Blending Scenic and Other Values in Our Forests

By Robert F. Scheele and Robert W. Ross, Jr.

One of America's great pleasures is the view of the National Forests from travel routes, waterways, and other highly used areas. People's visual expectations of publicly and privately managed landscapes are beginning to affect land-use decisions in many places, with special emphasis placed on the federally managed lands of the Forest Service.

The demands on these lands are many and diverse. Sometimes they are complementary but often they seem to conflict. Demands can range from providing "hard" natural resource values such as wood, forage, and clean water to less tangible or "softer" resource-based values such as the sense of wilderness, the exhilaration of a mountain climb, or the beauty of natural appearing scenery. In combination, these disparate demands may be thought of as satisfying the needs of both the body and the spirit.

The challenge for natural resource managers is to find the appropriate mix of resource uses and to know the resource base's ability to sustain various uses over time. This challenge is especially tricky when considering multiple-use proposals which cut across the hard and soft resource values.

For example, a hunter might be quite dependent on a National Forest for a productive deer-hunting experience, while a hiker in the same autumn forest might feel put out by the hunter's presence. In such a case,

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In timber harvesting, achieving a natural-appearing edge is an important key to attain a desired landscape character. Here, harvest boundaries are at existing biological edges. This also has advantages for wildlife.

the clash of unfilled hopes and expectations may be predictable.

This clash can be equally loud when scenic expectations are not met because resource development activities such as wood harvesting or road building sometimes create dramatically obvious changes in the view.

Scenery, a Natural Resource

Congressional cession of Yosemite Valley to the State of California for use as a State park in 1864 and creation of Yellowstone National Park in 1872 are two of the earliest examples of scenic values being given natural resource status.

But is scenery really a natural resource? It is generally accepted that a material or area

qualifies as a resource if it satisfies human needs or otherwise has value for human populations. To be natural, the material or area must be basic or primary, in other words not manufactured. So where valued scenery consists of mountains and virgin forests, it can be defined as natural.

When the forests or mountains are affected by timber harvesting, road construction, mine development, or a powerline corridor, the resultant scene might be more correctly thought of as a renewed resource. The idea of the renewability of resources suggests the need for wise stewardship and management in order to sustain visual quality while simultaneously providing for use of other forest resources.

While National Park managers have usually had legislated authority to maintain visual quality, expansion of this concern to other large areas of the public landscape—National Forests and public domain lands—is a development more recently mandated through Congressional actions.

These two categories of public lands are managed under principles of multiple use and sustained yield and the many resources controlled to insure their renewability. Scenery is no exception. But managing the visual resource goes beyond merely protecting areas of outstanding scenery.

Developing Standards

So it is not unusual to have portions of a National Forest, for example, being used primarily as a source of wood products. Another part of the forest might be managed mainly for recreational experiences in the form of campgrounds, trails, or scenic drives. In each situation, the result of management decisions and actions usually has visual consequences.

Working to insure that these consequences jibe with management objectives involves paying conscious attention to scenic attributes of the landscape under study, and developing recommendations or performance standards.

These recommendations may, for some critically important places, suggest that no visually perceptible change take place. Most often, however, the recommendations focus on ways to minimize negative visual consequences of a resource development activity without hindering that activity. In both cases, the multiple resource and sustained yield management principles are achieved and the general public benefits.

Visual System

Since passage of the 1891 Creative Act which brought the National Forest System into being, more than 20 pieces of legislation have been enacted that have major effect upon managing Forest Service lands. Of these laws, eight have either a strongly inferred or direct mandate regarding scenic resources.

Although the laws may not be as strongly worded as many

might prefer, they identify scenery as a resource to quantify and consider in assessing environmental quality.

In response to this expressed concern and increasing awareness about scenic resources, a National Forest Visual Management System was developed and instituted during the late 1960's and early 1970's. This system provides for inventorying all National Forests and a procedure by which to develop measurable standards for managing visual quality.

Today any activity that occurs on these lands—for example, timber harvesting, oil and gas exploration, or recreation development—can no longer take place without due regard for the visual ramifications.

During the past two decades, as more land has been visibly affected by management activities, much public concern has been expressed about the forest environment. Often cited are harsh and incongruous visual effects that can result from timber harvest activities.

Stands Left Unmanaged

That has led, in some cases, to decisions which have left many of the more visually sensitive timber stands unmanaged because of the lack of acceptable harvesting methods. However, a number of such stands are beginning to reach the end of their normal life cycle, resulting in equally undesirable visual conditions due to such natural processes as disease, windthrow, and fire.

Forest managers have recognized this as a serious dilemma, and have provided for developing vegetation management tech-

By tying several clearcuts together over time, fewer harsh edges are created. Shown here are several areas that have been clearcut over a period of time.

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niques to perpetuate desirable visual conditions while at the same time meeting timber production goals.

With a basic understanding of landscape design methods for timber harvesting and the principles of corridor viewshed planning, one can gain insight into this facet of National Forest management.

Manipulating edge, shape, and scale of harvest units and distribution of activities over time and space are some of the techniques of landscape design for timber harvesting. They can be used to produce desired landscape character by accentuating positive elements and minimizing or mitigating negative elements of timber management activities.

Natural Edge a Key

Achieving a natural-appearing edge in timber harvests is an important key to attain a desired landscape character. A natural-appearing edge is perceived mainly in terms of texture.

Harvest unit edges which are also biological edges have advantages for wildlife. In general, the greater the edge diversity, the greater the number and variety of animals which will use the area.

Often tying several clearcuts together over time can result in fewer harsh edges. In addition, a desirable edge effect can sometimes be achieved by leaving the existing understory just inside the harvest unit boundary, or by progressively increasing the height of uncut vegetation away from the harvest unit.

The shapes of clearcuts that resemble or repeat natural openings in the existing landscape are, for the most part, more pleasing. Generally speaking, the shape of a timber harvest activity is more evident the farther away the observer is.

Scale refers to the relative size of activities in relation to the surrounding landscape. It is an important variable to consider so that activities do not appear too large or too small for a particular site. The same size clearcuts can be in scale in one landscape and too large in another.

The landscape design technique of distribution spreads out impacts of timber harvests over time and space to reduce negative impacts and create variety in natural-appearing forms, color, and textures.

Corridor Viewshed Plans

A viewshed is the total landscape seen or potentially seen from a travel route, use area, or water body. As we strive to get more timber into a managed state, while at the same time maintain or enhance visual quality, progressive and intensive approaches like corridor viewshed planning have become mandatory tools for managers.

Purpose of this type of planning is to provide the management direction for retaining or creating the desired forest character in an attractive sequential arrangement over time. Although they may differ slightly from one

area to the next, most viewshed plans are developed within a framework of similar assumptions:

1) Vegetative composition of the landscape will gradually change over long periods of time

2) Sound timber management principles need not be sacrificed to meet desirable visual goals, and

3) Many combinations of landscape management principles and techniques and silvicultural practices can be used to simultaneously assure timber production and visual quality.

Achieving a specific long-term desired visual character for a viewshed is a challenging task that requires input from an interdisciplinary team. In the case of many Forest Service plans, makeup of this group includes a landscape architect, silviculturist, fire management specialist, and often a wildlife biologist and logging systems engineer.

Design Awareness

Team members have some, even if only limited, awareness of basic landscape design principles. These are often relayed through a general training session covering such issues as design vocabulary, discussion of achieving desired character, and review of various design techniques.

Possible planning processes to establish management direction for corridor viewsheds are, of necessity, quite varied in both character and intensity.

Currently, several viewshed plans are in various stages of completion in the Forest Service. As our landscape architects become more familiar with the procedures, silvicultural concepts, and terminology, we will see further refinements and adjustments.

In addition, completion of more research in environmental psychology will give valuable insight into the forest visitor's visual preferences. And as we move into interactive computer graphic systems, we can also expect major advancements in ability to simulate visual consequences of proposed viewshed plans before the plans are put in effect. These obviously will become useful tools for the Forest Service land manager.

Further Reading

Bacon, Warren R., Twomby, Asa. D., et al, 1980. *National Forest Landscape Management*, Volume 2, Chapter (Timber). U.S. Department of Agriculture, Agriculture Handbook 559. For sale by Superintendent of Documents, Washington, D.C. 20402.

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