

Early Successional Habitat Development and Management

Patch Clearcut for Wildlife

Conservation Practice Job Sheet

647



Purpose

This job sheet pertains to creating openings within a contiguous forest setting. The purpose of this practice is to increase plant diversity and provide habitat for those species of wildlife that benefit from young forest. Many wildlife species that depend on these types of plant communities are declining nationwide. Species in Kentucky that use this type of habitat include ruffed grouse, whip-poor-will, turkeys, various small mammals, reptiles, bats, deer, woodcock, rabbits, and many species of upland songbirds.

Conditions Where Practice Applies

This practice applies to forest lands that are managed primarily for wildlife; and is normally established concurrently with other practices as part of a wildlife resource management system.

Openings in the forest canopy occur naturally due to overstory tree loss from insects, fire, storms, and disease. These gaps are generally occupied by a mixture of tree seedlings, saplings, shrubs, grasses, and/or broadleaf plants that contribute to the diversity of the forest. Where possible always work with the KY Division of Forestry and/or a consulting forester to develop a complete forest management plan.

Considerations for Establishment

Most wildlife species benefit from a variety of vegetative stages other than the climax (mature) stage. Forest openings such as clear-cuts may

provide the place for this diversity to occur. Some general guidelines that apply to creating clear-cuts or any forested openings are:

- Clear-cuts should be utilized when young woody vegetation such as seedlings, saplings and shrubby habitat is desired. They can be created in hardwood or coniferous stands.
- Openings scattered throughout a targeted species' home range can add diversity and benefit a variety of wildlife. The type of forest stands, their age class, and how they are arranged determines the species of wildlife that are benefitted.
- Identify and utilize any suitable existing openings. These could include reverting old fields, log landings, skid trails, roadsides and utility rights-of-way.
- When creating clear-cuts look for areas that are relatively flat and accessible such as on benches and ridge tops.
- Sites with gentle slopes generally have better soils, less soil erosion problems, and more planting options than steeper sites. When openings are created near drainages, a forested buffer should always be maintained.
- Openings may be constructed by mechanical and/or chemical methods.
- The size and shape of the opening varies with the individual species requirements and site characteristics. However, forest openings should never be less than one acre and should follow the contour while being as irregular in shape as possible. As a general rule, smaller openings (< 1 ac) do not regenerate well due to shading.
- Careful consideration should be given when proposing several openings in large contiguous woodland sites or small isolated woodland sites. A single large opening or too many small openings can create habitat fragmentation.
- Always consider the site accessibility for construction, equipment and future recreation.

- Avoid sites with high quality tree species that may have important economic or wildlife values. Areas that have been damaged from insects or severe weather should be considered first, as well as sites where the majority of trees present are in the sapling to pole size range (2" to 10" diameter at breast height (DBH)).
- **Important:** To avoid impacts to the federally endangered Indiana bat, any tree removal must occur between November 15th and March 31st. However, trees with a diameter at breast height (dbh) of less than 5 inches may be removed anytime during the year. Trees that have shaggy bark such as shell or shagbark hickories and white oak species; or dead and dying trees with exfoliating bark, broken tree tops, splintered or split areas; trees with cavities or hollowed areas cannot be removed. Trees may be deadened (girdled or spot herbicide applied) at anytime through the year
- Clearcuts should fit the contour of the slope where feasible. Various wildlife species prefer differing shapes and sizes of clear-cuts. The shape and size will depend on the requirements of the targeted species and the site characteristics.
- Unless it is a valuable food source for wildlife, woody vegetation over 4" dbh or greater than 15' in height should be removed. In most instances all trees, regardless of size, may be removed for better regeneration and to remove potential predator perches.
- Slash may be left on the site or removed. Removal will provide more area for sprouting and regrowth; but may make plants more susceptible to browse by deer. It may also be windrowed, harvested or piled adjacent to openings to provide additional habitat. Brush piles may be constructed near or adjacent to openings by following the guidance in the habitat-how-to's at: <http://fw.ky.gov/howto.asp>.
- Where possible, select sites that contain tree species which rapidly re-sprout from stumps or roots (e.g. ash, maple, etc). However, often times these species may not provide suitable food sources for wildlife.

Coordinating with a Timber Harvest

Timber harvests may be planned to coincide with the creation of forest openings. The methods described above to construct openings or maintain existing openings in forested areas, may also be

utilized where timber production is an objective. A forestry inventory and management plan should always be developed prior to a timber harvest. The KY Division of Forestry, private consulting forester and/or the KY Department of Fish and Wildlife Resources biologists may be able to help coordinate these methods with timber production.

Chemicals

Herbicides can be effectively used to manipulate succession, control noxious or exotic species, reduce competition and improve the overall diversity. Spot application of chemicals may also be utilized to create snag trees or roosting areas for bats. Careful planning and application are required in the use of herbicides to improve existing habitat. Selection of a chemical should be based on several factors including: desired effect to the vegetative community, affects to non-target wildlife specie(s), toxicological risks and off-site movement.

Application of herbicides to create openings should occur during times of the year when the trees are actively growing and chemical uptake is assured. Utilize spot application methods such as hack and squirt to avoid applying chemicals to non-target flora and fauna.

Chemicals must only be applied for the uses listed on the label. All manufacturers' recommendations, precautions and directions must be followed. Consult Univ. of KY Extension Service or the KY Division of Forestry for herbicide recommendations. A pesticide applicators license may be required for some herbicides.

Refer to

http://www.ca.uky.edu/forestryextension/publications/for_forfs/for120.pdf for information regarding herbicide recommendations.

Operation and Maintenance

Young forest communities require disturbance to maintain the desired age and composition. Depending upon the site, clear-cuts will need to be re-evaluated to remove trees once they have reached maturity. Tree removal for maintenance should occur between November 15th and March 31st.

Evaluate the regrowth to ensure that the desired species composition, structure and density (stem density) is being achieved for the targeted species.

Frequently inspect the site for potential exotic species that are invading the site. Invasive species such as tree-of-heaven, bush honeysuckle or autumn olive can be detrimental to the practice and overall forest health.

Specifications

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Site-specific requirements are listed on the following pages of this job sheet. Specifications are prepared in accordance with the KY NRCS Field Office Technical Guide.

Client:	Farm #:
Field(s):	Tract #:
Designed By:	Date:
Targeted Wildlife Specie(s):	

Purpose (check all that apply)	
<input type="checkbox"/> Create early successional woody openings or scrub/shrub habitat	<input type="checkbox"/> Create wildlife habitat in conjunction with a forestry/timber production management plan
<input type="checkbox"/> Creating habitat for other game and non-game species including Threatened, Endangered, Candidate or Species of Concern	<input type="checkbox"/> Component of a wildlife management plan developed using the (645) Upland Wildlife Habitat Management standard

Layout (as applicable)		
Total Forested Acreage _____acres	Total number of openings: _____	Total acreage of openings: _____acres

Field or Plot No.	Community ¹ (Dominants)	Clearcut Size (ac)	Date Planned	Method of Establishment ²	Management ³
TOTAL					

¹ **Community:** Identify the dominant species within the stand where the opening is planned (e.g. red maple-ash).

² **Method of Establishment:** Describe how the opening will be constructed. For early successional openings, list how the area is to be established either *Mechanical* (e.g. hand establishment/chainsaw, heavy equipment, etc.) *Chemical*; or a *Combination*. If available, list any chemicals, precautions, rates and timing in the "Additional Notes and Specifications" section on the following page.

³ **Management:** Identify any additional management requirements regarding practice implementation, management, timing, slash removal, timber harvest, chemical application, etc.

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If needed, an aerial view, map or a sketch of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Additional Specifications and Notes: (i.e. herbicide application, operation and maintenance specifics, etc.)

Refer to the section of this document entitled Operation and Maintenance. Maintain the original size and shape of the clear-cut. Inspect it periodically for invasion of noxious plant species and control as required by mechanical removal and/or herbicide application. Once the opening has matured beyond the point at which it is useful to the target species, it may be necessary to re-establish the opening.

Questions regarding the establishment, operation or maintenance of this practice should be directed to:

_____ at _____

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