

# The Bureau of Land Management and Visual Resource Management—An Overview<sup>1</sup>

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Abstract: The Bureau of Land Management (BLM), an agency established in 1946 through consolidation of the Grazing Service and the General Land Office, has exclusive responsibility for about 60 percent of all Federal, civil, and defense administered lands. Although the primary policy of the Bureau has been land retention and multiple-use--management, the passage of the Federal Land Policy and Management Act of 1976 strengthened and redefined this role. Now strongly worded legislation very explicitly states that a basic policy of the Bureau will be management of environmental values including, among other, scenic resources. The Bureau's visual resource management (VRM) system is an analytical process which identifies and sets objectives for maintaining scenic values and visual quality.

## INTRODUCTION

It's been said that in America there is more space where nobody is than where anybody is . . . , and that's what makes America what it is. Perhaps there is no place that state-ment is more true than in the great, open space of the western United States and Alaska. We, of course, still think of this as America's own land of opportunity, adven-ture, intrigue, mystique, and enchantment.

The history of federally-owned or controlled lands is indeed a chronicle of our Nation and her people; of their struggles, failures, and successes. It also provides a perspective of our own sensitivity to the land and its resources, as a provider for present and future generations.

The Bureau of Land Management (BLM), an agency within the Department of the Interior, oversees about 60 percent of our Nation's federally-owned lands. Of this 400-plus

million acres, about half is located in Alaska with the remaining in the far west and small areas scattered throughout the rest of the nation. Other major landholding agencies in the Department of the Interior include the National Park Service, Fish and Wildlife Service, and the Bureau of Reclamation. The U.S. Forest Service (USFS), U.S. Department of Agriculture, has jurisdiction over 24 percent of the total Federal ownership.

In addition to 63 million acres of sub-surface mineral rights located primarily in the eastern United States, the BLM is also responsible for the management of several million acres of the Outer Continental Shelf (OCS), which extends up to 200 miles off the east, west, and gulf coasts of the United States.

As the rush to settle the West continued, and paths became trails, trails became roads, and roads became super highways; the role and responsibility of the Federal Government changed dramatically. In 1946, President Truman officially created the BLM through consolidation of the General Land Office and the Grazing Service. The primary policy evolution for the BLM since then has been land retention and multiple-use resource management for the benefit of the public. Today, the BLM administers many resources on these public lands, guided by congressional mandate which, in part, states that "multiple

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use and sustained yield" is a major part of the BLM's responsibility.

Among these resources are: timber, minerals, oil and gas, geothermal energy, wild-life habitats, livestock forage, endangered plant and animal species, recreation and cultural areas, wild and scenic rivers, and watersheds. In 1977 alone, revenues from these lands and resources, administered by the BLM, totalled more than 3 billion dollars. Managing vast and varied resources under this mandate is a complex undertaking, particularly, since the priorities set for one activity may often conflict with the priorities set for another.

The BLM has another recent but certainly equal mandate. That is, to give priority to the protection of the environment including scenic values. Along with growing public concern for the quality of our environment has come an awareness, on the part of both the public and land managers, that scenic or visual values are important public resources and must be managed as such.

Understanding and managing the visual aspects of alterations to the natural landscape are particularly important to the BLM, because many of the activities taking place on its lands involve some degree of alteration. Recent legislation, the Federal Land Policy and Management Act of 1976 (FLPMA), set basic policy for the BLM's management of public lands. The key requirements are contained in section 102(8), which states that:

"The public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use."

The Act, thus, makes protecting scenic and other environmental values an explicit criterion that must also be applied throughout the BLM's land management activities.

FLPMA also places new emphasis on the role of land use planning by requiring that resource management plans "give priority to the designation and protection of areas of critical environmental concern."

The criteria for identifying these areas are stated in the definition section 103(a):

"... areas ... where special management attention is required...to protect and prevent irreparable damage to important historical, cultural, or scenic values, fish and wildlife resources or other natural systems or processes or to protect life and safety from natural hazards."

The National Environmental Policy Act of 1969, which seeks to provide aesthetically pleasing surroundings for all Americans, calls for the development of procedures to ensure that presently unquantified environmental values are given appropriate consideration in decisionmaking. It also requires, "utilization of a systematic, interdisciplinary approach, which will ensure the integrated use of ... environmental design arts in planning and decisionmaking.

The Surface Mining Control and Reclamation Act of 1977 makes minimizing adverse effects on visual resources a requirement for all surface mining activities.

The Clean Air Act amendments of 1977 also establish the importance of scenic values in determining airshed classifications and managing air quality.

In conjunction with its land planning and management responsibilities, the BLM is committed to managing visual resources and concurrently, to minimizing the adverse visual impacts of land use practices on its lands. As a result, the BLM requires that visual resource considerations be included in all environmental assessments, in all land use planning decisions, and in the implication of all resource projects.

Because the scenic value of public lands varies, however, and because management objectives also vary, it is not practical to provide a uniform level of protection to all the BLM lands. The BLM has, therefore, developed a system for evaluation visual resources and for determining what degree of protection, rehabilitation, or enhancement is desirable and possible. This Bureauwide system has been developed to provide an interdisciplinary approach to the visual resource management process. The system, which is integrated into the BLM procedures for "Multiple-Use Planning and Environmental Analysis" insures that principles of the environmental design arts are applied to all activities on the BLM land that may modify the landscape.

The system, as known to the BLM, is still pretty new. In fact, those directly associated with visual resource management in the BLM are still considered the "new kids on the block." In November of 1975, VRM in the BLM became legal when the new visual resource section of the manual was signed and the program became official Bureau policy. Now, with nearly 50 landscape architects in the various 13 western States, including State and District Offices, the Denver Service Center and Washington, D.C., there is an extensive and intensive ongoing training program in visual resource management and the key support field of computer graphics. In addition, there has already been one major manual updating and the program has received considerable strength and support from a cadre of young energetic professionals who are constantly questioning, criticizing, and making suggestions for improvement, as well as providing for proper visibility and communication of the program.

A project currently underway involves the development of a series of guidebooks to be used by both public and private project planners and decision-makers to assist in understanding how to assess and mitigate the adverse visual impact of various resource development activities before changes occur on public lands. They will also be used to guide in rehabilitation or enhancement of visual resources after a project has been implemented. The guidebooks will concentrate on activities that have the greatest potential for creating adverse visual impact, such as: energy production and transportation, energy extraction, forestry, recreation, and range management. One guidebook, which is somewhat different in format, will present techniques to simulate visual impact and to monitor completed projects for compliance with visual resource management standards.

The BLM's Visual Resource Management (VRM) System is an analytical process that identifies, sets, and meets objectives for maintaining scenic values and visual quality.

The system is based on recent research that has produced ways of assessing aesthetic qualities of the landscape in objective, universally recognizable terms. What had been considered extremely subjective (aesthetic judgement, particularly in the landscape) was found to have identifiable consistent qualities which can be described and measured, and about which people with diverse opinions will tend to agree. Whatever the terrain (and whoever the observer), perception of visual quality in a Landscape seems to be based on several common principles including:

Landscape character is, for the most part, determined by the four basic visual elements of FORM, LINE, COLOR, TEXTURE. Although all four elements are present in every landscape, they exert varying degrees of influence.

The stronger the influences exerted by these elements, the more interesting the landscape.

The more visual variety in a landscape, the more aesthetically pleasing that landscape. Variety without harmony, however, is unattractive, particularly in terms of man-made alterations (cultural modifications) that are made without care.

The BLM incorporates these and other principles in a broad program for managing visual resources.

The VRM program functions in these three ways:

First, the program initiates the inventory and evaluation of visual resources on all lands under the BLM jurisdiction (Inventory/Evaluation). Once inventoried and analyzed, these lands are given relative scenic value ratings. Action plans are then developed for improving or preserving the scenic values of each parcel.

Second, the VRM program responds when development is proposed on the BLM land, either by the Bureau itself (through its multiple-use planning activities), or by private parties. Proposed development is measured against VRM scenic quality classes through the Contrast Rating process (Environmental Assessment for Visual Resources).

Similarly, VRM standards and techniques can be used when proposed activities are still in the design stage to determine in advance, the visual impact of an activity and the extent to which mitigation measures will be required to make a project acceptable (Visual Resource Designs).

Third, the VRM program functions on a support level; through the development of graphic simulation techniques to model visual impacts, through monitoring actual visual impacts of new development activities, and through the publication of technical reports (such as the guidebooks in this series) that disseminate current information on the program (Support Elements/ Monitoring and Compliance).

## INVENTORY/EVALUATION

## DISTANCE ZONES:

Evaluation of the visual quality of the landscape, the sensitivity of that landscape to change, and distance determine classes in the Visual Resource Management system. Although the details of the evaluation system are intricate, the evaluation process itself is quite straightforward.

### SCENIC QUALITY

Scenic quality is perhaps best described as the overall impression one retains after driving through, walking through, or flying over an area of land. When scenic quality is inventoried, an area is first divided into sub-units that appear generally homogenous in terms of land forms and vegetation. Each area is rated by seven key factors according to a consistent point system that allocates specific values to three levels of dominance for each factor.

The sum of the rating scores assigns each landscape to one of three Scenic Quality Classes: Class A = 19-33; Class B = 12-18; Class C = 0-11.

### SENSITIVITY LEVELS

Although landscapes do have common elements that can be measured, there is still a subjective dimension to landscape aesthetics - every viewer brings to the landscape perceptions formed by individual influences: culture, visual training, familiarity with local geography, and personal values.

To measure regional and individual attitudes for inclusion in the evaluation of a landscape, visual sensitivity is determined, in two ways:

Use Volume - Travel through an area (by road, trail, river) and the use of that area (for recreation, camping, events) are tabulated and then assigned a high/medium/low rating according to predetermined classifications.

User or Public Attitudes - Public groups are invited to workshops where they are familiarized with the landscape area, and then asked to respond to activities that will modify that landscape. The concern they express about proposed changes in scenic quality is rated as high, medium, or low.

A matrix then combines use volume and user attitudes in an overall Visual Sensitivity Rating of high, medium, or low.

The scenic quality of a landscape, user attitudes (and, therefore, the modifications acceptable or desirable) may be magnified or diminished by the visibility of the landscape from major viewing routes and key points. In the VRM system, a landscape scene may be divided into three basic "distance zones."

Foreground/Middleground - What is visible to an observer at a distance of 3 to 5 miles. At the outer boundary of this zone, the texture and form of an individual plant are no longer seen.

Background - What is visible to an observer at a distance of 3-5 to 15 miles, excluding objects perceived only by form or outline. Vegetation included in this zone should be visible, at least, as patterns of light and dark.

Seldom-Seen - What is visible to an observer beyond a distance of 15 miles or is obscured from view at closer range.

Atmospheric conditions may modify the perception of each distance zone. Also where several routes exist, what is foreground from one route may be background from another. (Usually, the closer designation is used.) For small projects, infield photographic assessment of distance zones is usually sufficient. For large projects, however, or projects that require evaluation from many key viewpoints, an alternative method for generating distance zone data is a computer graphic modeling technique such as the VIEWIT system developed by the USFS.

### MANAGEMENT CLASSES

Visual resource Management Classes describe the different degrees of modification allowed in the basic elements of the landscape. In practice, the Management Class designation is derived from an overlay/matrix evaluation technique that identifies areas with similar combinations of factors and then assigns them to a VRM class according to predetermined criteria.

The resulting map of contiguous areas sharing the same VRM class is an important planning document for all BLM land-use decisions. It is used in the BLM's multiple-use planning process, then becomes the basis for developing visual resource management objectives, and is also used to assess the visual impact of proposed development activities.

## CONTRAST RATING SYSTEM

Of the six classes, one is the Areas of Critical Environmental Concern (ACEC) and the remaining five are the established five classes: ACEC's are lands of high scenic value and relative scarcity.

Class I. This class provides primarily for natural ecological changes; however, it does not preclude very limited management activity. Any contrast created within the characteristic environment must not attract attention. It is applied to wilderness areas, some natural areas, wild portions of the wild and scenic rivers, and other similar situations where management activities are to be restricted.

Class II. Changes in any of the basic elements (form, line, color, texture) caused by a management activity should not be evident in the characteristic landscape. A contrast may be seen, but should not attract attention.

Class III. Contrasts to the basic elements (form, line, color, texture) caused by a management activity may be evident and begin to attract attention in the characteristic landscape. However, the changes should remain subordinate to the existing characteristic landscape.

Class IV. Contrasts may attract attention and be a dominant feature of the landscape in terms of scale; however, the change should repeat the basic elements (form, line, color, texture) inherent in the characteristic landscape.

Class V. Change is needed, or change may add acceptable visual variety to an area. This class applies to areas where the naturalistic character has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding landscape. This class would apply to areas identified in the scenic evaluation where the quality class has been reduced because of unacceptable cultural modification. The contrast is inharmonious with the characteristic landscape. It may also be applied to areas that have the potential for enhancement, i.e., add acceptable visual variety to an area/site. It should be considered an interim or short-term classification until one of the other VRM class objectives can be reached through rehabilitation or enhancement. The desired visual resource management class should be identified.

A measure of the ease with which a proposed activity can be inserted into a landscape is the contrast of that activity with the basic elements of the landscape. Assessing the contrast of a proposed project against the form, line, color, and texture of the existing setting is a simple, but effective, demonstration of the modifications that may be required to meet a desired landscape quality.

To accomplish this, the BLM Contrast Rating procedure is applied to all proposed development and management activities. This procedure first breaks a landscape down into its major features (land and water, vegetation, structures) and each feature, in turn, into its basic elements (form, line, color, texture). Assessing the predicted contrast of a proposed activity against each feature in the landscape readily indicates the anticipated severity of visual impact.

In the Contrast Rating system, the ease of detecting contrast in the basic elements ranges from the highest rated (form) to the lowest rated (texture). By assessing degrees of contrast in each of the major features, a multiplier can be derived that indicates intensity of contrast.

More specifically, there are acceptable maximum ratings for each element, and any one feature for each visual resource management class.

Since each activity proposed for BLM land must pass through this evaluation, it has the potential to be useful in order to identify and mitigate extreme contrasts in the planning/design stage.