

April 2011

FEDERAL LAND MANAGEMENT

Availability and Potential Reliability of Selected Data Elements at Five Agencies



G A O

Accountability * Integrity * Reliability

Why GAO Did This Study

The federal government manages about 650 million acres, or 29 percent, of the 2.27 billion acres of U.S. land. Four land management agencies—the Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), the National Park Service (NPS) in the Department of the Interior (Interior) and the Forest Service, in the Department of Agriculture—manage about 95 percent of these federal acres. Interior’s Bureau of Reclamation (BoR) manages another 1 percent of these acres and focuses on water projects. The five agencies collect certain data to help manage these federal lands.

GAO was asked to review whether the five agencies collect certain federal land and resource data (referred to as data elements), how these data elements are stored, and their potential reliability. GAO included over 100 data elements at each agency in its analysis that can be categorized as information on (1) federal land and the resources the five agencies manage, (2) revenues generated from selected activities on these lands, and (3) federal land subject to selected land use designations. GAO assessed the potential reliability of data elements collected by the agencies generally for fiscal years 1996 through 2009 based on a survey of agency officials and a review of available audits and evaluations. GAO did not collect data for each data element. GAO is making no recommendations in this report.

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What GAO Found

The five agencies varied in the extent to which they collected the over 100 land and resources, revenue, and federal land use designation data elements that GAO queried them about. Specifically, all five agencies collected 4 of the data elements that GAO asked about, which related to total surface acres managed, total acres managed within each state, the number of special use permits generated for filming activities on federal land, and the number of cultural and historic sites listed on the National Registry of Historic Places. In contrast, none of them collected information for 33 data elements that GAO asked them about, such as the percent of total acres under oil, gas, or coal leases that have surface disturbance or where the surface disturbance has been reclaimed, or information on the potential quantities of oil, gas, and coal resources on federal land. Agency officials cited various reasons why the agencies did not collect certain data elements, such as they believed another federal agency collected it, it was inconsistent with the agency’s mission, or they lacked the authority or resources to do so.

Information collected by the five agencies that GAO queried them about was more often stored in a primary agency data system—a centralized electronic data system maintained at an agencywide level—than in other formats. For example, GAO queried each agency about 57 federal land and resources data elements, and while the number of data elements each agency collected varied significantly, ranging from 3 to 22, the majority of the information that was collected was stored in a primary agency data system. Similarly, GAO asked each agency about 35 specific revenue data elements, and again while the number of data elements each agency collected varied significantly, ranging from 6 to 22, the majority of the information that was collected was stored in a primary agency data system. When the agencies collected information but did not store it in a primary agency data system, it was available in other formats such as paper files, land use plans, or other agency documents and files that may have been located in multiple field locations.

GAO assessed the potential reliability of the data elements that the five agencies did collect and determined that less than half of the data elements stored in a primary agency data system were potentially reliable. Generally, data elements were assessed as potentially reliable when information about the completeness and accuracy of a specific data element provided high assurance of its reliability. It is important to note that GAO assessed the potential reliability of these data elements and additional analysis would be needed to determine the reliability of specific data elements for specific purposes.

The Forest Service agreed with the report’s observations and Interior provided technical comments, which were incorporated as appropriate.

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Abbreviations

BLM	Bureau of Land Management
BoR	Bureau of Reclamation
EIS	Environmental Impact Statement
FWS	Fish and Wildlife Service
Interior	Department of the Interior
NPS	National Park Service
ONRR	Office of Natural Resource Revenue
OSM	Office of Surface Mining Reclamation and Enforcement
UNESCO	United Nations Educational, Scientific and Cultural Organization
USGS	U.S. Geological Survey

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Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

April 20, 2011

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

The Honorable Doc Hastings
Chairman
Committee on Natural Resources
House of Representatives

The federal government manages about 650 million acres, or 29 percent, of the 2.27 billion acres of land in the United States. Four land management agencies—the Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), and the National Park Service (NPS) in the Department of the Interior (Interior), and the Forest Service in the Department of Agriculture—manage about 95 percent of the federal land. The Bureau of Reclamation (BoR), also in Interior, manages another 1 percent of this land.¹

The agencies manage their land for various purposes. For example, BLM and the Forest Service manage land for a variety of uses—including recreation, timber harvesting, livestock grazing, oil and gas production, mining, and wilderness protection. In contrast, FWS and NPS primarily manage land to conserve fish and wildlife and their habitat and park resources, respectively. Resource development is generally not allowed on FWS- and NPS-managed land. BoR focuses on managing, developing, and protecting water and related resource projects, such as dams, irrigation, and hydroelectric plants. Lands managed by these federal agencies may be specially designated, for example, as wilderness areas or national trails.

To help manage federal land, the five agencies collect data that track, among other things, land use, revenues generated from activities occurring on the land, and land that has been designated for a specific use. In the past, we, the departments' Offices of Inspectors General, and others have raised concerns about the accuracy and completeness of the data used to

¹The other 4 percent of federal land is managed by other federal agencies, including the Department of Defense and the Department of Energy.

manage federal land and resources and revenues collected from activities on federal land.² As these prior reports have concluded, without accurate and complete data, managers cannot make fully informed decisions and effectively manage and evaluate agency activities.

In this context, you asked us to review certain federal land data in the following three categories: (1) federal land and the resources the five agencies manage, (2) revenues generated from selected activities on federal land, and (3) federal land subject to selected land use designations. Our objectives were to determine which of these data the agencies collect, where the agencies store these data, and the potential reliability of these data.

To address these objectives, we developed a list of the types of data the agencies might collect about their federal land and resources, revenues generated from activities on federal land, and federal land use designations. Hereafter we refer to each type of data within these three categories as a “data element.” We developed a list of data elements by reviewing, among other things, your request letter, past GAO and Congressional Research Service reports, and interviewing agency officials. In addition, we developed a list of primary agency data systems that contain the land management and revenue data we were examining by obtaining an initial list of data systems from agency officials and refining this list as needed. Through these efforts, we identified more than 100 data elements of interest at each of the five agencies and 26 primary agency data systems.³ We defined “primary agency data system” as a centralized, electronic data system maintained at an agencywide level. We did not identify every data element that the five agencies collect related to land

²See, for example, GAO, *Western National Forests: A Cohesive Strategy Is Needed to Address Catastrophic Wildfire Threats*, [GAO/RCED-99-65](#) (Washington, D.C.: Apr. 2, 1999); GAO, *Oil and Gas Development: Increased Permitting Activity Has Lessened BLM’s Ability to Meet Its Environmental Protection Responsibilities*, [GAO-05-418](#) (Washington, D.C.: June 17, 2005); GAO, *Renewable Energy: Increased Geothermal Development Will Depend on Overcoming Many Challenges*, [GAO-06-629](#) (Washington, D.C.: May 24, 2006); Department of the Interior, Office of Inspector General, Western Region, *Verification Review of Seven Recommendations Considered Implemented From Our February 2004 report “Audit of Oil and Gas Permitting Process, Bureau of Land Management (Report No. W-IN-BLM-009-2003)”*, Report No. WR-VS-BLM-0001-2008 (Sacramento, Calif., May 30, 2008); Congressional Research Service, *Issues Regarding a National Land Parcel Database*, CRS R40717 (Washington, D.C.: Jan. 23, 2010).

³The five agencies may collect other data related to land management that were not included in this review.

management, nor did we determine what data elements the agencies are required to collect.

We developed a Web-based survey, administered through interviews with agency officials, to obtain information about each data element and primary agency data system. We administered these surveys to more than 100 officials in the five agencies to gather information on the availability, location, and potential reliability of each data element that these agencies collected as requested from fiscal years 1996 through 2009, as well as the internal controls (e.g., data entry and access procedures, automated edit checks, error flags, and audits) used to ensure the quality of data in primary agency data systems.⁴

We did not collect the actual data for each data element or electronically test the data for a specific purpose. Rather, we assessed each data element's "potential reliability" based on reported information. Specifically, to assess the potential reliability of the collected data elements, we analyzed agency officials' responses gathered from our survey about the element's completeness, accuracy, and reliability; and where applicable, their responses about the internal controls on the primary agency systems in which the data element resides.⁵ We also reviewed the findings of any audits, evaluations, and formal reviews the agencies provided that were related to the reliability of the data systems.⁶ Based on this information, we assigned one of three possible levels of "potential reliability" to each data element and data system—"potentially reliable," "may be potentially reliable," and "potentially unreliable." We assigned these levels of potential reliability using criteria that varied

⁴We considered a data element to be "collected" if it is tracked in a routine manner, easily accessible, and readily available.

⁵Because we did not have information about internal controls on data elements stored outside one of the primary agency data systems, our assessment of potential reliability for these elements was more limited.

⁶GAO, *Oil and Gas Development: Increased Permitting Activity Has Lessened BLM's Ability to Meet Its Environmental Protection Responsibilities*, [GAO-05-418](#) (Washington, D.C.: June 17, 2005); GAO, *Hardrock Mining: Information on State Royalties and Trends in Mineral Imports and Exports*, [GAO-08-849R](#) (Washington, D.C.: July 21, 2008); and GAO, *Livestock Grazing: Federal Expenditures and Receipts Vary, Depending on the Agency and the Purpose of the Fee Charged*, [GAO-05-869](#) (Washington, D.C.: Sept. 30, 2005); BLM, *Public Land Statistics 2009*, Volume 194, BLM/OC/ST-10/001+1165 (Washington, D.C., May 2010); and Congressional Research Service, *Federal Land Management Agencies: Background on Land and Resources Management*, CRS R40225 (Washington, D.C., Feb. 9, 2009).

somewhat for (1) data systems, (2) data elements stored in a primary agency data system, and (3) data elements stored in other formats.⁷ Generally, data elements were assessed as “potentially reliable” when there was sufficient information without limitations about completeness or accuracy to provide a high assurance of the data elements’ reliability, and “potentially unreliable” when there were significant limitations on the data’s accuracy and completeness. Generally, data elements were assessed as “may be potentially reliable” when there was not sufficient information to unequivocally assess the data element as “potentially reliable” or there were some limitations but they were not significant enough to assess it as “potentially unreliable.” Generally, agency primary data systems were assessed as “potentially reliable” when system controls indicated high assurance of data quality; as “may be potentially reliable” when system controls provided moderate assurance of data quality; and as “potentially unreliable” when system controls provided low assurance of data quality. For more details on the specific criteria used to assess data systems and data elements, see appendix I. Our assessment of potential reliability is for a specific time frame, which may be different than the time frame for which the data were available. For example, a data element might be available from before 1995; however, it might only be potentially reliable since 2010. Our potential reliability assessments and the time frames for the data elements are included in appendixes III through VII.

We conducted this performance audit from January 2010 through April 2011 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 four major federal land management agencies—BLM, the Forest Service, FWS, and NPS—manage their land and resources in accordance with their respective missions and authorities. BLM and the Forest Service are responsible for managing about 69 percent of federal land for a variety of uses, including recreation, timber harvesting, livestock grazing, oil and gas production, and mining. FWS is responsible for managing about 14

⁷Other formats include paper files, spreadsheets, Web sites, or other agency files or documents, such as permits.

percent of federal land, primarily to conserve and protect fish and wildlife, and their habitat, although other uses, such as hunting and fishing, are allowed when they are compatible with the primary purposes for which the lands are managed. NPS manages approximately 12 percent of federal land to conserve, preserve, protect, and interpret the nation's natural, cultural, and historic resources.

In comparison, BoR, which manages about 1 percent of federal land, has a much narrower primary mission—to manage, develop, and protect water and related resources in an environmentally and economically sound manner. Accordingly, BoR maintains 348 reservoirs, 476 dams, and 58 hydroelectric plants on federal land and is the largest wholesale supplier of water in the United States and the second-largest hydroelectric power producer in the nation. BoR land is largely managed to meet its primary mission, but this land also provides other benefits, such as recreation.

These agencies may collect a variety of data to manage and oversee their activities. The data elements we examined fall into three broad categories: (1) information on federal land and the resources the agencies manage, (2) revenues generated from selected activities on federal land, and (3) information on federal land subject to selected land use designations. These categories are described below.

- *Federal land and resources.* We identified 57 data elements in this category that relate to (1) information on the total surface and subsurface acres of federal land managed by each of the five land management agencies and the total acres managed for specific purposes, such as hardrock mining or grazing, and (2) the volume of various resources, such as oil and gas and timber extracted or harvested from federal land. Appendix II lists the 57 federal land and resources data elements we identified that each of the five land management agencies could possibly collect.
- *Revenues generated from activities on federal land.* We identified 35 data elements in this category that relate to information on revenues generated from activities on federal land, which are derived from the use or sale of land and resources. Sources of revenue include revenues generated from oil and gas activities, hardrock mining, and special use or right-of-way permits issued for transmission lines, filming activities, and concession activities. We also included cost recovery fees—which are intended to recover agency costs for processing certain plans, applications, or permits associated with various activities on federal land—in this category of data elements. Appendix II lists the 35 data elements associated with revenues

generated from activities on federal lands we identified that each of the five land management agencies could possibly collect.

- *Federal land use designations.* Data elements in this category relate to information on the number of acres each agency manages that are associated with various special designations of federal land, such as wilderness areas, wild and scenic rivers, paleontological sites, and critical habitat set aside for endangered species.⁸ Some of these land use designations apply to all five federal land management agencies, but some are unique to a specific agency, and the number of land use designations applicable to each agency varies. Appendix II lists the data elements for federal land use designations that we identified for each of the five agencies.

Availability and Potential Reliability of Data Elements on Federal Land and Resources Collected by the Five Agencies

Of the 57 federal land and resource data elements we examined for each of the five federal agencies, BLM and the Forest Service collected the most—22 and 20 data elements, respectively—and BoR collected the least—3 data elements. BLM collected more of these data elements than the other agencies, but fewer of these elements were stored in a primary agency data system. In contrast, all the data elements the Forest Service, FWS, and BoR collected were available in a primary agency data system. In total, we assessed as potentially reliable 24 of the federal land and resource data elements that the five federal agencies stored in a primary agency data system: 6 at BLM, 4 at the Forest Service, 6 at FWS, 8 at NPS, and none at BoR. Agency officials provided several reasons for not collecting certain federal land and resource data elements. For example, agency officials noted that certain data elements were not collected because they believed that another agency was responsible for collecting the information, collecting the information was not consistent with the agency’s mission, or the agency lacked the authority or resources to collect the information. Table 1 shows, for each agency, the number and availability of the 57 federal land and resource data elements we examined and our assessment of the potential reliability of those stored in primary data systems.

⁸The term critical habitat means both specific areas occupied by species protected under the Endangered Species Act on which are found physical or biological features essential to the conservation of the species which may require special management considerations or protection and specific areas that may not be occupied by the species at the time it is listed under the Endangered Species Act but which are essential for the conservation of the species.

Table 1: Number and Availability of 57 Federal Land and Resource Data Elements, and Potential Reliability of the Data Elements Stored in Primary Data Systems, by Agency

Agency	Number of data elements identified	Number of data elements collected	Number of data elements stored in a primary agency data system	Number of data elements stored in a primary agency data system and potentially reliable	Number of data elements stored in other formats	Number of data elements not collected
BLM	57	22	15	6	7	35
Forest Service	57	20	20	4	0	37
FWS	57	10	10	6	0	47
NPS	57	13	10	8	3	44
BoR	57	3	3	0	0	54

Source: GAO analysis of information on federal land and resource data provided by BLM, Forest Service, FWS, NPS, and BoR officials.

BLM

According to agency officials we surveyed, BLM collected 22 of the 57 federal land and resource data elements that we examined. Fifteen of the 22 data elements are stored in primary agency data systems, and 7 are stored in other formats.

BLM Federal Land and Resource Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The 15 federal land and resource data elements that BLM stored in primary agency systems include those related to the

- total acres that have been leased for coal development;
- total acres that have been leased for oil and gas development, and acres leased that are in producing status;⁹
- total acres for livestock grazing;
- total acres from which timber has been contracted for commercial harvesting and acres commercially harvested; and
- total acres burned by wildfires and the costs associated with these fires.

Table 2 shows our assessment of the potential reliability of BLM’s federal land and resource data elements stored in primary agency data systems.

⁹BLM also collected data elements related to the value of bonds it held to ensure reclamation of lands affected by oil and gas operations.

Table 2: Assessment of Potential Reliability of BLM Federal Land and Resource Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Legacy Rehost 2000	3	3	1	7
Timber Sale Information System	3	0	0	3
Rangeland Administration System	0	3	0	3
Wildland Fire Management Information System	0	1	0	1
Financial and Business Management System	0	1	0	1
Total	6	8	1	15

Source: GAO analysis.

As the table shows, we assessed as potentially reliable 6 of the 15 federal land and resources data elements stored in primary agency data systems and 1 as potentially unreliable. For example, three of the data elements related to commercial timber harvesting—contained in the Timber Sale Information System—were assessed as potentially reliable. In contrast, the data element related to percentage of acres under hardrock mining operations that have disturbances to surface of the land—stored in Legacy Rehost 2000—was assessed as potentially unreliable. This was because agency officials noted that the accuracy and completeness of the data was low and the data had significant limitations. For example, BLM officials noted that this data element was generally unreliable and only 50 to 74 percent complete and accurate. See appendix III for our assessment of potential reliability and additional information on the BLM federal land and resource data elements we reviewed and their associated primary agency data systems.

BLM Federal Land and Resource Data Elements Stored in Other Formats and Their Potential Reliability

Six of the seven federal land and resource data elements stored in other formats included those related to the number of acres of land BLM manages, such as acres of surface and subsurface land, acres managed within each state, and acres acquired and disposed of for specific purposes (such as acres acquired for wilderness areas). These acreage data were kept in BLM state offices. To collect information for most of these data elements, BLM headquarters annually requests the state offices

to submit the needed information in a standard format for publication in BLM's Public Land Statistics. The seventh data element concerned the potential quantity of coal reserves on leased land that the agency manages. According to BLM officials, this information is kept in BLM state offices in files that are maintained for each lease. The format of the lease files varies by state office—some are in electronic files while others are in hard copy.

Of the seven federal land and resource data elements stored in other formats, we assessed only one as potentially reliable—total acres acquired for national recreation areas. BLM has only one national recreation area in Alaska, and these data are kept in BLM's Alaska state office. In contrast, we assessed as potentially unreliable five data elements. For example, we assessed total surface and subsurface acres managed to be potentially unreliable because the data are kept in multiple BLM field offices in various formats, and officials stated that federal acres are not precisely measured in all cases. For example, BLM has used different methods to measure acreage over time, with some methods dating back to the late 1700s when acreage was measured using chains.¹⁰ See appendix III for our assessment of potential reliability and additional information on federal land and resource data elements BLM stored in other formats.

Reasons BLM Officials Provided for Not Collecting Certain Federal Land and Resource Data Elements

BLM did not collect 35 of the 57 federal land and resource data elements that we examined. Agency officials provided a variety of explanations on why they did not collect these data elements. For example:

- *Surface disturbance for coal and oil and gas activities.* According to BLM officials, the Office of Surface Mining, Reclamation and Enforcement, within Interior and individual state agencies with primacy for the federal coal leasing program keep this kind of data. For surface disturbance information related to oil and gas operations, BLM officials said that they plan to collect this information when funding is available.
- *The total acres of federal mineral estate that have been withdrawn from mineral entry under the General Mining Act of 1872, Mineral Leasing Act of 1920, Mineral Leasing Act for Acquired Lands, or the Mineral*

¹⁰Historically, a chain had 100 links, which was about 66 feet long. One mile was equal to 80 chains. An acre is the total of 10 square chains, according to BLM officials.

Materials Disposal Act of 1947.^{11,12} According to BLM officials, land withdrawn under these acts is recorded on the master title plats and in land use plans in BLM's field offices and in Public Land Orders, but this information is not aggregated.¹³ BLM officials said that the agency does not have the staff resources needed to review the plats, plans, and orders to compile this information.

- *Quantity or volume of oil and natural gas that has been produced from leased federal lands.* According to BLM officials, Interior's Office of Natural Resource Revenue (ONRR) collects this information.¹⁴

See appendix III, table 25, for the list of federal land and resource data elements BLM did not collect and agency officials' explanations.

Forest Service

According to agency officials we surveyed, the Forest Service collected 20 of the 57 federal land and resource data elements that we examined, and all of these data elements were stored in primary agency data systems.

Forest Service Federal Land and Resource Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The 20 federal land and resource data elements that the Forest Service stored in primary agency systems included those related to the

- total surface and subsurface acres the agency manages and the total acres it manages within each state;

¹¹BLM manages approximately 700 million acres of federal subsurface minerals, also known as federal mineral estate.

¹²General Mining Act of 1872, ch 152, 17 Stat. 91 (codified as amended, 30 U.S.C. §§ 21-54 (2006)); Mineral Leasing Act of 1920, ch 85, 41 Stat. 437 (codified as amended in scattered sections of 30 U.S.C.); Mineral Leasing Act for Acquired Lands, ch 513, 61 Stat. 913 (1946) (codified as amended at 30 U.S.C. §§ 351-360 (2006)); Mineral Materials Disposal Act of 1947, ch. 406, 61 Stat. 681 (codified as amended at 30 U.S.C. §§ 601-604 (2006)).

¹³Public Land Orders implement the authority granted to the Secretary of the Interior by the Federal Land Policy and Management Act of 1976 to make, modify, extend, or revoke land withdrawals. A withdrawal removes an area of federal land from settlement, sale, location, or entry under some or all of the general land laws, for the purpose of limiting activities under those laws to maintain other public values in the area or reserving the area for a particular public purpose or program. Withdrawals are also used to transfer jurisdiction over an area of federal land from one department, bureau, or agency to another.

¹⁴If agency officials at BLM, the Forest Service, FWS, NPS, or BoR told us that another agency outside of the five we reviewed, such as ONRR, collected a data element, we did not confirm this information.

- total acres acquired for wilderness areas, wildlife refuges, national recreation areas, and other purposes and total acres disposed of through sale or exchange;
- percentage of the federal mineral estate withdrawn from mineral entry under the General Mining Act of 1872, the Mineral Leasing Act of 1920, the Mineral Leasing Act for Acquired Lands, and the Mineral Materials Disposal Act of 1947;
- total acres that have been approved for commercial timber harvesting and the acres from which timber has been commercially harvested, as well as the extent to which timber on federal lands has been commercially harvested (in board feet);
- total acres for livestock grazing; and
- total acres burned by wildland fires and the costs associated with these fires.

Table 3 shows our assessment of the potential reliability of the Forest Service’s federal land and resource data elements stored in primary agency data systems.

Table 3: Assessment of Potential Reliability of Forest Service Federal Land and Resource Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements’ potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Land Area Report	0	0	8	8
Automated Lands Program	0	0	5	5
Natural Resource Manager-Timber Information Manager	0	1	0	1
Automated Timber Sale Accounting	1	0	0	1
Natural Resource Manager-Forest Service Activity Tracking System	0	0	1	1
Natural Resource Manager-INFRA Corporate Database	2	0	0	2
Fire Statistics System	0	1	0	1
Foundation Financial Information System	1	0	0	1
Total	4	2	14	20

Source: GAO analysis.

As the table shows, we assessed as potentially reliable 4 of the 20 federal land and resource data elements stored in primary agency data systems and 14 as potentially unreliable. For example, all of the federal land and resource data elements in the Land Area Report data system and the Automated Lands Program data system were assessed as potentially unreliable. The data elements in these systems include total acres and subsurface acres managed, acquired, and disposed of, as well as percentage of federal mineral estate that has been withdrawn from mineral entry. They were potentially unreliable, in part, because their associated data systems had weak internal controls for data quality. For example, the Land Area Report data system does not have seven of the nine internal controls we asked Forest Service officials about, including error correction procedures, verification of source documents, and system audits. See appendix IV for our assessment of potential reliability and additional information on the Forest Service federal land and resource data elements we reviewed and their associated primary agency data systems.

Reasons Forest Service
Officials Provided for Not
Collecting Certain Federal
Land and Resource Data
Elements

The Forest Service did not collect 37 of the 57 federal land and resource data elements we examined. Agency officials provided various explanations why they did not collect these data elements. For example:

- *Surface disturbance for coal, oil and gas, and hardrock operations.* According to agency officials, the Forest Service does not collect information on surface land disturbed by coal mining because it is not within Forest Service authority to require collection of this information. Forest Service officials said Interior's Office of Surface Mining, Reclamation and Enforcement may collect this information. They added that it is not within the scope of the Forest Service's authority to require the collection of information on surfaces disturbed by oil and gas activities, but they thought that BLM might collect this information.¹⁵ Information on surfaces disturbed by hardrock mining activity is kept in hundreds of files located in the Forest Service's field offices and collecting this information would require an extensive effort. The Forest Service has begun entering this information into its Natural Resource Manager-INFRA Corporate Database.
- *Other information related to coal, oil and gas, and hardrock minerals on Forest Service land.* According to agency officials, the Forest Service did

¹⁵BLM officials stated they would like to collect information on acres disturbed by oil and gas activities, but funding is not available to do so.

not collect information on coal, oil and gas activities, or hardrock minerals on its lands, including the potential quantity of resources or reserves, acres of land available for leasing or acres that have been leased, or extent to which these resources have been produced from leased lands. According to Forest Service officials it is not within the Forest Service's authority to require collection of this information for coal and oil and gas activities. The Forest Service did not collect similar information for hardrock minerals for a variety of reasons. For example, agency officials said that they did not collect information on the quantity of hardrock minerals that have been extracted from Forest Service land because owners of mining claims are not required to report this information.

See appendix IV, table 30, for the list of federal land and resource data elements Forest Service did not collect and agency officials' explanations.

FWS

According to agency officials we surveyed, FWS collected 10 of the 57 federal land and resource data elements we examined, and all of these data elements were stored in primary agency data systems.

FWS Land and Resource Data Elements Stored in Primary Agency Systems and Their Potential Reliability

The 10 federal land and resource data elements that FWS stored in primary agency data systems related to the

- total surface acres managed and total acres managed within each state;
- total acres acquired for wildlife refuges, acres acquired for other purposes, and total acres disposed of through sale or exchange;
- total acres added to the federal estate through the federal government's eminent domain powers;
- total acres from which timber has been commercially harvested;
- total acres used for livestock grazing; and
- total acres burned by wildland fires and the costs associated with these fires.

Table 4 shows our assessment of the potential reliability of FWS federal land and resource data elements stored in primary agency data systems.

Table 4: Assessment of Potential Reliability of FWS Federal Land and Resource Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Land Records System	6	0	0	6
Refuge Annual Performance Plan System	0	0	2	2
Fire Management Information System	0	1	0	1
Federal Financial System	0	1	0	1
Total	6	2	2	10

Source: GAO analysis.

As the table shows, we assessed as potentially reliable 6 of the 10 federal land and resource data elements stored in primary agency data systems and 2 as potentially unreliable. All six of the data elements assessed as potentially reliable are contained in the Land Records System and relate to acres managed, and acquired and disposed of through sales or exchanges. In contrast, both of the data elements for acreage on timber and on livestock grazing in the Refuge Annual Performance Plan System were assessed as potentially unreliable. For example, we assessed the acreage data element on livestock grazing as potentially unreliable in part because the (1) data element was based on estimates made by more than 500 field managers, (2) completeness of the data element was limited, and (3) accuracy of the data element was affected by the fact that data are based on acreage estimates versus actual measurements. See appendix V for our assessment of potential reliability and additional information on the FWS federal land and resource data elements we reviewed and their associated primary agency data systems.

Reasons FWS Officials Provided for Not Collecting Certain Federal Land and Resource Data Elements

FWS did not collect 47 of the 57 federal land and resource data elements we examined. Agency officials provided various explanations why they did not collect these data elements. For example:

- *Various aspects of coal, oil and gas, and hardrock operations on FWS land.* According to FWS officials, these activities are very limited on FWS land because they are inconsistent with the mission of the agency.¹⁶
- *Percentage of the federal mineral estate withdrawn from mineral entry under various laws.* According to FWS officials, the FWS Land Records System database tracks the total acreage of the federal mineral estate withdrawn from mineral entry and does not separate this information into land withdrawn under the laws we asked about.¹⁷

See appendix V, table 35, for the list of federal land and resource data elements FWS did not collect and agency officials' explanations.

NPS

According to agency officials we surveyed, NPS collected 13 of the 57 federal land and resource data elements that we examined, with 10 of the 13 stored in primary agency data systems and 3 stored in other formats.

NPS Federal Land and Resource Data Elements Stored in Primary Agency Systems and Their Potential Reliability

The 10 federal land and resource data elements that NPS stored in primary agency systems related to the

- total surface acres managed,
- total acres managed in each state,
- total acres acquired or withdrawn that facilitated the establishment of buffer areas around military installations,
- total acres acquired for national park units or national recreation areas,
- total acres disposed of through sale or exchange,

¹⁶The federal government owns almost all of the surface lands in the wildlife refuge system, but in many cases it does not own the subsurface mineral rights. Subject to some restrictions, owners of subsurface mineral rights have the legal authority to explore for mineral resources such as oil and gas and to extract resources that are found. See GAO, *U.S. Fish and Wildlife Service: Opportunities Remain to Improve Oversight and Management of Oil and Gas Activities on National Wildlife Refuges*, [GAO-07-829R](#) (Washington, D.C.: June 29, 2007).

¹⁷Specifically, we asked about lands withdrawn under the General Mining Act of 1872, the Mineral Leasing Act of 1920, the Mineral Leasing Act for Acquired Lands, and the Mineral Materials Disposal Act of 1947. Information related to the specific laws is in Public Land Orders.

- total acres added to the federal estate through eminent domain powers of the federal government, and
- total acres burned by wildland fires and the costs associated with these fires.

Table 5 presents our assessment of potential reliability of NPS federal land and resource data elements stored in primary agency data systems.

Table 5: Assessment of Potential Reliability of NPS Federal Land And Resource Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Lands Management Information System/Master Deed List Database	8	0	0	8
Wildland Fire Management Information System	0	1	0	1
Federal Financial System	0	1	0	1
Total	8	2	0	10

Source: GAO analysis.

As the table shows, we assessed as potentially reliable 8 of the 10 NPS federal land and resource data elements stored in primary agency data systems and none as potentially unreliable. All eight of the data elements in the Lands Management Information System/Master Deed List Database—relating to acres managed, acquired, or withdrawn—were assessed as potentially reliable. Data elements in the other agency systems—related to total acres of federal lands burned as a result of wildfires and costs associated with suppressing wildfires—may be potentially reliable. See appendix VI for our assessment of potential reliability and additional information on the NPS federal land and resource data elements we reviewed and their associated primary agency data systems.

NPS Federal Land and Resource Data Elements Stored in Other Formats and Their Potential Reliability

The three data elements NPS stored in other formats related to the following:

- *Information on (1) acres of land leased for oil and natural gas development and (2) acres leased for oil and natural gas that are in producing status.* Information for these data elements is kept in electronic files at NPS headquarters. NPS officials told us that the NPS General Authorities Act of 1970, the Mineral Leasing Act of 1920, the Mineral Leasing Act for Acquired Lands, and individual park-enabling statutes permit federal mineral leasing in only 3 of the 394 units of the National Park System. No new mineral leasing has occurred in these three units for over 30 years. We assessed these data elements as potentially reliable.
- *Information on the acres of land leased for hardrock mineral mining under existing land management plans.* This information is kept in a spreadsheet at NPS headquarters. The spreadsheet was last updated in 2007. NPS officials told us that under the Mining in the Parks Act of 1976 and individual park-enabling statutes, all parks are closed to new mining claims. The mines tracked in the spreadsheet pre-date this legislation. We assessed this data element as may be potentially unreliable.

See appendix VI for our assessment of potential reliability and additional information on federal land and resource data elements NPS collects in other formats.

Reasons NPS Officials Provided for Not Collecting Certain Federal Land and Resource Data Elements

NPS did not collect 44 of the 57 land and resource data elements we examined. Agency officials provided various explanations why they did not collect these data elements. For example:

- *The total acres of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872, Mineral Leasing Act of 1920, Mineral Leasing Act for Acquired Lands or the Mineral Materials Disposal Act of 1947.* According to NPS officials, the agency does not collect this information as almost all NPS land is withdrawn from mineral leasing. Therefore, according to these officials, NPS has no reason to track percentage of land withdrawn by statute.
- *Various aspects of coal, oil and gas, and hardrock operations on NPS land.* According to NPS officials, these activities, if they are allowed at all, are quite limited on NPS land because they are inconsistent with the mission of the agency. For this reason, NPS does not collect information on the potential amounts of these resources on NPS land. These officials also told us that for quantities of oil and gas extracted from the NPS land, ONRR would collect this information.

See appendix VI, table 40 for the list of federal land and resource data elements NPS did not collect and agency officials' explanations.

BoR

According to agency officials we surveyed, BoR collected 3 of the 57 federal land and resource data elements that we examined, and all 3 were stored in a primary agency data system.

BoR Federal Land and Resource Data Elements Stored in a Primary Agency System and Their Potential Reliability

The three land and resource data elements that BoR stored in a primary agency data system related to the

- total surface acres managed,
- total acres managed within each state, and
- total acres that were added to the federal estate through eminent domain powers of the federal government.

Table 6 shows our assessment of the potential reliability of BoR's federal land and resource data elements stored in a primary agency data system.

Table 6: Assessment of Potential Reliability of BoR Federal Land and Resource Data Elements Stored in a Primary Agency Data System

Primary agency data system	Data elements' potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Foundation Information for Real Property Management	0	3	0	3
Total	0	3	0	3

Source: GAO analysis.

As the table shows, we assessed these three federal land and resource elements stored by BoR in a primary agency data system as may be potentially reliable. These data elements were stored in the agency's Foundation Information for Real Property Management data system. See appendix VII for our assessment of potential reliability and additional information on the BoR data elements we reviewed and their associated primary agency data systems.

Reasons BoR Officials Provided for Not Collecting Certain Federal Land and Resource Data Elements

BoR did not collect 54 of the 57 federal land and resource data elements we examined. According to agency officials, the agency generally did not collect these data because they did not relate to BoR’s mission. The officials noted that while BoR manages land associated with its mission, other activities do occur on its land that are incidental to its mission and are generally managed by another agency. For example, Lake Mead in Nevada and Arizona is a National Recreation Area located on BoR land and managed by NPS. Thus, NPS would collect data on the number of acres acquired for national recreation areas, such as Lake Mead, and not BoR. See appendix VII, table 45, for the list of federal land and resource data elements BoR did not collect and agency officials’ explanations.

Availability and Potential Reliability of Data Elements on Revenues Generated from Activities on Federal Land Collected by the Five Agencies

Of the 35 revenue data elements we examined at each of the five federal agencies, BLM collected the most and NPS collected the least, 22 and 6, respectively. BLM, the Forest Service, and FWS collected all of their revenue data elements in primary agency data systems, but NPS and BoR did not. In total, we assessed as potentially reliable 17 revenue data elements stored in primary agency data systems: 13 at BLM, 1 at the Forest Service, and 3 at NPS. Agency officials provided several reasons for not collecting certain revenue data elements. For example, they said certain revenue data elements were not collected because their agency did not have the authority to do so or they believed another agency, such as ONRR, was responsible for collecting the data elements. In addition, the agency officials noted collecting some of the revenue data elements would be inconsistent with their agency’s mission. Table 7 shows, for each agency, the number and availability of the 35 revenue data elements we examined and our assessment of the potential reliability of those stored in primary data systems.

Table 7: Number and Availability of 35 Revenue Data Elements and Potential Reliability of the Data Elements Stored in Primary Data Systems, by Agency

Agency	Number of data elements identified	Number of data elements collected	Number of data elements stored in a primary agency data system	Number of data elements stored in a primary agency data system and potentially reliable	Number of data elements stored in other formats	Number of data elements not collected
BLM	35	22	22	13	0	13
Forest Service	35	9	9	1	0	26
FWS	35	10	10	0	0	25
NPS	35	6	3	3	3	29
BoR	35	13	4	0	9	22

Source: GAO analysis of information on the revenues generated from activities on federal land provided by BLM, Forest Service, FWS, NPS, and BoR officials.

BLM

According to agency officials we surveyed, BLM collected 22 of the 35 revenue data elements that we examined, and all 22 were stored in primary agency data systems.

BLM Revenue Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The 22 revenue data elements that BLM stored in primary agency systems included those related to revenues generated from

- bonus bids and rent for coal, oil and gas, and geothermal activities;¹⁸
- right-of-way permits for transmission lines and water and wind projects;
- special use permits for camping, day use, filming, and concession activities; and
- cost recovery fees associated with hardrock mining, oil and gas applications to drill, and geothermal activities.

Table 8 shows our assessment of the potential reliability of BLM’s revenue data elements stored in primary agency data systems.

Table 8: Assessment of Potential Reliability of BLM Revenue Data Elements in Primary Agency Data Systems

Primary agency data system	Data elements’ potential reliability			Number of data elements in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Collection and Billing System	8	6	2	16
Legacy Rehost 2000	5	0	0	5
Financial Business Management System	0	1	0	1
Total	13	7	2	22

Source: GAO analysis.

¹⁸A bonus bid is the cash consideration paid to the United States by the successful bidder for a mineral lease, such payment being made in addition to the rent and royalty obligations specified in the lease. Rent is the amount paid periodically (usually annually) by the holder of a lease or right-of-way grant for the right to use land or resources for the purposes set out in the lease or grant.

As the table shows, we assessed as potentially reliable 13 of the 22 revenue data elements and 2 as potentially unreliable. For example, among the potentially reliable data elements were eight in the Collection and Billing System and five in the Legacy Rehost 2000 system. The potentially reliable data elements in the Collection and Billing System related to revenues generated from geothermal activities, grazing, various right-of-way and special use permits, oil and gas applications for permits to drill, and entrance fees. The data elements in the Legacy Rehost 2000 that were potentially reliable included revenues generated from right-of-way permits related to transmission lines and water, wind, and solar development projects. In contrast, we assessed as potentially unreliable two data elements—revenues generated by coal bonus bids and coal rents in the Collection and Billing System—in part because BLM did not provide sufficient information about the accuracy and completeness of these data elements in the Collection and Billing System. BLM officials also stated that BLM only collects initial coal bonus bids and rents; subsequent coal bonus bids and rents are collected by ONRR, according to BLM officials. See appendix III for our assessment of potential reliability and additional information on the BLM revenue data elements we reviewed and their associated primary agency data systems.

Reasons BLM Officials
Provided for Not Collecting
Certain Revenue Data
Elements

BLM did not collect 13 of the 35 revenue data elements that we examined. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Oil and gas, coal, and geothermal royalties.* According to BLM officials, ONRR is responsible for collecting royalty payments related to oil and gas, coal, and geothermal activities, so BLM does not.
- *Bonus bids, rents, and royalties for other leaseable commodities.* According to BLM officials, ONRR is responsible for collecting this information, so BLM does not.
- *Right-of-way permits for solar projects.* As of June 2010, BLM had not collected this information because it had not approved any solar development projects. However, some of these projects were in the permitting process, and BLM expects to collect this information in the future.
- *Recreation and use fees.* According to BLM officials, rather than collect information for these revenue categories, BLM collects revenue data that are subcategories of recreation and use fees.

See appendix III, table 25, for the list of revenue data elements that BLM did not collect and agency officials' explanations.

Forest Service

According to agency officials we surveyed, the Forest Service collected 9 of the 35 revenue data elements we examined, and these 9 elements were stored in primary agency data systems.

Forest Service Revenue Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The nine revenue data elements that Forest Service stored in primary agency data systems related to revenues generated from

- recreation fees;
- grazing fees; and
- special use permits for concessions, camping, day use, and filming activities; transmission lines; and water and wind projects.

Table 9 shows our assessment of the potential reliability of the Forest Service's revenue data elements stored in primary agency data systems.

Table 9: Assessment of Potential Reliability of Forest Service Revenue Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Natural Resource Manager–INFRA Corporate Database	1	0	0	1
Special Uses Data System	0	7	0	7
Foundation Financial Information System	0	1	0	1
Total	1	8	0	9

Source: GAO analysis.

We assessed one of the nine data elements related to revenues—grazing fees—as potentially reliable. The Forest Service keeps information on this data element in its Natural Resource Manager–INFRA Corporate Database. We assessed the data on grazing fees to be potentially reliable in this system starting in 2005, although historical data exist for prior years. We determined that the other eight revenue data elements may be potentially

Reasons Forest Service
Officials Provided for Not
Collecting Certain Revenue
Data Elements

reliable. These data elements are housed in either the Special Uses Data System or Foundation Financial Information System and include special use permits for various projects and activities on Forest Service land. See appendix IV for our assessment of potential reliability and additional information on the Forest Service revenue data elements we reviewed and their associated primary agency data systems.

The Forest Service did not collect 26 of the 35 revenue data elements that we examined. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Certain cost recovery fees.* According to agency officials, the Forest Service did not collect information on revenues generated from cost recovery fees for hardrock mining, Environmental Impact Statement preparation, processing of oil and gas Applications for Permit to Drill, and geothermal activities. Forest Service officials told us the agency did not collect this information either because it does not have the authority to do so or it is not part of the agency's mission to do so. BLM collects most of this information.
- *Bonus bids, rents, and royalties associated with fluid and solid mineral operations.* According to Forest Service officials, the Forest Service does not have the authority to collect this information. BLM or ONRR is responsible for collecting information on revenues generated by bonus bids, rents and royalties related to oil and gas, coal, geothermal, and other leaseable commodity operations occurring on Forest Service land.
- *Special use permits for solar projects.* According to Forest Service officials, as of June 2010, the Forest Service had not received any applications for solar projects. One proposal for a solar project on agency land in California had not progressed to the application phase, as of that time.

See appendix IV, table 30, for the list of revenue data elements we reviewed that Forest Service did not collect and agency officials' explanations.

FWS

According to agency officials we surveyed, FWS collected 10 of the 35 revenue data elements that we examined, and all of these were stored in a primary agency data system.

FWS Revenue Data Elements Stored in a Primary Agency Data System and Their Potential Reliability

The 10 FWS revenue data elements stored in a primary data system related to revenues generated from

- recreation, entrance, and use fees;
- grazing fees;
- concession receipts;
- special use permits for camping, day use, and filming activities; and
- right-of-way permits for transmission lines and water projects.

Table 10 shows our assessment of the potential reliability of the FWS’s revenue data elements stored in a primary agency data system.

Table 10: Assessment of Potential Reliability of FWS Revenue Data Elements Stored in a Primary Agency Data System

Primary agency data system	Data elements’ potential reliability			Number of data elements in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Federal Financial System	0	6	4	10
Total	0	6	4	10

Source: GAO analysis.

We assessed none of the 10 FWS revenue elements as potentially reliable. We determined that 6 of these 10 data elements may be potentially reliable and 4 were potentially unreliable. For example, we assessed the revenues generated from the right-of-way permits data element as potentially unreliable, in part because the revenues cannot be broken down by type of permit, and even if the type of permit were known, the frequency of revenues generated from these permits is unknown (e.g., annually or one-time). These 10 revenue data elements are stored in Interior’s Federal Financial System. See appendix V for our assessment of potential reliability and additional information on the FWS revenue data elements we reviewed and their associated primary agency data system.

Reasons FWS Officials Provided for Not Collecting Certain Revenue Data Elements

FWS did not collect 25 of the 35 revenue data elements we examined. Agency officials provided various explanations on why they did not collect these data elements. For example:

-
- *Cost recovery fees for hardrock mining, Environmental Impact Statement preparation, processing of oil and gas Applications for a Permit to Drill, and geothermal activities.* According to FWS officials, FWS did not collect information on cost recovery fees for hardrock mining because most of the agency’s land is closed to mining operations. Regarding cost recovery fees for preparing Environmental Impact Statements, these costs would be paid by the group or individual applying for a permit to conduct an activity on FWS land and would not be subject to cost recovery. FWS did not collect any revenues for oil and gas Applications for a Permit to Drill because they said BLM is responsible for these, and it did not collect cost recovery fees for geothermal activities because none of these activities were being conducted on FWS lands.
 - *Bonus bids, rents, and royalties associated with oil and gas operations.* FWS did not collect revenue information on these data elements, as it is BLM’s or ONRR’s responsibility to do so. While FWS does receive some revenues related to oil and gas operations, these revenues are captured in the FWS’s financial reports as “mineral resources (oil and gas)” and are not broken out into the subcategories we asked about.
 - *Right-of-way for solar and wind projects.* According to FWS officials, as of June 2010, FWS did not have any solar or wind projects on the land it manages and had no plans to allow them.

See appendix V, table 35, for the list of revenue data elements we reviewed that FWS did not collect and agency officials’ explanations.

NPS

According to agency officials we surveyed, NPS collected 6 of the 35 revenue data elements that we examined: 3 of the 6 were stored in a primary agency data system, and 3 were stored in other formats.

NPS Revenue Data Elements Stored in a Primary Agency Data System and Their Potential Reliability

The three revenue data elements that NPS stored in a primary agency system were

- recreation fees,
- use fees, and
- concession receipts.

Table 11 shows our assessment of the potential reliability of the NPS’s revenue data elements stored in a primary agency data system.

Table 11: Assessment of Potential Reliability of NPS Revenue Data Elements Stored in a Primary Agency Data System

Primary agency data system	Data elements' potential reliability			Number of data elements in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Federal Financial System	3	0	0	3
Total	3	0	0	3

Source: GAO analysis.

We assessed these three data elements as potentially reliable. These data elements were stored in Interior's Federal Financial System. See appendix VI for our assessment of potential reliability and additional information on the NPS revenue data elements we reviewed and their associated primary agency data system.

NPS Revenue Data Elements Stored in Other Formats and Their Potential Reliability

The three revenue data elements NPS collected in other formats related to revenues generated from

- right-of-way permits for transmission lines,
- right-of-way permits for water projects, and
- special use permits generated from filming activities.

NPS officials explained that data elements by the specific categories of right-of-way and special use permits are kept at the park unit level. We assessed these three elements as potentially unreliable, in part because agency officials provided insufficient information on the accuracy and completeness of the data. See appendix VI for our assessment of potential reliability and additional information on the revenue data elements NPS stored in other formats.

Reasons NPS Officials Provided for Not Collecting Certain Revenue Data Elements

NPS did not collect 29 of the 35 revenue data elements that we examined. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Certain cost recovery fees.* According to NPS officials, NPS did not collect information on revenues generated from cost recovery fees for hardrock mining, Environmental Impact Statement preparation, and processing of oil and gas Applications for Permits to Drill, because the agency does not charge such fees. According to NPS officials, the agency does not collect

information on revenues generated from geothermal activities because these activities are prohibited on NPS land.

- *Certain bonus bids, rents, and royalties.* According to NPS officials, NPS did not collect information on revenues generated by bonus bids, rents and royalties related to oil and gas, coal, geothermal, and other leaseable commodities. For oil and gas and leaseable commodities activities, either BLM or ONRR are responsible for collecting these revenues. NPS officials told us both geothermal activity and coal mining are prohibited on NPS land, so no revenues are generated for these.
- *Right-of-way and special use permits for solar or wind projects.* According to NPS officials, as of September 2010, NPS did not collect this information because it had not authorized any solar or wind projects and was not considering any such projects.

See appendix VI, table 40, for the list of revenue data elements we reviewed that NPS did not collect and agency officials' explanations.

BoR

According to agency officials we surveyed, BoR collected 13 of the 35 revenue data elements that we examined: 4 of the 13 were stored in a primary agency data system, and 9 were stored in other formats.

BoR Revenue Data Elements Stored in a Primary Agency Data System and Their Potential Reliability

The four revenue data elements that BoR stored in a primary agency system related to revenues generated from

- recreation fees,
- concession receipts,
- grazing fees, and
- special use permits generated from filming activities.

We assessed these four revenue data elements as may be potentially reliable. Interior officials believe information on these four revenue data elements is reliable. However, we assessed them as may be potentially reliable because information about the completeness and accuracy provided moderate assurance of reliability. These four data elements are stored in Interior's Federal Financial System. See appendix VII for our assessment of potential reliability and additional information on the BoR revenue data elements we reviewed and their associated primary agency data systems.

BoR Revenue Data Elements Stored in Other Formats and Their Potential Reliability

The nine revenue data elements BoR stored in other formats were related to cost recovery fees for preparing Environmental Impact Statements and various types of right-of-way and special use permits. We assessed as potentially unreliable all nine of these revenue data elements. This was because, in part, while aggregate revenue data on cost recovery fees are stored in Interior's Federal Financial System, revenue information specifically related to cost recovery fees for Environmental Impact Statement preparation is stored in permits or vouchers at the relevant BoR regional offices. Similarly, aggregate revenue data on right-of-way and special use permits are in the Federal Financial System, but data on the revenues generated from specific types of special use permits or rights-of-way we examined would be kept in BoR's regional offices. See appendix VII for our assessment of potential reliability and additional information on the revenue data elements BoR collected in other formats.

Reasons BoR Officials Provided for Not Collecting Certain Revenue Data Elements

BoR did not collect 22 of the 35 revenue data elements that we examined. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Cost recovery fees for hardrock mining, processing of oil and gas Applications for Permits to Drill, and geothermal activities.* According to BoR officials, BLM is responsible for administering these activities, so BoR does not collect these data.
- *Bonus bids, rents, and royalties for mineral and geothermal operations.* According to BoR officials, BLM or ONRR is responsible for collecting information on revenues generated from bonus bids, rents, and royalties associated with oil and gas, geothermal, and other leaseable commodities. BoR did not collect information related to bonus bids, rents, and royalties associated with coal because there are no coal mines located on the agency's land.
- *Right-of-way and special use permits for water projects.* According to BoR officials, BoR does not issue these permits because most of the water projects it builds are authorized by special legislation and do not require a permit.

See appendix VII, table 45, for the list of revenue data elements we reviewed that BoR did not collect and agency officials' explanations.

Availability and Potential Reliability of Data Elements on Federal Land Use Designation Collected by the Five Agencies

Some land use designation data elements apply to all five federal land management agencies, and some are unique to a specific agency. As a result, the number of land use designations applicable to each agency varies. Specifically, 26 federal land use designation data elements applied to BLM, 21 to the Forest Service, 21 to FWS, 30 to NPS, and 17 to BoR. NPS collected the most federal land use designation data elements and BoR collected the least, 25 and 1, respectively. Agency officials provided several reasons for not collecting certain federal land use designation data elements applicable to their agencies. They often cited that the collection of certain federal land use designation data elements was the responsibility of other agencies or organizations. We assessed as potentially reliable 25 land use designation data elements stored in primary agency data systems: 2 at Forest Service, 6 at FWS, and 17 at NPS. Table 12 shows for each agency, the number and the availability of federal land use designation data elements we examined and our assessment of the potential reliability for those stored in primary agency data systems.

Table 12: Number and Availability of Federal Land Use Designation Data Elements and Potential Reliability of the Data Elements Stored in Primary Data Systems, by Agency

Agency	Number of data elements identified	Number of data elements collected	Number of data elements stored in a primary agency data system	Number of data elements stored in a primary agency data system and potentially reliable	Number of data elements stored in other formats	Number of data elements not collected
BLM	26	17	1	0	16	9
Forest Service	21	15	13	2	2	6
FWS	21	11	6	6	5	10
NPS	30	25	18	17	7	5
BoR	17	1	0	0	1	16

Source: GAO analysis of information on land use designations provided by BLM, Forest Service FWS, NPS, and BoR officials.

BLM

According to agency officials we surveyed, BLM collected 17 of the 26 land use designation data elements that are applicable to the agency, with 1 of the 17 stored in a primary agency data system and 16 stored in other formats.

BLM Federal Land Use Designation Data Element Stored in a Primary Agency Data System and Its Potential Reliability

The one data element BLM stored in a primary agency data system—acres designated as Special Recreation Management Areas—is potentially unreliable, in part because of limitations with the accuracy of historic data. This data element is stored in BLM’s Recreation Management Information System. See appendix III for our assessment of potential

reliability and additional information on this BLM land use designation data element we examined and its associated primary agency data system.

BLM Federal Land Use Designation Data Elements Stored in Other Formats and Their Potential Reliability

We assessed as potentially reliable 7 of the 16 land use designation data elements BLM stored in other formats. Information for most of the potentially reliable data elements was documented in spreadsheets at BLM headquarters. These data elements included, for example, the number of cultural and historic resource sites, National Monuments, and National Historic and National Scenic Trails. In contrast, we assessed two data elements kept at multiple field offices—the number of paleontological sites and total acres designated as critical habitat under the Endangered Species Act—as potentially unreliable because of agency reported limitations with accuracy, completeness, and overall reliability. See appendix III for our assessment of potential reliability and additional information on the land use designation data elements BLM stored in other formats.

Reasons BLM Officials Provided for Not Collecting Certain Federal Land Use Designation Data Elements

BLM did not collect 9 of the 26 federal land use designation data elements that were applicable to the agency. Agency officials provided a variety of explanations on why they did not collect these data elements. For example:

- *Data elements not routinely collected.* According to BLM officials, the agency does not routinely collect information on total acres designated as Wildland Fire Use Management Areas because it does not need this information to manage the fire program. It collects this information in response to special requests, and the information is located in field offices from where the fires are managed. To update this information, which was last done in 2008, 140 BLM field offices compiled the information and then sent it to the BLM state offices to be aggregated, which took a few months to complete. The information would need to be collected during the fall or winter months because the BLM field office staff would otherwise not have time to do so during the summer fire season.
- *Data elements collected by another organization.* According to BLM officials, the agency does not collect information on the total acres of land designated as Globally Important Bird Areas. The American Bird Conservancy designates these areas and, along with the National Audubon Society, collects information about these sites. BLM is informed if any designations are on its land but does not track these areas. Similarly, BLM does not track acres designated under the United Nations Biosphere

Reserve Program.¹⁹ Instead, the United Nations Educational, Scientific and Cultural Organization (UNESCO) keeps information on biosphere reserve sites.

- *Data elements involving land use designations that are not located on BLM land.* According to BLM officials, the agency does not collect information on total acres designated as Wetlands of International Importance, as none of these sites are located on BLM-managed land.

See appendix III, table 25, for the list of land use designation data elements we reviewed that BLM did not collect and agency officials' explanations.

Forest Service

According to agency officials we surveyed, the Forest Service collected 15 of the 21 land use designation data elements that were applicable to the agency. Thirteen of the 15 data elements collected were stored in primary agency data systems, and 2 were stored in other formats.

Forest Service Federal Land Use Designation Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The 13 federal land use designation data elements that the Forest Service stored in primary agency systems related to

- total acres designated as Wilderness Areas, National Forests, National Grasslands, National Monuments, National Tallgrass Prairie, Land Utilization Projects, administrative sites, and Research Natural Areas;
- total river miles designated as Wild and Scenic Rivers; and
- number of cultural and historic sites, National Historic and National Scenic Trails, National Recreational Trails, and paleontological sites.

Table 13 shows our assessment of the potential reliability of the Forest Service's federal land use designation data elements stored in primary agency data systems.

¹⁹According to UNESCO, biosphere reserves are areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use.

Table 13: Assessment of Potential Reliability of Forest Service Federal Land Use Designation Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements stored in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
Land Area Report	0	0	8	8
Automated Lands Program	0	1	1	2
Natural Resource Manager-INFRA Corporate Database	2	1	0	3
Total	2	2	9	13

Source: GAO analysis.

As the table shows, 2 of the 13 Forest Service federal land use designation data elements stored in primary data systems were assessed as potentially reliable and 9 of the 13 data elements were assessed as potentially unreliable. The two potentially reliable data elements—the number of (1) cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966, and (2) National Historic and National Scenic Trails designated under the National Trails System Act 1968, as amended—were stored in the Natural Resource Manager-INFRA Corporate Database. In contrast, the eight data elements stored in the Land Area Report data system were potentially unreliable, in part because the data system used few internal controls for data quality, and the data in the system had not been audited. See appendix IV for our assessment of potential reliability and additional information on the Forest Service federal land use designation data elements we reviewed and their associated data systems.

Forest Service Federal Land Use Designation Data Elements Stored in Other Formats and Their Potential Reliability

We assessed the two federal land use designation data elements collected by the Forest Service in other formats as may be potentially reliable:

- *Acres within inventoried roadless areas.* This data element was available on a Web site—<http://roadless.fs.fed.us>—that is maintained by staff at the Forest Service headquarters office. Staff in the field offices provided the information to the headquarters office by converting hand-drawn maps to Geographic Information System maps, which were then loaded onto the Web site.
- *Acres designated as critical habitat under the Endangered Species Act.* Information for this data element was collected in a spreadsheet kept by

the Forest Service's headquarters office, which relied on field units to report the critical habitat areas in their regions.

See appendix IV for our assessment of potential reliability and additional information on the federal land use designation data elements the Forest Service stored in other formats.

Reasons Forest Service Officials Provided for Not Collecting Certain Federal Land Use Designation Data Elements

The Forest Service did not collect 6 of the 21 applicable federal land use designation data elements that were applicable to the agency. Agency officials provided various explanations on why they did not collect these data elements. For example:

- According to Forest Service officials, the agency is not required to track acres of land designated as Wetlands of International Importance or lands designated as Globally Important Bird Areas. National Forests have the discretion to recognize these sites and include them in their land management plans.
- According to Forest Service officials, sites designated as World Heritage sites or International Historic sites are not located on agency-managed land.

See appendix IV, table 30, for the list of federal land use designation data elements we reviewed that Forest Service did not collect and agency officials' explanations.

FWS

According to agency officials we surveyed, FWS collected 11 of the 21 data elements on federal land use designations that were applicable to the agency; 6 of the 11 elements were stored in primary agency data systems, and 5 were stored in other formats.

FWS Federal Land Use Designation Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The six federal land use designation data elements that FWS stored in primary agency data systems included total acres designated as

- administrative sites,
- National Monuments,
- Wilderness Areas,
- National Wildlife Refuge System,
- National Fish Hatchery System, and

-
- Waterfowl Production Areas.

We assessed these six data elements as potentially reliable. These six data elements were stored in the Land Records System. See appendix V for our assessment of potential reliability and additional information on the FWS federal land use designation data elements we reviewed and their associated primary agency data systems.

FWS Federal Land Use Designation Data Elements Stored in Other Formats and Their Potential Reliability

The five federal land use designation data elements that were collected in other formats were kept in paper files at the headquarters, regional, and field or local office level. The five data elements included

- total river miles designated as Wild and Scenic Rivers,
- the number of cultural and historic resource sites,
- the number of National Historic and National Scenic Trails,
- the number of National Recreational Trails or Roads, and
- the number of paleontological sites.

We assessed as potentially reliable four of these data elements and one—the number of paleontological sites—as potentially unreliable because the data were newly collected and there is no clear procedure established for data collection. See appendix V for our assessment of potential reliability and additional information on the federal land use designation data elements FWS collects that were stored in other formats.

Reasons FWS Officials Provided for Not Collecting Certain Federal Land Use Designation Data Elements

FWS did not collect 10 of the 21 federal land use designation data elements that were applicable to the agency. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Information not routinely collected.* According to FWS officials, FWS does not routinely collect information about acres designated as Research Natural Areas. Files containing this information are kept at the field office level. A list of these areas was developed a few years ago, but there is no process in place to update the list. Similarly, FWS does not routinely collect information on acres designated as critical habitat under the Endangered Species Act. About 390 wildlife refuges have endangered species, and the field offices could estimate the number of acres that fall under this designation. However, these designations change over time as areas and species are monitored and evaluated and, sometimes,

endangered species' habitats overlap. As a result, the field offices could only estimate the number of acres that fall under this designation.

- *Information collected by another organization.* According to FWS officials, the United Nations World Heritage program keeps records for acres designated as World Heritage Sites, and FWS relies on this entity for information about these sites. Similarly, the United Nations keeps records for sites designated under the United Nations Biosphere Reserve Program, and UNESCO keeps records for Wetlands of International Importance. FWS relies on these entities for information about these land designations, and these designations do not affect the agency's management of these areas.
- *Information involving sites not on FWS land.* According to FWS officials, they do not use specific designations for Wetlands Conservation and Coastal Wetlands, so the agency does not collect information on these sites. Similarly, FWS does not designate lands as Migratory Bird Habitat Areas. Land for these habitats is purchased using funds from the sale of "duck stamps" or Federal Migratory Bird Hunting and Conservation Stamps. Once these lands are purchased, they are managed in the same manner as other FWS land and are not tracked separately.

See appendix V, table 35, for the list of federal land use designation data elements we reviewed that FWS did not collect and agency officials' explanations.

NPS

According to agency officials we surveyed, NPS collected 25 of the 30 federal land use designation data elements applicable to the agency: 18 data elements were stored in primary agency data systems, and 7 were stored in other formats.

NPS Federal Land Use Designation Data Elements Stored in Primary Agency Data Systems and Their Potential Reliability

The 18 NPS federal land use designation data elements stored in primary agency data systems included the number of acres of land designated for National Parks, National Monuments, National Battlefields, National Historic Sites, and the number of paleontological sites.

Table 14 shows our assessment of the potential reliability of NPS's federal land use designation data elements stored in primary agency data systems.

Table 14: Assessment of Potential Reliability of NPS Federal Land Use Designation Data Elements Stored in Primary Agency Data Systems

Primary agency data system	Data elements' potential reliability			Number of data elements in system
	Potentially reliable	May be potentially reliable	Potentially unreliable	
National Register Information System	1	0	0	1
Performance Management Data System	0	1	0	1
Lands Management Information System/Master Deed List Database	16	0	0	16
Total	17	1	0	18

Source: GAO analysis.

As the table shows, we assessed as potentially reliable 17 of the 18 NPS federal land use designation data elements, and we assessed the remaining data element—the number of paleontological sites—as may be potentially reliable, in part because the data are reported to be accurate, however there are some limitations with completeness of the data. See appendix VI for our assessment of potential reliability and additional information on the NPS land use designation data elements we reviewed and their associated primary agency data systems.

NPS Federal Land Use Designation Data Elements Stored in Other Formats and Their Potential Reliability

The seven federal land use designation data elements that NPS stored in other formats were kept in electronic spreadsheets, on Web sites, or paper files at agency headquarters or in park units. These data elements included

- total acres designated as Wilderness Areas,
- total river miles designated as Wild and Scenic Rivers,
- number of National Historic and National Scenic Trails,
- number of National Recreational Trails or Roads,
- total acres designated as Research Natural Areas,
- total acres designated as critical habitat under the Endangered Species Act, and
- total acres designated as World Heritage Sites.

Of the seven federal land use designation data elements that NPS stored in other formats, we assessed two as potentially reliable—number of National Historic and National Scenic Trails and number of National Recreational Trails or Roads. We assessed as potentially unreliable two data elements—total acres designated as Research Natural Areas and total acres designated as World Heritage Sites. Data for World Heritage Sites are kept at NPS headquarters in paper files and data for Research Natural Areas are kept in paper files at 58 park units. Agency officials noted limitations in the accuracy and completeness for both of these data elements.

See appendix VI for our assessment of potential reliability and additional information on the federal land use designation data elements that NPS collects in other formats.

Reasons NPS Officials Provided for Not Collecting Certain Federal Land Use Designation Data Elements

NPS did not collect 5 of the 30 land use designation data elements applicable to the agency. Agency officials provided various explanations on why they did not collect these data elements. For example:

- *Data elements not routinely collected.* According to NPS officials, the agency stopped separately tracking information about acres designated as National Cemeteries in the agency's lands data system about 20 to 25 years ago. The acreage is included as a part of other designations, such as national military parks or national battlefield parks.
- *Data elements collected by another organization.* According to NPS officials, NPS did not collect information on acres designated under the United Nations Biosphere Reserve Program because the UNESCO is responsible for collecting these data. Similarly, NPS did not collect information on acres designated as Globally Important Bird Areas because two organizations manage information on these areas—the American Bird Conservancy and the National Audubon Society.

See appendix VI, table 40, for the list of federal land use designation data elements we reviewed that NPS did not collect and agency officials' explanations.

BoR

BoR collected 1 of the 17 federal land use designation data elements applicable to the agency. It was stored in another format, and we assessed this data element as potentially reliable. This data element was kept in an electronic file at BoR headquarters, according to agency officials we surveyed. Through this data element BoR collected information on the number of cultural and historic resource sites on its land. See appendix VII

for our assessment of potential reliability and additional information on this data element BoR stores in other formats.

Reasons BoR Officials Provided for Not Collecting Certain Federal Land Use Designation Data Elements

BoR did not collect 16 of 17 land use designation data elements that we examined. Agency officials provided various explanations on why they did not collect these data, for example:

- *Data collection not part of BoR's mission.* According to BoR officials, the agency did not routinely collect information about acres designated as Wilderness Areas, river miles designated as Wild and Scenic River, the number of National Historic and National Scenic Trails, and the number of National Recreational Trails or roads because collection of this information is not a part of its mission.
- *Data collected by another agency.* Several of the land use designations that are applicable to BoR were tracked by other federal agencies, according to BoR officials. For example, NPS collects information about acres designated as National Natural Landmarks.
- *Data collection not mandated by BoR.* Some sites designated for specific purposes may be on BoR-managed land, but BoR headquarters does not collect information on these sites, although BoR regional offices may do so. Some of these sites that may be on BoR land are World Heritage Sites, Wetlands of International Importance/Ramsar sites, Globally Important Bird Areas, or International Historic Sites.

See appendix VII, table 45, for the list of land use designation data elements we reviewed that BoR did not collect and agency officials' explanations.

Agency Comments and Our Evaluation

We provided a draft of this report to Interior and the Forest Service for their review and comment. The Forest Service generally concurred with the report's observations. The Forest Service's written comments are presented in appendix IX. Interior provided technical comments, which we incorporated into the report, as appropriate.

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 Agriculture and the Interior, and other interested parties. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-3841 or mittala@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 who made contributions to this report are listed in appendix X.



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Appendix I: Objectives, Scope, and Methodology

This appendix details the methods we used to examine certain federal land data the five agencies—the Bureau of Land Management (BLM), the Bureau of Reclamation (BoR), the Fish and Wildlife Service (FWS), and the National Park Service (NPS) in the Department of the Interior (Interior) and the Forest Service in the Department of Agriculture—collect, and the availability and the potential reliability of these data. As requested, we examined selected data in the following three categories for fiscal years 1996 through 2009: (1) federal land and the resources the five agencies manage, (2) revenues generated from selected activities on federal land, and (3) federal land subject to selected land use designations.

To address these objectives, we developed a list of the types of data the agencies might collect on their federal land and resources, revenues generated from activities on federal land, and federal land use designations. Hereafter, we refer to these types of data as “data elements.” We developed a list of data elements by reviewing, among other things, your request letter, past GAO and Congressional Research Service reports and interviewing agency officials. For federal land use designations applicable to each agency, we obtained information on relevant designations from agency officials. To develop a list of primary agency data systems that contained the data elements we were examining, we obtained an initial list of data systems from agency officials and refined this list as needed. We defined “primary agency data system” as a centralized, electronic data system maintained at an agencywide level. To identify knowledgeable agency officials, we obtained a preliminary list of those responsible for land management programs and primary agency data systems from the five land management agencies, which we refined in order to identify knowledgeable agency officials to respond to the questions about the data elements and primary agency data systems. Through these efforts, we identified more than 100 data elements of interest at each of the five agencies for a total of 575 data elements and 26 primary agency data systems. We did not identify every data element that the five agencies collect related to land management, nor did we determine what data elements the agencies are required to collect.

We developed a Web-based survey to systematically and consistently obtain and record information about each data element and primary agency data system. The survey was administered via telephone interviews, with knowledgeable agency officials at the headquarters level. We did not contact officials at the regional or field levels to verify statements provided by headquarters officials who answered survey questions regarding data elements available at the regional or field levels. We surveyed more than 100 officials in the five agencies to gather

information on the availability, location, and reliability of each data element (e.g., completeness and accuracy of data, and associated limitations) that these agencies collected from 1996 through 2009, as well as the internal controls (e.g., data entry and access procedures, automated edit checks, error flags, and audits) used to ensure the quality of data maintained in primary agency data systems. We considered the data element to be “collected” if it was tracked in a routine manner, easily accessible, and readily available. If officials noted that a data element could be gathered or calculated, this did not fit our definition and was therefore recorded as “not collected.” We also obtained an explanation from agency officials on why the data element was not collected. If the agency officials noted one of the agencies in our review—BLM, Forest Service, FWS, NPS, or BoR—collected this information, we reviewed the information provided by that agency. However, if agency officials told us that another agency outside these five agencies, such as the Office of Natural Resource Revenue (ONRR), collected a data element, we did not confirm whether that agency collected the information. We also reviewed readily available relevant information, such as BLM’s Public Lands Statistics, agency financial statements, and previous GAO and Congressional Research Service reports to corroborate some of the information agency officials provided.¹

The practical difficulties of conducting any survey may introduce errors, commonly referred to as nonsampling errors. For example, differences in how a particular question is interpreted or the information sources available to respondents can introduce unwanted variability into the survey results. We took extensive steps in survey development, data collection, and the editing and analysis of survey data to minimize nonsampling errors. Specifically, we obtained comments on the draft of the survey from internal specialists and the analysis of survey results was reviewed by an independent, internal specialist. In addition, we pretested the survey with all five agencies to ensure the (1) questions were clear and

¹BLM, *Public Land Statistics 2009*, BLM/OC/ST-10/001+1165, (Washington, D.C.: May 2010, Volume 194); GAO, *Oil and Gas Development: Increased Permitting Activity Has Lessened BLM’s Ability to Meet Its Environmental Protection Responsibilities*, [GAO-05-418](#) (Washington, D.C.: June 17, 2005); GAO, *Hardrock Mining: Information on State Royalties and Trends in Mineral Imports and Exports*, [GAO-08-849R](#) (Washington, D.C.: July 21, 2008); GAO, *Livestock Grazing: Federal Expenditures and Receipts Vary, Depending on the Agency and the Purpose of the Fee Charged*, [GAO-05-869](#) (Washington, D.C.: Sept. 30, 2005); Congressional Research Service, *Federal Land Management Agencies: Background on Land and Resources Management*, CRS R40225 (Washington, D.C.: Feb. 9, 2009).

unambiguous, (2) terminology was used correctly, (3) information could feasibly be obtained, and (4) the survey was comprehensive and unbiased. We made changes to the content and format of the survey after this process based on the feedback we received. In particular, we originally designed the survey to be self-administered. However, as a result of pretesting, we decided to administer the survey through interviews to more effectively capture the complexity, accuracy, and depth of responses needed.

We did not collect the actual data for each data element, and could not, therefore, electronically test the data for a specific purpose. Rather, we assessed the “potential reliability” of data elements the agencies collect, based on information gathered through the survey process and, where applicable, from relevant reports or audits. One of three possible levels of “potential reliability” was assigned to each data system and data element—“potentially reliable,” “may be potentially reliable,” and “potentially unreliable.” Our assessment of potential reliability is for a specific time frame, which may be different for the time frame in which the data are available. For example, a data element might be available from before 1995; however, it might only be potentially reliable since 2010. The reliability assessments and the time frames for the assessments are in appendixes III through VII. It is also important to note that GAO only assessed the potential reliability of these data elements and additional analysis would be needed to determine the reliability of specific data elements depending on the purpose for which they will be used.

The assessments of primary agency data systems and data elements were conducted independently, by two reviewers with expertise in data reliability assessment. Using the criteria for assessing potential reliability detailed in tables 15, 16, and 17, the reviewers independently coded each data system and data element, and then reconciled results to assign a final score. Specifically, we took the following steps:

- *Step 1: Assess primary agency data systems.*

We assessed the potential reliability of the 26 primary agency data systems based on information officials provided about the system’s internal controls, audit and review findings, and limitations. In making the assessment, we also incorporated relevant findings from published audits, evaluations, or other reviews provided by agency officials.

- *Step 2: Assess data elements collected in a primary agency data system.*

We then assessed the potential reliability of data elements the agencies collect in primary data systems based on information officials provided on (1) the specific data element's accuracy and completeness, and (2) our assessment of the primary data system in which the data element is stored.

- *Step 3: Assess data elements collected in other formats.*²

Finally, we assessed the potential reliability of data elements the agencies collect, but that were stored in other formats, based on information officials provided on (1) the specific elements' accuracy and completeness and (2) other risk factors related to data integrity and reliability. Because we did not have information about internal controls on data elements stored in other formats, our assessment of potential reliability for these data elements was more limited.

In assessing the primary agency data systems and data elements, we used symbols to indicate the level of "potential reliability" we assigned. See tables 15, 16, and 17 for the symbol associated with the three levels of potential reliability and the criteria used to assign a level for our assessment of primary agency data systems, data elements stored in a primary agency database, and data elements stored in other formats. See appendixes III through VII for our potential reliability assessments and time frames for the data elements and appendix VIII for our potential reliability assessments of the individual agency primary data systems at each of the five agencies.

²Other formats include paper files, spreadsheets, Web sites, or other agency files or documents, such as permits.

Table 15: Levels of Potential Reliability and Criteria for Assessing Primary Agency Data Systems

Symbol	Level	Criteria
●	“Potentially reliable” System controls provide high assurance about the reliability of data in the system.	(1) We had sufficient information on the quality of the data system, and that information indicated that the data system routinely used most of the necessary internal controls required to reliably maintain data and (2) had no or only minor limitations related to maintaining accurate, complete, and reliable data.
◐	“May be potentially reliable” System controls provide moderate assurance about the reliability of data in the system.	(1) We did not have sufficient information on the quality of the data system to unequivocally assess it as potentially reliable; and/or (2) agency officials reported that the data system (a) occasionally used most or (b) routinely used only some of the necessary internal controls required to reliably maintain data; and/or (3) had some limitations related to maintaining accurate, complete, and reliable data.
○	“Potentially unreliable” System controls provide low assurance about the reliability of data in the system.	Agency officials reported that the data system (1) did not use, or they did not know if it used, many of the necessary internal controls required to reliably maintain data and/or (2) had significant limitations related to maintaining accurate, complete, and reliable data.

Source: GAO.

Table 16: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in a Primary Agency Data System

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data’s completeness, accuracy, and reliability and (2) the data are available within a single data system.
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as “potentially unreliable” (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).

Source: GAO.

Table 17: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed (i.e., more than 15 locations).

Source: GAO.

We conducted this performance audit from January 2010 through April 2011 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: Data Elements Examined and the Extent to Which the Five Agencies Collect Them

This appendix provides information on the over 100 data elements that GAO examined at each of the five agencies—BLM, FWS, NPS, and BoR at Interior, and the Department of Agriculture’s Forest Service.

In summary, all five agencies collected data for four of the data elements that GAO asked them about, which related to total surface acres they manage, total acres they manage within each state, the number of special use permits generated for filming activities on federal land, and the number of cultural and historic sites listed on the National Registry of Historic Places. In contrast, none of the five agencies collected information for 33 data elements that GAO asked them about, such as the percent of total acres under oil, gas, or coal leases that have surface disturbance or where the surface disturbance has been reclaimed, or information on the potential quantities of oil, gas, and coal resources on federal land. Agency officials cited a variety of reasons why the agencies did not collect certain data elements. See appendixes III through VII for agency officials’ explanations.

Tables 18 and 19 list the data elements we examined for federal land and resources and for revenues generated from activities on federal land and indicate which of the five agencies collect them. Table 20 lists the data elements collected for federal land use designations by those that apply to all agencies and those that apply to each of the five agencies.

Table 18: Federal Land and Resource Data Elements Collected by the Five Federal Agencies

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
1. Total surface acres managed	✓	✓	✓	✓	✓
2. Total subsurface acres managed	✓	✓			
3. Total acres managed within each state	✓	✓	✓	✓	✓
4. Total acres acquired that facilitated the establishment of buffer areas around military installations				✓	
5. Total acres withdrawn that facilitated the establishment of buffer areas around military installations				✓	
6. Total acres acquired for national park units				✓	
7. Total acres acquired for wilderness areas	✓	✓			
8. Total acres acquired for battlegrounds					
9. Total acres acquired for wildlife refuges		✓	✓		
10. Total acres acquired for national recreation areas	✓	✓		✓	
11. Total acres acquired for other purposes		✓	✓		
12. Total acres that were added to the federal estate through eminent domain powers of the federal government		✓	✓	✓	✓
13. Total acres disposed of through sale or exchange	✓	✓	✓	✓	

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
Them**

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
14. Potential quantity of coal resources on federal lands (tonnage)					
15. Potential quantity of coal reserves on federal lands (tonnage)	✓				
16. Total acres of federal lands available for coal leasing under existing land management plans					
17. Total acres of land that have been leased for coal development	✓				
18. Total acres of federal lands leased for coal development that are in producing status					
19. Extent to which coal has been produced from leased lands (tonnage)					
20. Potential quantity of oil and natural gas resources on federal lands (barrels/cubic feet)					
21. Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)					
22. Total acres of federal lands available for oil and natural gas leasing under existing land management plans					
23. Total acres of federal lands that have been leased for oil and natural gas development	✓			✓	
24. Total acres of federal lands leased for oil and natural gas development that are in producing status	✓			✓	
25. Extent to which oil and natural gas has been produced from leased federal lands (barrels/cubic feet)					
26. Value of bonds held by your agency to ensure reclamation of oil and gas operations	✓				
27. Potential acres of federal lands available for timber sale					
28. Potential quantity of timber on federal lands suitable for commercial harvesting (board feet)					
29. Total acres of federal lands that have been approved for commercial timber harvesting (acres) under existing land management plans	✓	✓			
30. Extent to which timber on federal lands has been commercially harvested (board feet)	✓	✓			
31. Total acres of federal lands from which timber has been commercially harvested	✓	✓	✓		
32. Potential acreage for livestock grazing on federal lands	✓				
33. Total acres of federal lands authorized for livestock grazing use under existing land management plans	✓	✓			
34. Total acres of federal lands used for livestock grazing	✓	✓	✓		
35. Potential quantity of hardrock (locatable) minerals on federal lands					
36. Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans				✓	
37. Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)					
38. Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	✓				
39. Total acres of federal lands that were burned as a result of wildland fires (Forest Service and NPS)/wildfires (BLM)	✓	✓	✓	✓	
40. Costs associated with wildland fires (Forest Service and NPS)/wildfires (BLM)	✓	✓	✓	✓	
41. Percentage of total acres of federal lands that are under a coal lease that have surface disturbance					

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
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Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
42. Percentage of total acres of federal lands that are under an oil and natural gas lease that have surface disturbance					
43. Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	✓				
44. Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed					
45. Percentage of total acres of federal lands that are under an oil and natural gas lease where the surface disturbance has been reclaimed					
46. Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where the surface disturbance has been reclaimed	✓				
47. Percentage of total acres of federal lands that are under a coal lease where surface is undisturbed					
48. Percentage of the total acres of federal lands that are under an oil and natural gas lease where surface is undisturbed					
49. Percentage of the total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface is undisturbed					
50. Total acres of wildlife refuge with energy development and production currently taking place					
51. Total acres of wildlife refuge with mineral development and production currently taking place					
52. Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)					
53. Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)					
54. Total percentage of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872		✓			
55. Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920		✓			
56. Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands		✓			
57. Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947		✓			

Source: GAO.

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
Them**

Table 19: Revenue Data Elements Collected by the Five Federal Agencies

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
1. Oil and gas bonus bids	✓				
2. Oil and gas rents	✓				
3. Oil and gas royalties					
4. Coal bonus bids	✓				
5. Coal rents	✓				
6. Coal royalties					
7. Geothermal bonus bids	✓				
8. Geothermal rents	✓				
9. Geothermal royalties					
10. Other leaseable commodities bonus bids					
11. Other leaseable commodities rents					
12. Other leaseable commodities royalties					
13. Grazing fees	✓	✓	✓		✓
14. Claim maintenance fees for hardrock mining	✓				
15. Location fees for hardrock mining	✓				
16. Special use permits for transmission lines		✓			✓
17. Right-of-way permits for transmission lines	✓		✓	✓	✓
18. Special use permits for water projects		✓			
19. Right-of-way permits for water projects	✓		✓	✓	
20. Special use permits for solar projects	✓				✓
21. Right-of-way permits for solar projects					✓
22. Special use permits for wind projects	✓	✓			✓
23. Right-of-way permits for wind projects	✓				✓
24. Special use permits generated from camping activities	✓	✓	✓		✓
25. Special use permits generated from day use activities	✓	✓	✓		✓
26. Special use permits generated from filming activities	✓	✓	✓	✓	✓
27. Special use permits generated from concession activities	✓	✓			
28. Cost recovery fees associated with hardrock mining	✓				
29. Cost recovery fees related to Environmental Impact Statement (EIS) preparation					✓
30. Cost recovery fees for processing oil and gas Applications to Drill	✓				
31. Cost recovery fees associated with geothermal activities	✓				
32. Recreation fees		✓	✓	✓	✓
33. Entrance fees	✓		✓		
34. Use fees			✓	✓	
35. Concession receipts			✓	✓	✓

Source: GAO.

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
Them**

Table 20: Federal Land Use Designation Data Elements Collected by the Five Federal Agencies

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
Federal land use designation data elements applicable to all five agencies					
1. Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	✓	✓	✓	✓	
2. Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	✓	✓	✓	✓	
3. Number of cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966	✓	✓	✓	✓	✓
4. Number of National Historic and National Scenic Trails designated under the National Trails System Act of 1968, as amended	✓	✓	✓	✓	
5. Number of National Recreational Trails or roads designated under the National Trails System Act of 1968, as amended		✓	✓	✓	
6. Number of paleontological sites	✓	✓	✓	✓	
7. Total acres designated as Research Natural Areas		✓		✓	
8. Total acres designated as critical habitat under the Endangered Species Act	✓	✓		✓	
9. Total acres designated under the United Nations Biosphere Reserve Program					
10. Total acres designated as World Heritage Sites	✓			✓	
11. Total acres designated as Wetlands of International Importance/Ramsar sites					
12. Total acres designated as Globally Important Bird Areas					
13. Total acres designated as International Historic Sites				✓	
Federal land use designation data elements specific to BLM					
1. Total acres designated as National Conservation Areas	✓				
2. Total acres designated as National Monuments by public proclamation of the President under the Antiquities Act of 1906, or by the Congress	✓				
3. Total acres designated as Cooperative Management and Protection Areas	✓				
4. Total acres designated as National Recreation Areas	✓				
5. Total acres designated as Special Recreation Management Areas	✓				
6. Total acres designated as Outstanding Natural Areas	✓				
7. Total acres designated as Forest Reserves	✓				
8. Total acres inventoried as Wilderness Study Areas through Section 603(a) of the Federal Land Policy Management Act	✓				
9. Total acres designated as Areas of Critical Environmental Concern	✓				
10. Total acres designated as administrative sites					
11. Total acres designated as Visual Resource Management Classifications					
12. Total acres designated as Wildland Fire Use Management Areas					
13. Total acres designated as Herd Management Areas	✓				

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
Them**

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
Federal land use designation data elements specific to the Forest Service					
1. Total acres designated as National Forests		✓			
2. Total acres designated as National Grasslands		✓			
3. Total acres designated as National Monuments		✓			
4. Total areas designated as National Tallgrass Prairie		✓			
5. Total acres designated for Land Utilization Projects		✓			
6. Total acres designated as administrative sites		✓			
7. Total acres within inventoried roadless areas		✓			
8. Total acres for other land use designations listed in existing forest plans					
Federal land use designation data elements specific to FWS					
1. Total acres within the National Wildlife Refuge System			✓		
2. Total acres within the National Fish Hatchery System			✓		
3. Total acres designated as Waterfowl Production Areas			✓		
4. Total acres designated as Coastal Wetlands					
5. Total acres designated as Wetlands Conservation					
6. Total acres designated as Migratory Bird Habitat Areas					
7. Total acres managed as administrative sites			✓		
8. Total acres designated as National Monuments			✓		
Federal land use designation data elements specific to NPS					
1. Total acres designated as National Parks				✓	
2. Total acres designated as National Parkways				✓	
3. Total acres designated as National Cemeteries					
4. Total acres designated as National Monuments				✓	
5. Total acres designated as National Battlefields				✓	
6. Total acres designated as National Battlefield Parks				✓	
7. Total acres designated as National Battlefield Sites				✓	
8. Total acres designated as National Military Parks				✓	
9. Total acres designated as National Historic Parks				✓	
10. Total acres designated as National Historic Sites				✓	
11. Total acres designated as National Lakeshores				✓	
12. Total acres designated as National Memorials				✓	
13. Total acres designated as National Preserves				✓	
14. Total acres designated as National Reserves				✓	
15. Total acres designated as National Seashores				✓	
16. Total acres designated as National Recreation Areas				✓	

**Appendix II: Data Elements Examined and the
Extent to Which the Five Agencies Collect
Them**

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
17. Total acres designated as administrative sites					
Federal land use designation data elements specific to BoR					
1. Total acres designated as Wetlands					
2. Total acres designated as National Monuments					
3. Total acres designated as National Natural Landmarks					
4. Total acres designated as administrative sites					

Source: GAO.

Note: The shaded areas indicate land use designation data elements that were not applicable to the agency.

Appendix III: Information on Bureau of Land Management Data Elements

This appendix presents detailed information on BLM data elements we identified in our review that the agency collects and does not collect, where they are stored, and their potential reliability. See table 23 for data elements BLM collects in primary agency data systems; table 24 for data elements BLM collects in other formats; and table 25 for information on data elements BLM does not collect.

In assessing the potential reliability of each data element, we reviewed agency officials' responses to our survey about the data's accuracy, completeness, and reliability in order to apply categories of potential reliability. For data elements stored in primary agency data systems, we included information about the internal controls on the systems in which the data are stored as part of the assessment. However, because similar information was not available for data elements stored in other formats, the assessment for these data elements is somewhat less robust than the assessment of data elements in primary agency data systems. Because the assessments for these two sets of data elements are not comparable, they are presented separately with different shading for the three categories of potential reliability, as we used different criteria to assess the data elements. The criteria are listed in tables 21 and 22.

Table 21: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Primary Agency Data Systems

Symbol	Level	Criteria
●	<p>"Potentially reliable"</p> <p>Information about the completeness and accuracy provides high assurance of reliability.</p>	<p>(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data's completeness, accuracy, and reliability, and (2) the data are available within a single data system.</p>
◐	<p>"May be potentially reliable"</p> <p>Information about the completeness and accuracy provides moderate assurance of reliability.</p>	<p>(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.</p>
○	<p>"Potentially unreliable"</p> <p>Information about the completeness and accuracy provides low assurance of reliability.</p>	<p>(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as "potentially unreliable" (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).</p>

Source: GAO.

Appendix III: Information on Bureau of Land Management Data Elements

Table 22: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed (i.e., more than 15 locations).

Source: GAO.

Table 23: Assessment of Potential Reliability of BLM Data Elements Stored in Primary Agency Data Systems by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

BLM data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land and resource data elements				
Total acres of land that have been leased for coal development	◐	Legacy Rehost 2000	Before 1995	
Total acres of federal mineral estate that have been leased for oil and natural gas development	●	Legacy Rehost 2000	Before 1995	
Total acres of federal mineral estate leased for oil and natural gas production that are in producing status	◐	Legacy Rehost 2000	Before 1995	
Value of bonds held by your agency to ensure reclamation of oil and gas operations and other associated activities	●	Legacy Rehost 2000	Before 1995	
Total acres of federal lands that have been contracted for commercial timber harvesting	●	Timber Sale Information System	1997	
Extent to which timber on federal lands has been commercially harvested (board feet)	●	Timber Sale Information System	1997	
Total acres of federal lands from which timber has been commercially harvested	●	Timber Sale Information System	1997	

**Appendix III: Information on Bureau of Land
Management Data Elements**

BLM data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Potential acreage for livestock grazing on federal lands	◐	Rangelands Administration System	2010	
Total acres of federal lands in allotment for livestock grazing use	◐	Rangelands Administration System	2010	
Total acres of federal lands actually used (active allotments) for livestock grazing	◐	Rangelands Administration System	2010	
Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	●	Legacy Rehost 2000	2007	2010
Total acres of federal lands that were burned as a result of wildfires	◐	Wildland Fire Management Information System	Before 1995	
Costs associated with wildfires	◐	Financial and Business Management System	Before 1995	2009
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	○	Legacy Rehost 2000	Before 1995	
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface disturbance has been reclaimed	◐	Legacy Rehost 2000	Before 1995	
Revenues generated from activities on federal land data elements				
Oil and Gas Bonus bids	◐	Collection and Billing System	2000	
Oil and gas rents	◐	Collection and Billing System	2000	
Coal bonus bids	○	Collection and Billing System	Before 1995	
Coal rents	○	Collection and Billing System	Before 1995	
Geothermal lease sale bonus bids	◐	Collection and Billing System	2000	
Geothermal lease rentals	●	Collection and Billing System	2000	
Grazing fees	●	Collection and Billing System	2000	
Claim maintenance fees for hardrock (locatable) mining	◐	Collection and Billing System	2000	

Appendix III: Information on Bureau of Land Management Data Elements

BLM data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Location fees for hardrock (locatable) mining	◐	Collection and Billing System	2000	
Rent revenue generated from right-of-way permits for transmission lines	●	Legacy Rehost 2000	Before 1995	
Rent revenue generated from right-of-way permits for water projects	●	Legacy Rehost 2000	Before 1995	
Rent revenue generated from land use permits for solar testing projects	●	Legacy Rehost 2000	2008	
Rent revenue generated from right-of-way permits for wind testing projects	●	Legacy Rehost 2000	2003	
Rent revenue generated from right-of-way permits for wind development projects	●	Legacy Rehost 2000	Before 1995	
Special use permits generated from camping activities	◐	Collection and Billing System	2000	2002
Special use permits generated from day use activities	●	Collection and Billing System	2000	2002
Special use permits generated from filming activities	●	Collection and Billing System	2000	
Special use permits generated from concession activities	●	Collection and Billing System	2002	
Cost recovery fees associated with non-energy leaseable mineral mining	◐	Financial and Business Management System	2000	2009
Application fees for processing oil and gas Applications to Drill	●	Collection and Billing System	2008	
Cost recovery fees associated with geothermal lease administration activities	●	Collection and Billing System	2005	
Entrance fees	●	Collection and Billing System	2002	
Federal land use designation data elements				
Total acres designated as Special Recreation Management Areas	○	Recreation Management Information System	2010	

Source: GAO analysis of information provided by BLM officials.

**Appendix III: Information on Bureau of Land
Management Data Elements**

Table 24: Assessment of Potential Reliability of BLM Data Elements Stored in Other Formats, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

BLM data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Federal land and resource data elements					
Total surface acres managed	○	State offices	12	Varies	1995
Total subsurface acres managed	○	State offices	12	Varies	1995
Total acres managed within each state	○	State offices	12	Varies	1995
Total acres acquired for wilderness areas	○	State offices	12	Varies	1995
Total acres acquired for national recreation areas	●	Alaska state office	1	Web site, other files	Don't know
Total acres disposed of through sale or exchange	○	State offices	12	Paper files	1995
Potential quantity of coal reserves for active leases on federal lands (tonnage)	◐	AZ, CO, Eastern, MT, NM, UT, and WY state offices	7	Paper files	Before 1995
Federal land use designation data elements					
Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	◐	Headquarters	1	Spreadsheet (GIS data)	2010
Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	◐	Headquarters	1	Spreadsheet (GIS data)	2010
Number of cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966	●	Headquarters	1	Spreadsheet	Before 1995
Number of National Historic and National Scenic Trails designated under the National Trails System Act 1968, as amended	●	Headquarters	1	Spreadsheet (GIS data)	2010
Number of paleontological sites	○	Field offices	70	Varies	2005
Total acres designated as critical habitat under the Endangered Species Act	○	Field offices	12	Varies	2005
Total acres designated as National Conservation Areas	◐	Headquarters	1	Spreadsheet (GIS data)	2010

**Appendix III: Information on Bureau of Land
Management Data Elements**

BLM data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Total acres designated as national monuments by Presidential Proclamation under the Antiquities Act or by an Act of Congress.	●	Headquarters	1	Spreadsheet (GIS data)	2010
Total acres designated as Cooperative Management and Protection Areas	●	Headquarters	1	Spreadsheet (GIS data)	2010
Total acres designated as National Recreation Areas	●	Alaska state office	1	Web site, other files	Don't know
Total acres designated as Outstanding Natural Areas	●	Headquarters	1	Spreadsheet (GIS data)	2010
Total acres designated as Forest Reserves	●	Headquarters	1	Spreadsheet (GIS data)	2010
Total acres inventoried as Wilderness Study Areas through Section 603(a) of the Federal Land Policy and Management Act	◐	Headquarters	1	Spreadsheet	Before 1995
Total acres designated as Areas of Critical Environmental Concern	○	State offices	12	Varies	Before 1995
Total acres designated as Herd Management Areas	◐	Headquarters	1	Spreadsheet	2001
Total acres designated as World Heritage Sites	◐	Headquarters	1	Spreadsheet	Before 1995

Source: GAO analysis of information provided by BLM officials.

Appendix III: Information on Bureau of Land Management Data Elements

Table 25: Data Elements BLM Does Not Collect and Explanation from BLM Agency Officials, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

Data elements BLM does not collect by category	Explanation from BLM agency officials
Federal land and resource data elements	
Total acres acquired that facilitated the establishment of buffer areas around military installations	BLM does not collect the data, because it is the responsibility of the Department of Defense to collect and maintain this information.
Total acres withdrawn that facilitated the establishment of buffer areas around military installations	These data are not readily available. BLM headquarters has information for the total acreage withdrawn (around military installations), but acreage information for buffer zones are not specifically identified. Information on buffer zones may be available in BLM's field offices.
Total acres acquired for national park units	BLM does not collect the data because it is the responsibility of NPS. According to NPS officials, NPS collects this information in its Lands Management Information System/Master Deed List Database.
Total acres acquired for battlegrounds	BLM does not collect this information. Officials said this information may be collected by NPS. NPS officials said "battlegrounds" is not a land use designation that NPS tracks. Instead, NPS tracks acres acquired for "National Battlefields."
Total acres acquired for wildlife refuges	BLM does not collect the data because it is the responsibility of FWS. According to FWS officials, FWS does collect this information in its Land Records System database.
Total acres acquired for other purposes	BLM does not collect these data because the term "Total acres acquired for other purposes" is not used by BLM for collecting any information.
Total acres that were added to the federal estate through eminent domain powers of the federal government	These data are not routinely collected because BLM officials stated it is rare for the federal government to use powers of eminent domain to obtain additional federal lands.
Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)	According to information provided by BLM officials, these data are not routinely collected, but the information may be located in BLM's state offices.
Potential quantity of coal resources on federal lands (tonnage)	According to information provided by BLM officials, these data are not readily available. There may be some information regarding coal in BLM's headquarters or state offices that is provided to the U. S. Geological Survey (USGS). USGS is responsible for aggregating data on coal resources.
Total acres of federal lands available for coal leasing under existing land management plans	According to information provided by BLM officials, these data are not routinely collected or readily available. To collect this information, Resource Management Plans that cover all BLM district, field, and state offices (about 150 different locations) would need to be consulted and information from the plans could be used to calculate the total acres available.
Total acres of federal lands leased for coal development that are in compliance with diligent development and continued operations	According to information provided by BLM officials, these data are not routinely collected or readily available. To collect this information, production verification records kept in paper format in 15 BLM field offices would need to be reviewed and, using information from the files, the total acres in compliance could be calculated. Collecting this information would be very time-consuming.
Extent to which coal has been produced from leased lands (tonnage)	BLM does not collect these data because it is the responsibility of ONRR to collect it.
Technically recoverable undiscovered oil and natural gas resources on federal lands	BLM does not collect this information because USGS is responsible for collecting it. USGS collects this information according to the Energy Policy and Conservation Act of 2000 requirements.

Appendix III: Information on Bureau of Land Management Data Elements

Data elements BLM does not collect by category	Explanation from BLM agency officials
Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)	BLM does not collect these data. Agency officials stated that USGS or the Energy Information Administration may collect this information.
Total acres of federal mineral estate available for oil and natural gas leasing under existing land management plans	According to information provided by BLM officials, these data are not routinely collected or readily available, but information can be found in BLM land use management plans. To collect and compile this information, numerous plans would need to be reviewed. These plans are developed at the field office level.
Quantity or volume of oil and natural gas that has been produced from leased federal lands (barrels of oil or thousand cubic feet (MCF) of natural gas)	BLM does not collect these data because it is the responsibility of ONRR to collect it.
Potential acres of federal lands available for commercial harvesting under current land use management plans	According to information provided by BLM officials, these data are not routinely collected, but information is located in land use plans in BLM's state, district, and field offices (about 100 different locations).
Potential quantity of timber on federal lands available for commercial harvesting under current land use management plans	According to information provided by BLM officials, these data are not routinely collected, but information is located in land use plans in BLM's state, district, and field offices (about 100 different locations).
Potential quantity of hardrock (locatable) minerals on federal lands	BLM does not collect these data and no other federal agency currently collects this information. USGS has some information on mineral inventories but the data are over 30 years old.
Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans	According to information provided by BLM officials, this information is not routinely collected or readily available. BLM stores this information on plats (detailed paper maps). Efforts to collect this information by digitizing plats have been unsuccessful. Collecting and compiling this information would be very time consuming and resource intensive.
Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)	BLM does not collect these data because it does not use volume (tonnage) as a unit of measurement for the amount of hardrock (locatable) minerals that have been extracted. Information is collected on the number of acres mined.
Percentage of total acres of federal lands that are under a coal lease that have surface disturbance	BLM does not collect the data because the Office of Surface Mining Reclamation and Enforcement (OSM) and individual state agencies with primacy for the federal coal leasing program keep this kind of data.
Percentage of total acres of federal mineral estate that are under an oil and natural gas lease that have surface disturbance	BLM does not collect these data in a comprehensive manner. The agency has plans to collect these data but has no funding to do so. Currently, some data may be collected on a project basis in some areas, according to BLM.
Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed	BLM does not collect the data because OSM and individual state agencies with primacy for the federal coal leasing program keep this kind of data.
Percentage of total acres of federal mineral estate that are under an oil and natural gas lease where the surface disturbance has been reclaimed	BLM does not collect these data in a comprehensive manner. The agency has plans to collect these data but has no funding to do so. Currently, some data may be collected on a project basis in some areas, according to BLM.
Percentage of the total acres of federal lands that are under a coal lease where surface is undisturbed	BLM does not collect the data because it is the responsibility of OSM to do so.

Appendix III: Information on Bureau of Land Management Data Elements

Data elements BLM does not collect by category	Explanation from BLM agency officials
Percentage of the total acres of federal mineral estate that are under an oil and natural gas lease where surface is undisturbed	BLM officials stated they did not collect these data and had no plans to do so. Instead of collecting information on undisturbed acres, BLM quantifies the stages of development for non-producing oil and gas leases, according to BLM officials.
Percentage of the total acres of federal lands that are under a notice or plan level hardrock operation where surface is undisturbed	According to information provided by BLM officials, these data are not routinely collected or readily available. Collecting these data would involve—for each ongoing mine operation—reviewing field inspection reports to determine the total acres disturbed and obtaining the total acres authorized for disturbance from the Legacy Rehost 2000 database. The percentage could be calculated using this information.
Total acres of wildlife refuge that is available for energy development and total acres of wildlife refuge that is currently under energy production	According to information provided by BLM officials, the data are not readily available, but there may be some information in BLM’s state offices. Agency officials said they are only concerned with the oil and gas leases and not with the specific locations of oil and gas development (e.g., development available within a wildlife refuge).
Total acres of wildlife refuge with mineral development and production currently taking place	According to information provided by BLM officials, these data are not routinely collected, but information may be available through BLM’s state offices. BLM officials indicated that FWS may collect this data. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. FWS has plans to begin collecting this information. Some of this information may be available at local FWS offices.
Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)	According to information provided by BLM officials, these data are not readily available, but some information may be available in BLM’s state offices. Agency officials said they are only concerned with the oil and gas leases and not with the specific locations of oil and gas development.
Total acres of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872	According to information provided by BLM officials, these data are not routinely collected, but the information is located in over 500 Public Land Orders and in master plats (or detailed maps), some dating back to 1872. Compiling this information would be very resource intensive because all the land orders and plats would need to be reviewed and acres of land withdrawn would need to be calculated.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920	According to information provided by BLM officials, these data are not routinely collected or readily available. This information can be obtained from BLM land use plans. These plans are developed at the field office level. Collecting and compiling this information would be resource intensive and require a review of numerous land use plans.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands	According to information provided by BLM officials, these data are not routinely collected or readily available. This information can be obtained from BLM land use plans. These plans are developed at the field office level. Collecting and compiling this information would be resource intensive and require a review of numerous land use plans.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947	According to information provided by BLM officials, these data are not routinely collected or readily available, but information is located in pertinent acts of Congress and over 500 Public Land Orders. Collecting and compiling this information would be very resource intensive and require months to complete.
Revenues generated from activities on federal land data elements	
Oil and gas royalties	BLM does not collect these data because it is the responsibility of ONRR to do so.
Coal royalties	BLM does not collect these data because it is the responsibility of ONRR to do so.
Geothermal royalties	BLM does not collect these data because it is the responsibility of ONRR to do so.

**Appendix III: Information on Bureau of Land
Management Data Elements**

Data elements BLM does not collect by category	Explanation from BLM agency officials
Other leaseable commodities bonus bids	BLM does not collect this information because it is the responsibility of ONRR to collect it.
Other leaseable commodities rents	BLM does not collect these data because it is the responsibility of ONRR to do so.
Other leaseable commodities royalties	BLM does not collect this information because it is the responsibility of ONRR to do so.
Special use permits for transmission lines	BLM does not use the term "special use permits for transmission lines." The agency collects this information as "right-of-way permits for transmission lines."
Special use permits for water projects	BLM does not use the term, "Special use permits for water projects." The agency collects this information as "right-of-way permits for water projects."
Rent revenue generated from right-of-way permits for solar development projects	There are no data on "rent revenues generated from right-of-way permits for solar development projects" because, as of June 2010, BLM had not approved any permits for these projects.
Cost recovery fees related to EIS preparation	These data are not readily available because BLM collects information about all cost recovery fees in one category. It is impossible to separate the costs for EIS preparation from other cost recovery fees in Interior's Financial Business Management System.
Recreation fees	BLM does not use the term "recreation fees" because this category is too broad. BLM collects subcategories of fees related to recreation which are recorded in the Collection and Billing System.
Use fees	BLM does not use the term "use fees" because this category is too broad. BLM collects subcategories of fees related to use activities which are recorded in the Collection and Billing System.
Concession receipts	BLM does not use the term "concession receipts." The agency collects this information as "special use permits generated from concession activities."
Federal land use designation data elements	
Number of National Recreational Trails or roads designated under the National Trails System Act 1968, as amended	BLM does not collect these data because it is the responsibility of the NPS Rivers and Trails Program to collect it. According to NPS officials, NPS's headquarters office keeps this information in paper files.
Total acres designated as Research Natural Areas	BLM does not use the term "total acres designated as Research Natural Areas." The agency collects this information as "total acres designated as Areas of Critical Environmental Concern."
Total acres designated as administrative sites	Originally, we could not confirm that the agency collected this data, so we coded this data element as not collected by BLM. Subsequent to the completion of our analysis, BLM officials told us that BLM keeps this data in the agency's Facilities Asset Management System and also stated that this data element is generally unreliable.
Total acres designated as Visual Resource Management Classes	According to information provided by BLM officials, these data are not routinely collected or readily available. Some of the information can be found in BLM land use plans. Collecting this information would be resource intensive because the data are kept in multiple locations and different formats. BLM is in the process of updating the plans to include more complete information on visual resource inventories and is developing a standardized format for this information.
Total acres designated as Wildland Fire Use Management Areas	According to information provided by BLM officials, these data are not routinely collected or readily available. The information is located in BLM's field offices, where the fires are managed. Collecting this information from 140 field offices and compiling it would take several months.

Appendix III: Information on Bureau of Land Management Data Elements

Data elements BLM does not collect by category	Explanation from BLM agency officials
Total acres designated under the United Nations Biosphere Reserve Program	BLM does not collect this information because the United Nations designates Biosphere Reserves, and BLM only keeps track of designations established by Acts of Congress, Presidential Proclamation, or Secretarial Order. The United Nations is responsible for collecting this information.
Total acres designated as Wetlands of International Importance/Ramsar sites	BLM does not collect these data because there are no BLM-managed wetlands designated as International Importance/Ramsar sites.
Total acres designated as Globally Important Bird Areas	BLM does not collect these data because it is not a typical BLM land use designation, a congressional designation, a presidential designation, or a federal designation. The American Bird Conservancy designates these areas and, along with the National Audubon Society, collects information about these sites. BLM is informed if any of these designations are on its land but does not track these areas.
Total acres designated as International Historic Sites	BLM does not use the term “total acres designated as International Historic Sites.” The agency collects this information as “total acres designated as World Heritage Sites.”

Source: GAO analysis of information provided by BLM officials.

Appendix IV: Information on Forest Service Data Elements

This appendix presents detailed information on Forest Service data elements we identified in our review that the agency collects and does not collect, where they are stored, and their potential reliability. See table 28 for data elements the Forest Service collects in primary agency data systems; table 29 for data elements the Forest Service collects in other formats; and table 30 for information on data elements Forest Service does not collect.

In assessing the potential reliability of each data element, we reviewed agency officials' responses to our survey about the data's accuracy, completeness, and reliability in order to apply categories of potential reliability. For data elements kept in primary agency data systems, we included information about the internal controls on the systems in which the data are stored as part of the assessment. However, because similar information was not available for data elements stored in other formats the assessment for these data elements is somewhat less robust than the assessment of data elements in primary agency data systems. Because the assessments for these two sets of data elements are not comparable, they are presented separately with different shading for the three categories of potential reliability, as we used different criteria to assess the data elements. The criteria are listed in tables 26 and 27.

Table 26: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Primary Agency Data Systems

Symbol	Level	Criteria
●	<p>"Potentially reliable"</p> <p>Information about the completeness and accuracy provides high assurance of reliability.</p>	<p>(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data's completeness, accuracy, and reliability, and (2) the data are available within a single data system.</p>
◐	<p>"May be potentially reliable"</p> <p>Information about the completeness and accuracy provides moderate assurance of reliability.</p>	<p>(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.</p>
○	<p>"Potentially unreliable"</p> <p>Information about the completeness and accuracy provides low assurance of reliability.</p>	<p>(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as "potentially unreliable" (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).</p>

Source: GAO.

**Appendix IV: Information on Forest Service
Data Elements**

Table 27: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed (i.e., more than 15 locations).

Source: GAO.

Table 28: Assessment of Potential Reliability of Forest Service Data Elements Stored in Primary Agency Data Systems, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

Forest Service data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land and resource data elements				
Total surface acres managed	○	Land Area Report	Before 1995	
Total subsurface acres managed	○	Automated Lands Program	2006	
Total acres managed within each state	○	Land Area Report	Before 1995	
Total acres acquired for wilderness areas	○	Land Area Report	Before 1995	
Total acres acquired for wildlife refuges	○	Land Area Report	Before 1995	
Total acres acquired for national recreation areas	○	Land Area Report	Before 1995	
Total acres acquired for other purposes	○	Land Area Report	Before 1995	
Total acres that were added to the federal estate through eminent domain powers of the federal government	○	Land Area Report	Before 1995	
Total acres disposed of through sale or exchange	○	Land Area Report	Before 1995	
Total acres of federal lands that have been contracted for commercial timber harvesting	◐	NRM-Timber Information Manager	2002	
Extent to which timber on federal lands has been commercially harvested (board feet)	●	Automated Timber Sale Accounting	2010	

**Appendix IV: Information on Forest Service
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Forest Service data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Total acres of federal lands from which timber has been commercially harvested	○	NRM - Forest Service Activity Tracking System	2005	
Total acres of federal lands in allotment for livestock grazing use	●	Natural Resource Manager-INFRA Corporate Database	2000	
Total acres of federal lands actually used (active allotments) for livestock grazing	●	Natural Resource Manager-INFRA Corporate Database	2000	
Total acres of federal lands that were burned as a result of wildland fires (Forest Service and NPS)/wildfires (BLM)	◐	Fire Statistics System	Before 1995	
Costs associated with wildland fires (Forest Service and NPS)/wildfires (BLM)	●	Foundation Financial Information System	2000	
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872	○	Automated Lands Program	Before 1995	
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920	○	Automated Lands Program	Before 1995	
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands	○	Automated Lands Program	1995	
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947	○	Automated Lands Program	Before 1995	
Revenues generated from activities on federal land data elements				
Grazing fees	●	Natural Resource Manager-INFRA Corporate Database	2005	
Special use permits for transmission lines	◐	Special Uses Data System	2002	
Special use permits for water projects	◐	Special Uses Data System	2002	
Special use permits for wind projects	◐	Special Uses Data System	2009	
Special use permits generated from camping activities	◐	Special Uses Data System	2002	
Special use permits generated from day use activities	◐	Special Uses Data System	2002	

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Forest Service data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Special use permits generated from filming activities	◐	Special Uses Data System	2002	
Special use permits generated from concession activities	◐	Special Uses Data System	2002	
Recreation fees	◐	Foundation Financial Information System	2005	
Federal land use designation data elements				
Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	○	Land Area Report	Before 1995	
Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	○	Land Area Report	Before 1995	
Number of cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966	●	Natural Resource Manager-INFRA Corporate Database	2000	
Number of National Historic and National Scenic Trails designated under the National Trails System Act 1968, as amended	●	Natural Resource Manager-INFRA Corporate Database	2000	
Number of National Recreational Trails or roads designated under the National Trails System Act 1968, as amended	◐	Natural Resource Manager-INFRA Corporate Database	2000	2010
Number of paleontological sites	◐	Automated Lands Program	2006	
Total acres designated as Research Natural Areas	○	Automated Lands Program	2006	
Total acres designated as National Forests	○	Land Area Report	Before 1995	
Total acres designated as National Grasslands	○	Land Area Report	1995	
Total acres designated as National Monuments	○	Land Area Report	Before 1995	
Total acres designated as National Tallgrass Prairie	○	Land Area Report	Before 1995	
Total acres designated for Land Utilization Projects	○	Land Area Report	Before 1995	
Total acres designated as administrative sites	○	Land Area Report	Before 1995	

Source: GAO analysis of information provided by Forest Service officials.

**Appendix IV: Information on Forest Service
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Table 29: Assessment of Potential Reliability of Forest Service Data Elements Stored in Other Formats, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

Forest Service data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Federal land use designation data elements					
Total acres within inventoried roadless areas	●	Headquarters	1	GIS Web site	2000
Total acres designated as critical habitat under the Endangered Species Act	●	Headquarters	1	Spreadsheet	Before 1995

Source: GAO analysis of information provided by Forest Service officials.

Table 30: Data Elements Forest Service Does Not Collect and Explanation from Forest Service Officials, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

Forest Service data elements by category	Explanation from Forest Service agency officials
Federal land and resource data elements	
Total acres acquired that facilitated the establishment of buffer areas around military installations	Forest Service does not collect this information because the Forest Service has not specifically purchased land near military bases to serve as buffer zones.
Total acres withdrawn that facilitated the establishment of buffer areas around military installations	This data element is not tracked by the Forest Service because BLM is responsible for creating any withdrawal areas. According to information provided by BLM officials, these data are not readily available from BLM. BLM headquarters has information for the total acreage withdrawn (around military installations), but acreage information for buffer zones are not specifically identified. Information on buffer zones may be available in BLM's field offices.
Total acres acquired for national park units	Forest Service does not collect this information because it is the responsibility of NPS. According to NPS officials, NPS collects this information in its Lands Management Information System/Master Deed List Database.
Total acres acquired for battlegrounds	Forest Service does not collect this information because it should be the responsibility of NPS. NPS officials said "battlegrounds" is not a land use designation that NPS tracks. Instead, NPS tracks acres acquired for "National Battlefields."
Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)	Forest Service does not collect this information because it is the responsibility of agencies in Interior to do so. According to information provided by BLM, BoR, FWS, and NPS officials, their agencies did not routinely collect this information, although BLM and FWS local offices may have some information.
Potential quantity of coal resources on federal lands (tonnage)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought USGS or the Department of Energy's Energy Information Administration may collect the data.
Potential quantity of coal reserves on federal lands (tonnage)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. BLM officials said they collected this information which is stored in paper files located in seven BLM state offices.

**Appendix IV: Information on Forest Service
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Forest Service data elements by category	Explanation from Forest Service agency officials
Total acres of federal lands available for coal leasing under existing land management plans	Forest Service does not collect this information because forest plans do not typically make such determinations.
Total acres of land that have been leased for coal development	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials said BLM may collect this information. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Total acres of federal lands leased for coal development that are in producing status	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought BLM may collect these data. BLM does not routinely collect this information and it is not readily available. To collect this information, production verification records kept in paper format in 15 BLM field offices would need to be reviewed and, using information from the files, the total acres in compliance could be calculated. Collecting this information would be very time-consuming.
Extent to which coal has been produced from leased lands (tonnage)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought the ONRR might collect it.
Potential quantity of oil and natural gas resources on federal lands (barrels/cubic feet)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. BLM officials stated that USGS collects this information according to the Energy Policy and Conservation Act of 2000 requirements.
Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials said ONRR might collect this information.
Total acres of federal lands available for oil and natural gas leasing under existing land management plans	Forest Service does not collect this information because forest plans do not typically make such determinations.
Total acres of federal lands that have been leased for oil and natural gas development	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Total acres of federal lands leased for oil and natural gas production that are in producing status	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Extent to which oil and natural gas has been produced from leased federal lands (barrels/cubic feet)	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials ONRR collects this information.
Value of bonds held by your agency to ensure reclamation of oil and gas operations	Forest Service does not collect this information. BLM has the authority to issue oil and gas reclamation bonds and is responsible for these. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Potential acres of federal lands suitable for timber harvest	According to information provided by Forest Service officials, the Forest Service does not routinely collect these data and it is not readily available. To obtain the information, 120 land management plans would need to be reviewed.
Potential acres of timber on federal lands suitable for timber production	According to information provided by Forest Service officials, the Forest Service does not routinely collect these data and it is not readily available. To obtain the information, 120 land management plans would need to be reviewed.

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Forest Service data elements by category	Explanation from Forest Service agency officials
Potential acreage for livestock grazing on federal lands	According to information provided by Forest Service officials, the Forest Service does not routinely collect these data and the information is not readily available. Some information on “opportunities for grazing” does exist in the national forest plans, but even if one collected and compiled this information, it would not be complete or accurate.
Potential quantity of hardrock (locatable) minerals on federal lands	The Forest Service does not collect this information, and does not have the authority to track it. Forest Service officials said USGS may collect these data. BLM officials said no federal agency currently collects these data and pointed out that USGS has some information on mineral inventories, but the data are over 30 years old.
Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information. The information could be calculated by subtracting the number of acres of land withdrawn from mineral entry, which is contained in the Forest Service Automated Lands Program Database, from the total acres managed by the agency.
Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)	Forest Service does not collect this information, and has no plans to collect it in the future. Forest Service does not have the authority to collect the information. Owners of mining claims are not required to report the amount of hardrock minerals extracted from Forest Service lands. In addition, the claim owners are not required to pay royalties on the amount of hardrock minerals extracted.
Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information and it is not readily available. The information is in hundreds of files kept at the forest and/or district level offices and would require an extensive effort to collect. Forest Service is beginning to enter the data into its Natural Resource Manager-INFRA Corporate Database.
Percentage of total acres of federal lands that are under a coal lease that have surface disturbance	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials said OSM may collect these data.
Percentage of total acres of federal lands that are under an oil and natural gas lease that have surface disturbance	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought BLM may collect these data; however, BLM officials said they do not collect this data in a comprehensive manner. Currently, some data may be collected on a project basis in some areas, according to BLM. BLM does have plans to collect these data but there is no funding to do so.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information and it is not readily available. The information is in hundreds of files kept at the forest and/or district level offices and would require an extensive effort to collect. Forest Service is beginning to enter the data into its Natural Resource Manager-INFRA Corporate Database.
Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials said OSM may collect these data.
Percentage of total acres of federal lands that are under an oil and natural gas lease where the surface disturbance has been reclaimed	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought BLM may collect these data, but BLM officials said they do not collect this data in a comprehensive manner. Currently, some data may be collected on a project basis in some areas. BLM plans to collect this information but has no funding to do so, according to BLM officials.

**Appendix IV: Information on Forest Service
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Forest Service data elements by category	Explanation from Forest Service agency officials
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface disturbance has been reclaimed	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information and it is not readily available. The information is in hundreds of files kept at the forest and/or district level offices and would require an extensive effort to collect. Forest Service is beginning to enter the data into its Natural Resource Manager-INFRA Corporate Database.
Percentage of the total acres of federal lands that are under a coal lease where surface is undisturbed	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials said OSM may collect these data.
Percentage of the total acres of federal lands that are under an oil and natural gas lease where surface is undisturbed	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. Forest Service officials thought BLM may collect these data; however, BLM does not and has no plans to do so, according to BLM officials.
Percentage of the total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface is undisturbed d	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information and it is not readily available. The information is in hundreds of files kept at the forest and/or district level offices and would require an extensive effort to collect. Forest Service is beginning to enter the data into its Natural Resource Manager-INFRA Corporate Database.
Total acres of wildlife refuge with energy development and production currently taking place	Forest Service officials said the agency does not collect this information and they thought it might be the responsibility of FWS to do so. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total acres of wildlife refuge with mineral development and production currently taking place	Forest Service officials said the agency does not collect this information and they thought it might be the responsibility of FWS to do so. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)	Forest Service officials said the agency does not collect this information and they thought it might be the responsibility of FWS to do so. According to information provided by FWS, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Revenues generated from activities on federal land data elements	
Oil and gas bonus bids	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects this information in its Collection and Billing System.
Oil and gas rents	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects the first year's rent on a lease in its Collection and Billing System and then ONRR is responsible for collecting the rent revenues for subsequent years.
Oil and gas royalties	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, it is the responsibility of ONRR to collect this information.
Coal bonus bids	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects this information in its Collection and Billing System.

**Appendix IV: Information on Forest Service
Data Elements**

Forest Service data elements by category	Explanation from Forest Service agency officials
Coal rents	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects the first year's rent on a lease in its Collection and Billing System and then ONRR is responsible for collecting the rent revenues for subsequent years.
Coal royalties	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, ONRR is responsible for collecting this information.
Geothermal bonus bids	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects this information in its Collection and Billing System.
Geothermal rents	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects the first year's rent on a lease in its Collection and Billing System and then ONRR is responsible for collecting the rent revenues for subsequent years.
Geothermal royalties	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, it is the responsibility of ONRR to collect this information.
Other leaseable commodities bonus bids	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, ONRR is responsible for collecting this information.
Other leaseable commodities rents	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, ONRR is responsible for collecting this information.
Other leaseable commodities royalties	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, ONRR is responsible for collecting this information.
Claim maintenance fees for hardrock mining	Forest Service does not collect this information because it does not have the authority to do so. BLM has the authority to collect claim maintenance fees for hardrock mining.
Location fees for hardrock mining	Forest Service does not collect this information because it does not have the authority to do so. BLM has the authority to collect location fees for hardrock mining.
Right-of-way permits for transmission lines	Forest Service does not use the term "right-of-way permits for transmission lines." The agency collects this information as "special use permits for transmission lines."
Right-of-way permits for water projects	Forest Service does not use the term "right-of-way permits for water projects." The agency collects this information as "special use permits for water projects."
Special use permits for solar projects	Forest Service does not collect data on "special use permits for solar projects" because, as of June 2010, the agency had not approved any permits for these projects.

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Forest Service data elements by category	Explanation from Forest Service agency officials
Right-of-way permits for solar projects	Forest Service does not use the term “right-of-way permits for solar projects.” The agency collects this information as “special use permits for solar projects.”
Right-of-way permits for wind projects	Forest Service does not use the term “right-of-way permits for wind projects.” The agency collects this information as “special use permits for wind projects.”
Cost recovery fees associated with hardrock mining	Forest Service does not collect this information because it does not have the authority to do so. BLM has the authority to collect cost recovery fees associated with hardrock mining. BLM collects this information in aggregate form in the Financial and Business Management System.
Cost recovery fees related to EIS preparation	Forest Service does not collect this information because it does not have the authority to collect it. BLM has the authority to collect cost recovery fees related to EIS preparation. According to information provided by BLM, these specific data are not readily available because BLM collects information about all cost recovery fees in one category. It is impossible to separate the costs for EIS preparation from other cost recovery fees in the Financial Business Management System.
Cost recovery fees for processing oil and gas Applications to Drill	Forest Service does not collect this information because it is not within Forest Service authority to require the collection of this information, according to Forest Service officials. According to BLM officials, BLM collects these data in its Collection and Billing System.
Cost recovery fees associated with geothermal activities	Forest Service does not collect this information because doing so is not a part of the agency’s mission. According to BLM officials, BLM collects this information in its Collection and Billing System.
Entrance fees	Forest Service does not collect this information because the agency is prohibited from charging entrance fees under the Federal Lands Recreation Enhancement Act.
Use fees	Forest Service does not use the revenue category “use fees.” The agency collects this information in the category “recreation fees.”
Concession receipts	Forest Service does not use the revenue category “concession receipts.” The agency collects this information as “special use permits generated from concession activities.”
Federal land use designation data elements	
Total acres for other land use designations listed in existing forest plans	Forest Service does not collect information on the category “other land use designations” because it is too broad. There are other individual land use designations that are collected by the Forest Service, and these are located in multiple databases.
Total acres designated under the United Nations Biosphere Reserve Program	Although the Forest Service has one of these sites, according to a Forest Service official, he did not know if the Forest Service collected acreage data for this site.
Total acres designated as World Heritage Sites	Forest Service does not collect this information because none of these sites are on the agency’s land.
Total acres designated as Wetlands of International Importance/Ramsar sites	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information. Each National Forest, at its discretion, might mention the existence of these sites in its land management plan, but this is not a national requirement and Forest Service does not monitor these sites nationally.

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Forest Service data elements by category	Explanation from Forest Service agency officials
Total acres designated as Globally Important Bird Areas	According to information provided by Forest Service officials, the Forest Service does not routinely collect this information. Each National Forest, at their discretion, might mention the existence of these sites in their land management plan, but this is not a national requirement and Forest Service does not monitor these sites nationally.
Total acres designated as International Historic Sites	Forest Service does not collect this information because none of these sites are on the agency's land.

Source: GAO analysis of information provided by Forest Service officials.

Appendix V: Information on Fish and Wildlife Service Data Elements

This appendix presents detailed information on FWS data elements we identified in our review that the agency collects and does not collect, where they are stored, and their potential reliability. See table 33 for data elements FWS collects in primary agency data systems; table 34 for data elements FWS collects in other formats; and table 35 for information on data elements FWS does not collect.

In assessing the potential reliability of each data element, we reviewed agency officials' survey responses about the data's accuracy, completeness, and reliability in order to apply categories of potential reliability. For data elements stored in primary agency data systems, we included information about the internal controls on the systems in which the data are stored as part of the assessment. However, because similar information was not available for data elements stored in other formats, the assessment for these data elements is somewhat less robust than the assessment of data elements in primary agency data systems. Because the assessments for these two sets of data elements are not comparable, they are presented separately with different shading for the three categories of potential reliability, as we used different criteria to assess the data elements. These criteria are listed in tables 31 and 32.

Table 31: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Primary Agency Data Systems

Symbol	Level	Criteria
●	"Potentially reliable" Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data's completeness, accuracy, and reliability and (2) the data are available within a single data system.
◐	"May be potentially reliable" Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.
○	"Potentially unreliable" Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as "potentially unreliable" (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).

Source: GAO.

Table 32: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed (i.e., more than 15 locations).

Source: GAO.

Table 33: Assessment of Potential Reliability of FWS Data Elements Stored in Primary Agency Data Systems, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

FWS data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land and resource data elements				
Total surface acres managed	●	Land Records System	Before 1995	
Total acres managed within each state	●	Land Records System	Before 1995	
Total acres acquired for wildlife refuges	●	Land Records System	Before 1995	
Total acres acquired for other purposes	●	Land Records System	Before 1995	
Total acres that were added to the federal estate through eminent domain powers of the federal government	●	Land Records System	Before 1995	
Total acres disposed of through sale or exchange	●	Land Records System	Before 1995	
Total acres of federal lands from which timber has been commercially harvested	○	Refuge Annual Performance Plan System	2005	
Total acres of federal lands used for livestock grazing	○	Refuge Annual Performance Plan System	2005	
Total acres of federal lands that were burned as a result of wildland fires (Forest Service and NPS)/wildfires (BLM)	◐	Fire Management Information System	Before 1995	

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FWS data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Costs associated with wildland fires (Forest Service and NPS)/wildfires (BLM)	●	Federal Financial System	Before 1995	
Revenues generated from activities on federal land data elements				
Grazing fees	○	Federal Financial System	Before 1995	
Right-of-way permits for transmission lines	○	Federal Financial System	Before 1995	
Right-of-way permits for water projects	○	Federal Financial System	Before 1995	
Special use permits generated from camping activities	●	Federal Financial System	1995	
Special use permits generated from day use activities	●	Federal Financial System	Before 1995	
Special use permits generated from filming activities	○	Federal Financial System	2000	
Recreation fees	●	Federal Financial System	Before 1995	
Entrance fees	●	Federal Financial System	Before 1995	
Use fees	●	Federal Financial System	Before 1995	
Concession receipts	●	Federal Financial System	Before 1995	
Federal land use designation data elements				
Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	●	Land Records System	Before 1995	
Total acres within the National Wildlife Refuge System	●	Land Records System	Before 1995	
Total acres within the National Fish Hatchery System	●	Land Records System	Before 1995	
Total acres designated as Waterfowl Production Areas	●	Land Records System	Before 1995	
Total acres designated as administrative sites	●	Land Records System	Before 1995	
Total acres designated as National Monuments	●	Land Records System	Before 1995	

Source: GAO analysis of information provided by FWS officials.

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Service Data Elements**

Table 34: Assessment of Potential Reliability of FWS Data Elements Stored in Other Formats, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

FWS data element by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Federal land use designation data elements					
Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	●	Headquarters and field offices	12	Paper files	Before 1995
Number of cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966	●	Regional offices	100	Paper files	1995
Number of National Historic and National Scenic Trails designated under the National Trails System Act 1968, as amended	●	National, regional, and local offices	60	Paper files	Before 1995
Number of National Recreational Trails or roads designated under the National Trails System Act 1968, as amended	●	National, regional, and local offices	60	Paper files	Before 1995
Number of paleontological sites	○	National, regional, and local offices	10	Paper files	2007

Source: GAO analysis of information provided by FWS officials.

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Table 35: Data Elements FWS Does Not Collect and Explanation from FWS Agency Officials, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

FWS data elements by category	Explanation from FWS agency officials
Federal land and resource data elements	
Total subsurface acres managed	FWS does not collect this information because BLM is responsible for administering all federal subsurface acres. According to BLM officials, this information is kept in BLM state offices in various formats.
Total acres acquired that facilitated the establishment of buffer areas around military installations	FWS does not track these data because the agency does not have buffer areas around military installations.
Total acres withdrawn that facilitated the establishment of buffer areas around military installations	FWS does not track these data because the agency does not have buffer areas around military installations.
Total acres acquired for national park units	FWS does not collect this information; NPS has responsibility for national park units. According to NPS officials, NPS collects this information in its Lands Management Information System/Master Deed List Database.
Total acres acquired for wilderness areas	FWS does not establish wilderness areas; only Congress does this. Furthermore, FWS does not acquire lands for the purpose of expanding wilderness areas; the agency only acquires land for the benefit of wildlife. Wilderness areas are, however, tracked by FWS.
Total acres acquired for battlegrounds	FWS does not collect this information because NPS has responsibility for battlegrounds. NPS officials said "battlegrounds" is not a land use designation that NPS tracks. Instead, NPS tracks acres acquired for "National Battlefields."
Total acres acquired for national recreation areas	FWS does not collect this information. According to officials from the five land management agencies, BLM, NPS, and Forest Service collect this information. BLM has one of these sites in its Alaska state office and maintains this information on a website and in other files kept in the state office. Forest Service collects this information in the Land Area Report database and NPS collects the information in its Lands Management Information System/Master Deed List Database
Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)	According to the information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some information may be available at local FWS offices.
Potential quantity of coal resources on federal lands (tonnage)	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Potential quantity of coal reserves on federal lands (tonnage)	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Total acres of federal lands available for coal leasing under existing land management plans	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.

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FWS data elements by category	Explanation from FWS agency officials
Total acres of land that have been leased for coal development	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Total acres of federal lands leased for coal development that are in producing status	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Extent to which coal has been produced from leased lands (tonnage)	FWS does not collect this information because it is not responsible for managing subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Potential quantity of oil and natural gas resources on federal lands (barrels/cubic feet)	FWS does not collect this information because BLM is responsible for managing subsurface minerals on federal land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. BLM officials said they do not collect this information because USGS collects this information according to the Energy Policy and Conservation Act of 2000 requirements.
Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)	FWS does not collect this information because BLM is responsible for managing subsurface minerals on federal land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. BLM officials said they do not collect these data; they stated that USGS or the Energy Information Administration may collect it.
Total acres of federal lands available for oil and natural gas leasing under existing land management plans	FWS does not collect this information because BLM is responsible for managing subsurface minerals on federal land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. According to the information provided by BLM officials, these data are not routinely collected by BLM or readily available, but information can be found in BLM land use management plans. To collect and compile this information, numerous plans would need to be reviewed. These plans are developed at the BLM field office level.
Total acres of federal lands that have been leased for oil and natural gas development	FWS does not collect this information because BLM is responsible for managing subsurface minerals on federal land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Total acres of federal lands leased for oil and natural gas production that are in producing status	FWS does not collect this information because BLM is responsible for administering oil and gas leases on FWS land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.
Extent to which oil and natural gas has been produced from leased federal lands (barrels/cubic feet)	FWS does not collect this information because BLM is responsible for administering oil and gas leases on FWS land. Oil and gas activity is very limited on FWS land because it is inconsistent with the agency's mission. According to BLM officials ONRR collects this information.
Value of bonds held by your agency to ensure reclamation of oil and gas operations	FWS does not collect this information because BLM is responsible for administering oil and gas leases on FWS land. Oil and gas activity is very limited on FWS land. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.

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FWS data elements by category	Explanation from FWS agency officials
Potential acres of federal lands available for timber sale	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Potential quantity of timber on federal lands suitable for commercial harvesting (board feet)	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Total acres of federal lands that have been approved for commercial timber harvesting (acres) under existing land management plans	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Extent to which timber on federal lands has been commercially harvested (board feet)	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Potential acreage for livestock grazing on federal lands	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Total acres of federal lands authorized for livestock grazing under existing land management plans	FWS does not collect this information because this activity is often inconsistent with the mission of the FWS. Also, this activity is allowed on a limited basis only when it contributes to national wildlife refuge purposes and achieving the Refuge System mission.
Potential quantity of hardrock (locatable) minerals on federal lands	FWS does not collect this information because it is not responsible for managing and tracking subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Mining is quite limited on FWS land because it is inconsistent with the agency's mission.
Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans	FWS does not collect this information because it is not responsible for managing and tracking subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Mining is quite limited on FWS land because it is inconsistent with the agency's mission.
Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)	FWS does not collect this information because it is not responsible for managing and tracking subsurface minerals. The agency is only concerned with activity that occurs on the surface of the land. Mining is quite limited on FWS land because it is inconsistent with the agency's mission.
Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	According to information provided by FWS officials, the FWS does not routinely collect this information. Some information may be available at local FWS offices. Mining is inconsistent with FWS's mission and, as a result, most of the agency's land is closed to mining operations.
Percentage of total acres of federal lands that are under a coal lease that have surface disturbance	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.

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FWS data elements by category	Explanation from FWS agency officials
Percentage of total acres of federal lands that are under an oil and natural gas lease that have surface disturbance	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Oil and gas production is quite limited on FWS land because it is inconsistent with the agency's mission.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	According to information provided by FWS officials, the FWS does not routinely collect this information. Some information may be available at local FWS offices. Mining is inconsistent with FWS's mission and, as a result, most of the agency's land is closed to mining operations.
Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Percentage of total acres of federal lands that are under an oil and natural gas lease where the surface disturbance has been reclaimed	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Oil and gas production is quite limited on FWS land because it is inconsistent with the agency's mission.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface disturbance has been reclaimed	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some information may be available at local FWS offices. Mining is inconsistent with FWS's mission and, as a result, most of the agency's land is closed to mining operations.
Percentage of the total acres of federal lands that are under a coal lease where surface is undisturbed	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Coal production is quite limited on FWS land because it is inconsistent with the agency's mission.
Percentage of the total acres of federal lands that are under an oil and natural gas lease where surface is undisturbed	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Local FWS offices may have some information. Oil and gas production is quite limited on FWS land because it is inconsistent with the agency's mission.
Percentage of the total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface is undisturbed	According to information provided by FWS officials, the FWS does not routinely collect this information. Some information may be available at local FWS offices. Mining is inconsistent with FWS's mission and, as a result, most of the agency's land is closed to mining operations.
Total acres of wildlife refuge with energy development and production currently taking place	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total acres of wildlife refuge with mineral development and production currently taking place	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872	FWS does not collect information on percentage of land withdrawn by statute, but does collect total acreage withdrawn. Information on lands withdrawn under specific statutes is in Public Land Orders. Collecting and compiling this information would be very resource intensive.

**Appendix V: Information on Fish and Wildlife
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FWS data elements by category	Explanation from FWS agency officials
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920	FWS does not collect information on percentage of land withdrawn by statute, but does collect total acreage withdrawn. Information on lands withdrawn under specific statutes is in Public Land Orders. Collecting and compiling this information would be very resource intensive.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands	FWS does not collect information on percentage of land withdrawn by statute, but does collect total acreage withdrawn. Information on lands withdrawn under specific statutes is in Public Land Orders. Collecting and compiling this information would be very resource intensive.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947	FWS does not collect information on percentage of land withdrawn by statute, but does collect total acreage withdrawn. Information on lands withdrawn under specific statutes is in Public Land Orders. Collecting and compiling this information would be very resource intensive.
Revenues generated from activities on federal land data elements	
Oil and gas bonus bids	FWS does not collect this information because BLM is responsible for managing oil and gas leases on FWS land. While FWS does receive some revenues related to oil and gas operations, these revenues are captured in the agency's financial reports as "mineral resources (oil and gas)" and are not broken out into subcategories. Oil and gas activity is very limited on FWS land. According to BLM officials, BLM collects this information in its Collection and Billing System.
Oil and gas rents	FWS does not collect this information because BLM is responsible for managing oil and gas leases on FWS land. While FWS does receive some revenues related to oil and gas operations, these revenues are captured in the agency's financial reports as "mineral resources (oil and gas)" and are not broken out into subcategories. Oil and gas activity is very limited on FWS land. According to BLM officials, BLM collects the first year's rent on a lease in its Collection and Billing System and then ONRR is responsible for collecting the rent revenues for subsequent years.
Oil and gas royalties	FWS does not collect this information. While FWS does receive some revenues related to oil and gas operations, these revenues are captured in the agency's financial reports as "mineral resources (oil and gas)" and are not broken out into subcategories. Oil and gas activity is very limited on FWS land. According to BLM officials, it is the responsibility of ONRR to collect this information.
Coal bonus bids	FWS does not collect any revenues from coal bonus bids. Coal mining is inconsistent with the agency's mission and is very limited on FWS land.
Coal rents	FWS does not collect any revenues from coal rents. Coal mining is inconsistent with the agency's mission and is very limited on FWS land.
Coal royalties	FWS does not collect any revenues from coal royalties. Coal mining is inconsistent with the agency's mission and is very limited on FWS land.
Geothermal bonus bids	FWS does not collect this information because no geothermal activities are being conducted on FWS land.
Geothermal rents	FWS does not collect this information because no geothermal activities are being conducted on FWS land.
Geothermal royalties	FWS does not collect this information because no geothermal activities are being conducted on FWS land.

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FWS data elements by category	Explanation from FWS agency officials
Other leaseable commodities bonus bids	FWS does not collect any revenues from bonus bids for other leaseable commodities. According to BLM officials, ONRR is responsible for collecting this information.
Other leaseable commodities rents	FWS does not collect any revenues from rents for other leaseable commodities. According to BLM officials, ONRR is responsible for collecting this information.
Other leaseable commodities royalties	FWS does not collect any revenues from royalties for other leaseable commodities. According to BLM officials, ONRR is responsible for collecting this information.
Claim maintenance fees for hardrock mining	FWS does not collect any revenues for claim maintenance fees for hardrock mining. Most of FWS land is closed to mining operations.
Location fees for hardrock mining	FWS does not collect any revenues for location fees for hardrock mining. Most of FWS land is closed to mining operations.
Special use permits for transmission lines	FWS does not use the term "special use permits for transmission lines." The agency collects this information as "right-of-way permits for transmission lines."
Special use permits for water projects	FWS does not use the term "special use permits for water projects." The agency collects this information as "right-of-way permits for water projects."
Special use permits for solar projects	FWS does not use the term "special use permits for solar projects." The agency collects this information as "right-of-way permits for solar projects."
Right-of-way permits for solar projects	FWS does not collect data on "right-of-way permits for solar projects" because, as of June 2010, there were no such projects on FWS land and no plans to allow them.
Special use permits for wind projects	FWS does not use the term "special use permits for wind projects." The agency collects this information as "right-of-way permits for wind projects."
Right-of-way permits for wind projects	FWS does not collect data on "right-of-way permits for wind projects" because, as of June 2010, there were no such projects on FWS land and no plans to allow them.
Special use permits generated from concession activities	FWS does not use the term "special use permits generated from concession activities." The agency collects this information as "concession receipts."
Cost recovery fees associated with hardrock mining	FWS does not collect this information because mining is inconsistent with FWS's mission and, as a result, most of the agency's land is closed to mining operations.
Cost recovery fees related to EIS preparation	FWS does not collect this information. The party applying for permission to conduct an activity on FWS land bears the burden of paying for an EIS.
Cost recovery fees for processing oil and gas Applications to Drill	FWS does not collect this information because BLM is responsible for processing oil and gas Applications to Drill. According to BLM officials, BLM collects these data in its Collection and Billing System.
Cost recovery fees associated with geothermal activities	FWS does not collect this information because no geothermal activities are being conducted on FWS land.

**Appendix V: Information on Fish and Wildlife
Service Data Elements**

FWS data elements by category	Explanation from FWS agency officials
Federal land use designation data elements	
Total acres designated as Research Natural Areas	According to information provided by FWS officials, the FWS does not routinely collect information on acres designated as Research Natural Areas. Files containing this information are kept at about 100 field office locations. A list of these sites was developed a few years ago, but there is no process in place to update this list.
Total acres designated as critical habitat under the Endangered Species Act	According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. This information is maintained at the local level and about 390 wildlife refuges have endangered species. Because the boundaries of the habitats sometimes overlap, any acreage data would be an estimate.
Total acres designated as Coastal Wetlands	FWS officials did not use this land designation and did not collect any information about it.
Total acres designated as Wetlands Conservation	FWS officials did not use this land designation and did not collect any information about it.
Total acres designated as Migratory Bird Habitat Areas	FWS does not collect this information because it does not designate lands as Migratory Bird Habitat Areas. Land for these habitats is purchased using funds from the sale of "duck stamps," or Federal Migratory Bird Hunting and Conservation Stamps. Once these lands are purchased, they are managed in the same manner as other FWS land and are not tracked separately.
Total acres designated under the United Nations Biosphere Reserve Program	The United Nations Biosphere Reserve program maintains the records for these designations and FWS is reliant on this entity for these records. This designation does not affect FWS's management of these areas.
Total acres designated as World Heritage Sites	The United Nations World Heritage program maintains the records for these designations and FWS is reliant on this entity for these records. This designation does not affect FWS's management of these areas.
Total acres designated as Wetlands of International Importance/Ramsar sites	The Ramsar organization, which specializes in wetlands, maintains the records for these designations and FWS is reliant on this entity for these records. This designation does not affect FWS's management of these areas.
Total acres designated as Globally Important Bird Areas	FWS officials were unfamiliar with the land use designation "Globally Important Bird Area" and do not collect any information about this designation. They were familiar with the "Important Bird Areas" that are designated by the Audubon Society. The local FWS offices would know about these designations and can direct bird watchers to these areas.
Total acres designated as International Historic Sites	FWS does not collect information on this land use designation because it is the responsibility of NPS to do so. NPS officials indicated this information is collected in its Lands Management Information System/Master Deed List Database.

Source: GAO analysis of information provided by FWS officials.

Appendix VI: Information on National Park Service Data Elements

This appendix presents detailed information on NPS data elements we identified in our review that the agency collects and does not collect, where they are stored, and their potential reliability. See table 38 for data elements NPS collects in primary agency data systems; table 39 for data elements NPS collects in other formats; and table 40 for information on data elements NPS does not collect.

In assessing the potential reliability of each data element, we reviewed agency officials' survey responses about the data's accuracy, completeness, and reliability in order to apply categories of potential reliability. For data elements stored in primary agency data systems, we included information about the internal controls on the systems in which the data are stored as part of the assessment. However, because similar information was not available for data elements stored in other formats, the assessment for these data elements is somewhat less robust than the assessment of elements in primary agency data systems. Because the assessments for these two sets of data elements are not comparable, they are presented separately with different shading for the three categories of potential reliability, as we used different criteria to assess the data elements. The criteria are listed in tables 36 and 37.

**Appendix VI: Information on National Park
Service Data Elements**

Table 36: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Primary Agency Data Systems

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data’s completeness, accuracy, and reliability and (2) the data are available within a single data system.
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as “potentially unreliable” (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).

Source: GAO.

Table 37: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed.

Source: GAO.

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Table 38: Assessment of Potential Reliability of NPS Data Elements Stored in Primary Agency Data Systems, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

NPS data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land and resource data elements				
Total surface acres managed	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres managed within each state	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres acquired that facilitated the establishment of buffer areas around military installations	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres withdrawn that facilitated the establishment of buffer areas around military installations	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres acquired for national park units	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres acquired for national recreation areas	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres that were added to the federal estate through eminent domain powers of the federal government	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres disposed of through sale or exchange	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres of federal lands that were burned as a result of wildfires	◐	Wildland Fire Management Information System	Before 1995	2005
Costs associated with suppressing wildfires	◐	Federal Financial System	1995	2004
Revenues generated from activities on federal land data elements				
Recreation fees	●	Federal Financial System	1997	2004
Use fees	●	Federal Financial System	1997	2004
Concession receipts	●	Federal Financial System	1999	

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NPS data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land use designation data elements				
Number of cultural and historic resource properties listed on the National Register of Historic Places under the Historic Sites Act of 1935 or the National Historic Preservation act of 1966	●	National Register Information System	Before 1995	
Number of paleontological localities	◐	Performance Management Data System	2003	
Total acres designated as National Parks	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Parkways	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Monuments	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Battlefields	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Battlefield Parks	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Battlefield Sites	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Military Parks	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Historical Parks	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Historic Sites	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Lakeshores	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Memorials	●	Lands Management Information System/Master Deed List Database	Before 1995	

**Appendix VI: Information on National Park
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NPS data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Total acres designated as National Preserves	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Reserves	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as Seashores	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as National Recreation Areas	●	Lands Management Information System/Master Deed List Database	Before 1995	
Total acres designated as International Historic Sites	●	Lands Management Information System/Master Deed List Database	Before 1995	

Source: GAO analysis of information provided by NPS officials.

Table 39: Assessment of Potential Reliability of NPS Data Elements Stored in Other Formats, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

NPS data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Federal land and resource data elements					
Total acres of federal lands that have been leased for oil and natural gas development	●	Headquarters	1	Table	2009
Total acres of federal lands leased for oil and natural gas production that are in producing status	●	Headquarters	1	Table	2009
Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans	○	Headquarters	1	Spreadsheet	Don't know
Revenues generated from activities on federal land data elements					
Right-of-way permits for transmission lines	○	Park units	394	Unknown	Don't know
Right-of-way permits for water projects	○	Park units	Unknown	Unknown	Don't know

**Appendix VI: Information on National Park
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NPS data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Special use permits generated from filming activities	○	Park units	Unknown	Permits	2005
Federal land use designation data elements					
Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	●	Headquarters	2	Spreadsheet	Before 1995
Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	●	Interagency	1	Web site	Before 1995
Number of National Historic and National Scenic Trails established under the National Trails System Act of 1968, as amended	●	Headquarters	1	Web site	Before 1995
Number of National Recreational Trails or roads designated under the National Trails System Act of 1968, as amended	●	Headquarters	1	Paper files	Before 1995
Total acres designated as Research Natural Areas	○	Park units	58	Paper files	Before 1995
Total acres designated as critical habitat under the Endangered Species Act	●	Interagency	1	Web site	Before 1995
Total acres designated as World Heritage Sites	○	Headquarters	1	Paper files	Before 1995

Source: GAO analysis of information provided by NPS officials.

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Table 40: Data Elements NPS Does Not Collect and Explanation from NPS Agency Officials, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

NPS data elements by category	Explanation from NPS agency officials
Federal land and resource data elements	
Total subsurface acres managed	NPS does not collect this information; it is BLM's responsibility to manage subsurface federal acres. According to BLM officials, this information is kept in BLM state offices in various formats.
Total acres acquired for wilderness areas	NPS headquarters collects general information about land it acquires but it does not specifically track wilderness areas. If wilderness land is acquired, this information would be maintained by the individual park units.
Total acres acquired for battlegrounds	NPS officials said "battlegrounds" is not a land use designation that NPS tracks. Instead, NPS tracks acres acquired for "National Battlefields."
Total acres acquired for wildlife refuges	NPS does not collect these data because it is the responsibility of FWS to manage and collect data on wildlife refuges. According to FWS officials, FWS does collect this information in its Land Records System database.
Total acres acquired for other purposes	NPS does not collect data under the category "total acres acquired for other purposes."
Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)	NPS does not collect these data because it is the responsibility of FWS to manage and collect data on wildlife refuges. Based on information provided by officials from the four other land management agencies—BLM, BoR, FWS, and Forest Service—their agencies do not routinely collect this information, although BLM and FWS local offices may have some information.
Potential quantity of coal resources on federal lands (tonnage)	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Potential quantity of coal reserves on federal lands (tonnage)	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Total acres of federal lands available for coal leasing under existing land management plans	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Total acres of land that have been leased for coal development	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Total acres of federal lands leased for coal development that are in producing status	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Extent to which coal has been produced from leased lands (tonnage)	NPS does not collect this information because coal leasing and mining are not allowed on NPS lands.
Potential quantity of oil and natural gas resources on federal lands (barrels/cubic feet)	NPS does not collect these data because oil and gas leasing and production are very limited on NPS land and no leasing has occurred for over 30 years.
Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)	NPS does not collect these data because oil and gas leasing and production are very limited on NPS land and no leasing has occurred for over 30 years.
Total acres of federal lands available for oil and natural gas leasing under existing land management plans	According to information provided by NPS officials, the NPS does not routinely collect these data because oil and gas leasing and production are very limited on NPS land and no leasing has occurred for over 30 years.
Extent to which oil and natural gas has been produced from leased federal lands (barrels/cubic feet)	NPS does not collect these data because it is the responsibility of ONRR to do so. Oil and gas leasing and production are very limited on NPS land.

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NPS data elements by category	Explanation from NPS agency officials
Value of bonds held by your agency to ensure reclamation of oil and gas operations	NPS does not routinely collect these data because oil and gas leasing and production are very limited on NPS land and no leasing has occurred for over 30 years. NPS officials said BLM may have this data. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.
Potential acres of federal lands available for timber sale	NPS does not collect information pertaining to timber management because it is not a part of the agency's mission.
Potential quantity of timber on federal lands suitable for commercial harvesting (board feet)	NPS does not collect information pertaining to timber management because it is not a part of the agency's mission.
Total acres of federal lands that have been approved for commercial timber harvesting (acres) under existing land management plans	NPS does not collect information pertaining to timber management, because it is not a part of the agency's mission.
Extent to which timber on federal lands has been commercially harvested (board feet)	NPS does not collect information pertaining to timber management, because it is not a part of the agency's mission.
Total acres of federal lands from which timber has been commercially harvested	NPS does not collect information pertaining to timber management, because it is not a part of the agency's mission.
Potential acreage for livestock grazing on federal lands	According to information provided by NPS officials, the NPS does not routinely collect these data because this activity is inconsistent with the agency's mission and, as a result, grazing is very limited on NPS land.
Total acres of federal lands authorized for livestock grazing under existing land management plans	According to information provided by NPS officials, the NPS does not routinely collect these data because this activity is inconsistent with the agency's mission and, as a result, grazing is very limited on NPS land.
Total acres of federal lands used for livestock grazing	According to information provided by NPS officials, NPS does not routinely collect these data because this activity is inconsistent with the agency's mission and, as a result, grazing is very limited on NPS land.
Data on number of mining claims located under 1872 mining law that still exists within park boundaries	NPS does not collect this information because it is not in keeping with the agency's mission. Under the Mining in the Parks Act of 1976 and other park enabling statutes, NPS land is closed to new mining claims and there are few mining claims that predate these statutes.
Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)	NPS does not collect these data because there is no active mining on NPS land.
Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	NPS does not collect this information because there is no active mining on NPS land.
Percentage of total acres of federal lands that are under a coal lease that have surface disturbance	NPS does not collect this information because coal leasing and mining are not allowed on NPS land.
Percentage of total acres of federal lands that are under an oil and natural gas lease that have surface disturbance	NPS does not routinely collect these data because oil and gas leasing and production are very limited on NPS land and there have been no active leases for over 30 years. NPS officials thought BLM may collect the data. According to BLM officials, BLM does not collect these data in a comprehensive manner. Currently, some data may be collected on a project basis in some areas, according to BLM. BLM has plans to collect this information but there is no funding to do so.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	NPS does not collect this information because there is no mining activity taking place on NPS land. No notices or plan level of operations are approved at this time.

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NPS data elements by category	Explanation from NPS agency officials
Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed	NPS does not collect this information because coal leasing is prohibited on NPS land.
Percentage of total acres of federal lands that are under an oil and natural gas lease where the surface disturbance has been reclaimed	NPS does not routinely collect these data because oil and gas leasing and production are very limited on NPS land and no leasing has occurred for over 30 years. NPS officials thought BLM may collect these data, but BLM officials said they do not collect this information in a comprehensive manner. Currently, some data may be collected on a project basis in some areas. BLM plans to collect this information but has no funding to do so, according to BLM officials.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface disturbance has been reclaimed	NPS does not collect this information because there is no mining activity taking place on NPS land. No notices or plan level of operations are approved at this time.
Percentage of the total acres of federal lands that are under a coal lease where surface is undisturbed	NPS does not collect this information because coal leasing is prohibited on NPS land.
Percentage of the total acres of federal lands that are under an oil and natural gas lease where surface is undisturbed	According to information provided by NPS officials, the NPS does not routinely collect these data because oil and gas leasing and production are very limited on NPS land. NPS officials thought BLM may collect these data; however, BLM does not and has no plans to do so, according to BLM officials.
Percentage of the total acres of federal lands that are under a notice or plan level hardrock operation where surface is undisturbed	NPS does not collect this information because there is no mining activity taking place on NPS land. No notices or plan level of operations are approved at this time.
Total acres of wildlife refuge with energy development and production currently taking place	NPS does not collect these data because it is the responsibility of FWS to manage and collect data on wildlife refuges. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total acres of wildlife refuge with mineral development and production currently taking place	NPS does not collect these data because it is the responsibility of FWS to manage and collect data on wildlife refuges. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)	NPS does not collect these data because it is the responsibility of FWS to manage and collect data on wildlife refuges. According to information provided by FWS officials, FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872	NPS does not collect this information. All NPS land is withdrawn from mineral leasing except some percentage of land in 3 of its 394 park units. NPS has no reason to track percentage of land withdrawn by this statute.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920	NPS does not collect this information. All NPS land is withdrawn from mineral leasing except some percentage of land in 3 of its 394 park units. NPS has no reason to track percentage of land withdrawn by this statute.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands	NPS does not collect this information. All NPS land is withdrawn from mineral leasing except some percentage of land in 3 of its 394 park units. NPS has no reason to track percentage of land withdrawn by this statute.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947	NPS does not collect this information. All NPS land is withdrawn from mineral leasing except some percentage of land in 3 of its 394 park units. NPS has no reason to track percentage of land withdrawn by this statute.

**Appendix VI: Information on National Park
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NPS data elements by category	Explanation from NPS agency officials
Revenues generated from activities on federal land data elements	
Oil and gas bonus bids	NPS does not collect these data because it is the responsibility of BLM to do so. Oil and gas leasing and production are very limited on NPS land. According to BLM officials, BLM collects this information in its Collection and Billing System.
Oil and gas rents	NPS does not collect these data because it is the responsibility of BLM and ONRR to do so. Oil and gas leasing and production are very limited on NPS land. According to BLM officials, BLM collects the first year's rent on a lease in its Collection and Billing System and then ONRR is responsible for collecting the rent revenues for subsequent years.
Oil and gas royalties	NPS does not collect these data because it is the responsibility of ONRR to do so. Oil and gas leasing and production are very limited on NPS land.
Coal bonus bids	NPS does not collect this information because coal leasing and mining are not allowed on NPS land.
Coal rents	NPS does not collect this information because coal mining is not allowed on NPS land.
Coal royalties	NPS does not collect this information because coal mining is not allowed on NPS land.
Geothermal bonus bids	NPS does not collect this information because geothermal activities are not allowed on NPS lands.
Geothermal rents	NPS does not collect this information because geothermal activities are not allowed on NPS land.
Geothermal royalties	NPS does not collect this information because geothermal activities are not allowed on NPS land.
Other leaseable commodities bonus bids	NPS does not collect these data because it is the responsibility of ONRR to do so. Mineral leasing and production are very limited on NPS land.
Other leaseable commodities rents	NPS does not collect these data because it is the responsibility of ONRR to do so. Mineral leasing and production are very limited on NPS land.
Other leaseable commodities royalties	NPS does not collect these data because it is the responsibility of ONRR to do so. Mineral leasing and production are very limited on NPS land.
Grazing fees	According to information provided by NPS officials, the NPS does not routinely collect these data. To collect this information, deposit slips kept by individual park units would have to be reviewed.
Claim maintenance fees for hardrock mining	NPS does not collect these data because it is BLM's responsibility to do so. According to BLM officials, BLM collects these data in its Collection and Billing System.
Location fees for hardrock mining	NPS does not collect this information and NPS officials said BLM would be responsible for collecting it. There have been no new hardrock mining claims on NPS land, and thus no location fees, since 1976.
Special use permits for transmission lines	NPS does not use the term "special use permits for transmission lines." The agency collects this information as "right-of-way permits for transmission lines."
Special use permits for water projects	NPS does not use the term "special use permits for water projects." The agency collects this information as "right-of-way permits for water projects."
Special use permits for solar projects	NPS does not have any data on solar projects because, as of September 2010, it had not authorized any solar projects and had no plans to do so.
Right-of-way permits for solar projects	NPS does not have any data on solar projects because, as of September 2010, it had not authorized any solar projects and had no plans to do so.

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NPS data elements by category	Explanation from NPS agency officials
Special use permits for wind projects	NPS does not have any data on wind projects because, as of September 2010, it had not authorized any wind projects and had no plans to do so.
Right-of-way permits for wind projects	NPS does not have any data on wind projects because, as of September 2010, it had not authorized any wind projects and had no plans to do so.
Special use permits generated from camping activities	NPS includes revenues generated from “special use permits for camping activities” in the broader revenue category “recreation fees.”
Special use permits generated from day use activities	NPS includes revenues generated from “special use permits for generated from day use activities” in the broader revenue category “recreation fees.”
Special use permits generated from concession activities	NPS does not routinely collect these data because the agency only issues a handful of these permits each year. Only a small amount of revenue is generated from these permits.
Cost recovery fees associated with hardrock mining	NPS does not collect these data because the agency does not have cost recovery fees associated with hardrock mining.
Cost recovery fees related to EIS preparation	NPS does not collect these data because the agency does not have cost recovery fees for EIS preparation.
Cost recovery fees for processing oil and gas Applications to Drill	NPS does not collect these data because the agency does not have cost recovery fees associated with oil and gas Applications to Drill. NPS officials said BLM would collect this information. BLM officials said this information is in the Collection and Billing System.
Cost recovery fees associated with geothermal activities	NPS does not collect this information because geothermal activities are not allowed on NPS lands.
Entrance fees	NPS collects revenues generated from “entrance fees” under the broader revenue category “recreation fees.”
Federal land use designation data elements	
Total acres designated as National Cemeteries	NPS does not track National Cemeteries as a separate designation. The acreage would be included as a part of other designations, such as National Military Parks or National Battlefield Parks, and could be manually calculated.
Total acres designated as administrative sites	NPS does not collect acreage data on the category “administrative sites” because it is too broad. The agency does collect data on 30 different types of constructed assets and different units of measurement are used for these, such as square footage or miles.
Total acres designated under UNESCO Man and Biosphere Program (Biosphere Reserves)	According to information provided by NPS officials, the NPS does not routinely collect these data and the information is not readily accessible. UNESCO manages this program and is responsible for tracking these data. Some of these sites are located on NPS lands and the acreage could be calculated using information from the UNESCO Web site.
Total acres designated as Wetlands of International Importance/Ramsar sites	According to information provided by NPS officials, the NPS does not routinely collect these data and the information is not readily available. There are three of these sites on NPS lands and the acreage could be calculated using various means, including Geographical Information System analysis of site boundaries.
Total acres designated as Globally Important Bird Areas	According to information provided by NPS officials, the NPS does not routinely collect these data. The American Bird Conservancy and the National Audubon Society are responsible for making these designations and manage data related to these sites.

Source: GAO analysis of information provided by NPS officials.

Appendix VII: Information on Bureau of Reclamation Data Elements

This appendix presents detailed information on BoR data elements we identified in our review that the agency collects and does not collect, where they are stored, and their potential reliability. See table 43 for data elements BoR collects in primary agency data systems; table 44 for data elements BoR collects in other formats; and table 45 for information on data elements BoR does not collect.

In assessing the potential reliability of each data element, we reviewed agency officials' survey responses about the data's accuracy, completeness, and reliability in order to apply categories of potential reliability. For data elements stored in primary agency data systems, we included information about the internal controls on the systems in which the data are stored as part of the assessment. However, because similar information was not available for data elements stored in other formats, the assessment for these data elements is somewhat less robust than the assessment of data elements in primary agency data systems. Because the assessments for these two sets of data elements are not comparable, they are presented separately with different shading for the three categories of potential reliability, as we used different criteria to assess the data elements. The criteria are listed in tables 41 and 42.

Table 41: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Primary Agency Data Systems

Symbol	Level	Criteria
●	<p>"Potentially reliable"</p> <p>Information about the completeness and accuracy provides high assurance of reliability.</p>	<p>(1) We had sufficient information on the quality of the data element and the agency data system in which it was contained, and that information indicated there were robust internal controls for data quality and few or no limitations on the data's completeness, accuracy, and reliability and (2) the data are available within a single data system.</p>
◐	<p>"May be potentially reliable"</p> <p>Information about the completeness and accuracy provides moderate assurance of reliability.</p>	<p>(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element; and/or (3) obtaining the information would require accessing multiple data systems to gather historic data, and the primary agency data system was not assessed as potentially unreliable.</p>
○	<p>"Potentially unreliable"</p> <p>Information about the completeness and accuracy provides low assurance of reliability.</p>	<p>(1) There were significant limitations on the completeness, accuracy, or reliability of the data element and/or (2) the host data system was assessed as "potentially unreliable" (i.e., there were weak internal controls for data quality or significant limitations related to maintaining accurate, complete, and reliable data).</p>

Source: GAO.

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Table 42: Levels of Potential Reliability and Criteria for Assessing Data Elements Stored in Other Formats

Symbol	Level	Criteria
●	“Potentially reliable” Information about the completeness and accuracy provides high assurance of reliability.	(1) We had sufficient information on the quality of the data element and that information indicated there were few or no limitations on the data’s completeness, accuracy, and reliability, and (2) the data were fairly centralized (i.e., fewer than 5 locations).
◐	“May be potentially reliable” Information about the completeness and accuracy provides moderate assurance of reliability.	(1) We did not have sufficient information on the quality of the data element to unequivocally assess it as potentially reliable; and/or (2) the information we did have suggested some limitations on the completeness, accuracy, or reliability of the data element.
○	“Potentially unreliable” Information about the completeness and accuracy provides low assurance of reliability.	(1) There were significant limitations on the completeness, accuracy, or reliability of the data element; and/or (2) agency officials did not provide information about the completeness, accuracy, or reliability of the data; and/or (3) the data were widely dispersed (i.e., more than 15 locations).

Source: GAO.

Table 43: Assessment of Potential Reliability of BoR Data Elements Stored in Primary Agency Data Systems, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

BoR data elements by category	Assessment of potential reliability	Primary agency data system	Earliest year data are available in the system	Earliest year data in the system are, or may be, potentially reliable (if later than year available)
Federal land and resource data elements				
Total surface acres managed	◐	Foundation Information for Real Property Management	2010	
Total acres managed within each state	◐	Foundation Information for Real Property Management	2010	
Total acres that were added to the federal estate through eminent domain powers of the federal government	◐	Foundation Information for Real Property Management	2010	
Revenues generated from activities on federal land				
Grazing fees	◐	Federal Financial System	2000	
Special use permits generated from filming activities	◐	Federal Financial System	2000	
Recreation fees	◐	Federal Financial System	2000	
Concession receipts	◐	Federal Financial System	2000	

Source: GAO analysis of information provided by BoR officials.

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Table 44: Assessment of Potential Reliability of BoR Data Elements Stored in Other Formats, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

BoR data elements by category	Assessment of potential reliability	Location of data (most centralized)	Number of locations the data are kept	Data format	Earliest year in which the data are available
Revenues generated from activities on federal land data elements					
Special use permits for transmission lines	○	Regional offices	5	Permits	Don't know
Right-of-way permits for transmission lines	○	Regional offices	5	Permits	Don't know
Special use permits for solar projects	○	Regional offices	5	Permits	Don't know
Right-of-way permits for solar projects	○	Regional offices	5	Permits	Don't know
Special use permits for wind projects	○	Regional offices	5	Permits	Don't know
Right-of-way permits for wind projects	○	Regional offices	5	Permits	Don't know
Special use permits generated from camping activities	○	Regional offices	5	Permits	Don't know
Special use permits generated from day use activities	○	Regional offices	5	Permits	Don't know
Cost recovery fees related to EIS preparation	○	Regional offices	5	Permits, vouchers	Don't know
Federal land use designation data elements					
Number of cultural and historic resource sites listed on the national register of historic places under the Historic Sites Act of 1935 or the National Historic Preservation Act of 1966	●	Headquarters	1	MS Word file	2006

Source: GAO analysis of information provided by BoR officials.

Note: According to Interior officials, while information on these data elements is entered into the Federal Financial System, there are no revenue source codes established to extract this information from the system. Therefore, information on these data elements would have to be obtained from regional offices.

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Table 45: Data Elements BoR Does Not Collect and Explanation from BoR Agency Officials, by Federal Land and Resources, Revenues Generated from Activities on Federal Land, and Federal Land Use Designations

BoR data elements by category	Explanation from BoR agency officials
Federal land and resource data elements	
Total subsurface acres managed	BoR does not collect information on subsurface acres. BoR does not lease lands for oil and gas development, mineral development, etc. BLM is responsible for those types of activities. According to information provided by BoR officials, the BoR does not routinely collect information on whether the land it has acquired includes mineral rights, so, to determine this, every single deed of land managed by BOR would need to be examined. BLM officials collect this information in various formats, including digital files and plats or maps, and keeps this information in BLM state offices.
Total acres acquired that facilitated the establishment of buffer areas around military installations	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. The only land that BoR manages is land associated with its water or power projects.
Total acres withdrawn that facilitated the establishment of buffer areas around military installations	BoR does not collect this information because doing so is not part of BoR's mission, which is to deliver water and power to its customers.
Total acres acquired for national park units	BoR does not routinely collect information about this land use designation because NPS is responsible for doing so. According to NPS officials, NPS collects this information in its Lands Management Information System/Master Deed List Database.
Total acres acquired for wilderness areas	BoR does not routinely collect this information because it is not part of the agency's mission to do so.
Total acres acquired for battlegrounds	BoR does not routinely collect information about this land use designation because NPS is responsible for doing so. NPS officials said "battlegrounds" is not a land use designation that NPS tracks. Instead, NPS tracks acres acquired for "National Battlefields."
Total acres acquired for wildlife refuges	BoR does not collect of this information because it is not part of BoR's mission to do so. FWS is responsible for managing wildlife refuges located on BoR land. According to FWS officials, FWS does collect this information in its Land Records System database.
Total acres acquired for national recreation areas	BoR does not routinely collect this information because it is not part of the agency's mission to do so. Other federal agencies manage National Recreation Areas that are located on BoR land. BoR may build a project and Congress subsequently calls it a National Recreation Area, and then it becomes the responsibility of another agency to manage.
Total acres acquired for other purposes	This data element does not apply to BoR because all land acquired by BoR is for the purpose of its projects. There are no "other" purposes. Total lands acquired for BoR project purposes would be the same as the total surface acres managed by BoR.
Total acres disposed of through sale or exchange	BoR headquarters only recently began collecting information on disposed land but cannot differentiate as to how the land was disposed. BoR regional offices may collect some of these data.

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BoR data elements by category	Explanation from BoR agency officials
Ownership of the solid mineral estate being developed on wildlife refuge (federal, state, private)	BoR does not collect this information because it is not part of BoR's mission to do so. BoR is not responsible for managing wildlife refuges located on its land because FWS is responsible for these. According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Potential quantity of coal resources on federal lands (tonnage)	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. The only land that BoR manages is land associated with its water or power projects.
Potential quantity of coal reserves on federal lands (tonnage)	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. The only land that BoR manages is land associated with its water or power projects.
Total acres of federal lands available for coal leasing under existing land management plans	BoR does not collect this information because doing so is not part of BoR's mission, which is to deliver water and power to its customers.
Total acres of land that have been leased for coal development	BoR does not collect this information; there are no coal mines on BoR land. According to BoR officials, BLM is responsible for all coal leasing on BoR land and would coordinate with BoR regarding permission for coal exploration and mining.
Total acres of federal lands leased for coal development that are in producing status	BoR does not collect this information; there are no coal mines on BoR land. According to BoR officials, BLM is responsible for all coal leasing on BoR land and would coordinate with BoR regarding permission for coal exploration and mining.
Extent to which coal has been produced from leased lands (tonnage)	BoR does not collect this information; there are no coal mines on BoR land. According to BoR officials, BLM is responsible for all coal leasing on BoR land and would coordinate with BoR regarding permission for coal exploration and mining.
Potential quantity of oil and natural gas resources on federal lands (barrels/cubic feet)	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. BLM officials said they do not collect this information because USGS collects this information according to the Energy Policy and Conservation Act of 2000 requirements.
Potential quantity of oil and natural gas reserves on federal lands (barrels/cubic feet)	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. BLM officials said they do not collect these data; they stated that USGS or the Energy Information Administration may collect this information.
Total acres of federal lands available for oil and natural gas leasing under existing land management plans	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. According to information provided by BLM officials, these data are not routinely collected by BLM or readily available, but information can be found in BLM land use management plans. To collect and compile this information, numerous plans would need to be reviewed. These plans are developed at the BLM field office level.

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BoR data elements by category	Explanation from BoR agency officials
Total acres of federal lands that have been leased for oil and natural gas development	BoR does not collect this information because it is BLM's responsibility to do so. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. Any oil and natural gas leases issued on BoR land must be compatible with the mandated use of the land. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.
Total acres of federal lands leased for oil and natural gas production that are in producing status	BoR does not collect this information because it is BLM's responsibility to do so. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.
Extent to which oil and natural gas has been produced from leased federal lands (barrels/cubic feet)	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. BLM officials said they do not collect these data because it is the responsibility of ONRR to collect this information.
Value of bonds held by your agency to ensure reclamation of oil and gas operations	BoR does not collect this information because it is BLM's responsibility to do so. BLM does coordinate with BoR regarding permission for oil and natural gas leasing and exploration on BoR land. According to BLM officials, BLM does collect this information in its Legacy Rehost 2000 database.
Potential acres of federal lands available for timber sale	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so. Any timber activity on BoR land would be coordinated with the Forest Service. BoR regional offices may collect some of these data.
Potential quantity of timber on federal lands suitable for commercial harvesting (board feet)	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so. If there is any timber activity on BoR land, BoR can coordinate with the Forest Service. BoR regional offices may collect some of these data.
Total acres of federal lands that have been approved for commercial timber harvesting (acres) under existing land management plans	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so. If there is any timber activity on BoR land, BoR can coordinate with the Forest Service. BoR regional offices may collect some of these data.
Extent to which timber on federal lands has been commercially harvested (board feet)	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so. If there is any timber activity on BoR land, BoR can coordinate with the Forest Service. BoR regional offices may collect some of these data.
Total acres of federal lands from which timber has been commercially harvested	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so. If there is any timber activity on BoR land, BoR can coordinate with the Forest Service. BoR regional offices may collect some of these data.
Potential acreage for livestock grazing on federal lands	BoR headquarters does not routinely collect this information because it is not part of its mission to do so. When agricultural leasing occurs on BoR land, it is handled by the BoR regional offices and is generally managed in cooperation with another federal agency (for example, BLM or Forest Service). Any information on grazing would be available in the BoR regional offices.

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BoR data elements by category	Explanation from BoR agency officials
Total acres of federal lands authorized for livestock grazing under existing land management plans	BoR headquarters does not routinely collect this information because it is not part of its mission to do so. When agricultural leasing occurs on BoR land, it is handled by the BoR regional offices and is generally managed in cooperation with another federal agency (for example, BLM or Forest Service). There is no reporting requirement for grazing leases. Any information on grazing would be available in the BoR regional offices, depending on where the grazing takes place.
Total acres of federal lands used for livestock grazing	BoR headquarters does not routinely collect this information because it is not part of its mission to do so. When agricultural leasing occurs on BoR land, it is handled by the BoR regional offices and is generally managed in cooperation with another federal agency (for example, BLM or Forest Service). Any information on grazing would be available in the BoR regional offices.
Potential quantity of hardrock (locatable) minerals on federal lands	BoR does not track these data because BLM is responsible for administering hardrock operations on BoR land. According to BLM officials, BLM does not collect these data and no other federal agency currently collects it. USGS has some information on mineral inventories but the data are over 30 years old.
Total acres of federal lands available for hardrock (locatable) mineral mining under existing land management plans	BoR does not track these data because BLM is responsible for administering hardrock operations on BoR land. Based on information provided by BLM officials, BLM does not collect this information routinely and it is not readily available. BLM stores this information on plats (detailed paper maps). Efforts by BLM to collect this information by digitizing plats have been unsuccessful. Collecting and compiling this information would be very time consuming and resource intensive.
Extent to which hardrock (locatable) minerals have been extracted from federal lands (tonnage)	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information related to hardrock operations on BoR land would be BLM's responsibility. According to BLM officials, BLM does not collect these data because they do not use volume (tonnage) as a unit of measurement for the amount of hardrock (locatable) minerals that have been extracted. BLM collects data on the number of acres mined.
Value of bonds held by your agency to ensure reclamation of hardrock (locatable) mineral operations	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information related to hardrock operations on BoR land would be BLM's responsibility. According to BLM officials, BLM collects this information in its Legacy Rehost 2000 database.
Total acres of federal lands that were burned as a result of wildland fires or wildfires	BoR headquarters does not routinely collect these data. BoR just entered into a Memorandum of Understanding in 2010 to join the interagency fire management center. BoR regional offices will be given an opportunity to participate in the Memorandum of Understanding, but this will not be mandated. Interagency fire data are kept in the Wildfire Management Information System. BoR regional offices may collect some of the data.
Costs associated with wildland fires or wildfires	BoR headquarters does not routinely collect these data. BoR just entered into a Memorandum of Understanding in 2010 to join the interagency fire management center. BoR regional offices will be given an opportunity to participate in the Memorandum of Understanding, but this will not be mandated. Interagency fire data are kept in the Wildfire Management Information System. BoR regional offices may collect some of the data.
Percentage of total acres of federal lands that are under a coal lease that have surface disturbance	BoR does not collect this information; there are no coal mines on BoR land.

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BoR data elements by category	Explanation from BoR agency officials
Percentage of total acres of federal lands that are under an oil and natural gas lease that have surface disturbance	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to oil and gas operations on BoR land would be BLM's responsibility. According to BLM officials, BLM does not collect these data in a comprehensive manner. Currently, some data may be collected on a project basis in some areas, according to BLM. BLM has plans to collect this information but there is no funding to do so.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation that have surface disturbance	BoR headquarters does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to hardrock operations on BoR land would be BLM's responsibility. BoR regional offices may collect some of these data. BLM officials said they collect this information in the agency's Legacy Rehost 2000 database.
Percentage of total acres of federal lands that are under a coal lease where the surface disturbance has been reclaimed	BoR does not collect this information; there are no coal mines on BoR land.
Percentage of total acres of federal lands that are under an oil and natural gas lease where the surface disturbance has been reclaimed	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to oil and gas operations on BoR land would be BLM's responsibility. According to BLM officials, BLM does not collect these data in a comprehensive manner. Currently, some data may be collected on a project basis in some areas, according to BLM. BLM has plans to collect this information but has no funding to do so.
Percentage of total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface disturbance has been reclaimed	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to hardrock operations on BoR land would be BLM's responsibility. BLM collects this information in its Legacy Rehost 2000 database.
Percentage of the total acres of federal lands that are under a coal lease where surface is undisturbed	BoR does not collect this information; there are no coal mines on BoR land.
Percentage of the total acres of federal lands that are under an oil and natural gas lease where surface is undisturbed	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to oil and gas operations on BoR land would be BLM's responsibility. BLM officials stated they did not collect these data and had no plans to do so.
Percentage of the total acres of federal lands that are under a notice or plan level hardrock (locatable) operation where surface is undisturbed	BoR does not routinely collect this information because it is not part of the agency's mission to do so and any information on surface disturbance related to hardrock operations on BoR land would be BLM's responsibility. BLM does not routinely collect these data and they are not readily available. According to BLM officials, collecting these data would involve—for each ongoing mine operation—reviewing field inspection reports to determine the total acres disturbed and obtaining the total acres authorized for disturbance from the BLM's Legacy Rehost 2000 database. The percentage could be calculated using this information.
Total acres of wildlife refuge with energy development and production currently taking place	BoR does not collect of this information because it is not part of BoR's mission to do so. BoR officials said FWS is responsible for managing wildlife refuges located on BoR land. According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.

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BoR data elements by category	Explanation from BoR agency officials
Total acres of wildlife refuge with mineral development and production currently taking place	BoR does not collect of this information because it is not part of BoR's mission to do so. BoR officials said FWS is responsible for managing wildlife refuges located on BoR land. According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Ownership of the fluid mineral estate being developed on wildlife refuge (federal, state, private)	BoR does not collect of this information because it is not part of BoR's mission to do so. BoR officials said FWS is responsible for managing wildlife refuges located on BoR land. According to information provided by FWS officials, the FWS does not routinely collect this information and it is not readily available. Some of this information may be available at local FWS offices.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the General Mining Act of 1872	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BoR officials said BLM may have information on the types of withdrawals on BoR land. According to information provided by BLM officials, BLM does not routinely collect this information and it is not readily available. The information is located in over 500 Public Land Orders and in master plats (or detailed maps), some dating back to 1872. Compiling this information would be very resource intensive because all the land orders and plats would need to be reviewed and acres of land withdrawn would need to be calculated.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act of 1920	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BoR officials said BLM may have information on the types of withdrawals on BoR land. According to information provided by BLM officials, BLM does not routinely collect these data and the data are not readily available. This information can be obtained from BLM land use plans. These plans are developed at the BLM field office level. Collecting and compiling this information would be resource intensive and require a review of numerous land use plans.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Leasing Act for Acquired Lands	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BoR officials said BLM may have information on the types of withdrawals on BoR land. According to information provided by BLM officials, BLM does not routinely collect this information and it is not readily available. The information can be obtained from BLM land use plans. These plans are developed at the BLM field office level. Collecting and compiling this information would be resource intensive and require a review of numerous land use plans.
Total percentage of federal mineral estate that has been withdrawn from mineral entry under the Mineral Materials Disposal Act of 1947	The collection of this information is not part of BoR's mission, which is to deliver water and power to its customers. BoR officials said BLM may have information on the types of withdrawals on BoR land. According to information provided by BLM officials, BLM does not routinely collect these data and they are not readily available, but information is located in pertinent Acts of Congress and over 500 Public Land Orders. Collecting and compiling this information would be very resource intensive and require months to complete.
Revenues generated from activities on federal land	
Oil and gas bonus bids	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into oil and gas bonus bids.

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BoR data elements by category	Explanation from BoR agency officials
Oil and gas rents	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into oil and gas rents.
Oil and gas royalties	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into revenues from oil and gas royalties.
Coal bonus bids	BoR does not collect this information; there are no coal mines on BoR land.
Coal rents	BoR does not collect this information; there are no coal mines on BoR land.
Coal royalties	BoR does not collect this information; there are no coal mines on BoR land.
Geothermal bonus bids	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into geothermal bonus bids.
Geothermal rents	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into geothermal rents.
Geothermal royalties	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into geothermal royalties.
Other leaseable commodities bonus bids	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into bonus bids from other leaseable commodities.
Other leaseable commodities rents	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into other leaseable commodities rents.
Other leaseable commodities royalties	BoR does not collect this information because BLM or ONRR is responsible for collecting it. While BoR does receive a lump sum interagency payment from BLM or ONRR for these revenues, BoR is not responsible for collecting them. The interagency payments are captured in the Federal Financial System in aggregate and are not broken out into royalties from other leaseable commodities.
Claim maintenance fees for hardrock mining	BoR does not track incidental revenues from claim maintenance fees for hardrock mining. BoR officials did not know whether hardrock mining is allowed on the agency's land. If it is allowed, BLM would be responsible for administering hardrock operations on BoR land.

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BoR data elements by category	Explanation from BoR agency officials
Location fees for hardrock mining	BoR does not track incidental revenues from location fees for hardrock mining because BLM is responsible for administering hardrock operations on BoR land.
Special use permits for water projects	BoR does not issue these permits because most of the water projects it builds are authorized by special legislation and do not require a permit.
Right-of-way permits for water projects	BoR does not issue these permits because most of the water projects it builds are authorized by special legislation and do not require a permit.
Special use permits generated from concession activities	BoR collects revenues generated from “special use permits generated from concession activities” under the revenue category “concession receipts.” According to BoR officials, they collect revenues generated from concession contracts at concession areas.
Cost recovery fees associated with hardrock mining	BoR does not collect or receive cost recovery fees associated with hardrock mining because, according to BoR officials, BLM is responsible for administering all hardrock mining activities on federal land.
Cost recovery fees for processing oil and gas Applications to Drill	BoR does not collect or receive cost recovery fees associated with oil and gas Applications to Drill because, according to BoR officials, BLM is responsible for administering all oil and gas Applications to Drill for oil and gas operations on federal land. According to BLM officials, BLM collects these data in its Collection and Billing System data system.
Cost recovery fees associated with geothermal activities	BoR does not collect or receive cost recovery fees associated with geothermal activities because, according to BoR officials, BLM is responsible for administering all geothermal activities on federal land.
Entrance fees	According to BoR officials, BoR is prohibited from charging entrance fees by the Federal Lands Recreation Act.
Use fees	BoR collects revenues generated from “use fees” under the broader revenue category “recreation fees.”
Federal land use designation data elements	
Total acres designated as Wilderness Areas under the Wilderness Act of 1964 and subsequent associated legislation	BoR headquarters does not routinely collect information about this land use designation because it is not a part of BoR’s mission to do so. BoR is not responsible for managing wilderness lands. The BoR regional offices may collect some data.
Total river miles designated as Wild and Scenic River under all categories of designations under the Wild and Scenic Rivers Act of 1968, as amended	BoR headquarters does not routinely collect information about this land use designation because it is not a part of BoR’s mission to do so. BoR is not responsible for managing Wild and Scenic Rivers. The BoR regional offices may collect some data.
Number of National Historic and National Scenic Trails designated under the National Trails System Act 1968, as amended	BoR headquarters does not routinely collect information about this land use designation because it is not a part of BoR’s mission to do so. BoR is not responsible for managing National Historic and National Scenic Trails. The BoR regional offices may collect some data.
Number of National Recreational Trails or roads designated under the National Trails System Act 1968, as amended	BoR headquarters does not routinely collect information about this land use designation because it is not a part of BoR’s mission to do so. BoR is not responsible for managing National Recreational Trails or roads. The BoR regional offices may collect some data.

**Appendix VII: Information on Bureau of
Reclamation Data Elements**

BoR data elements by category	Explanation from BoR agency officials
Number of paleontological localities	BoR is establishing procedures for collecting this information. The Omnibus Public Land Management Act of 2009, Pub. L. No. 111-11 §§ 6301-6312, 123 Stat 991, 1172-1177 requires the development of plans for inventorying and monitoring these sites. Before this legislation passed, BoR did not have an active paleontological program. BoR is participating in a department wide effort to prepare rules addressing paleontology.
Total acres designated as Research Natural Areas	BoR does not routinely collect information about this land use designation and BoR is not aware of any of these sites on BoR land.
Total acres designated as critical habitat under the Endangered Species Act	BoR does not routinely collect information about this land use designation because FWS and the National Marine Fisheries Service are responsible for doing so. According to information provided by FWS officials, the FWS does not routinely collect this information and the information is not readily available from this agency. This information is maintained at the local level and about 390 wildlife refuges have endangered species. Because the boundaries of the habitats sometimes overlap, any acreage data would be an estimate.
Total acres designated as Wetlands	BoR does not collect these data because, according to BoR officials, FWS is responsible for maintaining data on wetlands.
Total acres designated as National Monuments	BoR does not routinely collect information about this land use designation. According to BoR officials, these sites are managed by other federal agencies, such as BLM and NPS.
Total acres designated as National Natural Landmarks	BoR does not routinely collect information about this land use designation because, according to BoR officials, NPS is responsible for doing so.
Total acres designated as administrative sites	BoR does not collect information about this land use designation. BOR land is referred to as project areas not administrative sites. So there is no separate designation for administrative sites.
Total acres designated under the United Nations Biosphere Reserve Program	BoR headquarters does not collect information about this land use designation. The BoR regional offices may collect some data.
Total acres designated as World Heritage Sites	BoR headquarters does not collect information about this land use designation. BoR headquarters officials were not aware of any of these sites on BoR land. The BoR regional offices may collect some data.
Total acres designated as Wetlands of International Importance/Ramsar sites	BoR headquarters does not collect information about this land use designation. BoR headquarters officials were not aware of any of these sites on BoR land. The BoR regional offices may collect some data.
Total acres designated as Globally Important Bird Areas	BoR headquarters does not collect information about this land use designation. BoR headquarters officials were not aware of any of these sites on BoR land. The BoR regional offices may collect some data.
Total acres designated as International Historic Sites	BoR headquarters does not collect information about this land use designation. BoR headquarters officials were not aware of any of these sites on BoR land. The BoR regional offices may have some information.

Source: GAO analysis of information provided by BoR officials.

Appendix VIII: Information on Primary Agency Data Systems

This appendix presents information on primary data systems at the five agencies—BLM, Forest Service, FWS, NPS, and BoR—we identified in our review. In assessing the potential reliability of each data system, we applied categories of potential reliability, as defined in table 46.

In assessing the potential reliability of each data system, we reviewed officials’ survey responses about the system’s internal controls related to data accuracy, completeness, and reliability in order to apply categories of potential reliability. We also reviewed the findings of any audits, evaluations, and formal reviews the agencies provided that were related to the reliability of the data systems. See table 47 for our assessments of the primary agency data systems.

Table 46: Levels of Potential Reliability and Criteria for Assessing Primary Agency Data Systems

Symbol	Level	Criteria
●	“Potentially reliable” System controls provide high assurance about the reliability of data in the system.	(1) We had sufficient information on the quality of the data system, and that information indicated that the data system routinely used most of the necessary internal controls required to reliably maintain data and (2) had no or only minor limitations related to maintaining accurate, complete, and reliable data.
◐	“May be potentially reliable” System controls provide moderate assurance about the reliability of data in the system.	(1) We did not have sufficient information on the quality of the data system to unequivocally assess it as potentially reliable; and/or (2) agency officials reported that the data system (a) occasionally used most, or (b) routinely used only some of the necessary internal controls required to reliably maintain data; and/or (3) had some limitations related to maintaining accurate, complete, and reliable data.
○	“Potentially unreliable” System controls provide low assurance about the reliability of data in the system.	Agency officials reported that the data system (1) did not use, or they did not know if it used, many of the necessary internal controls required to reliably maintain data and/or (2) had significant limitations related to maintaining accurate, complete, and reliable data.

Source: GAO.

**Appendix VIII: Information on Primary
Agency Data Systems**

Table 47: Assessment of Potential Reliability of Primary Agency Data Systems, by Agency

Primary data system, by agency	Database abbreviation	Type of data in the system	Assessment of potential reliability
BLM			
Collection and Billing System	CBS	Revenues	○
Financial and Business Management System	FBMS	Revenues, other	○
Legacy Rehost 2000	LR2000	Acres, resources, land use designations, revenues	○
Rangelands Administration System	RAS	Acres, resources, other	○
Recreation Management Information System	RMIS	Acres, land use designations, revenues	○
Timber Sale Information System	TSIS	Acres, resources, land use designations, revenues, other	●
Forest Service			
Automated Lands Program	ALP	Acres, land use designations, international designations, revenues, other	○
Automated Timber Sale Accounting	ATSA	Resources, revenues, other	●
Natural Resource Manager-Forest Service Activity Tracking System	FACTS	Acres, land use designations, other	○
Foundation Financial Information System	FFIS	Revenues, other	●
Fire Statistics System	FIRESTAT	Acres, other	○
Land Area Report	LAR	Acres, land use designations, international designations, revenues	○
Natural Resource Manager-INFRA Corporate Database	NRM-INFRA	Resources, revenues, other	○
Special Uses Data System	SUDS	Acres, resources, land use designations, revenues, other	○
Natural Resource Manager-Timber Information Manager	TIM	Acres, land use designations, other	○
FWS			
Federal Financial System	FFS	Revenues, other	○
Fire Management Information System	FMIS	Other	●
Land Records System	LRS	Acres, land use designations, other	○
Refuge Annual Performance Plan System	RAPP	Other	○
NPS			
Federal Financial System	FFS	Revenues	●
Lands Management Information System/Master Deed List Database	MIS/MDL	Acres, other	○
National Register Information System	NRIS	Acres, other	●
Performance Management Data System	PMDS	Acres, resources, land use designations, other	○
Wildland Fire Management Information System	WFMIS	Acres, land use designations, other	○
BoR			
Federal Financial System	FFS	Revenues	○
Foundation Information for Real Property Management	FIRM	Acres, other	●

Source: GAO.

Appendix IX: Comments from the Forest Service



Forest Service
Washington Office

1400 Independence Avenue, SW
Washington, DC 20250

File Code: 1420

Date:

APR 12 2011

Ms. Anu K. Mittal
Director of Natural Resources
Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Mittal:

Thank you for the opportunity to review and provide comment on the draft U.S. Government Accountability Office (GAO) Report on "Federal Land Management: Availability and Potential Reliability of Selected Data Elements at Five Agencies." The Forest Service has reviewed the report and generally concurs with the report's observations.

If you have any questions, please contact Donna M. Carmical, Chief Financial Officer at 202-205-1321 or dcarmical@fs.fed.us.

Sincerely,

THOMAS L. TIDWELL
Chief



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Appendix X: GAO Contact and Staff Acknowledgments

GAO Contact

Anu K. Mittal, 202-512-3841 or mittala@gao.gov

Staff Acknowledgments

In addition to the contact person named above, Andrea Brown (Assistant Director), Antoinette Capaccio,Carolynn Cavanaugh, Kevin Dooley, Grant Mallie, Rebecca Shea, Carol Herrnsstadt Shulman, Sheena Smith, Benjamin Thomas, Lisa Turner, and Elizabeth Wood made key contributions to this report.

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