

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

UPLAND WILDLIFE HABITAT MANAGEMENT

(Ac.)

CODE 645

DEFINITION

Provide and manage upland habitats and connectivity within the landscape for wildlife.

PURPOSE

Treating upland wildlife habitat concerns identified during the conservation planning process that enable movement, or provide shelter, cover, food in proper amounts, locations and times to sustain wild animals that inhabit uplands during a portion of their life cycle.

CONDITIONS WHERE PRACTICE APPLIES

Land where the decision maker has identified an objective for conserving a wild animal species, guild, suite, or ecosystem.

Land within the range of targeted wildlife species and capable of supporting the desired habitat.

CRITERIA

General Criteria Applicable to all Purposes

The Illinois Wildlife Habitat Evaluation or species specific habitat model, approved by the NRCS state office, shall be used to identify habitat-limiting factors in the planning area.

Application of this practice shall remove or reduce limiting factor(s) in their order of significance, as indicated by results of the habitat evaluation.

Application of this practice alone, or in combination with other supporting and facilitating practices, shall result in a conservation system that will enable the

planning area to meet or exceed the minimum quality criteria for wildlife habitat established in Section III of the FOTG.

Plant material specifications shall include only high quality and adapted species.

Native plant materials will be used whenever possible. The use of native species will avoid problems associated with non-adapted and invasive plants.

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

If grazing is used as a management tool then PRESCRIBED GRAZING (528A) must accompany this practice.

Equipment travel, grazing, haying and other disturbance to habitat shall be restricted during critical periods such as nesting. Exceptions may be made during the period of vegetation establishment and for management activities to maintain the health of the plant community and to control noxious and invasive weeds.

Control of regulated noxious weeds and other invasive plants shall be specified.

Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible.

Any habitat management technique will ensure that the soil loss is within tolerable limit (T).

Protect forbs and legumes that benefit native pollinators and other wildlife and provide insect food sources for grassland nesting birds. Spraying or other control of noxious weeds shall be done on a "spot" basis, where possible.

Additional Criteria to Provide Specific Cover Types for the Desired Wildlife Species.

GRASSES, LEGUMES AND FORBS Development

High quality nest and brood cover for grassland species of wildlife are critically needed cover types for upland wildlife in Illinois. Native plants and communities are encouraged since they are well-adapted to sites, less invasive, and likely to provide quality habitat with less long term maintenance. However, due to cost, availability, and landscape position, native plants may not be feasible in all situations.

CONSERVATION COVER (327) or RESTORATION and MANAGEMENT of DECLINING HABITATS (643) will be used to develop grassland cover for wildlife. Seeding mixes for wildlife will contain at least 3 species with at least one species being a legume.

It is recommended to consider the eradication of introduced invasive plant species. This eradication is often necessary to provide suitable conditions for grassland development.

Interseeding of legumes and forbs into existing grass stands can provide a needed food source and add plant diversity to attract beneficial insect populations.

CONSERVATION COVER (327) will be used for appropriate seeding mixtures/techniques for the reestablishment of legumes into existing grass stands.

Management

Used alone or in combination with other techniques, mechanical methods can successfully manipulate successional stages of habitat. See EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT (647) and RESTORATION and MANAGEMENT of DECLINING HABITATS (643) for additional information.

Light disking (2-4" deep) of existing stands (greater than 4 years old) may be necessary to increase the amount of open ground and encourage a diverse plant community of annual and perennial plants. Disk between October 1 and April 15. Alternate disked strips 75' wide or less, with buffer strips at least 2

times the disked width, across the field on contour/cross-slope. Disking shall be done within tolerable soil loss limits.

Annual mowing or mowing of entire stands is discouraged since it greatly decreases plant diversity, and reduces residual cover available for the following nesting season. If mowing is necessary to maintain legumes, reduce and control noxious weeds and woody plants, two options are available:

1) Mow once, using a rotary or flail mower, during August. Most ground nesting wildlife will have completed their nesting cycle yet there is still growing season remaining to allow residual growth. Mow no more than one-half of the field every year alternating mowed and unmowed strips at least 30 feet wide or wider. Rotate mowed strips across the field every year. Mow cool season grasses no shorter than 6 inches. Native warm season grasses should be mowed no shorter than 8 inches.

2) A second option for mowing would be strip mowing in the spring. Mowing should be done March 15 to April 15 to encourage vegetative diversity without greatly impacting ground nesting activities or loss of fall food plants. Mow at least 6 inches high and no more than one-half of the field every year. Rotate mowed strips across the field every year.

If mowing is used as a habitat management practice, residues will be thoroughly shredded to prevent excess litter accumulation.

Use PRESCRIBED GRAZING (528A) to manipulate plant succession, reduce ground litter, and provide dusting areas. Livestock can be beneficial to maintaining the quality of herbaceous cover and controlling invasive plants when managed in accordance with a grazing plan with wildlife habitat management as the primary objective. This technique requires careful management to prevent overgrazing. Timing of haying and grazing will avoid peak periods of wildlife nesting and allow the establishment, development, and management of vegetation for the intended purpose. When possible, rotational grazing should be utilized to benefit wildlife during rest periods.

Use PRESCRIBED BURNING (338) to remove excess litter, which can reduce the quality of

wildlife habitat. Controlled fire can allow germination of seed bearing annuals, increase plant species diversity, control unwanted woody cover, and open up the stand for movement of small animals and birds. Burn no more than one half of the grassland area in a year. Consider the effect of the timing of the burn on wildlife species using the grassland.

Use selected herbicides to manipulate plant succession 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 should be based on several factors including product effectiveness, non-target species impacts, toxicological risks, and off-site movement of chemicals. See PEST MANAGEMENT (595) for recommendations and precautions.

TREES AND SHRUBS

Development

Species recommendations will be based on landowner objectives and site potential. Planting trees and shrubs has the potential of adversely affecting non-target species. Careful consideration is to be given when planting trees and taller shrubs in the historic prairie region of the state. Soils and site potential should guide the plant species selected. See RESTORATION AND MANAGEMENT OF DECLINING HABITATS (643) for more information.

Woody plantings will follow the criteria and guidelines in HEDGEROW PLANTING (422), TREE/SHRUB ESTABLISHMENT (612), WINDBREAK/SHELTERBELT ESTABLISHMENT (380). These standards provide guidelines for clump and block plantings and reinforcement of existing woody cover.

Where dense woody cover is lacking, but necessary to meet species objectives, areas(s) comprising native shrubs can be established. Plant clumps of native shrubs, 1500 square foot to ¼ acre in size, for each 5 to 40 acres of habitat that lacks woody cover. See Quail Covey Headquarters Job Sheet 645B for more information and specifications.

Management

Manipulation of woody tree and shrub stands to achieve early successional plant

composition encourages re-growth and regeneration (suckering) of palatable and nutritious vegetation beneficial to large mammals. Browse management also increases plant diversity, which supports a variety of other species. Browse management can be accomplished by mechanical (shearing, hand-cutting, mowing, etc), or prescribed burning.

Encourage old growth trees (greater than 80 years or 16 inches diameter breast height (dbh)) by deferring timber activities to maximize wildlife values on at least 10 percent of the forested area.

Removal of competition will provide sunlight and growing space necessary for full crown development by the target species. FOREST STAND IMPROVEMENT (666) will be used for recommendations on thinning extent and techniques.

Preservation of den trees (trees with cavities large enough to shelter wildlife) and snags (standing dead trees and limbs) serves many purposes for forest wildlife species. The goal is to leave 7 to 15 snags and den trees per acre. Ideally, leaving 1 snag or den tree greater than 20 inches dbh, 6 snag or den trees 10 to 20 inches dbh, and 3 snag trees less than 10 inches dbh per acre provide an optimal mix.

Artificial nest structures can provide nesting opportunities for cavity or roost nesting birds. Design, specifications, and construction shall be consistent with plans included in the IDNR "Wood Projects For Illinois Wildlife", or other designs specified by a technical wildlife agency.

USE EXCLUSION (472) can be used to prevent improper use of wooded areas by livestock.

Brush piles of at least 10 to 15 feet in diameter and 6 to 8 feet high can be developed with the material left from forest stand improvement or opening development. See Wildlife Brush Piles Job Sheet 645C for more information and specifications.

EDGE HABITAT

High-quality edge is a wide band of plants that gradually change from one cover type to another. See FIELD BORDER (386) and Field

Border Wildlife Job Sheet (386w) for more information. The minimum width that an edge habitat (field borders, hedgerows, windbreaks, etc.) should be is 30 feet to reduce excessive predation on wildlife using these edge habitats.

Root pruning can be used to prevent encroachment of woody material into cropland edges. Root pruning is used to maintain crop yields adjacent to woody fencerows or woodland. Root pruning on a 3 to 5 year interval prevents crop yield reduction.

When edges are created or managed for wildlife in an area that is grazed, the edge will be fenced to exclude livestock.

Planting shrubs/small trees at the edge of the field can create Woodland Edge. Use HEDGEROW PLANTING (422), or TREE/SHRUB ESTABLISHMENT (612) standards to provide species and planting criteria. A minimum of two rows will be planted.

Edge feathering can be used to create a transitional habitat zone of shrubs, vines and herbaceous vegetation between cropland or grassland and the overstory canopy along a woodland edge. There are three methods to feather the edge of woodland. The first method is to thin overstory trees in the first 60 to 90 feet of the woodland edge. The regrowth and sprouting that result will provide benefits for 5 to 10 years. The second method to create a feathered edge along woodland is by planting shrubs and grasses in the open field along the woodland edge. Plant at least 2 rows of shrubs along the woodland edge and a field border along the cropland edge to make up a zone at least 30 feet wide. Natural regeneration is the third method of woodland edge feathering. Shrubs, brambles and vines may be used where seedlings are present and cessation of mowing or cultivation will allow desired vegetation to grow. See Woodland Edge Feathering Job Sheet 645D for more information and specifications. To maintain maximum values of the feathered edge, the area should be re-treated when more than 50 percent of the vegetation in the transitional zone exceeds 15 feet tall.

Developed edges must be maintained in a condition to meet the owner's objectives. Herbaceous borders should be treated to

control woody vegetation. If mowing is used, mow only once in August. If mowing is used as a habitat management practice, residues will be thoroughly shredded to prevent excess litter accumulation.

Artificial nest structures can provide nesting opportunities. Design, specifications, and construction shall be consistent with plans included in the IDNR "Wood Projects For Illinois Wildlife", or other designs specified by a technical wildlife agency.

CROPLAND

Illinois Wildlife Habitat Evaluation should be consulted for minimum criteria for cropland recommendations for wildlife.

CONSERVATION CROPPING SEQUENCE (328), and CONSERVATION TILLAGE (329), can provide positive habitat values. A diversified crop rotation and reduced tillage, especially no tillage after harvest until spring, will benefit wildlife.

The introduction of cover types and plant diversity add to increased habitat values. FIELD BORDER (386) and GRASSED WATERWAYS (412) can introduce a valuable grassland component into cropland situations when beneficial species and management are used. See Field Border Wildlife Job Sheet (386w) and Grassed Waterways Wildlife Job Sheet (412w) for more information. Native plants are encouraged since they are well-adapted to sites, less invasive, and likely to provide quality habitat with less long term maintenance.

Reduced/eliminated chemical use will allow significant growth of annual plants, thus enhancing the cropland values for wildlife.

Additional Criteria to Provide a Variety of Foods for the Desired Wildlife Species.

Many wildlife species depend on and prefer native weed seeds and wild fruits for winter food. In many of Illinois' agricultural landscapes food plots may be unnecessary because waste grain and weed seeds are available to wildlife for food. However, additional high-quality food can be provided in the form of unharvested grain crops, green browse food plots or standing grain food plots.

Strips of unharvested grain can be left along the edges of adjacent other cover types. Strips should be at least 30 feet wide (12, 30 inch rows) and at least one-quarter acre in size.

Food plots should be located on the least erosive areas of each field. Soil loss must be maintained within the tolerable limit (T). Adequate vegetative cover must be developed and maintained to provide both wildlife and erosion control benefits. If food plots are relocated or discontinued, the site will be re-seeded after a year of fallow.

Plots may be located on slopes greater than 5 percent provided soil losses do not exceed tolerable limit (T). Plots planted on the contour are recommended.

The food plot should be adequately fertilized. Proper fertilization will help ensure successful establishment and growth of the food plot.

Weed control is not required as the presence of some weeds such as foxtail and ragweed actually benefit wildlife by providing higher protein and greater number of seeds than domestic grains.

Food plots will be protected from livestock grazing.

Plantings shall be seeded at proper time to ensure maturity of food plants.

See Illinois Wildlife Food Plot Job Sheet 645A for additional information and specifications.

Additional Criteria to Provide Water Requirements for the Desired Kinds of Wildlife Species.

Water requirements for Illinois' upland wildlife species can be met with one year-round source of surface water in every 160 acres of habitat. To develop sources of water for wildlife use the WILDLIFE WATERING FACILITY (648) Standard.

CONSIDERATIONS

This practice may affect the target species as well as non-target species through mechanisms such as hunting, predation, disease transmission, nest parasitism, etc. Consider

effects of this practice on species with declining populations.

Wildlife population control may be necessary to protect and maintain certain habitats. This is a responsibility of the landowner. State and federal regulations may apply to population control methods.

Undisturbed areas conserved at a sufficient extent during management activities, may sustain disturbance-intolerant animals and plants.

Other conservation practices may be utilized in conjunction with this practice to create a wildlife management plan such as:

Conservation Cover (327)
 Early Succession Habitat
 Development/Management (647)
 Field Border (386)
 Filter Strip (393)
 Forage Harvest Management (511)
 Forest Stand Improvement (666)
 Hedgerow Planting (422)
 Pasture & Hay Planting (512)
 Pond (378)
 Prescribed Burning (338)
 Prescribed Grazing (528)
 Restoration and Management of Declining Populations (643)
 Riparian Forest Buffer (391)
 Riparian Herbaceous Cover (390)
 Tree/Shrub Establishment (612)
 Use Exclusion (472)
 Wildlife Watering Facility (648)
 Windbreak/Shelterbelt Establishment (380)

PLANS AND SPECIFICATIONS

NRCS shall ensure that plans and specifications for this practice are prepared by persons with adequate training in the fields of wildlife management, biology, or ecology.

Written specifications, schedules and maps shall be prepared for each planning area and each habitat type.

Specifications shall:

- Identify the amounts and kinds habitat elements, locations and management actions necessary to achieve the client's management objectives.

- Describe the appropriate method, timing and intensity of management needed to produce the desired habitat conditions and sustain them over time.

Specifications shall be transmitted to clients using NRCS approved specifications sheets, job sheets, or customized narrative statements included in the conservation plan.

OPERATION AND MAINTENANCE

The following actions shall be carried out to ensure that this practice functions as intended throughout its expected life:

Evaluate habitat conditions on a regular basis in order to adapt the conservation plan and schedule of implementation.

Annually inspect and repair structural or vegetative components of this practice.

REFERENCES

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