

BUREAU OF LAND MANAGEMENT



DECEMBER 2009

Information Resources Management Activities and Accomplishments

Reaching Out to the Land, the Public, and the Future



“Dedicated to those employees past, present, and future who have worked to improve the use of technology in the Bureau of Land Management”

This document was prepared by:
Bureau of Land Management
WO-500 Information Resources Management
Washington, DC
BLM State and Center CIOs

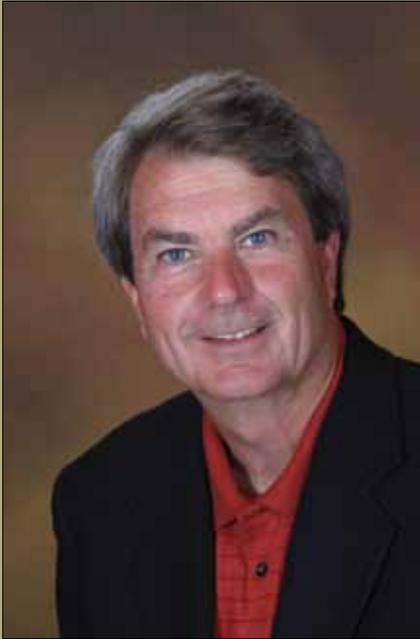
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MESSAGE FROM THE DIRECTOR



Good stewardship requires that the Bureau of Land Management be more efficient and effective in carrying out

its mission. Through the use of new technologies and Information Resource Management tools, the BLM has made significant progress in protecting and sustaining the health and diversity of the public lands. It is with great pleasure that I present the Bureau of Land Management's *Information Resources Management Activities and Accomplishments* report for 2009. This report illustrates our commitment to integrate new and innovative technologies into the day-to-day operations of the BLM.

Sound stewardship principles and technological innovation are used to improve the collection, management, and analysis of scientific, geographic,

economic, and demographic data. Using the Internet for electronic commerce via the Automated Fluid Minerals Support System and helping communicate BLM planning activities through the ePlanning initiative are good examples of technological innovations that help managers and staff carry out the Bureau's multiple-use mission.

An immense opportunity exists to continue this collaborative effort between technology and natural resource management. Together with good stewardship, creative thinking, and the use of advanced technology, we can continue to improve the BLM's management of the public lands and the resources they contain.

A handwritten signature in black ink that reads "Robert V. Abbey". The signature is written in a cursive, flowing style.

Robert V. Abbey
BLM Director

MESSAGE FROM THE CHIEF INFORMATION OFFICER

It is with great pleasure that I present this report, *Information Resources Management Accomplishments: Reaching Out to the Land, the Public, and the Future*, for the Bureau of Land Management's (BLM's) Information Resources Management (IRM) community. This inaugural edition highlights the many activities undertaken within the IRM community and communicates its many accomplishments. The IRM community has had the privilege of working with numerous key BLM programs to address mission critical initiatives to improve services, such as the launching of geospatial applications throughout BLM State Offices along with the upgrade of the infrastructure to support the management of BLM's extensive energy program.

The IRM community will continue to improve information technology (IT) support and services to make the BLM stronger and more efficient by leveraging

emerging technologies, such as the BLM Mobile Office, which provides BLM employees with broader access to information systems and data. Moreover, we will continue to seek collaborative opportunities to better support and meet the BLM's mission requirements.

President Obama has stated: "To help build a new foundation for the 21st century, we need to reform our government so that it is more efficient, more transparent, and more creative." To meet this goal, we will improve public outreach by using real-time external communications for general information sharing and crisis management. Additionally, we are currently supporting the White House DATA.GOV Initiative to support this vital goal. Legislative changes supporting the President's Technology Agenda will provide additional opportunities to improve IT services within the BLM and better serve the needs of the public.



Our report, *Information Resources Management Activities and Accomplishments: Reaching Out to the Land, the Public, and the Future*, addresses the many IT-related activities that are underway at the BLM to better serve you. I trust you will find it a useful and informative resource.

A handwritten signature in black ink, appearing to read 'Ronnie Levine'.

Ronnie Levine



I. INTRODUCTION

Information resources, and the personnel and tools necessary to manage these resources, serve an increasingly critical function in advancing the mission of the Bureau of Land Management (BLM) while integrating its mission objectives with the broader strategic goals of the Department of the Interior (Department). The growing importance of information resources to the success of the Department and each of its agencies is addressed in the Department's Strategic Plan covering the period 2007 to 2012:

“While Interior is charged with an extremely broad range of missions and responsibilities, particular attention shall be paid over the next 5 years to issues with far-reaching consequences to the Nation’s natural resources, economic well-being, and management capabilities”

The Department's Strategic Plan identifies *information* resources as one of the factors having far-reaching consequences for the Department's mission—along with such diverse and complex issues as wildland fires, water use, energy availability, species health, trust services and accountability, homeland security, emergency management, law enforcement, and human capital. Indeed, the effective management of information resources has emerged as one of two vital common components for the successful management of all issues and challenges confronting the Department and its agencies.

Information resources—made useful, effective, and manageable only through the efforts of our employees—bring within our grasp an ever-growing body of knowledge about the public lands and resources that are entrusted to our stewardship, and about the challenges and opportunities that lie before us.



II. OVERVIEW

The BLM, with stewardship responsibilities for more than 256 million acres of public lands located primarily in the West, faces an increasingly daunting and complex challenge in carrying out its mission:

“...to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.”

The mission of Information Resources Management (IRM) is to support the BLM in meeting this challenge through the effective use of advanced Information Technology (IT) concepts and applications, which are managed by a highly skilled workforce kept current through continuous education and training.

The accelerating population growth and development of the West over the last half century have placed new demands and pressures on the land and its resources. These include the loss of open space to urbanization, increasing competition for water resources, greater

public demand for outdoor recreation, and fragmentation of landscapes that threatens the natural habitats of fish and wildlife and places increasing numbers of species at risk.

Other impacts on the health of the land include prolonged drought across much of the West and the interrelated effects of climate change that contribute to large-scale disturbances such as atypical wildfires and the spread of invasive species. At the same time, global economic uncertainty and heightened concern over our Nation’s future economic and energy security have increased demand for energy and mineral resources, forage, timber products, and other resources of the public lands that serve our national interests and contribute to local employment and economic opportunity.

Adapting to these challenging and complex times, the BLM has identified Strategic Plan Mission Goals that can guide the agency toward successfully advancing its mission, while supporting the broader strategic goals of the Department.

The BLM’s Strategic Plan Mission Goals are:

- Resource Protection
- Resource Use
- Recreation
- Serving Communities

As an overarching management strategy, the BLM is reaching out across the land, directing more of its resources to the ground, supporting the work that can make the greatest difference in the health of the land and its resources, in the Nation’s vital interests, and in the lives of the American people. In the same way, through creativity and innovation, the IRM community is reaching out to the BLM workforce—whatever the nature of their duties and wherever their work may take them—to manage an information environment that more closely links the human resources that are the heart of the agency with the land, its resources, and all who depend upon them.



III. REACHING OUT TO THE LAND

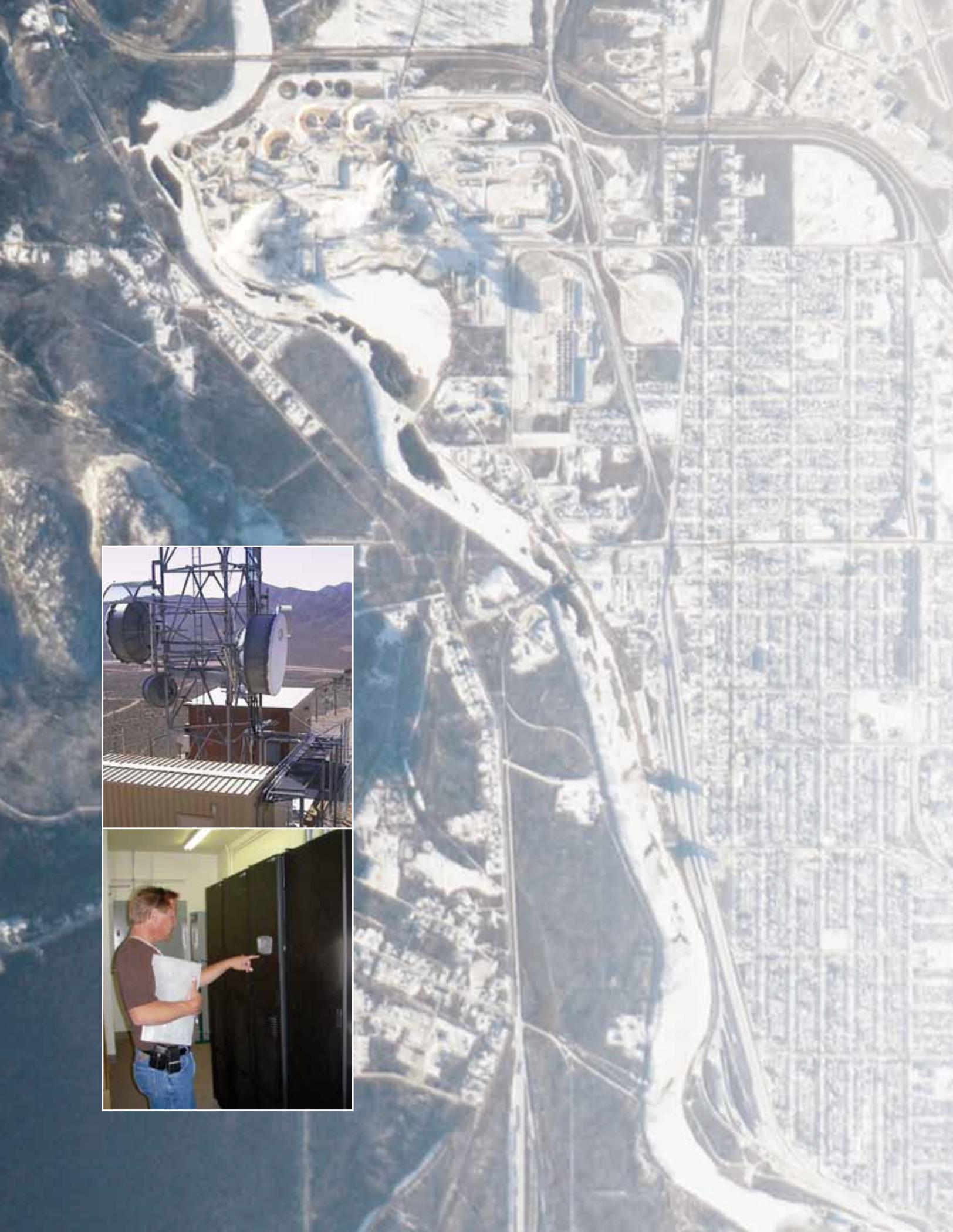
To carry out an increasingly complex mission and to do so with full public participation, transparency, and scientific integrity, the BLM must collect vast amounts of data and then transform the data into meaningful information that can support sound management decisions. The advance of technology has allowed the agency to accomplish this with far greater effectiveness and efficiency than was ever before possible.

Information systems, driven by state-of-the-art technology, allow the BLM to collect, integrate, manage, and share data in areas such as:

- Health, diversity, and productivity of the land
- Quality of air and water resources
- Health of vegetative communities and of fish and wildlife habitat
- Reduction of hazardous fuels that increase the risk of catastrophic wildfires
- Restoration and recovery of ecosystems damaged by wildfires
- Contamination and degradation of soils
- Cultural and natural heritage resources
- Energy and mineral resources, associated leases, lease applications, and permits
- Range and forest resources
- Livestock grazing and timber operations
- Public recreation

“The Department will use technology to work smarter, including providing single points of access to our services and other expanded E-Government opportunities. We are working to give our employees the skills, technologies, systems, and practices they’ll need to meet the future.”

—Department of the Interior
Strategic Plan 2007–2012



IV. REACHING OUT TO THE PUBLIC

While reaching out across the public lands to link resource managers with the information and information systems essential to their mission, the IRM community is also reaching out to the American public to inform, enlighten, and engage them in the stewardship of the public lands. IT has opened the door to virtually unlimited opportunities for public access to information about government and public policy, and for full public participation in both the process of government and the *business* of government.

Public access to information about the public lands leads to a broader appreciation and understanding of how these resources serve to promote America's national interests and to sustain the quality of life we all enjoy. In addition, public access to the process of management and stewardship of the public lands contributes to more collaborative, sounder, and more sustainable decisions.

The American people, in this "age of information," have come to expect higher standards of access to government and better tools that provide more convenient and immediate access, both for sharing information and for conducting business between government and private entities. Similarly, as a result of this increased access, the public has also come to

expect higher standards of accountability and transparency in their government.

For all these reasons, the BLM has placed a high priority on the use of information technology and information systems to serve the growing needs and expectations of the public it serves.

Significant efforts have been made to improve BLM's presence on the Internet. This has included IRM support for major governmentwide projects for expanded public access to data and information. For example, the Geospatial One-Stop (GOS) information system provides a spatial data "card catalog" of metadata for easier, more reliable public access to the Federal Government's spatial information. It is estimated that GOS has saved the public significant annual expenses by eliminating redundant data collection and increasing opportunities for cost-sharing partnerships. The BLM has posted metadata, and provided map services for cadastral and land and minerals programs and Federal surface management agency boundaries. The BLM has also provided metadata records from BLM clearinghouses to allow the public to find BLM spatial resource information more easily. The BLM will continue to post information to GOS, as well as expand partnerships that will enhance and improve the quality of data that is provided to the public.

The BLM will also continue to expand public access to information through the agency's web presence and other electronic media. The BLM's primary portal, www.blm.gov, presently provides the public with 24/7 access to information about the public lands and the agency's many management activities, including a wealth of information, photographs, maps, and other materials regarding public land recreational opportunities and facilities.

"This vision reflects the Secretary's goal of involving others, including communities, Tribes, partners, customers, contractors, volunteers, and the interested public as we accomplish our mission. We are confident that actively working with others to obtain their input and feedback will improve our programs, processes, plans, and practices. Our key business principles - accountability and modernization/ integration - apply across the entire Department as well."

— Department of the Interior
Strategic Plan 2007–2012

The Bureau of Land Management's public web presence is a key customer service tool that facilitates the flow of information and services.

It is:

- *Comprehensive and accurate;*
- *Timely and reliable;*
- *Interactive and engaging; and*
- *Responsive to customer needs.*

BLM will provide valuable information and interactive services to the American public via the Web that will enhance their use, enjoyment, and knowledge of Public Lands.”

—Mission and Vision Statement of the BLM Web Council

V. IRM INFORMATION SYSTEMS

Recently, the IRM community has made significant investments toward more efficient, cost effective, and fully integrated information systems that directly and indirectly support programs and activities across the mission of the BLM. These information systems contribute to more efficient and effective administration and management of the agency, while supporting management decisions involving resources valued in the billions of dollars.

The following are brief descriptions of some of the key information systems and their relationship to the strategic goals of the BLM and the Department of the Interior.

The **Automated Fluid Minerals Support System (AFMSS)** is recognized as critical to the Department's strategic goal of managing natural resources to promote responsible use and sustain a dynamic economy. It is also critical to one of the key performance goals of the BLM's Strategic Plan, which is increasing the Nation's supply of energy from the public lands.

The AFMSS allows the BLM to collect, integrate, and share information on oil and gas resources and activities on public lands. It contains data concerning lease and agreement ownership, well identification, location and history, geologic formations, resource protection, production, and operator compliance. The

system also has an electronic commerce module that interfaces with the oil and gas industry for improved efficiency that serves the interests of the BLM, industry, and the public.

The **Collections and Billing System (CBS)** supports the Department's Key Business Principles of increasing accountability and advancing modernization/integration, and the principles of the BLM's Managing for Excellence (M4E) initiative. The CBS allows the BLM to collect and integrate information on financial activities, workload and performance, costing, and resource management to improve efficiency of operations, to direct more resources to activities on the ground, and to improve accountability, transparency, and the overall performance of the agency.

ePlanning is a suite of powerful yet easy to use tools for the BLM's resource management planning process. This information system supports the following performance goals of the BLM and many other goals of the agency and the Department:

- Increasing the Nation's supply of energy from the public lands
- Responding to threats to rangeland and forests
- Improving dispersed recreational opportunities
- Protecting and preserving heritage resources

ePlanning provides a mechanism to update land use plans systematically for a variety of benefits, including:

- Improved decision making
- Increased public access to planning information and increased public participation in the planning process
- Reduced time and costs for developing resource management plans (RMPs)
- Greater collaboration and efficiency in meeting planning requirements of the National Environmental Policy Act (NEPA)
- More efficient collection, management, and use of data regarding cultural and heritage properties, energy and mineral resources, fish and wildlife habitat, at-risk species, recreational resources, and many other resource values associated with the public lands
- Information sharing that allows citizens and communities 24/7 access via the Internet or online access to information regarding land allocations that affect local public lands

Other important information systems and related IRM initiatives include:

The **Incident Qualification and Certification System (IQCS)** is an inter-agency application that tracks incident responder certifications and provides workforce analytics for BLM firefighters and those of other Federal agencies.

The www.RECREATION.gov website allows the BLM and other Federal resource management agencies to provide a one-stop, electronic portal that expands public access to information about recreational opportunities on the public lands. The site also provides the convenience of online service for recreation permits and reservations.

The Facilities Asset Management System (FAMS) provides a comprehensive database of the agency's constructed assets. This application tracks \$7.1 billion in assets that have an annual operation and maintenance budget of over \$102 million and a deferred maintenance burden of approximately \$450 million. As an example, the system will be indispensable to the investment of nearly \$76 million allocated to the BLM under the American Recovery and Reinvestment Act (ARRA) to stimulate economic activity and create jobs. FAMS identified and ARRA funded 142 deferred maintenance projects that address visitor and employee health and safety needs, energy efficiency, and the sustainability of BLM buildings, facilities, and structures.

The Wild Horse and Burro Program System (WHBPS) is a web-based application for maintaining and sharing information necessary to the stewardship

of populations of wild horses and burros that are protected by law and managed by the BLM. Other WHBPS Internet applications help the BLM promote public adoption of animals removed from the range.

Geographic Information Systems (GIS) provide a national mapping network that integrates geospatial (location-based) data giving resource managers a more complete understanding of the interrelated characteristics of a specified area of land. This information, generally presented in the form of maps or charts, displays multiple themes or layers of data on subjects such as types of vegetation, water resources, wildlife habitat, threatened and endangered species, archaeological sites and heritage and cultural resources, man-made structures, rights-of-way, energy and mineral development, and other public land uses and values.

GIS systems are an important tool for the assessment of wildland fire risks, allowing analysts to look at fuel loads, weather patterns, and past fire history in predicting likely fire behavior. Maps and information produced by GIS also assist the BLM in keeping the public informed about activities and issues associated with the public lands.

Enterprise GIS is being designed to create a coherent Bureauwide design for GIS technology. Ultimately, common and standard data will be stored and retrievable for access and processing in custom business applications such as AFMSS, ePlanning, and land management applications. The Enterprise GIS system will enable BLM employees and stakeholders to access geospatial data, information, and knowledge, whenever and wherever it is needed.

The vision of an Enterprise GIS is to:

- Empower BLM managers and specialists by providing access to automated, up-to-date, and standardized geospatial data
- Effectively integrate geospatial information into the agency's business processes
- Transform business information into corporate knowledge using geospatial applications that embody state-of-the-art spatial analysis and visualization tools
- Allow the knowledge derived from spatial analysis to be used by managers to initiate actions and effect outcomes through a defensible decision-making process
- Permit stakeholders to access the BLM's geospatial data and information to facilitate interaction with the agency

“Managers, resource specialists, analysts, researchers, and policy makers recognize that geospatial information is critical for managing the public lands—for understanding natural resource relationships, environmental interactions, social and economic impacts, and environmental performance.”

—Geospatial Services Strategic Plan FY 2008

VI. IRM ACCOMPLISHMENTS HIGHLIGHTS

The relationship between the effective management of information resources and the success of BLM's mission on the ground can be seen across the public lands and across the broad mission of the agency. The following are some illustrative highlights.

In Arizona and California, the IRM community was instrumental in upgrading telecommunications for law enforcement personnel of the BLM and other agencies operating on the public lands bordering the international boundary with Mexico.

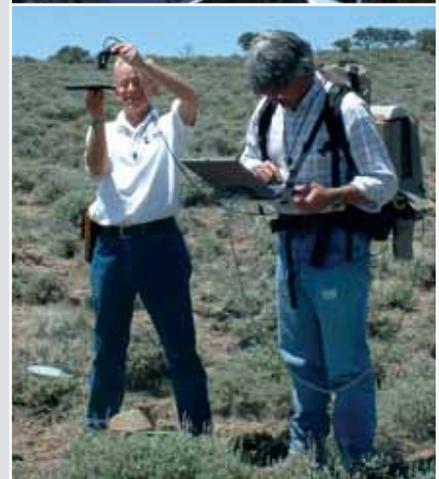
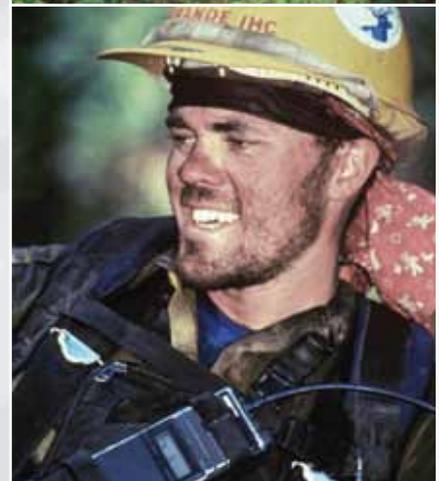
In Montana, collaboration among IRM staff and resource specialists led to the recovery of comprehensive spatial data on the location of noxious weeds and previous treatment activities. The work dramatically reduced the time and costs associated with developing information necessary for updating Resource Management Plans (RMPs).

In New Mexico, IRM personnel expanded the functionality of a web-based fire

management application, allowing Fire Information Specialists to post information on current wildfires, and improving other internal and public information services of the application.

In Oregon, BLM personnel continued pioneering work as a Center of Excellence in Enterprise GIS. Activities included the use of geospatial data to support the Department's National Sage Grouse Conservation Project, entailing the consolidation of GIS data from across the Great Basin and the Pacific Northwest.

In Utah, the IRM community supported the use of GIS in acquiring information on activities such as emergency stabilization and rehabilitation of disturbed lands, environmental assessments for wind energy, and in the use of remote sensing technology to map and classify the key attributes of over 300,000 acres of woodland vegetation.





VII. IRM NATIONAL PROGRAM AREA ACCOMPLISHMENTS

Strategic investment in information technology will be a critical factor in the BLM's success in adapting to and meeting the challenges of the 21st century. The BLM recognizes the importance of wise and prudent investment decision making and is instituting a rigorous information technology investment process that requires project documentation and tracking of all life cycle activities from project inception to implementation, operation and maintenance, and decommissioning. This will allow the BLM to make rapid improvements in developing new state-of-the-practice software systems for the intranet and Internet, thus better supporting multiple IT initiatives throughout the agency's jurisdiction. The following activities represent IRM Capital Planning and Investment Control (CPIC) achievements.

Investment Management

- Conducting Post Implementation, Operational, and Quarterly Reviews for major investments on regularly scheduled timetables
- Developing investment profiles for all major and non-major investments to streamline monitoring and evaluation processes
- Examining cost and schedule variances for major investments
- Developing, managing, and overseeing business cases within BLM's IT investment portfolio in

accordance with requirements of the Office of Management and Budget (OMB)

- Conducting quarterly self-assessments of BLM's IT Investment Management (ITIM) policies, procedures, activities, and repositories
- Providing quarterly updates to the Department on BLM's ITIM policies, strategies, activities, and achievements
- Analyzing BLM's IT portfolio on a semi-annual basis and reporting results to the Department's Chief Information Officer
- Obtaining and reviewing status reports from project managers on performance, cost, and scheduling issues.
- Reviewing status of projects and recommending corrective action to address deficiencies
- Actively monitoring investments to determine potential risks
- Preparing recommendations for the continuation, modification, or cancellation of funding for investments as appropriate and publishing findings in an annual IT investment health report

IT Security

IT personnel employed a variety of commercial and government tools to strengthen the security of BLM's IT network and the agency's security

posture in accordance with the Federal Information Security Management Act. IT Security measures included:

- Monitoring and controlling of traffic at BLM's network boundary
- Identifying and blocking more than 14,000 unique Internet addresses that resulted in preventing nearly 51,000 malicious sessions
- Blocking more than 112,000 attempts to penetrate BLM's network boundary
- Deploying additional intrusion detection and prevention systems on the BLM internal network to protect the internal network infrastructure, as well as hosts and systems, from internally generated malicious traffic

These active information security measures, coupled with extensive vulnerability management and remediation processes help ensure the confidentiality, integrity, and availability of BLM automated systems and data.

BLM reported the performance results of a Most Efficient Organization (MEO) created for IT security. MEOs are separate organizations within an agency that are required to document performance under competitive sourcing. The BLM's MEO for IT Security Services estimated first year performance savings of \$874,425. An annual post-competition accountability review was completed in February 2009

documenting that the MEO successfully achieved the three primary requirements outlined by the OMB.

Enterprise Architecture

BLM's adaptation of enterprise architecture practices such as business process re-engineering has begun to increase operational efficiencies by initiating long-term efforts aimed at improving data quality. The standardization of corporate data will allow increased systems integration and result in a much more effective use of technology investments.

Application Modernization

The BLM has initiated an application modernization initiative that will significantly improve BLM service delivery to field offices. The focus of this initiative is revitalizing the BLM application architecture and its underlying technical environment.

Activities centered on planning aspects of the initiative, with the following high-level objectives:

- Encouraging inclusivity, participation, and buy-in at key decision points
- Establishing a centralized application inventory process
- Modernizing the BLM application architecture by integration of systems and data under centralized operations
- Providing a model and framework for sustained technology refreshment and enhancement by leveraging "state-of-the-industry" practices

- Centralizing and strengthening application governance and oversight
- Improving information sharing and service delivery throughout BLM

System Lifecycle Management

Development of a Draft System Lifecycle Management (SLM) methodology is underway that will be used to manage all BLM technology projects including application systems, infrastructure upgrades, and field office initiatives.

The SLM will eventually establish a standard, documented process for guiding technology projects within the BLM. It is being designed to respond quickly and effectively to support unique mission and program area needs as they arise. This will provide a stable and effective policy framework from which to manage the development and integration of automated products and services across BLM's enterprise architecture.

The SLM will support and ensure the production and integration of quality systems and tools into the BLM technical environment that meet end user needs while conforming to IRM program area requirements.

BLM Goes Mobile

Efforts are well underway in the analysis and planning to establish a robust, wireless services capability. The BLM Mobile Office Initiative addresses a broad range of technical capabilities which will support the large mobile end user community. The first element of the

Mobile Office expands wireless capability by providing Air Cards for laptop computer users. Through the use of this technology, BLM employees will be able to access vital systems and information on the go, anyplace, and anytime. Moreover, the Mobile Office provides secure access to network and IT resources necessary for BLM personnel to meet their daily work commitments.

Reducing Costs

The BLM is attempting to reduce costs associated with wireless services by inventorying wireless devices and implementing new policies for their acquisition and use. Additional savings are being achieved through the expanded use of video conferencing to defer travel costs. Additionally, the BLM is piloting an IT acquisition and equipment refreshment planning process to reduce asset costs by managing replacement cycles and centralized purchases as efficiently as possible.

Managing Human Capital

IRM has supported BLM's human capital management organizations in delivering online training to help maintain a highly skilled workforce. Specialized assistance in conducting the following initiatives by BLM's National Training Center (NTC) has included:

- Significant advances in the use of IT to deliver and convert conventional training to distance learning thus reducing the time and costs associated with employee travel

- Conversion of training videos and course materials by using Flash Technology for distribution over the Internet
- Creation of a Knowledge Resource Center that provides online access to a wide range of documents and videos previously only accessible via satellite broadcasts

BLM's IRM community also supported the expanded use of collaboration technologies for activities associated with:

- Human resources and equal employment opportunity based organizations
- Safety
- Recruitment and retention
- Employee surveys and assessments

Business and Fiscal Resources

IRM has supported BLM's Business and Fiscal Services Directorate in the deployment of the Financial and Business Management System (FBMS). That system integrates the Department's financial and administrative functions and standardizes business processes across all Departmental agencies and offices. Implementing FBMS is enabling the Department to incorporate its financial and business process management into a single solution that will eliminate the need for the more than 80 aging legacy systems currently in operation. As a result, FBMS will streamline customer and vendor transactions, reduce errors, and simplify tasks. Integrating various data items provides employees access to consistent, real-time information, which allows them

to perform their jobs more effectively and efficiently.

The IRM community has also supported development of new capabilities for the Cost Management System, including:

- Outcome measure budgeting
- Budgeting by subactivity
- Budgeting by dollars, workload units, and performance units
- State spending profiles
- Performance measure cost analyses

With specialized assistance from IRM personnel, the BLM also completed eight separate improvements to the Budget Planning System, automated the mid-year and third quarter reviews in the Performance Management Data System, and added a Planning Target Allocation cost target setting capability.



Members of IRM Directorate Staff and Management at a summer team building and strategy planning meeting in FY 2009 at the United States Fish and Wildlife Service National Conservation Training Center in Shepherdstown, West Virginia.

Summary of the Chief Information Officer's Council (CIOC)

What the CIOC Does:

The Chief Information Officer's Council (CIOC) performs many functions. One is to provide a strategic advisory capacity to the BLM CIO and Deputy AD-IRM. The CIOC also provides tactical and operational support to States, Centers, and Headquarters Offices. CIOC subcommittees are responsible for reviewing specific operational and technical issues on behalf of the BLM and often serve in whole or in part on Departmental task forces and teams. The CIOC functions as a platform for executing and improving IRM policy implementation in the BLM.

How the CIOC does it:

The CIOC plans two meetings a year with the option of additional meetings if necessary as set forth by the Executive Leadership Team (ELT), Field Committee (FC), Business Management Council (BMC), the Information Technology Investment Board (ITIB), and the Budget Strategy Team (BST). Conference calls are scheduled monthly, or as required, to address technical, policy, and investment matters.

The CIOC's Recent

Accomplishments:

- Developed/implemented uniform IT cost coding structures within FBMS that align with the OMB Exhibit 53 format requirements
- Staffed major work teams to develop FY 2010 DOI Hardware contract standards and drafted interim BLM policy for issuance by WO-500
- Validated FY 2009 Hardware and Software License requirements and helped renegotiate Departmentwide IRM goods and services contracts
- Participated in audit reviews of the IT Security and National Help Desk Most Efficient Organization (MEO) implementations
- Directly supported WO-550 and the NOC in developing standards and procedures for IT expenditures, regional planning, and operational priorities
- Played a major role in coordinating and implementing IT Security directives and security initiatives relative to Systems Testing and Evaluation (ST&E)

and Certification and Accreditation (C&A) activities

- Developed governance documents in FY 2009 concerning SharePoint deployment in BLM and the replacement of aging telephonic Public Branch Exchange (PBX) switch technologies
- Provided input and guidance on Dispatch Center computer usage; Microsoft Active Directory (AD) implementations; Freedom of Information Act (FOIA) processing, Records, and Directives Management policy revisions; Lotus Notes to Microsoft Exchange E-Mail migration planning; and use of Voice Over Internet Protocol (VOIP) and other telecommunications (voice and data) support services
- Adopted the Information Technology Infrastructure Library (ITIL) methodology for consistent IT management in the BLM

Planned Activities:

The CIOC continues its IRM transformational activities. Beginning with the Managing for Excellence Initiative (M4E) and evolving Department of the Interior (DOI) strategic initiatives, the State and Center CIOs continue to take responsible actions to reduce costs and improve services over time. Items believed to be of increasing importance include wireless data communications; social networking; collaboration with external groups; IP-based video and voice; continued consolidation and virtualization; cloud services; and eDiscovery, eFOIA, and service management.



BLM CIO Council Meeting, July 28–31, 2009

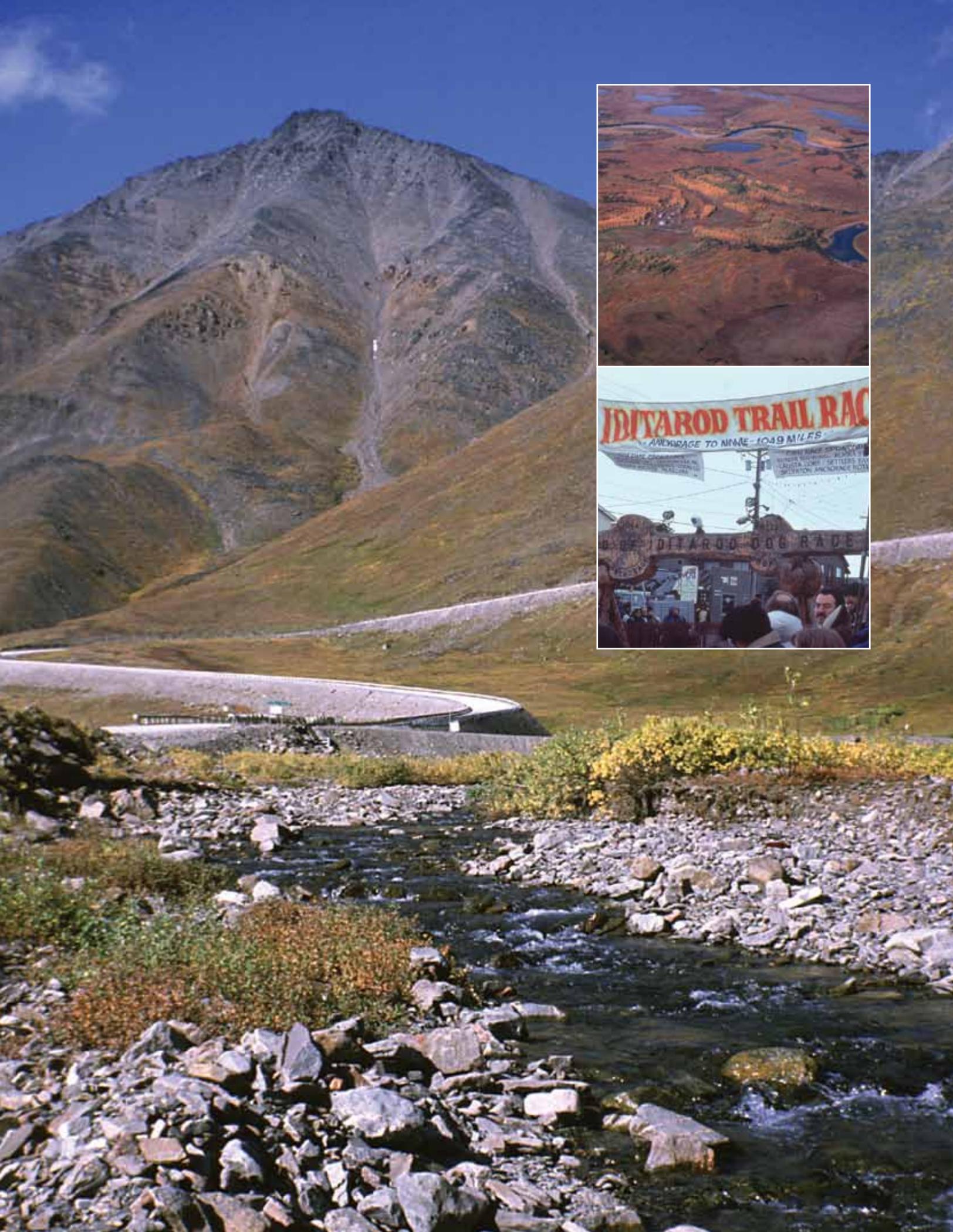
TABLE OF IRM FUNDING

FY 2008 Total IRM Expenditures and FY 2009/FY 2010 Estimates

(FY08 @ FMIS Actual Canned Reports; FY 09, FY 10 @ Current
Exhibit 53 Projections)

Bureau of Land Management Expenditures - Labor and Operations

Bureau of Land Management Expenditures - Labor and Operations			FY 2008	FY 2009 Est	FY 2010 Est
Bureau IRM Labor			\$50,743,053		
IRM Operational Cost (Equipment/Material/Contractor Support)			\$93,585,116		
Total			\$144,328,169	\$150,174,000	\$149,484,000
Major Operations Categories					
Washington Office	2008 Labor	2008 Operations	2008 Total	FY 2009 Estimate	FY 2010 Estimate
<i>Office of the Director (WO-100)</i>	246,313	920,436	1,166,749	45,000	45,000
<i>Renewable Resources and Planning (WO-200)</i>	252,892	1,635,907	1,888,799	5,294,000	5,343,000
<i>Minerals and Realty Management (WO-300)</i>	2,757	514,414	517,171	7,953,000	8,394,000
<i>Fire and Aviation (WO-400)</i>	684,764	1,727,208	2,411,972	3,147,000	2,725,000
<i>Information Resources Management (WO-500)</i>	4,272,499	4,647,417	8,919,917	5,467,000	7,939,000
<i>Communications (WO-600)</i>	174,568	589,750	764,319	177,000	251,000
<i>Human Capital Management (WO-700)</i>	40,400	81,668	122,069	298,000	701,000
<i>Business and Financial Resources (WO-800)</i>	284,170	1,009,894	1,294,064	2,741,000	3,725,000
Total Washington Office Spending	5,958,364	11,126,696	17,085,060	25,077,000	29,123,000
States and Centers	Labor	Operations	Activity Spending		
<i>Alaska</i>	3,471,157	2,665,633	6,136,790	7,072,000	7,839,000
<i>Arizona</i>	2,069,331	1,488,410	3,557,741	2,687,000	2,654,000
<i>California</i>	3,281,427	2,773,304	6,054,731	5,474,000	6,033,000
<i>Colorado</i>	2,549,649	1,273,501	3,823,151	3,750,000	4,207,000
<i>Eastern States</i>	664,535	1,223,510	1,888,045	2,181,000	2,011,000
<i>Fire and Aviation</i>	1,722,203	3,996,949	5,719,152	5,494,000	5,384,000
<i>Idaho</i>	2,334,501	1,871,769	4,206,270	4,962,000	4,862,000
<i>Montana</i>	1,921,407	1,303,796	3,225,203	3,455,000	3,385,000
<i>New Mexico</i>	2,664,510	1,761,672	4,426,182	4,023,000	3,941,000
<i>Nevada</i>	1,581,048	2,798,983	4,380,031	2,858,000	3,367,000
<i>National Operations Center</i>	11,686,874	17,187,469	28,874,343	20,904,000	17,794,000
<i>Oregon</i>	4,842,990	10,978,600	15,821,590	15,411,000	13,781,000
<i>Training Center</i>	1,175,676	489,455	1,665,131	1,342,000	1,315,000
<i>Utah</i>	2,361,005	1,863,829	4,224,834	5,176,000	4,835,000
<i>Wyoming</i>	2,458,376	1,372,246	3,830,622	5,825,000	5,739,000
Total States and Centers	44,784,689	53,049,126	97,833,815	90,614,000	87,147,000
IT Central Funds Cost					
<i>IT Security Cert and Accred (ACER) (WO-500)</i>	\$ -	804,479	804,479	801,000	800,000
<i>Corporate Tech Refresh (CITI) (WO-500/NOC)</i>	\$ -	304,298	304,298	2,043,000	3,000,000
<i>Enterprise Architecture (EAIT/ENTA) (WO-500/NOC)</i>	\$ -	2,218,681	2,218,681	2,160,000	900,000
<i>Enterprise Messaging (ENTM) (WO-500/NOC)</i>	\$ -	299,053	299,053	939,000	1,200,000
<i>HW/SW Maintenance (HSMA) (WO-500/NOC)</i>	\$ -	8,070,620	8,070,620	7,000,000	7,001,000
<i>National Records Administration (NARA) (WO-500)</i>	\$ -	118,000	118,000	175,000	175,000
<i>Zantaz (Live e-mail capture-ZANT) (WO-500)</i>	\$ -	897,072	897,072	1,479,000	589,000
Total IT Central Funds	0	12,712,203	12,712,203	14,597,000	13,665,000
Departmental Payments					
<i>Washington Office Assessments</i>	\$ -	955,720	955,720	956,000	956,000
<i>Department Mandatory Payments</i>	\$ -	15,741,371	15,741,371	18,930,000	18,593,000
Total Department Payments	0	16,697,091	16,697,091	19,886,000	19,549,000
Total			50,743,053	93,585,116	144,328,169
			144,328,169	150,174,000	149,484,000



VIII. IRM ACCOMPLISHMENTS BY STATE AND CENTER

ALASKA

Information resources are particularly critical to BLM operations that extend to the far reaches of some of the most rugged and remote lands on the continent, such as the BLM in Alaska. BLM Alaska manages more than 78.5 million acres of public lands. Some smaller parcels of land are scattered across the State's interior and south-central region. Larger stretches of public lands span the mountain ranges, forested hills, and arctic tundra of far western and northern Alaska.

In this rugged and remote environment, information and communication services are vital to the unique duties of BLM employees in Alaska. These include resource management associated with activities such as energy development in an arctic setting, research at North America's largest glacier, management of the Iditarod National Historic Trail, and maintenance of a visitor center designed for Alaska's subzero temperatures.

IRM accomplishments in support of BLM Alaska include:

- Upgraded and modernized IT and communications tools for the Alaska BLM workforce, making a significant contribution to improved overall performance of employees and to the services they provide the public.
- Improved the GIS capabilities of BLM Alaska by upgrading the CITRIX® server farm at the State Office operating center to serve multiple versions of ArcGIS, and integrated collection of GIS software used for geospatial analysis, data management, and mapping. The upgrade serves more than 50 users across Alaska.
- Restored the Alaska Land Information System (ALIS), providing full service to the public, customers, and Federal employees. This site and many of its related information systems are the product of a BLM partnership with the Alaska Department of Natural Resources. The site provides a common entrance to cadastral-related data systems by these agencies as well as local government and Alaskan Native organizations.
- Completed a 2-year security audit at the Fairbanks District Office, identifying and correcting deficiencies, improving security, strengthening administrative standards, and enhancing the telecommunications network serving the Field Office and its customers.
- Acquired and installed more than 100 desktop and laptop computers as part of the equipment lifecycle replacement program and deployed updated software.
- Upgraded telephone and data communications hardware and software to improve efficiency of operations and to fully utilize future network equipment upgrades, increased bandwidth, and other technological advances.
- Improved elements of the Alaska State Office IT network and infrastructure to enhance the work environment and increase the duration of sustainable emergency power for operations of the BLM State Office and the Fairbanks District Office.
- Improved mountaintop communications sites that are critical to radio and telephone communications for the BLM and other government agencies.
- Consolidated and improved the server infrastructure of the Glennallen Field Office, improving performance and reliability for all users of the system, and upgraded the Field Office's telephone system to improve service to employees and to the public.
- Improved the backup/emergency power reserves for all IT users at the Campbell Tract Facility through an equipment surplus transfer with the Federal Aviation Administration. The upgrade resulted in a total savings of approximately \$85,000. Savings of an additional \$180,000 resulted from the elimination of unused data circuits.
- Conducted a statewide audit of telephone equipment and services, identifying improvements that enhanced performance throughout BLM Alaska's operations, while resulting in an annual savings of \$11,000.
- Achieved efficiencies in information and communications technology and operations that exceeded \$276,000.





ARIZONA

In Arizona, the BLM manages more than 12 million acres of public lands from the arid landscapes of the lower Sonoran Desert to the high plateaus north of the Grand Canyon. These public lands offer a wealth of opportunities for public recreation and for many other uses and activities associated with grazing, mining, cultural resources, wild horses and burros, riparian areas, and wildlife habitat.

Among the emerging management issues confronting the BLM in Arizona are the impacts of rapid population growth in areas of close proximity to public lands, the growing incidence of wildfires along the wildland/urban interface, the high potential for alternative energy from wind and solar power, the management of major energy transmission corridors that serve the large populations of the west coast, and a variety of Homeland Security issues along Arizona's 370-mile border with Mexico.

IRM accomplishments in support of BLM Arizona include:

- Upgraded the telecommunications services of the Arizona Interagency Dispatch Center serving law enforcement, with a focus on the Borderlands service area. This work has improved the reliability and security of communications for law enforcement personnel of the BLM, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service. IRM staff specializing in radio communications received a commendation from the Department for their contribution to improved communications for Department agencies along the Arizona and Texas borders with Mexico.
- Assisted the Department in advancing interoperability of Radio-Over-Internet Protocol (ROIP) with emphasis on the telecommunications infrastructure of the law enforcement community.
- Partnered with the BLM National Operations Center (NOC) in positioning GIS information for Arizona, which enables any Arizona GIS Specialist to access any Arizona information from their office location. This direct access allows the shifting of specialist skills to areas of immediate attention (planning, special maps/analysis), with a decrease in the time and costs associated with travel and an increase in the efficient use of specialists' time and expertise.
- Provided ongoing support in the form of skills and technical capability to ensure that all firefighters have the information and communication tools needed onsite to provide safety and security, particularly in the hazardous duties of firefighting.
- Implemented new directives on cellular phone and hand-held computer devices for specific levels of the fire organization, which resulted in a decrease in cell phone costs and increased access needed at specific positions of responsibility.
- Initiated assessment and expansion of the existing Fire Radio Network to better serve resource management specialists in the exercise of their duties in the field. The IRM community is proceeding with improvements to provide the best and most reliable radio coverage technology to ensure the personal safety of those who often work in isolated and remote areas of the public lands.
- Implemented automated software-based solutions for tracking equipment performance and reliability.
- Supported expanded use of the Arizona Recreation On-Line Permit System allowing recreation staff to more efficiently process growing numbers of applications for recreation permits, and enhancing the process for the convenience of the public.





CALIFORNIA

Escalating population growth defines BLM's challenges in California. More than a half million new residents move to the "Golden State" each year, bringing additional demands to the 15.2 million acres of public lands managed by the BLM. The public lands in California include the rugged Pacific coastline, mountain ranges, and virtually every ecosystem in between. These lands offer recreational opportunities, energy resources, livestock forage, cultural sites, and wildlife habitat for more than 800 species of plants and animals.

IRM accomplishments in support of BLM California include:

- Initiated pilot projects for centralized management by the NOC for some IT support services at the Field Office level. These pilot projects have documented

processes that can achieve significant efficiencies of operation and costs Bureauwide.

- Installed two mountaintop repeaters to enhance BLM radio coverage in the California Desert and along the Mexican border.
- Implemented remote programming of portable and mobile radios, significantly reducing the travel costs of radio technicians performing that function.
- Advanced Enterprise GIS with the integration of new hardware and software and consolidated geospatial data from Field Offices into standardized data sets.
- Initiated a program to improve employee productivity in over 90 BLM office locations in California through the automation of routine administrative functions. The changes will allow redirection of significant levels of the administrative workforce to perform other work.





COLORADO

In Colorado, the BLM oversees 8.3 million acres of public lands—ranging from 4,000 feet to over 14,000 feet in elevation—along with 29 million acres of subsurface mineral estate. Colorado public lands contain abundant resources that contribute to national, State, and local economies, including energy and mineral resources and forage for livestock grazing. The BLM must balance the economic uses of the public lands with other uses and values including conservation of natural, cultural, and heritage resources, and preservation of scenic and recreational resources.

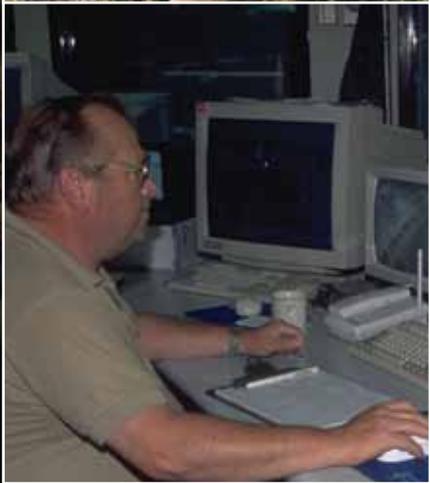
IRM accomplishments in support of BLM Colorado include:

- Centralized all IT functions at the State Office in alignment with the BLM's M4E initiative, streamlining IT processes and services to BLM's 21 Colorado Field Offices.
- Improved IT assistance and problem resolution through deployment of the national Remedy© help desk system. The system is designed to provide higher levels of support to employees, more rapid resolution of IT problems, and the use of help desk case data to improve future IT performance.
- Advanced the Service First partnership between the BLM and the U.S. Forest Service through a national pilot with Oregon resolving IT and radio issues. The

goal of the pilot is to streamline processes and reduce IT costs for Service First agencies.

- Developed an interim process in collaboration with the Washington Office planning group for the use of IT applications in the development of RMPs, pending deployment of a new version of ePlanning.
- Developed a geospatial strategic plan for the implementation and operation of Enterprise GIS in Colorado. This plan addresses the key Enterprise GIS issues of data standardization and data stewardship, data quality control and quality assurance, data sharing and distribution, education and outreach, and interagency coordination.
- Piloted an Enterprise GIS project to begin the process of standardizing Colorado's data and serving it to all State-supported offices from a centralized corporate database housed on Citrix© servers at the BLM's NOC. The Colorado State Office and three Field Offices have completed moving data to the enterprise database.
- Implemented efficiencies to address accelerating costs for the use of wireless devices, such as limiting the number of wireless devices to one per employee and consolidating wireless service plans to enable sharing of minutes thereby reducing wireless costs.
- Developed a statewide strategy for improved reliability of radio communications for employees in the field by updating mountaintop facilities at 17 sites across Colorado.





EASTERN STATES OFFICE

The BLM's Eastern States Office (ESO) is committed to sustaining the health, diversity, and productivity of the public lands spanning the 31 States east of and bordering the Mississippi River. This includes administering approximately 20,000 surface acres of public lands and more than 39 million acres of subsurface Federal mineral estate. The ESO is also responsible for placing more than 30 percent of all animals adopted in the Nation each year as part of the BLM's Wild Horse and Burro Program.

The ESO has taken the lead in reducing IT staff, centralizing IT Refreshment, base lining IT staff across the 14 reportable categories, printer and equipment management, video conferencing, and centralizing/reducing servers within the State. To gain efficiency, ESOs' E-GIS is sharing resources at the NOC and its GCDB is sharing resources at the Montana State Office. BLMs ESO will continue to focus on cost reduction and standardization as an approach to leverage technological efficiency.

The ESO is responsible for the General Land Office Records Automation System (GLORAS). The GLORAS is a national application that is comprised of a collection of subsystems that store information about original land patents, survey plats, field notes, and land status records. Data in the GLORAS is not an official record, but an image of the original document. This system, available to a large end-user customer base, is read-only and a convenient way to provide access to historical, original documents. Through an e-Government site, a premier virtual public room and visitors center is available, providing answers to public inquiries about land title and survey records, as well as general information about the BLM.

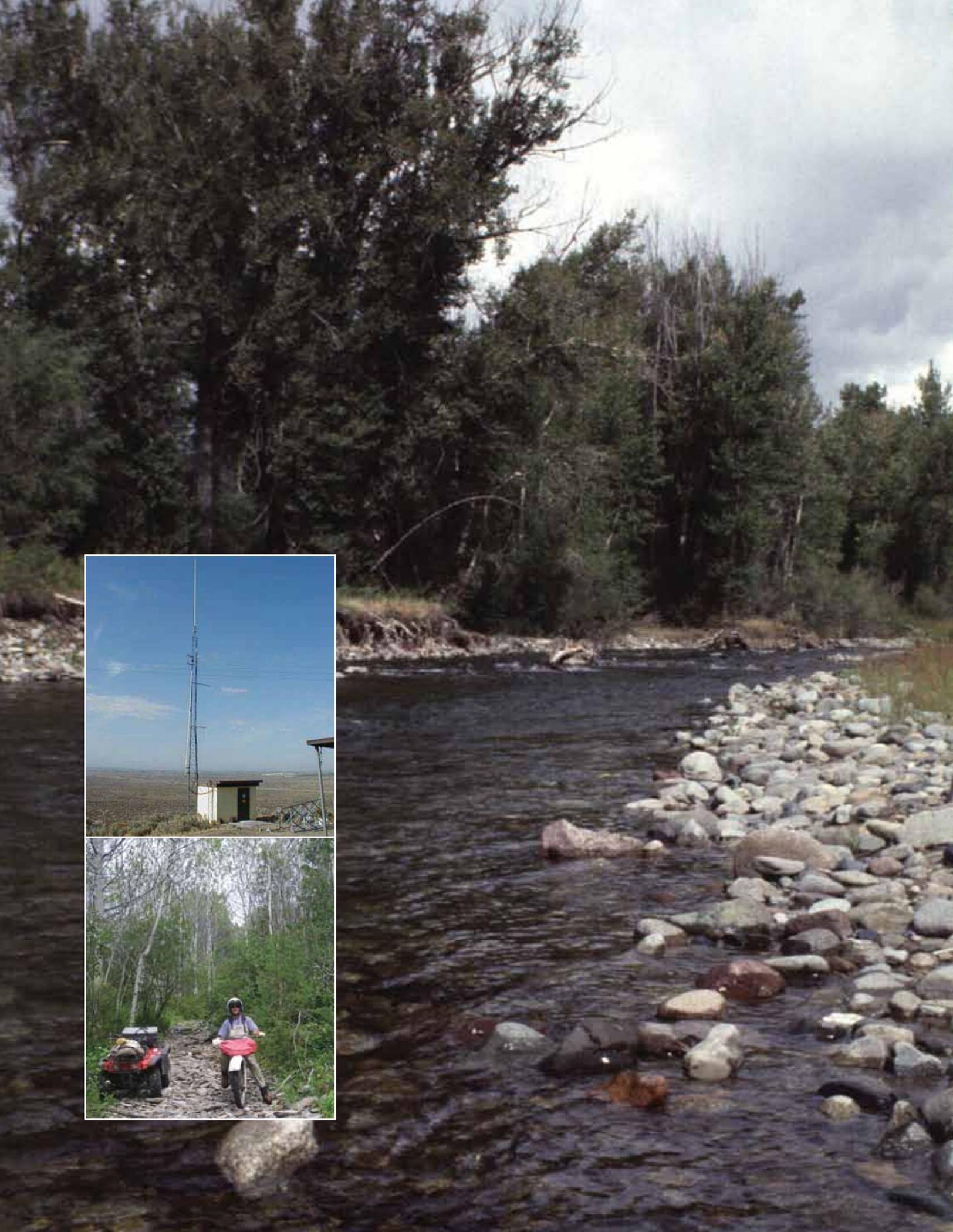
The General Land Office (GLO) Records website is the most widely used site in the BLM and one of the

most popular sites in the Department of the Interior. The information contained in the system is a priceless resource for natural resource agencies, land surveyors, historians, title companies, and genealogists. The site has received more than 10.5 million visitors, amounting to more than 425 million page hits and 187 million images viewed since its inception in May 1998.

IRM accomplishments in support of the BLM Eastern States Office include:

- Recabled the ESO network and phone system. The entire cable infrastructure was upgraded, providing the ESO with more functionality, stability, and decreased errors on the networks.
- Worked to get the GLO MTP/HI module developed, tested, and installed on the GLO system. Over 50,000 Land Status Records are now available for the States of Montana, Colorado, Idaho, North Dakota, and South Dakota.
- Completed an ESO Oil and Gas Lease Sale program.
- Increased efficiency of the server room by successfully installing server virtualization in the GLO environment. Realized over 1000 watts of power savings in the server room by replacing four computers with the use of virtual servers.
- Completed the Security Test and Evaluation for the ESO, the Lower Potomac Field Station, and the GLO Records automation project.
- Recertified GLORAS for 3 years.
- Supported timely completion of both routine and complex public requests for information under FOIA.
- Achieved 100 percent compliance in meeting both Role-Based Security Training and Annual Security Awareness Training for all personnel using IT resources in the performance of their duties.
- Provided IT support for offsite events and Internet adoptions for the Wild Horse and Burro Program.





IDAHO

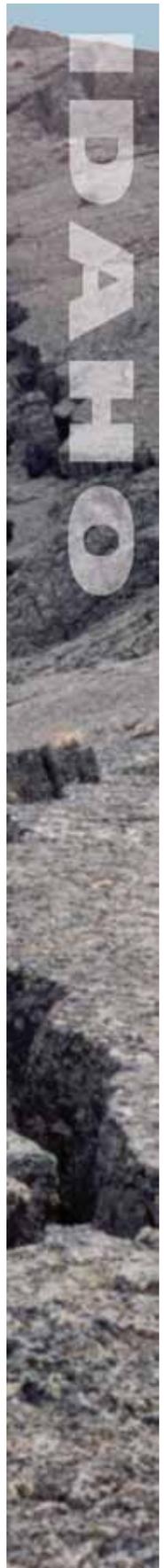
The BLM is steward of nearly 11.6 million acres of public lands in Idaho, representing about 22 percent of the State's land area. The public lands contribute in different ways to the quality of life for Idaho residents and visitors, to the livelihood of many citizens, to the economy of local communities, and to State and national revenues. These lands also possess important environmental, cultural, economic, and recreational resources.

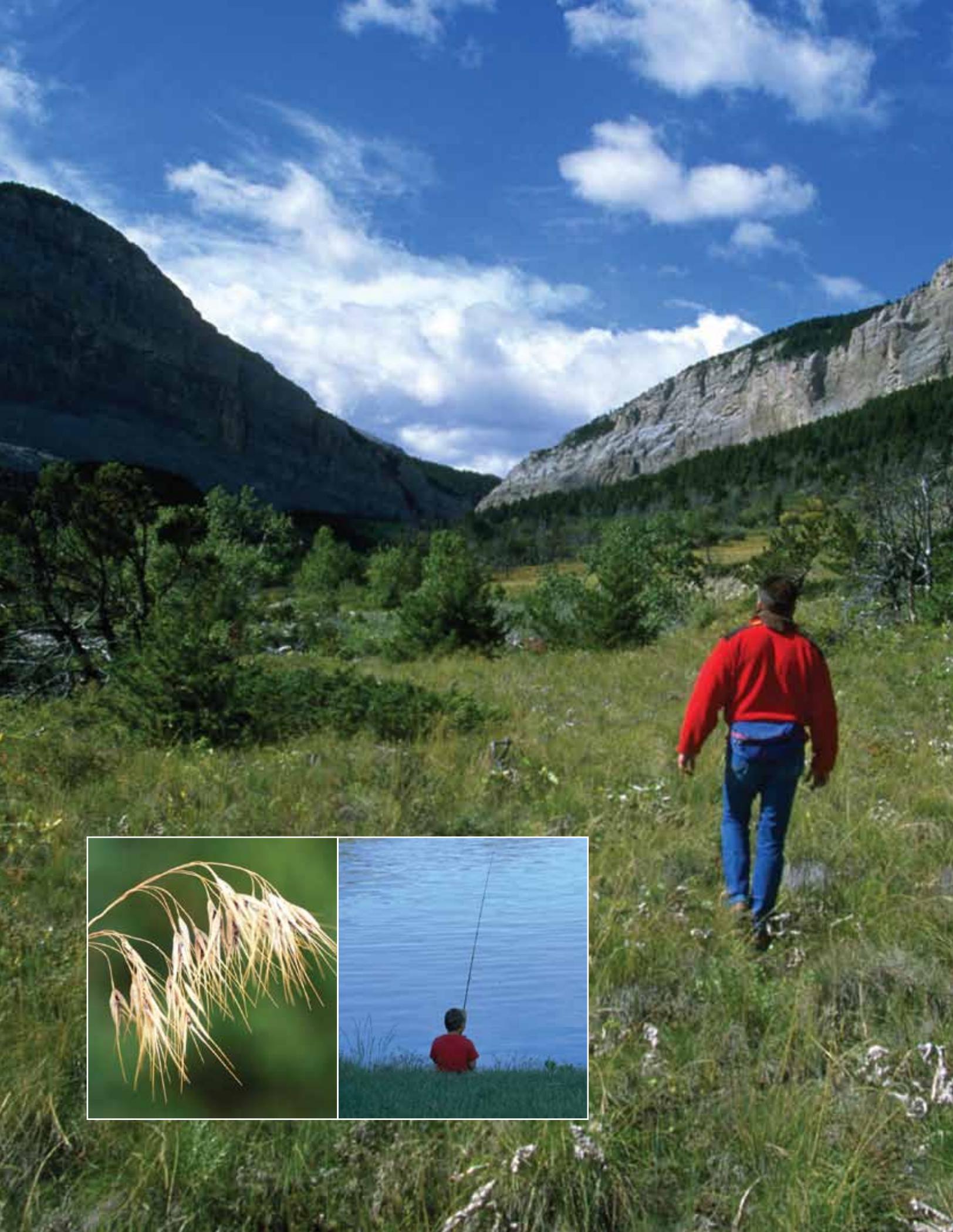
IRM accomplishments in support of BLM Idaho include:

- Advanced Enterprise GIS in Idaho with State and Field Office staff specialists completing population and publication of multiple, uniform statewide data sets. This information has been automated and resides on centralized computer servers, helping to ensure that Idaho is effectively and accurately providing data for use in multistate and Bureauwide Enterprise GIS processes.
- Improved processes for managing the ever increasing workload associated with growing numbers of

Freedom of Information Act (FOIA) requests. The complexities of FOIA requests, as well as the potential for appeals and litigation, have elevated the importance of improved efficiency in the BLM's ability to respond to requests and, ultimately, to put in place mechanisms that may reduce the volume of future requests.

- Implemented FOIA process improvements that can significantly reduce processing labor and material costs, identify and prioritize records and data for electronic conversion, collect and/or automate priority data, and facilitate public access to data through web repositories or "electronic reading rooms."
- Advanced the use of discussion and collaborative applications of Microsoft SharePoint© to support activities such as the China Mountain Wind Power Development Environmental Impact Statement (EIS), Idaho budget, GIS users, telecommunications, and IRM system administration.





MONTANA

The BLM in Montana, with additional management responsibilities for public lands in North Dakota and South Dakota, has the unique challenge of managing resources for 8.3 million acres of public lands over vast geographic areas that are sparsely populated. With the relatively small Montana BLM workforce, the agency must rely on exceptional communications, collaboration, and partnership with the public and stakeholder groups.

IRM accomplishments in support of BLM Montana include:

- Supported data preparation and the use of GIS technology to complete the resource analysis for five ongoing RMPs. GIS technology was used to provide visuals and analyses for public meetings and briefings.
- Established a GIS Steering Committee, which has completed development of a geospatial strategic plan for the BLM Montana/Dakotas.
- Initiated a contract to support future development of an RMP by the Missoula Field Office by providing spatial data categorization, cleanup, and migration to geodatabases. The process resulted in the recovery of comprehensive spatial data on the location of noxious weeds and previous treatment activities. The work dramatically reduced the time and costs associated with developing information necessary for the RMP.
- Provided technical refreshment for centralized GIS servers, increasing the performance of GIS applications while reducing the computing requirements of employees' local machines, reducing data duplication and the need for local storage throughout the State, and consolidating the maintenance of software.
- Developed measures to improve efficiency in wireless communications through geographic communications plans at the Field Office level. These plans will address communications equipment needs for such activities as resource management planning efforts, monitoring initiatives, oil and gas development, recreation management, and other resource use issues.
- Consolidated GIS software maintenance plans producing a savings of nearly \$300,000 over a 7-year period.





NEVADA

The BLM manages nearly 48 million acres of public lands in Nevada. This equates to roughly 67 percent of Nevada's land base. Extremes in climate, population, and terrain, such as the vast expanse of sparsely populated mountains and high desert valleys, make delivery of IT services and systems a unique challenge to the IRM community in Nevada.

Nevada is seen as a frontier for the renewable energy industry. The open spaces make it ideal for large wind and solar farms. In addition, the geothermal potential is just beginning to be realized within the State.

The public looks to the BLM for excellence in land management to ensure equitable, conscientious, and intelligent use of their lands. IRM has contributed much to help the Nevada workforce deliver quality products and value for the taxpayer:

IRM accomplishments in support of BLM Nevada include:

- Instrumental in the creation of an internal Microsoft SharePoint site to track funding and expenditures related to the American Recovery and Reinvestment Act of 2009 (ARRA).
- Developed a publicly accessible interactive database for Nevada's official public land records (<http://www.nv.blm.gov/LandRecords>).
- Continued to realize efficiencies in the use and management of IT including consolidating government-owned standalone printers, copiers, and

scanners into leased multifunction machines. These systems have increased privacy and saved the Nevada State Office more than \$20,000 per year in printer and copier costs.

- Modernized the Nevada State Office Learning Center with laptop computers to accommodate increased student use and to provide contingency options for the continuity of government.
- Instrumental in deploying a case record tracking system throughout the State.
- Provided specialized IT assistance in support of BLM law enforcement and law enforcement personnel from multiple jurisdictions to ensure public safety and protection of resources during high-attendance recreational activities.
- Supported improvements in a land mobile radio network with 42 mountaintop systems, 5 fire dispatch centers, 600 portable handheld radios, and approximately 600 mobile radios installed in vehicles.
- Updated mountaintop buildings for two land mobile radio sites to ensure that investments in communications for field-going personnel remain operational and reliable.
- Deployed additional frequencies for flight following and local communications in one district to help mitigate congested radio traffic. Developed plans and requested frequencies to deploy the model in other districts throughout the State.
- Established user groups and action plans for the Nevada Telecommunications program to facilitate the rapid response to system issues and improvements.





NEW MEXICO

About one-third of New Mexico's land— just over 26 million acres—is federally-owned and the BLM is responsible for managing 13.4 million acres of these public lands. The BLM also manages all of the State's Federal subsurface mineral interests and a variety of other programs in Kansas, Oklahoma, and Texas. New Mexico ranks second, behind Wyoming, in energy production. Other important uses of the public lands that serve public interests include livestock grazing, recreation, and conservation of wildlife habitat for many diverse species, including threatened and endangered species.

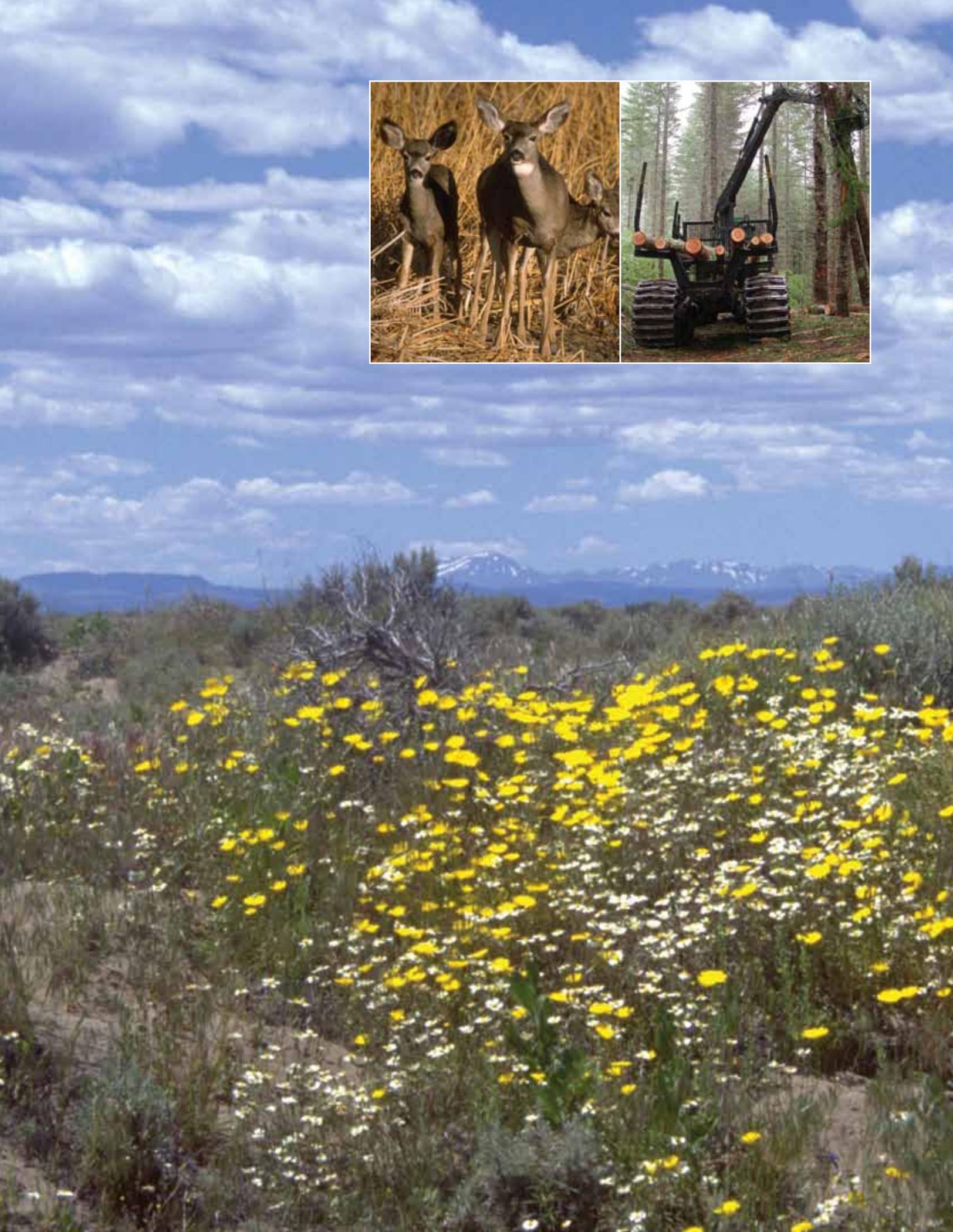
IRM accomplishments in support of BLM New Mexico include:

- Developed a software solution pilot program that automates field-office- level business processes by integrating IT and GIS environments. The result of the pilot was a series of best management practices

(BMPs) for a Resource Management Decision Support System (RMDSS). This system supports the informational needs of resource specialists on the ground as well as providing a decision support tool for upper levels of the organization.

- Began consolidation of services and applications on the statewide server infrastructure, improving performance and gaining efficiencies in costs of labor, hardware, and maintenance.
- Expanded the functionality of a web-based fire management application, NMFIRE, to include a fire information blog that will allow Fire Information Specialists and those on the fire line to post information on current wildfires. The site will also allow the public to comment or to post questions. The site will have the capability to display photos and maps from other wildland fire information sites.
- Developed a comprehensive IT solution in support of BLM Indian Trust responsibilities.





OREGON

The BLM manages 16.1 million acres of public land in Oregon, about 25 percent of the State, and more than 400,000 acres in Washington. The agency also administers 34.3 million acres of subsurface minerals in both States. East of the Cascade Mountains is high desert, where BLM lands are characterized by sagebrush, prairie grasses, and juniper that offer cover and forage for wildlife and livestock. To the west of the Cascades, the BLM manages more than 2.4 million acres of deciduous and evergreen forests, wetlands, and coastal beaches. The agency's parcels are distributed in a checkerboard ownership pattern, interspersed with private, State, Tribal, and other Federal lands. A significant portion of the BLM's acreage in this region is referred to as O&C lands, named after a 1937 land grant for an Oregon-to-California railroad that was never constructed. These lands provide fish and wildlife habitat, recreational opportunities, and an array of forest products.

IRM accomplishments in support of BLM Oregon include:

- Continued pioneering work as a Center of Excellence in Enterprise GIS. Activities included the use of geospatial data to support the Department's National Sage Grouse Conservation Project, entailing the consolidation of GIS data from across the Great Basin and the Pacific Northwest.
- Provided specialized GIS assistance for decision support analysis of endangered species issues under review by the Secretary of the Interior.
- Participated in the development of a National Timber Sales Information System.
- Provided specialized IT and GIS support and acquired and deployed a GIS CITRIX© framework allowing the State to simultaneously develop six RMPs. The expanded integration of technology in the planning process aided in the completion of these highly complex plans, while reducing labor support requirements by 50 percent.
- Completed an IT business process analysis (BPA) that resulted in a reduction in administrative workload requirements and a 30 percent reduction in total IT staffing from FY 2005 levels.
- Completed statewide consolidation of IT, resulting in the elimination of IT and GIS contract services, the hiring of additional BLM IT and GIS personnel, and a net reduction of 16 percent in labor costs.
- Conducted a requirements baseline study and inventory of all personal computers, resulting in a 22 percent reduction in computers.
- Completed 13 Privacy Impact Assessments ensuring that more than 200 data bases maintained by the BLM in Oregon and Washington are in full compliance with Federal privacy regulations.
- Supported timely completion of both routine and complex public requests for information under FOIA.





U T A H

The BLM manages nearly 22.9 million acres of public lands in Utah, representing about 42 percent of the State. Located mostly in western and southeastern Utah, these lands are varied, ranging from rolling uplands to sprawling desert lowlands. Utah's public lands feature some of the most spectacular landscapes on the continent. With boundless opportunities for recreation, these lands also offer a wealth of energy and mineral resources, livestock forage, and abundant natural, historical, and cultural resources.

IRM accomplishments in support of BLM Utah include:

- Implemented the BLM's Enterprise GIS for 300 users in all Utah Field Offices.
- Provided IT and GIS specialized support for a variety of natural resource management activities including the 450,000 acre Milford Flat Emergency Stabilization and Rehabilitation project and wind energy environmental assessments.
- Provided support for use of remote sensing technology to map and classify the key attributes of over 300,000 acres of woodland vegetation on public lands. The information is readily accessible by forestry program specialists and other resource specialists, saving time and reducing the cost of field work for evaluating land use and conditions in the field.
- Assisted in developing extensive mapping products in support of the Washington County Growth and Conservation Act of 2008 and provisions relating to land exchanges and wilderness designation.
- Supported IT and telecommunications services to assist BLM Law Enforcement Officers in their enforcement duties on public lands.
- Expanded video conferencing capability to enhance statewide communications and collaboration while producing significant reductions in travel costs.
- Initiated IT hardware and software upgrades to support all BLM employees and activities, including a multiyear program to replace outdated telephone systems with Voice-Over-Internet-Protocol (VOIP) using existing bandwidth to provide more efficient telephone communication services.
- Provided specialized IT assistance to the Fluid Minerals Branch Oil and Gas Leasing Team to review and verify authorized and pending oil and gas lease data for two-thirds of the State.
- Achieved 100 percent compliance in meeting both Role-Based Security Training and Annual Security Awareness Training for all personnel using IT resources in the performance of their duties.





W Y O M I N G

In Wyoming—the ninth largest state in geographic area with the smallest population of all 50 States—the BLM manages 18.4 million acres of public lands and 41.6 million acres of subsurface mineral interests. The public lands in Wyoming contain world-class energy and mineral resources. These resources are not only crucial to the Nation’s energy and economic security; they are an important source of economic activity and employment opportunity for the State and local communities. Wyoming also features world-class recreational opportunities, forage for livestock and wildlife, habitat for a diversity of species (including many at-risk species), and bountiful natural, cultural and scenic resources. Tourism is Wyoming’s second largest industry after energy production.

IRM accomplishments in support of BLM Wyoming include:

- Maintained and upgraded an IT and GIS infrastructure that supports the management of BLM’s extensive oil and gas leasing program and more than 19,500 Federal leases, including oil leases that account for nearly 30 percent of the Nation’s onshore production.
- Managed applications of BLM IT systems and of commercial and government IT packages that support an extensive coal leasing program, resource management activities associated with hydrology, maintenance of Master Title Plats, and multiple layers of geospatial data for GIS.
- Supported improvements in a land mobile radio network with 23 mountaintop repeaters, 3 fire dispatch centers, 400 portable handheld radios, and approximately 450 mobile radios installed in vehicles.
- Provided specialized IT assistance in support of BLM law enforcement and law enforcement personnel from multiple jurisdictions to ensure public safety and protection of resources in conjunction with high-attendance recreational activities.





NATIONAL OPERATIONS CENTER

The centralized service organizations at the National Operations Center (NOC) are organized around four business lines: Human Resources Services, Information Resources Management Support Services, Resource Services, and Business Services. Each one of the business lines is responsible for supporting the delivery of hundreds of products and services throughout the Bureau on a daily basis.

The Division of Information Resources Management Support Services has the operational responsibility for the development and delivery of national information technology (IT) capabilities and services needed to meet Bureauwide requirements. The Division oversees the creation of national IT infrastructure operations and implementation plans that are in compliance with DOI and BLM Chief Information Officer strategies and priorities, the integration of IT operations with partner agency systems and infrastructure, and the development and maintenance of BLM national applications.

Bureau Infrastructure and Operations Support

- **Server Management**

Provided enterprise management, support, and life cycle maintenance for all national servers located at the NOC and in all field offices. Updated data storage and backup capabilities based on enterprise requirements. Administered Active Directory accounts and provided field system administrator support.

- **National Help Desk (Customer Support)**

The national Help Desk/Customer Support team provides initial Bureauwide help desk support and routing as a result of the implemented help desk MEO.

- **Engineering**

Provided support for ESRI, ePlanning, AIX/Linux operating systems, National Applications, Fire

applications, WO-500, Communique, Helium Program, Bureau IT Architecture, Human Capital Management System, NIFC-NOC Continuity of Operations, and DOI-initiated testing that included Data at Rest, Dell Precision T7400 GIS Workstation Hardware Baseline, Gateway Tablet PC Hardware Baseline, and NCS Aurora Telecommuter Widescreen Hardware Baseline.

- **EGIS**

For E-GIS, a 5 percent per year reduction in BLM's share of the total payment to DOI for ESRI license fees and for Enterprise Geographic Information Management (EGIM) support was negotiated. The Division negotiated a quantity discount, on behalf of the DOI, for the GPS data collection hardware and software with Trimble, Inc.

- **Centrally Funded Hardware and Software**

Managed all centrally funded hardware and software maintenance purchases.

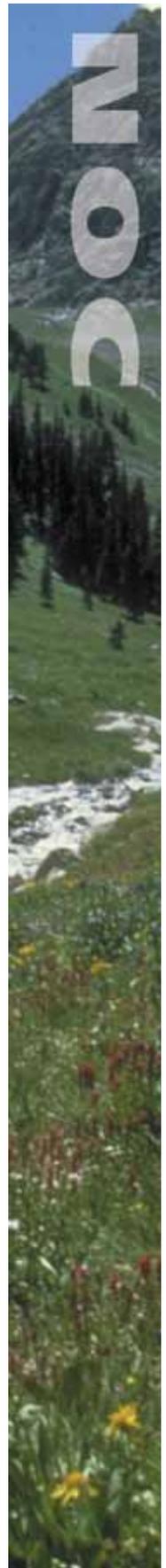
- **Enterprise Administration**

Accomplished FBMS Desktop Deployment; Microsoft Office 2007 BLM Implementation; Microsoft SharePoint 2007 Migration; Microsoft Exchange Pilot/Architecture Design; SharePoint Administration and Architecture; design, test, and implement FDCC Security Settings; trained the CM&A group to perform audit log checks and audit log reporting; installed Symantec Quarantine Server; participated on the DOI Symantec team, the DOI Active Directory team, the DOI Domain Administrator team, and the DOI FDCC Tiger team

National Applications

- **Managing for Excellence (M4E)**

Transitioned approximately 100 websites and applications to National Applications including CQ and ePlanning; completed a transition plan for National



Applications and websites; and developed analysis, documentation, and security for websites.

- **Field Inspection Handheld**

In addition to the continued support for the Automated Fluid Minerals Support System (AFMSS), Field Inspection Handheld was deployed to Energy Act Pilot Offices for field trials.

- **Communiqué**

CQ was reconfigured to SUN platform and load balanced. Certification and Accreditation was completed, and PCMB and Exhibit 300 were developed. CQ replication was converted to use SSL and Information exchange with www.recdata.gov.

- **ePlanning**

ePlanning transitioned to National Applications. Established a test environment for ePlanning, completed security impact assessment and 508 compliance for deployment of 2.0.2a, working on development of Total Cost of Ownership, and completed a Corrective Action Plan.

- **Facility Asset Management System**

Provided continuing support of the DOI Single Platform MAXIMO (SPM) Initiative and DOI Financial Business Management System (FBMS) Data Conversion. Distribution of annual maintenance funding for BLM facilities was based on FAMS data. FAMS was used for a pilot project effort for

tracking actual annual maintenance costs, and was the primary source of information for BLM's 5-Year Deferred Maintenance and Capital Improvement Plan.

- **Helium Production Data Acquisition and Monitoring**

Continued operation and maintenance of Helium Production Data Acquisition and Monitoring (HPDAM). The team completed pilot site hardware upgrades for Electronic Flow Meter and satellite data communications from the pilot site to the BLM Amarillo Field Office, acquired automatic data polling software for use by the BLM Amarillo Field Office, and awarded contract for reporting software capability.

- **Legacy Rehost 2000**

Continued operation and maintenance of all Legacy Rehost 2000 (LR2000) systems. A new Communication Site website has been launched for the public, and LR2000 incorporated additional requirements for the new Geothermal Data Standards.

- **Rangeland Improvement Project System (RIPS)**

Continued operation and maintenance of RIPS. RIPS has been rearchitected and adhoc data gathering has been supported.

- **National Oil and Gas Lease Sale System (LSS)**

The National Applications LSS team developed, reviewed and updated the

System Requirements Specification (SRS) document for the Internet Auction Capability, and issued Oil and Gas Lease Internet Auction Pilot (OGLIAP) contract.

- **Protection and Response Information System (PRIS)**

Continued operation and maintenance for PRIS.

- **Abandoned Mines and Site Cleanup Module (AMSCM)**

Continued operation and maintenance for AMSCM. NA conducted training for the HazMat users at State offices. Responded to General Accounting Office (GAO) inquiries about mining plans data and data quality, and responded to Inspector General (IG) inquiries about the relationship of active mining claims and abandoned mines.

- **Remote Data Acquisition for Well Production (RDAWP)**

Provided support for operation and enhancement of daily well production data collection and worked with industry to refine requirements.

- **Oil and Gas**

In the area of oil and gas, Indian data bases have been migrated back into AFMSS and WIS; daily well production data drops were initiated from EnCana in support of the RDAWP Pilot Evaluation; a draft of System Requirements Specification (SRS) for Internet Auction Capability

with customer was created; and an associated Statement of Work was submitted.

- **Geothermal**

Geothermal Cases, Operators, wells, inspections, and other geothermal

operations data are now contained in AFMSS as a Geothermal Resources Application Support System (GRASS) data base application. Requirements incorporated for the new Geothermal Data Standards to comply with the National Energy Policy Act.

- **Wind and Solar Energy**

Developed GeoCommunicator mapping enhancements to improve the display for wind and solar energy parcels.



IX. REACHING OUT TO THE FUTURE

The IRM community is dedicated not only to meeting the current needs of the BLM and its workforce for information services, but also to positioning the agency to meet the challenges and opportunities of the 21st century by capitalizing on emerging technologies.

It is essential to advance a vision for the use and adaptation of emerging technologies—including nationwide broadband Internet access as proposed by the President’s Technology Agenda and the American Recovery and Reinvestment Act—that can have a positive and profound impact on every facet of the agency’s mission. This vision includes the following:

- More functional web forms that allow for more thorough public comment and timelier processing of public comments
- Real-time updates to the AFMSS by Petroleum Engineering Technicians
- Increased ease of use, and reduced costs of sales and lease auctions through a more robust, functional, and user-friendly web application for online oil and gas lease auctions and online payment of leasing fees
- Expanded use of Enterprise GIS for processing applications for the development of renewable energy from wind, solar, geothermal, and biofuels
- Improved outreach to the public in the form of rapid external communications for general public information and for crisis management
- Virtual tours of recreational areas
- Real-time monitoring of antiquity sites, mountaintop facilities, and remote buildings
- Service to multiple law enforcement activities via monitoring with remote digital cameras, communication of All Points Bulletin (APB) information to and from other governments and State agencies for instantaneous communication with BLM Law Enforcement Specialists and Rangers
- Video town hall meetings with field managers and enhanced live or prerecorded outreach sessions for visitor centers and field offices on public lands issues
- On-demand mapping and real time transmission of cadastral survey measurements and field notes
- Online public access to voluminous public records and routinely-requested FOIA documents
- Enhanced throughput and connectivity of rural workforce employees in remote areas
- Improved administrative processing of mission support and financial systems
- Streaming of video for web-based, on-demand training
- Plant species identification and noxious weed control as well as Threatened and Endangered Species identification, monitoring, sampling, and reporting
- Broadband transmission of radio signals to Internet portals and dispatch centers
- Electronic publication of NEPA documents, planning updates, and newsletters posted to websites as well as notifications of document availability and future events issued electronically
- Expanded scientific opportunities through the use of collaborative Web 2.0 technologies (e.g., wikis, blogs) that allow various communities of interest to interact, understand, and contribute to the cultural, ecological, and scientific value of public land resources
- Live streaming video feeds of the BLM’s iconic landscapes
- Increased capacity for podcasting that allows the BLM to develop self-guided tours of popular sites and attractions on the public lands
- Video conferencing and web meetings that allow for all interested citizens to take part in public meetings
- Improved access to BLM information and to web meetings that allow American Indian communities more direct interaction with BLM, thus strengthening the agency’s ability to deliver on Indian Trust responsibilities

- Improved tools to aid in addressing climate change
- Delivery of more sophisticated and more detailed geospatial information directly to partners and the public through web applications that display climatology data geospatially, promoting a better understanding of the effects of climate change on specific landscapes and contributing to the formulation of appropriate actions and responses
- Engaging the interest of youth in the public lands and resources and promoting an ethic of resource stewardship through the use of electronic social media commonly used by youth as a primary means of communication and interaction
- Expanded reach and ease of use for BLM scientific databases, so that the public has better access to all of BLM's information
- Enhanced stewardship incentives and expanded partnerships to support BLM's statutory mission of managing and protecting the Nation's wild horse and burro populations
- Expanded partnerships with horse-advocacy groups through the use of blogging and social computing (e.g., Facebook, Twitter)
- Increased convenience of sales and adoptions and reduced transaction costs through a more robust, functional, and user-friendly web application for online horse auctions
- Increased effectiveness of location-aware applications and technologies

- such as radio frequency identification (RFID) that enable the tracking of wild horses and burros
- Improved IT tools for wildland fire management
 - Improved delivery of high-resolution satellite and aircraft imagery of fire areas to the public
 - Wikis that allow fire officials from various agencies and levels of government, as well as informed members of the public, to share knowledge and awareness of safety information
 - Wireless access points in remote areas providing real-time data to improve incident command communications
 - Use of social media to allow rapid delivery of alerts to a wide audience and allow real-time or near-real-time response to inquiries, concerns, and alerts
 - Wireless broadband access for locations that are not easily connected via a traditional wired cable connection such as historical sites, remote horse corrals, environmentally or otherwise sensitive locations, and incident response locations
 - Resource tracking via live GPS and GIS functionality
 - Real-time fire perimeter mapping with aircraft or unmanned aerial vehicles with data feeds to the local responsible office and to the incident command post
 - Broadband services that support interoperability capabilities between

- State, private, and Federal emergency responders in urban interface areas
- Broadband services to provide disaster recovery alternatives for BLM sites in the event of an internal wide area network failure

In conclusion, this report was developed to showcase the myriad creative and innovative uses of technology in service across the BLM. These implementations are the results of years of cumulative efforts by current and former employees. Their work has provided the building blocks of continuity to ensure the successes of the past, to record lessons learned, and to build on those lessons for the future. As trends of globalization, information accessibility, and distribution of the human element continue, the BLM will play an ever increasingly important role in the resolution of conflicting demands upon a finite amount of land and the precious renewable and non-renewable resources those lands hold. Technology and all the promises these fields of human endeavors offer will provide a source of services and yet to be discovered ways to benefit the American public, the international community, and the Nation in serving BLM's mission. As can be seen from the pages in this report, the past is filled with successes. It is BLM's hope that this continues long into the future in years yet to come.

The mention of company names, trade names, or commercial products does not constitute endorsement or recommendation for use by the Federal Government.

