# Chapter 1
Landscape Character

Landscape Character descriptions are a combination of the objective information contained within ecological unit descriptions and the cultural values that people assign to landscapes. Together they help define the meaning of "place", and its scenic expression.

Landscape Character

Landscape character is an overall visual and cultural impression of landscape attributes—the physical appearance and cultural context of a landscape that gives it an identity and "sense of place."
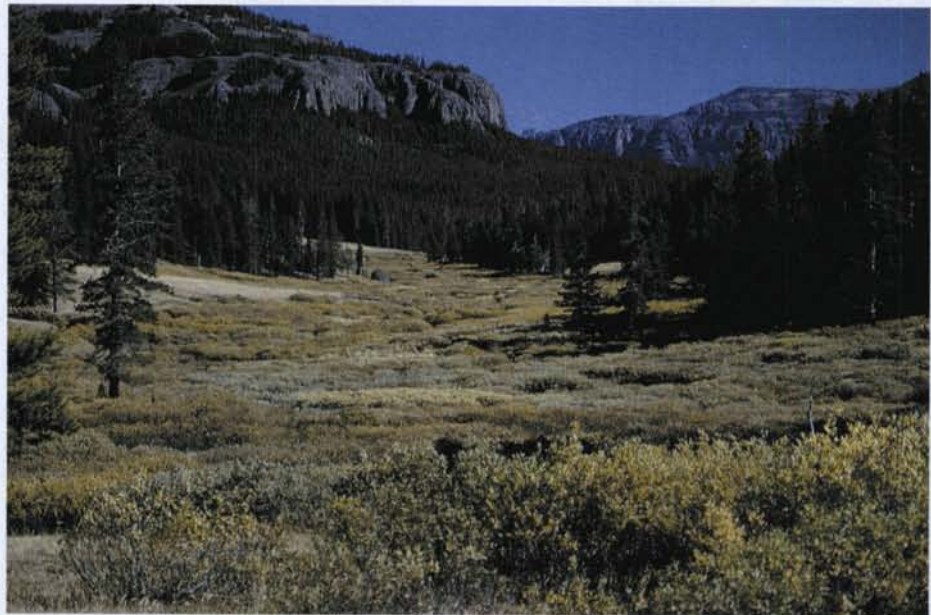
Purpose

Landscape character gives a geographic area its visual and cultural image, and consists of the combination of physical, biological and cultural attributes that make each landscape identifiable or unique. Landscape character embodies distinct landscape attributes that exist throughout an area.

Discussion

Develop landscape character descriptions using base information from ecological unit descriptions supplemented with existing land use patterns or themes as illustrated in the diagram below.

```
                    ┌──────────────────┐
                    │ Existing Land Use │
                    │ Patterns/Themes  │
                    └──────────────────┘
                             │
                             ▼
┌──────────────────┐              ┌──────────────────────┐
│ Ecological Unit  │─────────────▶│ Existing Landscape   │
│ Descriptions     │              │ Character Descriptions│
└──────────────────┘              └──────────────────────┘
```
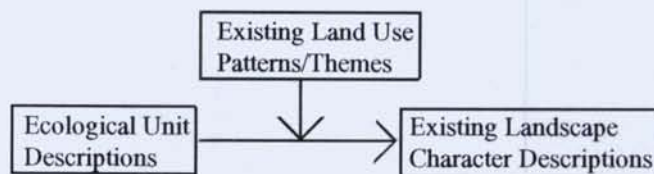
Existing landscape character may range from predominantly natural landscapes to those that are heavily culturally influenced. The Existing Landscape Character description includes the natural scenic attributes of the landscape in combination with the existing land use pattern (or landscape character theme). Identifying some negative features such as mines or powerlines may help define the positive attributes valued by people.

The term Landscape Character Theme refers to images of the landscape that can be defined with a list of scenic attributes. For instance, naturally evolving, natural appearing, pastoral, agricultural, or even urban landscapes all can have scenic attributes that can be described within the context of a general theme. This image or theme becomes a key component in combination with the natural scenic attributes of land form, rock form, water form, and vegetation to describe landscape character.

At very broad scale planning (i.e. Province or River Basin scales) a spectrum of existing land use patterns or themes can be used to assess human use on the landscape as illustrated in the two examples below:

Columbia River Basin Assessment	Southern Appalachian Assessment
Natural Evolving Forest and Shrub/Grassland	Natural Evolving
Natural Appearing Forest Lands	Natural Appearing
Natural Appearing Shrub/Grassland	Rural - Forested
Agricultural Lands	Rural - Pastoral/Agricultural
Developed Lands	Transitional - Mixed Use
	Suburban
	Urban

A description of landscape character normally will include:

- How the landscape has developed over time using information from archeologists, historians, ecologists, and others familiar with the landscape being studied.

- Potential landscape character... i.e. information from potential vegetation inventories.

- The existing landscape attributes such as landform, vegetative pattern, water characteristics, and cultural features.

- Existing landscape attributes which affect the senses of the aesthetic experience other than sight i.e.: sound, smell, taste, touch include:

  - Habitat of native wildlife that has particularly colorful sounds

  - Native vegetation that has a uniquely fragrant spring flower

  - Mix of vegetative species that have both course and fine textures adding a tactile dimension

  - Vegetative species that add both sound and sight (i.e., quaking aspens)

The purposes of existing landscape character descriptions are:

- to establish the current overall visual impression of a landscape, the physical appearance of the landscape that contributes to an identity and a "sense of place."

- to provide a reference from which to compare existing landscape character to desired landscape character.

- to provide a reference for changes in landscape character as the landscape progressed toward the character goal.

- to establish a baseline from which to measure scenic integrity.
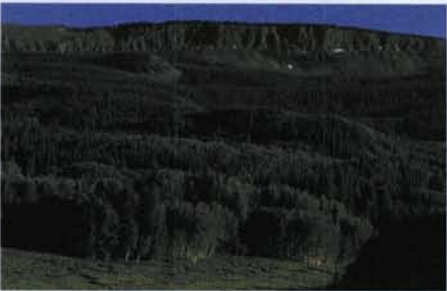
Attributes

Following are examples of landscape character attributes in national forests.

Groves and clumps of trees and shrubs intermixed with natural-appearing openings.

A uniform closed canopy of overstory vegetation.

Openings in the canopy of overstory vegetation.

Drifts of hardwoods and shrubs in drainages in predominantly coniferous forests that further define topography.

Unique rock formations.

Bluffs, rock outcrops, or other unique landforms.

Balds.

Bodies of water

Structures that have positive cultural connotations and are recognized as scenic attributes.

Mixture of open forest and dense
undergrowth beneath tall trees,
and multistory forests.

Scattered groups of conifers
in a hardwood forest to
accentuate color and
texture in all seasons.

Variations in depth of view
and spatial character.

Body of water.

• **Existing landscape character** may be identical in a number of widely scattered areas if those areas have similar attributes.

Wetland in Huron-Manistee National Forest
State of Michigan

Wetland in Wenatchee National Forest
State of Washington

State of Alaska
Coastal Hill Landscape Province

State of Washington
Northeast Cascades Landscape Province

• As stated previously, **natural landscape character** originates from natural disturbances, succession of plants, or indirect activities of humans (see p. 1 - 3). The existing landscape character continues to change gradually over time by natural processes unless affected by drastic natural forces or indirect human activities. An example of a drastic natural force is a volcanic eruption.

Mt. St. Helens, Gifford-Pinchot National Forest
Volcanic eruption, May 1981

• In a **natural-appearing landscape**, the existing landscape character has resulted from both direct and indirect human activities. Landscape character may have changed gradually over decades or centuries by plant succession unless a concerted effort was made to preserve and maintain cultural elements through processes such as prescribed fires or cultural activities such as farming.

• The following examples of **existing landscape character** in National Forest System lands differ widely from each other, yet fall within the context of **natural** or **natural-appearing landscape character**. View each landscape in terms of landform, rockform, waterform, vegetation, or positive cultural elements—log cabins, split rail fences, or orchards.

Oregon Dunes, Siuslaw National Forest

Broad Valley Rockies

Sonoran Desert

Green River, Bridger-Teton National Forest

San Juan Mountains, Colorado

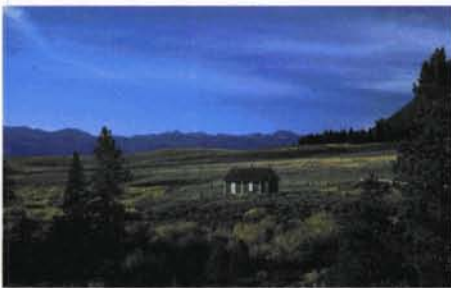Bighorn National Forest, Wyoming

Superior Uplands

Superior National Forest

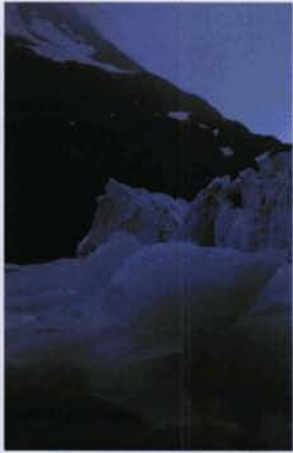East Mexican Highlands

Malheur National Forest

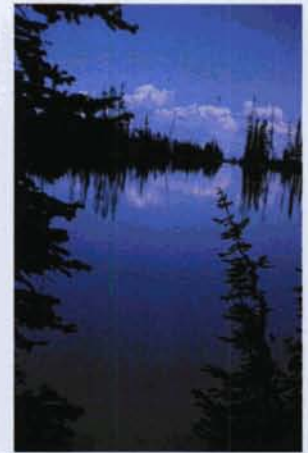Sawtooth National Forest

Hood River, Oregon
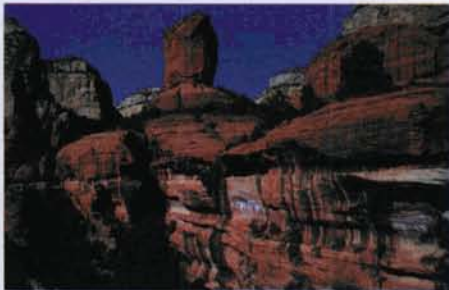
Glacier Bay, Alaska

Caribbean National Forest

Pisgah National Forest

Strawberry Wilderness
Malheur National Forest

The Pillar, Coconino National Forest

Sierra National Forest

Punchbowl Lake, Tongass National Forest

Bitterroot National Forest

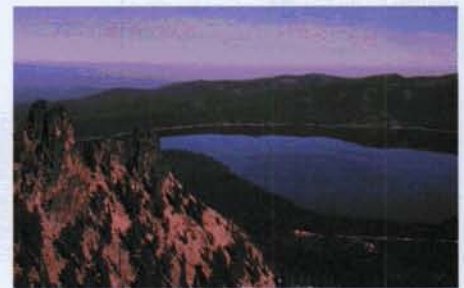Middle Missouri River

Byron Glacier, Chugach National Forest

Rita Blanca High Plains, New Mexico

Mt. Adams, Gifford Pinchot National Forest

Paulina Lake, Deschutes National Forest

Ecosystem Framework

The landscape character description should be developed within an ecological framework similar to the one described below.

Ecosystems

The concept of ecosystems brings the physical, biological, and human dimensions together into a holistic framework within which ecological systems can be described, evaluated, and managed (Rowe 1992). In order to provide a scientific basis for evaluating ecosystems and implementing ecosystem management at national, regional, and forest planning levels, the National Hierarchical Framework of Ecological Units (Framework) was developed in 1994 (ECOMAP 1993). It is a "classification and mapping system for stratifying the Earth into progressively smaller areas of increasingly uniform ecological potentials for use in ecosystem management."(Ibid : 1).

Ecosystems exist at many spatial scales. They can be conceptualized as occurring in a nested geographic arrangement with many smaller ecosystems embedded in larger ones (Allen and Starr 1982, O'Neill et al. 1986, Alvert et al. 1986 as cited in ECOMAP 1993). This nested arrangement forms a hierarchy of ecological units that are organized in decreasing order of scale and increasing amount of detail.

Ecological Units

Ecological units are the mapped landscape analysis units used for ecosystem planning and management. They enable planners to assess resource conditions at multiple scales and time periods. Ecological units are delineated by the spatial distribution of natural associations of dominant ecological (abiotic and biotic) factors that affect the structural and functional attributes of ecosystems. In addition ecological unit descriptions also include pertinent social and cultural factors. Ecological factors used in ecological unit descriptions include the following:

Geomorphology
Lithology and Stratigraphy
Soil Types
Vegetation Associations (Communities)
Habitat Types
Fauna
Climate
Slope/Aspect/Elevation
Surface Water Characteristics
Disturbance Regimes
Land Use
Cultural Ecology

The visual image created by the physical, biological, and cultural factors included in the unit descriptions helps define the landscape character of an ecological unit or geographic area. This includes past, existing, and future landscape character.

When the Framework was established, it was recognized that as the system was applied and new information was incorporated, adjustments would be necessary. New hierarchies have been developed as the Framework has been used in an ever-widening variety of planning and resource analysis applications, but they all use the same concept of hierarchical size and scale. They differ in the combinations of ecological factors and objectives used to delineate and describe the ecological units.

The most common hierarchies are shown in the chart on the following page. The planning team on a Forest will choose which hierarchy to use. This information is presented here to help you understand the relationships between the many terms used in ecosystem management.

Hierarchical Levels	Planning & Analysis Ecological Units	Terrestrial Ecological Units	Aquatic Units
Regional	Domain ---------------- Division ---------------- Province	Domain ---------------- Division ---------------- Province	River Basin
Subregional	Section ---------------- Subsection	Section ---------------- Subsection	Subbasin
Landscape	Physiographic Area	Landtype Association	Watershed
Site	Ecological Land Unit (ELU) ---------------- Community ---------------- Stand	Landtype -------------- Landtype Phase -------------- Site	Valley Section ---------------- Stream Reach ---------------- Channel Unit

Most ecosystem management projects focus their analysis on two or three scales of ecological units rather than an entire hierarchy. Forest-level projects generally use the Landscape and Subregional scales, with finer Site scales included where greater detail is needed. The Landscape scale consists of ecological units generally between 100's to 1000's of acres. The Subregional scale includes units which range in size from 10's up to 1,000's of square miles.

In general, the Scenery Management System uses the same ecological units for visual analysis. On some projects, however, it may be necessary to develop analysis area boundaries which differ from ecological unit boundaries. Ecological units can be aggregated or divided in order to focus on relevant issues and concerns. In these cases it is especially important to refer to the ecological unit descriptions for the scales both above and below that of the analysis area.

Mapping Process

Landscape character is described for an identifiable area of a national forest or a region.

For broad-scale planning, landscape character is described for sections or subsections in the National Hierarchy of Ecological Units. For forest planning, and landscape analysis purposes, it may be beneficial to describe landscape character for a smaller unit such as a Land Type Association (LTA) or an Ecological Land Unit (ELU), or aggregations of units that might form a larger geographic area such as a watershed, a viewshed, or other administrative units.

Each description focuses on key attributes found consistently throughout the mapped unit. The description succinctly conveys "word-pictures" to the reader to create an image of the landscape. The narrative includes a concise description of landscape character for landform patterns, water characteristics, vegetation patterns, and cultural elements. Greater emphasis is usually placed on description of vegetation than on description of other attributes, because vegetation is more easily changed than other attributes in a national forest setting.

The existing landscape character may be a result of a major natural disturbance such as a large-scale, high-intensity wild fire. It should be described exactly how it appears including a fire created vegetative mosaic at the large scale and blackened trees at the small scale.

The narrative may be brief, as in the first example below, or may contain more detail, as in the second. The amount of detail depends on landscape complexity, level of planning, and management needs.

In both examples the emphasis is on a description of the existing vegetation, landforms, and water characteristics. Information on appropriate ecological units might come from Ecological Subregions of the United States by McNab and Avers. How landscape character has developed over time may come from personal interview and publications from ecologists, archaeologists, historians and others. Potential character may be taken, in part, from potential vegetation inventories.

Brief Example:

Existing Landscape Character
Northern Hardwoods on Flat Terrain

The flat to gently rolling landform of the landscape is blanketed by an almost continuous canopy of soft-textured, rounded treeforms, creating a natural-appearing landscape character. The tree canopy is broken only slightly by stream courses, small lakes, wetland vegetation, and scattered patches of coniferous evergreen trees. There are no major rockforms visible from aerial views or from on-the-ground views. Scattered glacial boulders are visible amidst understory shrubs in immediate foreground views. Although there is a diversity of deciduous tree and shrub species, they are intermixed to the point that there is an overall similarity of scenic effect from aerial and on-the-ground views. Vegetation density prevents most views beyond immediate foreground. Just out of this view, occasional pine plantations break up some of the sameness of the vegetation. However, the highly contrasting geometric forms of the plantations visually clash with the patterns of the natural-appearing landscape character.

Detailed Example:

Existing Landscape Character
Coastal Flats in Florida
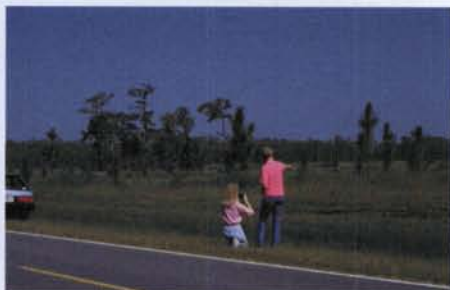
The existing landscape character of "Coastal Flats" is scattered throughout several different areas of various sizes in Florida. In general, the landform surface is a young marine plain with sand hills and swamps. The terrain is nearly level to gently rolling, a tilting plain, ranging in elevation from sea level to 150 feet, having a few isolated hills up to 250 feet high. About one-fourth of a typical coastal plain is forest; the remainder is saw-palmetto, gallberry, Southern wax myrtle, and fetterbush. Longleaf pine, slash pine, and wiregrass are the dominant vegetative species.

The viewer perceives a predominantly natural landscape having some evidence of human disturbance. Natural disturbances (including fires, storms, insects, and diseases) and recovery processes have the greatest influence on vegetation patterns. Yet, here and there, the observer notices small openings in the forest where vegetation has been modified to enhance recreation pursuits, such as hiking, nature photography, and wildlife viewing. In addition, the landscape may occasionally be interrupted by a narrow road corridor, plowed fireline, or a small campground having rustic facilities.

Pine forests are relatively open. The openness is interrupted by dense vegetation in wetlands, small hardwood patches, and patches of pine saplings. While trees occur in various sizes, the majority are very large—with heights of 85-to-95 feet respectively for longleaf and slash pine, diameters of 29-to-32 inches, and ages reaching 175-to-275 years. Some very old longleaf pine trees having distinctive flat tops are dispersed throughout the coastal plains. Generally, at least two distinct age-classes of trees are found growing together. Proximity of trees ranges from 10-to-40 feet. Dead trees, both standing and fallen, are present, as are old pine stumps. Most of the tree trunks are blackened to various degrees. Plowed firelines around some recent wildfires may be seen, but there is no evidence of firelines elsewhere.

In most of the pine forests, understory is low—only 3 feet tall. Some areas are dominated by shrubs such as gallberry and palmetto, while others are dominated by a mixture of grasses and herbs. In drier areas, a small number of plant species are found in the understory. Moister forests may have understories where more than 150 plant species grow.

Wetland forest inclusions may be dominated by a mixture of hardwood and pond cypress or by a mixture of hardwood and pine. Canopy trees are generally evergreen species, and the understory may be densely covered with saplings of canopy species and a mixture of evergreen shrubs and vines. Few herbs grow in these areas.

Naturally treeless or nearly treeless areas are present. Most often, these are dominated by a herbaceous community of mixed grasses and other flowering plants. In some areas, the herbaceous community may contain only a few species; in other areas, over 150 different kinds of herbs may be found. Hardwood forests adjacent to the rivers have a continuous canopy of trees of mixed species. There are saplings in the understory, small trees in the subcanopy, and large trees in the canopy. They grow in height to 87 feet, in diameter to 29 inches, and in age to 200 years. The distance between trees can exceed 50 feet or more. Within these forests, the understory is somewhat open and consists of shrubs, forbs, and saplings.

While walking in coastal flats, a visitor often experiences isolation from the sights and sounds of other people. Coastal flats are usually relatively large areas, encompassing at least 2,500 acres. (Other areas, including the scenic free-flowing rivers, are smaller because of particular physical features that enhance the feeling of isolation.) A visitor encounters few other people while passing through a typical coastal flats area. Rivers, streams, and a small number of primitive trails and roads provide the only access into the area. People using these travelways are most likely to be canoeists, hikers, equestrians, and hunters. No facilities exist except for limited signing, sanitary and safety needs, and boat pull-ups along rivers. On-site controls are not often present. In rare instances, artificial features, such as power lines, may be seen connecting private lands within the area.

Roads are seldom seen. On the few roads that exist, traffic is seldom encountered and consists of administrative and timber-harvesting vehicles. Roads have native-earth surfaces and conform in height to surrounding terrain. The roads on uplands generally do not have ditches, while those in low areas do. A few low drainage points—bay crossings and streams—have low-water rock crossings. Road closures exist at entrances to coastal flats. Roads are rough and irregular; travel using a low-clearance vehicle is very difficult. A few remnants of roads, which lead from permanent roads to occasional small openings, are visible.

Scenic Attractiveness

Scenic attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, water characteristics, vegetation pattern, and cultural land use.

Purpose

Scenic attractiveness is the primary indicator of the intrinsic scenic beauty of a landscape and of the positive responses it evokes in people. It helps determine landscapes that are important for scenic beauty, based on commonly held perceptions of the beauty of landform, vegetation pattern, composition, surface water characteristics, and land use patterns and cultural features.

Discussion

- The existing landscape character description, generally at the Section scale, is the frame of reference for scenic attractiveness.

- Each landscape expresses unique scenic qualities. Scenic attractiveness indicates the potential of a landscape to produce varying degrees of satisfaction, of positive physiological responses; such as reduced stress; positive psychological responses; and a general feeling of well-being.

- Cognizant of commonly held perceptions of intrinsic beauty and constituent preferences, classes of scenic attractiveness are mapped for all national forest landscapes.

- Scenic attractiveness, in its purest definition, exhibits the combined effects of the natural and cultural forces in the landscape. People value all landscapes, but they regard those having the most positive combinations of variety, vividness, mystery, intactness, coherence, harmony, uniqueness, pattern, and balance as having the greatest potential for high scenic attractiveness.

- Scenic attractiveness indicates varying levels of long-term beauty of the **landscape character**. Scenic attractiveness is ordinarily very stable.

- However, *in rare instances,* scenic attractiveness may change because of natural disasters or because of extreme human alteration of the landscape. Changes may increase the potential for a "typical or common" landscape to become "distinctive." An example of changed scenic attractiveness is a landscape having a new recreational reservoir that has provided improved scenic quality and recreational opportunities.

1 • Variety in the landscape creates added interest when present in moderation.

5 • Intactness is related to unity and also indicates wholeness—few or no missing parts in a landscape.

9 • Pattern includes pleasing repetitions and configurations of line, form, color, or texture, as well as harmony.

2 • Unity in a landscape provides a sense of order that translates into a feeling of well-being.

6 • Coherence describes the ability of a landscape to be seen as intelligible, rather than chaotic.

3 • Vividness is related to variety as well as contrast, adding clearly defined visual interest and memorability.

7 • Harmony is related to unity. It exhibits a pleasant arrangement of landscape attributes.

4 • Mystery arouses curiosity and adds interest to a landscape.

8 • Uniqueness of a landscape also arouses curiosity and often signifies scarcity, rarity, and greater value.

10 • Balance in some ways reflects unity and harmony, but even more it displays a state of equilibrium that creates a sense of well-being and permanence.

The combination of valued landscape elements such as landform, water characteristics, vegetation, and cultural features, are used in determining the measure of Scenic Attractiveness.

1. Landform Patterns and Features:
   Includes characteristic landforms, rock features, and their juxtaposition to one another.

2. Surface Water Characteristics:
   The relative occurrence and distinguishing characteristics of rivers, streams, lakes, and wetlands. Includes features such as waterfalls and coastal areas.

3. Vegetation Patterns:
   Relative occurrence and distinguishing characteristics of potential vegetative communities and the patterns formed by them.

4. Land Use Patterns and Cultural Features:
   Visible elements of historic and present land use which contribute to the image and sense of place.

In many landscapes temporal, variable, cultural, and other visual elements that may change in appearance over time are scenic attributes that often contribute significantly to, or even dominate the scenic quality and character of the landscape. Though the visual character and scenic value of these elements may vary through time, the change is usually slow and not detectable for several planning cycles or even human life spans, unless manipulated. It is often places that possess high quality temporal or culturally influenced scenic attributes, that visitors consider "Special Places". It is primarily through influence on the management and manipulation of these elements that SMS attempts to protect, conserve and enhance the scenic resource. These elements may be rated at various levels of scenic value or attractiveness.

Scenic attractiveness classifications are:

Class A—Distinctive.
Class B—Typical.
Class C—Indistinctive.

Class A—Distinctive
Areas where landform, vegetation patterns, water characteristics, and cultural features combine to provide unusual, unique, or outstanding scenic quality. These landscapes have strong positive attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Class B—Typical
Areas where landform, vegetation patterns, water characteristics, and cultural features use combine to provide ordinary or common scenic quality. These landscapes have generally positive, yet common, attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance. Normally they would form the basic matrix within the ecological unit.

Class C—Indistinctive
Areas where landform, vegetation patterns, water characteristics, and cultural land use have low scenic quality. Often water and rockform of any consequence are missing in class C landscapes. These landscapes have weak or missing attributes of variety, unity, vividness, mystery, intactness, order, harmony, uniqueness, pattern, and balance.

Mapping Process

Scenic Attractiveness does not necessarily fall into three distinct classes, but ranges from Distinctive to Indistinctive. In some situations it may be desirable to create sub-classes. Map scenic attractiveness **class A** lands first. The areas of outstanding scenic quality are generally well-known and are easiest to identify. If not completely familiar with the area being inventoried, learn more about such distinctive areas from longtime residents of the area and other resource specialists.

Verify potential class A areas using aerial reconnaissance, ground reconnaissance, and aerial photographs.

To ensure continuity when preparing a draft map of class A landscapes, include both National Forest System lands and other ownerships.

Next, map scenic attractiveness **class C** landscapes. Ordinarily, class C landscapes are not as well-known as class A landscapes. For the most part, they consist of large areas of undifferentiated landscapes that are discernible on aerial photographs and topographic maps. .

Prepare detailed maps on orthophoto quadrangles, when available, or on U.S. Geological Survey (USGS) 7-1/2 minute or 15 topographic maps using stereo pairs of color resource aerial photographs and ground observations for verification. On the final maps, avoid delineating classes of scenic attractiveness for other ownerships. However, remember that information on scenic attractiveness for other ownerships, retained on work maps, is often valuable for future needs, such as land acquisitions, land-exchange evaluations, or local agency planning coordination.

Upon completion of detailed mapping of class A and class C landscapes, the remaining landscape matrix is initially assumed to be **class B**. As a final check, scan class B areas using aerial-photo stereo pairs. Field check to ascertain whether any less definitive islands of class A or C exist within.

As directed by the Visual Management System inventory process, **variety classes** A, B, and C were mapped. Because three classes worked quite well, the Scenery Management System continues to use these classes for **scenic attractiveness**. There is no need to map scenic attractiveness a second time if variety classes are mapped correctly.

The landscape below illustrates the three classes of inherent scenic attractiveness.

Mt. Shasta, California
Class A / B / C
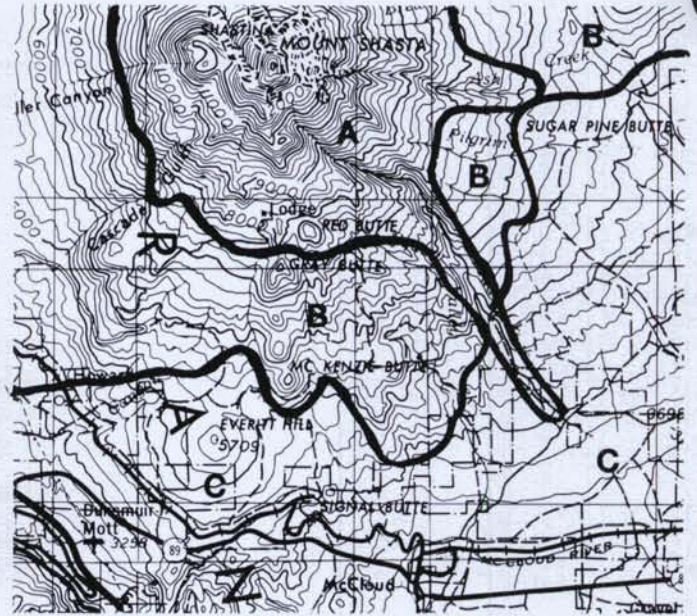
Topographic map of same area
Class A / B / C

Inherent scenic attractiveness must also consider seasonal effects, such as spring color, fall color, and winter snow.

North Carolina

Oregon

Colorado