

**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

General Criteria Applicable to All Purposes

Many species of plants and animals prosper at some stage of plant succession less than the climax condition. To achieve this benefit, the management must match the needs of the target species.

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.

Noxious weeds and invasive species shall be controlled.

Management alternatives shall be designed to prevent soil erosion and protect water quality.

Management will be timed to minimize negative impacts to wildlife. Disturbance to

habitat shall be restricted during sensitive periods (e.g., wildlife nesting, brood rearing, fawning or calving seasons).

Soil disturbance shall be minimized; in natural communities where soil integrity is essential, on steep slopes, on highly erodible soil, and where encroachment of invasive species is likely.

Vegetative manipulation to maximize plant and animal diversity can be accomplished by: light disking, mowing chemical treatment, grazing, prescribed burning, shearing, timber harvest, or a combination of the above.

A specific management prescription shall be developed for each site to be treated and shall include a detailed description of the method, timing and degree of disturbance to be applied to the site.

Evaluate the planning unit for the presence of threatened or endangered species (T&E) utilizing the Wisconsin NRCS approved procedure. When T&E species are present in the planning unit evaluate the potential to maintain or enhance beneficial T&E species habitat and avoid or minimize negative impacts caused by practice implementation. Practice implementation shall comply with state and federal T&E species protection statutes.

Criteria for Grassland Management

Apply this component to develop and maintain grassland habitats including prairie, savanna, and introduced cool season species cover types. This practice improves habitat for certain target species such as greater prairie chicken, sharp-tailed grouse, northern bobwhite quail, woodcock, mallards, teal and

other grassland nesting birds. Areas may be developed or maintained by one or a combination of the following methods:

Mechanical (mowing or light disking)

Used alone or in combination with other techniques, mechanical methods of cover disturbance can successfully manipulate successional stages of habitat. See Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV 645 Upland Wildlife Habitat Management and 643 Restoration and Management of Declining Habitats for additional information.

Light Disking: Mechanical disturbance should be done prior to the primary nesting season (May 1) or between August 1 and September 1 to protect ground nesting wildlife. Disking shall be aggressive enough to expose the soil surface but should not result in significant soil inversion or burial of plant material.

Mowing: Native warm season grasses should be mowed no shorter than 10" and prior to the formation of viable seed by weed species present in the stand.

Annual mechanical disturbance or disturbance of entire management units is discouraged since it greatly increases mortality, and reduces residual cover available for the following nesting season.

Prescribed Grazing

Domestic livestock may be used to manipulate plant succession. This manipulation may be beneficial to maintaining the quality of herbaceous cover, and controlling brush when done in accordance with a prescribed grazing plan with wildlife as the primary objective. This technique requires very careful management to assure the site is not overgrazed.

Do not recommend this technique unless assured that the land user fully understands the grazing system, and is capable of managing the system as designed. A grazing plan should be developed at a "light grazing intensity" with an average minimum residual forage height of 6 inches for cool-season grasses and 10 inches for warm season grasses. See Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV 528 Prescribed Grazing.

Prescribed Burning

If the area is not mowed or grazed, grass stands may need periodic renovation utilizing fire to remove excess litter which may reduce wildlife habitat quality.

Controlled fire can allow germination of seed bearing annuals, increase plant species diversity, control unwanted woody vegetation, and open up the stand for movement of small animals and birds.

Frequency of burning should generally not exceed once every 4-5 years. Burns to control woody vegetation may initially need to be more frequent.

Fall burns and early spring burns tend to favor forbs. Late spring burns provide maximum stimulus to warm season plants and work well to control cool season grasses and brush.

Burning shall be done according to an NRCS approved burn plan. See Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV 338 Prescribed Burning for burn plan development criteria and restrictions.

Chemicals

Selected herbicides can be used to effectively manipulate plant succession, control brush, reduce plant competition, control noxious weeds, and improve habitat diversity.

Careful planning and care in application are required in the use of chemicals to improve existing habitat. Selection of a product shall be based on several factors, including: a) product effectiveness, b) non-target species impacts, c) toxicological risks, and d) potential for off-site movements of chemicals.

Chemicals are to be applied only for the uses listed on the product label. Follow all directions and precautions. See Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV 595 Pest Management for recommendations and precautions.

A Windows Pesticide Screening Tool (Win-PST) rating shall be provided for all broadcast herbicides applications. Selective applications and spot treatments do not require development of a Win-PST rating and identification of mitigation practices.

Criteria for Forest Openings

Apply this component to construct new opening areas or maintain existing openings in forested areas to improve habitat for species which utilize and benefit from openings. Log landings, skid trails, roadsides and utility rights-of-way may be enhanced to function as forest openings.

Forest openings furnish open space necessary for young birds to sun themselves, singing grounds, and provide vegetative and insect food sources.

The recommended size of openings varies by species requirements. Forest openings generally range from 0.5 acres to 10.0 acres. Forest openings of 1-3 acres are typically desirable. For edge loving species, forest openings greater than 10 acres should be irregular in shape to maximize edge effect.

Woodland sites less than 40.0 acres in size generally will not benefit from openings. Caution should be exercised when proposing forest openings in woodland sites larger than 250 contiguous acres in size. Forest openings in this situation should not exceed 1.0 acre. Large openings may lead to habitat fragmentation for interior nesting species utilizing the area resulting in increased predation and nest parasitism.

This practice shall not be used to convert mature hardwood forest to an early successional habitat type.

For some species, a number of scattered openings are more beneficial than a single large opening of comparable size. Forest openings scattered throughout a management unit create greater diversity, and benefit a variety of wildlife other than game species.

South facing slopes are preferred locations for openings since these areas tend to remain free of snow for a longer time in the spring and fall.

Forest openings may be developed by one, or a combination of the following methods: hand cutting, shearing, hydro-axe, disking, chemical application (broadcast, spot, or basal spraying).

Criteria for Brushland Management

Manipulation of woody tree and shrub stands to achieve early successional plant composition encourages re-growth and regeneration (suckering) which benefits browsing animals and other species such as woodcock.

The management practices listed above to create forest openings can also be utilized for Brushland Management.

Shearing is best accomplished in winter when the ground is frozen.

Mechanical cutting produces maximum re-growth (suckering) when performed during the dormant season (October – March).

CONSIDERATIONS

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

Consider the impact of the use of fertilizers, pesticides and other chemicals on the intended purpose the practice.

Consider the objectives of wildlife landscape scale initiatives occurring in the vicinity of the project area when developing the management plan.

PLANS AND SPECIFICATIONS

Written specifications, application schedules and maps shall be prepared for each site. Specifications shall identify:

- The objective, timing, methods and amount of disturbance for each habitat element.
- The location and the management actions identified in the management plan to be applied to the location.
- Specifications shall be transmitted to clients using approved conservation practice 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). Occasional disturbance may be incorporated into the management plan to ensure the intended purpose of this practice.

REFERENCES

- Best, L. B., K. E. Freemark, J.J.Dinsmore and M. Camp. 1995. A review and synthesis of bird habitat use in agricultural landscapes of Iowa. *Am. Midl.Nat.* 134:1-29.
- Burger, L.W. 2002. Quail management: Issues, concerns, and solutions for public and private lands-a southeastern perspective. *Proceedings of the National Quail Symposium* 5.
- DeGraaf, R.M., M. Yamasaki. 2003. Options for managing early-successional forest and shrubland bird habitats in the northeastern United States. *Forest Ecology and Management* 185: 179-191.
- Hamrick, R.G., and J.P. Carroll. 2002. Response of northern bobwhite populations to agricultural habitat management in south Georgia. *Proceedings of the 9th Annual Conference of the Wildlife Society* 9:129.
- Oehler, J.D. et al. 2006. *Managing grasslands, shrublands, and young forest habitats for wildlife – a guide for the northeast.* Northeast Upland Habitat Technical Committee, Massachusetts Division of Fish and Wildlife. 104pp.
- Roseberry, J.L. 1992. Cooperative upland research. Effects of emerging farm practices and practices on habitat quality for upland game: Upland game habitat associations. Illinois Department of Conservation
- Sepik, G. F., R. B. Owen, Jr., and M. W. Coulter. 1981. *A landowner's guide to woodcock management in the Northeast.* Maine Agricultural Experiment Station, Miscellaneous Report 253.23 pp.
- Shepherd, M. D., S. L. Buchmann, M. Vaughan, S. H. Black. 2003. *Pollinator Conservation Handbook: A Guide to Understanding, Protecting, and Providing Habitat for Native Pollinator Insects*, 145 pp. Portland: The Xerces Society.