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FEDERAL LAND MANAGEMENT

Availability and Potential Reliability of Selected Data Elements at Five Agencies

Statement of Anu K. Mittal, Director
Natural Resources and Environment

May 3, 2012

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Highlights

Highlights of GAO-12-691T, a statement before the Subcommittee on Energy and Mineral Resources, Committee on Natural Resources, House of Representatives

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. The five agencies collect certain data to help manage federal lands under their jurisdiction.

This testimony summarizes GAO's findings from GAO-11-337, a report issued in April 2011. In this report, GAO reviewed the extent to which 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. These elements 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, such as wilderness areas.

What GAO Recommends

GAO made no recommendation in its 2011 report and is making no new recommendations in this testimony.

View GAO-12-691T. For more information, contact Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

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 asked them about. Specifically, all five agencies collected data on four basic data elements, 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 Register of Historic Places. In contrast, none of them collected information for 33 other data elements, 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 information, such as believing another federal agency collected it, it was inconsistent with the agency's mission, or they lacked the authority or resources to do so.

When an agency collected information, it was usually stored in a primary agency data system—a centralized electronic data system maintained at an agencywide level. 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 collected 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 for a given period of time, and additional analysis would be needed to determine the reliability of specific data elements for specific purposes. Among the reasons some of these data were assessed to be potentially unreliable were insufficient information about the accuracy and completeness of data elements and lack of internal controls for data quality.

Chairman Lamborn, Ranking Member Holt, and Members of the Subcommittee:

I am pleased to be here today to participate in your field hearing on land inventory management. 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.

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, and 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 also 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, such as wilderness areas. However, 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 manage federal land and resources and revenues collected from activities on federal land. 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 2010, at the request of the House Committee on Natural Resources and the Senate Committee on Energy and Natural Resources, we undertook a study to review the extent to which each of the five federal land management agencies collect data that were considered by the committees as key to managing federal lands and resources. In April 2011, we issued a report—*Federal Land Management: Availability and Potential Reliability of Selected Data Elements at Five Agencies*

(GAO-11-377)—that described which data the agencies collected, where the agencies stored these data, and the potential reliability of these data. My testimony today is based on the findings of this report, which contained no recommendations. The 2011 report contains a detailed explanation of the methods used to conduct our work, which we performed in accordance with generally accepted government auditing standards.

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 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. For our 2011 report, we examined over 100 data elements that 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. We developed this list of data elements by reviewing, among other things, the request letter for the work, past GAO and Congressional Research Service reports, and interviewing agency officials. The five agencies may collect other data related to land management that were not included in this review. The three data element 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.
- *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.
- *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. 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.

Extent to Which Data Elements Are Collected by the Five Agencies Varied

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 we queried them about. Specifically, all five agencies collected only 4 of the same data elements of the over 100 data elements that we asked them about. These 4 elements 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 Register of Historic Places. In contrast, none of the agencies collected information for 33 data elements that we 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.

Specifically, of the 57 federal land and resource data elements we asked each of the five agencies about, BLM and the Forest Service collected the most—22 and 20 data elements respectively—and BoR collected the

least—3 data elements. Table 1 lists the 57 federal land and resources data elements we asked about and indicates which of the five agencies collected them.

Table 1: Federal Land and Resource Data Elements Collected by the Five Federal Agencies

	Collected				
Data element	**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	✔	✔	✔	✔	
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)					

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
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					
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					

Data element	Collected				
	BLM	Forest Service	FWS	NPS	BoR
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.

Of the 35 revenue data elements we asked each of the five federal agencies about, BLM collected the most and NPS collected the least, 22 and 6, respectively. Table 2 lists the 35 data elements that relate to revenues generated from activities on federal lands and which of the five agencies collected them.

Table 2: 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 & 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					

	Collected				
Data element	**BLM**	**Forest Service**	**FWS**	**NPS**	**BoR**
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.

Some land use designation data elements that we asked the five federal land management agencies about applied to all five of them, and some were unique to a specific agency. As a result, the number of land use designations applicable to each agency varied. 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 information on federal land use designation data elements and BoR collected the least, 25 and 1, respectively. Table 3 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 3: Federal Land Use Designation Data Elements Collected by the Five Federal Agencies

Federal land use designation data elements applicable to all five agencies						
		Collected				
	Data element	BLM	Forest Service	FWS	NPS	BoR
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	✔				

Federal land use designation data elements applicable to all five agencies					
	Collected				
Data element	**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				✔	

Federal land use designation data elements applicable to all five agencies					
	Collected				
Data element	BLM	Forest Service	FWS	NPS	BoR
16. Total acres designated as National Recreation Areas				✔	
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.

Agency officials cited various reasons why their agencies did not collect certain information, 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. For example, 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, 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.

In addition, some agencies did not collect data because they believe collecting it would be inconsistent with the agency's mission. For example, according to NPS officials, with regard to data related to various aspects of coal, oil and gas, and hardrock operations on NPS land, 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 any quantities of oil and gas extracted from NPS land, the Department of the Interior's Office of Natural Resources Revenue would collect this information. In addition, BoR did not collect 54 of the 57 federal land and resource data elements we examined because, according to agency officials, these data 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.

Further, some agencies cited a lack of authority or resources to collect certain data elements as their reason for not doing so. For example, 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. BLM officials stated that they would like to collect this information, but funding is not available to do so.

Approximately Three-Quarters of the Data Elements Collected Are Stored in a Primary Agency Data System

When information was collected by the five agencies, it was more often stored in a primary agency data system—a centralized electronic data system maintained at an agencywide level—than in other formats. Specifically, approximately three-quarters of the data elements that the agencies collected were stored in a primary agency data system. For example, we 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. BLM collected 22 federal land and resource data elements, and 15 of these elements were stored in a primary agency data system. These included data elements related to the total acres that have been leased for coal development, total acres that have been leased for oil and gas development, and total acres for livestock grazing. However other data, such as acres of surface and subsurface land, acres managed within each state, and potential quantity of coal reserves on leased land that the agency manages, were kept in BLM state offices in other formats, such as electronic spreadsheets or hard copy. In contrast, all the data elements the Forest Service, FWS, and BoR collected were available in a primary agency data system.

Similarly, we 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. For example, BLM stored all 22 of the revenue data elements it collected in primary agency data systems, including those related to revenues generated from right-of-way permits for transmission lines and water and wind projects and special use permits for camping, day use, filming, and concession activities. In contrast, of the 6 revenue data elements that NPS collected, 3 were stored in a primary agency data system—including those related to recreation fees, use fees, and concession receipts—and 3 were stored in other formats—including special use and right of way permits, which are kept at the park unit level.

With regard to data elements on federal land use designations, the number stored in primary agency data systems or in other formats also varied significantly by agency. For example, only 1 of the 17 land use designation data elements applicable to BLM was stored in a primary agency data system. Other data elements, such as those related to the number of cultural and historic resource sites, National Monuments, and National Historic and National Scenic Trails, were documented in spreadsheets at BLM headquarters. Some data elements, such as the number of paleontological sites and total acres designated as critical habitat under the Endangered Species Act, were maintained at multiple field offices in other formats, such as electronic files or hard copy. In contrast, 13 of the 15 data elements that the Forest Service collects on land use designation are stored in primary agency systems. These include information on total acres designated as Wilderness Areas, National Forests, National Grasslands, National Monuments, National Tallgrass Prairie, Land Utilization Projects, administrative sites, and Research Natural Areas; and the total river miles designated as Wild and Scenic Rivers. At NPS, the format for data storage was more of a mix, with 18 of the 25 data elements stored in primary agency data systems and 7 stored in other formats, including electronic spreadsheets, Web sites, or paper files at agency headquarters or in park units.

Less than Half of the Agency Data Stored in Primary Agency Data Systems Were Assessed to Be Potentially Reliable

We assessed the potential reliability of the data elements that the five agencies collected and determined that less than half of the data elements stored in a primary agency data system were potentially reliable. Generally, we assessed data elements 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 we assessed the potential reliability of these data elements for a given period of time, and additional analysis would be needed to determine the reliability of specific data elements for specific purposes.

With regard to federal land and resource data elements, we assessed as potentially reliable 24 data elements that the five federal agencies stored in a primary agency data system:

- At BLM, of the 15 data elements that were stored in a primary agency data system, 6 were assessed to be potentially reliable.
- At the Forest Service, of the 20 data elements that were stored in a primary agency data system, 4 were assessed to be potentially reliable.
- At FWS, of the 10 data elements that were stored in a primary agency data system, 6 were assessed to be potentially reliable.
- At NPS, of the 10 data elements that were stored in a primary agency data system, 8 were assessed to be potentially reliable.
- At BoR, of the 3 data elements that were stored in a primary agency data system, none was assessed to be potentially reliable.

Reasons why these data were found to be potentially unreliable included concerns about the accuracy and completeness of the data and internal controls for data quality. For example, all of the federal land and resource data elements in the Forest Service's Land Area Report data system and the Automated Lands Program data system were assessed as potentially unreliable, in part because their associated data systems had weak internal controls for data quality.

With regard to the revenue data elements stored in primary agency data systems, we assessed 17 as potentially reliable:

- At BLM, of the 22 data elements that were stored in a primary agency data system, 13 were assessed to be potentially reliable.
- At the Forest Service, of the 9 data elements that were stored in a primary agency data system, 1 was assessed to be potentially reliable.
- At FWS, of the 10 data elements that were stored in a primary agency data system, none was assessed to be potentially reliable.
- At NPS, of the 3 data elements that were stored in a primary agency data system, all 3 were assessed to be potentially reliable.
- At BoR, of the 4 data elements that were stored in a primary agency data system, none was assessed to be potentially reliable.

Reasons why these data were found to be unreliable varied. For example, at BLM, we assessed two data elements—revenues generated by coal bonus bids and coal rents in the Collection and Billing System—as

potentially unreliable, in part because BLM did not provide sufficient information about the accuracy and completeness of these data elements in the Collection and Billing System. In addition, at FWS, 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).

With regard to the data on land use designations, we assessed as potentially reliable 25 land use designation data elements stored in primary agency data systems:

- At BLM, the 1 data element that was stored in a primary agency data system was not assessed to be potentially reliable.
- At the Forest Service, of the 13 data elements that were stored in a primary agency data system, 2 were assessed to be potentially reliable.
- At FWS, of the 6 data elements that were stored in a primary agency data system, all 6 were assessed to be potentially reliable.
- At NPS, of the 18 data elements that were stored in a primary agency data system, 17 were assessed to be potentially reliable.
- At BoR, the 1 data element collected was not stored in a primary agency data system.

As with the other two types of data elements, the reasons why these data were found to be potentially unreliable varied. For example, we found the land use designation data element at BLM potentially unreliable, in part because of limitations with the accuracy of historic data. In contrast, we found eight data elements stored in the Forest Service's Land Area Report data system 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.

Chairman Lamborn, Ranking Member Holt, and Members of the Subcommittee, while we recognize that managing the vast federal estate is a daunting task, this task becomes even more challenging when federal land managers do not have access to complete, accurate, and comprehensive land inventory data. This concludes my prepared statement. I would be pleased to answer any questions that you may have at this time.

GAO Contacts and Acknowledgements

For further information about this testimony, please contact Anu K. Mittal 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 testimony. Elizabeth Erdmann, Assistant Director; Antoinette Capaccio, Carol Kolarik, Rebecca Shea, and Lisa Turner also made key contributions to this testimony.