



# CENTRAL HARDWOOD NOTES

## Visual Management of Central Hardwoods

People have become more aware and concerned with the appearance of forest landscapes. As a result, the appearance of the landscape is recognized as an important resource that needs to be managed along with wildlife, timber, and water. A visual management goal for central hardwoods is to maintain a natural-appearing landscape; one that reflects good forest husbandry and land ethics. This includes active management of the vegetation, using sound silvicultural and landscape management practices.

Areas needing the most attention are landscapes visible from major travelways, waterways, recreation areas, and other concentrated use areas. Likewise, areas and activities viewed at close range (foreground areas) are more sensitive than those farther away.

Landscapes having a variety of landforms, water bodies, open spaces, and vegetation will appeal to more people than those that lack variety. Vegetation management should aim to provide a combination of natural looking spaces, including groups of trees and plants of different sizes, densities, colors, and textures.

The following table describes the potential visual impact of various stand prescriptions and suggests what you should consider when planning and maintaining landscapes to be visually appealing.

**Visual Resource Table**

*Even-Age Management*

Provides visual variety as well as timber and wildlife benefits. With proper planning and implementation, you can minimize potential unsightliness.

<b>Cutting Method and Visual Benefits</b>	<b>Potential Unsightliness</b>	<b>Applicable Landscape Design Actions</b> (see detailed descriptions)
<p><u>Clearcut</u></p> <p>Can result in positive visual benefits with proper planning, placement and execution. Provides spatial and vegetative variety, including structure, size and species. Provides temporary openings and vistas (choice ones can become permanent through maintenance).</p>	<p><u>High</u></p> <p>Can produce sharp spatial contrasts in solidly timbered landscapes. May cause temporary color contrasts in disturbed soil. Harvest and site preparation slash off en contrasts with surrounding timber in form, line, color, and texture for about two growing seasons. Regeneration creates a solid mass of brushy young trees.</p>	<p>All</p>
<p><u>Two-stage shelterwood</u> (fig. 1a)</p> <p>Effects are similar to clearcutting but in a subdued manner with an open, savannah like appearance after the first cut. When the shelterwood is removed, the new stand usually has sufficient structure to screen earlier harvesting. Final harvest impacts are less noticeable because of advanced regeneration.</p>	<p><u>Moderately High</u></p> <p>Similar to clearcutting except shelterwood softens form, line, color, and texture contrasts. Final harvest may cause temporary unsightliness due to slash and possible damage to existing vegetation. Regeneration creates a mass of brushy young trees.</p>	<p>A, C, F, G, H, I, J, K</p>
<p><u>Esthetic Three-St-Shelterwood</u> (fig. 1 b)</p> <p>For visually sensitive areas. More trees are left after each cut. Time period be-</p>	<p><u>Moderate</u></p> <p>Same as shelterwood except the additional cutting causes another, but less</p>	<p>A, C, F, G, H, I, J, K</p>

tween each cutting is extended 20 to 30 years. The shelterwood gives the appearance of a natural overstory. Benefits are similar to a two-stage shelterwood but regeneration is taller, providing a better screen for final removal cut.

Two-Age Management  
(fig. 1c)

Especially desirable for sensitive areas. Manage to maintain two distinct age classes, about 50 years apart. Maintains a continuous cover of trees and avoids complete overstory removal. Provides spatial variety and penetrating views into stands for a period after harvest. Encourages intolerant and midtolerant species.

Intermediate Thinning Cuts

Provides views into the stand. Hastens development of large trees.

intensive disturbance. Regeneration creates a mass of brushy young trees.

Moderately Low

Causes normal logging impacts such as color contrast in disturbed soil and slash for a short time.

A, C, F, G,  
H, I, J, K

**Low**

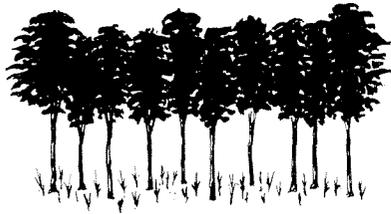
Causes normal logging impacts, such as color contrast in disturbed soil and slash for a short time but these are muted by residual vegetation.

A, F, G, H,  
I, J, K

*Uneven-Age Management*

Provides a more natural appearing forest with a continuous timber stand in place, while benefitting timber and wildlife. The shift towards a stand composed of more tolerant species can add visual variety.

<b>Cutting Method and Visual Benefits</b>	<b>Potential Unsightliness</b>	<b>Applicable Landscape Design Actions</b>
<p><u>Group Selection</u> (fig. 1d)</p> <p>Provides a continuous forested appearance over a large area. Small cutting units can provide spatial variety, views, and vistas. Opening sizes vary from ¼ to 2 acres and are scattered throughout a stand giving variety in size and age.</p>	<p><u>Moderately Low</u></p> <p>Care is needed to schedule and locate cutting units to avoid monotonous and unnatural appearing landscapes. Although some additional roads may be needed because of more frequent cuttings (15- to 20-year intervals) residual vegetation will soften these impacts.</p>	All
<p><u>Single Tree Selection</u></p> <p>Especially desirable in sensitive areas. Provides a continuous forest scene, with variety of tree species and sizes. Can add vegetative variety and spring and fall color. Can provide minor penetrating views after cutting.</p>	<p><u>Low</u></p> <p>Impacts associated with harvest cutting and stand improvement are minor and short-lived. Residual vegetation softens the impacts of slash and soil disturbance. More roads may be needed along with more frequent cuttings (15- to 20-year intervals) than with the even-age system.</p>	A, F, G, H, J, K



A. Two-stage shelterwood



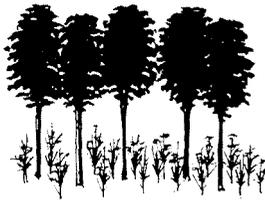
After 1 st cutting



After 2nd cutting



B. Esthetic three-stage shelterwood



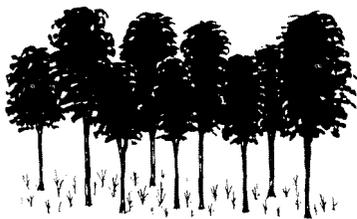
After 1 st cutting



After 2nd cutting



After 3rd cutting



C. Two-age management



After 1 st cutting



After 2nd cutting



D. Group selection



After selection cut



Regeneration

Figure 1 .-Cutting methods.

### *Landscape Design Actions*

*A - Plan comprehensively* - Achieve a comprehensive visual effect by planning a travelway or viewing area rather than considering a stand at a time.

*B - Make openings* - Vary the size and shape of regeneration openings according to the scale and appearance of the surrounding landscape. Locate openings randomly with variable distances between them (fig. 2a)

*C - Shape stand boundaries* - Stand boundaries should appear natural. Stand openings should have free-form shapes and undulating edges that follow natural topographic features and vegetative changes (fig. 2a).

*D - Soften large openings* - Reduce the apparent size of openings and add visual variety and wildlife benefits, as follows (fig. 2b):

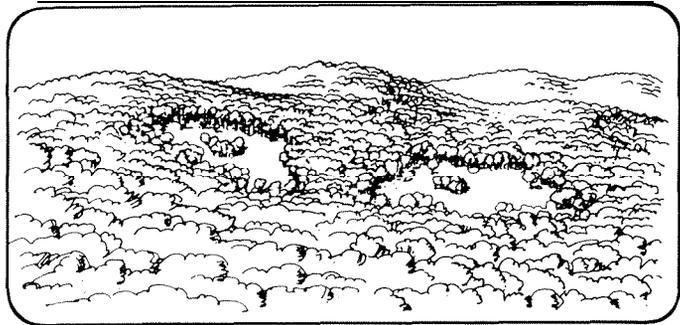
- Identify and protect special vegetation to be left on the area before harvesting and site preparation.
- Leave groups of trees, flowering trees, and shrubs.
- Utilize existing well formed and potential “character” trees to frame and soften openings.
- Extend peninsulas of vegetation from adjacent stands (fig. 2b).
- Leave groups or islands of vegetation, rather than single, scattered trees (fig. 2b).
- Leave groups of pine and/or cedar to provide visual variety, particularly during the dormant season.
- Avoid creating notch-like openings on ridge lines (fig. 2c).
- Clump snags and den trees for wildlife with other vegetation in the foreground, or leave them along edges. Avoid leaving evenly distributed single trees in the foreground.

*E - “feather” edges* - Soften the sharp contrast. Edges should be feathered (partially cut) along the borders to create a transition in height and density between cut and uncut stands (fig. 2d).

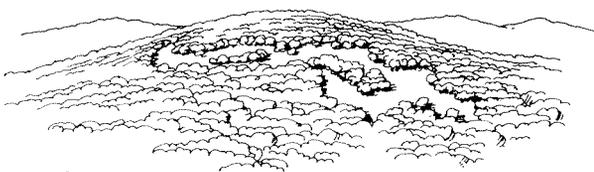
*F - Harvest during dormant season* - This will reduce the strongly persistent leaf color contrasts in highly visible areas. It will also reduce undesirable soil color contrasts caused by construction and use of roads and skid trails.

*G - Design roads and landings carefully* - Keep the amount and construction standards of access roads, skid trails, and landing areas to a minimum. Locate to minimize visibility from travelways and use areas. Those no longer needed should be treated with waterbars as needed, and planted or seeded to reduce soil erosion and associated color contrast.

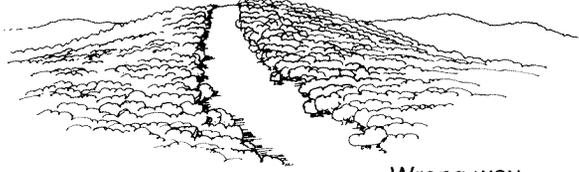
A. Make openings natural appearing with free form shapes, following topographic features.



B. Reduce apparent size of openings and add visual variety.

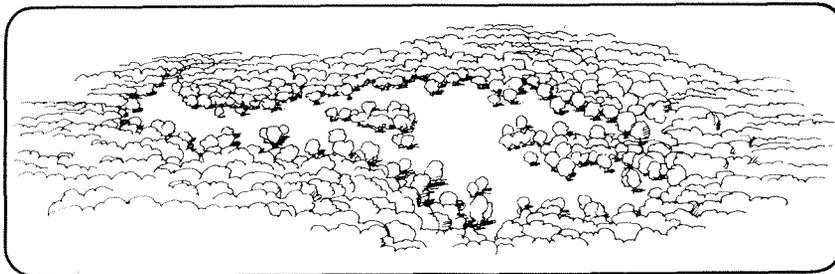


Right way



Wrong way

C. Avoid ridgeline notches.



D. "Feather" edges to create transition in height and density.

*H - Utilize whole tree* - Close utilization of wood residues for charcoal or fuelwood can often improve the looks of harvested areas.

*I - Treat slash* - Chip, lop, and scatter slash, or keep it low to the ground to improve appearance and to encourage rapid decay. This is especially important near roads, trails, and overlooks. The treatment can vary depending on the sensitivity of the area. Fell dead, dying, broken, and leaning trees in the foreground to reduce unsightliness.

*J - Reduce management time* - Because logging, thinning, road construction, etc., are unsightly, reduce their duration to a minimum.

*K - Enhance beauty* - Look for opportunities to create vistas, views of rock outcroppings, water bodies, and other natural attractions.

## References

- U.S. Department of Agriculture, Forest Service. 1973. National forest landscape management: vol. I-Concepts and principles. Agric. Handb. 434. Washington, DC: U.S. Department of Agriculture, Forest Service. 96 p.
- U.S. Department of Agriculture, Forest Service. 1974. National forest landscape management: vol. 2, chapter I-The visual management system. Agric. Handb. 462. Washington, DC: U.S. Department of Agriculture, Forest Service. 47 p.
- U.S. Department of Agriculture, Forest Service. 1980. National forest landscape management: vol. 2, chapter 5-Timber. Agric. Handb. 559. Washington, DC: U.S. Department of Agriculture, Forest Service. 223 p.

J. E. Smith  
Mark Twain National Forest  
USDA Forest Service  
Rolla, Missouri

J. F. Kuhr  
Eastern Regional Office  
USDA Forest Service  
Milwaukee, Wisconsin