**Rocky Mountain
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***Synthesizing
Scientific
Information
for Fire and Fuels
Project Managers***

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Fuels Planning: Science Synthesis and Integration

Social Issues Fact Sheet: 14

Landscape Preference in Forested Ecosystems

The Public's Preference

Think you know what most people consider to be a scenic landscape? You might, but research shows that forest managers' opinions about aesthetic beauty often differ from those of the general public.

Yet it is important to understand what types of landscape settings most people prefer to be able to plan fuels treatment and other forest management activities that will be acceptable to the general public.

There are four common elements of visually preferred forest settings:

- Large trees
- Herbaceous, smooth groundcover
- Open midstory canopy with views into the forest
- Vistas with distant views and significant topography

Managing to maintain or improve these four elements is compatible with managing fuels.

Large Trees

Many studies have shown that people prefer large mature trees in landscape scenes. An increase in the number of larger trees is often associated with an increase in scenic beauty ratings. Likewise, forests with many closely spaced small trees often receive lower scenic ratings. Though the definition of mature trees varies by forest type, research shows the importance of retaining some larger trees in fuels reduction.

Small openings in the forest scattered with trees are visually preferable. Sometimes such openings result from wildfire. Fuels mitigation projects can produce the same effect by clearing small forest stands and brush.

Herbaceous Groundcover

People prefer forests that have a wealth of low, smooth-looking herbaceous plants on the ground level. Some approaches to fuels reduction such as prescribed burning can increase the number of low, herbaceous plants and thereby increase the visual quality of a setting.

Open Midstory Canopy

How far people can see into a forest significantly affects their landscape preferences. One study found that the ability to see into a forest, or the amount of "visual access," more strongly predicts scenic beauty than other physical measures of forests, such as number of downed trees and number of small trees in a stand. The concept of visual access is certainly in line with decreasing density to reduce fuels.

Openings in an otherwise enclosed forest are often perceived to be aesthetically pleasing. Likewise, many people prefer the forest edge adjacent to meadows and other small openings, a finding that has ramifications for forest thinning and harvesting, as well as fuels modifications along trail corridors. Fuel break systems can mimic forest openings.

Generally, higher forest density decreases scenic beauty. For example, as the density of smaller trees increases, visibility and scenic beauty decrease.

There are exceptions to the "density rule," however, with regard to scenic beauty. Forest stands with a variety of tree sizes and ages can often have a higher density of trees without lowering scenic quality.

The key is the amount of visual access, which also increases people's perceptions of safety. Dense vegetation, along with other signs of neglect such as litter and graffiti, often increases the public's perceptions that an area may be unsafe.

Vistas and Topography

Topography provides a challenge for visual resource management, because hillsides and steeper areas are more visible from multiple vantage points. So forest management activities like thinning and clearcuts, which change the landscape considerably, are more obvious than they would be in flatter areas. Similarly, heavy erosion caused by extensive logging on steep slopes is perceived negatively.

Source

Ryan, Robert L. 2005. Social science to improve fuels management: a synthesis of research on aesthetics and fuels management. Gen. Tech. Rep. NC-261. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 58 p. Available online at http://ncrs.fs.fed.us/pubs/viewpub.asp?key=3514 [2006, August 25]. For a hard copy, contact Pamela Jakes at pjakes@fs.fed.us.

Additional Aesthetics Fact Sheets

Landscape Preference in Forested Ecosystems is one of a series of four fact sheets on the topic of aesthetics and fuels management. See also *Strategies for Managing Fuels and Visual Quality*, Social Issues Fact Sheet 13 (RMRS RN-21-13-WWW); *Landscape Change and Aesthetics*, Social Issues Fact Sheet 15 (RMRS RN-21-15-WWW); and *Prescribed Fire and Visual Quality*, Social Issues Fact Sheet 16 (RMRS RN-21-16-WWW).

Social Science Team Fact Sheets

Look for fact sheet topics from the Social Science Team including information on developing personal responsibility for fuels reduction, communicating fire hazard, topics for community fire plans, guidelines for community education, collaboration, and the "golden rule" for communicating fire hazard to people.

Fuels Planning: Science Synthesis and Integration is an interagency research/management partnership to support the Ten-Year Fire Plan, led by Russell T. Graham, RMRS, and Sarah M. McCaffrey, NCRS.

Fuels Planning: Synthesis and Integration

This fact sheet is one in a series being produced as part of a larger project supported by the USDA Forest Service to synthesize new knowledge and information relevant to fire and fuels management. Fact sheets address topics related to stand structure, environmental impacts, economics, and human responses to these factors. Information in the fact sheets is targeted for the dry forests of the Inland West, but is often applicable across broad regions of the country. For more information, please visit our Web site at:
www.fs.fed.us/fire/tech_transfer/synthesis/synthesis_index