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Report to Congressional Requesters

December 2016

NATIONAL PARK SERVICE

Process Exists for Prioritizing Asset Maintenance Decisions, but Evaluation Could Improve Efforts

GAO-17-136

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GAO Highlights

Highlights of GAO-17-136, a report to congressional requesters

Why GAO Did This Study

The Park Service manages more than 75,000 assets, including buildings, roads, and water systems, at 413 park units across all 50 states. In 2015, the agency estimated that its deferred maintenance on these assets was $11.9 billion.

GAO was asked to review how the Park Service manages its maintenance needs. This report examines, among other things, (1) agency allocations to maintain assets in fiscal years 2006 through 2015, (2) the amount and composition of the agency's deferred maintenance in fiscal years 2009 through 2015, and (3) how the agency makes maintenance decisions. To conduct this work, GAO analyzed Park Service allocation data for fiscal years 2006 through 2015 and deferred maintenance data in fiscal years 2009 (first year data for all assets was available) through 2015 (most current data available); reviewed planning and guidance documents and compared the process for making asset management decisions to guidance developed by the National Academies, among others; and interviewed Park Service officials at headquarters, all seven regions, and 21 park units selected to include those with large and small amounts of deferred maintenance, among other things. This sample is not generalizable to all park units.

What GAO Recommends

GAO recommends that the Park Service evaluate the Capital Investment Strategy and results to assess whether it has achieved its intended outcomes. The Department of the Interior agreed with GAO's recommendation.

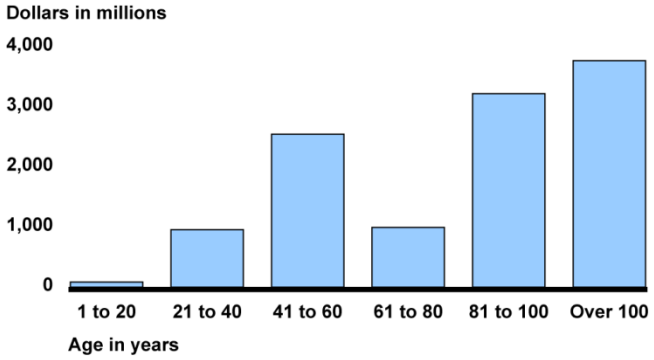
View GAO-17-136. For more information, contact Anne-Marie Fennell at (202) 512-3841 or fennella@gao.gov.

What GAO Found

In fiscal years 2006 through 2015, the Department of the Interior's National Park Service (Park Service) allocated, on average, $1.16 billion annually to maintain assets. In fiscal year 2015, allocations to maintenance accounted for about one-third (or $1.08 billion) of the agency's total funding of $3.3 billion. The largest portion of maintenance funds in fiscal year 2015 was allocated to facility operations, which includes maintenance that is routine in nature, such as maintenance of trails.

The Park Service's deferred maintenance—maintenance of its assets that was not performed when it should have been and is delayed for a future period—averaged $11.3 billion from fiscal years 2009 through 2015. Bridges, tunnels, and paved roadways consistently made up the largest share of the agency's deferred maintenance, accounting for half of all deferred maintenance in fiscal year 2015. Older park units have the most deferred maintenance, with $10.5 billion in fiscal year 2015 in park units established more than 40 years ago.

National Park Service's Deferred Maintenance by Age of Park Unit in Fiscal Year 2015



Source: GAO analysis of National Park Service deferred maintenance data. | GAO-17-136

The Park Service uses several tools to determine an asset's importance and condition and assign maintenance priority. Park unit staff assess the condition of the asset and identify maintenance projects. Once identified, park unit staff use the agency's Capital Investment Strategy to evaluate and rank projects. Projects score higher if they target critical assets with deferred maintenance. Fiscal year 2015 was the first budget year in which projects ranked using the strategy were funded, and regional and park unit officials said that it is too soon to determine if the strategy is meeting its objectives, such as maintaining the condition of its most important assets. However, the Park Service does not have a plan or timeframe for evaluating whether the strategy has been successful. A senior official said that the agency has not determined what is needed to begin such an evaluation and that it would be beneficial to verify that the Capital Investment Strategy is achieving intended outcomes. According to the National Academies Federal Facilities Council, it is important that agencies track the outcome of investments to improve decision making and asset management. Evaluating the strategy may help the Park Service determine if the strategy is achieving intended outcomes or if changes need to be made.

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Abbreviations

API	Asset priority index
FCI	Facility condition index
FMMS	Facility Management Software System
Park Service	National Park Service

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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Washington, DC 20548

December 13, 2016

The Honorable Lisa Murkowski
Chairman
Committee on Energy and Natural Resources
United States Senate

The Honorable Michael Enzi
United States Senate

The National Park Service (Park Service), within the Department of the Interior, manages more than 75,000 assets—including buildings, roads, and water systems—at 413 park units that cover 84 million acres across all 50 states, the District of Columbia, and some territories.[1] Park units, which include national parks, recreation areas, and battlefields, received 307 million visits in 2015. In recent years, reports prepared by the Park Service and stakeholder groups have highlighted challenges that the Park Service faces—particularly fiscal challenges—and the Park Service has reported that its funding does not cover the cost of its mission to preserve the parks for current and future generations to enjoy.[2] In a 2013 testimony before Congress, the Director of the Park Service said that the organization faced a maintenance backlog of about $11.5 billion at the end of fiscal year 2012 and would need to spend nearly $700 million per year on deferred maintenance to keep the backlog from continuing to grow. The Park Service defines deferred maintenance as maintenance that was not performed when it should have been or was scheduled to be and is delayed for a future period. As of September 30, 2015, the Park Service estimated that its deferred maintenance had grown to about $11.9 billion.

[1]The Park Service defines an asset as real property that the agency tracks and manages as a distinct identifiable entity. These entities may be physical structures or groupings of structures, landscapes, or other tangible properties that have a specific service or function (such as cemeteries, campgrounds, marinas, or sewage treatment plants).

[2]Specifically, the Park Service's mission is to preserve unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

With the Park Service celebrating its centennial in 2016 and park visits at an all-time high, policymakers and others have expressed concern about the condition of park units and the amount of Park Service deferred maintenance. You asked us to review how the agency manages its maintenance needs. This report examines (1) how much the Park Service has allocated to maintain assets in fiscal years 2006 through 2015, (2) the amount and composition of the Park Service's deferred maintenance in fiscal years 2009 through 2015, (3) how the Park Service makes asset maintenance decisions, and (4) actions the Park Service is taking to help address its maintenance needs.

To examine how much the Park Service has allocated to maintain assets in fiscal years 2006 through 2015, we obtained and analyzed maintenance allocation data from the Park Service for that period. Maintenance allocation data from fiscal year 2015 are the most current data available. We analyzed these data to identify the amount of funds allocated to specific types of maintenance. We assessed the reliability of these data through interviews with Park Service officials who were familiar with these data and reviews of relevant documentation. We found these data to be sufficiently reliable for the purposes of our reporting objectives. We also examined Park Service budget documents, including several agency budget justifications, and spoke with relevant Park Service officials at the headquarters, regional, and park unit levels to better understand these data.

To examine the amount and composition of the Park Service's deferred maintenance in fiscal years 2009 through 2015, we obtained and analyzed data from the Park Service's Facility Management Software System (FMSS), an agency-wide database the Park Service uses to collect, track, and analyze asset management data. We began our data analysis with fiscal year 2009 because it is the first year the Park Service reported deferred maintenance for all of the assets under its management. According to the Park Service, deferred maintenance data from the end of fiscal year 2015 are the most current data available and include deferred maintenance for its 409 park units as well as other properties under Park Service jurisdiction, such as regional offices. We analyzed the data to identify how the amount and composition of deferred maintenance had changed during that time, and further analyzed deferred maintenance data from fiscal year 2015 to identify how deferred maintenance varied according to characteristics such as asset priority and park unit age. We assessed the reliability of these data by interviewing Park Service officials familiar with these data, observing them use FMSS, and reviewing relevant documentation. We found these

data to be sufficiently reliable for the purposes of our reporting objectives. We also interviewed Park Service staff at the headquarters, regional, and park unit levels to better understand deferred maintenance.

To determine how the Park Service makes asset maintenance decisions and to identify actions the Park Service is taking to help address maintenance needs, we examined Park Service documents and interviewed agency officials at the headquarters, regional, and park unit levels. We also interviewed Department of Transportation officials who are responsible for obtaining the information about roads and bridges in park units that park unit staff use to make maintenance decisions about those assets. We obtained information about how park unit staff make asset maintenance decisions and about actions they use to help address deferred maintenance needs by using a semistructured interview at visits to 3 park units and through telephone interviews with officials at 18 other park units. In selecting these 21 park units, we included a park unit in each of the seven Park Service regions that (1) had the greatest amount of deferred maintenance, (2) was identified by regional officials as taking actions to address maintenance needs, and (3) reflected a smaller amount of deferred maintenance. We also ensured that we had different park unit types (such as historic, military, and scenic) represented in our sample. This sample is not generalizable to all park units. In addition, we analyzed relevant documents, such as the *National Park Service's Asset Management Plan*, asset maintenance guidance documents, the *Capital Investment Strategy Guidebook*, and fact sheets to obtain additional information about the process and tools. We compared information we learned about the Park Service's process for making asset management decisions to the Office of Management and Budget's *Capital Programming Guide*,[3] the Federal Real Property Council's Guidance for Real Property Inventory Reporting,[4] and the National Academies Federal Facilities Council's *Key Performance Indicators of Federal Facilities Portfolios.*[5] We supplemented our analysis with information obtained from

[3]Office of Management and Budget, *Capital Programming Guide, V 3.0, Supplement to Office of Management Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2015).

[4]General Services Administration, *Federal Real Property Council 2012 Guidance for Real Property Inventory Reporting* (Washington, D.C.: 2012).

[5]J. H. Cable and J. S. Davis, in association with Federal Facilities Council Ad Hoc, Committee on Performance Indicators for Federal Real Property Asset Management, National Research Council, *Key Performance Indicators for Federal Facilities Portfolios: Federal Facilities Council Technical Report Number 147* (Washington, D.C.: The National Academies Press, 2005).

prior GAO reviews.[6] Appendix I contains a more detailed description of our objectives, scope, and methodology.

We conducted this performance audit from July 2015 to December 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The National Park Service Organic Act of 1916 established the Park Service within the Department of the Interior to promote and regulate the use of the National Park System with the purpose of conserving the scenery, natural and historic objects, and wildlife therein and to leave them unimpaired for the enjoyment of future generations.[7] Yellowstone National Park in Wyoming was the first national park, established in 1872, and the most recent as of this report—Katahdin Woods and Waters National Monument in Maine—was established August 24, 2016.

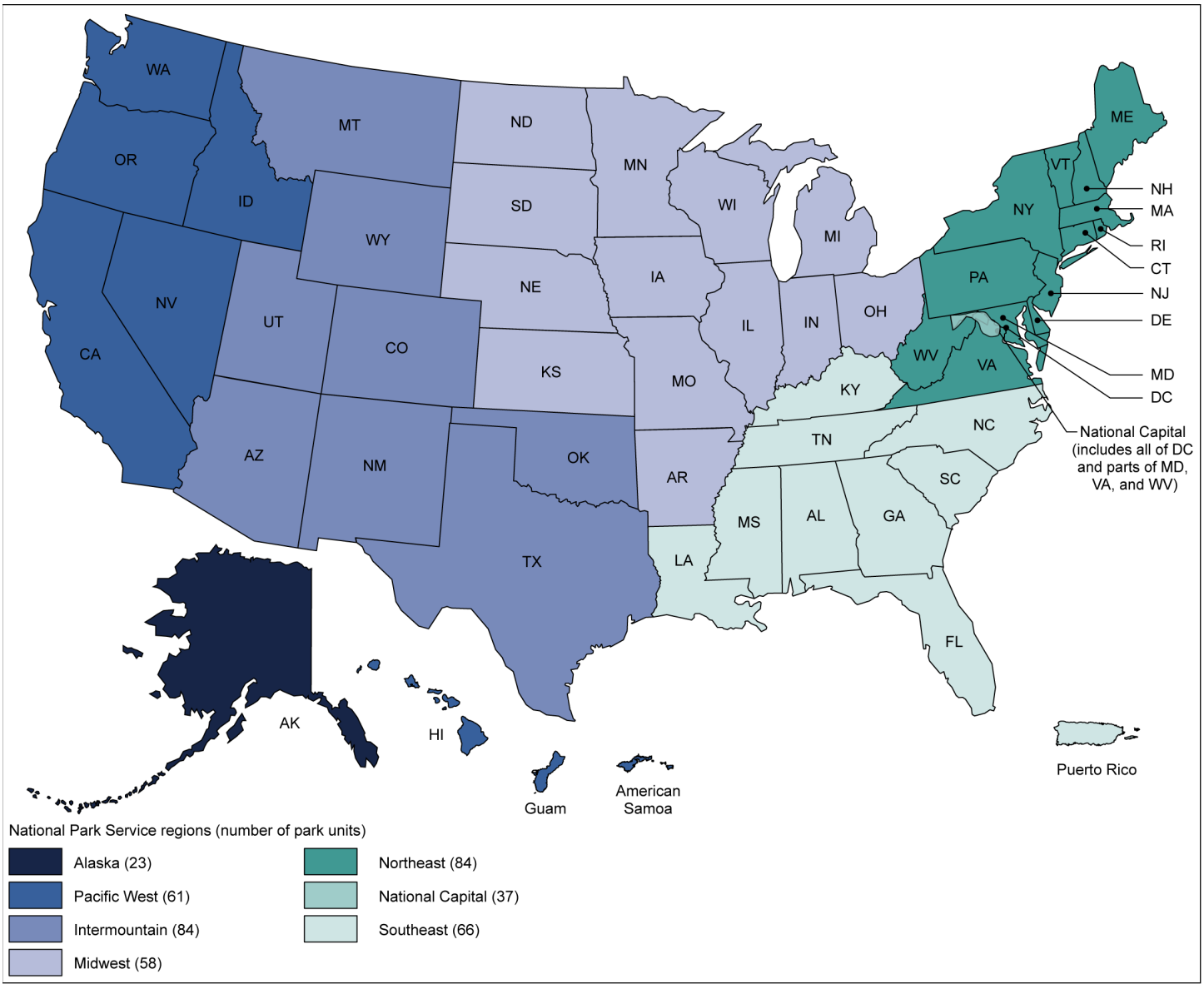
Park Service Structure, Visitation, and Funding

The Park Service manages its responsibilities through its headquarters office located in Washington, D.C., seven regional offices, and 413 individual park units that are part of the system. Figure 1 shows the geographic areas that make up the Park Service's seven regions.

[6]GAO, *National Park Service: Efforts to Identify and Manage the Maintenance Backlog*, GAO/RCED-98-143 (Washington, D.C.: May 14, 1998); *National Park Service: Status of Agency Efforts to Address Its Maintenance Backlog*, GAO-03-992T (Washington, D.C.: July 8, 2003); and GAO, *National Park Service: Revenues from Fees and Donations Increased, but Some Enhancements Are Needed to Continue This Trend*, GAO-16-166 (Washington, D.C.: Dec. 15, 2015).

[7]Act of August 25, 1916, ch. 408, § 1, 39 Stat. 535, 535 (codified as amended at 54 U.S.C. §§ 100101, 100301). The 1916 legislation is commonly referred to as the National Park Service Organic Act.

Figure 1: The National Park Service's Seven Regions



Sources: GAO analysis of National Park Service management information (region boundaries); Map Resources (map). | GAO-17-136

Park unit types include national scenic parks, such as Yellowstone and Great Smoky Mountains; national historical parks, such as Valley Forge, in Pennsylvania, and Lewis and Clark, in Oregon; national battlefields, such as Wilson's Creek, in Missouri, and Fort Donelson, in Tennessee; national historic sites, such as Fort Bowie, in Arizona, and Theodore

Roosevelt's birthplace, in New York; national monuments, such as Muir Woods, in California, and Tule Springs Fossil Beds, in Nevada; national preserves, such as the Yukon-Charley Rivers, in Alaska, and Big Cypress, in Florida; national recreation areas, such as Lake Meredith, in Texas, and Whiskeytown, in California; and national lakeshores, such as Sleeping Bear Dunes, in Michigan, and the Apostle Islands, in Wisconsin. Visitation levels reached an all-time high in 2015, when more than 307 million people visited park units. This is an increase of more than 14 million visitors from 2014. Park Service officials said that they expect visitation to rise again in 2016, with the celebration of the Park Service centennial.

The Park Service generally receives funding through annual appropriations acts. These appropriated funds include base funding for the operation of park units and for Park Service-wide programs, such as funding for visitor services, park protection, and maintenance projects. It also includes funding for technical and financial assistance programs that support resource preservation and recreation outside of the national park system. The Park Service also collects and uses funds from fees, donations, and other funding sources.[8] Total funding for the Park Service increased about $0.6 billion, or 22 percent, from $2.65 billion in fiscal year 2006 to nearly $3.25 billion in fiscal year 2015.[9] However, when adjusted for inflation, total funding for the Park Service increased by only $160 million in fiscal year 2015 dollars, or 5 percent, during this 10-year period. During this time, the number of park units in the system has grown from 390 in 2006 to 413 as of October 2016. Some Park Service officials said that this increase in park units meant that the agency's appropriations had to be divided among an increasing number of units.

[8]For additional information about Park Service funding, see GAO-16-166.

[9]We used the Office of Management and Budget MAX Information System as the source of these budget figures. This system is a database used to support the federal management and budget process. The system collects, validates, analyzes, models, and publishes information relating to government-wide management and budgeting activities.

Park Service Maintenance Needs, Past GAO Findings, and Government-Wide Asset Guidance

The Park Service defines deferred maintenance as maintenance that was not performed when it should have been or was scheduled to be and is delayed for a future period. Deferred maintenance includes maintenance within national park units as well as maintenance related to other properties under Park Service jurisdiction, such as Park Service regional offices. According to the Park Service, maintenance funding has not kept pace with agency needs for several years. In general, maintenance needs are almost double the annual funding, which leads to an annual increase in deferred maintenance. As maintenance work is identified and is not completed because of limited resources, deferred maintenance increases.

The Park Service defines an asset as real property that the agency tracks and manages as a distinct identifiable entity. These entities may be physical structures or groupings of structures, landscapes, or other tangible properties that have a specific service or function, such as cemeteries, campgrounds, marinas, or sewage treatment plants. Maintenance can range from work needed for visible assets, such as buildings, roads, and trails, to less visible needs, such a water and sewage systems. Many of these assets were constructed decades or hundreds of years ago. For example, the walls lining Skyline Drive in Shenandoah National Park, in Virginia, and some of the park's buildings were constructed by the Civilian Conservation Corps, a program created in 1933 by President Franklin Roosevelt to help generate jobs and improve the condition of the country's natural resources. A number of Park Service facilities date back half a century to the Mission 66 program. From 1956 through 1966, Congress appropriated more than $1 billion for Mission 66 improvements, which included updated facilities for hundreds of visitor centers and employee residences, as well as employee training centers at Harpers Ferry, West Virginia, and the Grand Canyon, in Arizona. Many of the structures built through these programs as well as other efforts are coming to the end of their anticipated life spans and are in need of rehabilitation, repair, replacement, or disposal, according to various documents we reviewed.

In 1998, we examined the Park Service's deferred maintenance and found, among other things, that the agency did not have an accurate estimate of its total deferred maintenance and a means for tracking progress so that it can determine the extent to which its needs are being met.[10] We also found that the Park Service was beginning a number of

[10]GAO/RCED-98-143.

initiatives to better manage its maintenance and construction program, including developing a plan to prioritize projects. Specifically, in 1998, the Park Service began designing a new asset management process that among other things was to provide the agency with a systematic method for documenting deferred maintenance needs and tracking progress in reducing the amount of deferred maintenance. In 2003, we testified that the Park Service had made progress in developing its new asset management process.[11]

In February 2004, Executive Order 13327 recognized the need to promote the efficient and economical use of federal real property assets.[12] The order directed federal agencies to develop and implement asset management planning processes and develop asset management plans. The order also created the Federal Real Property Council and directed the council to develop guidance for each agency's asset management plan, among other things. In developing asset management plans, the agencies were directed to take several actions, including identifying and categorizing all of their assets and prioritizing actions to improve the operational and financial management of these assets.

Park Service Allocated $1.16 Billion on Average in Fiscal Years 2006 through 2015 to Maintain Assets

In fiscal years 2006 through 2015, the Park Service allocated $1.16 billion on average to operate and maintain the agency's assets.[13] Most recently, in fiscal year 2015, the Park Service allocated $1.08 billion to maintenance, which was about one-third of the total funding the agency received that year. As shown in figure 2, the Park Service's annual maintenance allocations varied little during this period except in fiscal year 2009, when the agency also used American Recovery and Reinvestment Act funds to carry out maintenance work.[14]

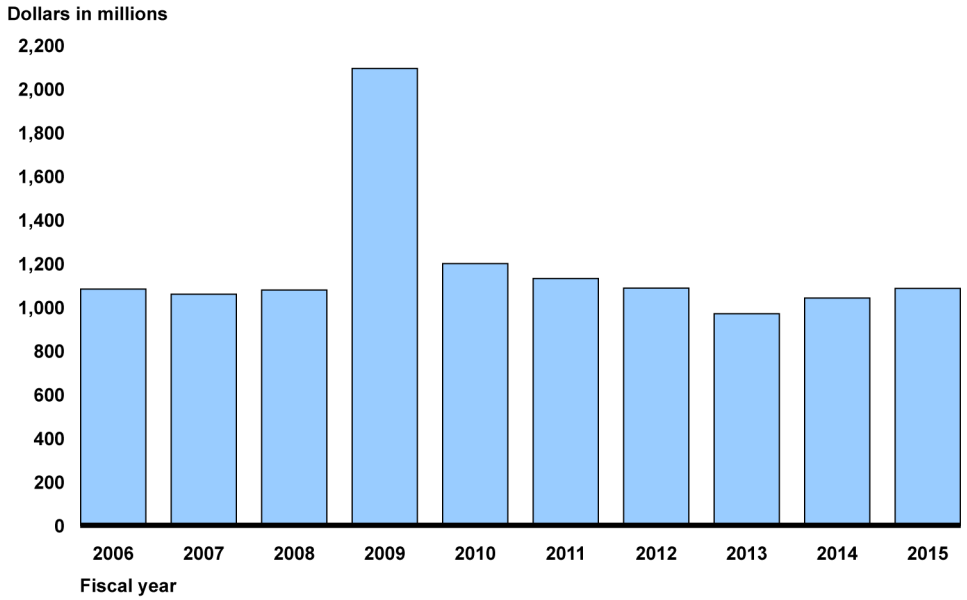
[11]GAO-03-992T.

[12]Exec. Order No. 13,327, 69 Fed. Reg. 5,897 (Feb. 6, 2004).

[13]According to Park Service officials, "operate," in this context, refers solely to maintenance-related work; we will refer to these funds as allocations to maintenance in this report. For funds control purposes, an allocation is a further subdivision of an apportionment, which distributes the amount available for obligation. See GAO, *A Glossary of Terms Used in the Federal Budget Process*, GAO-05-734SP (Washington, D.C.: September, 2005).

[14]Pub. L. No. 111-5, 123 Stat. 115 (2009).

Figure 2: National Park Service Allocations to Maintenance in Fiscal Years 2006 through 2015



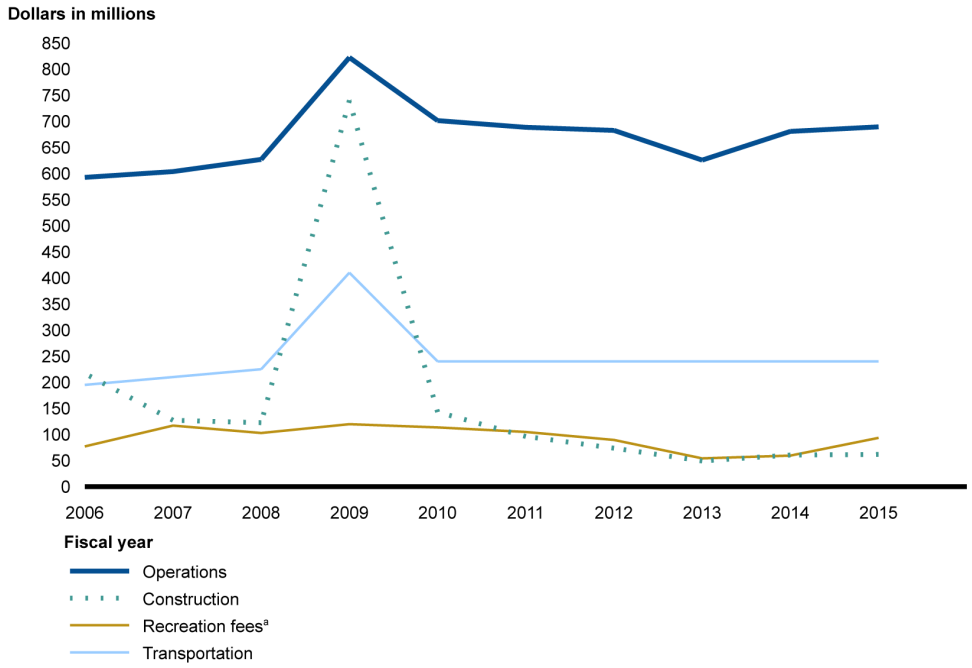
Source: GAO analysis of National Park Service maintenance allocation data. | GAO-17-136

Note: In fiscal year 2009, $905 million from the American Recovery and Reinvestment Act was used for maintenance of National Park Service assets.

The Park Service allocates funds for maintenance in four broad budget categories—operations, construction, recreation fees,[15] and transportation—according to what the agency refers to as fund sources, which generally describe the type of maintenance work being done with those funds. Figure 3 shows that maintenance allocations to operations, recreation fees, and transportation have remained fairly stable in fiscal years 2006 through 2015, with the exception of 2009, when the agency also used American Recovery and Reinvestment Act funds to carry out maintenance work.

[15]Recreation fees include entrance and amenity fees for certain equipment and services that the Park Service is authorized to collect by the Federal Lands Recreation Enhancement Act. Pub. L. No. 108-447, div. J. tit. VIII, 118 Stat. 3377 (2004) (codified as amended at 16 U.S.C. §§ 6801-6814 (2015)). The recreation fee fund sources identified in this report are used for asset maintenance.

Figure 3: National Park Service Maintenance Allocation by Category in Fiscal Years 2006 through 2015



Source: GAO analysis of National Park Service maintenance allocation data. | GAO-17-136

Note: Allocations in fiscal year 2009 reflect $905 million from the American Recovery and Reinvestment Act—$146 million in operations, $589 million in construction, and $170 million in transportation.

[a]Recreation fees include entrance and amenity fees for certain equipment and services that the National Park Service is authorized to collect by the Federal Lands Recreation Enhancement Act. Pub. L. No. 108-447, div. J. tit. VIII, 118 Stat. 3377 (2004) (codified as amended at 16 U.S.C. §§ 6801-6814 (2015)).

As shown in table 1, the Park Service uses eight fund sources within these broad budget categories to track allocations for different types of maintenance.

Table 1: Description of Fund Sources the National Park Service Uses to Track Allocations to Maintenance

Maintenance budget category	Name of fund source	Description
Operations	Cyclic maintenance	Used for significant, regularly-occurring maintenance projects designed to prevent assets from degrading to the point that they need to be repaired; for example, periodically replacing a roof or maintaining a heating and cooling system.
	Repair and rehabilitation	Used for maintenance projects designed to improve assets and that cost less than $1 million.
	Facility operations	Used for work that is routine in nature, such as daily cleaning of restrooms or maintenance of landscapes or trails, as well as normal repairs or adjustment of equipment.
Construction	Line item construction	Used for maintenance projects designed to enhance parks by improving resource protection, visitor experience, or park operations and that are expected to cost $1 million or more.
Recreation fees	Recreation fees - routine maintenance	Used to do routine maintenance on visitor-related assets, such as campgrounds.
	Recreation fees - capital improvement	Used for repair, maintenance, and facility enhancement projects directly related to visitor enjoyment, visitor access, and visitor health and safety.
	Recreation fees - deferred maintenance	
Transportation	Federal Lands Transportation Program	Used to construct or maintain roads and other transportation facilities, implement transit projects, and perform environmental mitigation, among other things. These funds are provided through the Department of Transportation's Federal Lands Transportation Program.[a]

Source: GAO analysis of National Park Service information. | GAO-17-136

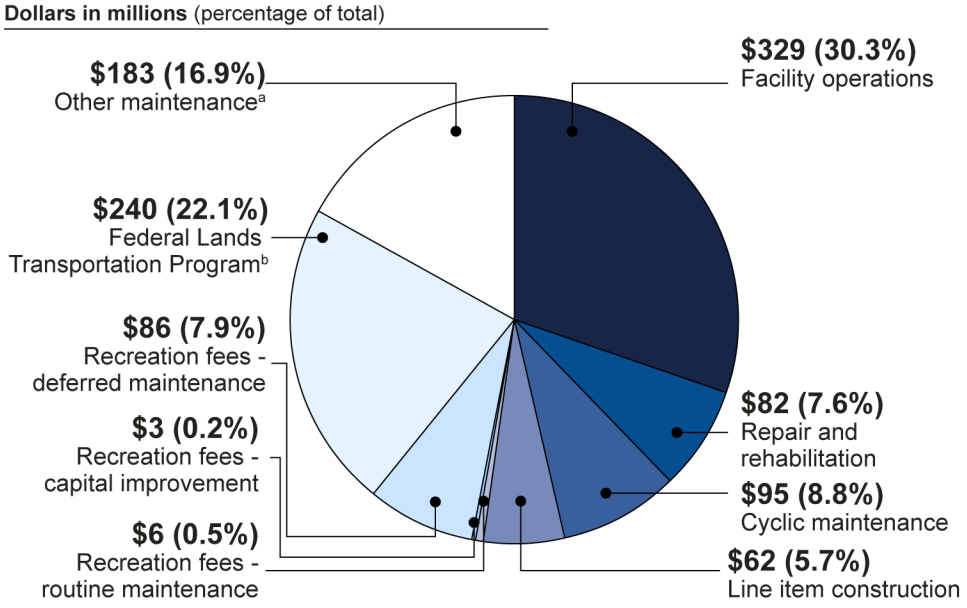
[a]The Department of Transportation's Federal Lands Transportation Program provides funds to the National Park Service and other federal agencies for, among other things, transportation projects on public roads within or adjacent to, or that provide access to, federal lands open to the public. The Department of Transportation allocates these funds to the National Park Service and other federal agencies through an application process.

The types of projects eligible for different fund sources vary. For example, cyclic maintenance projects are preventive in nature, that is, projects intended to prevent growth of deferred maintenance. Officials at Manassas National Battlefield Park said that they received cyclic maintenance funds to do maintenance work on the roofs of several historic buildings, which helps prevent further damage to the interior walls, ceilings, and other parts of the buildings. Line item construction projects are generally larger in scope and expense. For example, an official at Yellowstone National Park said that in January 2016 park staff had proposed relocating a dormitory near the Old Faithful geyser to a

safer location away from the release of harmful gases, at an estimated cost of $9.9 million.

As shown in figure 4, the Park Service allocated the largest amounts of funds to facility operations ($328.9 million, or 30.3 percent) and transportation ($240 million, or 22.1 percent) in fiscal year 2015, and less than $100 million to the other types of maintenance work described by the remaining six fund sources.

Figure 4: National Park Service's $1.08 Billion Maintenance Allocation by Fund Source in Fiscal Year 2015



Source: GAO analysis of National Park Service maintenance allocation data. | GAO-17-136

[a]Other maintenance is not a separate National Park Service fund source (Park Service). However, it represents operational funds used for recurring facility maintenance and specialized skilled labor used for cyclic maintenance or repair and rehabilitation projects.

[b]The Department of Transportation's Federal Lands Transportation Program provides funds for, among other things, transportation projects on public roads within or adjacent to, or that provide access to, federal lands open to the public. The Department of Transportation allocates these funds to the Park Service and other federal agencies through an application process.

Table 2 shows that allocations have generally increased from fiscal year 2006 through 2015 for such fund sources as facility operations and

recreation fees for routine maintenance.[16] In contrast, allocations have generally decreased for other fund sources, such as line item construction, for the same time period.

[16]Allocations to fund sources also vary from year to year, given changing priorities and funding levels.

Table 2: National Park Service Allocations for Maintenance by Budget Category and Fund Sources in Fiscal Years 2006 through 2015

Dollars in thousands

Maintenance budget category	Fund source	Fiscal year 2006	Fiscal year 2007	Fiscal year 2008	Fiscal year 2009	Fiscal year 2010	Fiscal year 2011	Fiscal year 2012	Fiscal year 2013	Fiscal year 2014	Fiscal year 2015
Operations	Cyclic maintenance	63,408	72,908	81,606	101,168	100,739	98,011	96,351	69,356	95,386	95,386
	Repair and rehabilitation	77,617	67,132	79,828	79,828	79,828	76,576	71,040	67,288	71,040	81,961
	Facility operations	203,461	209,676	291,503	317,370	341,608	335,997	346,221	328,828	324,952	328,863
	Other maintenance[a]	248,091	253,977	174,080	177,958	179,204	177,912	169,011	160,189	189,307	183,228
	American Recovery and Reinvestment Act	0	0	0	146,000	0	0	0	0	0	0
Construction	Line item construction	216,890	127,152	130,650	161,723	142,988	121,159	77,722	49,581	60,563	61,678
	American Recovery and Reinvestment Act	0	0	0	589,000	0	0	0	0	0	0
	Other transactions[b]	0	0	-8,112	-10,640	0	-25,000	-4,000	-390	0	0
Recreation fees	Recreation fees – routine maintenance	65	1,538	2,056	4,197	4,200	4,800	5,144	4,500	5,500	5,500
	Recreation fees – capital improvement	4,500	13,654	13,365	15,500	16,000	12,000	9,211	3,000	4,000	2,500

Maintenance budget category	Fund source	Fiscal year 2006	Fiscal year 2007	Fiscal year 2008	Fiscal year 2009	Fiscal year 2010	Fiscal year 2011	Fiscal year 2012	Fiscal year 2013	Fiscal year 2014	Fiscal year 2015
	Recreation fees – deferred maintenance	72,500	101,828	87,409	100,000	93,334	88,000	75,103	46,748	50,000	85,500
Transportation	Federal Lands Transportation Program[c]	195,000	210,000	225,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000
	American Recovery and Reinvestment Act	0	0	0	170,000[d]	0	0	0	0	0	0
Total		**1,081,532**	**1,057,865**	**1,077,385**	**2,092,104**	**1,197,901**	**1,129,455**	**1,085,803**	**969,100**	**1,040,748**	**1,084,616**

Source: GAO analysis of maintenance allocation data from the National Park Service. | GAO-17-136

[a]Other maintenance is not a separate National Park Service (Park Service) fund source. However, it represents operational funds used for recurring facility maintenance and specialized skilled labor used for cyclic maintenance or repair and rehabilitation projects.

[b]Other transactions are amounts removed from the construction fund source, and they represent rescissions, transfer authority, or congressional direction to use unobligated balances. Transfer authority is statutory authority provided by Congress to transfer budget authority from one appropriation or fund account to another.

[c]The Department of Transportation's Federal Lands Transportation Program provides funds to the Park Service and other federal agencies for, among other things, transportation projects on public roads within or adjacent to, or that provide access to, federal lands open to the public. The Department of Transportation allocates these funds to the Park Service and other federal agencies through an application process.

[d]According to a senior Park Service budget official, the $170 million from the American Recovery and Reinvestment Act identified in the transportation budget category was not transferred to the Park Service. Instead, it was used by the Department of Transportation in executing transportation maintenance projects on the Park Service's behalf.

Deferred Maintenance Averaged $11.3 Billion from Fiscal Years 2009 through 2015, and Paved Road Maintenance Accounted for Nearly Half

The Park Service's deferred maintenance averaged about $11.3 billion from fiscal year 2009 through fiscal year 2015. In each of those years, deferred maintenance for paved roads made up the largest share of the agency's deferred maintenance. The sum of deferred maintenance for assets in the other categories used by the Park Service generally declined from fiscal year 2009 through fiscal year 2015. Also, in fiscal year 2015, deferred maintenance varied broadly among other characteristics, such as asset priority, category of asset, when the park unit was established, and region.

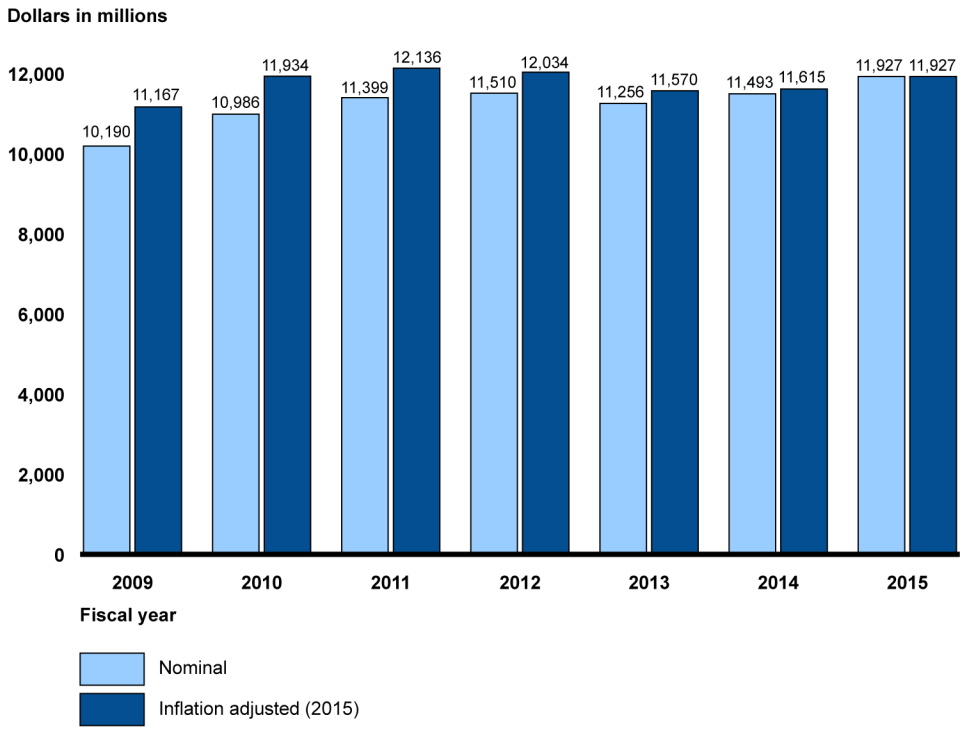
Deferred Maintenance Averaged $11.3 Billion from Fiscal Year 2009 through Fiscal Year 2015

The Park Service's deferred maintenance averaged about $11.3 billion in nominal dollars from fiscal year 2009 through fiscal year 2015.[17] During that time, deferred maintenance in nominal dollars generally increased from about $10.2 billion in fiscal year 2009 to about $11.9 billion in fiscal year 2015, as shown in figure 5.[18] Overall, the Park Service's deferred maintenance in nominal dollars grew, on average, about 3 percent per year from fiscal year 2009 through fiscal year 2015.

[17]Prior to fiscal year 2009, the Park Service did not report deferred maintenance for all assets. From fiscal years 2006 through 2008, the Park Service reported deferred maintenance for eight major asset categories as agreed to with the Office and Management and Budget. In fiscal year 2009, the Park Service began reporting deferred maintenance for an additional category called all others to convey the deferred maintenance for assets that did not, by definition, fall into one of the other eight categories, for example, marinas, railroads, and interpretive media.

[18]The Park Service's deferred maintenance for fiscal year 2009 through fiscal year 2015 was for the known deferred maintenance needs of the assets under the agency's management at the time.

Figure 5: National Park Service's Deferred Maintenance in Fiscal Years 2009 through 2015



Source: GAO analysis of National Park Service deferred maintenance data. | GAO-17-136

Note: The nominal data are from National Park Service reports on the amount of deferred maintenance for each fiscal year. The inflation-adjusted amounts represent fiscal year 2015 dollars.

The Park Service reported that it had a portfolio of 75,526 assets at the end of fiscal year 2015,[19] which the agency has organized into the following nine categories:

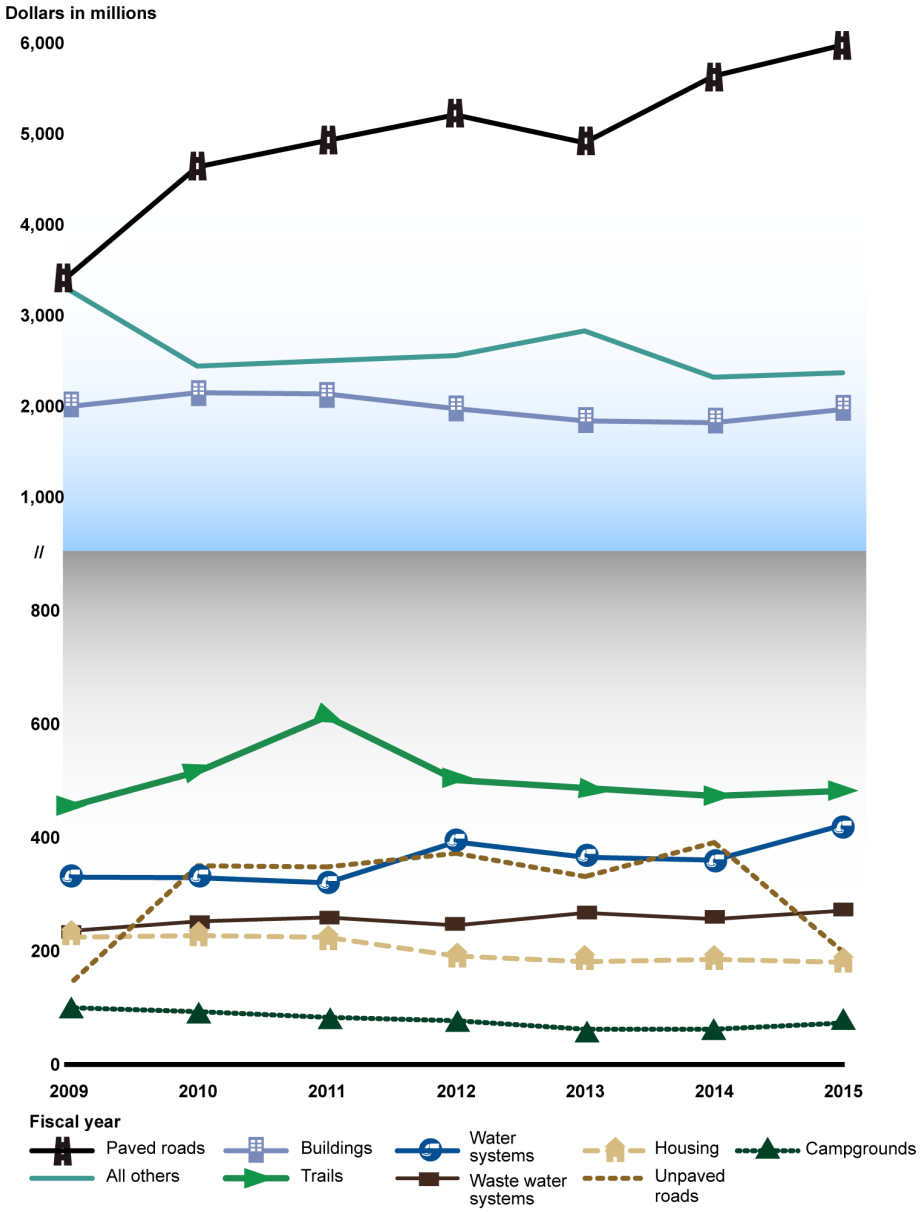
- Buildings, which includes structures such as visitor centers, offices, and comfort stations.
- Campgrounds.
- Housing, which includes Park Service and Department of the Interior employee housing and associated buildings, such as detached garages, shower and laundry facilities, and storage.

[19]National Park Service, *NPS Asset Inventory Summary*, accessed November 16, 2016, https://www.nps.gov/subjects/plandesignconstruct/upload/FY-2015-NPS-Asset-Inventory-Summary-2016-01-11.pdf.

- Paved roads, which includes bridges, tunnels, paved parking areas, and paved roadways.
- Trails, which includes hiking trails.
- Unpaved roads, which includes unpaved parking areas and unpaved roadways.
- Water systems, which includes potable and nonpotable water systems.
- Waste water systems, which includes structures such as sanitary sewers and stormwater systems.
- All others, which includes other utility systems, dams, constructed waterways, marinas, aviation systems, railroads, ships, monuments, fortifications, towers, interpretive media, and amphitheaters, and other structures that did not fall into the other eight asset categories.

Deferred maintenance for paved roads was consistently the largest category of the Park Service's deferred maintenance from fiscal year 2009 through fiscal year 2015. On average, deferred maintenance for paved roads made up about 44 percent of the Park Service's total deferred maintenance from fiscal year 2009 to fiscal year 2015 in both nominal and inflation-adjusted dollars, and it generally grew—from about $3.4 billion in fiscal year 2009 to about $6.0 billion in fiscal year 2015 (or, from $3.8 billion to $6.0 billion in fiscal year 2015 dollars). Overall, the sum of deferred maintenance for assets in the other eight categories generally declined—from about $6.8 billion to about $6.0 billion from fiscal year 2009 through fiscal year 2015 (or, from about $7.4 billion to about $6.0 billion in fiscal year 2015 dollars). However, within this group, deferred maintenance for some asset categories increased over the period. For example, deferred maintenance for water systems generally increased—from about $330 million in fiscal year 2009 to about $422 million in fiscal year 2015 (or, from about $361 million to $422 million in fiscal year 2015 dollars). Figure 6 shows the amount of deferred maintenance for each asset category over this period.

Figure 6: National Park Service's Deferred Maintenance by Asset Category in Nominal Dollars in Fiscal Years 2009 through 2015



Source: GAO analysis of National Park Service deferred maintenance data. | GAO-17-136

Notes: These data are from National Park Service reports on the amount of deferred maintenance by major asset category for each fiscal year. National Park Service officials said that the data for each fiscal year were snapshots in time, reflecting the asset categorization methods in place at the time each report was generated, and that some of these methods had changed over time. The all others category includes assets that that did not fall into the other eight asset categories, such as other utility systems, dams, and constructed waterways.

Deferred Maintenance in Fiscal Year 2015 Varied by Priority, Asset Category, Age, and Region

The Park Service's $11.9 billion in deferred maintenance in fiscal year 2015 varied by priority, asset category, park age, and region.

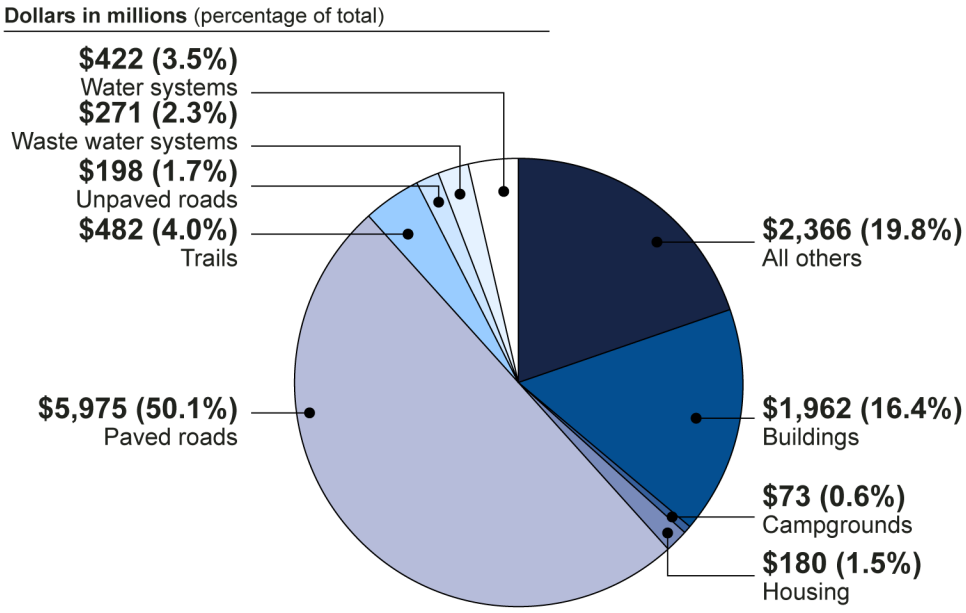
Priority

About 20 percent ($2.4 billion) of the agency's deferred maintenance in fiscal year 2015 was for what the Park Service identified as its highest priority, non-transportation assets. According to Park Service documents, the agency's highest-priority assets are those that are critical to the operations and missions of their respective park units or have high visitor use. For example, the Park Service has identified a potable water distribution system at Grand Canyon National Park and a seawall at West Potomac Park located in the National Mall in Washington, D.C., as among the agency's highest priority, non-transportation assets with some of the largest amounts of deferred maintenance—both with more than $50 million for fiscal year 2015.

Asset Category

Nearly $6 billion (about 50 percent) of the Park Service's deferred maintenance in fiscal year 2015 was associated with paved roads. As shown in figure 7, the all others category was the next largest in terms of the dollar amount of deferred maintenance, at about $2.4 billion (about 20 percent).

Figure 7: Dollar Amount of National Park Service's $11.9 Billion in Deferred Maintenance by Asset Category in Fiscal Year 2015

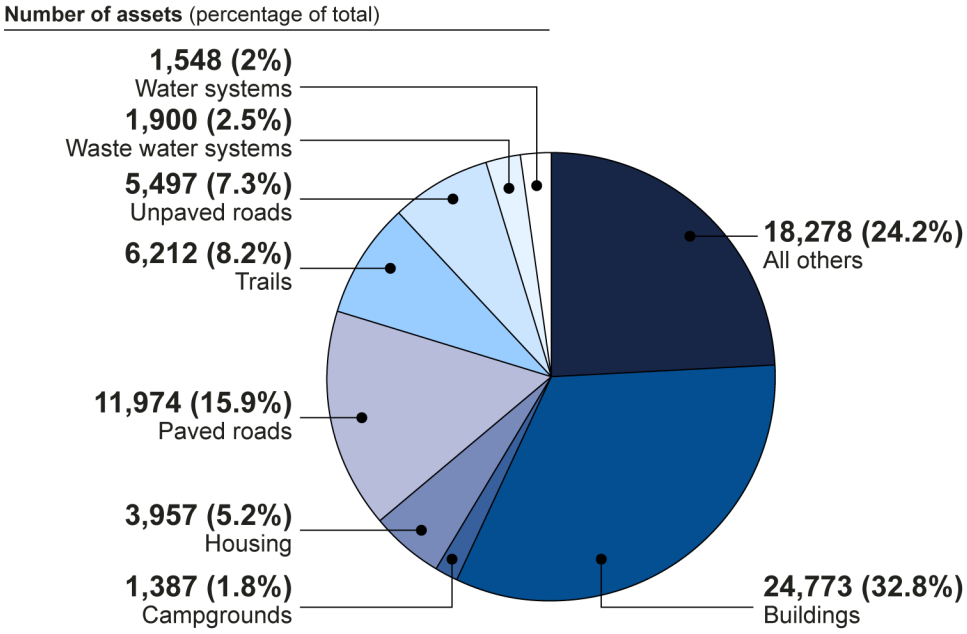


Source: GAO analysis of National Park Service deferred maintenance data. | GAO-17-136

Note: The all others category includes assets that that did not fall into the other eight asset categories, such as other utility systems, dams, and constructed waterways.

In terms of the number of assets, buildings was the largest category in fiscal year 2015, accounting for about 25,000 of the Park Service's more than 75,000 assets (about 33 percent), followed by all others with about 18,000 assets (about 24 percent) and paved roads with about 12,000 assets (about 16 percent), as shown in figure 8.

Figure 8: Number of National Park Service's Assets by Category in Fiscal Year 2015



Source: GAO analysis of National Park Service asset management data. | GAO-17-136

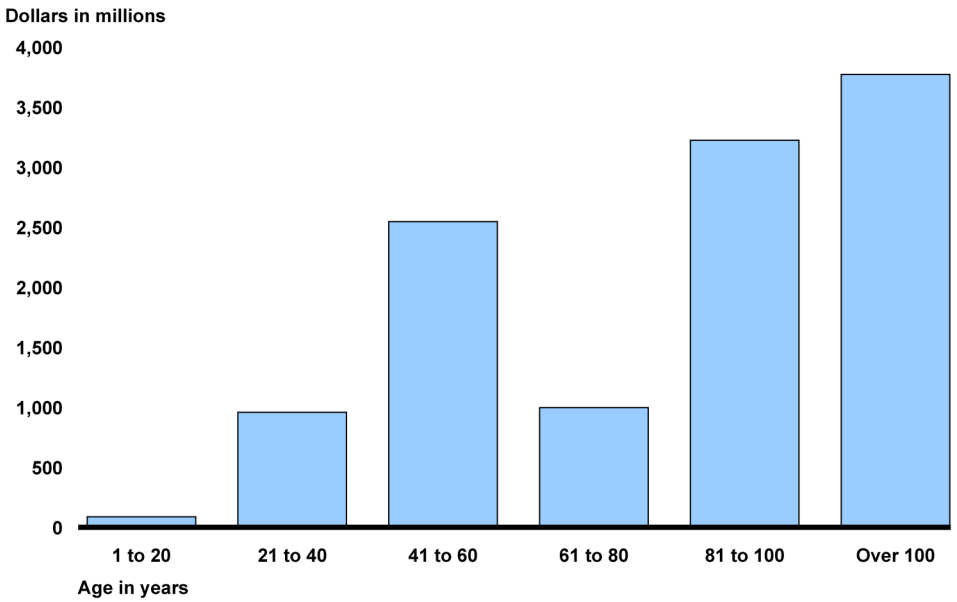
Note: The all others category includes assets that that did not fall into the other eight asset categories, such as other utility systems, dams, and constructed waterways.

Park Unit Age

The majority of the Park Service's deferred maintenance in fiscal year 2015 was for assets in park units that were established more than 40 years ago.[20] Specifically, about $10.5 billion in deferred maintenance was for park units established more than 40 years ago. Of these, park units established more than 100 years ago had the greatest amount of fiscal year 2015 deferred maintenance—more than $3.8 billion—as shown in figure 9. This includes parks such as the National Mall in Washington, D.C., with about $840 million; Yellowstone National Park, in Idaho, Montana, and Wyoming, with about $632 million; and Yosemite National Park, in California, with about $555 million. For assets in parks established in the last 40 years, deferred maintenance in fiscal year 2015 was about $1.0 billion. See appendix II for a listing of the top 100 park units in terms of deferred maintenance amounts.

[20]Ages of park units are based on park unit establishment dates provided by the Park Service.

Figure 9: National Park Service's Deferred Maintenance by Age of Park Unit in Fiscal Year 2015



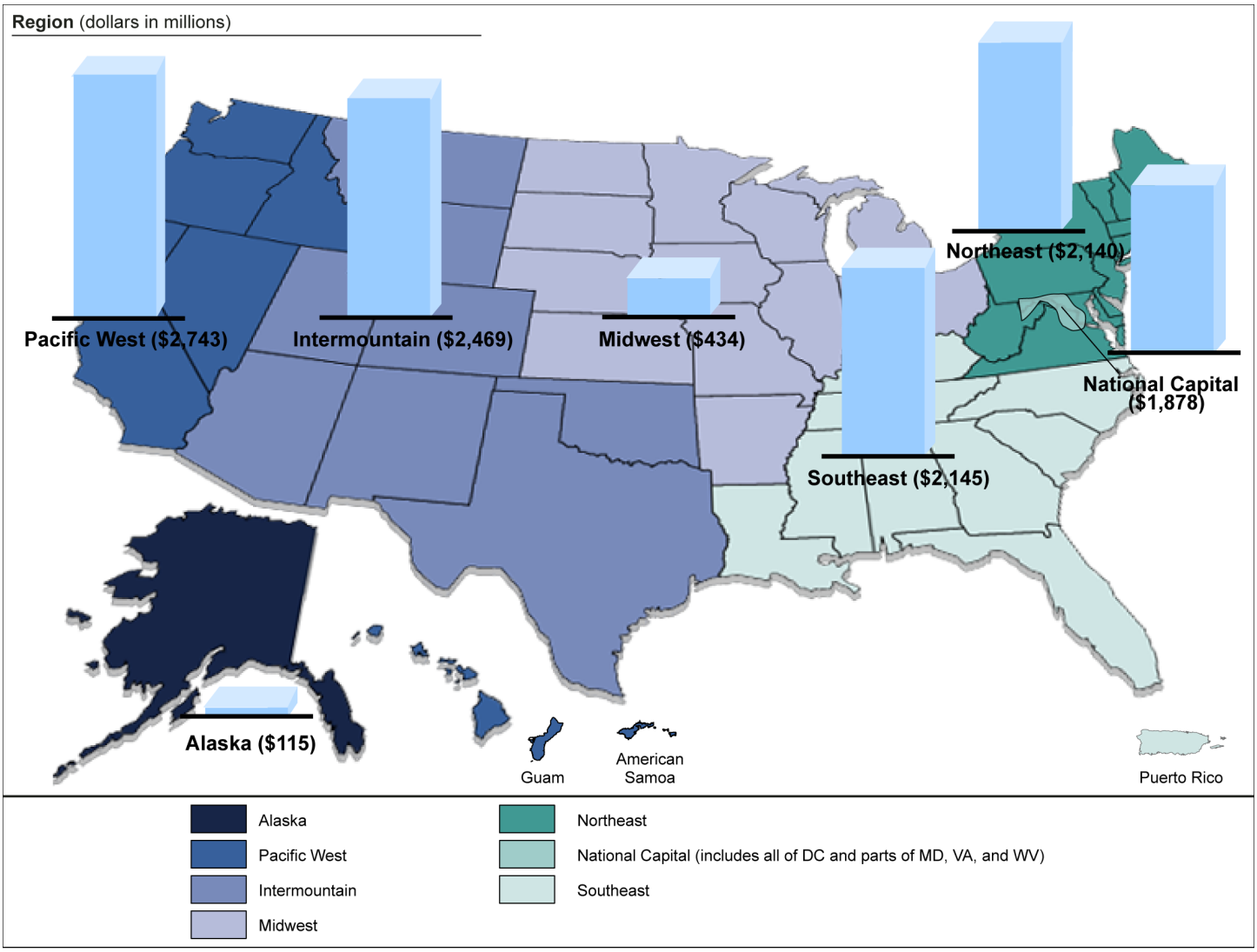
Source: GAO analysis of National Park Service deferred maintenance data. | GAO-17-136

Note: This figure includes deferred maintenance for park units and does not include about $350 million in deferred maintenance related to other properties under National Park Service jurisdiction, such as regional offices.

Region

About $2.7 billion of the agency's deferred maintenance is associated with parks located in the Pacific West Region. As shown in figure 10, four Park Service regions each had more than $1.8 billion in deferred maintenance, while the Midwest Region ($434 million) and the Alaska Region ($115 million) each had deferred maintenance well below $1 billion.

Figure 10: National Park Service's Deferred Maintenance by Region in Fiscal Year 2015



Sources: GAO analysis of National Park Service deferred maintenance data; Map Resources (map). | GAO-17-136

Note: This figure does not include about $3 million in deferred maintenance for the National Park Service's headquarters in Washington, D.C.

Park Service Uses Information on the Importance and Condition of Assets to Prioritize Maintenance Decisions, but the Agency Has Not Evaluated This Process

The Park Service uses several tools to rate an asset's importance and condition and assign maintenance priority to its assets. Park unit staff update asset condition information through periodic assessments and use that information to create work orders to address identified deficiencies, but they face some challenges in completing these tasks. Park unit staff combine these work orders each year to generate projects to address the deficiencies and identify fund sources for the various maintenance projects. Once projects are identified, park unit staff use the Park Service's Capital Investment Strategy to rank maintenance projects for funding decisions. However, the Park Service has not evaluated its process for making asset maintenance decisions to determine if it is achieving intended outcomes.

Park Service Uses an Asset's Importance and Condition to Assign Maintenance Priority

To assign maintenance priority to an asset, the Park Service uses two tools to rate an asset's importance and condition—the asset priority index (API) and facility condition index (FCI)—both of which are consistent with asset management guidance from the Office of Management and Budget and the National Academies Federal Facilities Council. Park staff use the ratio of API to FCI to assign assets to a level of maintenance priority, called an optimizer band, and document how these calculations were made in Park Asset Management Plans.

Asset Priority Index

API identifies the relative importance of the various assets at a park. To do this, park unit staff use four weighted criteria to determine an asset's API value on a scale from 1 to 100, in which assets that scored 100 are most important. The criteria follow:

- **Resource preservation.** This criterion identifies whether the asset directly contributes to a park's ability to preserve natural resource processes, is a cultural asset, or enhances a park's ability to preserve and protect its cultural resources. This criterion determines 35 percent of an asset's API.
- **Visitor use.** This criterion identifies the extent to which the asset contributes to visitor accessibility, understanding, and enjoyment. Assets are rated as high, medium, low, or none, and the score contributes to 25 percent of an asset's API.
- **Park support.** This criterion considers the extent to which an asset directly supports day-to-day operations of a park unit or employees' ability to perform park operations. Assets are also rated as high,

medium, low, or none under this criterion, and it contributes to 20 percent of an asset's API.

- **Asset substitutability.** This criterion refers to the degree to which a comparable substitute asset exists to fulfill the functional requirements or purpose of that asset. To rate this criterion, park unit staff consider the question "if this asset is lost, what would be the impact," and park unit staff are to answer high impact, low or no impact, or there is no substitute for the asset. This criterion determines 20 percent of an asset's API.

Park unit staff establish values for these criteria by answering a series of questions about each asset that are included in guidance provided by the Park Service. For example, one question used to establish an asset's visitor use value is if the asset provides access to, houses, or delivers visitor understanding through education. The total API for each asset is recorded in the agency's FMSS.[21] Park Service officials said that an asset's API should not change unless something substantial occurs, such as an asset being destroyed in a weather event or being taken out of service because it is no longer needed. If park unit staff determine that an asset's API value should be changed, regional approval is needed to make the change.

The Park Service's use of API as part of its process for making asset maintenance decisions is consistent with the Office of Management and Budget's Capital Programming Guide, which states that the use of tools such as API helps managers identify the most important assets and provides logical guidance for directing limited funding.[22] In addition, the guide notes that API is important for planning for recurring maintenance and preventive maintenance.

Facility Condition Index

FCI is a method of measuring the current condition of an asset to assess how much work, if any, is recommended to maintain or change its

[21]FMSS is an agency-wide, asset-based work identification, work management, and work analysis system that allows park units, regional offices, and Park Service headquarters to track asset conditions, asset operations and maintenance, asset repair and rehabilitation, and removal of assets. According to Park Service guidance, FMSS was created in response to a statutory agreement to implement, beginning in 1985, a maintenance management system in the agency's maintenance and operations programs. Pub. L. No. 98-540, 98 Stat. 2718 (1984). Currently, the Park Service uses FMSS to address the direction in Executive Order 13327 that the agency identify and categorize all of its assets, among other things.

[22]Office of Management and Budget, *Capital Programming Guide*.

condition to acceptable levels to support organizational missions. The Park Service uses FCI to rate the condition of an asset on a scale from 0 to 1. It is calculated by dividing the deferred maintenance associated with an asset by its current replacement value, and the lower the asset FCI value, the better the condition of the asset. For example, a new asset would likely have little or no deferred maintenance associated with it and therefore have a low FCI.

Park unit staff record the projected cost of repairs and current replacement value for each asset in FMSS and update those values when appropriate. To calculate the projected cost of an asset's repair, park unit staff use the Park Service's cost estimating software system. The system bases calculations on industry standard tools, materials, and methods according to data from a North American supplier of construction cost information. In addition, the Park Service instructs staff to consider adjustments as needed, such as when requirements for historically accurate materials or construction methods are required.[23] For example, according to a maintenance official at Independence National Historic Park in Philadelphia, repairs to a deteriorated rain gutter on Independence Hall were more complex and expensive than similar work on modern or nonhistoric buildings. A failed section of the gutter's downspout had to be replaced with historically accurate materials in order to meet cultural resource preservation standards. To avoid damaging historic building fabric nearby, the new section of pipe was soldered into place with unique equipment that did not use a flame. Park unit staff calculate the current replacement value of an asset using the Park Service's current replacement value calculator. According to Department of the Interior policy,[24] current replacement value is defined as the standard industry cost and engineering estimate of materials, supplies, and labor required to replace an asset at its existing size and functional capability, and to meet applicable regulatory codes.

The Park Service's use of FCI as part of its process for making asset maintenance decisions is consistent with the Federal Real Property

[23]The Department of the Interior, acting through the Park Service, has established standards for the preservation of historic resources, as directed in the National Historic Preservation Act of 1966.

[24]Department of the Interior, *Policy on Deferred Maintenance, Current Replacement Value and Facility Condition Index in Life-Cycle Cost Management* (Washington, D.C.: May 3, 2008).

Council's Guidance for Real Property Inventory Reporting,[25] which identified this type of condition index as a performance measure. In addition, in 2005, the National Academies Federal Facilities Council found that many agencies use FCI to measure the current condition of assets to assess how much work, if any, is recommended to maintain or change their condition to acceptable levels to support organizational missions.[26]

Optimizer Bands

The Park Service uses the ratio of an asset's API and FCI to assign the asset to an optimizer band, which is used to determine the priority level for maintenance. The agency began using optimizer bands in 2012 to help determine which projects would obtain project funds and ensure that limited funds are allocated to the most important assets.

According to Park Service guidance, optimizer bands act as a triage framework for allocating limited funds. For example, optimizer band 1 assets are the highest-priority assets. The agency defines them as critical to the operations and mission of a park unit or as having high visitor use. They are to be considered first for funding to keep them in good condition. In contrast, optimizer band 5 assets are the lowest-priority assets. The agency does not need them for the operations and mission of the park, and many of these assets may be candidates for disposal. To ensure that the highest-priority assets are maintained to the greatest extent possible, the Park Service established minimum levels of funding park units are to allocate for preventive maintenance. Specifically, park units are to use funds from the operations budget category to address a minimum of 55 percent of the preventive maintenance work needed to maintain optimizer band 1 assets in good condition. The minimum levels of funding for optimizer bands 2 and 3 are 50 and 25 percent, respectively, and there are no minimum levels of funding for bands 4 and 5.

Park unit staff have some flexibility in assigning assets to optimizer bands. Park Service officials said that park units may reassign an asset to a different optimizer band, but that these changes are to be approved by regional officials. Officials we interviewed at some of the park units said that they had changed optimizer bands for some assets. For example, one park unit changed the optimizer band of the building where park unit staff work from optimizer band 3 to optimizer band 2. Officials at this park

[25]General Services Administration, *Federal Real Property Council 2012 Guidance for Real Property Inventory Reporting*.

[26]Cable et al., *Key Performance Indicators for Federal Facilities Portfolios*.

unit said that the building is vital to the park because it is the only building space in or near the park that staff can use to perform the administrative duties required for managing a park unit, including maintaining FMSS. However, the building had been assigned to optimizer band 3 because it has no visitor use, which meant that the asset was not a priority for maintenance funding and therefore difficult to keep in acceptable condition. Officials at other park units identified reasons to change the optimizer band levels. For example, officials at two park units noted that the quality of housing can be poor because of low maintenance priority, which can affect both the ability of staff to do their jobs well and the visitor experience. According to Park Service officials, housing can also deteriorate past the point of acceptable living conditions, at which point park units would no longer be able to use those assets to house employees.

Park unit staff report asset optimizer bands, as well as API and FCI, in their Park Asset Management Plans. Many of the park unit officials we interviewed said that they had most recently established these values for their assets within the last 7 years, often as part of updating the park unit's Park Asset Management Plan. According to Park Service asset management guidance, a Park Asset Management Plan is a strategic and operational plan that park units are to develop to articulate how the park unit intends to manage its asset portfolio over a 10-year period based on the analysis of asset data. Park Service officials said that park units use them to assess all of their assets and determine the amount of funds needed to maintain assets in good condition.

The Office of Management and Budget's 2015 Capital Planning Guide does not use the term optimizer band but notes that graphical representations of a distribution of assets graphed by their importance to mission and their condition can be a useful tool in segmenting and presenting asset portfolios. Specifically, by plotting an asset according to API and FCI, an agency can determine when an asset no longer supports the mission of the site or bureau or is a candidate for disposal because it has a low API and high FCI.

Park Unit Staff Conduct Periodic Assessments to Identify Deficiencies

The Park Service's asset management plan instructs park units to determine the condition of park assets through annual condition assessments—high-level inspections that identify obvious and apparent deficiencies—and comprehensive condition assessments—more detailed

assessments of assets performed every 5 years.[27] The plan also instructs park unit staff to record condition assessment information in FMSS and update the projected cost of repairs of the asset.

Officials we interviewed at several of the park units said that for annual assessments staff regularly visually inspect assets during the normal course of business, such as opening buildings for seasonal use or performing maintenance on nearby assets. Some officials also said that comprehensive assessments are either performed by park unit staff with expertise or contractors. For example, a regional official said that park units in the region hired contractors to inspect sewer lines as part of a comprehensive assessment, since they do not have in-house expertise to do so. The Park Service provides guidance to park unit staff on how to perform comprehensive assessments for each of the asset categories. Officials we interviewed at several park units said that they organize comprehensive condition assessments to account for 20 percent of park assets annually, so that they can complete a comprehensive condition assessment for all park assets within a 5-year period.

Officials we interviewed at more than half of the park units said that they were unable to complete annual or comprehensive assessments of all assets on schedule because of other duties or scheduling challenges. Specifically, staff who are to conduct the assessments perform other duties, such as overseeing asset maintenance and entering and maintaining asset data in FMSS. Park unit officials also said that Park Service headquarters makes frequent data requests—for example, for electric utility metering data, or for verification of square footage values in FMSS—and that these data requests can interfere with park unit staff's ability to complete tasks, including condition assessments, on time. In addition, some park units are located remotely or in challenging climates, making it difficult to inspect all assets on the recommended schedule. For example, officials we interviewed at three park units said that they had to hike or fly to certain assets because they are located remotely or the assets are inaccessible in the winter because of snow; however, winter

[27]According to the Department of the Interior Asset Management Plan, the department's agencies are to perform annual condition assessments of assets with a current replacement value of more than $5,000 and comprehensive assessments of assets with a current replacement value of more than $50,000 at least every 5 years. Department of the Interior, *Department of the Interior Asset Management Plan, Version 3.0* (Washington, D.C.: June 2008).

might be the only time the park unit had staff available to conduct assessments.

For Park Service paved roads and bridges, the Department of Transportation conducts condition assessments for the Park Service. According to Department of Transportation officials, they typically conducts condition assessments of major paved roads—thoroughfares in large parks with more than 10 miles of roadway—within each park unit once every 5 years and of secondary paved roads once every 10 years. In addition, the department conducts condition assessments of all bridges within each park unit once every 2 years in accordance with National Bridge Inspection Standards.[28] Specifically, a team of six to eight Department of Transportation staff, working in teams of two, drive a vehicle with special equipment that can assess the condition of the pavement along park roads. Department of Transportation officials estimate that these teams have assessed about 5,900 road miles in the last 4 years; by comparison, the Park Service has 5,500 miles of paved roads. Once a road is assessed, the Department of Transportation provides the condition data to relevant park unit staff who enter the data into FMSS and determine if a work order is needed.

Park Unit Staff Combine Work Orders to Generate Projects and Identify Fund Sources

Based upon the condition assessments, Park Unit staff create one or more work orders in FMSS that document an asset's deficiencies. They, in turn, combine work orders to generate projects to conduct the maintenance work needed to address identified deficiencies. Specifically, according to Park Service officials, staff bundle a series of work orders to address multiple deficiencies—such as replace a door, paint a wall, or fix the roof—in one building as part of the same project. Work orders generally contain a basic description of the work needed and an estimate of the material and labor costs, among other things. Park units submit these maintenance projects annually to the regional offices as part of an agency-wide call for projects, which marks the beginning of the Park Service's budget formulation cycle. Park Service headquarters officials provide guidance to help park units to identify which fund sources can be used for a project, among other things. The staff may also choose to address a deficiency directly, using the park unit's facility operations funds rather than applying for project funds. Some park unit officials we

[28]23 C.F.R. §§ 650.301 – 317 (2016).

interviewed said that they typically do this for maintenance work that is routine in nature, such as grounds keeping.

The Park Service's most recent agency-wide call for projects was for projects to be funded in fiscal year 2019, and it directed park units and regional offices to have projects ready for review by headquarters by April 3, 2017. As part of doing this, park unit staff identify which of the Park Service's fund sources would be appropriate to use for the various maintenance projects. To identify the appropriate fund source, park unit staff use information about the nature of the maintenance work needed as identified in the project's work orders, as well as the annual fund source guidance that the Park Service provides.[29] The guidance for each fund source includes questions about the projects to help determine if the project is eligible for a particular fund source. For example, to obtain cyclic funds for a project, fund source guidance has directed park unit staff to explain how the project supports or extends the life cycle of the asset or how funding the project will positively affect visitor health and safety, among other things. Park unit staff also enter projects into the agency's Project Management Information System.[30] All projects entered into this system then compete for funds in the region, or nationwide, depending on the type of project and fund source.

Park Unit Staff Use the Park Service's Capital Investment Strategy to Rank Maintenance Projects for Funding, but the Agency Does Not Have a Plan to Evaluate Outcomes

Since 2012, the Park Service has used its Capital Investment Strategy to evaluate and rank maintenance projects for funding. Agency officials stated that the Capital Investment Strategy was created to help ensure that park units do not allow assets to fall into a severe state of disrepair before repairing them. According to the Park Service's *Capital Investment Strategy Guidebook*, the strategy is designed to promote several of the agency's mission goals, including the repair and improvement of assets that parks commit to maintain in good condition and the disposition of nonessential facilities to reduce deferred maintenance. In addition, one of the strategy's objectives is to enable the Park Service to demonstrate to

[29]The Park Service provides fund source guidance to park units each year as part of the instructions for the agency-wide call for projects. The guidance describes what the agency wants to accomplish with the fund source, such as projects that address deferred maintenance. In addition, it lists the eligibility requirements projects must meet to be considered for the fund source and the evaluation criteria Park Service officials will use to determine if the project is eligible for the fund source.

[30]The Park Service uses the Project Management Information System to manage its ranking, selection, funding, and project management processes.

Congress and others that the agency optimizes taxpayer dollars to preserve high-priority assets. To meet this objective, the Capital Investment Strategy uses a formula based on asset information to score projects and gives preference to projects that address assets in optimizer bands 1 or 2.

As part of the agency-wide call for projects, park unit staff use the Capital Investment Strategy to score projects that will be funded by the cyclic maintenance, repair and rehabilitation, line item construction, Federal Lands Transportation Program, and recreation fees fund sources in the Project Management Information System. The formula used in the Capital Investment Strategy scores projects from 1 to 1,000 by, in part, individually evaluating each work order in a project according to FMSS data in four elements: financial sustainability, resource protection, visitor use, and health and safety. For example, the visitor use element considers investment in assets that directly enable outdoor recreation as well as interpretive media. The most points within this element are awarded to those projects that improve and sustain the experience of the greatest number of visitors. Projects are scored higher if they target optimizer band 1 or 2 assets for deferred maintenance reduction and optimizer band 5 assets for disposition.

Park Service officials, either at the regional office or headquarters, review and approve projects for funding based on the fund source guidance provided as part of the agency-wide call for projects. For all fund sources except for line item construction, Park Service regional officials determine which maintenance projects are to receive funding by convening expert panels, which review the scored projects provided by the park units in their regions. For maintenance projects associated with the repair and rehabilitation fund source that are estimated to cost less than $1 million, the Park Service convenes a nationwide panel of experts to determine which will be funded. For line item construction projects estimated at more than $1 million, Park Service headquarters staff review and select which projects will receive funding. The Park Service identifies the line item construction projects the agency wants to fund by name, description, estimated cost, and project score in its annual budget justification submission to Congress.

Fiscal year 2015 was the first budget year in which projects ranked using the strategy were funded, and as such some regional and park unit officials said that it is too soon to determine if the Capital Investment Strategy is meeting its objectives, such as maintaining the condition of its high-priority assets. Officials we interviewed at more than half of the park

units said that the Capital Investment Strategy so far has helped them identify their park units' most important maintenance needs. However, several regional and park unit officials said that the Capital Investment Strategy's focus on optimizer band 1 and 2 assets could result in continued deterioration of assets in other optimizer bands, leading to increased deferred maintenance.

The Park Service does not have a plan or time frame for evaluating whether the strategy has been successful. A senior official said that the agency had not determined what is needed to begin such an evaluation and that it would be beneficial to verify that the Capital Investment Strategy is achieving intended outcomes and if changes need to be made. According to the National Academies Federal Facilities Council,[31] investments made in assets are not often immediately visible or measurable but are manifest over a period of years, and it is important that agencies track the outcomes of those investments to improve decision making about those investments and to improve asset management. Moreover, according to the council, to understand the outcomes of facilities investments, federal agencies need to establish facilities asset management performance goals that have a time frame for attainment, among other things. By evaluating the Capital Investment Strategy and its results after it has been in place for a few years, the Park Service may be able to determine if the strategy is achieving its intended outcomes or if changes need to be made. For example, the agency could consider evaluating the improvement or deterioration in the overall condition of assets in each optimizer band to determine whether the agency should continue to prioritize allocations to maintenance on optimizer band 1 and 2 assets.

The Park Service Is Working with Partners and Volunteers and Taking Other Actions to Help Address Maintenance Needs

The Park Service is taking a variety of actions to help address asset maintenance needs and potentially reduce deferred maintenance. These actions include the following:

- **Using philanthropic donations.** The Park Service receives donations from several philanthropic sources to enhance park assets and, in some cases, address maintenance needs. For example, the National Park Foundation intends to raise up to $350 million to support the Park Service as part of its Centennial Campaign for

[31]Cable et al., *Key Performance Indicators for Federal Facilities Portfolios*.

America's National Parks. The foundation reported in February 2016 that it had raised about $200 million toward this goal.[32] Some of these funds are to be used to address asset maintenance, such as repairing trails at Jenny Lake in Grand Teton National Park in Wyoming and rehabilitating Constitution Gardens, part of the National Mall, in Washington, D.C. Stemming from the National Park Foundation's efforts, in July of 2014 the Park Service announced a donation of about $12 million to restore and improve access to Arlington House, the Robert E. Lee Memorial, which is located in Arlington National Cemetery. In addition, philanthropic funds are available through the Centennial Challenge program.[33] From fiscal years 2015 through 2016, Congress appropriated $25 million for this program. For projects funded by this program, at least 50 percent of the costs must come from nonfederal donations. According to Park Service documents, the agency has selected more than 150 projects to be funded by the program, which as of October 20, 2016, had received more than $45 million in matching funds from philanthropic donors. Some of the projects are to directly address deferred maintenance, such as a project at the Chesapeake and Ohio Canal National Historical Park that will rehabilitate the Conococheague Aqueduct in Maryland.

- **Working with volunteers.** Volunteer groups are providing assistance to several parks to help address asset maintenance needs. For example, at the Great Smoky Mountains National Park, in North Carolina and Tennessee, a local volunteer group maintains several of the park's trails. Park unit officials said this arrangement has reduced the deferred maintenance for the park's trails by about $1 million since 2009. Officials at some of park units we interviewed said volunteer groups perform a variety of maintenance duties that help address deferred maintenance, including grounds and facilities cleanup, clearing roadways of vegetation, and campground maintenance.
- **Leasing properties.** Several park units are leasing assets to other parties in exchange for the lessee rehabilitating or maintaining the assets. According to Park Service documents, all net income from such leases is to be reinvested to fund historic preservation, capital improvements of historic properties, park infrastructure, or any deferred maintenance needs. For example, the Park Service leases

[32]The National Park Foundation is the Park Service's congressionally chartered nonprofit partner, established in 1967.

[33]Pub. L. No. 113-235, 128 Stat. 2403 (2015).

several buildings at the Golden Gate National Recreational Area in San Francisco.[34] The Park Service also leases several historic buildings at Hot Springs National Park in Arkansas. Park unit officials said that the buildings at Hot Springs were in serious disrepair prior to being leased. The officials said that the lessees are to repair and rehabilitate the structures in lieu of rent for the first several years of their lease terms, thereby reducing the park's deferred maintenance. Officials at some of the park units we interviewed said that they were considering implementing leasing programs, in part, to help reduce their deferred maintenance. To help facilitate leasing, the Park Service hired a national leasing manager in 2015 to formalize its leasing program, and some parks units and regions have developed active leasing programs.

- **Engaging partners.** The Park Service is engaged in partnerships where outside organizations are assuming some asset maintenance responsibilities. For example, the Park Service entered into a partnership with a nonprofit organization to operate and maintain the visitor center associated with Independence National Historical Park in Philadelphia. In this case, the Park Service owns the visitor center and contributes funds—about $800,000 annually—to cover some of its basic operating costs, but the nonprofit organization covers the majority of the facility's operating and maintenance costs. Park unit officials said that the 30-year agreement with the nonprofit organization provides the park with a modern visitor center that maintenance staff do not have to physically maintain, and provides a location where rangers can be stationed to answer questions about the park.
- **Entering into other arrangements.** The Park Service is taking steps to reduce, or in some cases eliminate, the need to allocate maintenance funds to some park assets by entering into arrangements with other entities to manage those assets. For example, officials at two of the park units we interviewed said that they had turned over the some of their campgrounds to concessioners to operate and maintain.
- **Partnering with states for transportation grants.** The Park Service has worked with states to submit joint applications for a variety of Department of Transportation grants. For example, the Park Service, jointly with the District of Columbia's Department of Transportation,

[34]The Park Service leases Fort Mason—a group of former military buildings—to a local nonprofit, which uses the buildings to operate an arts and cultural center.

received a $90 million grant from the Department of Transportation's Fostering Advancements in Shipping and Transportation for the Long-Term Achievement of National Efficiencies (or FASTLANE) grant program to rehabilitate the Arlington Memorial Bridge, which links the District of Columbia to Arlington National Cemetery in Virginia. In addition, the Tennessee Department of Transportation received a $10 million Department of Transportation grant—Transportation Investment Generating Economic Recovery (or TIGER) grant—to complete a section of the Foothills Parkway that runs through Great Smoky Mountains National Park, in North Carolina and Tennessee. The Park Service contributed an additional $10 million and the state contributed an additional $15 million in funds toward the $35 million project.

Park Service officials said that these actions have helped address deferred maintenance at some park units, but that not all of these activities are well-suited to all park units or all maintenance needs. For example, they said that not all park units have assets that would be desirable for leasing. In addition, officials at several park units we interviewed said that philanthropic donors generally prefer to donate funds to projects that enhance parks or add new features, as opposed to addressing existing maintenance needs.

Conclusions

The Park Service has allocated $1.16 billion on average to maintain its assets in fiscal years 2006 through 2015, but its deferred maintenance has continued to increase. To address its maintenance needs, the agency uses tools that are consistent with asset management guidance from the Office of Management and Budget and the National Academies Federal Facilities Council. In addition, the Park Service has determined that its highest-priority assets should be considered first for funding to keep them in good condition, and park unit staff use the agency's Capital Investment Strategy to rank and prioritize projects for funding. However, several of the regional and park unit officials we interviewed said that the focus on high-priority assets may result in continued deterioration of less-critical assets, thereby increasing deferred maintenance. The Park Service does not have a plan or time frame for evaluating whether the Capital Investment Strategy has been successful. We recognize that it may be too soon to determine if the strategy is meeting its objectives given that fiscal year 2015 was the first budget year in which projects ranked using the strategy were funded. However, evaluating the Capital Investment Strategy and its results in a few years may allow the Park Service to determine if the strategy is achieving its intended outcomes or if changes need to be made.

Recommendation for Executive Action

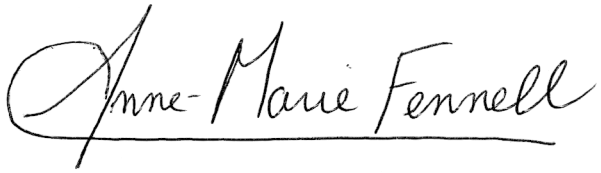
To ensure that the elements of the agency's process for making asset maintenance decisions are achieving desired outcomes, we recommend that the Secretary of the Interior direct the Director of the Park Service to evaluate the Capital Investment Strategy and its results to determine if it is achieving its intended outcomes or if changes need to be made.

Agency Comments

We provided a draft of this report to the Departments of the Interior and Transportation for review and comment. The GAO Audit Liaison from the Department of the Interior responded via e-mail on December 5, 2016, that the department agreed with our recommendation and also provided technical comments, which we incorporated as appropriate. The Department of Transportation had no comments.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Secretaries of the Interior and Transportation, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or fennella@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff members who made major contributions to this report are listed in appendix III.



Anne-Marie Fennell
Director, Natural Resources and Environment

Appendix I: Objectives, Scope, and Methodology

Our objectives were to examine (1) how much the National Park Service (Park Service) has allocated to maintain assets in fiscal years 2006 through 2015, (2) the amount and composition of the Park Service's deferred maintenance in fiscal years 2009 through 2015, (3) how the Park Service makes asset maintenance decisions, and (4) the actions the Park Service is taking to help address its maintenance needs.

To examine how much the Park Service has allocated to maintain assets in fiscal years 2006 through 2015, we obtained and analyzed maintenance allocation data from the Park Service for that period. According to the Park Service, deferred maintenance data from the end of fiscal year 2015 were the most current data available when we began this review. We analyzed the data to determine the amount of funds the Park Service had allocated in each year to the eight fund sources the agency uses for maintenance work: cyclic maintenance, repair and rehabilitation, facility operations, line item construction, recreation fees for routine maintenance, recreation fees for capital improvements, recreation fees for deferred maintenance, and Federal Lands Transportation Program. We assessed the reliability of these data through interviews with Park Service officials who were familiar with these data and reviews of relevant documentation. We found these data to be sufficiently reliable for the purposes of our reporting objectives. We also examined Park Service budget documents, including several agency budget justifications, and interviewed relevant Park Service officials at headquarters, regional offices, and park units to better understand the fund sources used for maintenance work. In addition, we obtained and analyzed Park Service funding data for fiscal years 2006 through 2015 from the Office of Management and Budget MAX Information System to compare agency funding to maintenance allocations.[1]

To examine the amount and composition of Park Service's deferred maintenance in fiscal years 2009 through 2015, we obtained and analyzed Park Service data on deferred maintenance for the agency's assets. We obtained these data from the Facility Management Software System (FMSS), an agency-wide database that Department of the Interior agencies, including the Park Service, use to collect, track, and analyze asset management data. We also interviewed Park Service staff at the

[1]The Office of Management and Budget's MAX Information System is a database used to support its federal management and budget processes. The system collects, validates, analyzes, models, and publishes information relating to the agency's government-wide management and budgeting activities.

headquarters, regional, and park unit levels to better understand deferred maintenance. We began our data analysis with fiscal year 2009 because it is the first year the Park Service reported deferred maintenance for all of the assets under its management. From fiscal years 2006 through 2008, the Park Service reported deferred maintenance for eight major asset categories as agreed with the Office and Management and Budget—paved roads, buildings, campgrounds, housing, trails, unpaved roads, water systems, and waste water systems. In fiscal year 2009, the Park Service began reporting deferred maintenance for an additional category called all others to convey the deferred maintenance for assets that did not, by definition, fall into one of the other eight categories. The all others category used by the Park Service includes assets such as marinas, railroads, and interpretive media.

We determined how the amount and composition of deferred maintenance had changed from fiscal year 2009 to fiscal year 2015 by obtaining Park Service reports generated from FMSS on the amount of deferred maintenance for each fiscal year by major asset category. According to the Park Service, deferred maintenance data from the end of fiscal year 2015 are the most current data available and include 409 park units as well as other properties under Park Service jurisdiction, such as regional offices. Park Service officials said that the data provided for each fiscal year were a snapshot in time that reflected the asset categorization methods in place at the time each report was generated. For example, officials said that some assets categorized as one type may have been treated as another type in a subsequent year. We analyzed these data over this period in both nominal and inflation-adjusted terms.[2]

We also obtained detailed data for fiscal year 2015 from FMSS for each of the Park Service's more than 75,000 assets. We analyzed these data to identify how deferred maintenance varied according to certain key characteristics, such as asset priority, asset category, park unit age, and region. We assessed the reliability of the data by interviewing Park Service officials familiar with these data, observing those officials use FMSS, and reviewing relevant documentation. We found these data to be sufficiently reliable for the purposes of our reporting objectives.

[2]We adjusted nominal dollars using the fiscal year chain-weighted gross domestic price index, with 2015 as the base year.

To determine how the Park Service makes asset maintenance decisions and to identify actions the Park Service is taking to help address maintenance needs, we interviewed relevant officials at the headquarters level. We also interviewed Department of Transportation officials who described the process the department uses to assess the condition of Park Service roads and bridges; park unit staff use these assessments to make maintenance decisions about those assets. In addition, we analyzed relevant documents, such as the Park Service's Asset Management Plan, asset maintenance guidance documents, the *Capital Investment Strategy Guidebook*, and fact sheets, to obtain additional information about the process and tools. We compared information we learned about the Park Service's process for making asset management decisions to the Office of Management and Budget's Capital Programming Guide,[3] the Federal Real Property Council's *Guidance for Real Property Inventory Reporting,*[4] and the National Academies Federal Facilities Council's *Key Performance Indicators of Federal Facilities Portfolios*.[5] We supplemented our analysis with information obtained from our prior reports.[6] In addition, we interviewed the chief facility management official at each of the Park Service's seven regions to understand the role they play in overseeing and managing maintenance needs at the park units within their regions. We also asked them to identify park units within their regions that had taken notable actions to help address deferred maintenance.

We conducted semistructured interviews at 21 park units to learn about the process each follows to make asset maintenance decisions as well as

[3]Office of Management and Budget, *Capital Programming Guide, V 3.0, Supplement to Office of Management Budget Circular A-11: Planning, Budgeting, and Acquisition of Capital Assets* (Washington, D.C.: 2015).

[4]General Services Administration, *Federal Real Property Council 2012 Guidance for Real Property Inventory Reporting Version 4* (Washington, D.C.: Oct. 25, 2012).

[5]J. H. Cable and J. S. Davis, in association with Federal Facilities Council Ad Hoc, Committee on Performance Indicators for Federal Real Property Asset Management, National Research Council, *Key Performance Indicators for Federal Facilities Portfolios: Federal Facilities Council Technical Report Number 147* (Washington, D.C.: The National Academies Press, 2005).

[6]GAO, *National Park Service: Efforts to Identify and Manage the Maintenance Backlog*, GAO/RCED-98-143 (Washington, D.C.: May 14, 1998); *National Park Service: Status of Agency Efforts to Address Its Maintenance Backlog*, GAO-03-992T (Washington, D.C.: July 8, 2003); and *National Park Service: Revenues from Fees and Donations Increased, but Some Enhancements Are Needed to Continue This Trend*, GAO-16-166 (Washington, D.C.: Dec. 15, 2015).

actions the park units were taking to help address deferred maintenance. From the 409 park units in existence when we began this review, we selected 21 parks based on several criteria. Specifically, for each of the seven regions, we selected three parks: (1) the park with the greatest amount of deferred maintenance as of the end of fiscal year 2015, (2) a park that had a deferred maintenance amount in the lower half of all park units in that region, and (3) a park unit recommended by regional officials as taking additional or notable actions to help address deferred maintenance. We also ensured that these parks represented different types of park unit types, such as scenic, historical, military, recreational, and seashores.[7] This sample is not generalizable to all park units. We visited 3 of these park units in person—(1) Independence National Historical Park, in Philadelphia; (2) George Washington Memorial Parkway, in Maryland, Virginia, and Washington, D.C.; and (3) Manassas National Battlefield Park, in Virginia—and interviewed officials with the remaining 18 park units by telephone or in person. See table 3 for a list of the parks we selected, along with selection criteria.

Table 3: Park Units Selected to Represent Each National Park Service Region, Different Amounts of Deferred Maintenance, Actions to Help Address Deferred Maintenance Needs, and Different Park Unit Types

Region	Park unit	Reason selected	Deferred maintenance amount as of the end of fiscal year 2015 (dollars)	Park unit type
Alaska	Denali National Park and Preserve	Largest amount of deferred maintenance in region	52,628,329	Parks
	Sitka National Historical Park	In lower half of deferred maintenance amounts in region	2,831,968	Historic
	Wrangell - St Elias National Park and Preserve	Actions to help address deferred maintenance needs	19,403,782	Parks
Intermountain	Yellowstone National Park	Largest amount of deferred maintenance in region	631,679,666	Parks
	Bent's Old Fort National Historic Site	In lower half of deferred maintenance amounts in region	416,821	Historic
	Grand Teton National Park	Actions to help address deferred maintenance needs	207,816,744	Parks

[7]In the Southeast Region, in order to include a National Seashore park unit, we selected Cumberland Island National Seashore (deferred maintenance of $9,078,118) for the category of deferred maintenance in the lower half of the region, even though its deferred maintenance was just above the threshold (deferred maintenance of $8,043,654).

Region	Park unit	Reason selected	Deferred maintenance amount as of the end of fiscal year 2015 (dollars)	Park unit type
Midwest	Ozark National Scenic Riverways	Largest amount of deferred maintenance in region	48,347,306	Rivers, Lakeshores, and Seashores
	River Raisin National Battlefield	In lower half of deferred maintenance amounts in region	721,584	Military
	Jefferson National Expansion Memorial	Actions to help address deferred maintenance needs	24,801,274	Monuments and Memorials
National Capital	National Mall	Largest amount of deferred maintenance in region	840,318,085	Monuments and Memorials
	Manassas National Battlefield Park	In lower half of deferred maintenance amounts in region	3,274,954	Military
	George Washington Memorial Parkway	Actions to help address deferred maintenance needs	473,738,117	Roads
Northeast	Gateway National Recreation Area	Largest amount of deferred maintenance in region	730,716,564	Trails and Recreation
	Upper Delaware Scenic and Recreational River	In lower half of deferred maintenance amounts in region	3,348,980	Rivers, Lakeshores, and Seashores
	Independence National Historical Park	Actions to help address deferred maintenance needs	49,103,481	Historic
Pacific West	Yosemite National Park	Largest amount of deferred maintenance in region	555,015,819	Parks
	Pu'ukoholā Heiau National Historic Site	In lower half of deferred maintenance amounts in region	753,040	Trails and Recreation
	Sequoia & Kings Canyon National Parks	Actions to help address deferred maintenance needs	160,357,481	Parks
Southeast	Blue Ridge Parkway	Largest amount of deferred maintenance in region	516,603,622	Roads
	Cumberland Island National Seashore	Park unit was selected to ensure diversity of park unit types[a]	9,078,118	Rivers, Lakeshores, and Seashores
	Great Smoky Mountains National Park	Actions to help address deferred maintenance needs	232,283,727	Parks

Source: GAO analysis of National Park Service information. | GAO-17-136

[a]We selected Cumberland Island National Seashore (deferred maintenance of $9,078,118) for the category of deferred maintenance in the lower half of the region in order to include a National Seashore park unit. Its deferred maintenance was just above the threshold of the lower half of deferred maintenance in the Southeast Region (deferred maintenance of $8,043,654).

We conducted this performance audit from July 2015 to December 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Top 100 National Park Service Park Units with Fiscal Year 2015 Deferred Maintenance

Table 4 shows the top 100 National Park Service park units ranked by the amount of deferred maintenance as of the end of fiscal year 2015.

Table 4: Top 100 National Park Service Units with Fiscal Year 2015 Deferred Maintenance

Number	Park unit	Fiscal year 2015 deferred maintenance (dollars in millions)
1	National Mall & Memorial Parks	840.3
2	Gateway National Recreation Area	730.7
3	Yellowstone National Park	631.7
4	Yosemite National Park	555.0
5	Blue Ridge Parkway	516.6
6	George Washington Memorial Parkway	473.7
7	Grand Canyon National Park	371.6
8	Natchez Trace Parkway	368.7
9	San Juan National Historic Site	330.5
10	Mount Rainier National Park	285.4
11	Golden Gate National Recreation Area	278.2
12	Great Smoky Mountains National Park	232.3
13	Grand Teton National Park	207.8
14	Colonial National Historical Park	203.1
15	Glacier National Park	179.8
16	Lake Mead National Recreation Area	172.8
17	Statue of Liberty National Monument	160.6
18	Sequoia & Kings Canyon National Parks	160.4
19	Death Valley National Park	155.0
20	Delaware Water Gap National Recreation Area	145.7
21	Olympic National Park	139.8
22	Chesapeake and Ohio Canal National Historical Park	134.3
23	Mojave National Preserve	131.8
24	Glen Canyon National Recreation Area	129.1
25	Point Reyes National Seashore	102.6
26	Boston National Historic Park	102.2
27	San Francisco Maritime National Historical Park	92.9
28	Shenandoah National Park	90.2
29	Big Bend National Park	86.8

Number	Park unit	Fiscal year 2015 deferred maintenance (dollars in millions)
30	Crater Lake National Park	84.0
31	Mammoth Cave National Park	82.1
32	Hawai'i Volcanoes National Park	78.9
33	Everglades National Park	78.2
34	Zion National Park	69.8
35	Acadia National Park	68.3
36	Rocky Mountain National Park	62.8
37	Cape Hatteras National Seashore	61.5
38	Joshua Tree National Park	60.7
39	Mesa Verde National Park	56.9
40	Dry Tortugas National Park	56.3
41	Petrified Forest National Park	55.7
42	Gettysburg National Military Park	55.3
43	Denali National Park & Preserve	52.6
44	Chickamauga and Chattanooga National Military Park	49.5
45	Independence National Historical Park	49.1
46	Ozark National Scenic Riverways	48.3
47	Cape Cod National Seashore	47.7
48	Rock Creek Park	47.7
49	Dinosaur National Monument	46.3
50	Carlsbad Caverns National Park	44.4
51	Canyonlands National Park	43.1
52	Whiskeytown National Recreation Area	43.0
53	Lava Beds National Monument	41.2
54	Cuyahoga Valley National Park	40.8
55	Theodore Roosevelt National Park	40.7
56	Bighorn Canyon National Recreation Area	39.4
57	Bryce Canyon National Park	37.1
58	Valley Forge National Historical Park	36.9
59	Steamtown National Historic Site	36.8
60	Chickasaw National Recreation Area	32.2
61	Boston Harbor Islands National Recreation Area	30.3
62	Big South Fork National River and Recreation Area	30.0
63	Governors Island National Monument	29.1

Number	Park unit	Fiscal year 2015 deferred maintenance (dollars in millions)
64	Perry's Victory & International Peace Memorial	28.9
65	Redwood National Park	28.9
66	Lake Roosevelt National Recreation Area	27.7
67	Indiana Dunes National Lakeshore	27.1
68	Fort Vancouver National Historic Site	25.3
69	Vanderbilt Mansion National Historic Site	25.0
70	Jefferson National Expansion Memorial	24.8
71	Assateague Island National Seashore	24.5
72	Lassen Volcanic National Park	23.8
73	Kalaupapa National Historical Park	23.5
74	Bandelier National Monument	23.2
75	Canaveral National Seashore	22.8
76	Haleakala National Park	22.3
77	North Cascades National Park	21.8
78	Gulf Islands National Seashore	21.5
79	Wolf Trap National Park for the Performing Arts	21.0
80	Colorado National Monument	20.5
81	Sleeping Bear Dunes National Lakeshore	20.0
82	Arches National Park	19.9
83	Hot Springs National Park	19.6
84	Wrangell-St Elias National Park & Preserve	19.4
85	Prince William Forest Park	19.0
86	Vicksburg National Military Park	18.6
87	Canyon de Chelly National Monument	18.4
88	Little Bighorn Battlefield National Monument	18.4
89	Fort Pulaski National Monument	18.0
90	New River Gorge National River	17.8
91	Badlands National Park	17.5
92	Big Cypress National Preserve	17.2
93	Great Basin National Park	16.9
94	Channel Islands National Park	16.7
95	Cape Lookout National Seashore	16.7
96	Eleanor Roosevelt National Historic Site	16.6
97	Oregon Caves National Monument	16.3

Number	Park unit	Fiscal year 2015 deferred maintenance (dollars in millions)
98	Saratoga National Historic Park	16.2
99	Voyageurs National Park	16.0
100	Isle Royale National Park	15.5

Source: GAO analysis of National Park Service information. | GAO-17-136

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Anne-Marie Fennell, (202) 512-3841 or fennella@gao.gov

Staff Acknowledgments

In addition to the contact named above, Elizabeth Erdmann (Assistant Director), Ying Long, Mick Ray, Anne Rhodes-Klein, and Michelle K. Treistman made key contributions to this report. Additional contributions were made by John Bauckman, Anna Brunner, Greg Campbell, Antoinette Capaccio, Scott Heacock, Carol Henn, Kim McGatlin, John Mingus, and Carmen Yeung.

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