Congressional Research Service
Informing the legislative debate since 1914

Deferred Maintenance of Federal Land Management Agencies: FY2013-FY2022 Estimates and Issues

Updated August 8, 2023

Congressional Research Service
https://crsreports.congress.gov
R43997

CRS REPORT
Prepared for Members and
Committees of Congress

Congressional Research Service
Informing the legislative debate since 1914

SUMMARY

R43997

August 8, 2023

Carol Hardy Vincent
Specialist in Natural Resources Policy

Deferred Maintenance of Federal Land Management Agencies: FY2013-FY2022 Estimates and Issues

Each of the four major federal land management agencies maintains tens of thousands of diverse assets, including roads, bridges, buildings, and water management structures. These agencies are the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (FWS), National Park Service (NPS), and U.S. Forest Service (FS). Congress and Administrations have continued to focus on the agencies' deferred maintenance and repair of these assets—in essence, the cost of any maintenance or repair that was not done when it should have been or was scheduled to be done. Deferred maintenance and repair sometimes is called the *maintenance backlog*.

In FY2022, the most recent year for which estimates are available, the four agencies had combined deferred maintenance estimated at $35.53 billion. This figure includes approximately $21.09 billion (59%) in deferred maintenance for NPS, $7.66 billion (22%) for FS, $4.77 billion (13%) for BLM, and $2.02 billion (6%) for FWS. Estimates reflect project costs.

From FY2013 to FY2022, total deferred maintenance for the four agencies increased in current dollars (i.e., amounts are not adjusted for inflation) by $15.95 billion (81%), from $19.58 billion in FY2013 to $35.53 billion in FY2022. The change among the four agencies differed considerably, from a $9.82 billion (87%) increase for NPS to relatively flat for FWS. BLM had the largest percentage increase—$4.03 billion (545%), and FS increased by $2.10 billion (38%) over the decade. In constant dollars (FY2022 base year), total deferred maintenance for the four agencies increased over the 10-year period by $8.15 billion, from $27.38 billion to $35.58 billion (30%). Again, the change among the four agencies varied greatly. Two agencies had overall increases: $3.74 billion (363%) for BLM and $5.33 billion (34%) for NPS. Two agencies had overall decreases: $0.79 billion (28%) for FWS and $0.11 billion (1%) for FS.

In both current and constant dollars, in each fiscal year NPS had the largest portion of total deferred maintenance and considerably more than any other agency. FS consistently had the second-largest share. In both current and constant dollars, FWS had the third-largest portion of total deferred maintenance through FY2019; thereafter, BLM assumed the third spot, and FWS has had the smallest share.

Congressional debate has focused on varied issues, including the level and sources of funds needed to reduce deferred maintenance, whether agencies are using existing funding efficiently, how to balance the maintenance of existing infrastructure with the acquisition of new assets, whether disposal of assets is desirable given limited funding, and the priority of maintaining infrastructure relative to other functions.

Deferred maintenance fluctuations over time are likely the result of many factors, among them the following:

- Agencies have altered methods of defining and quantifying the maintenance needs of their assets.
- Levels of funding for maintenance, including funding to address the maintenance backlog, vary from year to year. Economic conditions, including costs of services and products, also fluctuate.
- The asset portfolios of the agencies change, with acquisitions and disposals affecting the number, type, size, age, and location of agency assets.

The extent to which these and other factors affected changes in each agency's maintenance backlog over the past decade is not entirely clear. In some cases, comprehensive information is not readily available or has not been examined.

The Great American Outdoors Act (GAOA, P.L. 116-152) provided a new source of funding to address deferred maintenance, with up to $1.9 billion in mandatory spending for the four agencies (and the Bureau of Indian Education) for each of FY2021-FY2025. The agencies have cited GAOA appropriations as likely leading to less deferred maintenance, although the precise change is uncertain currently. Among other reasons, agencies continue to obligate and manage appropriations for projects, generally remove an asset's deferred maintenance from their total when work is completed, and are expected to receive appropriations through FY2025 and to continue work on some projects for several years thereafter. The impact of GAOA appropriations also likely depends on the agencies' effectiveness in managing appropriations.

Contents

Figures

Tables

Contacts

Introduction

Each of the four major federal land management agencies has maintenance responsibility for tens of thousands of diverse assets in dispersed locations. These agencies are the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS), all within the Department of the Interior (DOI), and the U.S. Forest Service (FS), within the Department of Agriculture. These agencies maintain assets to preserve their functioning and to repair and replace components as needed (see text box below).

Number and Type of Federal Land Management Agency Assets

The most recent available data from the four major federal land management agencies on assets they manage include the following:

- **Bureau of Land Management** (BLM) manages over 47,000 assets, including 4,446 buildings, 18,915 roads, and 23,641 other structures.
- **National Park Service** (NPS) manages over 75,000 assets, including 25,163 buildings; 3,661 housing units; 1,657 campgrounds; 6,244 trails; 1,767 wastewater systems; 1,578 other water systems; 5,664 unpaved roads; 11,961 paved roads; and 17,737 other assets.
- **Fish and Wildlife Service** (FWS) manages over 41,000 assets, including 5,300 buildings; 18,000 roads, bridges, and trails; 8,500 water management assets; and 9,500 other real property assets.
- **Forest Service** (FS) manages over 92,000 assets of the following types: 30,000 recreation sites; more than 39,000 buildings; more than 14,000 road bridges and trail bridges; more than 4,600 drinking water systems; more than 4,700 wastewater systems; and nearly 500 agency-owned dams. FS also manages nearly 163,000 miles of trails and more than 372,000 miles of roads, nearly 65,000 miles of which were operated for passenger vehicles.

Sources: For BLM, NPS, and FWS, U.S. Department of the Interior, Office of Budget, May 31, 2023. For FS, U.S. Department of Agriculture, FS, Legislative Affairs Office, May 9, 2023.

Notes: Data represent the most recent available: September 30, 2022, for NPS and FS; spring 2023 for BLM and FWS.

The infrastructure needs of the federal land management agencies have been a subject of federal and public attention for many years. Congressional and administrative attention has focused on *deferred maintenance and repairs*, defined as "maintenance and repairs that were not performed when they should have been or were scheduled to be and which are put off or delayed for a future period."[1] *Maintenance and repair* include a variety of activities intended to preserve assets in an acceptable condition, including activities such as preventive maintenance and replacement of parts, systems, and components. These terms do not include activities intended to expand the capacity of assets to allow them to serve different purposes or significantly increased needs.[2]

Deferred maintenance and repairs often are called the *maintenance backlog*. The federal land management agencies assert that continuing to defer the maintenance and repair of facilities accelerates the rate of these facilities' deterioration, increases their repair costs, and decreases their value. Similarly, the U.S. Government Accountability Office (GAO) has reported that "deferring needed maintenance and repair may ultimately result in significantly higher

[1] This definition is taken from the Statement of Federal Financial Accounting Standards 42: Deferred Maintenance and Repairs, p. 1442 (pdf) of the *FASAB Handbook of Federal Accounting Standards and Other Pronouncements, as Amended*, as of June 30, 2022, available on the website of the Federal Accounting Standards Advisory Board at https://files.fasab.gov/pdffiles/2022_%20FASAB_%20Handbook.pdf.

[2] Ibid., p. 1442.

maintenance, repair, and operating costs, or premature replacement."[3] Debate has focused on varied issues, including the level of funds needed to reduce deferred maintenance, whether agencies are using existing funding efficiently, the priority of deferred maintenance relative to regular maintenance, and the effect of a relatively new source of mandatory funding on deferred maintenance.[4] Other issues include how to balance the maintenance of existing infrastructure with the acquisition of new assets, whether disposal of assets is desirable given limited funding, and how much to prioritize maintaining infrastructure relative to other government functions.

These varying issues depend on reliable estimates of deferred maintenance. Thus, a key issue relates to the dollar amount of deferred maintenance and the reasons for fluctuations over time. This report focuses on these issues. It first provides agency deferred maintenance estimates for FY2022, the most recent fiscal year for which this information is available. It next discusses changes in deferred maintenance estimates over 10 years, FY2013-FY2022.[5] It then identifies some of the factors that likely contributed to these changes.

Deferred Maintenance Estimates

The agencies typically identify deferred maintenance through periodic condition assessments of facilities.[6] For FY2022, FS reported an annual deferred maintenance dollar total composed of estimates for 11 classes of assets. These classes include roads, buildings, trails, and drinking water systems, among others.[7] DOI agencies currently report annual deferred maintenance composed of estimates for four broad categories of assets: (1) roads, bridges, and trails; (2) irrigation, dams, and other water structures; (3) buildings; and (4) other structures. The "other structures" category includes a variety of assets (e.g., recreation sites and hatcheries).

For each of the 10 years covered by this report, FS reported the amount of deferred maintenance as a single figure. DOI agencies began reporting deferred maintenance as a single figure in FY2015.[8] Prior to FY2015, DOI agencies reported estimates as a range. For FY2014, for instance, the range had an "accuracy level of minus 15 percent to plus 25 percent of initial estimate."[9] According to DOI, a range was used because, "due to the scope, nature, and variety of

[3] U.S. Government Accountability Office (GAO), *Federal Real Property: Agencies Attribute Substantial Increases in Reported Deferred Maintenance to Multiple Factors*, GAO-23-106124, October 28, 2022, p. 2, at https://www.gao.gov/assets/gao-23-106124.pdf. Hereinafter cited as GAO-23-106124.

[4] P.L. 116-152, the Great American Outdoors Act, provided a new source of mandatory funding for deferred maintenance for FY2021-FY2025, as discussed in the "Issues in Analyzing Deferred Maintenance" section of this report.

[5] In this report, the 10-year period from FY2013 to FY2022 is sometimes referred to as a *decade*.

[6] For a brief description of Forest Service (FS) condition assessments, see U.S. Department of Agriculture (USDA), *2022 Agency Financial Report*, pp. 155-157, at https://www.usda.gov/sites/default/files/documents/fy-2022-agency-financial-report.pdf. For a brief description of U.S. Department of the Interior (DOI) condition assessments, see DOI, *Agency Financial Report 2022,* p. 139, at https://www.doi.gov/sites/doi.gov/files/doi-fy2022-afr-508c.pdf.

[7] For FY2022, the 11 asset classes were buildings, communication systems, dams, drinking water systems, heritage, minor constructed features, road bridges, roads, trail bridges, trails, and wastewater systems. This information was provided to CRS by the FS Legislative Affairs Office on April 6, 2023.

[8] The change to a single figure resulted from revisions to federal financial accounting standards that took effect in FY2015. See the Statement of Federal Financial Accounting Standards 42: Deferred Maintenance and Repairs, in the *FASAB Handbook of Federal Accounting Standards and Other Pronouncements, as Amended*, available on the website of the Federal Accounting Standards Advisory Board at https://files.fasab.gov/pdffiles/2022_%20FASAB_%20Handbook.pdf.

[9] DOI, *Agency Financial Report, FY2014*, p. 126, at https://www.doi.gov/sites/doi.gov/files/doi-fy-2014-afr.pdf.

the assets entrusted to DOI, as well as the nature of deferred maintenance itself, exact estimates are very difficult to determine."[10]

FS estimates of deferred maintenance included in this report for FY2013-FY2015 were taken from the agency's annual budget justifications to Congress.[11] The FS Legislative Affairs Office provided the Congressional Research Service (CRS) with estimates for FY2016-FY2022.[12] The DOI Budget Office provided CRS with a deferred maintenance range for each DOI agency for FY2013-FY2014. From these ranges, CRS calculated mid-range figures. For instance, DOI estimated NPS deferred maintenance for FY2014 at between $9.31 billion and $13.70 billion. The CRS-calculated mid-range figure is $11.50 billion.[13] This report reflects CRS's mid-range calculations for FY2013-FY2014 to facilitate comparison with FS estimates.[14] Since FY2015, the DOI Budget Office has provided CRS with a single estimate for each DOI agency, and those figures are used in this report. For both the DOI agencies and the FS, the figures represent deferred maintenance as of the end of the fiscal year (i.e., September 30).[15] Also, they generally reflect project costs.[16] Finally, totals shown in the body and in tables of this report may not add to 100% due to rounding.

FY2022

The four agencies had combined FY2022 deferred maintenance estimated at $35.53 billion.[17] The agencies had widely varying shares of the total. NPS had the largest portion, 59%, based on an estimate of $21.09 billion.[18] The FS share was 22% of the total, with an estimated deferred

[10] Ibid, p. 126.

[11] For instance, the FY2015 deferred maintenance estimate was taken from USDA, FS, *Fiscal Year 2017 Budget Justification*, p. 411, at https://www.fs.usda.gov/sites/default/files/fy-2017-fs-budget-justification.pdf.

[12] The FS Legislative Affairs Office provided the FY2022 estimate to CRS on April 6, 2023. The FY2022 estimate is the most recent available.

[13] CRS calculated this mid-range figure as the average of the high and low estimates.

[14] In addition, policy discussions of agency deferred maintenance commonly have referred to a single mid-range estimate, as shown in this report.

[15] The DOI Budget Office has provided deferred maintenance information to CRS periodically throughout the decade. DOI provided the FY2022 estimate to CRS on March 27, 2023. The FY2022 estimate is the most recent available. The DOI estimates provided to CRS generally are based on DOI financial reports and may differ from figures reported by the agencies independently. In particular, in some years the National Park Service (NPS) has independently reported estimates that differ from those reflected in agency financial reports. These NPS estimates have included certain concessioner owned or operated assets as well as assets that are not owned by the NPS but for which the agency has maintenance responsibility.

[16] Estimates do not reflect indirect costs, such as salaries and benefits for government employees.

[17] For comparison, the four agencies combined had FY2022 regular discretionary appropriations of roughly $14 billion and FY2022 total budget authority (including supplemental, emergency, and mandatory appropriations) of roughly $27 billion.

[18] Some NPS sources show a higher FY2022 deferred maintenance estimate. For instance, an estimate of $22.29 billion is contained in the NPS *Budget Justifications and Performance Information, Fiscal Year 2024*, p. SpecEx-2, at https://www.doi.gov/sites/doi.gov/files/fy2024-nps-greenbook.pdf-508.pdf. Similarly, the NPS website contains an estimate of $22.3 billion; see https://www.nps.gov/subjects/infrastructure/deferred-maintenance.htm. The NPS discussion in this memorandum is based on the estimate of $21.09 billion that CRS received from DOI on March 27, 2023, unless otherwise noted. Among other reasons, the NPS independently reported estimate reflects certain concessioner owned or operated assets as well as assets that are not owned by the NPS but for which the agency has maintenance responsibility, unlike the estimate CRS received from DOI on March 27, 2023. This explanation of the difference in the estimates was provided to CRS by the NPS Office of Legislative and Congressional Affairs on August 1, 2023.

For additional information on NPS deferred maintenance, see CRS Report R44924, *National Park Service Deferred Maintenance: Frequently Asked Questions*, by Laura B. Comay.

maintenance of $7.66 billion. The BLM portion was 13%, based on a backlog estimate of $4.77 billion. The FWS had the smallest share, 6%, reflecting the agency's deferred maintenance of $2.02 billion.

Each agency's deferred maintenance estimate for FY2022 consisted of various components. For FS, the single largest asset class was roads, which comprised 58% of the FY2022 total of $7.66 billion. The next largest asset class was buildings, which represented 21% of the FS FY2022 total. The next two largest asset classes were trails and road bridges, each with 6%. Seven other asset classes made up the remaining 9%.

For NPS, the largest asset category was roads, bridges, and trails, which comprised 33% of the FY2022 deferred maintenance total of $21.1 billion.[19] The buildings category comprised 30% of the total, followed by 26% for other structures, and 11% for water and wastewater systems.

Roads, bridges, and trails also reflected the largest share of BLM's FY2022 deferred maintenance, with 82% of the $4.77 billion total. Three other categories of assets had relatively small portions, specifically 8% for buildings; 5% for irrigation, dams, and other water structures; and 5% for other structures.

Roads, bridges, and trails made up the smallest portion of FWS's FY2022 $2.02 billion deferred maintenance total, unlike for the other agencies. Moreover, the four asset categories had roughly comparable portions, as follows: 28% for buildings; 26% for other structures; 25% for irrigation, dams, and other water structures; and 21% for roads, bridges, and trails.

Overview of Decade (FY2013-FY2022)

Changes in Estimates in Current and Constant Dollars

As shown in **Table 1** and **Figure 1**, in current dollars,[20] the total deferred maintenance estimate for the four agencies showed considerable variation over the 10-year period from FY2013 through FY2022. The total estimated deferred maintenance was at a low in FY2017 ($18.39 billion) and a high in FY2022 ($35.53 billion). From the start of the decade, deferred maintenance estimates increased overall by $15.95 billion (81%), from $19.58 billion in FY2013 to $35.53 billion in FY2022. Of the four agencies, the NPS had the largest dollar increase over the decade—$9.82 billion (87%).[21] However, BLM had the largest percentage increase—$4.03 billion (545%)—primarily from an increase in the roads, bridges, and trails category, beginning in FY2020.[22] The FS estimate increased by $2.10 billion (38%) over the decade. In contrast to the other three agencies, the FWS estimate was relatively flat, with a $0.01 billion (<1%) increase over the decade.

[19] This was a reduction over the 10-year period in the proportion for this category of NPS deferred maintenance. For instance, in FY2013, the proportion of NPS deferred maintenance for roads, bridges, and trails was 58%. Similarly, five years ago (FY2018) the proportion was 57%. More recently, the proportion declined from 57% in FY2020 to 46% in FY2021 to 33% in FY2022. The change from FY2021 to FY2022 reflected a decrease in the estimate of deferred maintenance of roads, bridges, and trails from $10.53 billion in FY2021 to $6.97 billion in FY2022. The reasons for these reductions are not readily available.

[20] "Current dollar" figures have not been adjusted for inflation.

[21] The four main NPS asset classes had differing amounts of increase of the $9.82 billion total over the 10-year period. The increases for each asset class were: $4.61 for buildings; $3.17 billion for other structures; $1.64 billion for irrigation, dams, and other water structures; and $0.40 billion for roads, bridges, and trails.

[22] Specifically, the largest increase in the Bureau of Land Management's (BLM) deferred maintenance estimate for roads, bridges, and trails occurred between FY2019 and FY2020—from $0.71 billion to $3.59 billion—primarily due to a change in estimation methodology for this asset category.

Within these overall changes, there was considerable variation among agency trends. The BLM estimate increased relatively gradually through FY2019, steeply from FY2019 to FY2020, and then more moderately through FY2022. The FWS estimate generally declined for the first three years, leveled off somewhat after FY2015, then increased in the last few years. The NPS estimate fluctuated, with a modest overall decrease, during the first half of the decade. It then increased relatively steeply through FY2021, followed by a decrease in FY2022. The FS estimate fluctuated between $5.00 billion and $5.56 billion through FY2019, then increased each subsequent year with the largest dollar and percent change from FY2021 to FY2022. **Figure 1** depicts the annual changes in current dollars for each agency and for the four agencies combined. Factors that might have contributed to the changes are discussed in the "Issues in Analyzing Deferred Maintenance" section, below.

As shown in **Table 2** and **Figure 2**, in FY2022 constant dollars,[23] the total deferred maintenance estimate for the four agencies increased over the course of the 10-year period by $8.15 billion, from $27.38 billion to $35.53 billion, or 30% (as compared with an 81% increase in current dollars). Two agencies had overall increases: $3.74 billion (363%) for BLM and $5.33 billion (34%) for NPS. Two agencies had overall decreases: $0.79 billion (28%) for FWS and $0.11 billion (1%) for FS.

As was the case for current-dollar estimates, the overall changes in constant dollars reflected various fluctuations. Two agencies, BLM and NPS, had relatively large overall increases in estimated deferred maintenance during the decade. For BLM, the sharpest increase occurred from FY2019 to FY2020, when the estimate more than tripled. However, the BLM estimate decreased in constant dollars in the last year of the period (from FY2021 to FY2022), essentially returning to the FY2020 level. For NPS, there was considerable fluctuation within the overall increase during the decade. More specifically, in constant dollars, the NPS estimate decreased overall from FY2013 to FY2019 (with a low in FY2016), increased relatively steeply from FY2020 to FY2021, then dropped in FY2022. The other two agencies, FWS and FS, had differing decreases in deferred maintenance over the decade. The FWS estimate declined considerably overall, with a constant-dollar low in FY2019 and annual increases thereafter. The FS declined modestly overall, with fluctuations between $6.25 billion and $7.77 billion in constant dollars. Four years exceeded $7.00 billion (FY2013, FY2016, FY2021, and FY2022). **Figure 2** depicts the annual changes in constant dollars for each agency and for the four agencies combined.

Table 1. Estimated Deferred Maintenance by Agency in Current Dollars, FY2013-FY2022

(in billions of current dollars)

Agency	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
BLM	0.74	0.74	0.75	0.81	0.84	0.96	1.09	4.09	4.38	4.77
FWS	2.01	1.53	1.33	1.40	1.38	1.30	1.33	1.46	1.76	2.02
NPS	11.27	11.50	11.73	10.93	11.18	11.92[a]	12.71	14.37	22.78	21.09[b]
FS	5.56	5.10	5.20	5.49	5.00	5.20	5.22	5.86	6.28	7.66
Total	**19.58**	**18.87**	**19.02**	**18.62**	**18.39**	**19.38**	**20.35**	**25.78**	**35.20**	**35.53**

Sources: Estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015 and were provided by FS for FY2016-FY2022. Estimates for Department of the Interior (DOI) agencies for FY2013-

[23] "Constant dollar" figures have been adjusted for inflation, with FY2022 as the base year.

FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office. DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

a. This figure differs from DOI's estimates for NPS in other years. It includes assets that typically are excluded from DOI's calculations for agency financial reports, such as assets that are not owned by the NPS but for which the agency has maintenance responsibility. Excluding these assets, the FY2018 estimate for NPS was $11.50 billion.

b. This figure differs from independent NPS estimates, including $22.29 billion in the agency's FY2024 budget justification (on page SpecEx-2, at https://www.doi.gov/sites/doi.gov/files/fy2024-nps-greenbook.pdf-508.pdf) and $22.3 billion on the agency's website (at https://www.nps.gov/subjects/infrastructure/deferred-maintenance.htm).

Table 2. Estimated Deferred Maintenance by Agency in Constant Dollars, FY2013-FY2022

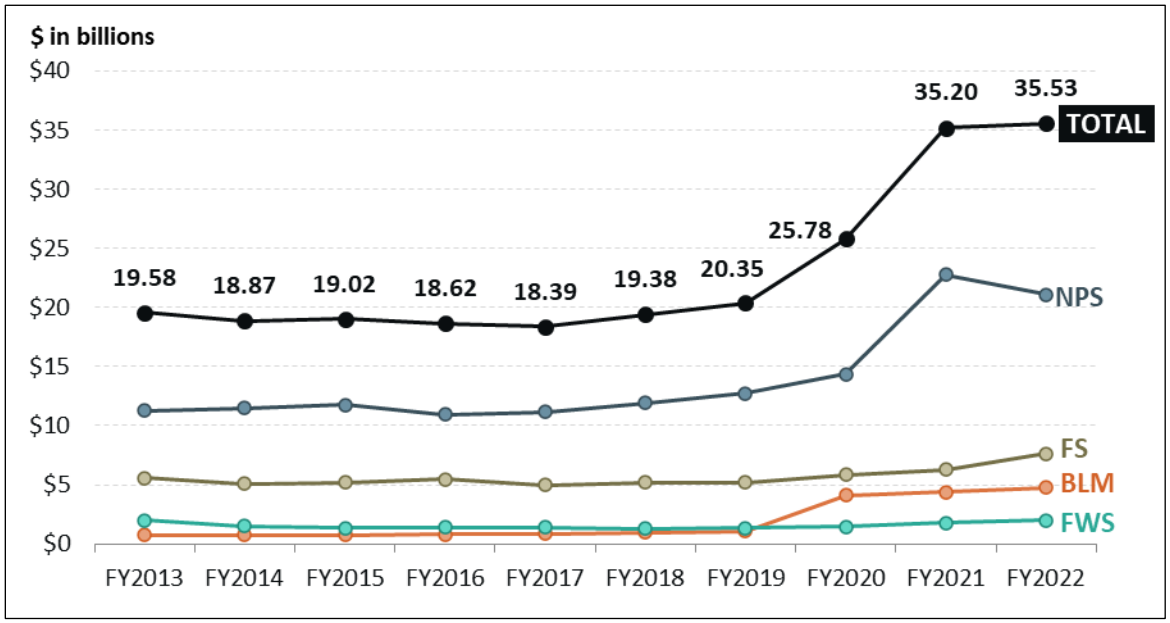
(in billions of FY2022 constant dollars)

Agency	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
BLM	1.03	1.01	1.00	1.07	1.09	1.20	1.31	4.78	4.95	4.77
FWS	2.81	2.09	1.78	1.86	1.79	1.63	1.59	1.71	1.99	2.02
NPS	15.76	15.68	15.68	14.50	14.51	14.91	15.23	16.81	25.73	21.09
FS	7.77	6.95	6.95	7.28	6.49	6.50	6.25	6.85	7.09	7.66
Total	**27.38**	**25.73**	**25.43**	**24.70**	**23.86**	**24.24**	**24.38**	**30.15**	**39.75**	**35.53**

Sources: *Current* dollar estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015 and were provided by FS for FY2016-FY2022. *Current* dollar estimates for Department of the Interior (DOI) agencies for FY2013-FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office; DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.
Current dollar estimates were converted to FY2022 constant dollars by CRS using U.S. Department of Commerce, Bureau of Economic Analysis, Table 3.9.4, "Price Indexes for Government Consumption Expenditures and Gross Investment," for nondefense structures.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

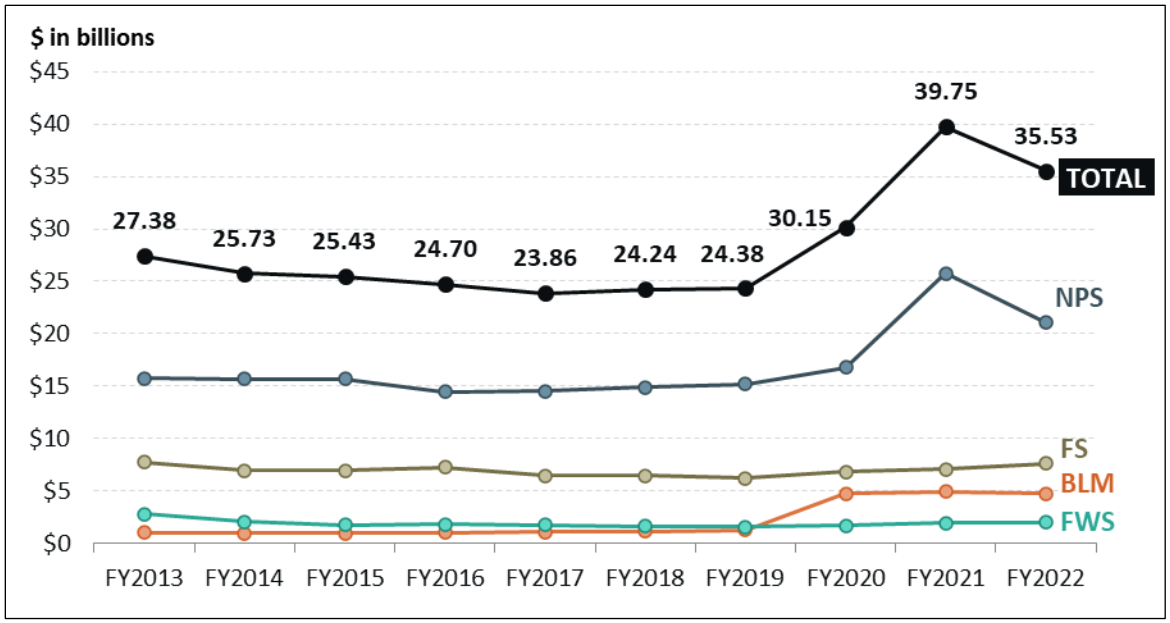
Figure 1. Change in Deferred Maintenance by Federal Land Management Agency in Current Dollars, FY2013-FY2022



Sources: Estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015 and were provided by FS for FY2016-FY2022. Estimates for Department of the Interior (DOI) agencies for FY2013-FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office. DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

Figure 2. Change in Deferred Maintenance by Federal Land Management Agency in Constant Dollars, FY2013-FY2022



Sources: *Current* dollar estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015, and were provided by FS for FY2016-FY2022. *Current* dollar estimates for Department of the

Interior (DOI) agencies for FY2013-FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office; DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.
Current dollar estimates were converted to FY2022 *constant* dollars by CRS using the U.S. Department of Commerce, Bureau of Economic Analysis, Table 3.9.4, "Price Indexes for Government Consumption Expenditures and Gross Investment" for nondefense structures.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

Agency Shares of Deferred Maintenance in Current and Constant Dollars

Throughout the decade, agency shares of the deferred maintenance totals differed, as shown in **Figure 3** and **Figure 4**. In both current and constant dollars, in each fiscal year NPS had the largest portion of total deferred maintenance and considerably more than any other agency. FS consistently had the second-largest share. FWS had the third-largest portion of total deferred maintenance in each year through FY2019, but since FY2020, FWS has had the smallest share. BLM assumed the third spot in FY2020, due to a relatively large increase in estimated deferred maintenance. Through FY2019, BLM had had the smallest portion of the total deferred maintenance, though the difference with the FWS had narrowed over the years.

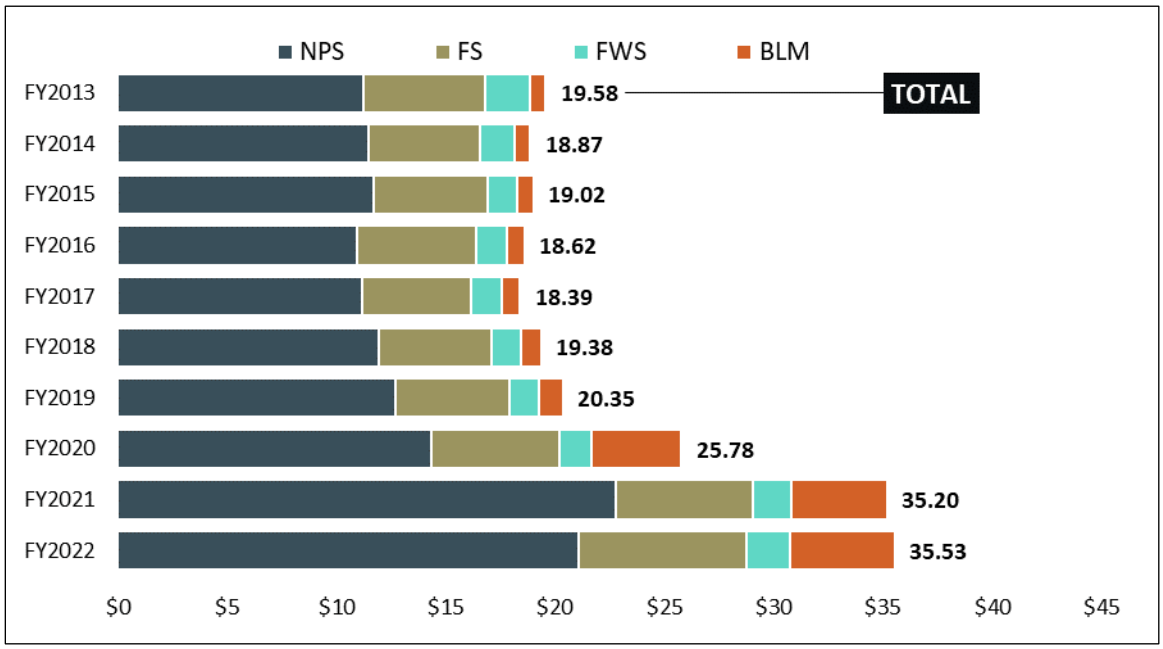
The NPS and BLM portions of the total annual deferred maintenance rose during the 10-year period. From FY2013 to FY2022, the NPS portion increased from 58% to 59% and the BLM portion increased from 4% to 13%. By contrast, both FS and FWS had declining shares over the decade. The FS share decreased from 28% in FY2013 to 22% in FY2022, and the FWS share dropped from 10% to 6%.[24]

During the decade, the asset class that included roads comprised the largest portion of the four agencies' combined deferred maintenance. Roads represented the largest portion of FS deferred maintenance from FY2013 to FY2022. Over the 10-year period, the NPS roads, bridges, and trails category had the highest share of the agency's deferred maintenance. Roads, bridges, and trails also was the biggest category of BLM's deferred maintenance from FY2013 to FY2022. For FWS, a decline in the estimate for roads, bridges, and trails resulted in a sizeable drop in overall FWS deferred maintenance beginning in FY2013 (as discussed in the "Issues in Analyzing Deferred Maintenance" section below). Accordingly, this category has not been the largest for the FWS for several years and was the smallest in each of FY2017-FY2022.

[24] An analysis of data over a longer period would provide additional perspective and, in some respects, a different one than presented in this report. For instance, in current dollars the four agencies had a combined deferred maintenance of $14.40 billion in FY1999, the first year for which estimates for all agencies are readily available. In contrast to the FY2013-FY2022 years covered in this report, in FY1999, FS had the largest share of the backlog—$8.90 billion, or 62% of the total. This was more than twice the NPS amount of $4.25 billion, or 29% of the total. The estimates for the Fish and Wildlife Service (FWS) and the BLM in FY1999 were $0.95 billion (7%) and $0.30 billion (2%), respectively. From FY1999 through FY2022, total deferred maintenance of the four agencies increased in current dollars by $21.13 billion (147%), from $14.40 billion to $35.53 billion. As compared with the 10-year period examined in this report, agencies had different amounts of change during this 24-year period. Specifically, estimates of deferred maintenance increased for the three DOI agencies: by $16.84 billion (396%) for NPS, $4.47 billion (1,490%) for BLM, and $1.07 billion (113%) for FWS. By contrast, the FS estimate declined by $1.24 billion (14%).

Figure 3. Deferred Maintenance Total by Federal Land Management Agency in Current Dollars, FY2013-FY2022

($ in billions)

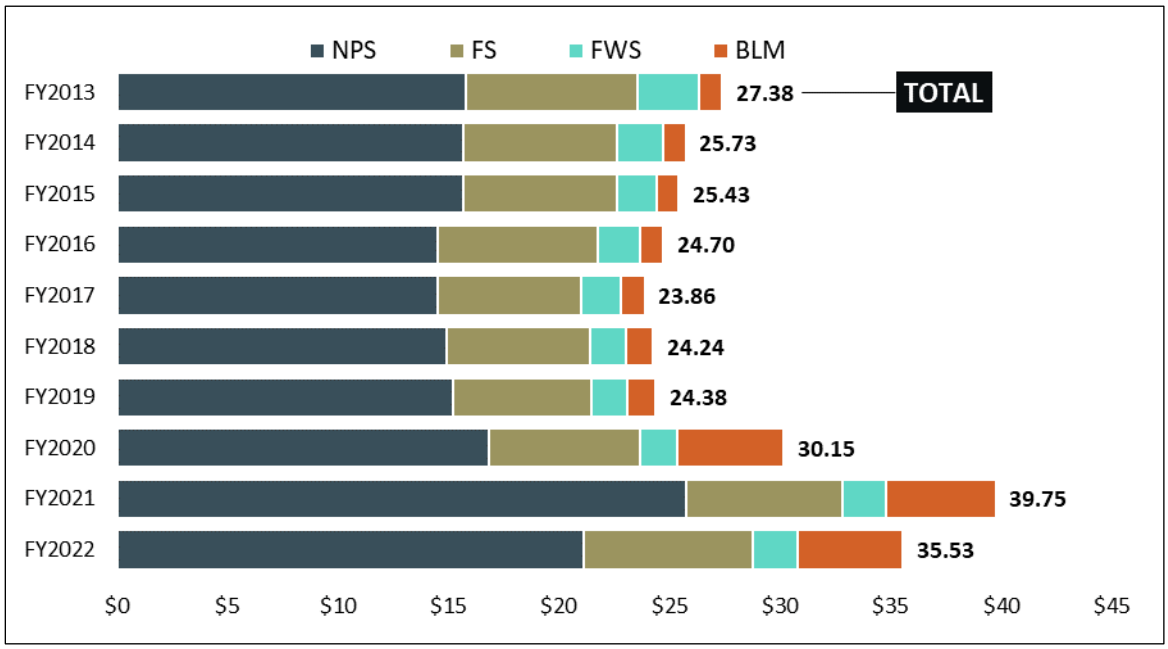


Sources: Estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015 and were provided by FS for FY2016-FY2022. Estimates for Department of the Interior (DOI) agencies for FY2013-FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office. DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

Figure 4. Deferred Maintenance Total by Federal Land Management Agency in FY2022 Constant Dollars, FY2013-FY2022

($ in billions)



Sources: *Current* dollar estimates for FS were taken from the annual budget justification to Congress for FY2013-FY2015 and were provided by FS for FY2016-FY2022. *Current* dollar estimates for Department of the Interior (DOI) agencies for FY2013-FY2014 were calculated by CRS based on deferred maintenance ranges provided by the DOI Budget Office; DOI agency estimates for FY2015-FY2022 were provided by the DOI Budget Office.

Current dollar estimates were converted to FY2022 *constant* dollars by CRS using the U.S. Department of Commerce, Bureau of Economic Analysis, Table 3.9.4, "Price Indexes for Government Consumption Expenditures and Gross Investment" for nondefense structures.

Notes: BLM = Bureau of Land Management; FWS = Fish and Wildlife Service; NPS = National Park Service; FS = Forest Service.

Issues in Analyzing Deferred Maintenance

Fluctuations in deferred maintenance estimates are likely the result of many factors. Deferred maintenance estimates might vary due to economic conditions that are not related to agency efforts or within the control of facility managers. If deferred maintenance estimates reflect costs of needed materials, fuel, supplies, and labor, then the cost of deferred maintenance might change as the costs of these products and services change. In the past, both FS and DOI have identified changes in some of these costs as affecting deferred maintenance. For instance, DOI has noted that NPS deferred maintenance estimates could fluctuate with inflation and market trends (e.g., construction-related).[25] More recently, supply chain issues related to the Coronavirus Disease 2019 (COVID-19) pandemic may have contributed to increased estimates of deferred maintenance. Additionally, federal land management agencies and other observers have cited

[25] Information provided to CRS by the DOI Budget Office on February 27, 2015. Also, the FS partly attributed an earlier increase (in current dollars) in the deferred maintenance estimate for roads from FY2006 to FY2007 to rises in fuel prices and other associated construction costs. See USDA, FS, *Fiscal Year 2009 President's Budget, Budget Justification*, pp. Special Exhibits, 15-18, at https://www.fs.usda.gov/sites/default/files/fy2009-forest-service-budget-justification.pdf.

changing levels of visitation as affecting deferred maintenance, with increased visitation contributing to maintenance needs.[26]

Other factors that may contribute to fluctuations in deferred maintenance estimates include data collection and estimation methods, levels of funding, and asset portfolios, as discussed below. The extent to which these and other factors affected year-to-year changes in any one agency's maintenance backlog during the decade is unclear, in part because comprehensive information is not readily available in all cases or has not been examined. Therefore, the data in this report may not fully explain the changes in deferred maintenance estimates over time.

Methodologies Used by Agencies

Methods for assessing the condition of assets and estimating deferred maintenance have varied over the years. Examples provided below pertain to NPS construction, roads for the four agencies, and other factors. As a result of these and other methodological changes, it is unclear what portion of the change in deferred maintenance estimates over time is due to the addition of maintenance work that was not done on time and what portion may be due to changes in methods of assessing and estimating deferred maintenance.

NPS Construction-Related Costs

The overall increase in NPS deferred maintenance estimates since FY2019 has been attributed in part to a change in agency estimation methods. Through FY2018, the agency had included only construction costs in its estimates, according to the NPS. Beginning in FY2019, NPS included the "full scope of construction-related costs, like design and construction management," to align with industry standards and other agency calculations.[27] DOI similarly attributed an $8.8 billion increase in the Department's total deferred maintenance from FY2020 to FY2021 to "the addition of design, compliance, and construction management costs" to NPS estimates, according to a 2023 GAO report.[28]

Roads

During the past decade, the four federal land management agencies altered methods for estimating the deferred maintenance of roads, as shown in the following examples. A BLM change in road methodology led to an increase in the deferred maintenance for roads, bridges, and trails category of $2.89 billion (408%), from $0.71 billion in FY2019 to $3.59 billion in FY2020. The increase in this category mirrors the roughly four-fold increase in BLM's total deferred maintenance from FY2019 to FY2020. BLM's methodology change stemmed from a Department of Transportation determination that BLM's methodology differed from that used by most other agencies, according to DOI and BLM.[29] BLM had been focusing on discrete road deficiencies

[26] For instance, regarding DOI, see GAO-23-106124, p. 6, at https://www.gao.gov/assets/gao-23-106124.pdf. Regarding NPS, see Nicolas D. Loris, *Tackling the Enormous Deferred Maintenance Backlog for America's National Parks*, The Heritage Foundation, Backgrounder No. 3500, June 9, 2020, p. 2, at https://www.heritage.org/environment/report/tackling-the-enormous-deferred-maintenance-backlog-americas-national-parks.

[27] NPS, Infrastructure, "Frequently Asked Questions," at https://www.nps.gov/subjects/infrastructure/faqs.htm. Another NPS source indicates that the agency had been including non-construction costs in estimating deferred maintenance for transportation assets, but not for other categories of assets. See NPS, "National Park Service Modernizes Facility Management Practices; Updates How Repair Needs Are Calculated," news release, May 9, 2022, at https://www.nps.gov/orgs/1207/05-09-2022-dm-r.htm.

[28] GAO-23-106124, p. 7, at https://www.gao.gov/assets/gao-23-106124.pdf.

[29] CRS consultation with DOI and BLM staff on June 16, 2021.

(e.g., potholes) rather than on overall road condition and performance. Beginning in FY2020, BLM implemented the Pavement Surface Evaluation Rating (PASER) system, regarded as an industry standard tool for assessing overall road condition.[30] BLM made related changes to evaluate every surface road (rather than a subset) and to enter data into the new system in a timelier way. BLM's FY2020 estimate of deferred maintenance of roads was based on modeling and was expected to be updated in FY2021 following actual road assessments. This update could contribute to additional changes in the estimates, according to DOI and BLM.[31] In FY2022—the most recent year available—the deferred maintenance estimate for BLM roads, bridges, and trails was $3.92 billion.

The other three land management agencies changed road evaluation methods in earlier years. The FY2015 FWS budget justification states that

> [i]n 2012, Service leadership concluded that condition assessment practices and policies in place at that time were unintentionally producing higher than appropriate [deferred maintenance (DM)] cost estimates for some types of constructed real property. DM estimates for our extensive inventory of gravel and native surface roads are a major contributor to this challenge. In response, the FWS is refining its practices and procedures to improve consistency of DM cost estimates and their use in budget planning. Significant reductions in the DM backlog are resulting from this effort.[32]

Subsequent FWS budget justifications have elaborated on changes to methods of estimating deferred maintenance for roads. For instance, the FY2017 document states, "deferred maintenance estimates for our extensive inventory of roads were further classified to emphasize public use and traffic volume. As a result, minimally used administrative roads are now generally excluded from contributing to deferred maintenance backlog calculations."[33] Of note is that the roads, bridges, and trails category of FWS deferred maintenance declined (by $1.17 billion, 80%) in the past several years in current dollars, from $1.46 billion in FY2012 to $0.29 billion in FY2020. This decline is reflected in the smaller FWS deferred maintenance total for FY2020 ($1.46 billion). The FWS change in the method of estimating deferred maintenance for roads, bridges, and trails appears to be a primary reason for the decreased estimate for this category and total FWS deferred maintenance over the 10-year period.

Similarly, FS attributes variations in deferred maintenance partly to changes in the methodology for estimating roads.[34] For example, in FY2013 and FY2014, FS adjusted the survey methodology for passenger-car roads, with the goal of providing more accurate estimates of the roads backlog.[35] The FS estimate of deferred maintenance for roads fell in current dollars by $0.84 billion (22%) from FY2012 to FY2014, from $3.76 billion to $2.92 billion.[36] The extent to

[30] See DOI, BLM, *Budget Justifications and Performance Information, Fiscal Year 2020*, p. VI-127, at https://www.doi.gov/sites/doi.gov/files/uploads/fy2020_blm_budget_justification.pdf.

[31] Information in this paragraph was derived from a CRS consultation with DOI and BLM staff on June 16, 2021. In addition, in a 2022 report, GAO noted that DOI attributed the roughly $3 billion increase in BLM deferred maintenance from FY2019 to FY2020 to a new system for evaluating the conditions of roads. See GAO-23-106124, p. 7, at https://www.gao.gov/assets/gao-23-106124.pdf.

[32] DOI, FWS, *Budget Justifications and Performance Information, Fiscal Year 2015*, p. NWR-30, at https://www.fws.gov/media/fiscal-year-2015-fish-and-wildlife-service-presidents-budget.

[33] DOI, FWS, *Budget Justifications and Performance Information, Fiscal Year 2017*, p. NWRS-36, at https://www.fws.gov/media/fiscal-year-2017-fish-and-wildlife-service-presidents-budget.

[34] Phone communication between CRS and FS staff on March 17, 2015, and FS annual budget justifications.

[35] Information provided to CRS by the FS Legislative Affairs Office on March 13, 2015.

[36] Other years during the decade had varying amounts of increase or decrease in the roads backlog related to prior years.

which the drop is attributable to changes in methodology, including regarding the types of roads reflected in the estimates, is not certain.[37]

Finally, in FY2014, NPS first reflected deferred maintenance for unpaved roads as part of its total deferred maintenance estimate (in agency financial reports). The agency's deferred maintenance for roads, bridges, and trails increased in current dollars by $0.26 billion (4%) from FY2013 to FY2014, from $6.57 billion to $6.83 billion. DOI cited the inclusion of unpaved roads as among the reasons for changes in NPS deferred maintenance estimates,[38] although the extent of the effect on NPS estimates is unclear.

Other Factors

Broader changes in methodology for assessing asset condition occurred during the decade. For example, DOI agencies had been using an accuracy range of -15% to +25% to derive the estimated range of deferred maintenance for industry-standard assets.[39] The change from a range to a single estimate beginning in FY2015 could have affected DOI deferred maintenance estimates as reflected in this report.[40]

As another example, agencies have enhanced efforts to define and quantify the maintenance needs of their assets generally. Efforts have included collecting comprehensive information on the condition of facilities and maintenance and improvement needs. For instance, the first cycle of comprehensive condition assessments of NPS industry-standard facilities was completed at the end of FY2006.[41] However, NPS continues to develop business practices to estimate the maintenance needs of nonindustry standard assets. Nonindustry standard assets make up about a quarter of NPS's total asset portfolio. This category presents particular challenges because it includes some unique asset types.[42]

[37] More recently, the FS again modified its method of estimating deferred maintenance of roads, in response to a 2017 audit report that expressed concerns about the random sampling approach that was in use. The change was noted in USDA, FS, *Fiscal Year 2020 Budget Justification*, p. 87, at https://www.fs.fed.us/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf. For a discussion of the audit findings on the random sampling method, see USDA, Office of Inspector General, Audit Report 08601-0004-31, *Forest Service Deferred Maintenance*, May 2017, pp. 27-28, at https://www.oversight.gov/sites/default/files/oig-reports/USDAOIG/08601-0004-31.pdf. Hereinafter cited as USDA OIG 2017 FS Audit.

Additional examples of FS changes in roads methodology that appear to have affected deferred maintenance estimates pertain to years earlier than the 10-year period reflected in this report (e.g., changes first reflected in estimates for FY2007 and FY2008).

[38] Information provided to CRS by the DOI Budget Office on February 27, 2015.

[39] See, for example, DOI, *Agency Financial Report FY 2014*, p. 126, at https://www.doi.gov/pfm/afr/2014.

[40] In addition to changes in methodology, the accuracy and consistency in agency application of estimation methods and in reporting on deferred maintenance also may affect estimates. For instance, the 2017 audit of FS deferred maintenance (for FY2014 and FY2015) identified inaccuracies and inconsistencies in some areas. See USDA OIG 2017 FS Audit, pp. 27-31, at https://www.oversight.gov/sites/default/files/oig-reports/USDAOIG/08601-0004-31.pdf.

[41] Industry-standard assets include buildings, housing, campgrounds, trails, unpaved roads, water utilities, and wastewater utility systems. See DOI, NPS, *Budget Justifications and Performance Information, Fiscal Year 2019,* pp. ONPS-57-58, at https://www.nps.gov/aboutus/upload/FY2019-NPS-Budget-Justification.pdf.

[42] NPS categorizes 17,737 of its total assets as non-industry standard (of a 75,432 total assets), including utility systems, dams, constructed waterways, marinas, aviation systems, railroads, ships, monuments, fortifications, towers, interpretive media and amphitheaters. The agency indicates that "NPS continues to improve the data quality for this subset of the portfolio." See DOI, NPS, *Budget Justifications and Performance Information, Fiscal Year 2024,* p. SpecEx-2, at https://www.doi.gov/sites/doi.gov/files/fy2024-nps-greenbook.pdf-508.pdf.

Funding

Opinions differ on the extent to which increased, level, or decreased funding should be provided to deferred maintenance. There also are varying views on the types of funds (e.g., discretionary or mandatory) and sources of funds (e.g., General Treasury or special funds) that might be best suited to address the maintenance backlog. Evaluations of the sufficiency of federal funding for deferred maintenance, and the appropriate types and sources of funding, may be hindered by the lack of total funding figures and by the incomparability of appropriations and deferred maintenance estimates.

It is unclear how much total funding is provided each year for deferred maintenance for the four agencies because annual presidential budget requests, appropriations laws, and supporting documents typically do not aggregate funds from all sources for deferred maintenance. During the 10-year period examined, portions of deferred maintenance funding (for one or more of the four agencies) have come from agency maintenance and construction accounts, recreation fees, the Highway Trust Fund (Department of Transportation) for roads, the Timber Sale Pipeline Restoration Fund (for FS and BLM), NPS concession fees, the NPS Centennial Challenge account, and the National Parks and Public Land Legacy Restoration Fund, among other accounts.

In addition, funding figures are not directly comparable to deferred maintenance estimates because the estimates are limited to project costs and thus do not reflect indirect costs, such as salaries and benefits for government employees. Annual appropriations figures typically reflect indirect costs.

Great American Outdoors Act, P.L. 116-152

Recent Congresses debated whether to enact additional appropriations for deferred maintenance needs of agencies. In P.L. 116-152, the Great American Outdoors Act (GAOA), Congress established a new fund with mandatory spending authority for deferred maintenance. Mandatory funding was intended to provide more predictability of funding for agencies to plan and engage in activities to address maintenance needs. The new fund—the National Parks and Public Land Legacy Restoration Fund—provides funding for the four major federal land management agencies and the Bureau of Indian Education. The fund is to receive certain revenues from energy development on federal lands, for each of FY2021-FY2025, up to $1.90 billion annually. For use of the annual deposits to the fund, NPS is to receive the largest share—70%—according to GAOA. Under the law, the other agency shares are 15% for FS and 5% for each of BLM, FWS, and the Bureau of Indian Education. At least 65% of each agency's funds are to be used for nontransportation projects.[43] Congress first provided funding under this authority for FY2021, and has since provided funding for FY2022 and FY2023.[44] For each year, the appropriation was approximately $1.9 billion.

[43] For additional information on the operation of the fund, see CRS In Focus IF11636, *The Great American Outdoors Act (P.L. 116-152)*, by Carol Hardy Vincent, Laura B. Comay, and Bill Heniff Jr.

[44] This funding has been provided in the annual appropriations laws for Interior, Environment, and Related Agencies. See, for example, the appropriations law for FY2023 (P.L. 117-328, Division G, §431) and the accompanying explanatory statement, which allocated the funding among the agencies and identified specific projects that would receive funding.

Impacts of Funding

Consistent and comprehensive information on the effect of federal funding on the condition of facilities and deferred maintenance over the decade does not appear to be available. For instance, information based on the facilities condition index (FCI) seems to be incomplete or inconsistent in agency budget justifications.[45] In some cases, budget justifications either do not provide FCI figures for assets or provide figures only for certain years. In other cases, it is not clear whether the FCI figures cover all agency assets or a subset of the assets. Together, the budget justifications present a mix of FCI information using quantitative measurements; percentage measurements; and qualitative statements, such as that a certain number or percentage of structures are in "good" condition, but without corresponding FCI figures.

Although comprehensive information on amounts and impacts of deferred maintenance funding may not be readily available, audits of agency programs, Administration budget requests, and other sources at times have asserted a need for increased appropriations to reduce agency backlogs.[46] Some agencies have contended that insufficiency of funding for regular maintenance (e.g., annual maintenance) has led to increases in deferred maintenance.[47] For instance, DOI has asserted that "the total backlog will continue to grow if there is a gap in the funding of annual maintenance needs. When annual funding to address routine and cyclic maintenance falls short of what is necessary, it leads to asset degradation."[48] Similarly, FWS has attributed increases in the backlog over time to "inadequate investments in life cycle infrastructure management and base maintenance."[49]

In the past, agencies sometimes have attributed reductions in deferred maintenance (or slower rates of increase) in part to additional appropriations, such as those provided in the American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5).[50] The FY2016 FWS budget justification noted the ARRA funding as one factor contributing to a reduction in the backlog

[45] The facilities condition index (FCI) is an accepted industry measure of the condition of constructed assets at a specific point in time. It serves as a performance measure for condition improvement. It is the ratio of the deferred maintenance to the current replacement value of the asset. As a general guideline, a facility with an FCI less than 0.15 is considered to be in acceptable condition. See DOI, BLM, *Budget Justifications and Performance Information, Fiscal Year 2024*, p. V-136, at https://www.doi.gov/sites/doi.gov/files/fy2024-blm-greenbook.pdf-508.pdf.

[46] For instance, a 2017 audit report asserted that reducing the FS maintenance backlog "will require devoting the necessary resources over an extended period of time," and that "increasing wildfire management costs have left the agency without extra funding to concentrate on reducing deferred maintenance." See USDA OIG 2017 FS Audit, p. 6. As another example, the *Interior Budget in Brief* for FY2021 (and earlier fiscal years) set out a proposal for the establishment of a "Public Lands Infrastructure Fund," with revenues from energy development on federal lands, to be used for deferred maintenance needs of the four agencies (as well as the Bureau of Indian Education). See DOI, *The Interior Budget in Brief, Fiscal Year 2021*, p. DH-37, at https://www.doi.gov/budget/appropriations/2021https://www.doi.gov/sites/doi.gov/files/uploads/2020_highlights_book.pdf. A similar proposal was enacted by the 116th Congress in P.L. 116-152, the Great American Outdoors Act, as discussed in the report.

[47] GAO-23-106124, p.5, at https://www.gao.gov/assets/gao-23-106124.pdf. This report focused on four federal departments/agencies, including DOI.

[48] DOI, Office of the Secretary, Questions for the Record: Senate Energy and Natural Resources, Subcommittee on National Parks, Hearing on Implementation of the Great American Outdoors Act, February 9, 2022, p. 8 (pdf), June 1, 2022, at https://www.doi.gov/sites/doi.gov/files/june-2022-qfr.pdf.

[49] FWS, Infrastructure Management, at https://www.fws.gov/program/infrastructure-management.

[50] The information was provided to CRS by the DOI Budget Office on February 27, 2015, and by the FS Legislative Affairs Office on March 13, 2015. ARRA provided emergency funding to the agencies for FY2009, with the monies available for obligation through September 30, 2010. Some of the projects were completed in subsequent fiscal years. Under the law, the four agencies received $1.99 billion in appropriations for various accounts and purposes (excluding funding for wildland fire management), although the portion used for deferred maintenance is not clear. These funds were in addition to regular appropriations for FY2009.

following a high in FY2010, for instance.[51] Agencies also sometimes have anticipated decreases in deferred maintenance as a result of increased appropriations. Most recently, federal land management agencies, among others, have cited GAOA appropriations as likely leading to less deferred maintenance. For instance, the FS claimed that "once [GAOA] projects identified through 2022 are completed, over $550 million in deferred maintenance will be addressed at over 2,000 recreation sites, 100 buildings, 16,500 miles of trail, and 6,500 miles of road."[52] Also, DOI claimed that GAOA funding "will help to retire a significant amount of DM&R [deferred maintenance and repair], helping to slow the growth of the backlog."[53]

The effect of GAOA appropriations for FY2021-FY2023 on the maintenance backlog of the federal land management agencies is not clear. This is because agencies continue to obligate funding for projects and manage the work on projects that received appropriations. Agencies generally do not remove an asset's deferred maintenance from the total estimate until the work is completed.[54] Also, under GAOA, up to $1.9 billion will be available for each of FY2024 and FY2025, and work on funded projects likely will continue for several years thereafter due to the complexity of some construction projects.[55]

The impact of GAOA appropriations on deferred maintenance estimates also is likely to depend on the agencies' effectiveness in managing these appropriations. A March 2022 report by the DOI Office of Inspector General identified various actions DOI completed to implement GAOA. However, the report stated that at that time, DOI had not taken two particular actions—development of a strategy to maximize the impact of GAOA funding and development of best management practices for deferred maintenance projects.[56] According to the Inspector General, "without a documented strategy or best management practices for deferred maintenance, the Department and its bureaus are at risk of repeating the same practices that led to the continued increase in deferred maintenance. In addition, without a sound, documented strategy, the Department may face other risks—for example, financial, contracting, or logistical risks—as it spends the resources allocated to it."[57] Accordingly, the Inspector General recommended that DOI develop, document, and implement an effective strategy for GAOA funding and develop best management practices for deferred maintenance projects. In response, in October 2022, DOI issued a strategic plan for GAOA funding.[58] About the same time, the DOI Inspector General also

[51] DOI, FWS, *Budget Justifications and Performance Information, Fiscal Year 2016*, p. NWR-31, at https://www.fws.gov/media/fiscal-year-2016-fish-and-wildlife-service-presidents-budget. The FWS deferred maintenance estimate for FY2010 was $3.02 billion (in current dollars). Other information provided to CRS by DOI (for NPS) and by FS attributed reductions or slower growth of deferred maintenance to ARRA funding.

[52] USDA, FS, *Fiscal Year 2024 Budget Justification*, p. 30a-175, at https://www.fs.usda.gov/sites/default/files/FS-FY24-Congressional-Budget-Justification.pdf.

[53] DOI, Frequently Asked Questions (FAQs), Deferred Maintenance and Repair (DM&R), "Why does the DM&R backlog continue to grow?", at https://www.doi.gov/gaoa-faqs#DM&R%20FAQs.

[54] Ibid, "Does the DM&R backlog account for projects that are in progress?"

[55] DOI, Frequently Asked Questions (FAQs), Great American Outdoors Act National Parks and Public Land Legacy Restoration Fund (GAOA LRF), "When will GAOA LRF funding run out?," at https://www.doi.gov/gaoa-faqs#DM&R%20FAQs.

[56] DOI, Office of Inspector General, *The U.S. Department of the Interior Needs a Strategy to Coordinate Implementation of the Great American Outdoors Act*, Report No. 2021-CR-031, pp. 3-4, March 2022, at https://www.oversight.gov/sites/default/files/oig-reports/DOI/FinalInspectionGAOATaskForcePublic.pdf.

[57] Ibid, p. 6.

[58] DOI, *Great American Outdoors Act, National Parks and Public Land Legacy Restoration Fund, Strategic Plan*, October 21, 2022, at https://www.doi.gov/sites/doi.gov/files/gaoa-lrf-strategic-plan-2022.10.21-final-508.pdf.

included DOI deferred maintenance and GAOA funding in its FY2022 report on major management and performance challenges.[59]

Alternatives to Funding

There are differing opinions on the extent to which non-federal funding should be used for deferred maintenance. There also are varying views on the types of any non-federal funding that might be suitable for addressing the maintenance backlog. Some observers and stakeholders have identified ways to potentially address deferred maintenance without solely relying on federal funding. For instance, a 2016 GAO report on NPS deferred maintenance listed various actions that NPS is taking at some park units. They include using donations, volunteers, and partnerships to assist with maintenance; leasing assets to nonfederal parties in exchange for rehabilitation or maintenance; and partnering with states in seeking transportation grants.[60] As another example, a 2016 report by a research institute set out options including outsourcing certain agency operations to the private sector, establishing a franchising system for new park units, and disposal of assets.[61] A more recent research institute analysis proposed streamlining environmental assessments under the National Environmental Policy Act to expedite work on deferred maintenance; setting entrance fees at NPS units at market rate to generate additional revenue that could be retained and used for deferred maintenance;[62] charging foreign visitors to federal lands higher fees because they do not pay taxes; enhancing private philanthropy, including through corporate partnerships; expanding opportunities for concessions; and selling federal land.[63]

Asset Number, Condition, Acquisition, and Disposal

The asset portfolios of the four agencies vary considerably in terms of number, type, size, age, and location of agency assets. Although comprehensive data on these variables over the past decade are not readily available, it is likely that they affect agency maintenance responsibilities and maintenance backlogs. For instance, NPS has more assets than the other DOI agencies, a sizeable portion of which were constructed before 1900 or in the first half of the 20th century. The 2016 GAO report assessed various characteristics of the NPS maintenance backlog, including the age of park units. The agency determined that of the total FY2015 NPS deferred maintenance,[64]

[59] DOI, Office of Inspector General, Inspector General's Statement Summarizing the Major Management and Performance Challenges Facing the U.S. Department of the Interior, Fiscal Year 2022, at https://www.doioig.gov/reports/top-management-challenges/inspector-generals-statement-summarizing-major-management-and-6. The report states, on page 4, that with the additional GAOA funding, "DOI will likely face challenges ensuring it can promptly deploy the funding, prioritize projects, maintain staffing and resource capacity, and establish sufficient oversight. We are performing work to assess the NPS and BIE [Bureau of Indian Education] processes for addressing the deferred maintenance."

[60] GAO, *National Park Service: Process Exists for Prioritizing Asset Maintenance Decisions, but Evaluation Could Improve Efforts*, GAO-17-136, pp. 34-37, December 2016, at https://www.gao.gov/products/GAO-17-136. Hereinafter cited as GAO 2016 NPS Asset Maintenance Report.

[61] Property and Environment Research Center, *Breaking the Backlog, 7 Ideas to Address the National Park Deferred Maintenance Problem*, February 2016, at https://www.perc.org/wp-content/uploads/old/pdfs/BreakingtheBacklog_7IdeasforNationalParks.pdf.

[62] This proposal applies to recreation fees under the Federal Lands Recreation Enhancement Act. For an overview of this authority, see CRS In Focus IF10151, *Federal Lands Recreation Enhancement Act: Overview and Issues*, by Carol Hardy Vincent.

[63] Nicolas D. Loris, *Tackling the Enormous Deferred Maintenance Backlog for America's National Parks*, The Heritage Foundation, Backgrounder No. 3500, June 9, 2020, at https://www.heritage.org/sites/default/files/2020-06/BG3500.pdf.

[64] The total FY2015 deferred maintenance estimate cited by GAO was $11.9 billion. This figure is different than the (continued...)

park units established over 100 years ago had the largest share (32%). Further, park units established more than 40 years ago collectively accounted for 88% of all NPS deferred maintenance.[65] Moreover, some NPS assets are in urban areas or are iconic structures, which could affect maintenance costs.[66] More recently, GAO reported that DOI officials cited "aging assets that are more expensive to repair and maintain as time goes on," together with increasing visitation, as accelerating degradation of assets and associated increases in maintenance and repair needs.[67]

The effect of changes in agency asset portfolios on deferred maintenance is not entirely clear. However, it could be asserted that the acquisition of assets, such as a sizeable number of large or iconic assets in relatively poor condition, would increase regular maintenance needs and the backlog, if maintenance is not performed when scheduled. For instance, the NPS contended that "when parks are created or when new land is acquired, the properties sometimes come with facilities that are in unacceptable condition or are unstable for the park or partner organizations.... When facilities are excess to the park ... they also contribute to the deferred maintenance backlog."[68] Similarly, it could be asserted that disposal of assets, such as a large quantity of old assets in poor condition, could reduce deferred maintenance. For example, a 2017 audit of the FS recommended that the agency "establish goals and milestones to aggressively reduce the number of unused or underused assets in the agency's portfolio" as one way to reduce maintenance backlogs given limited resources.[69]

Agencies examine whether to retain assets in their current condition or dispose of some assets, as the following examples indicate. FS has sought to reduce its maintenance backlog by conveying unneeded or underused administrative sites, as well as decommissioning roads, road and facility infrastructure**,** and nonpriority recreation sites.[70] FWS has attributed reductions in deferred maintenance in part to "disposing of unneeded assets."[71] NPS identifies assets that are not critical to the agency's mission and that are in relatively poor condition for potential disposal. In the past, the agency has noted that although the agency seeks to improve the condition of its asset portfolio by disposing of assets, "analysis of removal costs versus annual costs often precludes the removal option."[72]

figure reflected in this CRS report ($11.73 billion), because it reflects assets that are not owned by the agency but for which the agency has maintenance responsibility, among other reasons.

[65] GAO 2016 NPS Asset Maintenance Report, pp. 22-23, at https://www.gao.gov/products/GAO-17-136. Note that the year a park unit was established is not necessarily reflective of the age of the assets in the unit; for example, newly established units of the National Park System may contain historic properties.

[66] As one example, the NPS undertook a $227 million renovation of Arlington Memorial Bridge to address deferred maintenance. For information on the bridge restoration, see the NPS website at https://www.nps.gov/gwmp/learn/management/bridge-rehabilitation.htm.

[67] GAO-23-106124, p. 6, at https://www.gao.gov/assets/gao-23-106124.pdf.

[68] DOI, NPS, *Budget Justifications and Performance Information, Fiscal Year 2020*, p. CONST-66, at https://www.doi.gov/sites/doi.gov/files/fy2020-nps-justification.pdf.

[69] USDA OIG 2017 FS Audit, p. 11, at https://www.oversight.gov/sites/default/files/oig-reports/USDAOIG/08601-0004-31.pdf.

[70] See, for example, USDA, FS, *FY2020 Budget Justification*, p. 83 and p. 127, at https://www.fs.fed.us/sites/default/files/media_wysiwyg/usfs-fy-2020-budget-justification.pdf.

[71] DOI, FWS, *Budget Justifications and Performance Information, Fiscal Year 2016*, p. NWR-31, at https://www.fws.gov/media/fiscal-year-2016-fish-and-wildlife-service-presidents-budget.

[72] DOI, NPS, *Budget Justifications and Performance Information, Fiscal Year 2017*, p. ONPS-Ops&Maint-14, at https://www.nps.gov/aboutus/upload/FY17-NPS-Greenbook-for-website.pdf .

Author Information

Carol Hardy Vincent
Specialist in Natural Resources Policy

Disclaimer