ECONOMIC IMPACT OF THE DEPARTMENT OF THE INTERIOR'S PROGRAMS AND ACTIVITIES

PRELIMINARY REPORT

DECEMBER 15, 2009

A Message from Secretary Ken Salazar

"As Americans, we possess few blessings greater than the vast and varied landscapes that stretch the breadth of our continent. Our lands have always provided great bounty -- food and shelter for the first Americans, for settlers and pioneers; the raw materials that grew our industry; the energy that powers our economy. What these gifts require in return is our wise and responsible stewardship." (President Obama, March 30, 2009)

The lands, waters, wildlife, and cultural and historic resources the Department of the Interior oversees are an engine of prosperity for our Nation. Energy generated from public lands powers America's homes and businesses; minerals and timber resources are the building blocks for the products we consume; grazing helps supply food for our families; and the scenery, recreational opportunities, and shared history that draws Americans to Interior lands support jobs and businesses in communities across the country.

The Department of the Interior's programs and resources are fundamental to the American economy, but – with the right policies and the right investments – we can do even more to power America's economic recovery and to create jobs here at home. Investments in parks, refuges, landscapes, and environmental restoration create jobs that are homegrown and cannot be exported. Wind, solar, and geothermal power from public lands can be harnessed as never before, putting Americans to work while supplying clean, affordable energy for our future. We can invest in infrastructure to deliver clean water to rural communities in need, while restoring watersheds and lands for future generations. We can create summer jobs for thousands of young people by restoring America's most special places while inspiring the next generation to be good stewards of our planet. The opportunities are vast.

With innovation and with renewed attention to the benefits of responsible stewardship we can help repower our economy and create a lasting foundation for prosperity in America.

A Message from Rhea Suh, Assistant Secretary for Policy, Management and Budget

This report represents an important first for the Department of the Interior. In our long history, never before has Interior attempted to quantify the economic impacts of its programs and activities agency-wide in economic terms. We traditionally measure progress in terms of environmental benefits like number of endangered species protected, streams cleaned up, or acres saved from wildfires. But this time we've done things a little differently, and tried to show that Interior's activities employ countless Americans and inject billions into the national economy – all while preserving our national resources.

The following report highlights the Agency's commitment to integrating our conservation responsibilities with a plan to put Americans back to work. We firmly believe our mission as stewards of our nation's lands puts us in an ideal position to create American jobs. Department of the Interior activities like safeguarding ecosystem services and managing renewable energy sources on Federal lands have the potential to create thousands more jobs and have a major impact on the economy. Until now we have not quantified the benefits of those activities in economic terms. As we work through new methods for calculating our impact, we may find the actual economic benefits of the Agency are even greater than we currently estimate.

Thus, this report is a work in progress. Moving forward, we plan to streamline our internal economic analysis and strive to better project the economic impacts of our actions. In the future, we hope to further demonstrate that conservation and job creation can truly go hand-in-hand.

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Executive Summary

The Department of the Interior supports over 1 million jobs

- We support over 1.4 million jobs for Americans.
- We support over $370 billion in economic activity.
- Our parks, refuges, and monuments generate nearly $25 billion in recreation and tourism.
- Conventional and renewable energy produced on our lands and waters results in $292 billion in impacts.
- The water we manage supports over $25 billion in agriculture.

Every State benefits

- Millions of Americans and foreign visitors enjoy our resources. There were more than 414 million visits in 2008 to Interior-managed lands, including over 310 million visits to National Parks and National Refuges.
- We support about 316,000 jobs in tourism and recreation across all 50 states. The most recreation-related jobs are in California (34,951 jobs), Arizona (25,806 jobs), Utah (18,164 jobs), North Carolina (11,912 jobs), and Colorado (13,768 jobs).
- We also support about 726,000 jobs in energy and minerals. The most energy and mineral jobs are in Wyoming (96,983 jobs), New Mexico (80,731 jobs), Louisiana (58,361 jobs), Texas (37,831 jobs), Colorado (26,844 jobs) and Utah (19,956 jobs).
- Visitors to Interior recreation sites support tens of thousands of jobs in rural areas, including Wyoming (16,800 jobs), Tennessee (12,200 jobs), and Colorado (10,900 jobs). In states that are 50 percent or more rural, Interior visitation supports about 200,000 jobs and $15.3 billion in output.
- State and local governments benefit from numerous grant and payment programs administered by Interior. These programs support a wide variety of essential government activities.
- Interior supports jobs in a wide range of areas: both public-sector and private-sector, seasonal and full-time, and in both urban and rural communities.
- In terms of jobs, ecosystem restoration activities have the biggest pay-off: every $1 million invested creates an average of 30 jobs. Investments in recreation also have big pay-offs; every $1 million invested creates about 22 jobs. These are largely private-sector jobs.

Chapter 1. Overview of Economic Impacts

The Department of the Interior has the potential to play a substantial role in America's financial recovery by creating jobs and stimulating economic activity. This report highlights the current economic impact of Interior's existing programs and activities and underscores the impact Interior has on a state-by-state basis.

In addition to providing economic impact information at the Departmental level, subsequent chapters in this report provide details on Interior's economic impacts at the state level, the bureau level, and impacts by sector, as well as the methodology used to evaluate economic impacts.[1]

The Department of the Interior has a substantial impact on the national economy, supporting over a million jobs while infusing billions of dollars into the economy. In 2008 alone, Interior supported approximately $370 billion in economic activity. Most of these revenues were produced by Interior's management of natural resources on Federal lands, including leasing mineral rights, protecting unique natural resources, and providing valuable information to the mineral markets. Many of Interior's activities, such as the leasing of mineral rights, significantly impact the national economy because they enable private industry to create wealth and jobs. Table 1-1 provides a summary.

Some highlights of Interior's economic impact in 2008 include:

- **Recreation and Tourism**: Americans and foreign visitors paid more than 414 million visits to Interior-managed lands. These visits supported 316,000 jobs and generated $25 billion in economic activity.
- **Energy and Minerals**: Exploitation of oil, gas, coal, hydropower and other minerals on Federal lands supported nearly 726,000 jobs and $295 billion in economic activity.
- **Water, Timber and Forage**: Use of water, timber, and other resources on Federal lands supported about 230,000 jobs and $32 billion in economic activity.
- **Grants and Payments**: Interior administers numerous grants and payments, supporting programs across the country and improving Federal lands with projects as diverse as reclaiming abandoned mines and building coastal infrastructure. Grants and payments of $5.3 billion supported 90,900 jobs and $13 billion worth of impacts.
- **Ecosystem Services**: Ecosystem services are critically important to land management agencies, though it is difficult to assign a dollar value to them since they are not typically bought and sold in markets. However, these vital services support all sectors of the economy.
- **Information:** Interior provides valuable scientific information on natural hazards (earthquakes, floods, hurricanes, landslides, tsunamis, volcanoes and wildfires), helping to mitigate costly disasters and build resilient communities. This information in turn helps private industry explore and develop mineral properties, leading to additional revenue and countless private-sector jobs. Information on supply, demand and flows of minerals and other essential commodities supports well-functioning markets and industries. Satellite imagery improves agricultural planting and management decisions. National water-use

[1] The information in this report was developed by Interior economists from all of Interior's bureaus, and it was coordinated by the Department's Office of Policy Analysis. This report does not consider the net economic returns associated with Interior's activities.

information is used to evaluate water used by the Nation and alterations in water use that are related to demographic, economic, climatic, and other changes.

Table 1-1. Summary of Values and Outputs for DOI

	Inputs (DOI Activity)		Outputs Resulting from DOI Activity	
Category	**Value (Billions, $2008)**	**Est. DOI Inputs as % of National Sector**	**Total Economic Impact (Billions, $2008)**	**Total Domestic Jobs Supported**
DOI Payroll (~78,000 employees in 2008)	4.6	0.1%	7.5	78,928 (additional jobs beyond DOI employees)
Grants & Payments (excludes payments via U.S. Treasury)	5.3	n/a	13.1	90,900
Public Resources as Inputs to Production				
Recreation and Tourism	16.9	2.30%	24.9	315,924
Energy Minerals				
Oil, Gas and Coal	120.2	28%	285.9	672,614
Hydropower	3.7	23%	5.5	14,600
Geothermal	0.2	n/a	0.4	2,311
Non-fuel Minerals				
Hardrock Minerals	3.2	4.5%	n/a	14,900
Other Minerals	2.3	n/a	3.6	21,099
Other Production				
Irrigation Water	14.8	10%	25.8	196,993
M&I Water	2.1	16%	4.2	23,000
Forage	0.6	n/a	1.2	8,289
Timber	0.3	n/a	0.6	2,534
Ecosystem Services	Valuable ecosystem inputs typically not marketed, and difficult to assign a dollar value	DOI manages 20% of U.S. land area	These services underpin all sectors of our economy	
Total	**174.2**		**372.6**	**1,442,092**

For additional information about data and sources, refer to Methods and Data Appendix.

Chapter 2. Bureau-Level Economic Impacts

Each bureau within the Department contributes to Interior's overall economic impacts. The Bureau of Land Management's multiple-use mission allows it to have an impact in recreation as well as mineral, timber, and range resource management. The Bureau of Reclamation is a major water supplier in the western states and supports the production of a large proportion of the high value crops produced. The National Park Service and Fish and Wildlife Service's land and wildlife protection mandates create substantial recreation and tourism opportunities which in turn support jobs for hundreds of thousands of Americans. The Minerals Management Service and the Office of Surface Mining's more focused duties on resource extraction (and protection of the environmental resources that might be impacted by such activities) enable them to have a substantial impact on the economy, both in the public and private sectors. Finally, Indian Affairs and Insular Affairs focus on social and infrastructure needs as well as providing programs that help educate and train workers in America's territories and Indian communities.

The following bureau-level analysis presents Interior's impacts on major economic sectors that are directly impacted by Interior's programs and activities. The major sectors in this report include recreation, energy and minerals, timber and grazing, and water. These sectors do not represent the entire suite of Interior's influence: bureaus have an impact on other sectors through additional programs and activities, e.g., land acquisition, construction, road building, education, law enforcement, and conservation activities. However, information was not readily available for some of these activities and some were not included because of their relatively smaller impact on the economy. If all of Interior's activities were able to be included in the analysis, the impacts may be considerably higher. Efforts will be made to expand the scope of Interior activities presented in future economic reports.

Table 2-1 provides a bureau-level summary of economic impacts and more detailed information on economic impacts by each bureau follows.

Table 2-1. Summary Economic Impacts by Bureau

Bureau	Payroll Total ($ millions)	Total Economic Impact ($ millions)	Total Domestic Jobs Supported
DOI Payroll	4,622	11,347	78,928
National Park Service	1,311	2,125	22,394
Fish and Wildlife Service	606	981	10,342
Bureau of Land Management	691	1,120	11,803
Bureau of Reclamation	362	587	6,189
Minerals Management Service	135	219	2,308
Indian Affairs	500	810	8,536
US Geological Survey	664	1,077	11,346
Office of Surface Mining	44	72	758
Other Interior Offices	308	498	5,253
Grants & Payments	5,323	13,068	90,900
	Inputs (DOI Activity)	**Outputs Resulting from DOI Activity**	
Bureau	**Sales Value $ billions)**	**Total Economic Impact ($ billions)**	**Total Domestic Jobs Supported**
National Park Service			
Recreation	11.6	13.9	223,791
Fish and Wildlife Service			
Recreation	1.3	3.1	26,829
Bureau of Indian Affairs			
Oil, Gas and Coal	3.7	8.3	32,631
Irrigation Water	0.3	0.5	3,993
Timber/Forage	0.1	0.1	581
Other Minerals	0.1	0.1	873
Bureau of Land Management			
Oil, Gas and Coal	56.0	124.4	489,983
Geothermal	0.2	0.4	2,311
Hardrock Minerals	3.2	n/a	14,900
Other Minerals	2.2	3.5	20,226
Forage	0.6	1.2	7,999
Timber	0.3	0.5	2,243
Recreation	2.0	3.3	34,713
Bureau of Reclamation			
Hydropower	3.7	5.5	14,600
Irrigation Water	14.5	25.3	193,000
M&I Water	2.1	4.2	23,000
Recreation	2.0	4.5	30,591
Minerals Management Service	60.4	153.2	150,000
Office of Surface Mining	AML grants included in Grants & Payments above		
Total Bureau Impacts	**174.2**	**372.6**	**1,442,092**

For additional information about data and sources, refer to Methods and Data Sources Appendix.

Bureau of Land Management

Bureau Role

The Bureau of Land Management's (BLM) mission is to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations. The BLM was established in 1946 through the consolidation of the General Land Office and the U.S. Grazing Service. The BLM carries out a variety of programs for the management and conservation of resources on 256 million surface acres and 700 million acres of onshore subsurface minerals. In addition, BLM carries out the Secretary's mineral operations and cadastral survey responsibilities on 56 million acres of Indian trust lands. BLM's public lands make up about 13 percent of the total land surface of the United States and more than 40 percent of all land managed by the Federal government, making BLM the Nation's largest land manager.

Interior also administers the Payments in Lieu of Taxes (PILT) program, which is presented within BLM's impacts because BLM manages a significant amount of land subject to PILT. In FY 2008, current and permanent PILT payments totaled $367 million. PILT payments are used by States to fund education and other programs. In FY 2008, PILT payments supported an estimated 6,280 jobs and $900 million in economic impacts.

BLM lands also encompass substantial opportunities for generating and transmitting renewable energy. As these resources are developed over time, considerable economic activity can be expected to occur.

Baseline Economic Information

BLM's management of Federal lands has an impact of over $127 billion on the national economy and supports over 500,000 American jobs.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
1,008	1,039	1,133

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
691	1,120	11,803

Major Economic Impacts

	Visitors	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
Recreation	50,761,998	3,324	34,713

	Value ($ millions)	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
Oil, Gas, & Coal	56,000	124,391	489,983
Non-Energy Minerals	3,200	n/a	14,900
Timber	318	537	2,243
Grazing	575	1,160	7,999
Geothermal	165	379	2,311
Other Minerals	2,200	3,451	20,226
Subtotal	62,458	129,918	537,662
Total	62,458	133,242	572,373

Grants and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
General Fund Payment to Counties and Native Corporations	105,394	259,269	1,800.1
Payments to States and Counties from Shared Receipts including SNPLMA Payments	7,124	17,525	121.7
Total Grants and Payments	112,518	276,794	1,921.8

Bureau of Indian Affairs, Bureau of Indian Education, and the Office of Indian Energy and Economic Development

Bureau Role

The mission of the Bureau of Indian Affairs (BIA) is to fulfill the Secretary's trust responsibilities and promote self-determination on behalf of federally recognized Indian tribes. The Office of Indian Energy and Economic Development (IEED), within the Office of the Secretary, provides high-level support for the Department's goal of serving tribal communities by providing access to energy resources and helping tribes stimulate job creation and economic development. The mission of the Bureau of Indian Education (BIE) is to provide quality education opportunities in American Indian communities.

IEED engages in numerous activities with tribes that have direct and indirect impacts on the Nation's GDP and employment. Many of these activities are managed directly by tribes through P.L. 93-638 tribal agreements, which support the policy of self-determination, enabling tribes to administer projects independently.

The BIA and BIE provide services directly or through contracts, grants, or compacts to a service population of 1.7 million American Indians and Alaska Natives who are members of 564 federally recognized Indian tribes. The role of BIA and BIE has changed significantly in the last three decades, reflecting a greater emphasis on Indian self-determination. Programs are funded and operated in a highly decentralized manner, with about 90 percent of all appropriations expended at the local level, and at least 50 percent of appropriations provided directly to tribes and tribal organizations through grants, contracts, and compacts for tribes to operate government programs and schools.

Programs with economic impacts include energy, minerals, forestry, and irrigation, as well as employment and training programs, regional economic development incubators, loan guaranties to native-owned businesses, and trust land resource management.

Baseline Economic Information

BIA and IEED currently empower American Indians by providing resources to tribes across the country. BIA and IEED's efforts generate over $9 billion in economic impact and nearly 40,000 jobs, many of them on Indian lands. Sufficient information to develop detailed estimates for this report was not available for a number of ongoing activities generating economic and employment impacts. For example, FY 2008 appropriations include $575 million for various types of construction on reservations. These funds could generate about 9,000 jobs, of particular importance to local communities. Other activities include irrigation, job training, support for the development of mineral materials activities, and hydropower production.

Indian Economic Development Project

The Navajo Indian Irrigation Project delivers water to 66,000 acres, creating jobs and economic benefits. The BIA provides funding for the operation and maintenance of the irrigation delivery system. The Navajo Agricultural Products Industry (NAPI) operates the irrigation water delivery system. In 2008, NAPI had 240 employees and sales of over $38 million.

Loan guarantee programs, while not involving direct expenditures, can create jobs and have economic impacts. The Loan Guarantee Program guarantees up to ninety percent of loans for Indian-owned enterprises. These enterprises contribute to the economies of federally recognized tribal reservations or service areas. In FY 2008, $84 million in loans were guaranteed that otherwise would not have been

made to Native borrowers, according to lenders' written statements in the loan guaranty application. This program requirement ensures that loan guarantees enable economic activity for Indian businesses that would otherwise not take place. Loans guaranteed by the full faith and credit of the U.S. Government do not count against legal lending limits, thus this guaranty program may increase the total credit available to be loaned.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
2,291	2,376	2,620

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
500	810	8,536

Major Economic Impacts

	Value ($ millions)	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
Oil, Gas, and Coal	3,730	8,284	32,631
Irrigation	300	523	3,993
Other minerals *(e.g., construction aggregate)*	95	149	873
Timber and Grazing	50	112	581
Other activities *(e.g., job training, hydropower, etc.)*	These activities are associated with substantial economic and employment impacts on reservations. Additional information is needed to develop economic impact and employment impacts for these activities.		
Total	4,750	9,068	38,078

Bureau of Reclamation

Bureau Role

The Bureau of Reclamation's (Reclamation) mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Reclamation is the largest supplier and manager of water in the 17 western states west of the Mississippi, excluding Alaska and Hawai'i. It maintains 480 dams and 348 reservoirs with the capacity to store 245 million acre-feet of water. These facilities deliver water to one in every five western farmers to irrigate about ten million acres of land, and provide water to over 31 million people for municipal and industrial (M&I) uses as well as other non-agricultural uses. Reclamation is also the Nation's second largest producer of hydroelectric power, generating 44 billion kilowatt hours of energy each year from 58 power plants. In addition, Reclamation's facilities provide substantial flood control and benefits to recreation and fish and wildlife habitats.

Baseline Economic Information

Reclamation's management and recreation activities result in $39 billion in economic impact, and support more than 260,000 jobs.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
1,150	1,117	1,128

(Figures include Central Utah Project Completion Act Funding)

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
362	587	6,189

Major Economic Impacts

	Value ($ millions)	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
Hydropower	3,700	5,500	14,600
Irrigation	14,500	25,300	193,000
M&I Water	2,100	4,170	23,000
Recreation	2,026	4,511	30,591
Total	22,326	39,481	261,191

Grant and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
Boulder Canyon Project Payments to AZ, NV	600	1,476	10.2
Water Reclamation and Reuse Program	36,000	88,560	614.9
Water Conservation Grants	7,000	17,220	119.6
Total Grants and Payments	43,600	107,256	744.7

Fish and Wildlife Service

Bureau Role

The Fish and Wildlife Service's (FWS) major responsibilities are to protect and conserve migratory birds, threatened and endangered species, certain marine mammals, and inter-jurisdictional fish. To accomplish its mission, FWS seeks opportunities to partner with farmers and ranchers, state and local governments, Federal agencies, tribes, citizen volunteers, corporations, and conservation groups.

The National Wildlife Refuge system is among the world's most significant land and water systems managed for the benefit of fish, wildlife, and plants. The system is a network of roughly 96 million acres of land and more than 78,000 square miles of waters that provide habitat for many species of fish and wildlife, sanctuary for hundreds of threatened and endangered species, and secure spawning areas for native fisheries. The refuge system includes 550 refuges and 37 wetland management districts.

Baseline Economic Information

FWS's refuge lands attract millions of visitors and contribute over $2 billion in annual economic impact and over 30,000 jobs.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
1,366	1,443	1,647

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
606	981	10,342

Major Economic Impacts

	Refuge Visitors	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
Recreation	40,784,064	3,125	26,829

Grants and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
Boating Infrastructure Grants	13,935	34,280	238.0
Clean Vessel Act Grants	13,935	34,280	238.0
Coastal Wetlands Conservation	38,534	94,794	658.2
Cooperative Endangered Species Conservation Funds	75,501	185,732	1,289.6
Federal Aid in Wildlife Restoration, Payments to States	327,901	806,636	5,600.5
Educating Young Hunters and Anglers	0	0	0.0
Fish and Wildlife Foundation	7,537	18,541	128.7
Fish Commission and Boating Council	1,200	2,952	20.5
Hunter Education and Safety Grant Program	8,000	19,680	136.6
Multi-State Conservation Grant Program	3,140	7,724	53.6
Multinational Species Conservation Fund	10,000	24,600	170.8
National Outreach Program	13,935	34,280	238.0
National Wildlife Refuge Fund (current and permanent)	26,100	64,206	445.8
Neotropical Migratory Bird Conservation	4,750	11,685	81.1
North American Wetlands Conservation Fund	43,447	106,880	742.1
Sport Fish Restoration, Apportionment to States	402,671	990,571	6,877.6
State and Tribal Wildlife Grants	75,000	184,500	1,281.0
Total Grant and Payment Impacts	1,065,586	2,621,341	18,200.1

Minerals Management Service

Bureau Role

The Minerals Management Service (MMS) was formed by Secretarial Order in 1982 to facilitate the Nation's mineral revenue collection efforts and the management of its Outer Continental Shelf (OCS) offshore areas. The MMS manages energy and mineral resources, including renewable energy resources, on the Nation's OCS in an environmentally sound and safe manner. The MMS is also responsible for the timely and accurate collection, distribution, and accounting and auditing of revenues owed by holders of mineral leases on Federal onshore, offshore, and Indian lands.

The MMS manages access to the OCS mineral resources to help meet the energy demands and other needs of the Nation while balancing such access with the protection of the human, marine, and coastal environments. Currently, MMS administers about 8,000 active mineral leases on 43 million OCS acres, and oversees production from nearly 3,800 facilities on the OCS. Production from these leases generates billions of dollars in revenue for the Federal Treasury and state governments while supporting thousands of jobs. The MMS oversees production of about 14 percent of the natural gas and 27 percent of the oil produced domestically, and facilitates the development of offshore energy resources. The MMS is also developing a renewable energy program that will complement development of traditional energy sources and help begin the transition to a low-carbon economy.

Baseline Economic Information

Energy and minerals production from offshore areas accounted for over $150 billion in economic impacts and supported over 150,000 American jobs.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
161	164	182

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
135	219	2,308

Major Economic Impacts

	Value ($ millions)	Estimated Economic Impact ($ millions)	Estimated Jobs Impact
OCS Oil and Gas	60,430	153,200	150,000

Category	Sales Value
Oil	35.92
Gas	24.51
Total	60.43
GDP Contribution	0.42%
Industry Contribution	12.96%

Source: MMS

Grants and Payments

	2009 Enacted ($ 1000)	Estimated 2009 Economic Impact ($ 1000)	Estimated 2009 Total Jobs
8(g) Payments to States	36,212	89,082	618.5
Cooperative and Delegated Audits of Oil and Gas Operations	9,100	22,386	155.4
Mineral Leasing Revenue Payments to States	2,066,973	5,084,754	35,303.9
Geothermal Payments to Counties	10,075	24,785	172.1
Qualified OCS Revenue Payments to Gulf of Mexico States (GOMESA)	25,240	62,090	431.1
Coastal Impact Assistance Program	250,000	615,000	4,270.0
Total MMS Grants and Payments	2,397,600	5,898,097	40,951.0

National Park Service

Bureau Role

In 1872, the Congress designated Yellowstone National Park as the Nation's first "public park or pleasuring ground for the benefit and enjoyment of the people." The subsequent establishment of the National Park Service (NPS) on August 25, 1916, reflected a national consensus that natural and cultural resources must be set aside for public enjoyment and preserved for future generations. As stated in the original authorizing legislation, the National Park Service mission is to "preserve unimpaired the natural and cultural resources and values of the National Park system for the enjoyment, education, and inspiration of this and future generations."

Currently, the National Park system includes 392 units encompassing 84 million acres in 49 states, the District of Columbia, American Samoa, Guam, Puerto Rico, the Northern Mariana Islands, and the U.S. Virgin Islands. In its entirety, the National Park system represents, interprets, and preserves both natural and cultural sites that are testaments to the Nation's history, and offer an array of opportunities for much needed respite, reflection, and outdoor recreation to the American public.

Baseline Economic Information

While maintaining our National Parks, NPS has a profound impact on the national economy, generating nearly $14 billion recreation-related economic impacts and supporting over 223,000 American jobs.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
2,390	2,526	2,750

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Jobs Impact from Payroll
1,311	2,125	22,394

Major Economic Impacts

Recreation Visits	Estimated Value ($ millions)	Estimated Recreation Impact ($ millions)	Estimated Jobs Impact
272,933,020	11,560	13,923	223,791

Grants and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
Challenge Cost Share	2,343	5,764	40.0
Chesapeake Bay Gateway Grants	1,000	2,460	17.1
Civil War Battlefield Sites Matching Grants	4,000	9,840	68.3
Heritage Partnership Program	14,718	36,206	251.4
Historic Preservation Grants - Indian Tribes	7,000	17,220	119.6
Historic Preservation Grants - State Portion	42,500	104,550	725.9
Japanese-American Confinement Site Grants	1,000	2,460	17.1
LWCF State Conservation Grants	19,000	46,740	324.5
LWCF State Conservation Grants from OCS Oil Lease Revenues	8,161	20,076	139.4
Native American Graves Protection Act Grants	2,331	5,734	39.8
Park Partnership Grants	0	0	0.0
Preserve America	0	0	0.0
Save America's Treasures	20,000	49,200	341.6
Total Grants and Payments Impacts	122,053	300,250	2,085

Office of Insular Affairs

Office Role

The Office of Insular Affairs (OIA) carries out the Secretary's responsibilities for U.S. affiliated insular areas, including the Territories of Guam, American Samoa, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands, as well as the three Freely Associated States: the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau. The OIA assists the insular areas in developing more efficient and effective governments by providing financial and technical assistance, and helps manage the Federal government's relationships with insular areas by promoting appropriate Federal policies. The OIA works to improve the financial management practices of insular governments, maximize economic development opportunities, and increase Federal responsiveness to the unique needs of island communities.

The OIA has yet to commission a formal economic impact study of its programs but will do so in the near future. The unique mission and obligations of the Office warrant a brief general discussion of its economic impact on the areas. OIA's FY 2010 grant funding of $471 million will be spent directly in the insular areas. While the economic impact of this spending has not yet been quantified, it does play an important role in the economies of these areas, supporting local jobs and providing income. Given that the cost of labor is substantially lower in the insular areas, the job multipliers associated with this funding might be expected to be relatively high; perhaps 20 – 30 jobs per million dollars. Multipliers of this magnitude would generate an estimated 8,100 to 12,000 jobs. Additional analysis would be necessary to develop a set of multipliers applicable to each insular area.

The standard of living in the insular areas is lower than for the United States as a whole: U.S. per capita GDP is roughly $46,000, while the average for the four U.S. territories is roughly $20,000. In one of the territories, per capita GDP is less than a quarter of the national per capita figure. Infrastructure in the insular areas, including school buildings, government offices, roads and airports, is typically not up to national norms. Refurbishing this infrastructure would result in much-needed improvements and generate a significant level of economic value for the communities concerned.

Accurate socioeconomic data is an important component of decision making. The four territories are not included in the Nation's GDP, the Bureau of the Census's American Community Survey and the Bureau of Labor Statistics' employment and labor force data. Lack of current data on crucial aspects of the territories deprives both territorial and Federal leaders from the detail and insight they need to make informed and critical policy decisions. Insular Affairs is working with the Bureau of Economic Analysis and the Department of Commerce to try to develop GDP data for the U.S. Territories.

Economic effects for OIA employees are included in the estimates for the Other Interior Offices in Table 2-1. OIA's 41 employees represent about one percent of the "Other Interior Offices" labor force.[2] The impacts associated with these employees were estimated assuming that OIA's impacts represent a similar share of the total impacts of the Other Interior Offices.

Baseline Economic Information

[2] Most of these 41 OIA employees had a duty station of Washington, DC; the rest were located outside of the Continental United States.

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
83	84	103

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Jobs Impact from Payroll
3	8	53

Major Economic Impacts
Grants and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
American Samoa	22,752	Multipliers to evaluate impacts in insular areas were not readily available.	
Brown Tree Snake	2,631		
Compact of Free Association (Permanent)	211,477		
Compact of Free Association (Current)	5,315		
Coral Reef Initiative	1,000		
Covenant Grants	27,720		
Insular Management Controls	1,453		
Maintenance Assistance Fund	2,241		
Return Federal Taxes to Guam and Virgin Islands	148,000		
Technical Assistance	11,018		
Water and Wastewater Projects	1,000		
Total Insular Affairs Grants Program	434,610		

Office of Surface Mining Reclamation and Enforcement

Bureau Role

The Office of Surface Mining Reclamation and Enforcement (OSM) was established by mandate of the Surface Mining Control and Reclamation Act of 1977 to address environmental and public safety concerns associated with surface coal mining. Coal has played a central role in the history of the Nation's industrial and economic development. The OSM mission is to ensure that, through a nationwide regulatory program, coal mining is conducted in a manner that protects citizens and the environment during mining, and restores the land to beneficial use following mining.

One of the objectives of the Surface Mining Control and Reclamation Act is to mitigate the effects of past mining by aggressively pursuing reclamation of abandoned coal mines. OSM collaborates with states and Indian tribes to develop their Abandoned Mine Lands (AML) programs, and also provides funding, technical assistance, and oversight to ensure that qualified lands are reclaimed. While OSM has made significant progress in reclaiming abandoned mine land, there are over 200,000 acres on coal-related abandoned mine sites that have yet to be fully reclaimed. These areas constitute an estimated $3.8 billion worth of health and safety problems across the lands of 25 states and three Indian tribes.

Baseline Economic Information

Budget ($ millions)

2008 Actual	2009 Actual	2010 Enacted
170	165	163

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Additional Job Impacts from Payroll
44	72	758

Grants and Payments

	2009 Enacted ($1000)	Estimated 2009 Economic Impact ($1000)	Estimated 2009 Total Jobs
Abandoned Mine Reclamation State Grants	298,072	733,257	3,278.8
State and Tribal Regulatory Grants	65,536	161,219	720.9
Total OSM Grants and Payments	363,608	894,476	3,999.7

US Geological Survey

Bureau Role

The mission of the U.S. Geological Survey (USGS) is to provide reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; assist others in managing water, biological, and other natural resources; and enhances and protect the quality of life. The USGS provides a broad range of expertise in geography, geology, hydrology, and biology. The USGS places a special emphasis on providing scientific information and geospatial data to the Department's land and resource management responsibilities. The USGS geologic hazards programs produce information and enhance understanding of natural hazards, such as earthquakes, floods, volcanoes, and landslides, which are used to reduce the impacts of these events on human life and the economy. The USGS is a primary source of objective resource assessments and unbiased research on oil, gas, and alternative energy potential, production, consumption, and environmental effects in the Federal government. These investigations enable the Nation to make sound decisions regarding domestic energy production with an understanding of potential impacts on the environment. The USGS provides information on the Nation's water and biological resources to inform decisions on their management and protection. In addition, USGS remote sensing capabilities provide earth observations that can be used to monitor land cover changes to inform land and resource management decisions.

Baseline Economic Information

Budget ($ millions)

2008 Enacted	2009 Enacted	2010 Enacted
1,008	1,046	1,112

Payroll

Total Annual Payroll ($ millions)	Estimated Annual Payroll Impact ($ millions)	Estimated Total Job Impacts from Payroll
664	1,077	11,346

Major Economic Impacts

USGS scientific information informs societal decisions across almost all sectors of the economy. The information reduces uncertainty and provides information relating to water, mineral, energy, and biological resources as well as mitigation and adaptation to climate change and natural hazards. USGS scientific information has public good characteristics and as such is not usually valued in market settings. However, because of its public good nature, the information's value is dependent on it being openly and widely available to the public. For instance, delivery of Landsat data increased exponentially to over a million scenes in fiscal year 2009, after the implementation of free web-based distribution. The large geographic and cyclical coverage of Landsat data makes it well-suited for monitoring and assessing land and resource changes important for land and ecosystem management as well as for responding to disasters and climate change. Integrated assessments that link natural, social, and economic science information are important to increasing the accessibility and use of USGS scientific information. For example, research on understanding the production, quantity, and value of ecosystem services can inform Interior managers on the impacts of land and resource decisions and the tradeoffs from alternative uses of these lands and resources.

Chapter 3. Economic Impact by Sector

The Department of the Interior's public resource management activities support over 1 million jobs, spread across a number of sectors including recreation and tourism, mineral-based energy production, agriculture, forestry, and irrigation. Many of these sectors have the unique ability to reach rural communities where Interior has management activities. The following summaries provide some key impacts by sector, with a more in-depth analysis of the rural implications of Interior's activities provided in Chapter 5. Figure 3-1 shows the percentage of total Interior employment impacts contributed by each sector.

Recreation

Recreation visits to Interior-managed lands in the contiguous U.S., Hawai'i, and Alaska in 2008 resulted in over 316,000 government and private sector jobs and nearly $25 billion in economic impacts to the communities and regions surrounding Interior-managed land. Recreation activities have an economic impact in both rural communities and major metropolitan areas.

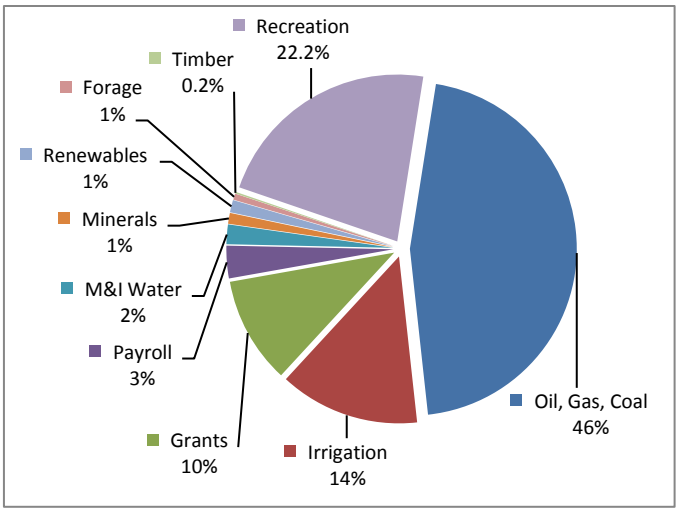

Figure 3-1. Percentage of DOI Employment Impacts by Sector (Total: 1.4 million jobs)

- Recreation and tourism visits to National Parks, Refuges and other public lands support Interior jobs for over 7,200 park rangers, environmental interpreters, guides, and visitor use assistants.

- Employment in the recreation and tourism industry is characterized by low-skilled seasonal and part-time jobs; 40% of all workers have no formal education beyond high school.

- FWS, BLM and NPS employ over 3,500 young people under the age of 25 in seasonal and part-time positions, where they learn skills and gain work experience as interpreters, visitor assistants, and trail maintenance workers.

- In the rural state of Wyoming, recreation and tourism on Interior-managed lands result in an estimated 17,000 jobs, comprising 7% of the state's total workforce and 63% of the number of jobs reported under the Bureau of Labor Statistics arts, entertainment and recreation sector.

Interior provides outdoor recreation opportunities in all 50 states, and expenditures by recreationalists represent a sizeable contribution to state and local economies. In their 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, FWS examined the economic impacts of equipment purchases related to outdoor recreation activities. Equipment includes items such as tents, fishing rods, reels, guns, cameras, binoculars, etc. These equipment purchases in turn create jobs and revenue for both local and non-local businesses and communities. Equipment type and demand vary widely between visitors, depending on the purpose of the visit, length of stay, and whether the visitor is local or

traveled from outside the area. A portion of these recreation-related equipment expenditures can be attributed to visits to public (Federal, state, local) lands. Based on information on the number of recreational visits to public lands, the portion of the total equipment purchases attributed to public land is estimated to be about $27 billion. Future reports will develop estimates of equipment purchases associated with Interior-managed lands and associated economic impacts.

Energy & Minerals (Oil, Gas, and Coal)

Onshore oil, gas and coal activities on Interior-managed lands resulted in over 500,000 jobs and over $125 billion in economic impacts while offshore activities supported an additional 150,000 jobs and $153 billion in economic impacts. Direct jobs through energy and mineral activities on Interior-managed lands are generally high-paying jobs, including technical specialists employed by Interior bureaus and additional private sector jobs in the technical, labor, and maintenance fields.

- MMS employs over 200 engineers and geologists to assist with offshore energy activities, while BLM employs over 500 surveyors and engineers to assist in onshore oil and gas management.
- Oil and gas activities on public lands and offshore areas provide many high paying, private-sector jobs. The Bureau of Labor Statistics (BLS) reports that in 2006, U.S. oil and gas production worker earned an average of $21.40 an hour compared to the private industry average of $16.76 an hour for all job types.
- BLS predicts wage and salary employment in mining to decline by 2% through the year 2016. The Abandoned Mine Lands (AML) program though OSM can keep jobs in areas where mining is in decline, such as West Virginia and Kentucky. Based on funding allocated, the AML program is estimated to create 1,740 jobs in these two states in 2009.

Renewable Energy (Hydropower, Geothermal, Solar, and Wind)

Nearly 17,000 jobs and $6 billion in economic impacts are associated with hydropower and geothermal activities on Interior-managed lands. Interior's long-standing role in hydropower production – as well as more recent activities in wind, solar, and geothermal renewable power – supports private industry jobs in a high-paying and growing industry.

- Reclamation directly employs over 500 high-paying technical workers as civil, electrical, and hydrological engineers with additional jobs being created in the emerging solar and wind industries.
- The BLS predicts an overall decline in utility jobs sector-wide but a potential employment increase in the renewable energy sectors. Utility industry jobs pay well; lower-skilled maintenance and installation workers earn on average $22 an hour while highly trained engineers earn $37 an hour.
- In California's Mojave Desert, solar panels on BLM-managed land produce 354-megawatts of solar thermal power – generating electricity for the power grid while providing labor and technical jobs in a region more than a hundred miles from the nearest metropolitan area.

Land and Water Resources (Irrigation, Grazing, and Timber)

Interior-managed public lands embody a multiple-use concept that allows for traditional jobs in the farming, ranching, and forestry industries while preserving open space and ecosystems for recreational and environmental benefits.

- The BLM's range and timber activities support over 10,000 jobs.

- Timber and grazing activities support small and family-owned businesses and enterprises. Self-employed workers make up 43% of the agriculture and forest Industries that utilize Interior's land and water resources.
- Public lands and the adjacent private ranches in the West maintain open spaces, provide habitat for wildlife, offer recreational opportunities, and help preserve traditional livelihoods and family ranching. For example, grazing on public lands in Montana results in 238 rural jobs.

Timber Impacts in Rural Oregon

Interior's timber management activities have the potential to create jobs in rural communities with limited employment opportunities. In Oregon, a largely rural state that has seen a marked decline in traditional forestry jobs, BLM manages 2.4 million acres of forests and woodlands in the western part of the state, including 2.2 million acres of commercial forest and 200,000 acres of woodlands. These forest management activities result in over 1,700 jobs and $412 million in economic impacts.

Chapter 4. State-Level Economic Impacts

Through management activities conducted at the bureau-level, the Department of the Interior contributes to state and local economies in terms of jobs created and related spending impacts. This chapter provides additional state-by-state information on the economic impacts associated with a variety of activities including recreation, minerals, timber, and forage. Some highlights include the following:

- **Recreation**: The economic impacts of recreation activities differ considerably across states.
    - Recreation on Interior-managed lands is estimated to support about 35,000 jobs in California, 26,000 jobs in Arizona, and 20,000 jobs in the District of Columbia.
    - Recreational visits to Interior-managed lands resulted in economic activity exceeding $1 billion in several states: Arizona, California, Colorado, the District of Columbia, Tennessee, Utah, and Wyoming.
- **Onshore Minerals**: The economic impact of minerals activities also varies widely.
    - In 2008, oil, gas and coal activities in New Mexico supported over 80,000 jobs and generated $19.3 billion.
    - In Wyoming, oil, gas, and coal activities supported 95,000 jobs and generated $27 billion.
    - In California, oil and gas resulted in 11,000 jobs and $3.7 billion.
- **Offshore Minerals**: Offshore minerals activities support a total of about 150,000 jobs spread across the country. For example: Louisiana (58,000); Texas (36,000); and Oklahoma (5,500).
- **Timber**: BLM timber activities are concentrated in Oregon, supporting about 1,700 jobs and about $400 million in economic activity.
- **Grants and Payments to non-Federal Entities**: Payments to states and counties represent an important source of income to these jurisdictions. In 2008, BLM payments were estimated to support almost 15,000 jobs in Wyoming, 8,000 jobs in New Mexico, and 2,300 jobs in Colorado.

The following state-level data tables are presented in this chapter:

- Figure 4-1: Map of total jobs supported by DOI activities.
- Figure 4-2: Chart of recreation jobs supported by Interior for each state.
- Table 4-1: Presents a state-by-state breakdown of total Interior employment by sector.
- Table 4-2: state-level BLM energy and minerals information.
- Table 4-3: state-level BLM timber and grazing information.
- Table 4-4: state-level information for Abandoned Mine Lands funding.
- Table 4-5: state-level impacts for offshore minerals.

Unless otherwise noted, each of the following economic impact summaries relies on state-level multipliers to develop output and employment impacts within each state's borders. A multiplier for one state does not account for "spillover" effects accruing in other states. Thus, the sum of effects across 50 states will be less than the overall nationwide impacts. In contrast, when a national-level multiplier is used, spillover effects among states are taken into account, providing better estimate of nationwide impacts.

Table 4-1 below presents a state-by-state breakdown of total employment impacts by sector. These state summaries do not contain jobs from agricultural land irrigated using Reclamation-supplied water, as this information was not readily available at the state level.

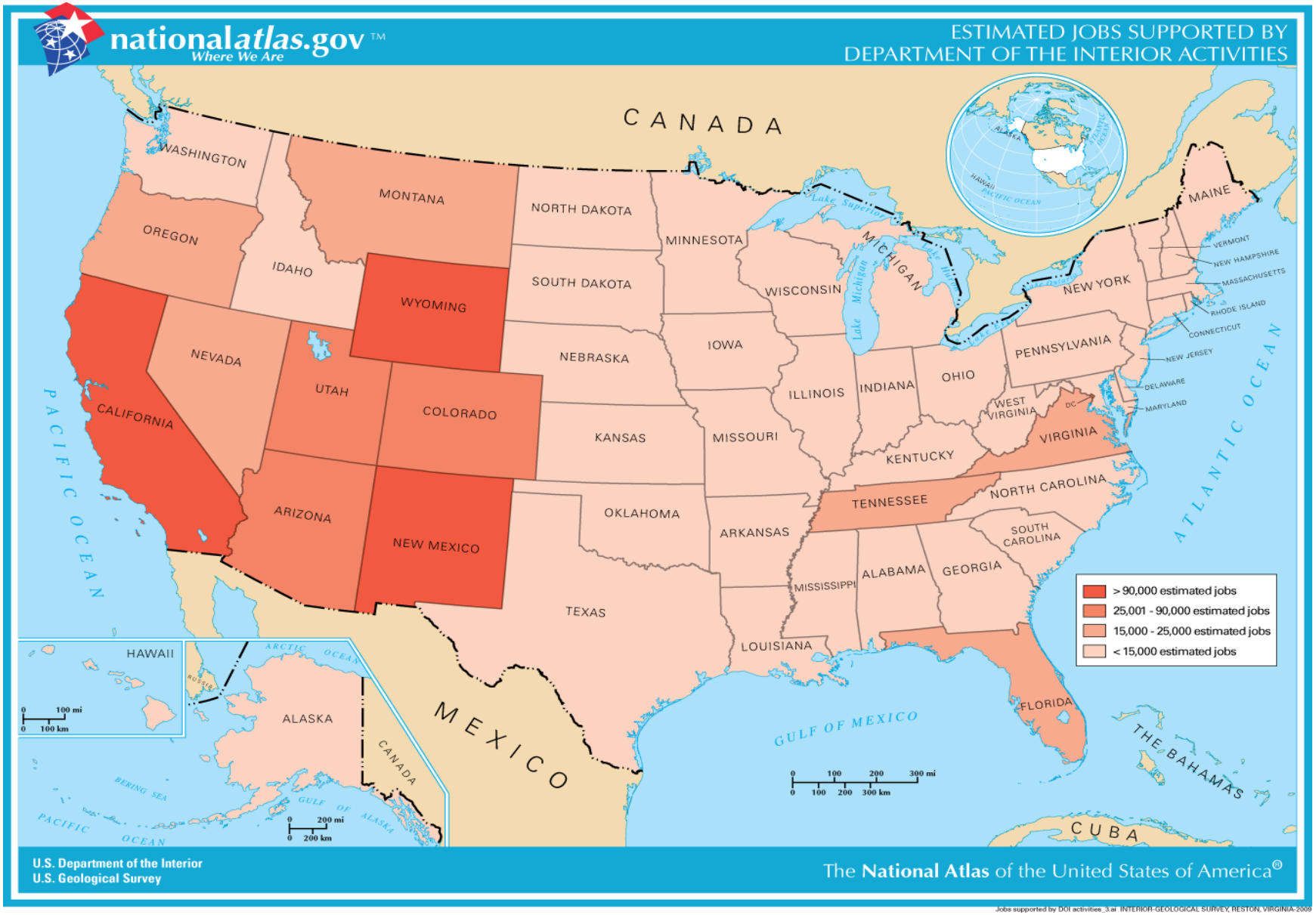

Figure 4-1. Map of U.S. Jobs Supported by Department of the Interior Activities

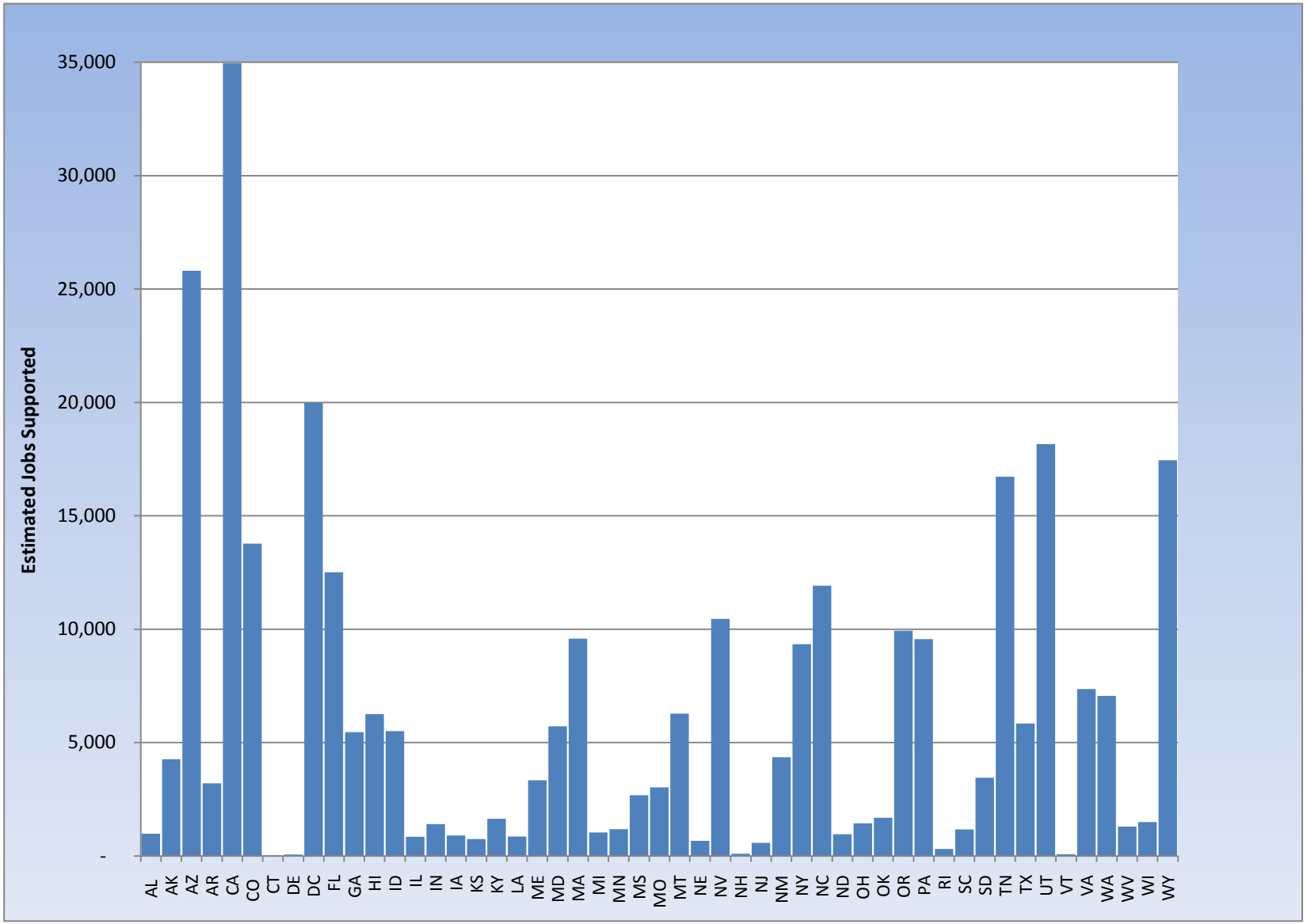

Figure 4-2. Jobs Supported by Visitors to DOI Recreation Sites

Note: The above table presents jobs supported by recreation in each of the 50 States. The 315,924 jobs supported by recreation shown in Table 1-1, is the sum of the above state impacts rather that a national-level total. A national-level total would include "leakages" between states that are not captured in state by state models and would be larger than the sum of state impacts shown above.

Table 4-1. State-by-State Summary of Job Impacts

Alabama	
Recreation	974
Energy & Minerals	2,462
Grazing & Timber	0
Major Grants & Payments	1,260
DOI Salary	103
Total	**4,799**

Alaska	
Recreation	4,268
Energy & Minerals	2,936
Grazing & Timber	18
Major Grants & Payments	363
DOI Salary	1,216
Total	**8,801**

Arizona	
Recreation	25,806
Energy & Minerals	701
Grazing & Timber	492
Major Grants & Payments	605
DOI Salary	2,558
Total	**30,162**

Arkansas	
Recreation	3,204
Energy & Minerals	981
Grazing & Timber	0
Major Grants & Payments	352
DOI Salary	204
Total	**4,741**

California	
Recreation	34,951
Energy & Minerals	18,682
Grazing & Timber	556
Major Grants & Payments	2,568
DOI Salary	4,239
Total	**60,997**

Colorado	
Recreation	13,768
Energy & Minerals	26,844
Grazing & Timber	576
Major Grants & Payments	412
DOI Salary	5,159
Total	**46,759**

Connecticut	
Recreation	29
Energy & Minerals	434
Grazing & Timber	0
Major Grants & Payments	328
DOI Salary	35
Total	**827**

Delaware	
Recreation	58
Energy & Minerals	104
Grazing & Timber	0
Major Grants & Payments	129
DOI Salary	21
Total	**312**

District of Columbia	
Recreation	19,968
Energy & Minerals	128
Grazing & Timber	0
Major Grants & Payments	61
DOI Salary	1,775
Total	**21,932**

Florida	
Recreation	12,507
Energy & Minerals	1,892
Grazing & Timber	0
Major Grants & Payments	453
DOI Salary	849
Total	**15,701**

Georgia	
Recreation	5,464
Energy & Minerals	855
Grazing & Timber	0
Major Grants & Payments	1,381
DOI Salary	691
Total	**8,390**

Hawai'i	
Recreation	6,247
Energy & Minerals	132
Grazing & Timber	0
Major Grants & Payments	554
DOI Salary	306
Total	**7,239**

Idaho	
Recreation	5,500
Energy & Minerals	149
Grazing & Timber	579
Major Grants & Payments	292
DOI Salary	1,555
Total	**8,076**

Illinois	
Recreation	842
Energy & Minerals	1,582
Grazing & Timber	0
Major Grants & Payments	307
DOI Salary	164
Total	**2,895**

Indiana	
Recreation	1,400
Energy & Minerals	703
Grazing & Timber	0
Major Grants & Payments	902
DOI Salary	159
Total	**3,164**

Iowa	
Recreation	905
Energy & Minerals	332
Grazing & Timber	0
Major Grants & Payments	542
DOI Salary	103
Total	**1,882**

Kansas	
Recreation	742
Energy & Minerals	1,814
Grazing & Timber	485
Major Grants & Payments	297
DOI Salary	270
Total	**3,608**

Kentucky	
Recreation	1,632
Energy & Minerals	767
Grazing & Timber	0
Major Grants & Payments	307
DOI Salary	233
Total	**2,940**

Louisiana	
Recreation	859
Energy & Minerals	58,361
Grazing & Timber	0
Major Grants & Payments	1,859
DOI Salary	702
Total	**61,780**

Maine	
Recreation	3,334
Energy & Minerals	189
Grazing & Timber	0
Major Grants & Payments	458
DOI Salary	143
Total	**4,124**

Maryland	
Recreation	5,715
Energy & Minerals	598
Grazing & Timber	0
Major Grants & Payments	249
DOI Salary	518
Total	**7,080**

Massachusetts	
Recreation	9,584
Energy & Minerals	890
Grazing & Timber	0
Major Grants & Payments	447
DOI Salary	677
Total	**11,598**

Michigan	
Recreation	1,038
Energy & Minerals	1,425
Grazing & Timber	0
Major Grants & Payments	713
DOI Salary	286
Total	**3,463**

Minnesota	
Recreation	1,182
Energy & Minerals	545
Grazing & Timber	0
Major Grants & Payments	788
DOI Salary	571
Total	**3,086**

Mississippi	
Recreation	2,673
Energy & Minerals	1,142
Grazing & Timber	0
Major Grants & Payments	744
DOI Salary	254
Total	**4,813**

Missouri	
Recreation	3,021
Energy & Minerals	752
Grazing & Timber	0
Major Grants & Payments	390
DOI Salary	506
Total	**4,668**

Montana	
Recreation	6,272
Energy & Minerals	8,189
Grazing & Timber	580
Major Grants & Payments	600
DOI Salary	1,375
Total	**17,016**

Nebraska	
Recreation	661
Energy & Minerals	266
Grazing & Timber	485
Major Grants & Payments	189
DOI Salary	336
Total	**1,937**

Nevada	
Recreation	10,453
Energy & Minerals	711
Grazing & Timber	522
Major Grants & Payments	328
DOI Salary	1,067
Total	**13,081**

New Hampshire	
Recreation	95
Energy & Minerals	132
Grazing & Timber	0
Major Grants & Payments	215
DOI Salary	59
Total	**501**

New Jersey	
Recreation	578
Energy & Minerals	1,065
Grazing & Timber	0
Major Grants & Payments	245
DOI Salary	199
Total	**2,087**

New Mexico	
Recreation	4,347
Energy & Minerals	80,731
Grazing & Timber	528
Major Grants & Payments	914
DOI Salary	2,994
Total	**89,513**

New York	
Recreation	9,330
Energy & Minerals	3,308
Grazing & Timber	0
Major Grants & Payments	426
DOI Salary	521
Total	**13,586**

North Carolina	
Recreation	11,912
Energy & Minerals	1,030
Grazing & Timber	0
Major Grants & Payments	2,050
DOI Salary	365
Total	**15,357**

North Dakota	
Recreation	953
Energy & Minerals	7,506
Grazing & Timber	485
Major Grants & Payments	704
DOI Salary	624
Total	**10,272**

Ohio	
Recreation	1,432
Energy & Minerals	1,879
Grazing & Timber	0
Major Grants & Payments	301
DOI Salary	107
Total	**3,718**

Oklahoma	
Recreation	1,684
Energy & Minerals	5,930
Grazing & Timber	485
Major Grants & Payments	967
DOI Salary	746
Total	**9,811**

Oregon	
Recreation	9,929
Energy & Minerals	412
Grazing & Timber	2193
Major Grants & Payments	425
DOI Salary	2,134
Total	**15,093**

Pennsylvania	
Recreation	9,561
Energy & Minerals	2,424
Grazing & Timber	0
Major Grants & Payments	459
DOI Salary	757
Total	**13,202**

Rhode Island	
Recreation	311
Energy & Minerals	156
Grazing & Timber	0
Major Grants & Payments	1,022
DOI Salary	33
Total	**1,522**

South Carolina	
Recreation	1,168
Energy & Minerals	509
Grazing & Timber	0
Major Grants & Payments	249
DOI Salary	142
Total	**2,068**

South Dakota	
Recreation	3,451
Energy & Minerals	281
Grazing & Timber	490
Major Grants & Payments	426
DOI Salary	1,007
Total	**5,656**

Tennessee	
Recreation	16,718
Energy & Minerals	773
Grazing & Timber	0
Major Grants & Payments	222
DOI Salary	416
Total	**18,129**

Texas	
Recreation	5,837
Energy & Minerals	37,831
Grazing & Timber	485
Major Grants & Payments	1,228
DOI Salary	700
Total	**46,082**

Utah	
Recreation	18,164
Energy & Minerals	19,956
Grazing & Timber	532
Major Grants & Payments	1,527
DOI Salary	1,386
Total	**41,565**

Vermont	
Recreation	68
Energy & Minerals	85
Grazing & Timber	0
Major Grants & Payments	207
DOI Salary	56
Total	**416**

Virginia	
Recreation	7,357
Energy & Minerals	840
Grazing & Timber	0
Major Grants & Payments	232
DOI Salary	3,000
Total	**11,429**

Washington	
Recreation	7,059
Energy & Minerals	687
Grazing & Timber	485
Major Grants & Payments	530
DOI Salary	1,449
Total	**10,211**

West Virginia	
Recreation	1,294
Energy & Minerals	835
Grazing & Timber	0
Major Grants & Payments	527
DOI Salary	497
Total	**3,153**

Wisconsin	
Recreation	1,494
Energy & Minerals	586
Grazing & Timber	0
Major Grants & Payments	330
DOI Salary	482
Total	**2,892**

Wyoming	
Recreation	17,449
Energy & Minerals	96,983
Grazing & Timber	515
Major Grants & Payments	546
DOI Salary	959
Total	**116,683**

State-Level Impacts for BLM Minerals

The BLM manages some 700 million acres of Federal onshore mineral estate, providing oil, natural gas, coal, hardrock minerals, and geothermal energy.

The following data provide estimated employment, income, and output resulting from BLM-managed minerals in 18 western states in 2008. BLM's Eastern States Office also manages very significant tracts of mineral estate and information from these lands is also included below. The economic contributions of BLM minerals production can be evaluated with information on direct employment, income, and output. Total employment, income, and output estimate direct effects plus the indirect and induced economic effects of that activity in the local economy, such as the activities of other oil and gas service companies required to support oil and gas field development and the local effects of spending the additional income derived from minerals activities. Employment is expressed in annual average full and part time private sector jobs. Total economic estimates are produced through the IMPLAN input-output model.

Table 4-2. State-Level Impacts for BLM Minerals

	Employment		**Output ($)**	
Mineral Sectors	Direct	Total	Direct	Total
AK				
Oil and Gas	555	1,217	432,913,174	571,222,165
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	555	1,217	432,913,174	571,222,165
AZ				
Oil and Gas	0	0	0	0
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	0	0	0	0
CA				
Oil and Gas	3,196	11,056	2,256,614,868	3,665,188,498
Coal Mining	0	0	0	0
Geothermal Energy	542	1,312	144,910,031	253,003,240
Total	3,738	12,368	2,401,524,899	3,918,191,738
CO				
Oil and Gas	5,554	19,623	2,903,994,565	4,797,054,648
Coal Mining	1,718	4,563	735,780,789	1,168,505,956
Geothermal Energy	0	0	0	0
Total	7,273	24,186	3,639,775,354	5,965,560,604
ID				
Oil and Gas	0	0	0	0
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	0	0	0	0
KS				
Oil and Gas	243	649	90,782,139	145,854,667
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	243	649	90,782,139	145,854,667

Mineral Sectors	Employment		Output ($)	
	Direct	Total	Direct	Total
MT				
Oil and Gas	2,186	5,893	1,014,665,808	1,483,226,301
Coal Mining	908	1,942	279,094,433	417,087,350
Geothermal Energy	0	0	0	0
Total	3,095	7,835	1,293,760,241	1,900,313,651
ND				
Oil and Gas	2,703	6,609	1,175,899,759	1,717,311,443
Coal Mining	125	286	44,600,774	66,336,778
Geothermal Energy	0	0	0	0
Total	2,828	6,896	1,220,500,533	1,783,648,221
NE				
Oil and Gas	17	53	6,608,064	11,336,981
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	17	53	6,608,064	11,336,981
NM				
Oil and Gas	26,245	77,627	12,270,444,161	19,055,080,127
Coal Mining	523	1,240	175,960,361	271,245,117
Geothermal Energy	0	0	0	0
Total	26,768	78,867	12,446,404,523	19,326,325,244
NV				
Oil and Gas	98	258	38,777,805	63,510,139
Coal Mining	0	0	0	0
Geothermal Energy	137	233	21,096,301	32,704,299
Total	235	491	59,874,106	96,214,438
OK				
Oil and Gas	115	308	70,231,688	104,357,790
Coal Mining	51	156	26,556,481	40,155,012
Geothermal Energy	0	0	0	0
Total	166	464	96,788,169	144,512,802
OR				
Oil and Gas	0	0	0	0
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	0	0	0	0
SD				
Oil and Gas	63	181	27,350,157	42,986,947
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	63	181	27,350,157	42,986,947
TX				
Oil and Gas	285	1,237	287,092,705	458,275,808
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	285	1,237	287,092,705	458,275,808

Mineral Sectors	Employment		Output ($)	
	Direct	Total	Direct	Total
UT				
Oil and Gas	3,719	16,194	653,881,595	1,168,901,514
Coal Mining	1,175	2,865	113,935,100	184,971,942
Geothermal Energy	20	36	2,664,951	4,517,078
Total	4,914	19,095	770,481,646	1,358,390,534
WA				
Oil and Gas	0	0	0	0
Coal Mining	0	0	0	0
Geothermal Energy	0	0	0	0
Total	0	0	0	0
WY				
Oil and Gas	24,081	71,093	14,106,178,487	20,477,529,757
Coal Mining	10,907	23,873	4,273,884,045	6,157,054,582
Geothermal Energy	0	0	0	0
Total	24,081	71,093	14,106,178,487	20,477,529,757
Eastern States				
Oil and Gas	1,198	4,464	639,084,994	1,129,016,126
Coal Mining	70	152	27,259,150	39,270,152
Geothermal Energy	0	0	0	0
Total	1,268	4,616	666,344,145	1,168,286,278
Total for States	75,529	229,248	37,546,378,342	57,368,649,834
National Economic Impacts	**75,675**	**468,421**	**51,810,733,360**	**118,613,515,392**

Source: BLM

State-Level Economic Impacts for BLM Grazing and Timber (2008)

The Bureau of Land Management (BLM) manages livestock grazing on about 160 million acres of public lands. In addition, out of the 69 million acres of BLM-managed lands forests or woodlands, 11 million acres are commercial forestlands, generally used for traditional forest products such as lumber, plywood, and paper. For grazing, the BLM administers nearly 18,000 permits and leases held by ranchers who graze their livestock at least part of the year on more than 21,000 allotments under BLM management. In managing grazing and timber activities on public lands, the BLM's objectives are to ensure the long-term health and productivity of these lands, create multiple environmental benefits that result from healthy watersheds, and provide livestock and timber-based economic opportunities for rural communities.

The following data provide estimated employment, income, and output resulting from BLM-managed grazing and timber activities in 2008. The economic value of BLM forage is based on the total sale price of livestock times the proportion of animal-unit months grazed on BLM-managed lands to total animal-unit months. BLM grazing and timber operations have direct effects in terms of employment and income, as well as induced effects in the local economy, such as the activities of other businesses required to support ranching operations and the local effects of spending the additional income derived from public lands grazing. Employment is expressed in annual average full and part time private sector jobs. Total economic estimates are produced through the IMPLAN input-output model.

Table 4-3. State-Level Impacts for Grazing and Timber (2008)

	Grazing				Timber			
	Employment		**Output ($)**		**Employment**		**Output ($)**	
	Direct	Total	Direct	Total	Direct	Total	Direct	Total
AK	0	0	0	0	11	18	4,122,880	7,051,635
AZ	234	485	107,332	202,858	4	7	914,437	1,577,226
CA	56	104	3,502,859	6,340,174	38	71	9,914,574	16,554,131
CO	321	743	33,255,421	69,503,831	49	91	10,379,461	18,912,003
ID	285	726	159,520,900	325,422,635	47	94	11,195,882	18,906,217
MT	343	727	40,190,367	86,007,385	53	95	13,521,114	23,051,847
ND	1	3	314,419	609,972	0	0	0	0
NE	0	0	52,138	94,370	0	0	0	0
NM	646	1491	96,312,256	204,181,983	23	42	6,761,701	12,421,871
NV	523	978	85,476,392	150,438,450	23	36	6,277,698	9,173,477
OK	0	0	5,036	10,577	0	0	0	0
OR	326	626	26,292,072	54,687,510	783	1,708	243,741,109	412,593,745
SD	13	32	2,992,079	5,984,158	3	5	534,329	865,186
TX	0	0	0	0	0	0	0	0
UT	326	606	34,093,127	68,868,117	28	46	6,161,885	9,605,229
WA	17	33	1,834,881	3,834,900	0	0	18,122	30,217
WY	700	1443	91,381,090	183,675,992	18	29	4,086,637	6,741,510
Total	**3,792**	**7,999**	**575,330,369**	**1,159,862,911**	**1,079**	**2,243**	**317,629,828**	**537,484,292**

Source: BLM

State-Level Impacts for Abandoned Mind Land Funding (OSM and BLM)

OSM: The information below represents the readily available information on state-level impacts of the Abandoned Mine Land (AML) program. Both OSM and BLM have Abandoned Mine Lands programs and activities. The goal of the OSM AML program is to promote the reclamation of mined areas left without adequate reclamation prior to the enactment of the Surface Mining Control and Reclamation Act (SMCRA) in 1977. OSM collaborates with states and tribes to develop their AML programs, and also provides funding, technical assistance, and oversight to ensure that qualified lands are reclaimed.

Table 4-4. AML Funding for FY 2009 (OSM)

State/Tribe	2009 Funding ($ millions)	Estimated Jobs Impact
Alabama	5.5	134
Alaska	1.7	25
Arkansas	1.6	36
Colorado	6.5	182
Crow Tribe	1.6	18
Hopi Tribe	1.0	11
Illinois	11.4	253
Indiana	10.5	258
Iowa	1.7	32
Kansas	1.7	42
Kentucky	31.2	841
Louisiana	0.3	7
Maryland	2.1	45
Mississippi	0.2	4
Missouri	1.8	41
Montana	9.5	220
Navajo Nation	5.9	68
New Mexico	3.8	90
North Dakota	2.9	70
Ohio	8.4	213
Oklahoma	1.9	49
Pennsylvania	30.0	716
Tennessee	1.9	41
Texas	3.8	99
Utah	3.6	96
Virginia	7.0	181
West Virginia	39.9	898
Wyoming	100.8	2,455
Total	**298.2**	**7,126**

Source: OSM

OSM's current projection of the state's ability to complete AML reclamation is based on the existing Abandoned Mine Land Inventory System (AMLIS) and mandatory funding streams made available under the 2006 SMCRA amendments. Additional funding became available to the states beginning in FY 2008. Based on a comparison of the known existing dollar value of the high priority problem sites and the availability of mandatory funding streams, it appears that the vast majority of states would be able to complete reclamation and certify completion.

While OSM has made significant progress in reclaiming AML land, there are over 200,000 acres on coal-related abandoned mine sites that have yet to be fully reclaimed, amounting to an estimated $3.8 billion worth of health and safety problems areas in 25 states and three tribes across the U.S.. Characteristics of these high priority problem areas include extreme danger and adverse effects to public health and safety.

Table 4-4 shows FY 2009 AML funding by state and the estimated jobs impacts. Job impacts range from 2,455 in Wyoming to four in Mississippi.

State-Level Impacts for Offshore Minerals – MMS

The MMS program supports 150,000 jobs across the nation through Outer Continental Shelf (OCS) oil and gas operations. The jobs in exploration and production on the OCS pay higher than the average national salary. The distribution of jobs is based on the MMS's own economic model (MAG-PLAN). State-level job estimates were created by assigning employment to individual states along the Gulf of Mexico and to "Other−U.S.," as estimated by MAG-PLAN. Additional information on the methodology used can be found in the discussion on methodology in Chapter 6. For Other-U.S., estimates were assigned to each state according to that state's percentage of activity in NAICS sectors representing oil and gas extraction, oil and gas drilling, and oil and gas support activities. Effects of the spending of OCS revenues paid to the Federal Government (bonus bids, royalties, and rentals) were assigned to states according to their share of total Federal budget disbursements. Effects of the spending of industry profits were assigned to states in the same way, given the lack of a better methodology for the purpose of the preliminary report.

Table 4-5. Offshore Minerals – Estimated Job Impacts by State

State	Estimated Total Jobs
Alabama	2,462
Alaska	1,719
Arizona	701
Arkansas	981
California	6,314
Colorado	2,658
Connecticut	434
Delaware	104
DC	128
Florida	1,892
Georgia	855
Hawai'i	132
Idaho	149
Illinois	1,582
Indiana	703
Iowa	332
Kansas	1,165
Kentucky	767
Louisiana	58,361
Maine	189
Maryland	598
Massachusetts	890
Michigan	1,425
Minnesota	545
Mississippi	1,142
Missouri	752
Montana	354
Nebraska	213
Nevada	220
New Hampshire	132
New Jersey	1,065
New Mexico	1,864
New York	3,308
North Carolina	1,030
North Dakota	610
Ohio	1,879
Oklahoma	5,466
Oregon	412
Pennsylvania	2,424
Rhode Island	156
South Carolina	509
South Dakota	100
Tennessee	773
Texas	36,594
Utah	861
Vermont	85
Virginia	840
Washington	687
West Virginia	835
Wisconsin	586
Wyoming	2,017
Total	**150,000**

Source: MMS

Chapter 5. Preliminary Urban-Rural Impact Analysis

Public lands, through recreation visits and natural resource management activities, support a stable work-force that is important to the economic health of the communities and regions where these activities take place. While it is difficult to quantify the many ways Interior contributes to local communities, evaluating the differences between rural and urban areas in terms of magnitude of employment impacts can illustrate the role Interior plays in many areas of the U.S. Information is presented below on jobs in rural areas supported by visitation to Interior recreation sites. A number of case studies are also presented that illustrate the role that the National Parks, National Wildlife Refuges, and BLM recreation sites play in both urban and rural communities throughout the country. These examples were selected because they represent a mix of urban and rural as well as a geographic distribution of locations.

Based on the Census classification of metropolitan (metro) and non-metropolitan (non-metro) areas, there are 2,052 non-metro counties, which contain 75 percent of the Nation's land, and are home to 17 percent (49 million) of the U.S. population. Here, we have used counties designated as metro as urban areas and non-metro countries as rural areas. In this classification scheme, rural areas comprise open country and settlements with fewer than 2,500 residents.

The employment and output impacts associated with visitors to DOI recreation sites vary considerably depending on whether the recreation site is located in an urban or rural area, a small number of Interior-supported jobs can have a major impact in isolated rural locations. Preliminary analysis indicates the following:

- Interior supports tens of thousands of jobs in rural areas of Wyoming (16,800 jobs), Arizona (16,500 jobs), Utah (15,400 jobs), California (14,900 jobs), Tennessee (12,200 jobs), and Colorado (10,900 jobs).
- Visitation to Interior sites also supports a significant number of jobs in states where most counties are rural, including Montana (6,000 jobs); Nevada (5,400); Washington (4,300); and Idaho (3,400).
- In states that are 50 percent or more rural, visitation to Interior sites supports about 160,000 jobs and $12.2 billion in output. The rural jobs and output represent about half of the total jobs and output supported by visitation to Interior sites.
- Virtually all Abandoned Mine Land funding is targeted toward rural areas in the Appalachian region in the states of West Virginia, Pennsylvania, and Kentucky. FY 2009 funding in these states totaled $101.1 million and supported an estimated 2,457 jobs.

Figure 5-1 shows the number of jobs that are supported by recreation and tourism in areas classified as rural, with the most recreation-related employment occurring in the rural areas of Wyoming, Arizona, and Utah.

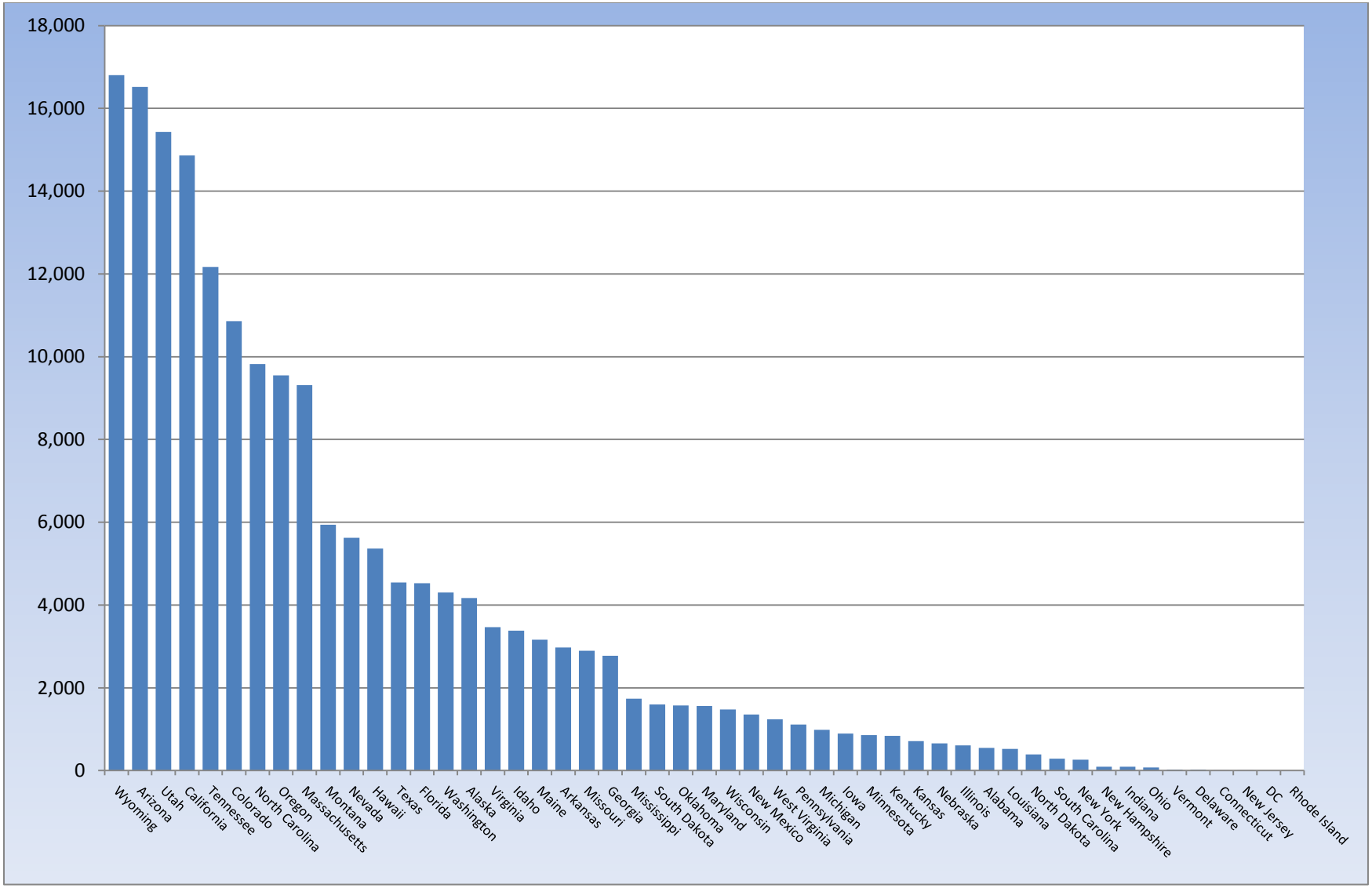

Figure 5-1. Jobs in Rural Areas, Supported by Visitors to DOI Recreation Sites

Examples of Localized Impacts

Interior activities have a significant economic impact on local communities. In some particularly economically distressed rural areas where jobs are scarce, Interior-managed lands provide a steady source of jobs and income. Even in more prosperous metropolitan areas, Interior-managed lands bring in tourist money and create local jobs. The examples below summarize economic impacts associated with visitor spending in local areas for a total of five NPS and FWS units. These case studies demonstrate the differing levels of economic support that Interior activities provide to various communities. The following examples examine several factors, including local area population and labor force, and annual visits to Interior lands. Generally, NPS and FWS units provide the most economic support in areas with high levels of visitation and an overall small labor force.

Examples of Localized Impacts in Rural Locations

Crater Lake National Park (Oregon)
Crater Lake National Park is located in Klamath County, Oregon. This rural county has population of around 66,000 (Census, 2008), a labor force of 31,775 and an unemployment rate of 12.4 percent. In 2008, Crater Lake National Park attracted 415,686 visits.

- Visitors from out-of-town spent an estimated $31.2 million and supported 736 local jobs.
- The park directly employed 93 people, which resulted in $3.4 million in additional local spending and supported 38 additional local jobs.
- Through Crater Lake, the Department of the Interior is providing a much-needed stream of income to a rural area facing severe economic hardship.

Crater Lake NP Totals (2008)

Visits	Area Unemployment Rate (%, October 2009, BLS)	Payroll and Visitor Spending	Estimated Total Jobs Supported
415,686	12.4	$34,690,000	867

Great Sand Dunes National Monument (Colorado)
Great Sand Dunes National Monument is located in south central Colorado within or adjacent to the rural counties of Alamosa, Custer, Huerfano, and Saguache. The combined population of the four counties is about 34,000 (Census, 2008), with a combined labor force of 17,664 and an average unemployment rate of 5.7 percent. The National Monument attracted nearly 274,000 visitors in 2008.

- Visitors from out-of-town spent an estimated $9.1 million, which supported 182 local jobs.
- The Monument directly employed 33 people, resulting in an additional $1 million in local spending and supporting 13 more local jobs.
- Great Sand Dunes is illustrative of Interior's impact on a small rural community. Though the area population is only 34,000, Interior lands provided an important source of jobs and revenue.

Great Sand Dunes National Monument Totals (2008)

Visits	Area Unemployment Rate (%, October 2009, BLS)	Payroll and Visitor Spending	Estimated Total Jobs Supported
273,903	5.7	$10,147,000	228

White River National Wildlife Refuge (Arkansas)
White River National Wildlife Refuge is located southeast Arkansas with land in the rural counties of Monroe, Arkansas, Desha, and Phillips. The combined population for the four counties is about 63,000 (Census, 2008), with a combined labor force of 30,260 and an unemployment rate of 10.9 percent.

- In 2006, there were 523,000 visits to the Refuge, which supported 219 jobs and contributed $13 million to local economies.
- The refuge supports many local jobs and generates millions for a small rural area facing high unemployment.

White River NWR Totals (2006)

Visits	Area Unemployment Rate (%, October 2009, BLS)	Visitor Spending	Estimated Total Jobs Supported
523,000	10.9	$13,045,900	219

Examples of Localized Impacts in Urban Locations

Golden Gate National Recreation Area (California)
Golden Gate National Recreation Area is located in the San Francisco metropolitan area with land in Marin, San Francisco, and San Mateo Counties. The three urban counties have a combined population of around 1.8 million (Census, 2008), with an average unemployment rate across the three counties of 9.3 percent. In 2008, the National Recreation Area attracted over 14 million visitors.

- Visitors from out-of-town spent an estimated $107.6 million, which supported 2,021 local jobs.
- The park directly employed 270 people, which supported 148 additional local jobs and resulted in $12.8 million in additional local spending.
- Even in a large, metropolitan area like San Francisco, Interior's activities can have a significant impact on the economy and bring in important tourism dollars.

Golden Gate NRA Totals (2008)

Visits	Area Unemployment Rate (%, October 2009, BLS)	Payroll and Visitor Spending	Estimated Total Jobs Supported
14,554,750	9.3	$120,446,000	2,439

Minnesota Valley National Wildlife Refuge (Minnesota)
The Minnesota Valley National Wildlife Refuge is located near the Minneapolis metropolitan area with land in Hennepin, Carver, Scott, and Dakota Counties. The combined population for the four counties is about 1.8 million (Census, 2008), with an average unemployment rate across the four counties of 6.9 percent.

- Visitor spending is estimated to have contributed nearly $1.5 million to local economies, which contributed 21 jobs to the area economy.
- A national wildlife refuge like Minnesota Valley can provide a significant source of revenue for a metropolitan area, attracting many visitors and supporting local jobs.

Minnesota NWR Totals (2006)

Visits	Area Unemployment Rate (%, October 2009, BLS)	Visitor Spending	Estimated Total Jobs Supported
257,250	6.9	$1,475,700	21

BLM Examples of Localized Impacts

BLM lands also provide an important source of jobs and revenue for many local economies. The tables below summarize the economic impacts of visits to three BLM Districts. All of these field offices cover large geographic areas. These examples portray the typical BLM impact on the social landscape -- which is often significant -- but spread out across many counties. The economic impact estimates in the table below illustrate the effects of visitor spending including both local and non-local visitors. These estimates only reflect the impact to local economies through visitation and do not include impacts from other BLM activities, such as resource extraction.

Deschutes Field Office (Oregon)
The Deschutes resource planning area is administered by BLM's Prineville, Oregon Office. The area consists of over 400,000 acres of surface area along the Deschutes River, including land in Jefferson, Sherman, Wasco, Crook, and Deschutes Counties.

Deschutes Field Office (2008)

Visits	State Unemployment Rate (% October 2009, BLS)	Estimated Total Jobs Supported
206,100	11.5	71

Hassayampa Field Office (Arizona)
The BLM Hassayampa Field Office in Arizona manages nearly 1 million acres north of Interstate 10 and an additional 725,000 acres of subsurface estate (mineral interests), including lands in Apache, Navajo, Coconino and Yavapai counties and the 70,900 acre Agua Fria National Monument.

Hassayampa Field Office (2008)

Visits	State Unemployment Rate (% October 2009, BLS)	Estimated Total Jobs Supported
262,000	9.3	94

Taos Field Office (New Mexico)
The Taos Field Office administers BLM lands within Colfax, Harding, Los Alamos, Mora, Rio Arriba, San Miguel, Santa Fe, Taos, and Union Counties in New Mexico, comprising of approximately 595,100 surface acres.

Taos Field Office (2008)

Visits	State Unemployment Rate (% October 2009, BLS)	Estimated Total Jobs Supported
384,000	7.9	228

Chapter 6. Methodology for Estimating Economic Impacts

This chapter provides details on how the employment and economic impact estimates were derived and some example calculations. In general, the input/output models described below provide a snapshot of economic activity at a given point in time for a given region. Impact estimates produced by input-output models reflect the pattern and level of economic activity within a state or the Nation and indicate the significance of current regional economy. However, estimated model results are analogous to information on gross sales revenue rather than profit. Profits typically define the value of an activity to businesses. It should also be noted that the estimated output impacts do not account for the value of changes in the quantity or quality of the environment amenities because these are not typically bought and sold in markets.

Input/Output Models and Multipliers

Economists conduct economics analyses in order to consider economic efficiency and/or distributional effects. An analysis of economic efficiency effects is concerned with the net effect of a proposed action (e.g., policy or regulation) on the public and an analysis of distributional effects is concerned with how particular economic sectors and groups of people may be affected. This report uses a distributional analysis to evaluate the economic impacts of Interior activities on selected sectors of the economy rather than a broader analysis of the net effect of Interior activities on the public. Economic impacts broadly refer to employment, employment income, economic output and Federal and state tax revenue that occur as the result of expenditures.

The methodology used to evaluate the employment and economic impacts was developed by Interior economists based on an initial set of information developed by the USDA Forest Service known as IMPLAN. IMPLAN is a widely used electronic input-output (I/O) software and data system for estimating the job and income effects of the interdependencies and interactions of economic sectors and consumers to estimate output, income and employment effects. IMPLAN contains data for up to 409 economic sectors and nine income brackets using 2007 data, the most recent data available. IMPLAN draws upon data collected by the Minnesota IMPLAN Group from multiple Federal and state sources including the Bureau of Economic Analysis, Bureau of Labor Statistics, and the U.S. Census Bureau.

Because of the way industries interact in an economy, activity in one industry affects activity levels in several other industries. For example, if more visitors come to an area, local businesses will purchase extra labor and supplies to meet the increase in demand for additional services. The income and employment resulting from visitor purchases from local businesses represent the *direct* effects of visitor spending within the economy. Direct effects measure the net amount of spending that stays in the local economy after the first round of spending; the amount that doesn't stay in the local economy is termed a leakage (Carver and Caudill, 2007). In order to increase supplies to local businesses, input suppliers must also increase their purchases of inputs from other industries. The income and employment resulting from these secondary purchases by input suppliers are the *indirect* effects of visitor spending within the economy. Employees of the directly affected businesses and input suppliers use their incomes to purchase goods and services. The resulting increased economic activity from new employee income is the *induced* effect of visitor spending. The indirect and induced effects are known as the secondary effects of visitor spending.

"Multipliers" (or "Response Coefficients") capture the size of the secondary effects, usually as a ratio of total effects to direct effects (Stynes, 1998). The sums of the direct and secondary effects describe the total economic impact of visitor spending in the local economy.

The economic effects and multipliers from the IMPLAN model are reported for the following categories:

Total Industry Output equals the value of all sales to intermediate (business to business) and final (consumers, exports) demand.

Employment: (jobs) is defined as average annual employment. It includes full and part time, temporary, and seasonal jobs as well as multiple jobs held by a single person. Jobs do NOT equal Full Time Equivalents. The employment data come from a series of surveys taken multiple times each year during. The workers are counted regardless of status, thus jobs are permanent, part time, temporary and seasonal. The data from the surveys are summed and averaged to obtain an "average annual employment." In comparison to the employment estimates generated using Interior's approach; the methods used by CEA produce smaller numbers because they are based on average economy-wide assumptions. Economic impact estimates are roughly consistent across the method used by Interior and by the CEA.

In general, I/O models rely on "multipliers" that mathematically represent the relationship between a change in one sector of the economy (e.g., expenditures by recreationists) and the effect of that change on economic output, income, or employment in other sectors of the economy (e.g., suppliers of goods and services to recreationists). Multipliers developed from I/O models vary by economic sector and the geographic area of analysis (i.e., they are not same if one is looking at the local, state, regional, or national level).

Unless otherwise noted, each of the following economic impact summaries relies on state-level multipliers to develop output and employment impacts within each state's borders. A multiplier for one state does not account for "spillover" effects accruing in other states. Thus, the sum of effects across 50 states will be less than the overall nationwide impacts. In contrast, when a national-level multiplier is used, spillover effects among states are taken into account, providing better estimate of nationwide impacts.

The IMPLAN modeling system was used to derive the multipliers that capture the secondary (indirect and induced) effects needed to determine the economic impacts of Interior activities.

Limitations

When using multipliers (or response coefficients), please keep in mind the following;

- IMPLAN is used to examine "marginal" changes: Estimated jobs and income coefficients are valid only for relatively small changes to a particular area's economy. Any stimulus large enough to change the underlying structure and trade relationships of the economy will necessarily change the relationships quantified in the coefficients and new models would need to be specified and run.
- Response Coefficients (multipliers) are not generic: These coefficients reflect a unique underlying economic structure. They are not, therefore, generally applicable to issues and geographies different from those under which they were originally estimated.
- In reality, job and income effects would be "lumpy": Response coefficients which are generated for large geographic areas will normally contain well developed and complex economies. At a smaller

scale, investments in rural, simple economies would necessarily have smaller response coefficients and thus a smaller job and income response.

Formulas for Calculating Impacts

Economic impacts are generally calculated using the following formulas:

(*Total expenditures on activity*) x (*expenditure multiplier*) = *Total Economic Output Impacts*

(*Total expenditures on activity*) x (*employment multiplier*) = *Total Employment Impacts*

Economic Impacts of Recreation – An Example Calculation

Recreation is an activity in which Interior plays a significant role. Spending associated with recreation activities on Interior-managed lands can generate a substantial amount of economic activity in local and regional economies. Recreationists spend money on a wide variety of goods and services and trip-related expenditures may include expenses for such items as food, lodging, equipment and transportation. Businesses and industries that supply the local retailers where the purchases are made also benefit from expenditures by recreationists. For example, a family may decide to purchase a set of fishing rods for an upcoming vacation. Part of the total purchase price will go to the local retailer, say a sporting goods store. The sporting goods store in turn pays a wholesaler who in turn pays the manufacturer of the rods. The manufacturer then spends a portion of this income to cover manufacturing expenses. In this way, each dollar of local retail expenditures can affect a variety of businesses at the local, regional and national level.

The income and employment resulting from visitor purchases from local businesses represent the *direct effects* of visitor spending within the economy. In order to increase supplies to local businesses, input suppliers must also increase their purchases of inputs from other industries. The income and employment resulting from these secondary purchases by input suppliers are the *indirect effects* of visitor spending within the local economy. The input supplier's new employees use their incomes to purchase goods and services. The resulting increased economic activity from new employee income is the *induced effect* of visitor spending. The indirect and induced effects are known as the secondary or multiplier effects of visitor spending. Multipliers capture the size of the secondary effects, usually as a ratio of total effects to direct effects. The sums of the direct and secondary effects describe the total economic impact of visitor spending in the local economy.

The examples below provide a general description of the underlying methodology used to calculate the economic impact estimates of recreation expenditures to Interior managed lands. Estimated values specific to visits to Bureau of Reclamation sites in Colorado present a numerical example.

Bureau of Reclamation Example:

1. <u>Estimate Total Recreation Expenditures</u>
   (Number of visits to Interior recreation sites in state Y) × (Average spending per visit)
   = Total recreation expenditures associated with Interior recreation sites in state Y

   Number of visits = 3,482,242
   Average spending per visit = $53.38

(3,482,242 visits) × ($53.38 average spending per visit) = $185,882,078 in Total Expenditures

2. Estimate of Total Economic Impact
   (Total recreation expenditures associated with Interior recreation sites in state Y) × (Output multiplier for recreation expenditures) = Total Economic Impact for Interior recreation sites in state Y

   Output multiplier derived from IMPLAN = 2.28

   ($185,882,078) × (2.28) = $423,811,138 in Total Economic Impact

3. Estimate of Employment Effects
   (Total recreation expenditures associated with Interior recreation sites in state Y) × (Employment multiplier per $1,000,000 in recreation expenditures) = Total Employment effects

   Employment multiplier per $1M in recreation expenditures derived from IMPLAN = 14.48

   ($185,882,078 / 1,000,000) × (14.58) = 2,710 Total Jobs Supported

National Park Service Example - Great Sand Dunes NM

Recreation visits in 2008 = 273,903

Total recreation spending = $9,761,231 (average per visitor spending of $35.64)

Output multiplier derived from IMPLAN = 1.34

Estimate of percent of spending "captured" in local area based on survey data = 78%

$9,761,231 total recreation spending x 78% capture rate x 1.34 = $10,266,912 in Total Economic Impact

The President's Council of Economic Advisors Approach to Estimating Output and Employment Effects of Fiscal Stimulus

The American Recovery and Reinvestment Act of 2009 (ARRA) had a fiscal impact of $787 billion in several categories, including income tax measures, investment incentives, aid to states and people impacted by the recession; and $271 billion in direct government spending. The President's Council of Economic Advisors (CEA) produced estimates of stimulus-related job creation in May 2009, and described the methodology that funding recipients were to use in reporting jobs saved or created.

CEA's multipliers utilize the estimates of a broad range of economists and professional forecasters and were similar to the Federal Reserve's macro model. CEA further assumed that a one-percent increase in GDP corresponds to a three-quarter percent increase in employment (about one million jobs). Using these multipliers, CEA estimated that $1 million in government spending creates 10.9 jobs; equivalently, creating one job requires $92,136 of government spending. In contrast, $1 million provided to states for fiscal relief is estimated to create 8.6 jobs, or $116,603 per job. Job creation was assumed to occur over the three fiscal quarters, starting with the quarter in which spending occurs.

The $92,163-per-job figure is assumed to exceed the wages paid for the job retained or created, and includes the effects of increased hours or productivity in current jobs, increased non-wage compensation, and in non-compensation income (rents, profits, etc.). Jobs fall into three categories:

- **Direct jobs** created in the actual government-sponsored project.
- **Indirect jobs** created at suppliers for the project.
- **Induced jobs** created elsewhere in the economy from increased spending by workers and firms.

The CEA guidelines differ from the approach taken in this memo in several notable respects.

- The CEA guidelines were developed to assess the impact of a discrete change in GDP from stimulus spending, and were not intended to be applied to agencies' baseline activities. Nevertheless, CEA notes that the ratio of GDP to total employment is not far off from their numbers at $105,000 per job.
- The CEA approach does not account for differences in wages and other costs across project types or regions.

Chapter 7. Conclusions

This report has presented a preliminary set of information on the economic impacts of the programs and activities of the Department of the Interior. The information in the report has highlighted the current economic impact of Interior's existing programs and activities.

The Department of the Interior has a substantial impact on the national economy, supporting over a million jobs while infusing billions of dollars into the economy which in turn support many jobs across the Nation. In 2008 alone, Interior supported approximately $370 billion in economic activity. Most of these revenues were produced by Interior's management of natural resources on Federal lands, including leasing mineral rights, protecting unique natural resources, and providing valuable information to the mineral markets. Many of Interior's activities, such as the leasing of mineral rights, significantly impact the national economy because they enable private industry to create wealth and jobs.

It is anticipated that the information in this report will be refined and further developed. Future reports will include more robust information, and will address additional economic issues.

Appendix: Methods and Data Sources

Notes for Table 1-1 and Table 2-1

- Estimated DOI Inputs as a Percent of National Sector – DOI impacts as a percentage of the entire industry at the national level.
- The value reported for Irrigation represents the value of the crops produced using irrigation water supplied by Reclamation or BIA. This value overstates the actual production attributable to Reclamation, as some level of production would still occur without Reclamation-delivered water, and water is only one of many inputs into agricultural production.
- The tables capture no output or employment impacts beyond payroll spending. Bureaus are engaged in various other activities funded by appropriations, e.g., land acquisition, BLM's mine land reclamation, construction, road building, education, etc.
- Office of Surface Mining activities related to reclamation of abandoned mine lands. The majority of OSM's activities are encompassed by funding from the AML fund. The impact of these funds is captured in the entry for Grants and Programs reported earlier in the table
- Values for BIA's oil, gas and coal activities are based on data from MMS. Lacking multipliers specific to oil, gas and coal activities on Reservations, we used a multiplier based on BLM's onshore oil, gas and coal activities at the national level.
- A single number was reported for BIA timber and forage activities. This number was derived assuming that the values for BIA's activities in these two areas are approximately equal.
- Figures reported for hardrock minerals were developed by the Office of Policy Analysis, assuming a total value of U.S. non-fuel mineral production at $71.1 billion (USGS Mineral Commodity Summary) and 4.66 total jobs (direct, indirect and induced) per $1 million in IMPLAN Sector 23 "Mining copper-nickel- lead- and zinc ." We assumed that 4.5 percent of this production value (and hence 4.5 percent of the total jobs) is related to mining on Federal lands. This may be an underestimate. Output multipliers were not readily available, so we provided no estimate of economic impact for Federal hardrock mineral production.
- FWS trip-related multipliers and average visitor expenditures were used to estimate impacts for Reclamation's recreation activities. The analysis relies on output multipliers developed in 1998 that appear to be high compared to accompanying employment multipliers. This results in output impacts that are relatively high compared to employment impacts in states with high Reclamation visitation.
- Economic effects of delivering M&I water were estimated by using total 1992 M&I delivery amounts in acre-feet and multiplying the total amounts by average market M&I water rates for major urban areas for 2006. Actual water deliveries have not been reported on a Reclamation-wide basis since 1992. These values are considered preliminary.
- The price used for determining the value of coal leased by BLM was $10.80 per short ton. BIA's impacts are assumed to be proportional to BLM's.

Additional Notes for Grants and Payments

The total grants and payments reported in Table 1-1 and Table 2-1 represent all grants and payments for bureaus and Interior-wide programs in FY 2008, including current and permanent PILT payments and mineral revenue payments. The state-level analysis includes major grant and payment activities: AML, PILT, FWS grants, and mineral revenues. Comprehensive information was not readily available at the state level for all grants and payments. Including information on impacts of the full array of grant programs and payments would likely increase employment impacts. The national-level analysis

evaluated impacts using national multipliers of 2.46 for output and 17 jobs per $1 million for employment. The state-level analysis relied on the state-level multipliers reported in the multipliers appendix. Different sets of state-level multipliers were used for the AML grants, the FWS grants, and the remaining grants and payments.

Energy and mineral leasing revenues (bonuses, rents and royalties) disbursed to the U.S. Treasury are one of the Federal Government's greatest sources of non-tax receipts. These revenues help fund various government functions and programs through the General Fund of the U.S. Treasury. Royalty payments are divided into offshore and onshore categories. All employment and output impacts for offshore royalties were included in the category of Energy & Minerals for the national and state-level analyses. Existing MMS models are not structured to allocate impacts across energy and mineral activities and more general government spending (mineral leasing revenues deposited in the general Treasury fund that ultimately fund a variety of activities by the Federal and state Governments).

The $5.3 billion total of FY 2008 grants and payments (displayed in Table 1-1 and Table 2-1) does not include $17.1 billion in leasing revenues and corporate taxes that flow to the Treasury as a result of Interior's offshore mineral activities.

Information relating to the impacts of onshore minerals activity was most readily available combined with other grants and payments information. These onshore mineral impacts were included in the Grants & Payments category in Table 1-1 and Table 2-1. Future versions of this report may develop a more consistent analysis for onshore and offshore mineral activities.

The state-level analysis includes a preliminary estimation of the impacts of Federal offshore royalty payments (to states via Treasury). The percentage allocation across states was made using the pattern of recent transfer payments to states. These percentages were applied to total offshore royalties paid to Treasury to derive a proxy for the "share" of total offshore royalties allocated to each state. The rationale for this approach is based on the assumption that funds not received as royalty "shares" would need to be raised via state taxes or debt issuances, or offset by spending reductions.

Additional Notes for Payroll Impacts

- Total jobs supported by Interior in Table 1-1 and Table 2-1 represent additional jobs above and beyond Interior employees.
- Payroll information is from Department of the Interior Human Resources data systems. The payroll data included salary data based on the duty-station of all Interior employees as of August, 2008 and 2009. The table to the right shows number of employees for each year.
- For Table 1-1 and Table 2-1, 2008 payroll data was used to be consistent with data available for other DOI economic impact categories.
- For total and bureau-level payroll impacts Shown in Table 1-1 and Table 2-1, a national multiplier was used to estimate the employment impacts of Interior payroll, equaling 17 jobs per $1 million.

Bureau	Total Employees August, 2008	Total Employees August, 2009
BLM	12,342	11,254
Indian Affairs	9,162	9,272
BOR	5,467	5,635
FWS	9,604	9,744
MMS	1,639	1,701
NPS	26,363	22,912
OSMR	531	528
USGS	9,072	9,059
Other DOI Offices	3,589	3,804
TOTAL	77,769	73,910

Source: DOI HR Database

- The calculation of the economic impacts associated with DOI payroll assumes that 66 percent of total salary payments will enter the economy and create economic impacts.
- For state level salary impacts shown in Table 4-1, 2009 payroll data was used, as it was readily available on a state-by-state basis; state-specific multipliers were used. Since state multipliers do not capture leakages, the total of state salary impacts will not equal the national-level salary employment impacts.
- The total salary paid and number of employees for each Bureau does not necessarily reflect FTE data typically reported in budget documents. This data was used to estimate total salary impacts rather than data on total FTE's, which would not have been a complete estimate of total salary impacts of DOI employees.
- The category "Other Interior Offices" shown in Table 2-1 includes the Office of the Secretary, and the Office of the Solicitor. Insular Affairs is included in the Office of the Secretary.

Additional Notes for State-by-State Analysis

- The state summaries do not contain jobs associated with agricultural activities that receive Reclamation supplied irrigation water, as this information was not readily available at the state-level.
- Economic impacts associated with mineral activities in BLM's Eastern States Office are included in national totals. Information for state-by-state analyses were not readily available.
- This analysis included only a subset of the total Grants and Payments, namely PILT; Mineral Leasing Revenue Payments to States; 8(g) Offshore Mineral Payments to States; AML; Sport Fish Restoration; Federal Aid in Wildlife Restoration; State Wildlife Grants. In FY 2008 these grants represented about three-fourths of the total grants and payments.

Additional Notes for Recreation

Total recreation impacts represent sums over the 50 states economic impacts and employment impacts, rather than a national-level total. A national-level total would include "leakages" between states that are not captured in state-by-state models. National-level totals would be larger than the sum of state impacts used in this report. U.S. territories and other areas in which the U.S. maintains land, including parks, monuments, and refuges are not included in this analysis. NPS and FWS do maintain visitation data for sites outside of the continental United States, Hawai'i, and Alaska, and future analysis could include these areas.

Visitation and expenditure data sources included the following: FWS Fishing, Hunting, and Wildlife-Associated Recreation Survey; NPS visitor surveys and the MGM 2008 report; for BLM sites, Forest Service expenditure data used; Reclamation expenditures were also based on the FWS Fishing, Hunting, and Wildlife-Associated Recreation survey. The spending profiles associated with these data sources were used to develop estimates of average expenditures. For BLM, Table A-1 shows the assumptions that were used (based on Spending *Profiles of National Forest Visitors, NVUM Four Year Report* by Stynes and White):

Table A-1. BLM Spending Profiles

Category	Local day use	Non-local day use	Non-local overnight use on BLM land	Local overnight on BLM Land	Non local overnight off BLM Land	Local overnight off BLM Land	Non-primary (BLM not primary reason for visit)
Type of use (percent of visitors)	46	8	7	6	19	19	7
Number of Persons/vehicle	2.1	2.3	2.5	2.5	2.7	2.5	Not available
Visitor spending, $/party	30.79	53.76		119.49	244.46	116.03	Not available

Calculations for NPS relied on a similar approach to what was used for as BLM, but visitor segment, average persons per party, and spending profiles were derived from NPS data sources. In addition the MGM2 generic multipliers were used instead of IMPLAN state-specific multipliers (2008 NPS MGM2 Report (http://web4.msue.msu.edu/mgm2/default.htm).

The FWS National Survey of Hunting, Fishing, and Wildlife Associated Recreation state-level data was used to determine the average recreationist's trip spending per day.

Table A-2 presents a state-by-state summary of the employment and total economic impacts of recreation visits for NPS, FWS, BLM, and BOR.

Table A-2. State-level Employment and Output Impacts for Recreation Visits

	BLM			BOR			FWS			NPS			Total		
State	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)
AL	0	0	0	0	0	0	1,195,787	588	49,882	789,451	386	21,603	1,985,238	974	71,485
AK	623,060	341	33,067	0	0	0	1,423,519	2064	223,765	2,477,897	1,862	170,189	4,524,476	4,268	427,021
AZ	5,477,751	3,285	320,149	7,153,910	4,576	691,053	379,058	352	33,672	10,981,071	17,593	901,961	23,991,790	25,806	1,946,835
AR	0	0	0	0	0	0	1,029,200	430	33,722	2,873,026	2,775	158,472	3,902,226	3,204	192,194
CA	9,158,713	4,454	560,875	12,363,434	5,519	952,866	2,798,394	1897	214,558	34,028,858	23,082	1,557,476	58,349,399	34,951	3,285,775
CO	6,000,244	3,656	370,574	3,482,242	2,710	423,809	45,017	40	4,098	5,383,786	7,361	402,492	14,911,289	13,768	1,200,973
CT	0	0	0	0	0	0	25,530	6	630	18,522	23	1,619	44,052	29	2,249
DE	0	0	0	0	0	0	208,706	58	5,729	0	0		208,706	58	5,729
DC	7,032	0	0	0	0	0	0	0	0	33,165,410	19,968	1,391,732	33,172,442	19,968	1,391,732
FL	0	0	0	0	0	0	3,854,165	2567	250,349	7,937,737	9,940	689,626	11,791,902	12,507	939,975
GA	0	0	0	0	0	0	846,372	308	30,716	6,425,910	5,156	338,334	7,272,282	5,464	369,050
HI	0	0	0	0	0	0	832,480	1105	100,373	4,536,505	5,142	315,290	5,368,985	6,247	415,663
ID	6,404,525	4,391	361,452	923,074	509	67,671	310,367	211	16,468	543,485	390	21,927	8,181,451	5,500	467,518
IL	0	0	0	0	0	0	1,129,690	379	38,632	335,473	463	20,273	1,465,163	842	58,905
IN	0	0	0	0	0	0	201,303	37	3,316	2,094,407	1,363	73,630	2,295,710	1,400	76,946
IA	0	0	0	0	0	0	1,973,592	676	56,117	211,352	228	12,767	2,184,944	905	68,884
KS	0	0	0	2,027,655	574	83,454	230,419	96	8,413	86,264	72	4,049	2,344,338	742	95,916
KY	0	0	0	0	0	0	30,000	10	940	1,504,597	1,622	91,235	1,534,597	1,632	92,175
LA	0	0	0	0	0	0	872,409	416	34,815	431,134	442	26,023	1,303,543	859	60,838
ME	0	0	0	0	0	0	370,972	158	13,273	2,075,857	3,176	188,057	2,446,829	3,334	201,330
MD	0	0	0	0	0	0	436,866	163	16,795	3,544,992	5,552	341,364	3,981,858	5,715	358,159
MA	0	0	0	0	0	0	960,779	375	37,356	10,281,657	9,210	584,903	11,242,436	9,584	622,259
MI	0	0	0	0	0	0	124,695	38	4,473	1,420,947	1,000	50,672	1,545,642	1,038	55,145
MN	0	0	0	0	0	0	1,551,781	719	72,956	640,843	463	24,428	2,192,624	1,182	97,384
MS	0	0	0	0	0	0	343,276	119	9,137	5,898,917	2,554	151,180	6,242,193	2,673	160,317
MO	0	0	0	0	0	0	335,830	121	10,684	3,436,201	2,900	189,346	3,772,031	3,021	200,030
MT	3,862,494	2,668	207,765	717,933	749	99,351	530,060	622	49,065	4,090,668	2,232	129,819	9,201,155	6,272	486,000
NE	0	0	0	835,223	322	43,202	242,661	87	7,532	265,858	252	14,083	1,343,742	661	64,817
NV	0	3,001	330,017	3,899,134	1,626	266,016	226,120	171	17,648	5,770,632	5,655	298,351	9,895,886	10,453	912,032
NH	0	0	0	0	0	0	160,715	70	6,534	29,819	25	1,430	190,534	95	7,964
NJ	0	0	0	0	0	0	558,550	283	29,684	5,811,657	295	17,546	6,370,207	578	47,230
NM	2,430,050	1,668	143,343	1,459,061	1,202	165,662	234,919	190	15,599	1,556,586	1,287	73,697	5,680,616	4,347	398,301
NY	0	0	0	0	0	0	683,358	324	35,359	16,913,720	9,006	617,902	17,597,078	9,330	653,261
NC	0	0	0	0	0	0	1,985,116	1130	103,863	17,984,028	10,782	615,698	19,969,144	11,912	719,561
ND	18,150	13	967	202,818	87	11,038	433,439	320	25,663	554,007	534	28,131	1,208,414	953	65,799
OH	0	0	0	0	0	0	166,436	65	6,086	3,121,019	1,366	92,526	3,287,455	1,432	98,612
OK	0	0	0	1,740,753	582	82,181	1,749,658	743	61,337	1,245,188	359	23,726	4,735,599	1,684	167,244
OR	8,365,868	5,730	500,475	1,626,975	988	139,417	3,957,054	2048	181,915	832,095	1,163	58,151	14,781,992	9,929	879,958
PA	0	0	0	0	0	0	148,348	37	3,870	9,189,257	9,524	552,026	9,337,605	9,561	555,896
RI	0	0	0	0	0	0	462,323	253	20,892	46,154	58	4,034	508,477	311	24,926
SC	0	0	0	0	0	0	418,110	259	21,167	1,441,433	909	57,422	1,859,543	1,168	78,589
SD	157,752	106	8,822	362,768	247	30,408	364,075	364	26,559	3,501,677	2,734	154,335	4,386,272	3,451	220,124
TN	0	0	0	0	0	0	890,500	281	26,145	7,440,364	16,437	1,131,286	8,330,864	16,718	1,157,431
TX	0	0	0	1,074,925	382	62,111	1,081,185	642	66,519	5,804,179	4,814	289,029	7,960,289	5,837	417,659
UT	5,947,106	4,050	364,443	6,105,894	4,972	673,279	55,388	57	4,998	8,451,252	9,085	485,525	20,559,640	18,164	1,528,245
VT	0	0	0	0	0	0	95,000	30	2,598	37,121	38	2,256	132,121	68	4,854
VA	0	0	0	0	0	0	1,581,567	822	74,278	22,542,952	6,535	406,602	24,124,519	7,357	480,880
WA	0	0	0	2,615,505	1,074	172,799	882,472	495	51,707	7,140,553	5,490	307,583	10,638,530	7,059	532,089
WV	0	0	0	0	0	0	69,178	29	2,047	1,812,908	1,264	69,832	1,882,086	1,294	71,879
WI	0	0	0	0	0	0	1,408,785	782	66,610	424,669	712	35,974	1,833,454	1,494	102,584
WY	2,309,253	1,350	122,433	3,498,866	4,472	546,887	888,840	1116	92,350	5,800,925	10,512	727,427	12,497,884	17,449	1,489,097

	BLM			BOR			FWS			NPS			Total		
State	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)	Visits	Jobs	Output ($1,000)
Total for 50 States	50,761,998	34,713	3,324,382	50,090,170	30,591	4,511,204	40,784,064	24,153	2,270,894	272,933,020	223,791	13,923,039	414,569,252	313,249	24,028,519
National Multipliers	50,761,998	34,713	3,324,382	50,090,170	30,591	4,511,204	40,784,064	26,829	3,124,888	272,933,020	223,791	13,923,039	414,569,252	315,924	24,883,513

Note: Total impacts represent sums over the 50 states, rather than a national-level total. A national-level total would include “leakages” between states that are not captured in state-by-state models. National-level totals would be larger than the sum of state impacts shown above.

Additional Notes for the Analysis of Urban and Rural Impacts

To determine the relative contribution of Department of the Interior land and activities in urban and rural areas, the 2004 Economic Research Service County Typology Code database was used to classify each county as metropolitan (metro) or nonmetropolitan (non-metro) based on definitions established by the Office of Budget and Management (OMB). According to these definitions, metro areas consist of 1) central counties with one or more urbanized areas and 2) outlying counties that are economically tied to the central counties as measured by commuting patterns. Outlying counties are included if 25% of workers living in the county commute to the central counties, or if 25% of the employment in the county consists of workers coming out from the central counties—the so-called "reverse" commuting pattern.

Non-metro areas consist of counties that lie outside the boundaries of metro areas. The most recent OMB 2003 update based on Census 2000 indicates that non-metro America accounts for 2,052 counties (75% percent of U.S. lands) and is home to 17 percent (49 million) of the U.S. population. (USDA Economic Research Service, http://www.ers.usda.gov/Briefing/Rurality/NewDefinitions/).
The number of acres for which PILT (in the case of the BOR, BLM, and NPS) or revenue sharing (in the case of FWS) payments provided to each county was used as a proxy for the amount of land in each county that is held by each bureau. The state-level percentage of metro (urban) and non-metro (rural) lands was determined for each bureau. These percentages were multiplied by visitation estimates to determine the number of urban and rural visitors for each bureau by state. The bureau-level urban and rural visitation estimates were aggregated to determine the percent split of urban and rural Interior visitation for each state. This percentage split was also used to determine the percent split in Interior visitation impacts (output and jobs) for each state. This represents a preliminary assessment of the urban and rural impacts. It assumes that bureau visitation is equally divided across bureau acreage. A more in-depth analysis will be completed for a future version of this report.

Additional Notes for BLM Forage Economic Impacts

Estimates of grazing employment assume no substitutes for public lands forage. The information developed reflects the current economic contribution of grazing, but lacks predictive value because under changing conditions. The economic impact calculations were done as follows:

> January livestock inventory divided by BLM Authorized AUMs = % of total forage needs provided by BLM x Jobs in the livestock sector from IMPLAN x Employment multiplier = Total Employment (Full and part-time).

Additional Notes for Reclamation Agriculture Impacts

Jobs supported by Reclamation irrigation are not included in Table 4-1, as state-level impacts were not readily available.

Additional Information Sources

The following primary sources of information were used to develop this report. Additional Information was also collected directly from Interior bureaus.

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Appendix: Multipliers

FWS Recreation Multipliers

State	Total Days	Average per Day Trip-Related Expenditures	Output Multiplier	Retail Sales/$1M	Jobs/$1M
Alabama	26,380	$32.79	1.65	2,175	19.46
Alaska	7,667	$128.75	1.58	1,244	14.61
Arizona	10,946	$69.83	1.65	2,014	17.26
Arkansas	22,842	$26.66	1.59	2,030	20.29
California	67,780	$54.17	1.84	7,784	16.23
Colorado	18,154	$66.37	1.78	2,671	17.27
Connecticut	10,553	$19.24	1.66	849	15.70
Delaware	3,266	$24.67	1.44	292	14.63
Florida	66,631	$48.45	1.74	7,896	17.82
Georgia	29,700	$27.19	1.73	3,428	17.34
Hawai'i	3,000	$95.79	1.63	365	17.96
Idaho	11,583	$43.20	1.59	864	20.40
Illinois	27,255	$24.19	1.83	2,339	17.96
Indiana	38,626	$12.52	1.71	1,999	18.89
Iowa	14,077	$23.24	1.59	980	19.12
Kansas	11,575	$27.91	1.70	763	19.44
Kentucky	18,815	$24.86	1.63	1,862	18.21
Louisiana	20,382	$31.74	1.63	1,979	19.50
Maine	11,855	$32.08	1.45	1,447	17.18
Maryland	15,267	$29.82	1.67	1,530	16.24
Massachusetts	17,457	$29.59	1.70	1,599	17.10
Michigan	46,770	$27.12	1.71	5,056	14.40
Minnesota	38,914	$35.68	1.71	4,169	16.84
Mississippi	15,785	$21.93	1.57	1,039	20.50
Missouri	41,040	$23.79	1.73	3,276	19.59
Montana	8,150	$76.83	1.56	1,098	19.81
Nebraska	5,613	$24.74	1.63	613	18.84
Nevada	4,439	$62.65	1.62	780	15.64
New Hampshire	7,169	$33.19	1.59	531	17.05
New Jersey	18,242	$40.48	1.70	1,596	16.24
New Mexico	8,877	$51.80	1.66	754	20.30
New York	40,870	$38.80	1.73	3,400	15.86
North Carolina	26,969	$40.86	1.66	2,633	18.07
North Dakota	2,561	$48.66	1.58	256	19.65
Ohio	34,767	$28.15	1.68	3,133	18.10
Oklahoma	23,212	$26.35	1.73	1,343	20.91
Oregon	19,275	$35.39	1.68	1,906	18.96

FWS Recreation Multipliers

State	Total Days	Average per Day Trip-Related Expenditures	Output Multiplier	Retail Sales/$1M	Jobs/$1M
Pennsylvania	46,802	$20.52	1.65	4,972	15.85
Rhode Island	4,848	$39.74	1.47	380	17.88
South Carolina	21,402	$42.18	1.56	2,332	19.03
South Dakota	4,798	$68.16	1.39	533	19.01
Tennessee	36,318	$21.42	1.78	2,298	19.09
Texas	68,311	$44.83	1.78	8,640	17.17
Utah	9,464	$65.29	1.79	1,251	20.60
Vermont	5,235	$24.46	1.45	381	16.56
Virginia	22,145	$37.12	1.64	2,305	18.16
Washington	20,112	$46.33	1.64	2,932	15.71
West Virginia	14,829	$26.63	1.44	901	20.61
Wisconsin	36,429	$37.68	1.63	3,801	19.11
Wyoming	5,604	$90.42	1.49	1,071	18.00
U.S. Total	**1,092,761**	**$36.65**	**2.71**	**115,683**	**23.27**

Source: FWS

NPS Recreation Multipliers

State	Average Spending per Visit	Jobs Multiplier	Output Multiplier
AK	$44.57	1.38	1.56
AL	$49.75	1.17	1.41
AR	$48.88	1.19	1.44
AZ	$70.57	1.21	1.39
CA	$36.40	1.28	1.55
CO	$67.57	1.15	1.38
CT	$66.34	1.28	1.62
DC	$33.34	1.29	1.62
FL	$64.64	1.27	1.55
GA	$38.63	1.25	1.56
GU	$35.72	1.12	1.34
HI	$57.13	1.24	1.51
IA	$53.52	1.22	1.44
ID	$38.46	1.16	1.37
IL	$53.10	1.15	1.36
IN	$32.58	1.14	1.37
KS	$42.00	1.15	1.41
KY	$53.97	1.17	1.42
LA	$51.03	1.22	1.48
MA	$46.62	1.21	1.52
MD	$40.86	1.25	1.52
ME	$76.08	1.23	1.48
MI	$33.82	1.14	1.34
MN	$61.27	1.12	1.34
MO	$43.62	1.26	1.56
MS	$19.43	1.23	1.48
MT	$47.48	1.21	1.46
NC	$26.61	1.19	1.44
ND	$48.35	1.12	1.34
NE	$40.90	1.17	1.41
NH	$38.53	1.27	1.45
NJ	$51.46	1.23	1.49
NM	$41.41	1.18	1.44
NV	$36.98	1.12	1.34
NY	$25.48	1.27	1.60
OH	$23.03	1.26	1.59
OK	$14.86	1.38	1.60
OR	$63.38	1.19	1.37
PA	$34.68	1.23	1.49
PR	$51.03	1.23	1.48

NPS Recreation Multipliers

State	Average Spending per Visit	Jobs Multiplier	Output Multiplier
RI	$66.34	1.28	1.62
SC	$32.17	1.25	1.53
SD	$38.44	1.21	1.45
TN	$81.01	1.27	1.60
TX	$42.13	1.20	1.48
UT	$65.46	1.22	1.40
VA	$21.97	1.23	1.53
VI	$106.60	1.26	1.45
VT	$51.03	1.23	1.48
WA	$37.44	1.23	1.45
WI	$49.70	1.18	1.35
WV	$40.34	1.25	1.42
WY	$88.71	1.29	1.42
Total	$42.05	1.24	1.50

Source: NPS

BLM Multipliers

	Recreation Multipliers		Grazing Multipliers		Timber Multipliers		Minerals Multipliers		Wind Multipliers	
State	Employment	Output	Employment	Output	Employment	Output	Employment	Output	Employment	Output
AK	1.30	1.48			1.65	1.71	2.19	1.32		
AZ	1.43	1.63	2.07	1.89	1.77	1.72			4.16	6.34
CA	1.50	1.71	1.85	1.81	1.84	1.67	3.31	1.63	2.88	4.52
CO	1.45	1.72	2.31	2.09	1.86	1.82	3.33	1.64		
ID	1.41	1.58	2.55	2.04	1.98	1.69				
KS							2.66	1.61		
MT	1.34	1.52	2.12	2.14	1.81	1.70	2.53	1.47		
ND	1.32	1.51	2.33	1.94			2.44	1.46		
NE			2.68	1.81			3.15	1.72		
NM	1.42	1.65	2.31	2.12	1.82	1.84	2.95	1.55		
NV	1.39	1.50	1.87	1.76	1.60	1.46	2.09	1.61		
OK			1.85	2.10			2.80	1.49		
OR	1.47	1.69	1.92	2.08	2.18	1.69				
SD	1.38	1.58	2.45	2.00	1.77	1.62	2.88	1.57		
TX							4.33	1.60		
UT	1.46	1.72	1.86	2.02	1.68	1.56	3.89	1.76	7.02	11.31
WA			1.98	2.09	1.90	1.67				
WY	1.32	1.50	2.06	2.01	1.63	1.65	2.95	1.45	3.00	6.00
Eastern States							3.64	1.75		
Total	1.43	1.64	2.11	2.02	2.08	1.69	3.04	1.53	5.26	8.05

Source: BLM

Grant Program State Multipliers

These multipliers were applied to all grants and payment analyses except for the employment effects of AML and FWS grants (Sport Fish Restoration; Wildlife Restoration; and State Wildlife Grants). Multipliers for those programs are reported below.

Grant Program Multipliers

State	Output Multiplier	Employment Multiplier
Alabama	1.46	1.46
Alaska	1.40	1.38
Arizona	1.46	1.52
Arkansas	1.45	1.44
California	1.59	1.56
Colorado	1.55	1.55
Connecticut	1.44	1.45
Delaware	1.38	1.37
District of Columbia	1.19	1.17
Florida	1.51	1.56
Georgia	1.50	1.52
Hawai'i	1.38	1.44
Idaho	1.42	1.49
Illinois	1.61	1.59
Indiana	1.48	1.49
Iowa	1.52	1.46
Kansas	1.52	1.51
Kentucky	1.45	1.45
Louisiana	1.48	1.47
Maine	1.42	1.46
Maryland	1.45	1.50
Massachusetts	1.48	1.50
Michigan	1.48	1.50
Minnesota	1.54	1.54
Mississippi	1.44	1.40
Missouri	1.53	1.55
Montana	1.44	1.42
Nebraska	1.42	1.48
Nevada	1.35	1.42
New Hampshire	1.42	1.44
New Jersey	1.52	1.49
New Mexico	1.53	1.53
New York	1.45	1.45
North Carolina	1.43	1.45
North Dakota	1.40	1.41
Ohio	1.48	1.49
Oklahoma	1.54	1.50
Oregon	1.48	1.54
Pennsylvania	1.60	1.57
Rhode Island	1.34	1.38
South Carolina	1.39	1.42
South Dakota	1.41	1.43

Grant Program Multipliers

State	Output Multiplier	Employment Multiplier
Tennessee	1.51	1.49
Texas	1.61	1.52
Utah	1.58	1.56
Vermont	1.41	1.45
Virginia	1.45	1.46
Washington	1.48	1.48
West Virginia	1.43	1.43
Wisconsin	1.44	1.50
Wyoming	1.42	1.38
U.S.	2.46	2.12

State	AML Jobs per $1 M	FWS Jobs per $1 M
Alabama	131.4	152.5
Alaska	25.0	358.5
Arizona		202.1
Arkansas	35.6	166.9
California	0.0	377.3
Colorado	187.7	224.6
Connecticut		67.2
Delaware		56.7
Florida		315.0
Georgia		225.2
Hawai'i		71.3
Idaho		183.4
Illinois	242.1	219.7
Indiana	260.8	136.9
Iowa	31.8	153.6
Kansas		152.3
Kentucky	833.4	175.8
Louisiana	4.4	178.3
Maine		97.8
Maryland	44.6	89.8
Massachusetts		89.8
Michigan		280.1
Minnesota		327.5
Mississippi	4.0	123.9
Missouri	41.4	297.8
Montana	187.6	212.8

State	AML Jobs per $1 M	FWS Jobs per $1 M
Nebraska	0.0	128.1
Nevada	0.0	120.1
New Hampshire	0.0	62.0
New Jersey	0.0	87.0
New Mexico	94.8	197.3
New York	0.0	221.3
North Carolina	0.0	181.1
North Dakota	72.4	106.8
Ohio	199.9	206.0
Oklahoma	46.4	202.5
Oregon	0.0	225.0
Pennsylvania	666.0	286.7
Rhode Island	0.0	55.1
South Carolina	0.0	103.1
South Dakota	0.0	118.8
Tennessee	41.3	239.8
Texas	86.4	469.2
Utah	96.0	185.0
Vermont	0.0	76.1
Virginia	185.9	152.3
Washington	0.0	173.7
West Virginia	886.9	97.9
Wisconsin	0.0	305.2
Wyoming	2,014.6	140.6

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