



United States  
General Accounting Office  
Washington, D.C. 20548

Resources, Community, and  
Economic Development Division

B-271755

May 7, 1996

The Honorable John R. Kasich  
Chairman, Committee on the Budget  
House of Representatives

Dear Mr. Chairman:

After reviewing the information presented in our January 1995 report<sup>1</sup> on the lands managed by the four primary federal land management agencies, you expressed interest in obtaining additional information on the use being made of the surface and/or subsurface lands managed by two of these agencies--the Department of Agriculture's Forest Service and the Department of the Interior's Bureau of Land Management. The Bureau and Service managed about 267 million and 192 million surface acres of federal land, respectively, as of September 30, 1994. In addition to managing surface lands, the Bureau also was the leasing agent for coal, oil, and natural gas on all onshore subsurface federal lands and maintained mining claim records for all federal lands.

More specifically, you asked that we obtain information on the quantities of selected resources contained within the lands managed by these agencies and the extent to which they are being made available for public use. As agreed, this report provides available information on (1) the potential quantities of coal, oil, and natural gas on subsurface federal lands as well as the timber and grazing acreage managed by the agencies and (2) the extent to which these resources, as well as hardrock minerals, have been made available or used in the period from fiscal year 1990 through fiscal year 1995.

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<sup>1</sup>Federal Lands: Information on Land Owned and on Acreage With Conservation Restrictions (GAO/RCED-95-73FS, Jan. 30, 1995). The data in this report were updated in Land Ownership: Information on the Acreage, Management, and Use of Federal and Other Lands (GAO/RCED-96-40, Mar. 13, 1996).

## RESULTS IN BRIEF

The Bureau of Land Management administers onshore subsurface federal lands containing an estimated demonstrated reserve base<sup>2</sup> of 160 billion tons of coal, 1.79 billion barrels of economically recoverable oil, and 14.82 trillion cubic feet of economically recoverable natural gas. Furthermore, the surface lands managed by the Forest Service and the Bureau include nearly 96 million acres and 8 million acres, respectively, that are suitable for commercial timber harvesting. In addition, Bureau- and Service-managed surface lands have included an annual average of about 170 million acres and almost 98 million acres, respectively, that are available for livestock grazing.

The Bureau's data show that the annual production of subsurface federal resources during 1990 through 1995 averaged about 274 million tons of coal, 130 million barrels of oil, and 1.5 trillion cubic feet of natural gas. Commercial timber production on Bureau and Service lands declined from about 11.5 billion board feet on about 0.9 million acres in 1990 to about 4 billion board feet on about 0.5 million acres in 1995, while the acreage used for livestock grazing averaged about 263 million acres annually during the 6-year period. The Bureau's data also show that the number of hardrock mineral claims on federal lands declined from about 1.2 million claims on about 34.5 million acres in 1990 to about 0.3 million claims on about 8.3 million acres in 1995.

## BUREAU- AND SERVICE-MANAGED RESOURCES

According to estimates by the Department of the Interior's U.S. Geological Survey,<sup>3</sup> Bureau-administered subsurface federal lands contain about 668 billion tons of coal resources, of which about 160 billion tons are potentially

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<sup>2</sup>The demonstrated reserve base is an estimate of the coal resources in the ground that meet certain reliability and minability criteria, regardless of legal, technical, or economic restrictions. Therefore, not all of this coal may be produced.

<sup>3</sup>The Geological Survey's coal estimates, for eight western states that are estimated to contain 99 percent of all federal coal, are contained in a June 1995 memorandum, and the oil and gas estimates are found in its report entitled Estimates of Undiscovered Resources of Oil and Gas for Federal Lands, and for Indian and Native Lands of the Continental United States, Geological Survey Open-File Report 90-705, 1990.

minable. In addition, such lands have a 95-percent likelihood that they contain about

- 3.96 billion barrels of undiscovered oil, of which about 1.79 billion barrels are economically recoverable, and
- 25.33 trillion cubic feet of natural gas, of which about 14.82 trillion cubic feet are economically recoverable.

Neither the Survey nor the Bureau has estimated the quantities of hardrock minerals that are contained within subsurface federal lands.

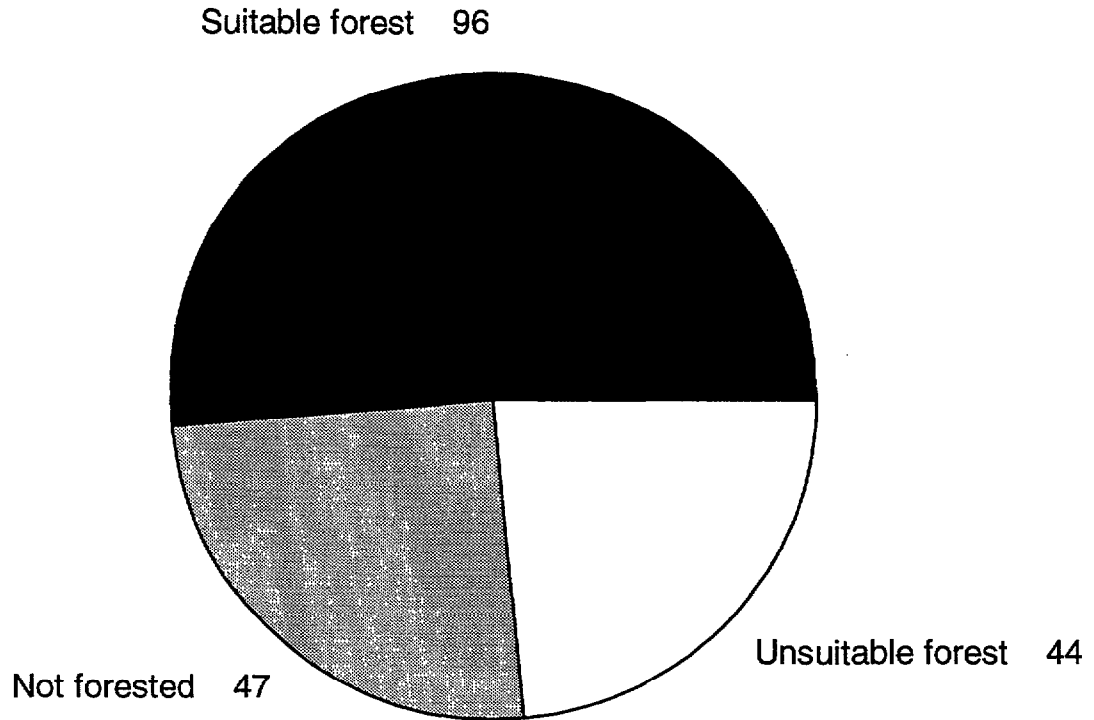
Both the Forest Service and the Bureau manage surface lands that contain timber resources suitable for commercial harvesting. Of the Service's approximately 192-million-acre National Forest System, about 187 million acres are in national forests; national grasslands account for the majority of the remaining acres. As shown in figure 1, the Service estimates that, as of April 1996 within national forests, about 96 million acres contained timber suitable for commercial harvesting, 47 million acres were not forested, and 44 million acres were unsuitable for commercial harvesting.<sup>4</sup>

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<sup>4</sup>"Suitable" means that the forest is biologically capable of producing commercial timber. "Unsuitable" means that the forest is not technically or biologically capable of producing commercial timber.

Figure 1: National Forest Lands

Acres in millions



Suitable forest includes about 47 million acres not available for commercial harvesting.

According to the Service, of the 96 million acres that contain timber suitable for commercial harvesting, 49 million acres are approved for timber harvesting in the Service's forest plans, while the remaining 47 million acres are not available for commercial harvesting. Of the 47 million acres that are not approved for timber harvesting, 35 million acres are approved for other uses such as wildlife habitat and soil and watershed management, and the remaining 12 million acres have been formally withdrawn for other purposes such as wilderness areas.

The Bureau estimated that in fiscal year 1993, about 8 million of the 267 million surface acres it managed contained timber suitable for commercial harvesting.

Both the Bureau and the Service manage lands considered suitable for livestock grazing. According to the Bureau, since 1990 nearly 170 million acres annually of the surface lands it manages have been open to grazing. The Service-managed lands available for grazing have averaged about 98 million acres annually.

### PUBLIC USE OF FEDERALLY MANAGED RESOURCES

The Bureau's data on coal produced from federal leases for fiscal years 1990 through 1995, the number of acres leased, and the acres that produced coal are presented in table 1. The table also shows the coal produced and the leased acres for Service-managed lands.

Table 1: Quantities of Federal Coal Produced, Leased Acres, and Producing Acres, Fiscal Years 1990-95

	Fiscal year					
	1990	1991	1992	1993	1994	1995
<b>Bureau of Land Management<sup>a</sup></b>						
Production <sup>b</sup> (million short tons <sup>c</sup> )	253.0	253.0	238.5	257.6	292.5	348.5
Leased acres <sup>d</sup>	733,408	695,278	694,620	644,005	774,198	630,658
Producing acres <sup>d</sup>	256,296	267,240	275,925	266,620	275,341	292,862
<b>Forest Service<sup>e</sup> only</b>						
Production (million short tons <sup>c</sup> )	45.0	87.0	85.8	115.4	114.5	112.8
Leased acres	Not available		207,800	204,500	196,600	239,900
Producing acres	Not available					

<sup>a</sup>The Bureau maintains aggregated data on coal resources on all subsurface federal lands but is not able to identify resource quantities underlying surface acreage managed by individual federal agencies.

<sup>b</sup>Minerals Management Service's data provided by calendar year.

<sup>c</sup>A short ton equals 2,000 pounds.

<sup>d</sup>Bureau of Land Management's data.

<sup>e</sup>Forest Service's estimate.

The Bureau's data on federal onshore oil and natural gas production for fiscal years 1990 through 1995, the number of acres leased, and the number of acres producing oil and natural gas are shown in table 2. The table also shows the quantities and acreage of these resources produced under Service-managed lands.

Table 2: Quantities of Federal Oil and Natural Gas Produced, Leased Acres, and Producing Acres, Fiscal Years 1990-95

	Fiscal year					
	1990	1991	1992	1993	1994	1995
<b>Bureau of Land Management<sup>a</sup></b>						
Producing volumes <sup>b</sup>						
Oil (millions of barrels)	145.9	133.1	133.5	126.7	119.2	122.1
Gas (billions of cubic feet)	1,201.5	1,214.4	1,289.0	1,709.5	1,788.6	1,738.8
Leased acres <sup>c</sup> (thousands)	63,705	59,886	51,866	41,789	38,548	36,468
Producing acres <sup>c</sup> (thousands)	13,003	10,376	10,124	10,352	Not available	10,510 <sup>d</sup>
<b>Forest Service<sup>e</sup> only</b>						
Producing volumes						
Oil (millions of barrels)	15.0	15.1	13.7	14.5	12.5	12.4
Gas (billions of cubic feet)	160.2	242.0	228.6	323.9	325.4	319.5
Leased acres (thousands)	Not available		8,290	6,354	5,834	5,272
Producing acres	Not available					

<sup>a</sup>The Bureau maintains aggregated data on oil and gas resources on all federal lands but is not able to identify resource quantities underlying surface acreage managed by individual federal agencies.

<sup>b</sup>Minerals Management Service's data provided by calendar year; 1995 data are preliminary estimates.

<sup>c</sup>Bureau of Land Management's data.

<sup>d</sup>As of 2/28/96.

<sup>e</sup>Forest Service's estimate.

The Bureau's data on the number of hardrock mineral<sup>f</sup> mining claims and associated acres under permit for fiscal years 1990 through 1995 are shown in table 3.

Table 3: Hardrock Mineral Mining Claims and Associated Acres, Fiscal Years 1990-95

	Fiscal year					
	1990	1991	1992	1993	1994	1995
Active mining claims	1,185,048	820,586	756,875	300,399	322,700	291,600
Acres	34,474,187	23,806,146	21,857,643	8,449,658	9,421,768	8,309,290

Note: The Bureau of Land Management maintains records for mining claims for all federal lands. "Active" means that the claim or site is in good standing even though no disturbance of the site may be occurring.

Source: Bureau of Land Management.

The Service's and the Bureau's data on commercial timber harvesting volumes and acreage for fiscal years 1990 through 1995 are shown in table 4.

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<sup>f</sup>Hardrock minerals as defined by the Bureau of Land Management include, but are not limited to, barite, bentonite, copper, feldspar, fluorspar, gold, lead, magnesium, nickel, silver, tungsten, uranium, and zinc.

**Table 4: Timber Harvesting Activity on Lands Managed by the Forest Service and Bureau of Land Management, Fiscal Years 1990-95**

Board feet in billions

	Fiscal year						Total <sup>a</sup>
	1990	1991	1992	1993	1994	1995	1990-95
<b>Forest Service</b>							
Offered	11.1	6.2	5.1	4.6	3.4	4.0	34.4
Sold	9.3	6.4	4.4	4.5	3.1	2.9	30.6
Harvested	10.5	8.5	7.3	5.9	4.8	3.9	40.9
Acres harvested (thousands)	902.6	795.7	755.6	732.5	623.5	478.9	4,288.8
<b>Bureau of Land Management</b>							
Sold	1.4	1.2	1.0	0.5	0.2	0.2	4.4
Harvested	1.0	0.6	0.7	0.5	0.2	0.1	3.2
Acres harvested (thousands)	39.2	28.1	61.5 <sup>b</sup>	20.6	12.7	11.0	173.1

Note: A board foot, a standard measure of timber, equals the amount of wood in an unfinished board 1 inch thick, 12 inches long, and 12 inches wide.

<sup>a</sup>Due to rounding, individual figures may not sum to total.

<sup>b</sup>Increase from prior year due to salvage operations.

Source: Forest Service and Bureau of Land Management.

For fiscal years 1990 through 1995, the Bureau's and the Service's data on livestock grazing on lands these agencies manage are shown in table 5.



Table 5: Acres of Livestock Grazing With Permits on Bureau of Land Management and Forest Service Lands, Fiscal Years 1990-95

Grazing acres in millions

	Fiscal year					
	1990	1991	1992	1993	1994	1995
Bureau of Land Management <sup>a</sup>	159.2	167.2	166.9	167.2	166.0	161.4
Forest Service	103.9	99.7	97.3	94.6	95.9	98.9
<b>Total</b>	<b>263.1</b>	<b>266.9</b>	<b>264.2</b>	<b>261.8</b>	<b>261.9</b>	<b>260.3</b>

<sup>a</sup>Excludes approximately 5 million acres in Alaska used annually for reindeer grazing.

Source: Bureau of Land Management and Forest Service.

AGENCY COMMENTS

We provided a draft of this report to the Department of the Interior and the U.S. Department of Agriculture's Forest Service for their review and comment. In commenting on the report, the Department of the Interior's Assistant Secretary for Land and Minerals Management agreed with the accuracy of the information it contained. Similarly, the Forest Service's Associate Deputy Chief for Administration concurred with the information on the Forest Service contained in the report. We incorporated technical corrections and other clarifying information provided where appropriate.

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We performed our work in accordance with generally accepted government auditing standards at the Bureau of Land Management's and the Forest Service's offices in Washington, D.C., and at U.S. Geological Survey offices in Reston, Virginia, from February through April 1996. We did not independently verify the data provided by the Bureau, the Service, or the Geological Survey.

B- 271755

Should you or your staff have any questions about information in this report or need more information, please call me at (202) 512-3481.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Victor S. Rezendes". The signature is fluid and cursive, with a large loop at the end.

Victor S. Rezendes  
Director, Energy, Resources,  
and Science Issues

(140109)

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