 2006. Additionally, FS continues to own thousands of unused or unneeded facilities and, by its own admission, is on the verge of becoming the "national junkyard" of built assets.[14]

The Government Accountability Office (GAO) designated Federal real property as a high-risk area due, in part, to deferred maintenance and repair that contributes to deteriorating assets.[15] According to internal control standards, management should:

- establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives;
- define objectives clearly to enable the identification of risks and define risk tolerances;
- identify, analyze, and respond to risks related to achieving the defined objectives.[16]

GAO designated Federal real property as a high-risk area, yet FS has not made substantial progress on reducing its longstanding backlog of deferred maintenance. In our prior audit report,[17] we found that FS officials did not have the information needed to manage its resources and to communicate information about these resources to oversight bodies. This occurred because condition assessment surveys were not recorded, controls for dams were not adequately implemented, and FS did not have a strategy for reducing its deferred maintenance backlog. During our current audit, we found that although the agency made progress in certain areas, the issues found in the prior audit continue to exist. Specifically, we found issues related to facility condition assessment surveys (see Finding 2), dams inspections (see Finding 4), the accuracy of deferred maintenance reported (see Finding 5), and the lack of an overall strategy to reduce deferred maintenance. We reviewed FS' reported deferred maintenance amounts since our 2006 report and found that the agency has had over $5 billion in deferred maintenance for more than a decade.[18] Therefore, even though FS reported final action on the prior OIG recommendations in February 2011 and implemented corrective actions, FS needs to continue to foster improved management to address the $5 billion deferred maintenance backlog.

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[13] Audit Report 08601-02-Hy.
[14] USDA FS, *The Financial Sustainability of Our Facility Portfolio* (June 2014).
[15] GAO Audit Report GAO-03-213, *Fiscal Exposures: Improving the Budgetary Focus on Long-Term Costs and Uncertainties* (Jan. 2003).
[16] GAO Publication GAO-14-704G, *Standards for Internal Control in the Federal Government* (Sep. 2014).
[17] Audit Report 08601-02-Hy.
[18] FS' deferred maintenance constituted over 90 percent of USDA's FY 2015 total deferred maintenance portfolio, or $5.2 billion out of $5.7 billion.

Critical components for performing maintenance are funding and resources to perform such work. Beginning in FY 2013, FS was appropriated only $3 million per year specifically for deferred maintenance, which equates to 0.06 percent of the FY 2016 deferred maintenance backlog. Notably, an agency internal report detailed that over the past 20 years the growing portion of FS' budget that was dedicated to wildfire has had a debilitating impact on recreation, restoration, planning, and other FS activities.[19] Increasing wildfire management costs have left the agency without extra funding to concentrate on reducing deferred maintenance.

Washington officials stated that non-fire funding was allocated directly to the regional and forest levels, then the regions and forests prioritized the projects for which to designate funding. An agency official stated that field officials could look for the "low hanging fruit" and address issues that they knew could be accomplished with the limited resources available rather than prioritize resources according to risk tolerances. Also, since Washington officials did not prescribe how the regional and forest officials should spend their funds, local officials were forced to balance urgent and changing needs. In June 2014, FS issued an internal assessment of its facility portfolio, which included 30 strategy proposals to address the challenges related to its facility portfolio.[20] However, the Washington Office did not make the recommendations mandatory; field officials were allowed to voluntarily implement the recommendations. Therefore, we concluded that the agency did not have an overall strategy to reduce deferred maintenance from the national perspective across the regions and national forests.

We also determined that FS does not have an overall strategy or clear objectives to ensure integration across the various asset classes affected by deferred maintenance, such as dams, heritage assets, roads, buildings, water, and trails. FS officials stated that they did have individual asset class strategies to address deferred maintenance, but agreed that they could better communicate their instructions to the field. Additionally, we recognize that a number of FS' assets are needed to carry out its mission. However, according to FS' own report, "[p]aradigm changes will be required very soon to prevent [FS] from becoming the national junkyard of built assets and to restore the infrastructure to a healthy and resilient condition."[21] If FS does not take significant actions, the deferred maintenance backlog could grow.

Since resolving issues related to the $5 billion deferred maintenance backlog with present resources will take a multi-year effort, we recommend that FS develop an overall, integrated strategy to address this problem. In order for the agency to successfully reduce its deferred maintenance backlog, it will require devoting the necessary resources over an extended period of time.

[19] USDA FS, *The Rising Cost of Wildfire Operations: Effects on the Forest Service's Non-Fire Work* (Aug. 2015).
[20] USDA FS, *The Financial Sustainability of Our Facility Portfolio* (June 2014).
[21] *Ibid.*

Recommendation 1

Develop and implement an overall, integrated strategy to address the deferred maintenance backlog that identifies goals and objectives for managing deferred maintenance, including a multi-year strategy with assigned roles and responsibilities. Additionally, ensure the necessary resources are devoted to implement the multi-year strategy and maintain continuity.

Agency Response

> In its May 4, 2017, response, FS concurred with this audit recommendation. The Agency is developing an investment strategic plan to address the deferred maintenance backlog. This plan will define a long-term vision with goals and objectives to be achieved over the span of several years. The plan will prescribe a multi-year program of work, including development of improved management controls for reporting of deferred maintenance, Infra training, Infra data integrity, national prioritization of assets, decommissioning of unneeded assets and oversight.
>
> The plan will identify implementation strategies consistent with current and projected funding levels and resources. Performance measures will be dependent on and reflect funding realities. In the event of significant new funding, the plan will identify methods and means designed to enable expedited implementation of efforts to achieve Agency DM [deferred maintenance] management objectives.
>
> Recreation has developed and adopted national and regional strategies to address deferred maintenance for facilities and features in recreation sites and trails managed for public use. FS recently completed Travel Analysis Reports for each Forest Unit. Additionally, FS has many existing partnerships that assist with some routine maintenance and are included in the various strategies, however, there is backlog and heavy maintenance that is difficult to achieve through partnerships and volunteers. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Finding 2: FS Needs to Improve its Facility Inventory Assessment Process

Although FS decommissioned over 1,000 buildings in the last decade, the agency accumulated a backlog of over 3,000 additional buildings with deferred maintenance, that it plans to decommission, totaling $195 million.[22] This occurred because FS did not effectively develop alternative methods to aggressively reduce its unused or underused asset portfolio in light of its limited resources, as discussed in Finding 1. Until the agency significantly reduces its inventory of physical infrastructure to a portfolio that its employees can manage effectively in the current conditions, it is putting its mission in jeopardy. Additionally, deferred maintenance amounts may rise above the current $5 billion level, and safety hazards associated with these properties could pose a significant risk of liability to FS and the Federal Government.

OMB directs departments and agencies to act aggressively to dispose of surplus properties held by the Federal Government, make more efficient use of the Government's real property assets, and reduce the total square footage of their domestic office and warehouse inventory relative to an established baseline.[23] Additionally, Agricultural Property Management Regulations state that each agency is responsible for continually surveying real property to determine if it is necessary to the agency's mission and implementing prompt disposal if it is not needed.[24]

Since 2014, FS increased its deferred maintenance specifically for buildings by almost $40 million (from $1.156 billion to $1.195 billion). However, we determined that the agency may have understated this amount because FS continued to allow buildings to remain unassessed by condition assessment surveys, a condition found in prior OIG audits.[25] Condition assessment surveys are periodic inspections of property, plant, and equipment to determine their condition and the estimated cost to correct any deficiencies. Specifically, we found FS has not recorded condition assessment surveys for 527 buildings, and 7,371 buildings have not had a condition assessment survey recorded in the last 5 fiscal years, much less annually as required by the FS handbook (see further explanation below). When we asked FS officials why they were behind on condition assessment surveys, they stated it was because the agency did not have adequate staffing needed to perform the surveys and the required resources were focused elsewhere.

Federal financial accounting standards require Federal entities to measure and report on deferred maintenance and repairs.[26] To ensure compliance with these standards, FS used condition assessment surveys performed on a 5-year maximum revolving schedule, as reported in its

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[22] Decommissioning is the permanent disposal of excess facilities through options such as exchanges, transfers, sales, or demolition.

[23] OMB, *Implementation of OMB Memorandum M-12-12 Section 3: Reduce the Footprint*, Memorandum 2015-01 (Mar. 25, 2015).

[24] USDA Agriculture Property Management Regulations § 110-75.10 (undated) (basic policy on real property disposal).

[25] OIG recommended improvements related to condition assessment surveys in previous audits, including but not limited to 08601-02-Hy and 08001-1-AT, *Implementation of the Capital Improvement Program* (Nov. 2006).

[26] SFFAS 42*: Deferred Maintenance and Repairs* ¶ 13 (Apr. 25, 2012).

financial statements.[27] However, we found during our audit work that the FS Handbook, last updated in 1997, specifies "maintenance condition surveys" should occur on an annual basis.[28] Due to this discrepancy and potential noncompliance, we determined that FS needs to clarify its requirements regarding condition assessment surveys.

Figure 3: OIG observed that FS plans to decommission this building, which has $127,200 of deferred maintenance. In accordance with 54 U.S.C. § 306102, FS must evaluate the historical value of this Federal building built in 1936. The local heritage official estimated site evaluations cost roughly $10,000. Photo by USDA OIG.

We also discussed the accumulation of buildings to be decommissioned with Washington officials, who stated growing costs related to wildfire operations had a debilitating impact on the funding and staff resources available for maintenance and decommissioning activities, as discussed in Finding 1. Washington and field officials also cited other factors that impede the forest-level officials responsible for taking actions to decommission buildings, such as: (1) high costs and other inefficiencies associated with the heritage evaluation process required to determine if Federally owned buildings are eligible for inclusion on the National Register of Historic Places, (2) the availability of legislative authorities and other tools under which FS can pursue decommissioning activities, and (3) limitations on the staff resources available at the field level to conduct decommissioning activities that require expertise in multiple technical areas.

After discussions with FS officials, we determined that the agency did not collaboratively research or develop alternative methods for addressing these challenges to facilitate the prompt and efficient removal of buildings. When we discussed the agency's buildings portfolio with officials at field, regional, and national levels, officials agreed that FS' current buildings inventory level was not aligned with current financial and personnel levels and should be

[27] USDA Agency Financial Report: Fiscal Year 2015, "Required Supplementary Information: Deferred Maintenance and Repairs" (Feb. 2016).
[28] USDA FS, *Buildings and Related Facilities Handbook*, Forest Service Handbook (FSH) 7309.11, § 44.1, "Inspection Frequency" (July 31, 1997).

reduced to what is safe, sustainable, and sound. Therefore, FS should aggressively reduce the number of unused or underused assets in its portfolio. To support this effort, the agency should establish goals and milestones for reducing its facilities inventory.

We also found various areas that FS could research and develop to help reduce its facilities inventory. Therefore, we are recommending that FS pursue alternative methods for reducing its buildings inventory, such as:

- *Heritage Evaluations:* We found that FS has not evaluated 16,525 out of 21,768 buildings greater than 50 years old for their historical values.[29] Given that historical evaluations cost an average of $10,000 per building, the total cost of this approach with the remaining unevaluated buildings would exceed $165 million. FS approaches evaluations of potentially historic buildings at the individual building or building site level. However, many of FS' buildings follow standardized design plans and were built within definable design eras. FS' National Heritage Program manager told us it may be feasible for FS to streamline its evaluations of such buildings and the Army has established a precedent for doing so.[30] Therefore, the agency could benefit from programmatic agreement(s) or alternate procedures to facilitate evaluations of buildings with similar or standard characteristics.
- *Authorities for Decommissioning FS Buildings:* Congress enacted the Forest Service Facilities Realignment and Enhancement Act (FSFREA) in 2005 and extended the authority through FY 2016. This Act provided authority to convey unneeded administrative sites and retain the proceeds for building maintenance, rehabilitation, and construction. However, it expired on September 30, 2016. FS identified the utilization of FSFREA authority as one of its most promising strategies to help address issues related to funding of facilities operation and maintenance.
- *Funding for Deferred Maintenance:* FS has been appropriated only $3 million specifically for deferred maintenance to address its over $5 billion backlog. Since the agency also used funds from internal program assessments called "cost pools" to address deferred maintenance in the past, increasing the current $65 million cap of the cost pools could allow the flexibility to address additional deferred maintenance concerns.
- *Resources to Assist Field Staffs:* Based on Infra data, FS plans to decommission 3,374 buildings, which account for a total of $195 million in deferred maintenance. However, the agency's building decommissioning process is backlogged due to a lack of adequate resources to efficiently implement the building decommissioning process in the field.[31] FS officials stated that regional property disposal strike teams of individuals skilled in components of the process could remove unneeded facilities from the

[29] Federal agencies are required to identify, evaluate, protect, and nominate historic properties age 50 years or older under their jurisdiction to the National Register. 54 U.S.C. § 306102.

[30] Availability of the Final Army Alternate Procedures for Protection of Army Historic Properties, 67 Fed. Reg. 10,138 (Mar. 6, 2002).

[31] Depending on the disposal method, the decommissioning process can include activities such as (1) identifying excess administrative structures and the land on which each structure is located; (2) conducting historical evaluations; (3) conducting environmental evaluations; (4) mitigating hazards as appropriate; or (5) demolition.

inventory. Additionally, FS identified opportunities to pursue relationship agreements with potential partners who may have the skills necessary to help reduce deferred maintenance or decommission structures.

Generally, FS pursues building decommissioning activities at the field level, although this process requires expertise in multiple technical areas. FS reported a 20-year trend of staffing and funding shifts toward wildfire-related activities and away from other activities that can make the building decommissioning process resource intensive for forests to conduct efficiently. We concluded that this shift has, in general, resulted in a backlog of buildings FS needs to decommission. By collaboratively researching or developing alternative methods for addressing these areas, the agency may be able to streamline and remove impediments impacting national forests' efforts to reduce their deferred maintenance and building decommissioning backlogs.

Recommendation 2

Examine requirements for annual condition assessment surveys of facilities as specified in Forest Service Handbook 7309.11,40, revise the handbook as necessary, and dedicate the resources necessary to adhere to handbook requirements.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation. FSH 7309.11 Chapter 40 currently states that "Maintenance Condition Surveys" are to be completed annually with the exception of maintenance level 1 facilities. FS will begin the process to modify Chapter 40 to state that "Facility Condition Assessments" are to be completed every 5 years in conjunction with real property surveys. In addition, this section will be revised as needed to provide necessary guidance to the field on the information that needs to be collected and reported upward. FS expects to streamline the requirements related to inspections to remove redundancy, reduce labor requirements, improve training related to the performance of inspections, and increase compliance and data accuracy. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 3

Establish goals and milestones to aggressively reduce the number of unused or underused assets in the agency's portfolio.

Agency Response

In its May 4, 2017, response, FS generally concurred with the recommendation, however, the Agency takes exception with use of the word "aggressively" due to the limitations of current and projected funding that prohibit an aggressive approach to reducing the number of assets. In addition, the Agency prioritizes funding and resources first across active, in-use, mission-critical assets.

The Agency recognizes that the number of unused and/or underused assets creates a management burden that cannot be overcome until unused and/or underused (excess) assets are identified and eliminated from the portfolio. The Agency has already segregated existing excess assets into numerous categories including unused, underused, irreparable, and no current need.

The Agency will develop a plan to dispose of unneeded assets that will include multi-year goals and objectives and will implement that plan as aggressively as possible given the limitations of current and projected funding for management of its entire portfolio. Additionally, the Agency is already working to develop tools that will assist in identifying those assets that are trending towards becoming excess to help decision-makers make proper management and disposition decisions for those facilities. As funding opportunities arise, the Agency can implement those options that maximize opportunities to implement best management practices for such assets.

Reducing the number of assets through the various alternatives currently available may be part of any strategy; however, it also must be recognized that many assets are in place to provide for public use, benefit, or safety while protecting natural resources. Eliminating such assets will diminish benefits delivered to the public, will increase safety risks, and will threaten the Agency's ability to protect certain natural resources. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 4

Research and develop alternative methods to reduce the buildings portfolio, such as: developing programmatic agreement(s) or alternate procedures to facilitate evaluations of buildings with similar or standard characteristics, pursuing legislation to reauthorize the Forest Service Facility Realignment and Enhancement Act or enact similar authorities, increasing cost pools to address deferred maintenance, implementing a risk-based strike team approach, and entering into relationship agreements with potential partners with the skills necessary to help reduce deferred maintenance or decommission structures.

Agency Response

In its May 4, 2017, response, FS generally concurred with this audit recommendation. The Agency provides information upon request toward proposed legislation that address the reauthorization of FSFREA and similar legislatively proposed facility disposal authorities. FS has over 290 completed cases of sold administrative sites, administrative facilities, and improvements generating $110 million for use by the Agency for new construction, and maintenance of existing administrative facilities. If reauthorized, FSFREA will allow FS staff at the regional and Forest levels to continue an aggressive approach to utilizing the Act, along with other facility disposal authorities to reduce the inventory of underutilized administrative sites and facilities through use of the sale, lease, or exchange provisions in the Act.

The Agency has begun development of programmatic agreements with State Historic Preservation Offices to facilitate and streamline the process required to remove assets considered and/or designated as historic. The Agency is also investigating opportunities to create functional partnerships that can be used to mitigate risks associated with existing unneeded assets, and/or to remove those assets from the portfolio through various means including sale, donation, or Special Use Permit for alternate uses. In addition, the Agency has executed its first property lease of a historic asset to a private organization as authorized by section 111 of the National Historic Preservation Act. The Agency is in the process of seeking OMB approval of a standard lease template and adopting directives to guide more historic property leases.

Numerous national forests in various regions, under the authority of 23 USC 205 (Forest Development Roads and Trails) are party to cooperative agreements (Forest Development Road Cooperative Agreements) with States, counties and other local road agencies that allow for road improvement and maintenance on roads under FS jurisdiction and Cooperator jurisdiction. Deferred road maintenance items are accomplished on NFS roads and related facilities on an as-needed basis. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Section 2: Mitigating Threats to Public Health and Safety

Finding 3: FS Needs to Assess Safety and Liability with its Infrastructure

During our fieldwork, we observed FS buildings that were not inspected as well as buildings that forest officials stated had structural issues, mold growth, wide-spread rodent droppings, and other health and safety concerns including 20 buildings with concerns so severe that officials referred to them as "red tagged."[32] This occurred because FS line officers accountable for occupational safety and health performance did not have a formalized, risk-based decision-making process to ensure that risks at FS buildings with various levels of occupancy were considered and minimized to the fullest extent practicable while maintenance and removal actions are deferred due to resource limitations.[33] As a result, unsafe structures can pose health and safety risks, such as hantavirus or other concerns, to FS employees and the public.[34]

USDA recognizes the safety and health of its employees as a critical component of an organization that must be funded, managed, and protected in order to meet its overall mission at all levels of the organization. USDA requires safe working conditions to be provided to all employees. Accordingly, USDA policy requires periodic inspections of all agency workplaces at least annually, with more frequent inspections required in workplaces where there is an increased risk of accident, injury, or illness due to the nature of the work performed.[35] However, regulations and USDA policy do not define how much occupancy must be present in order to establish a location as a workplace or reach the threshold of increased inspections.[36]

Our site visits at eight national forests[37] identified FS buildings that deteriorated while maintenance was deferred to the point of posing potential health and safety risks to FS employees and the public. While FS officials stated that deferred maintenance does not always correlate with health and safety concerns, other officials revealed that there were buildings with significant or critical concerns, such as "red tagged" buildings that were closed. However, 10 of

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[32] "Red tagged" is an unofficial term that some personnel of the forests in our sample used to refer to buildings with structural issues, mold, wide-spread rodent droppings, and other health and safety concerns so severe the buildings were closed. Other forests had buildings with relatively similar conditions, but those forest personnel did not use the term.

[33] USDA FS *Organization*, Forest Service Manual (FSM) 1200, Ch. 1230, "Delegations of Authority and Responsibility" (Dec. 2013). FS officials who have been delegated certain line officer authorities include but are not limited to the Chief, Associate Chief, Deputy Chiefs, Regional Foresters, Forest Supervisors, and District Rangers.

[34] According to the Centers for Disease Control and Prevention (CDC), hantavirus is a potentially fatal infection caused through airborne transmission or other contact with hantavirus-infected rodents or their urine and droppings. Barns, outbuildings, and sheds are potential sites where people may be exposed to the virus. According to the CDC, 36 percent of reported cases have resulted in death.

[35] USDA Departmental Regulation 4410-004, Safety Management Program ¶ 3e (Aug. 3, 2015).

[36] 29 CFR § 1960.25 and USDA Departmental Regulation 4410-004, Safety Management Program (Aug. 3, 2015).

[37] Based on information in the Infra data system that FS uses to monitor and report on its infrastructure, we non-statistically selected eight national forests within three FS regions based on the highest deferred maintenance, most dams, or both. During site visits to these eight national forests, we observed a total of 446 buildings. FS currently manages nearly 40,000 administrative, recreation, and research buildings.

the 20 buildings in our sample that FS officials called "red tagged," were not secured when we arrived on the sites, and 15 of the 20 buildings did not display hazard warning signs.

Figure 4: OIG observed that this "red tagged" equipment shed and an information station designed to inform the public about a restoration project in the area was located along a public trail. According to the 2003 Facilities Master Plan for this forest, "This shed is no longer used/needed and has been posted with warning signs for threat of Hantavirus." Photo by USDA OIG.

Figure 5: This "red tagged" equipment shed (also shown in Figure 4) was neither secured nor physically red tagged when we arrived on site. A padlock was visible on the latch, but the latch was no longer attached to the door. A section of siding large enough to permit entry was missing from the shed. Photo by USDA OIG.

Further, we are concerned that certain FS buildings may have deteriorated to the point they could potentially cause injury and result in potential liability. We observed broken bottles, campfire ashes, and vandalism, which indicate that members of the public had been in or near "red tagged" buildings. A FS law enforcement official told us that multiple incidents involving the public occurred at "red tagged" buildings in one forest, including incidents with children. At another forest, we observed residential housing buildings that were "red tagged" due to structural and health concerns, but they neighbored FS residential housing buildings occupied by faculty who teach young people.

Figure 6: OIG observed this "red tagged" building with suspected lead-based paint and asbestos that local officials referred to as "abandoned." Building components such as wire and water heaters had been stolen. Photo by USDA OIG.

Figure 7: OIG observed a water tower tank that had fallen from its aged wood support structure and evidence of vandalism at the site referred to as "abandoned." Photo by USDA OIG.

During our fieldwork, we observed buildings which FS officials stated had mold growth, confirmed asbestos, lead-based paint application, and structural integrity issues. Even though FS engineers, safety officers, and line officers directed us to a number of these buildings, we determined that potential health and safety risks at facilities may not always be identified. Our review of 446 buildings found that FS' safety officers did not document safety inspections in FY 2016 for 172 buildings they stated required annual inspections and did not cover 133 lesser-used buildings because the officials did not consider them to be workplaces. Due to limited resources and multiple other program responsibilities, safety officers stated they were not able to inspect all buildings to identify health and safety concerns and did not prioritize inspections of lesser-used buildings.

Figure 8: This "red tagged" residential building has a 15-foot wide hole in the roof, fire and water damage, and visible mold across the ceiling and walls. It neighbored other FS residential buildings. Photo by USDA OIG.

Figure 9: This former district office building had significant, visible mold on the interior walls and is now used for storage. Photo by USDA OIG.

Based on our fieldwork, we concluded that certain lesser-used FS buildings may nonetheless pose hazards to employees and the public. For example, we observed an equipment shed that local FS officials referred to as "red tagged" (see Figures 4 and 5). The forest's safety official stated that the shed was to be kept locked, and the building should have a physical red tag on the door as hantavirus concerns had been associated with this building.[38] However, we noted that this shed was unable to be secured at the time of our site visit because the latch was no longer attached to the door and also because of an approximately 3-foot gap in the siding. Further, unlike other "red tagged" buildings we observed at this forest, we observed no actual red tag on the door.

When we questioned the conditions at this shed, the forest officials told us the plan is to demolish the building, but that it takes time and effort to demolish a building. They added that the forest has only two engineers to cover approximately 150 facilities, and the forest's maintenance budget is approximately $200,000. They stated that the forest prioritizes maintenance on buildings that are occupied and opted to expend limited maintenance resources on other buildings.

[38] FS incurred Worker's Compensation costs after an employee of this forest was diagnosed with hantavirus in 2015.

According to a Washington official responsible for safety, the agency has facilities that are not being used, and the agency is waiting for some of them to simply crumble into the landscape since the procedures for off-loading infrastructure inventory can become so complex (see Finding 2). The official added that the primary issue is lack of funding, but also stated that safety officers support line officers, such as forest supervisors and district rangers, are ultimately responsible for safety. He said that safety should be made a priority for line officers, and all workplaces should receive safety inspections at least once per year. However, we found that at the time of our site visits, the Forest Service Manual (FSM) on the Safety and Health Program did not feature a section on risk management to help guide this process.[39] Therefore, we are recommending that FS provide a risk-based decision-making framework to ensure that risks at FS buildings with various levels of occupancy are considered and minimized to the fullest extent practicable while maintenance and removal actions are deferred due to resource limitations. Additionally, FS should support this decision-making framework through improved resources such as guidance for inspecting and managing lesser-used buildings.

At the eight national forests where we conducted fieldwork, local officials generally attributed potential health and safety concerns in FS buildings to limited funding and prioritization of high occupancy buildings. However, given the deteriorated conditions and potential health and safety concerns that may exist at lesser-used facilities, local officials may not be fully assessing the potential hazards associated with these buildings in terms of probability and severity, and may not be fully aware of additional interim steps that could be taken while maintenance continues to be deferred.

Therefore, we recommend that FS ensures that local officials are appropriately prioritizing maintenance needs and activities to minimize risks and potential liability for any incidents that may occur at FS facilities. FS should provide officials with a framework for making and documenting decisions and the policy considerations that inform them. The agency should also outline interim steps for responsible officials to consider taking with buildings while maintenance affecting health and safety is deferred. By providing such tools, the agency can enhance its support for local decision-making regarding buildings where this maintenance has been deferred, such as whether to post warnings on buildings with potential hazards or ensure buildings are actually secured. After the conclusion of our site visits, FS officials informed us that the agency did develop a tool to assess risks and issued a revised FSM 6710 governing Safety and Health Program Administration. We believe that assessing risks is a positive step, but full implementation and applicable training are necessary to minimize risks to the extent possible.

Recommendation 5

Develop and implement a risk-based decision-making framework for conducting inspections and methods of correcting issues to reduce liability at facilities with potential hazards. Support this

[39] USDA FS *Safety and Health Program*, Forest Service Manual (FSM) 6700, Ch. 6710, "Safety and Health Program Administration" (Dec. 2002).

decision-making framework through improved resources such as guidance for inspecting and managing lesser-used buildings.

Agency Response

In its May 4, 2017, response, FS generally concurred with audit recommendation. FS concurs with the need for a decision-making framework and risk assessment scale as it relates to health and safety. FS has established Risk Assessment Codes and Risk Management Tools in FSM 6710 (effective 11/17/2016).

FS concurs with the premise that interim risk reduction activities to better protect the public and employees from known health and safety risk are good practice. Buildings "red tagged" have been identified as places where no persons should enter and therefore no work or operations should be performed there. However, due to Real Property Regulations, inspections (for determining deferred maintenance) of all assets are required. This is considered a worksite or work activity for the purpose of fulfilling the Real Property Requirement. FS has established Job Hazard Analysis (JHA) and Risk Management Tools in the FSM 6710, which when appropriately utilized, should minimize health and safety risk. For example, FSH 6709.11 CH 53.73a requires each unit to develop a "Hantavirus Prevention Action Plan and make it available as a resource for writing site-specific JHAs."

The risk assessment scale for dams is the "hazard potential classification," which sets the minimum criteria for design, operation, maintenance, and monitoring of dams. Procedures for addressing deficiencies found during inspection are provided in FSM 7514.2. Direction pertaining to Recreation Sites Managed for Public Use found in FSM 2330 addresses public safety and risk assessment, operations and maintenance, and site closures. Included in the Annual Operations and Maintenance Plan for each site, is a pre-season opening inspection of the site, including facilities and features, focused on public safety, risk, and health items. There are also National Quality Standards for Operations and Maintenance of these sites awaiting establishment in the directives system.

A draft new Handbook edition which will contain updated quality standards for operations and maintenance and revised basic criteria for a recreation site to be open to public use is underway with an estimated release for publication and field use in 2017. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 6

Provide targeted training or guidance to safety officials and line officers on utilizing the risk-based decision-making framework to meet requirements of the agency occupational safety and health program.

Agency Response

> In its May 4, 2017, response, FS concurred with the recommendation. FS has developed and recently published Risk Assessment Codes and Risk Management policy in FSM 6710 section 6717 (effective 11/17/2016). This new FSM 6710 replaced the 2002 version that was referred to in this report. The new policy includes Risk Assessment Codes (RAC) that were designed to help Managers prioritize the allocation of resources to mitigate hazards based on the degree of danger the hazards present. Hazards must be classified as imminent danger (RAC-1 could cause death), serious (RAC-2 could cause serious injury/illness), or non-serious (RAC-3 possible non-serious injury or illness). The policy requires that upon facility safety inspection close-out, the local Line Officer is provided a summary of each hazard identified. This newly published guidance for Safety professionals and Line Officers was completed November 17, 2016.

OIG Position

We accept management decision for this recommendation. Since the guidance was implemented near the end of our fieldwork, we were unable to incorporate a full assessment within our timeframes.

Finding 4: FS Needs to Assess Safety Concerns with Dams

We found that FS continues to lack an effective control structure for validating that required plans are maintained for dams and necessary inspections of dams are performed to identify any deficiencies affecting a dam's safety. For instance, 138 out of 182 dams in our sample (76 percent)[40] either did not receive or timely document operation and maintenance (O&M) inspections to identify safety deficiencies and work needed to maintain the dams. Although FS developed controls in response to previous OIG recommendations on dams, the agency did not implement a strategy to adequately focus resources on the dams program. As a result, FS lacks assurance that it is accurately reporting deferred maintenance costs for FS' dams and adequately protecting people, entities, and the environment from aging dams that threaten public safety. This includes dams that may cause costly and significant damage in the event of a failure. For example, the August 2015 Gold King Mine release cost the Federal Government more than $29 million to address.[41]

Federal guidelines for dam safety assign Federal agencies responsibility for policy and inspection of each dam under their jurisdiction.[42] Dams under FS' jurisdiction include FS-owned dams as well as non-FS-owned dams the agency permits on national forest lands (i.e., "special use permit dams"[43]). FS is responsible for ensuring each of these dams receive required inspections such as O&M inspections and safety inspections at specified frequencies[44] based on the hazard potential classification of the dam.[45] FS requires emergency action plans for all high hazard dams on FS lands and requires remote sensing on the high hazard dams the agency operates.[46]

According to FS, the agency is responsible for approximately 3,200 dams on FS lands (approximately 1,500 FS owned and approximately 1,700 non-FS-owned dams on FS lands).[47]

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40 We reviewed documentation for 182 dams, including 74 FS-owned and 108 special use permit dams.

41 U.S. Environmental Protection Agency, *Emergency Response to August 2015 Release From Gold King Mine* (Aug. 5, 2016), https://www.epa.gov/goldkingmine. An FS dam did not cause the Gold King Mine release. However, FS dams program officials stated there are mine tailings dams on FS lands and there is potential for an incident like the Gold King Mine release to occur on FS lands. A mine tailings dam is an industrial waste dam for which the waste materials come from mining operations or mineral processing.

42 Interagency Committee on Dam Safety, U.S. Department of Homeland Security Federal Emergency Management Agency, *Federal Guidelines for Dam Safety*, § III.A.1. (Apr. 2004).

43 FS issues special use permits to use Federal lands for a wide variety of purposes including operating a dam on FS lands. In June 2011, OIG found that FS had built up a considerable backlog of un-reviewed special use authorizations. Audit Report 08601-55-SF, *Forest Service Administration of Special Use Program* (June 2011).

44 USDA FS, *Water Storage and Transmission*, FSM 7500, § 7514, "Inspections," (May 2011); USDA FS, *Special Uses Management*, FSM 2700, § 2716.52, "Inspection Frequency Based on Applicable Standards" (Apr. 2014).

45 The hazard potential classification system categorizes dams based on the probable loss of human life and the impacts on economic, environmental, and other interests. Classifications include high hazard potential, significant hazard potential, and low hazard potential.

46 USDA FS, *Water Storage and Transmission*, FSM 7500, § 7515, "Emergency Action Plans," and § 7516, "Remote Sensing on High Hazard Dams" (May 2011).

47 According to FS dams program officials, the exact number of dams in the inventory could not be readily determined and may include a small number of dams adjacent to FS lands that local officials entered into the database for tracking purposes.

We non-statistically selected a sample of 182 of the dams administered by the 8 national forests that we visited.[48] We tested the sample of dams to determine if FS was in compliance with the Federal guidelines as well as its own policies and procedures.

We found that FS developed and implemented procedures for entering, reviewing, and analyzing information about dams into its Infra system in response to a prior OIG recommendation.[49] It also implemented controls for dams by issuing updated direction on dams inspection frequency, emergency action plans, and O&M requirements.[50] In 2015, FS continued an ongoing effort to update emergency action plans and associated inundation maps for 31 FS-owned high hazard potential dams and to update an additional 5 inundation maps for high hazard potential dams. A total of 11 of these emergency action plans pertained to dams in our sample.

However, our review found that the agency lacked documented inspections of dams of all hazard classifications—high, significant, and low hazard. Additionally, the hazard level of 13 dams was unknown, as their hazard level had not been assessed. Further, we found the agency lacked emergency action plans, which help protect lives and reduce property damage in the event of a dam failure or operational incident[51] and lacked required remote sensing devices installed on high hazard dams.

Specifically, our review determined the following:

- Of the 182 sampled dams, 138 (76 percent) did not receive documented O&M inspections within required timeframes even though FS directives require documented O&M inspections of high hazard dams annually, significant hazard dams every 5 years, and low hazard dams every 10 years. More notably, for high and significant hazard dams, 71 out of 94 sampled dams (76 percent) lacked O&M plans.
- Of the 64 sampled high hazard dams, 49 (77 percent) did not receive required safety inspections within the last 5 years. Additionally, FS lacked documentation that 45 of these high hazard dams had ever received safety inspections.
- Of the 64 sampled high hazard dams, 39 (61 percent) lacked required emergency action plans. Further, the emergency action plans that FS obtained were not always updated timely as six of the emergency action plans were dated 1982.
- Only 1 emergency action plan was tested out of all the 182 sampled dams, although all emergency action plans are required to be tested every 5 years.

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[48] We selected our sample from information in the Infra data system that FS uses to monitor and report on its infrastructure. We non-statistically selected eight national forests based on the highest deferred maintenance, most dams, or both. If sampled forests administered less than 25 dams, we selected all dams administered by the forest. If sampled forests administered more than 25 dams, we selected half the forest's dams or a maximum of 30, based on hazard level and ownership categories.

[49] Audit Report 08601-02-Hy (Recommendation 3).

[50] USDA FS, *Water Storage and Transmission*, FSM 7500 (May 2011).

[51] FS requires documented emergency action plans to be maintained for all dams operated by FS with a high hazard potential classification and requires them to be tested every 5 years. USDA FS, *Water Storage and Transmission*, FSM 7500, § 7515, "Emergency Action Plans" (May 2011).

- Of FS' 14 high hazard dams, 11 (79 percent) lacked the remote sensing devices required by FS directives. Remote sensing allows the maximum opportunity to alleviate problems that could threaten the integrity or operation of a dam.

According to FS officials, one of the biggest challenges of the dam safety program is the availability of funds on a consistent basis. They further stated that the program staff level consisted of approximately four officials, each of whom have responsibilities split across regions or multiple programs other than dams' safety. Additionally, they stated that FS lacks a coherent dam safety program. Therefore, we are recommending that FS develop a strategy, including measurable goals and milestones, to adequately focus financial and staffing resources on the dam safety program and the most crucial work related to dams. This strategy should ensure that FS obtains the necessary information about the status of dams and may include developing a nation-wide risk assessment to prioritize highest risk dams for monitoring and repairs.

Additionally, without required inspections and emergency action plans, the deferred maintenance amount of $37.6 million FS reported for dams in FY 2016 may not be fully accurate. Therefore, we recommend that FS review the current policies and procedures for O&M inspections of dams to determine if updates are needed to ensure inspections are conducted and documented consistently and timely. The policy should require that maintenance items are entered into Infra when needed and removed when completed to ensure accurate reporting.

According to FS dam safety program officials, the overall condition of FS' inventory of dams is deficient, and most of the agency's older dams have significant rehabilitation needs.[52] Yet dams assigned the high hazard potential classification are those where failure or misoperation is expected to cause the loss of one or more human lives.[53] Failure of a dam also can lead to economic loss such as property damage and environmental impact.

We also noted that deferred maintenance amounts for some water conveyance systems and mine tailings dams were included in FS' reporting for dams, even though FS lacks policies and procedures for consistently identifying and reporting deferred maintenance and safety conditions on these dams. For instance, FS spent approximately $7 million on emergency repairs to the Spirit Lake outlet tunnel at Mount St. Helens National Volcanic Monument, Washington, in 2015 and 2016, to reduce these risks.[54] However, approximately $15 million of additional maintenance on this outlet tunnel has been deferred. Therefore, FS needs to develop and implement inspection requirements for water conveyance systems and mine tailings dams.

Agency officials at the field, regional, and national level told us that dams program resources are currently focused on FS-owned dams. However, FS has some responsibility over all dams on FS

[52] FS' dams range in age from 6 to over 100 years old, with over half at 50 years old and 80 percent older than 30 years.
[53] Interagency Committee on Dam Safety, U.S. Department of Homeland Security, Federal Emergency Management Agency, *Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams*, at 6 (Apr. 2004).
[54] Debris flow during the 1980 eruption of Mount St. Helens blocked the natural outlet to Spirit Lake. The lake level is currently controlled to prevent the water from over-topping the outlet and potentially causing large-scale mudflow.

lands.[55] FS officials stated that dams' owners are responsible for the safety of their dams. Yet we found that the agency did not obtain inspection and emergency action plan documents for a substantial number of dams on FS lands. When we asked whether the documentation for these dams exists at all or simply has not been provided to FS, agency officials stated that both are possible. Therefore, we recommend that the agency develop and implement a plan of action to obtain the necessary inspection and emergency documentation for non-FS dams on FS lands.

To assist with this task, we determined that information about non-FS-owned dams on FS lands may be available through other entities such as: the special use permit dams owners, USDA's Natural Resources Conservation Service, the National Inventory of Dams maintained by the Army Corps of Engineers, the Bureau of Reclamation, and the States. FS should determine the feasibility of reconciling FS data in Infra with data in other data systems, as authorized by Federal law.

Overall, we concluded that by taking steps to focus the limited program resources on the most crucial areas, FS can better position itself to safeguard human lives, property, the environment, and Federal funds.

Recommendation 7

Develop a strategy including measurable goals and milestones to adequately focus financial and staffing resources on the dams program. This strategy should ensure the agency obtains the necessary information about the status of dams and possibly develop a nation-wide risk assessment to prioritize highest risk dams for monitoring and repairs, and testing emergency action plans.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation and is developing a strategy to manage FS owned dams that will include:

- Measurable goals and milestones,
- Reduction of the number of FS-owned dams or the risk (i.e. lowering the Potential Hazard Classification)
- Dedicated staff to administer the dams' program,
- Risk-based approach to prioritize investment,
- Improvements for quality of data and reporting in Infra;
- Tracking of work accomplished and testing of EAPs;
- Evaluation of current policy and implementation of required changes and;
- Consistency with current and projected funding and resources

The estimated completion date is April 30, 2018.

[55] Interagency Committee on Dam Safety, U.S. Department of Homeland Security Federal Emergency Management Agency, *Federal Guidelines for Dam Safety*, § III.A.1. (Apr. 2004).

OIG Position

We accept management decision for this recommendation.

Recommendation 8

Clarify and update policy and procedures for conducting operation and maintenance (O&M) inspections of dams to ensure inspections are conducted and documented consistently; maintenance work items identified through O&M inspections are entered into Infra; and Infra is consistently updated when repairs are completed to ensure deferred maintenance reporting is accurate.

Agency Response

> In its May 4, 2017, response, FS generally concurred with this audit recommendation. Based on the June 2006 Audit Report, 08601-02-Hy, policy (FSM 7500) was revised. FSM 7514 prescribes the inspection frequency and criteria for inspection of dams. FSM 7514.5 - Exhibit 01 contains a summary of the required inspections and frequencies. The FS will develop strategies to implement this policy.
>
> The dams' strategy will include procedures to regions for updating inventory; conducting inspections that are required in the current policy (FSM 7500); documenting inspections and work items in Infra and updating Infra when repairs are completed.
>
> FS policy on O&M inspections is valid and complete and only reporting procedures are required. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 9

Develop and implement inspection requirements for water conveyance systems and mine tailings dams.

Agency Response

> In its May 4, 2017, response, FS generally concurred with this audit recommendation. The Agency stated that the audit draws attention to the Spirit Lake Outlet Tunnel, which is a unique situation that should have its own separate written procedures (O&M plan, inspection plan, etc.). Development of this plan is currently in progress, with an estimated completion of late 2017.

FSM 7500, "Water Storage and Transmission" currently only contains the water storage component. The water transmission component will be evaluated to determine the need for a new national policy or project specific requirements to address situations similar to the Spirit Lake Outlet Tunnel. A search of the dam database indicated that there are few dams that could potentially be tailing dams. A strategy and procedure will be developed to address these dams including inspection types and frequencies. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 10

Develop and implement a plan of action to obtain the necessary inspection and emergency documentation for non-FS dams on FS lands.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation. FS will develop and implement a plan of action to request the necessary inspection and emergency action plan documentation for non-FS dams on NFS lands. FS is modernizing the Special Uses Database System (SUDS) in preparation for addressing this issue. The updates to SUDS will include input of information concerning non-FS dams authorized by special use permits. Information fields will be added to and/or modified in SUDS concerning inspections and emergency action plan documentation for non-FS dams on NFS lands. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Section 3: Accurate and Consistent Reporting of Deferred Maintenance Costs

Finding 5: FS Needs to Address Issues with its Deferred Maintenance Reporting Process

We determined that FS did not report its deferred maintenance accurately and consistently because written guidance and training was not available for the applicable FS officials. As a result, FS is unable to communicate reliable information regarding its deferred maintenance to oversight bodies, and cannot readily use information in its Infra system to prioritize the repairs and maintenance. Furthermore, FS overstated its deferred maintenance by at least $24 million in FY 2015.

Federal accounting standards require agencies to measure deferred maintenance using condition assessment surveys, life-cycle cost forecasts, or other similar methods. Accounting standards also state that management should determine which methods to apply and what condition standards are acceptable. Once determined, condition standards, related assessment methods, and reporting formats should be consistently applied.[56] If principles do change, the nature and reason for the change as well as the effect of the change should be disclosed.[57] FS directives state the real property accounting system requires the uniform application of definitions, asset classification, capitalization guidelines, and inventories.[58] FS directives also state condition assessment surveys are used to account for deferred maintenance.[59]

We reviewed FS' deferred maintenance reporting for FYs 2014 and 2015 and determined that the agency did not accurately report its deferred maintenance. We found that FS counted $24 million of deferred maintenance related to heritage assets twice in FY 2015. Agency officials stated that the error occurred because of an oversight. We noted that in response to a prior OIG audit recommendation,[60] the agency documented a methodology to compile and report deferred maintenance. However, the accounting standards changed for FY 2015 reporting. We brought both of these issues to the attention of FS officials, who agreed that a formalized process to identify year-end deferred maintenance values would ensure that the agency does not make similar errors in the future.

We also identified inaccuracies with respect to the reporting of deferred maintenance on the FS roads system. FS uses a national random sample to report deferred maintenance for passenger car roads. However, we found the FY 2015 estimated average deferred maintenance per mile

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56 SFFAS 42: *Deferred Maintenance and Repairs* (Apr. 25, 2012).
57 Governmental Accounting Standards Board, *Concepts Statement No. 1*, "Objectives of Financial Reporting," ¶ 67 (May 1987).
58 USDA FS, *Service-Wide Finance and Accounting Handbook*, FSH 6509.11K, § 56.3, "Real Property Accounting" (Mar. 7, 2013).
59 USDA FS, *Buildings and Related Facilities Handbook*, FSH 7309.11 (July 31, 1997).
60 Audit Report 08601-02-Hy, *Follow Up on Recommendations Made on the Maintenance of Forest Service's Infrastructure* (June 2006).

was statistically projectable to only about 96 percent of the total miles in the system. This occurred because almost 4 percent of the miles were in road segments not eligible to be surveyed because of how samples are drawn for segments of roads either not entirely owned by FS or not entirely used for passenger cars. While reviewing the statistical analysis, we also determined that although FS' goal was to obtain a 90 percent confidence level with its roads sampling protocol, it actually obtained a 78 percent confidence level. Therefore, we recommend that FS review and revise its "Deferred Maintenance Protocol for Roads" to maintain the integrity of the sampling selection and projection processes.

In addition to these inaccuracies, we also found the deferred maintenance on facilities was inconsistently reported by FS officials. We found variation in the manner that officials performed facility condition assessment surveys and recorded when maintenance was completed in the three FS regions we visited. For example:

- One forest engineer entered every work item that might be necessary.
- Another forest official generally entered work items into Infra that have a reasonable chance at being done instead of entering every possible work item.
- Forest officials in the third region stated they alter the quantity of work items needed to force the Infra system to calculate a value that the officials believed better reflected realistic local job costs.

Additionally, the agency did not consistently cap deferred maintenance at the buildings' current replacement values. FS officials stated that they recently developed a control that does not permit new deferred maintenance totals to exceed the current replacement value of the asset. They added that they do run gap analyses and test for data errors. However, we determined that, as of March 2016, of the 446 buildings we observed during site visits, 27 facilities had deferred maintenance totals greater than current replacement values for a total difference of over $2.7 million.[61]

Further, deferred maintenance amounts were not always based on maintenance items identified during facility condition assessment surveys. Forest officials stated that because justification for a new structure in the forest requires a high level of estimated deferred maintenance, they listed several buildings for full replacement in order to show a need to construct a replacement. In a different forest, buildings at that forest which are 50 years or older automatically match the deferred maintenance to current replacement value. Thus, we found that not all forests consistently used condition assessment surveys to identify deferred maintenance work items.

We attributed the inconsistent deferred maintenance reporting to ineffective guidance and training. In fact, one forest official said that officials were trained on deferred maintenance about 5 years ago. Yet this forest official could not locate any of the training documents or instructions. At another forest, the engineers gathered to establish "forest conventions," and found discrepancies existed; for example, similar maintenance tasks were entered as deferred

[61] Fieldwork selections were based on March 2016 Infra data.

maintenance by some officials and entered as capital improvements by other officials.[62] FS officials stated that, because of these inconsistencies, the Infra data need to be improved before they can be used.

We concluded that because the deferred maintenance information was not always consistent and accurate, FS could not always make decisions or prioritize repairs and maintenance posing the most significant threats to public health and safety. As a result, FS officials were unable to communicate to oversight bodies reliable and valid information regarding their deferred maintenance. Therefore, we are recommending that FS establish and implement written procedures for compiling accurate and consistent reporting of deferred maintenance costs. FS also needs to revise guidance for performing condition assessment surveys, provide proper training on the guidance, and implement a quality control process to verify that the revisions are operating effectively.

Recommendation 11

Establish and implement written procedures for compiling the deferred maintenance amounts reported to outside entities.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation. To improve controls over the reporting of deferred maintenance accomplishments, the Agency will complete the following tasks:

- Develop a concise definition of deferred maintenance and communicate that definition to all Infra users;
- Improve Infra training materials with the intent of standardizing the understanding of deferred maintenance to improve both confidence in accuracy of data entered into Infra and to ensure that all users abide by the requirements specific to the nature of data being recorded in Infra;
- Eliminate existing deferred maintenance errors through training in the form of webinars; and
- Evaluate the methods currently being used to collect deferred maintenance data and revise as appropriate.

The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

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[62] SFFAS 40*: Definitional Changes Related to Deferred Maintenance and Repairs*, app. A, ¶ A30 (May 2011) (agencies "should treat like circumstances similarly over time since a consistently followed practice that is well described will assist decision makers").

Recommendation 12

Revise guidance for performing facility condition assessment surveys and ensuring only accurate and consistent data are entered into Infra by national forests and regions.

Agency Response

> In its May 4, 2017, response, FS concurred with this audit recommendation. FS will review and revise current guidance on performing condition assessments on all its assets to ensure that the data entered in Infra is consistent and accurate.
>
> FS will review, as necessary, the policies and procedures in FS manuals and handbooks. Additional guidance will be provided to the regions, such as standard inspection forms, condition and work items definitions and processes for updating data dictionaries for each of the Infra asset modules. The Agency is implementing a standard template with typical deferred maintenance work items that will be used to collect condition information during the inspection of road bridges. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 13

Provide training to communicate previous and updated deferred maintenance policies to those performing and entering facility condition assessment surveys. Additionally, ensure that deferred maintenance training is provided to new employees when necessary.

Agency Response

> In its May 4, 2017, response, FS concurred with this audit recommendation. FS has begun some in-person and webinar trainings for the entry of work items for bridges and buildings. The Agency's intent is to develop similar training for other assets as well. Some webinars will be recorded and posted on the internal engineering website, so anyone in FS can have access to them. A central repository of these webinars will be available to new employees responsible for data entry.
>
> Training for bridge management has been identified as top priority and funds have been set aside on a yearly basis. The goal is to deliver two training sessions per year in the next 4 years. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 14

Implement a quality assurance or quality control process to identify and correct deferred maintenance data, including both new data and data currently in the system.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation. FS has begun to conduct program reviews at the regions, usually targeting one or two regions per year. The review includes the analysis of Infra data including recorded deferred maintenance, holding conversations with staff at the forest level to determine if they are following the protocols established in the manuals and handbook, random verification of data entry and performance of condition surveys. In addition, FS plans to develop reports and tools to help the regions identify and correct error gaps in their data. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Recommendation 15

Revise the "Deferred Maintenance Protocol for Roads" to ensure the integrity of the sample selection and projection processes.

Agency Response

In its May 4, 2017, response, FS concurred with this audit recommendation. FS recognizes that improvements can be made to enhance the integrity of the sample selection and projection process of the random road sampling method currently used to determine the national deferred maintenance yearly cost. FS will utilize an interagency agreement with the U.S. Department of Transportation Volpe Center to review and recommend changes to FS' protocol for sampling roads deferred maintenance and estimating the roads national deferred maintenance cost total. The revised "Deferred Maintenance Protocol for Roads" will address issues identified by FS during internal reviews, Volpe Center analysis, and the OIG Audit findings. FS has targeted changes to the random road survey selection protocols for implementation and reporting in the FY2018 survey cycle. The estimated completion date is April 30, 2018.

OIG Position

We accept management decision for this recommendation.

Scope and Methodology

We conducted our audit of FS' controls over deferred maintenance at the FS Washington Office located in Washington, D.C.; in three out of nine regions of the National Forest System; and at 8 out of 154 national forests. Our audit also covered FS' actions taken in response to recommendations made in OIG Audit Report 08601-02-Hy, *Followup on Recommendations Made on the Maintenance of Forest Service's Infrastructure,* June 2006. The scope of our nationwide audit covered FS' deferred maintenance for FYs 2014 through 2016. We performed audit fieldwork from February 2016 through December 2016.

FS reported deferred maintenance backlogs of approximately $5.1 billion, $5.2 billion, and $5.5 billion for FYs 2014, 2015, and 2016, respectively. At the end of FY 2015, FS managed 39,826 administrative, recreation, and research buildings; approximately 27,000 recreational sites, such as campgrounds, picnic areas, trailheads, and interpretive sites; over 370,000 miles of roads, of which 65,000 miles are for passenger vehicles; nearly 13,000 road and trail bridges; and over 3,000 FS-owned and special use permit dam structures.

Chart 1: FS' reported deferred maintenance costs for FYs 2014, 2015, and 2016 by asset classes.

FS Asset Classes	Cost of Deferred Maintenance Reported (in millions) for FY 2014	Cost of Deferred Maintenance Reported (in millions) for FY 2015	Cost of Deferred Maintenance Reported (in millions) for FY 2016
Bridges	$184	$205	$233
Buildings	$1,156	$1,149	$1,195
Dam	$26	$38	$38
Fence	$264	$256	$256
Handling Facility	$22	$22	$22
Heritage	$23	$48	$23
Minor Constructed Features	$91	$91	$90
Road	$2,921	$2,998	$3,214
Trails	$270	$279	$279
Trail Bridge	$9	$9	$9
Wastewater	$32	$31	$31
Water	$95	$92	$92
Wildlife, Fish, Threatened/Endangered Species	$7	$7	$7
Total Deferred Maintenance	$5,100	$5,224	$5,488

Based on this information and a recommendation related to dams made in the previous audit report, we used March 2016 Infra data to non-statistically select FS regions with the highest deferred maintenance, most dams, or both. We selected national forests within the respective

regions on this basis as well. These included Black Hills National Forest, Nebraska National Forest, and White River National Forest in the Rocky Mountain Region; Cleveland National Forest, Lake Tahoe Basin Management Unit, and Tahoe National Forest in the Pacific Southwest Region; and Mt. Hood National Forest and Gifford Pinchot National Forest in the Pacific Northwest Region. During site visits to these 8 national forests, we observed a total of 446 buildings and 16 dams. We selected an additional 166 dams administered by these forests for a total file review sample of 182 dams. The reported deferred maintenance for the buildings and dams in our sample was $107.4 million.

To accomplish our audit objectives, we performed the following procedures:

- reviewed laws, regulations, agency instructions, and any other documentation, including prior OIG, GAO, Occupational Safety and Health Administration, Federal Highway Administration, and FS reports applicable to the scope of our audit;
- interviewed Washington, regional, and national forest officials to obtain an understanding of their responsibilities and the related internal controls with respect to deferred maintenance inspection and reporting processes;
- obtained documentation from the Office of Chief Financial Officer relative to the applicable prior OIG audit's recommendations and corrective actions taken;
- reviewed documents related to deferred maintenance inspection and reporting processes;
- evaluated the statistical integrity of FS' random sampling of its roads, including methodology and projection, to arrive at the deferred maintenance cost for the overall roads system; and
- discussed the issues we found during our audit with Washington officials to obtain their position and response.

We obtained FS' reporting information on deferred maintenance for FYs 2014 through 2016. We obtained data and reports in FS' Infra system, a database that compiles employee-entered data. While we did not perform a complete general and application control review of this information system as part of this audit, OIG assessed it as part of Audit Report 50501-0008-12, *U.S. Department of Agriculture Office of the Chief Information Officer Fiscal Year 2015 Federal Information Security Modernization Act,* November 2015. We determined that FS had a plan of actions and milestones in place to fix identified deficiencies. We assessed the reliability of the data used for reporting; the results of this testing are explained in Finding 5.

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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

Abbreviations

CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
FS	Forest Service
FSFREA	Forest Service Facilities Realignment and Enhancement Act
FSH	Forest Service Handbook
FSM	Forest Service Manual
FY	fiscal year
GAO	Government Accountability Office
JHA	Job Hazard Analysis
O&M	operation and maintenance inspections
OIG	Office of the Inspector General
OMB	Office of Management and Budget
RAC	Risk Assessment Code
SFFAS	Statement of Federal Financial Accounting Standards
SUDS	Special Uses Database System
U.S.C.	United States Code
USDA	Department of Agriculture

Exhibit A: Summary of Monetary Results

Exhibit A summarizes the monetary results for our audit report by finding and recommendation number.

Finding	Recommendation	Description	Amount	Category
5	11	Overstatement of heritage deferred maintenance in FY 2015	$24 million	Accounting Classification Errors

Exhibit B: FS Locations Selected for Audit 08601-0004-31

This exhibit shows the organization and location of the FS regions and national forests visited or contacted during the course of our fieldwork.

Organization	Location
Washington Office	Washington, D.C.
Pacific Northwest Region	Portland, Oregon
Gifford Pinchot National Forest	Vancouver, Washington
Mt. Hood National Forest	Sandy, Oregon
Pacific Southwest Region	Vallejo, California (via teleconference)
Cleveland National Forest	San Diego, California
Lake Tahoe Basin Management Unit	South Lake Tahoe, California
Tahoe National Forest	Nevada City, California
Rocky Mountain Region	Golden, Colorado
Black Hills National Forest	Custer, South Dakota
Nebraska National Forests and Grasslands	Chadron, Nebraska
White River National Forest	Glenwood Springs, Colorado

USDA'S
FOREST SERVICE

RESPONSE TO AUDIT REPORT

Forest Service **Washington Office** **201 14th Street, SW**
Washington, DC 20024

File Code: 1430 **Date:** May 4, 2017

Subject: FS Response to Reach Management Decision on Office of Inspector General Report No. 08601-0004-31, "FS Deferred Maintenance"

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

Thank you for the opportunity to review and comment on Office of Inspector General (OIG) Draft Report Number 08601-0004-31. The Forest Service generally concurs with the findings and recommendations and appreciates the time and effort that went into the report. The agency's response to the audit recommendations is enclosed.

The Forest Service is committed to further refining its current strategies to address its deferred maintenance backlog. As funding becomes available, the strategies and implementation plans will be completed accordingly. The agency will prioritize resources for active, in-use, and mission critical assets first and address other assets as funding allows.

Please contact Antoine L. Dixon, Chief Financial Officer, at (202) 205-0429 or aldixon@fs.fed.us with any questions.

/s/ Thomas L. Tidwell
THOMAS L. TIDWELL
Chief

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USDA Forest Service (FS)

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Office of Inspector General (OIG) Audit Report No. 08601-0004-31
Forest Service Deferred Maintenance
Official Draft Issued April 6, 2017

Response to the Official Draft Report

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Recommendation 1: Develop and implement an overall, integrated strategy to address the deferred maintenance backlog that identifies goals and objectives for managing deferred maintenance, including a multi-year strategy with assigned roles and responsibilities. Additionally, ensure the necessary resources are devoted to implement the multi-year strategy and maintain continuity.

FS Response: The Forest Service concurs with this audit recommendation. The agency is developing an investment strategic plan to address the deferred maintenance backlog. This plan will define a long term vision with goals and objectives to be achieved over the span of several years. The plan will prescribe a multi-year program of work, including development of improved management controls for reporting of deferred maintenance, Infra training, Infra data integrity, national prioritization of assets, decommissioning of unneeded assets and oversight.

The plan will identify implementation strategies consistent with current and projected funding levels and resources. Performance measures will be dependent on and reflect funding realities. In the event of significant new funding, the plan will identify methods and means designed to enable expedited implementation of efforts to achieve Agency DM management objectives.

Recreation has developed and adopted national and regional strategies to address deferred maintenance for facilities and features in recreation sites and trails managed for public use. These strategies are the results of intensive and specific Recreation Site Analysis (RSA) or Recreation Facility Analysis (RFA) and a National Strategy for a Sustainable Trails System. The developed strategies will be used in an effort to identify which recreation sites can be sustainably maintained, modified or decommissioned, and to illuminate partnership opportunities with other entities. These strategies continue to be implemented within funding and resource availability.

The Forest Service recently completed Travel Analysis Reports (TARs) for each Forest Unit. These TARS reflect likely needed and not needed roads across the National Forest System (NFS). The TARs inform future funding strategies for road improvements and decommissioning.

Additionally, the Forest Service has many existing partnerships that assist with some routine maintenance and are included in the various strategies, however there is backlog and heavy maintenance that is difficult to achieve through partnerships and volunteers.

Estimated Completion Date: April 30, 2018

Recommendation 2: Examine requirements for annual condition assessment surveys of facilities as specified in Forest Service Handbook 7309.11,40, revise the handbook as necessary, and dedicate the resources necessary to adhere to handbook requirements.

FS Response: The Forest Service concurs with this audit recommendation. FSH 7309.11 Chapter 40 currently states that "Maintenance Condition Surveys" are to be completed annually with the exception of maintenance level 1 facilities.

The Forest Service will begin the process to modify Chapter 40 to state that "Facility Condition Assessments" are to be completed every five years in conjunction with real property surveys. In addition, this section will be revised as needed to provide necessary guidance to the field on the information that needs to be collected and reported upward. The Forest Service expects to streamline the requirements related to inspections to remove redundancy, reduce labor requirements, improve training related to the performance of inspections, and increase compliance and data accuracy.

Estimated Completion Date: April 30, 2018

Recommendation 3: Establish goals and milestones to aggressively reduce the number of unused or underused assets in the agency's portfolio.

FS Response: The Forest Service generally concurs with the recommendation, however, the Agency takes exception with use of the word "aggressively" due to the limitations of current and projected funding that prohibit an aggressive approach to reducing the number of assets. In addition, the Agency prioritizes funding and resources *first* across active, in-use, mission-critical assets.

The Agency recognizes that the number of unused and/or underused assets creates a management burden that cannot be overcome until unused and/or underused (excess) assets are identified and eliminated from the portfolio. The Agency has already segregated existing excess assets into numerous categories including unused, underused, irreparable, and no current need.

The Agency will develop a plan to dispose of unneeded assets that will include multi-year goals and objectives and will implement that plan as aggressively as possible given the limitations of current and projected funding for management of its entire portfolio. Additionally, the Agency is already working to develop tools that will assist in identifying those assets that are trending towards becoming excess to help decision-makers make proper management and disposition decisions for those facilities.

Identifying assets that are currently unneeded, underused, or unused and determining costs associated with various management alternatives for those assets provides the agency with financial information that informs a best management decision-making approach to working with limited funding for the foreseeable future. As funding opportunities arise, the Agency can

implement those options that maximize opportunities to implement best management practices for such assets.

Additional avenues for asset disposal that are currently not available to the Agency include the Forest Service Facility Realignment and Enhancement Act (FSFREA). Currently, FSFREA authorization has expired and the Agency is working to facilitate reauthorization as efficiently and quickly as feasible. With a reauthorized FSFREA, the Agency could pursue avenues for disposal of unneeded assets including direct sale, exchange, donation, and/or partnership actions that could include leasing and replacement or repurposing of unneeded assets. Additionally, the Agency has been working with Section 111 of the National Historic Preservation Act to increase the number of leases of historic properties. Currently, the Agency is in the process of enhancing its ability to identify and dispose of properties that meet the criteria required by the Act.

The agency will develop measures to identify public health and safety issues associated with assets that are unneeded or scheduled for disposal and implement appropriate human health and safety safeguards that will be maintained until the asset can be eliminated.

The Forest Service has developed strategies targeted at managing deferred maintenance including the Asset Management Review Board (AMRB), competitive processes to allocate limited funds to high-priority projects or critical focus areas (for example, decommissioning unneeded infrastructure), and development of "*The Financial Sustainability of Our Facility Portfolio - An assessment of the Forest Service facility portfolio, its long-term financial sustainability, and proposed strategies for improvement"*. These strategies will continue to be implemented within current and projected funding and resources levels.

Reducing the number of assets through the various alternatives currently available may be part of any strategy, however it also must be recognized that many assets are in place to provide for public use, benefit, or safety while protecting natural resources. Eliminating such assets will diminish benefits delivered to the public, will increase safety risks, and will threaten the Agency's ability to protect certain natural resources (removing toilets, dams, certain buildings, etc. doesn't mean there isn't a need to deal with human waste, resource degradation, flooding, etc.).

Estimated Completion Date: April 30, 2018

Recommendation 4: Research and develop alternative methods to reduce the buildings portfolio, such as: developing programmatic agreement(s) or alternate procedures to facilitate evaluations of buildings with similar or standard characteristics, pursuing legislation to reauthorize the Forest Service Facility Realignment and Enhancement Act or enact similar authorities, increasing cost pools to address deferred maintenance, implementing a risk-based strike team approach, and entering into relationship agreements with potential partners with the skills necessary to help reduce deferred maintenance or decommission structures.

FS Response: The Forest Service generally concurs with this audit recommendation. The Agency provides information upon request toward proposed legislation that address the reauthorization of Forest Service Facility Realignment and Enhancement Act (FSFREA) and similar legislatively proposed facility disposal authorities. The Forest Service has over 290 completed cases of sold administrative sites, administrative facilities, and improvements generating $110 million dollars for use by the Agency for new construction, and maintenance of existing administrative facilities. If reauthorized, FSFREA will allow Forest Service staff at the regional and Forest levels to continue an aggressive approach to utilizing the Act, along with other facility disposal authorities to reduce the inventory of underutilized administrative sites and facilities through use of the sale, lease, or exchange provisions in the Act. One success of implementing FSFREA includes the sale of the Scow Bay Warehouse in Petersburg, Alaska. The sale generated $311,000 toward renovation of the Sitka Supervisor's Office on the Tongass National Forest. The warehouse property is currently used by the Alaska fishing industry.

The Agency has begun development of programmatic agreements with State Historic Preservation Offices (SHPO) to facilitate and streamline the process required to remove assets considered and/or designated as historic.

The Agency is also investigating opportunities to create functional partnerships that can be used to mitigate risks associated with existing unneeded assets, and/or to remove those assets from the portfolio through various means including sale, donation, or Special Use Permit (SUP) for alternate uses. In addition, the Agency has executed its first property lease of a historic asset to a private organization as authorized by section 111 of the National Historic Preservation Act (NHPA). The Agency is in the process of seeking OMB approval of a standard lease template and adopting directives to guide more historic property leases.

In addition, the Forest Service will continue to maintain and encourage agreements with cooperators, commercial haulers, contractors and timber sale purchasers. Numerous national forests in various Regions, under the authority of the Forest Roads and Trails Act, are party to cooperative agreements with timber companies and state agencies wherein the costs of deferred road maintenance are shared. Under these agreements, deferred maintenance items are identified annually and the work is performed by either party when necessary or when funding is available. These agreements require the parties to maintain and preserve roads for future use.

Numerous national forests in various regions, under the authority of 23 USC 205 (Forest Development Roads and Trails) are party to cooperative agreements (Forest Development Road Cooperative Agreements) with states, counties and other local road agencies that allow for road improvement and maintenance on roads under Forest Service jurisdiction and Cooperator jurisdiction. Deferred road maintenance items are accomplished on NFS roads and related facilities on an as-needed basis.

Estimated Completion Date: April 30, 2018

Recommendation 5: Develop and implement a risk-based decision-making framework for

conducting inspections and methods of correcting issues to reduce liability at facilities with potential hazards. Support this decision-making framework through improved resources such as guidance for inspecting and managing lesser-used buildings.

FS Response: The Forest Service generally concurs with audit recommendation. The Forest Service concurs with the need for a decision-making framework and risk assessment scale as it relates to health and safety. The Forest Service has established Risk Assessment Codes and Risk Management Tools in FSM 6710 (effective 11/17/2016).

The Forest Service concurs with the premise that interim risk reduction activities to better protect the public and employees from known health and safety risk are good practice. However, it is unclear whether the OIG's interpretation of workplace is appropriately used in their findings when describing Forest Service inspection activities. Forest Service personnel are conducting inspections of owned assets as required by multiple Real Property regulations. These inspections are conducted for Real Property Inventory as required by 41 CFR 102-84, inspections for the purpose of determining maintenance needs and estimating deferred maintenance, and so on. FS-owned buildings that are not actively utilized or are unoccupied should not be considered a workplace. The 29 CFR 1960.2(t) defines the term workplace as "a physical location where the agency's work or operations are performed." Buildings "red tagged" have been identified as places where no persons should enter and therefore no work or operations should be performed there. However, due to Real Property Regulations, inspections (for determining deferred maintenance) of all assets are required. Therefore this is more appropriately considered a worksite or work activity for the purpose of fulfilling the Real Property Requirement. The Forest Service has established Job Hazard Analysis (JHA) and Risk Management Tools in the FSM 6710 which when appropriately utilized should minimize health and safety risk. For example, FSH 6709.11 CH 53.73a requires each unit to develop a "Hantavirus Prevention Action Plan and make it available as a resource for writing site-specific JHAs."

The risk assessment scale for dams is the "hazard potential classification". See FSM 7505 for Definitions. The "hazard potential classification" sets the minimum criteria for design, operation, maintenance, and monitoring of dams. See FSM 7512-7518 and 7525. Procedures for addressing deficiencies found during inspection are given in FSM 7514.2. Furthermore, Forest Service management of the portfolio of dams is complicated by the two general types of dams ownership where; 1) responsibility lies solely with the Agency for those FS-owned facilities located on NFS land, and 2) responsibility for inspections, EAPs and EAP testing lies solely with the special use permit holder for non-FS owned dams located on NFS lands.

Direction pertaining to Recreation Sites Managed for Public Use found in FSM 2330 addresses public safety and risk assessment, operations and maintenance, and site closures. Included in the Annual Operations and Maintenance Plan for each site, as required in the Directive, is a pre-season opening inspection of the site, including facilities and features, focused on public safety, risk, and health items. There are also National Quality Standards for Operations and Maintenance of these sites awaiting establishment in the directives system.

A draft new Handbook edition which will contain updated quality standards for operations and maintenance and revised basic criteria for a recreation site to be open to public use is underway with an estimated release for publication and field use in 2017.

Estimated Completion Date: April 30, 2018

Recommendation 6: Provide targeted training or guidance to safety officials and line officers on utilizing the risk-based decision-making framework to meet requirements of the agency occupational safety and health program.

FS Response: The Forest Service concurs with the recommendation. The Forest Service has developed and recently published Risk Assessment Codes and Risk Management policy in FSM 6710 section 6717 (effective 11/17/2016), attached as **TAB A**, pages 7-9. This new FSM 6710 replaced the 2002 version that was referred to in this report. The new policy includes Risk Assessment Codes (RAC) that were designed to help Managers prioritize the allocation of resources to mitigate hazards based on the degree of danger the hazards present. Hazards must be classified as imminent danger (RAC-1 could cause death), serious (RAC-2 could cause serious injury/illness, or non-serious (RAC-3 possible non-serious injury or illness). The policy requires that upon facility safety inspection close-out, the local Line Officer is provided a summary of each hazard identified. The hazard, RAC, and time to abate the identified hazards is documented on form 6700-4, attached as **TAB B**, and provided to the line officer. A user aid for form 6700-4, attached as **TAB C**, is available on the Forest Service intranet. This newly published guidance for Safety professionals and Line Officers adequately addresses recommendation six.

Date completed: November 17, 2016

Recommendation 7: Develop a strategy including measurable goals and milestones to adequately focus financial and staffing resources on the dams program. This strategy should ensure the agency obtains the necessary information about the status of dams and possibly develop a nation-wide risk assessment to prioritize highest risk dams for monitoring and repairs, and testing emergency action plans.

FS Response: The Forest Service concurs with this audit recommendation and is developing a strategy to manage Forest Service owned dams that will include:

- Measurable goals and milestones,
- Reducing the number of FS-owned dams or reducing the risk (i.e. lowering the Potential Hazard Classification)
- Dedicated staff to administer the dams' program,
- Risk-based approach to prioritize investment,
- Improve quality of data and reporting in Infra;
- Tracking of work accomplished and testing of EAPs;

- Evaluate current policy and implement required changes and;
- Consistent with current and projected funding and resources

Estimated Completion Date: April 30, 2018

Recommendation 8: Clarify and update policy and procedures for conducting O&M inspections to ensure inspections are conducted and documented consistently; maintenance work items identified through O&M inspections are entered into Infra; and Infra is consistently updated when repairs are completed to ensure deferred maintenance reporting is accurate.

FS Response: The Forest Service generally concurs with this audit recommendation. Based on the June 2006 Audit Report, 08601-02-Hy, policy (FSM 7500) was revised. FSM 7514 prescribes the inspection frequency and criteria for inspection of dams. FSM 7514.5 - Exhibit 01 contains a summary of the required inspections and frequencies. The Forest Service will develop strategies to implement this policy.

The dams' strategy will include procedures to regions for updating inventory; conducting inspections that are required in the current policy (FSM 7500); documenting inspections and work items in Infra and updating Infra when repairs are completed.

The Forest Service policy on O&M inspections is valid and complete and only reporting procedures are required.

Estimated Completion Date: April 30, 2018

Recommendation 9: Develop and implement inspection requirements for water conveyance systems and mine tailings dams.

FS Response: The Forest Service generally concurs with this audit recommendation. The audit draws attention to the Spirit Lake Outlet Tunnel, which is a unique situation that should have its own separate written procedures (O&M plan, inspection plan, etc.). Development of this plan is currently in progress, with an estimated completion of late 2017.

FSM 7500 is titled Water Storage and Transmission. Currently, FSM 7500 only contains the water storage component. The water transmission component will be evaluated to determine the need for a new national policy or project specific requirements to address situations similar to the Spirit Lake Outlet Tunnel.

Active tailings dams on Federal Lands were the focus of a May 15, 2015 U.S. House of Representatives, Committee on Natural Resources request for information. In the response to the Committee, it was mentioned that there are only three active tailings facilities on NFS Lands. All three have State and Federal oversight with "Plans of Operation" that outline required inspection

and monitoring. The small number of tailings dams don't warrant a national policy. They are managed by compliance to their plans of operation.

A search of the dam database indicated that there are few dams that could potentially be tailing dams. A strategy and procedure will be developed to address these dams including inspection types and frequencies.

Estimated Completion Date: April 30, 2018

Recommendation 10: Develop and implement a plan of action to obtain the necessary inspection and emergency documentation for non-FS dams on FS lands.

FS Response: The Forest Service concurs with this audit recommendation. The Forest Service will develop and implement a plan of action to request the necessary inspection and emergency action plan documentation for non-FS dams on NFS lands. The Forest Service is modernizing the Special Uses Database System (SUDS) in preparation for addressing this issue. The updates to SUDS will include input of information concerning non-FS dams authorized by special use permits. Information fields will be added to and/or modified in SUDS concerning inspections and emergency action plan documentation for non-FS dams on NFS lands.

Estimated Completion Date: April 30, 2018

Recommendation 11: Establish and implement written procedures for compiling the deferred maintenance amounts reported to outside entities.

FS Response: The Forest Service concurs with this audit recommendation. To improve controls over the reporting of deferred maintenance accomplishments, the Agency will complete the following tasks:

- Develop a concise definition of deferred maintenance and communicate that definition to all Infra users;
- Improve Infra training materials with the intent of standardizing the understanding of deferred maintenance to improve both confidence in accuracy of data entered into Infra and to ensure that all users abide by the requirements specific to the nature of data being recorded in Infra;
- eliminate existing deferred maintenance errors through training in the form of webinars;
- Evaluate the methods currently being used to collect deferred maintenance data and revise as appropriate.

Estimated Completion Date: April 30, 2018

Recommendation 12: Revise guidance for performing condition assessment surveys and ensuring only accurate and consistent data are entered into Infra by national forests and regions.

FS Response: The Forest Service concurs with this audit recommendation. The Forest Service will review and revise current guidance on performing condition assessments on all its assets to ensure that the data entered in Infra is consistent and accurate.

The Forest Service will review, as necessary, the policies and procedures in Forest Service manuals and handbooks. Additional guidance will be provided to the regions, such as standard inspection forms, condition and work items definitions and processes for updating data dictionaries for each of the Infra asset modules.

It is worth noting that the agency is implementing a standard template with typical deferred maintenance work items that will be used to collect condition information during the inspection of road bridges.

In addition to the Forest Service Manual and Handbook reviews, the Transportation Program will improve the guidance and instructions within the "Deferred Maintenance Protocol for Roads" to improve consistency when recording deferred maintenance across field units.

Estimated Completion Date: April 30, 2018

Recommendation 13: Provide training to communicate previous and updated deferred maintenance policies to those performing and entering condition assessment surveys. Additionally, ensure that deferred maintenance training is provided to new employees when necessary.

FS Response: The Forest Service concurs with this audit recommendation. The Forest Service has begun some in-person and webinar trainings for the entry of work items for bridges and buildings. The Agency's intent is to develop similar training for other assets as well. Some webinars will be recorded and posted on the internal engineering website, so anybody in the Forest Service can have access to them. A central repository of these webinars will be available to new employees responsible for data entry.

Training for bridge management has been identified as top priority and funds have been set aside on a yearly basis. The goal is deliver two training sessions per year in the next four years.

Estimated Completion Date: April 30, 2018

Recommendation 14: Implement a quality assurance or quality control process to identify and correct deferred maintenance data, including both new data and data currently in the system.

FS Response: The Forest Service concurs with this audit recommendation. The Forest Service has begun to conduct program reviews at the regions, usually targeting one or two regions per year. The review includes the analysis of Infra data including recorded deferred maintenance, holding conversations with staff at the forest level to determine if they are following the protocols established in the manuals and handbook, random verification of data entry and performance of condition surveys. In addition, the Forest Service plans to develop reports and tools to help the region identify and correct error gaps in their data.

Currently, the Forest Service utilizes "standard" agency work items and costs for roads through the Electronic Road Log (ERL) mobile application. This allows modifications for conditions, such as remoteness, terrain, locality, and size-of-project for roads.

The Forest Service will continue to implement its validated statistical random sampling program for transportation infrastructure. The program will continue to be used for monitoring and testing the accuracy of data across all transportation asset classes. The program is designed to increase the quality and decrease the cost of collecting deferred maintenance data on transportation assets where it is not practical to make regular condition surveys of individual roads or trails.

The Forest Service has an extensively documented, standardized approach for conducting trail condition assessments and generating annual deferred maintenance costs. The agency's standardized, required approach for conducting Trail Assessment and Condition Surveys (TRACS) has been in place since 2004. This includes the TRACS User Guide, forms and training materials which are posted internally on the FS Integrated Business Systems: TRACS webpage and externally on the agency's Trail Management: TRACS webpage.

Estimated Completion Date: April 30, 2018

Recommendation 15: Revise the "Deferred Maintenance Protocol for Roads" to ensure the integrity of the sample selection and projection processes.

FS Response: The Forest Service concurs with this audit recommendation. The Forest Service recognizes that improvements can be made to enhance the integrity of the sample selection and projection process of the random road sampling method currently used to determine the national deferred maintenance yearly cost. Our recommended plan of action to address the OIG recommendation is for the Forest Service to utilize an interagency agreement with the U.S. DOT Volpe Center to review and recommend changes to the Forest Service's protocol for sampling roads deferred maintenance and estimating the roads national deferred maintenance cost total. The revised "Deferred Maintenance Protocol for Roads" will address issues identified by the Forest Service during internal reviews, Volpe Center analysis, and the OIG Audit findings. The Forest Service has targeted changes to the random road survey selection protocols for implementation and reporting in the FY2018 survey cycle.

Estimated Completion Date: April 30, 2018

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In Washington, DC 202-690-1622
Outside DC 800-424-9121
TDD (Call Collect) 202-690-1202

Bribes or Gratuities
202-720-7257 (24 hours)