The Visual Management System of the Forest Service, USDA[1]

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Abstract: The National Forest Landscape Management Program began, as a formal program, at a Servicewide meeting in St. Louis in 1969 in response to growing agency and public concern for the visual resource. It is now an accepted part of National Forest management and is supported by a large and growing foundation of handbooks, research papers, and audio/visual programs. This paper is an abbreviated presentation on how the Visual Management System (VMS) functions.

INTRODUCTION

The American people are concerned about the quality of their visual environment. Because of this concern, it has become appropriate to establish the "visual landscape" as a basic resource, to be "treated as an essential part of and receive equal consideration with the other basic resources of the land" (FSM 2380). 3/ At the same time, public demand has increased for goods and services produced on much of the same land. It has thus become necessary both to inventory the visual resource and provide measurable standards for its management.

The Visual Management System provides the framework within which this job can be accomplished. Research has provided many of the premises on which the system is based. Additional premises are drawn from the basic concepts, elements, principles, and variables of visual resource management described in National Forest Landscape Management, Volume 1, Agriculture Handbook No. 434.

1/ Presented at the National Conference on Applied Techniques for Analysis and Management of the Visual Resource, Incline Village, Nevada, April 23-25, 1979.

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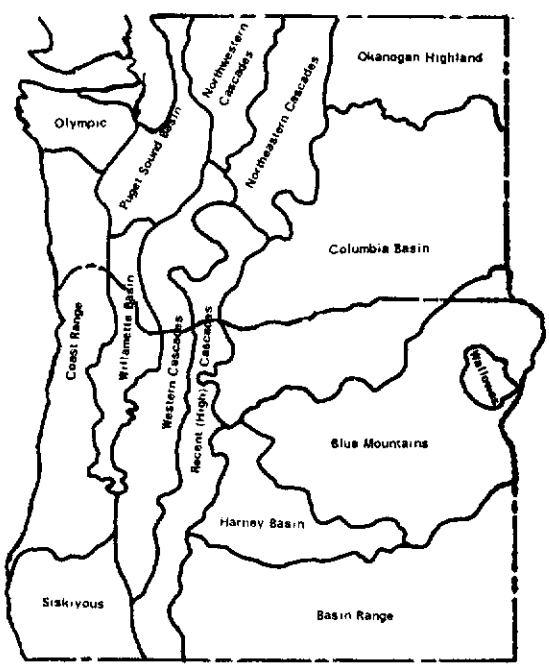
3/ Forest Service Manual 2380, Landscape Management, USDA.

CHARACTER TYPE

An area of land that has common distinguishing visual characteristics of landform, rock formations, water forms, and vegetative patterns is called a character type. Its establishment is based on physiographic sections as defined by Nevin M. Fenneman(1931).

This map indicates the 16 major visual character types of the Pacific Northwest.

Character types are used as a frame of reference to classify physical features of a given area as to their degree of scenic quality. (See section on Variety Class.)



CHARACTER SUBTYPE

In some cases, the major character type will be too broad or great in diversity of character to provide a logical frame of reference to clasify physical features. For such situations, each major character type may be further broken into subtype.

CHARACTERISTIC LANDSCAPE

The characteristic landscape is the naturally established landscape being viewed. It visually represents the basic vegetative patterns, landforms, rock formations, and water forms which are in view. It usually makes up a small portion of a character subtype depending on how much is viewed.

VARIETY CLASSES

Variety classes are obtained by classifying the landscape into different degrees of variety. This determines those landscapes which are most important and those which are of lesser value from the standpoint of scenic quality.

The classification is based on the premise that all landscapes have some value, but those with the most variety or diversity have the greatest potential for high scenic value.

There are three variety classes which identify the scenic quality of the natural landscape:

CLASS A - Distinctive
CLASS B - Common
CLASS C - Minimal

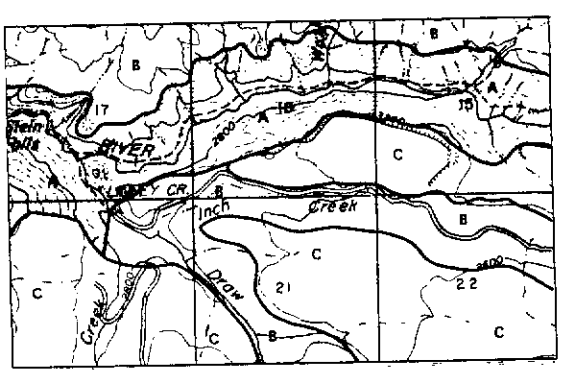


Figure 1--*An overlay as shown above is prepared to illustrate the variety class determination.*

A frame of reference must be developed by which to judge the physical features of an area as distinctive, common, or minimal (Class A, B, or C). This is derived from the character type or subtype. Features such as landforms, water forms, rock formation, and vegetative patterns are compared singularly or in combination with those commonly found in the character type. Through this comparison, an area's overall degree of scenic quality and resultant variety class rating may be determined.

Ranking the Class B features within the area should be done first as a means of establishing a benchmark from which distinctive and minimal can be judged. The exceptions are those subtypes in which the features common to the character type are outstanding in quality and/or known nationally for their scenic importance. These features should be ranked Class A even though they are common to the character type.

Class A is the ranking given to those areas with features more distinctive or unusual than those defined in the Class B benchmark established above. Class A features usually exhibit a great deal of variety in form, line, color, and texture. Landform, rock, water and vegetation stand out as being unusual and/or outstanding in visual quality compared to those found common in the character type.

Class C features have very little variety, if any, in form, line, color, and texture. Water forms, because of their high attractiveness to people, should not generally fall into this category. Exceptions will depend on the character type but might be very small stagnant ponds, intermittent streams, etc. There will be character types which have very little, if any, of the land and its features that fall into Class C.

SENSITIVITY LEVELS

Sensitivity Levels are a measure of people's concern for the scenic quality of the National Forests.

Sensitivity levels are determined for land areas viewed by those: traveling through the forest on developed roads and trails; are using areas such as campgrounds and visitor centers; or recreating at lakes, streams, and other water bodies. It is recognized that all National Forest land is seen at least by aircraft users. Therefore, some degree of visitor sensitivity will be established for the entire land base.

Three sensitivity levels are employed, each identifying a different level of user concern for the visual environment.

Level 1--Highest Sensitivity
Level 2--Average Sensitivity
Level 3--Lowest Sensitivity

The degree of visitor sensitivity to the visual environment is extremely difficult to quantify. Additional research into the sociological aspects of man's perception of his environment is essential. Various research scientists are investigating this concept in depth and changes will be made in the process as findings are published.

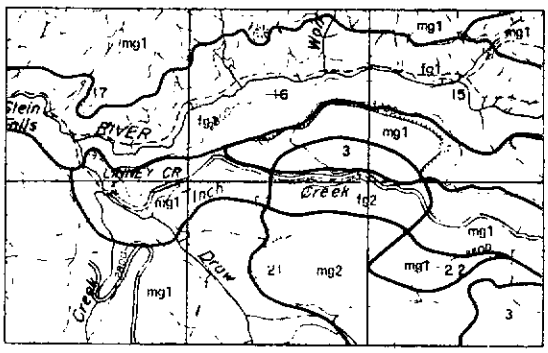


Figure 2--*Adjusted final seen area boundaries after conflicts involving sensitivity levels and distance zones have been resolved. The final overlay will show the seen area in terms of distance zones with the sensitivity level number of accompanying it.*

DISTANCE ZONES

Distance zones are divisions of a particular landscape being viewed. They are used to describe the part of a characteristic landscape that is being inventoried or evaluated. The three distance zones are: foreground, middleground, and background.

1. Foreground--the limit of this zone is based upon distances at which details can be perceived. Normally, in foreground views, the individual boughs of trees form texture. It will usually be limited to areas within 1/4 to 1/2 mile of the observer, but must be determined on a case-by-case basis as should any distance zoning.

2. Middleground--this zone extends from foreground zone to 3 to 5 miles from the observer. Texture normally is characterized by the masses of trees in stands of uniform tree cover. Individual tree forms are usually only discernible in very open or sparse stands.

3. Background--this zone extends from middleground to infinity. Texture in stands of uniform tree cover is generally very weak or nonexistent. In very open or sparse timber stands, texture is seen as groups or patterns of trees.

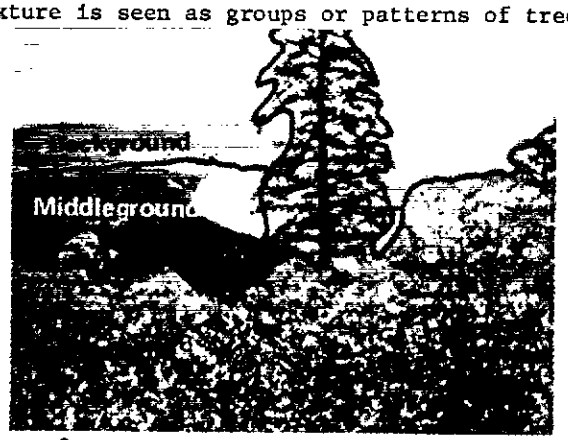


Figure 3

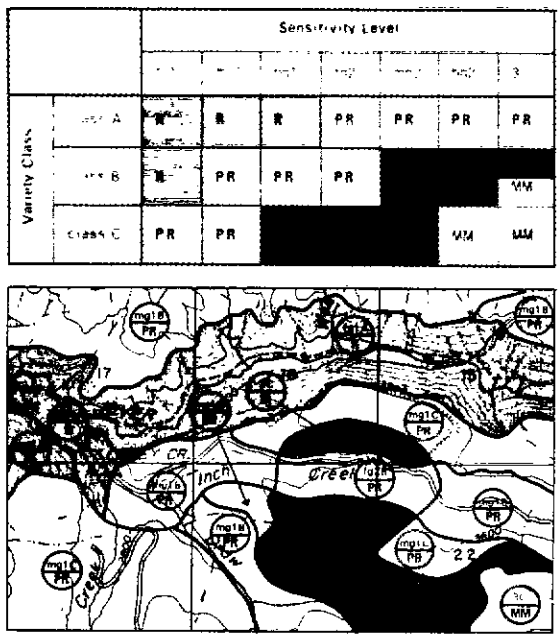


Figure 4--*Visual Quality Objectives are determined by comparing, on the chart, the variety class (A, B, or C) with the sensitivity level (fig.1,mg 2, etc.). By using a split-circle symbol and color codings, an appropriate objective (and the information from which it was determined) can be shown on each area of the map.*

The Visual Management System thus produces a map of visual quality objectives. This becomes the means by which National Forest landscape management objectives are recommended for consideration in land use planning if done at the broad scale, and project decision making if done at a more detailed level.

PRESERVATION (P)

This visual quality objective allows ecological changes only. Management activities, except for very low visual-impact recreation facilities, are prohibited.

This objective applies to wilderness areas, primitive areas, other special classified areas, areas awaiting classification and some unique management units which do not justify special classification.

RETENTION (R)

This visual quality objective provides for management activities which are *not visually evident.*

Under Retention, activities may only repeat form, line, color, and texture which are frequently in the characteristic landscape. Changes in their qualities of size, amount, intensity, direction, pattern, etc., should not be evident.

Duration of Visual Impact

Immediate reduction in form, line, color, and texture contrast in order to meet Retention should be accomplished either during operation or immediately after. It may be done by such means as seeding vegetative clearings and cut-or-fill slopes, hand planting of large stock, painting structures, etc.

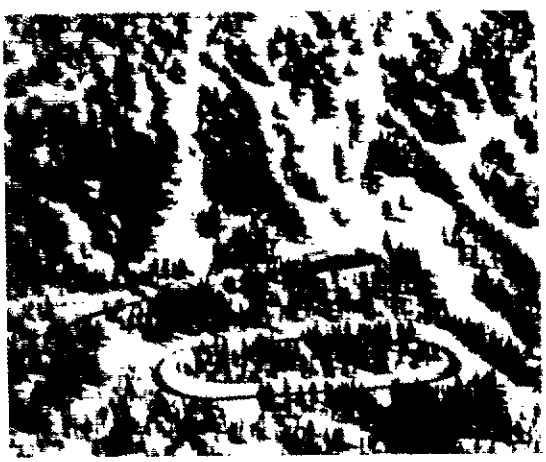


Figure 5--*The vegetative clearings for the ski runs and lifts above the parking area (above) would not be visually evident to the casual forest visitor. The clearings repeat form, line, and texture from the surrounding vegetative patterns to achieve the retention objective.*

PARTIAL RETENTION (PR)

Management activities remain *visually subordinate* to the characteristic landscape when managed according to the partial retention visual quality objective.

Activities may repeat form, lin e, color, or texture common to the characteristic landscape but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate to the characteristic landscape.

Activities may also introduce form, line, color, or texture which are found infrequently or not at all in the characteristic landscape, but they should remain subordinate to the visual strength of the characteristic landscape.

Duration of Visual Impact

Reduction in form, line, color, and texture to meet partial retention should be accomplished as soon after project completion as possible or at a minimum within the first year.

MODIFICATION (M)

Under the modification visual quality objective management activities may visually dominate the original characteristic landscape. However, activities of vegetative and land form alteration must borrow from naturally established form, line, color, or texture so completely and at such a scale that its visual characteristics are those of natural occurrences within the surrounding area of character type. Additional parts of these activities such as structures, roads, slash, root wads, etc., must remain visually subordinate to the proposed composition.

Activities which are predominately introduction of facilities such as buildings, signs, roads, etc., should borrow naturally established form, line, color and texture so completely and at such scale that its visual characteristics are compatible with the natural surroundings.

Duration of Visual Impact

Reduction in form, line, color, and texture should be accomplished in the first year or at a minimum should meet existing regional guidelines.

MAXIMUM MODIFICATION (MM)

Management activities of vegetative and landform alterations may dominate the characteristic landscape. However, when viewed as background, the visual characteristics must be those of natural occurrences within the surrounding area or character type. When viewed as foreground or middleground, they may not appear to borrow completely from naturally established form, line, color, or texture. Alterations may also be out of scale or contain detail which is incongruent with natural occurrences as seen in foreground or middleground.

Introduction of additional parts to these activities such as structures, roads, slash, and root wads must remain visually subordinate to the proposed composition as viewed in background.

Duration of Visual Impact

Reduction of contrast should be accomplished within five years.

VISUAL ABSORPTION CAPABILITY OR VULNERABILITY

On some lands where the visual resource is of paramount importance, the setting of VRM objectives or standards is sufficient for management needs. In other areas, however, managers or owners will, in addition, insist upon some indication of the degree of difficulty (or costs) expected in meeting those objectives. In other words, some require a measurement of the land's capability to absorb change without significantly affecting visual character. This is normally done by analyzing such factors as slope, aspect, soil color, vegetative regeneration potential, etc. Williamson (1976) lists almost 70 such factors and believes that still others may be useful on occasion. Conversely, many broadscale planning efforts have been well done using as few as three factors.

The correlation between Visual Quality Objectives (VQO) and Visual Absorption Capability (VAC) is not as straightforward as it might first appear. The most restrictive objectives are not necessarily the most difficult or costly to attain, although that is often the case. Some visually tolerant landscapes, usually those of considerable variety, can be managed to meet high VQOs with relative ease.

VAC rating systems have been developed by Jacobs and Way (1969) and Anderson, Chandler, et al. (1977). A slightly different approach was made by Litton (1974). Official Forest Service direction on VAC is found in the FOREST SERVICE MANUAL, 2383.2, which can be examined at any Forest Service office.

Factor inventory data is noramlly mapped at the same scale and on the same base maps as the VQOs. It is then easy for any site or acreage to compare the visual quality (management) objectives with the lands' visual absorption capability. The process is not illustrated here for lack of space but is readily available from the above sources.

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The Bureau of Land Management and Visual Resource Management—An Overview[1]

Robert W. Ross, Jr. [2]

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 statement 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, adventure, 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 subsurface 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, wildlife 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 (Environmenal 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

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.

DISTANCE ZONES:

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.

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.

CONTRAST RATING SYSTEM

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.

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Abstract: SCS Landscape Resource Management (LRM) is the application of landscape architecture to SCS conservation activities. LRM includes but is not limited to visual resource management. LRM can be summarized in three principles: (1) SCS landscape architecture considers the landscape as a composite of ecological, social and visual resources; (2) SCS landscapes exist in the countryside or suburban setting rather than in wildland or wilderness; (3) The American public has expectations of countryside landscape resources that most likely differ from their expectations of all other types of landscapes.

INTRODUCTION

To understand the concept of landscape resource management devised by Soil Conservation Service (SCS) landscape architects, it is necessary to understand the agency--its mission, its public, its methods of technology transfer, and the broad range of programs and activities within its sphere of authority.

SCS was created in 1935 and has been charged to provide information, technical expertise, and a delivery system for assisting land users with the conservation and use of soil, plants, and woodlands; watershed protection and flood prevention; the conservation, development, use, and disposal of water; animal husbandry; fish and wildlife management; recreation; community development; and related resource uses. Unlike other federal agencies, SCS does not control or manage public lands. Rather, the agency seeks to influence land users, through technology transfer and education, to use the best available conservation and resource management practices.

SCS operates primarily in countryside and suburban landscapes through a delivery system consisting of about 3,000 field offices. These offices are situated throughout the 50 states, and field personnel work in a diversity of landscapes ranging from Northeastern marshes (for cranberry production) to the semiarid Southwest plains (for fiber production).

Some SCS activities (construction of dams and channels) have potential for disrupting the landscape, while others (erosion control, reclamation of abandoned mine lands) are directed toward rehabilitating derelict land.

In either case, SCS recognizes its role in improving environmental quality through conservation of the landscape resource. It is USDA's belief that "... America's actions in the 1980's regarding food-and-fiber and natural resources policies may well have the strongest influence in shaping the society and the landscape of the next century" (USDA 1979).

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LANDSCAPE ARCHITECTURE IN SCS

All of these factors collectively require SCS landscape architects to deal with the landscape resource as a broad concept. SCS landscape architecture can best be explained through discussion of several principles.

1. SCS landscape architecture considers the landscape as a composite of ecological, social and visual resources (SCS 1975).

This approach differs from visual resource management systems primarily in its contextual consideration of social resources. Such social consideration includes an analysis of benefits, both direct and indirect, derived from landscape use.

Countryside and suburban landscapes differ from resource lands controlled by federal agencies in one major respect: the former are generally the site of continuous human habitation and activity. Landscape resources must be analyzed in terms of public perception of them and of their functional use. For example, a fencerow planting in the Midwest may be valuable as a visual resource because it adds diversity and contrast to an otherwise monotonous landscape, but is also provides definable benefits such as wind protection, dust control, etc. These benefits cannot be ignored when impacts of potential management activities are assessed.

2. SCS landscapes exist in the countryside or suburban setting rather than in wildland or wilderness.

SCS only infrequently deals with wildland landscapes. Human-modified landscapes, whether countryside or suburbs, are generally dominated visually by structures, patterns of human activity (e.g., roads and terraces), and patterns of visual resource elements.

The impact of management activities on all visual resource elements is assessed within a local context. For example, in the New England countryside, red barns often have local significance as landscape resources. The introduction of structures that are visually incompatible with existing structural elements may be unacceptable.

SCS projects and activities also occur on a broad spectrum of landscapes of diverse size ranging from windbreak plantings on several acres to agricultural land conversions on 60,000 acres. General procedures and methods for dealing with the entire spectrum can be outlined, but the landscape resource management plan must be prepared for a particular site in a local or regional context.

3. The American public has expectations of countryside landscape resources that most likely differ from their expectations of all other types of landscapes.

The historical development of the American countryside has created public expectations and perceptions of regional landscape resources. SCS landscape architects are concerned with learning the basis for these expectations, the elements that comprise scenic countryside and the degree of change that can be absorbed by countryside without destroying its traditional character. Examples of traditional landscapes are the cotton plantations of the South, tobacco farms of the Piedmont and wheat fields of the High Plains.

THE RESOURCE MANAGEMENT SYSTEM

These observations form the base on which a broad, landscape resource management system is being formulated. The system will not be rigid. The diverse programs of the agency and the variety of landscapes in which the activities occur require a flexible approach. This approach is composed of three major efforts: preparation of technical information, training aids and workshops, and field testing of methods for landscape resource appraisal.

SCS Technical Release 65 (TR-65), "Procedure to Establish Priorities in Landscape Architecture," is an initial attempt to develop a system for identifying critical landscape resource management problems. TR-65 will be followed by a series of other documents to present additional levels of landscape resource investigations. Technical material is also being produced as integral parts of design manuals for specific structures such as open channels and farm ponds.

The major emphasis in the first year of SCS landscape resource management development has been in the area of training field personnel. A large portion of the training is accomplished through self-contained audio visual training modules. Module 1, "Awareness" is currently being used in area, state and multistate workshops nationwide.

To date, field testing has been limited to studies in Mississippi and Massachusetts. The Mississippi experience consisted of a landscape resource inventory on a county scale that identified areas of important visual resource quality. The Massachusetts program inventoried resource areas (including visual) in several local communities. A "Q" sort method was used to judge local performance for various scenic resources.

It is anticipated that more extensive testing will be needed to determine the typical components of countryside landscape and assess the public's perception of these components.

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