

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT

(Ac.)

CODE 647

DEFINITION

Manage plant succession to develop and maintain early successional habitat to benefit desired wildlife and/or natural communities.

PURPOSE

To provide habitat for species requiring early successional habitat for all or part of their life cycle.

CONDITIONS WHERE PRACTICE APPLIES

On all lands that are suitable for the kinds of desired wildlife and plant species.

CRITERIA

Management will be designed to achieve the desired plant community structure (e.g., density, vertical and horizontal cover) and plant species diversity.

Where planting is needed, regionally adapted plant materials will be used.

Site preparation, planting dates, and planting methods shall optimize survival.

Planting of noxious weeds and invasive species is prohibited.

Measures must be provided to control noxious weeds and invasive species.

If using chemical methods of control, Pesticide Screening Tool (WinPST) shall be used to assess risks, and appropriate mitigation to reduce known risks shall be employed.

To maintain insect food sources for grassland nesting birds, spraying or other control of noxious weeds will be in a targeted manner through the use of spot spraying, mechanical or hand wick applicators, or other approved methods to protect grasses, forbs and legumes

that benefit native pollinators and other wildlife.

Management will be timed to minimize negative impacts to wildlife. Management practices and activities shall not disturb cover during the primary nesting period for grassland species (May 15 – August 1). Exceptions can be allowed for periodic burning, strip disking, selected herbicide techniques, selected mechanical removal or mowing when necessary to maintain the health of the plant community. Mowing may be needed during the plant establishment period to control undesirable weeds and growth of woody vegetation.

Minimize soil disturbance in natural communities where soil integrity is essential, on steep slopes, on highly erodible soil, and where establishment of invasive species is likely.

When grazing is used as a management tool, a prescribed grazing plan developed to specifically meet the intent and objective(s) of this practice standard is required.

Controlling Undesirable Species

Use appropriate measures to control the undesirable species. Herbicide application, prescribed grazing, prescribed burning, mowing, brush management, forest stand improvement techniques or a combination of these may be used.

Plant species that can be controlled may include: invasive species, species that do not provide suitable habitat for the wildlife species of concern, or desirable species that have become too thick to provide the desired habitat condition. This practice may also be used to set back succession and/or control more aggressive species in grass/forb/legume/shrub stands, woodland, or forestland to increase

plant diversity and/or improve habitat for target species.

Fields that contain >20 percent of a species not suitable for wildlife habitat (i.e., fescue, bermudagrass, bromegrass, sericea lespedeza, or old-world bluestems) should be treated under this criteria. The area treated should be allowed to naturally regenerate. This technique should only be used when it is determined that a suitable seed bank is present to achieve the desired condition. If suitable seed bank is not present plant the site according to the appropriate NRCS practice standard.

Controlling undesirable species will be completed according to the Brush Management (314), Forest Stand Improvement (666) and/or Herbaceous Weed Control (315) practice standards as applicable.

Herbicides may be used to control undesirable species on an entire field or in strips as described in the strip disking section below. When using herbicides for this purpose, follow the Herbaceous Weed Control (315) practice standard and the 315A job sheet titled "Controlling Undesirable Species To Improve Wildlife Habitat" as appropriate.

Multiple treatments may be necessary to achieve the desired conditions. Areas should be scouted annually to treat undesirable plants as they re-colonize an area.

Edge Feathering

Edge feathering can be completed along any woodland edge including logging roads, landings, or fields. Edge feathering shall not be used along streams or wetlands.

Edge feathering, where invasive species such as Tree-Of-Heaven, Bush Honeysuckle, Privet, Royal Princess Paulonia, Chinese Silver Grass, or Multiflora Rose are present, should be completed by planting a feathered edge according to option 2 below. Option 1, the thinning option, shall not be used in areas where these invasive species are present unless the species are controlled prior to the edge feathering. In addition, a plan outlining how to maintain control of the invasive species shall be developed and followed.

Where possible provide 0.1 - 1.0 acre of feathered edge per 5 – 40 acres of wildlife friendly habitat. At a minimum, the feathered edge should extend at least 50' along the length of the forest edge. It takes three 30'x50' areas to make 0.1 acres.

Below are two methods to feather the edge of woodland:

Option 1 - Thinning of Over and Mid Story Trees In One Zone

- Edge feathering shall be completed by conducting thinning in and along the woodland edge in one zone.
- Thin the area within 30 to 50 feet of the woodland edge to a 25 – 35% stocking. Thinning should begin at the mid-story and move up. Remaining trees and shrubs shall be composed of a good diversity of hard mast and berry producers.

Option 2 – Planting A Feathered Edge

- Edge feathering can also be completed by planting native small trees, shrubs, and grasses along the woodland edge.
- Each zone should be 1/2 of the total width of the feathered edge. For instance, a 50-foot wide feathered edge would have two 25-foot zones.
- In the zone closest to the woods, small fruit, seed, and nut bearing native shrubs and trees should be planted according to the Additional Criteria For Wildlife in the NRCS Tree/Shrub Establishment (612) practice standard.
- The outside zone should be planted to native grasses and forbs according to the appropriate sections and wildlife tables in the "Establishing Vegetative Practices In Kentucky" document.

Native Grass and Forb Establishment

Establish native grass/forb communities through implementation of the Conservation Cover (327), Field Border (386), Riparian Herbaceous Cover (390) or Restoration and Management of Declining Habitats (643) practice standards as applicable. Species and seeding rates should be according to the appropriate tables in the "Establishing Vegetative Cover In Kentucky" document.

Native Forb and Non-native Legume Interseeding

Native forb mixture seeding rates should be according to Table 9 or 10 in the “Establishing Vegetative Practices In Kentucky” document. These mixtures may be cut in half. Non-native legume overseeding mixtures should be according to Table 12 in the document.

Interseeding shall follow Strip Disking, Herbicide Application or Undesirable Species Control to ensure a suitable seed bed. Interseeding can follow prescribed burning by itself but only when the grass stand is thin enough to allow good forb establishment and competition.

See the NRCS Native Forb and Non-native Legume Interseeding Job Sheet for detailed practice requirements.

Prescribed Burning

Prescribed burning can be used to restore native plant communities and to maintain suitable successional states for the desired species.

Prescribed burning must be planned and completed according to the NRCS Prescribed Burning (338) practice standard.

Prescribed burning should occur outside the nesting season of May 15 through August 1st. However, burning may occur during this period when needed to restore suitable plant communities and structure for targeted wildlife species. Nesting season burns shall be planned to ensure reserve areas are left unburned and that wildlife impacts are minimized.

Prescribed Grazing

Prescribed grazing may be used to maintain or achieve the desired early successional habitat state. If used, it shall be completed according to the Prescribed Grazing (528) practice standard and the Prescribed Grazing section in the Upland Wildlife Habitat Management (645) practice standard.

Shrub Planting

Shrubs plantings, when needed to achieve the desired habitat condition, shall be planted according to the Additional Criteria For Wildlife

in the NRCS Tree/Shrub Establishment (612) practice standard.

Strip Disking

It is best to implement strip disking in thirds so that strips will be between 30 and 50 feet wide and as long as possible, with 60 to 100 feet left undisked between the disked strips.

When implementing strip disking in thirds, disked areas shall be allowed to grow for two to three years so that, within any field, a mosaic of vegetation exists (i.e., a third of the area 0-1 years old, a third of the area 1-2 years old, and a third of the area 2-3 years old).

While strip disking in thirds provides the best habitat results, strip disking may also be completed in halves where 30 to 50 feet are disked with 30 to 50 feet left undisked in between the disked strips setting up a pattern of 1 and 2 year old strips.

For buffer practices where widths are limiting, disking may be completed in blocks so that 1/2 to 1/3 of the buffers length is disked each year on a 2- year or 3- year rotation respectively.

Disking shall occur between September 1st and April 15th. For optimal quail benefits, disk between October 1st and December 31st. Fall disking tends to favor broadleaves; spring disking tends to favor weedy grasses. Disk before December 31st to get the best response from desirable quail food plants such as ragweed.

Strip disking on native grasses should only be done once the stand is well established or as recommended by an NRCS or KDFWR biologist.

Strip Mowing

While strip mowing provides some habitat benefits it is far less effective than other recommended practices in this standard. Strips should be between 20 and 50 feet wide and as long as possible, with 40 to 100 feet left unmowed in between the mowed strips.

Strip mowing for wildlife should be implemented on a rotational basis. Mowed areas should be allowed to grow for one to three years so that, within any field, a mosaic of vegetation exists (i.e., a third of the area 0-1 years old, a third of the area 1-2 years old, and a third of the area 2-3 years old).

Do not let any area of the field go more than 3 years without management.

Strip mowing should be conducted outside the nesting season which is between May 15th and August 1st.

Additional habitat benefits can be gained by conducting any disturbance activities during March or September for introduced grasses and during March or August for native grasses.

CONSIDERATIONS

Vegetative manipulation to maximize plant and animal diversity can be accomplished by disturbance practices that include, but are not limited to: selected herbicide techniques, brush management prescribed burning, light disking, mowing, prescribed grazing, or a combination of these.

This practice should be applied periodically to maintain the desired early successional plant community and rotated throughout the managed area.

Wildlife habitat purposes often require lighter seeding rates than specified to prevent soil erosion.

Design and install the treatment layout to facilitate:

- operation of machinery
- use of natural firebreaks or development and maintenance of bare soil firebreaks when prescribed burning.

When prescribed grazing, consider setting aside a paddock near the center of the pasture and defer grazing until after the critical nest and brood rearing period. Many grassland birds require more than 40 days to fledge their young.

When selecting plants and designing management for this practice, consider the needs of pollinators and incorporate to the maximum extent practicable.

PLANS AND SPECIFICATIONS

Written specifications, application schedules and maps shall be prepared for each site. Specifications shall identify the amounts and kinds of habitat elements, locations and management actions necessary to achieve management objectives.

NRCS, KY

February 2012

Specifications shall be transmitted to clients using approved specification sheets, job sheets, and customized practice narratives or by other written documentation approved by NRCS.

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance).

- If livestock have access to treated areas a prescribed grazing plan detailing how quality early successional habitat will be maintained must be followed.
- Use herbicides to suppress invasive vegetation and to control noxious weeds as needed.
- Edge feathering can be expected to provide quality dense woody cover for 5-10 years. The area should be re-treated when at least 50 percent of the re-growth exceeds 15 feet tall.
- Follow-up is required to maintain control of undesirable species at the desired level.

REFERENCES

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