

Management Issues and Science Priorities Bureau of Land Management

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The science priorities for the Bureau of Land Management (BLM) are best understood when expressed as the significant management issues facing the Bureau. The BLM identifies specific science needs at the regional, state, and local levels.

Overarching all its identified science needs is BLM's objective of developing a method for making scientific information more available to the field manager and resource specialist. Even in areas where scientific information is generally adequate for decision making, the large body of existing science is often not known, or not available, to the end user, or is not available in a format that makes its application to management issues possible. This process, often referred to as technology or information transfer, includes identifying relevant science related to specific issues, synthesizing the science into a useable format and understanding its applicability, including limitations to that applicability.

The BLM Science Coordinating Committee (SCC) meets on a quarterly basis to review and prioritize science needs. Representatives of the USGS, Fish and Wildlife Service, National Park Service, and various CESUs are often invited to participate in the meetings of the SCC. The SCC, which normally meets twice a year, met most recently on June 8-10, 2003 in Shepherdstown, West Virginia. The SCC has produced products identifying science priorities and collaborative opportunities for the BLM to more effectively work with the USGS, CESUs and other science organizations, to strengthen the use of science in both BLM and Department of the Interior programs.

The following is a list of some of the management issues of concern to the BLM today:

1. Healthy Rangelands and Forests

The BLM continues to focus on the health of our Nation's rangelands and forests. Initiatives such as the Bureau's Healthy Rangelands and the Presidents Healthy Forests require that the BLM continue to seek scientific information in support of its activities. Many of the specific needs can be met, at least in part, from existing scientific information that

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needs to be identified, synthesized and made available to our managers and specialists.

2. Monitoring of Vegetation Treatments

Questions have been raised concerning the appropriateness and effectiveness of the Bureau's monitoring activities as they relate to various vegetation treatments. This relates to program activities such as rangeland management, fire fuels treatments, and post-fire rehabilitation. Protocols are needed that are scientifically based and defensible. As the Bureau enters into increased vegetation treatments for various purposes, this issue will become even more important.

3. Energy Development

The President's Energy Plan is bringing increased focus on effective use of existing energy resources while working to develop new energy sources and technologies. This includes not only the traditional oil, gas and coal resources, but also coal bed methane, wind, solar, biomass and geothermal resources. Each of these energy sources has its own set of science needs that are often site specific. In some areas, such as on the North Slope of Alaska, particularly in the National Petroleum Reserve-Alaska, and possibly also in the Arctic National Wildlife Refuge, an integrated science program needs to be developed with other land managers and interested parties to assure development with minimal impact on the environment.

4. Prolonged Drought Throughout the Western United States

The prolonged drought in the western United States has shown that the BLM needs to take a closer look, and with different perspectives toward its management activities. Changes to many of our policies on everything from livestock authorization to recreation use may be needed in response to changing climatic conditions across the landscape. Better scientific information is needed to guide our policy development and implementation actions. Better information is needed across all areas of science, including the biological, physical and social sciences, to enable the BLM to develop policies that are both defensible to its public and beneficial to the resources it manages. Scientific information cannot always be generalized across the West, and consequently regional or local investigations are needed to address specific issues and concerns.

5. Invasive Species

Invasive species continue to be a significant management issue throughout the West. Solutions to the invasive species issues ultimately must be both broad and specific. Scientific information regarding both the prevention of invasion and eradication of specific invasive species continues to be a

significant need. The list of species and the areas invaded by problem species continue to grow.

6. Wild Horse Population Management

The Bureau has been working with the USGS to develop a research strategy to address wild horse population management issues. This strategy is nearly complete and will lay out a comprehensive approach to address management concerns and needs. The research strategy is an excellent model that can be used to develop research strategies between the USGS and the BLM for other management concerns of mutual interest.

7. National Landscape Conservation System Management

The authorizations for most of the National Landscape Conservation System (NLCS) emphasize the scientific values of these lands. In turn, the NLCS lands offer significant opportunities for scientific investigations and require the BLM to improve its understanding of these values to properly manage these unique areas. Each of monuments and conservation areas requires that a resource management plan be prepared. Scientific information to support these plans is needed in each instance, with a focus on helping the BLM fulfill the purpose of these designations. Scientists working with the managers have an opportunity to develop a special relationship to meet these needs. A process was developed by the Colorado State Office and the USGS Central Region in 2001 to bring managers and scientists together to jointly identify the science needs of several units in Colorado. This process provides a model that should be used in other parts of the West.

8. Recreation and Cultural Resource Management

Recreation activities are exploding on Bureau administered lands. These activities are bringing new demands on the resource managers, which require new scientific information. Social science, along with the traditional biological and physical sciences, are needed to understand and address many of the issues associated with recreation activities. The cultural resources located on public lands are also becoming recognized as a major asset that need to be managed. With the recognition of these values comes the need to understand, interpret and protect them from adverse impacts. This is an area that will challenge our ability to bring the best and most innovative science to the issues to insure the long-term protection and preservation of recreational resources.

9. Water and hydrology issues

Water in the West is one of the most critical resources managed by the BLM. It is essential for the BLM to understand both surface hydrology and ground water hydrology to insure that our management actions are compatible with good water management. Included in this issue is the need to understand transport methods for such things as salt and other contaminants originating on public lands, either naturally, or from previous activities such as hard rock mining. Abatement of point and non-point pollution sources will continue to be an area of growing concern as the demand for clean water continues to increase with increased use of the lands. Improving the science of surface and ground water hydrology is critical if the BLM is to meet its management responsibilities.

10. Species at Risk and Threatened and Endangered Species

Listed threatened and endangered species are important considerations in the management of public lands. Their presence significantly influences the way proposed activities are considered for authorization. The science needed to insure recovery of a listed species will always be important and must continue to be a BLM priority. Equally important, is the development of management strategies to prevent rare species from being listed as a result of BLM-authorized actions. The Bureau is currently working on conservation strategies for important species on BLM lands, such as the Sage Grouse. Such conservation strategies must rely heavily on scientific information to support the actions taken to prevent further population decline and listing of these species. The consequences of failure are significant.

11. Planning and Resource Assessment

Land Use Plans (LUPs), established in the Federal Land Policy and Management Act of 1976 (FLPMA), form the basis for on-the-ground decision making by the BLM. Most of the BLM's LUPs were completed in the 1980s and early 1990s. As a result of changing resource and socio-economic conditions, increased demand for energy and other minerals, evolving land use patterns, and technological advancements, many LUPs are in need of revision. It is important that the BLM consider and use current scientific knowledge in development of its LUPs and other decision documents. In addition, accurate assessments of resources present are critical if good decisions are to be made. The BLM requires assistance from its science partners, not only to identify and synthesize existing scientific information, but also to obtain new science and information when needed.

12. Fire Issues

Fire is a major issue for the BLM. Uncontrolled wildfire threatens valuable forest and rangeland resources and nearby urban settlements. It creates conditions favorable to invasive weeds and erosion and destroys economic value and usefulness of the lands. On the other hand, prescribed fire is a potentially useful tool to rejuvenate degraded habitats and to help prevent unwanted wildfires. The BLM has need for research to better understand fire and how to use it to the potential benefit of the Nation's lands and resources.