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.

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[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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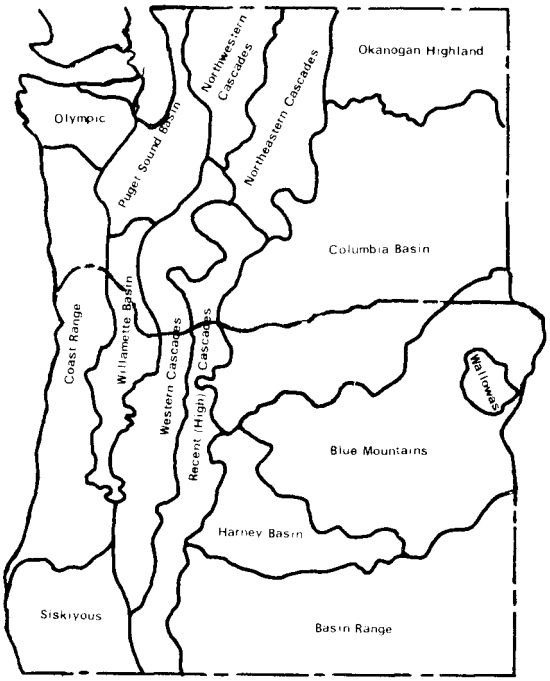
[3] Forest Service Manual 2380, Landscape Management, USDA.

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 classify 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 land-scapes 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

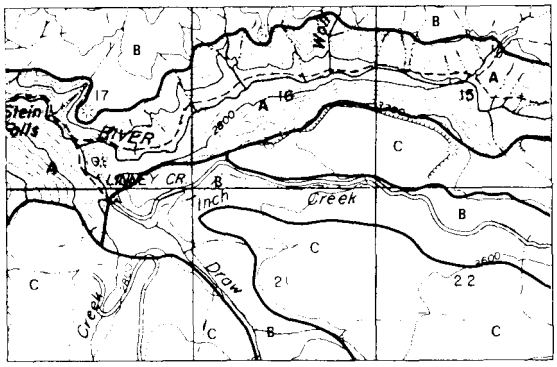


Figure 1--*An overlay as shown above is prepared to illustrate the variety class determination.*

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.

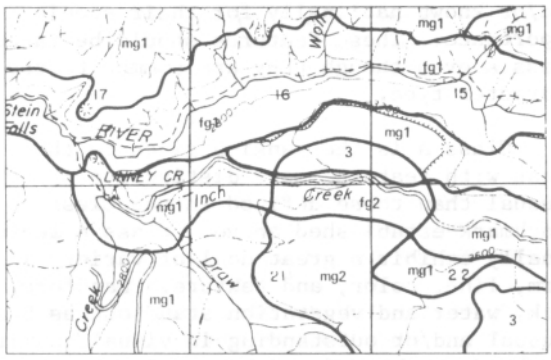


Figure 2--*Adjusted final seen area boundaries after conflicts involving sensitivity levels and distance zones have been resolved. The final overlay will show the seen area in terms of distance zones with the sensitivity level number of accompanying it.*

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 non-existent. In very open or sparse timber stands, texture is seen as groups or patterns of trees.

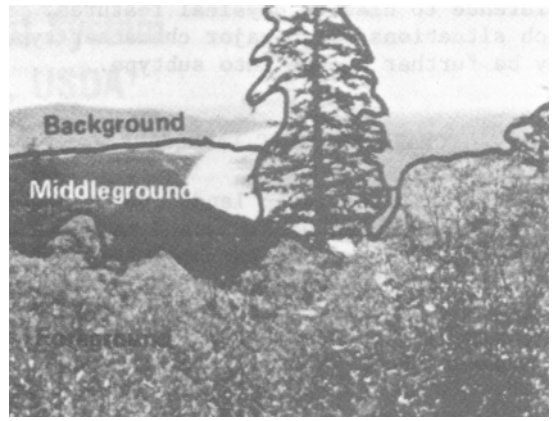


Figure 3

		Sensitivity Level						
		fg1	mg1	bg1	fg2	mg2	bg2	3
Variety Class	class A	R	R	R	PR	PR	PR	PR
	class B	R	PR	PR	PR			MM
	class C	PR	PR				MM	MM

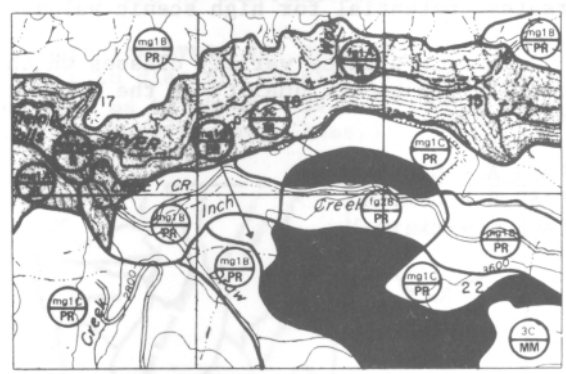


Figure 4--*Visual Quality Objectives are determined by comparing, on the chart, the variety class (A, B, or C) with the sensitivity level (fig. 1, mg 2, etc.). By using a split-circle symbol and color codings, an appropriate objective (and the information from which it was determined) can be shown on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

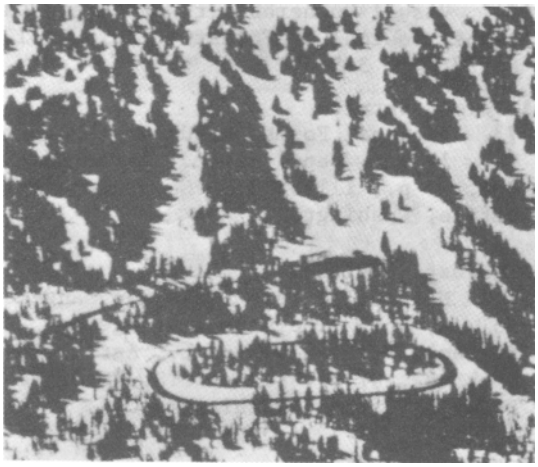


Figure 5--*The vegetative clearings for the ski runs and lifts above the parking area (above) would not be visually evident to the casual forest visitor. The clearings repeat form, line, and texture from the surrounding vegetative patterns to achieve the retention objective.*

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, line, 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 normally 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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