

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
UPLAND WILDLIFE HABITAT MANAGEMENT

(Acre)

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, and 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

Use of this standard requires compliance with all applicable federal, state, and local laws and regulations.

The target wildlife species will be identified. All plantings and management practices will be based on the habitat needs of the target wildlife species.

This practice will be established to or managed for species of permanent vegetation that accomplish the design objective, are adapted to the site, and do not function as hosts for field crop diseases or become a source of weeds in any land use.

Native plant species will be used whenever possible. Known invasive species and plant species known to limit wildlife habitat or wildlife movement will not be used.

Use other Indiana (IN) Field Office Technical Guide (FOTG) Standards as necessary to create a wildlife management system.

Application of this practice will remove or reduce limiting factor(s) in their order of significance.

Habitat will be managed so that soil loss does not exceed tolerable limits.

Habitat will be monitored at a frequency and during times of the year, and actions taken as needed, to ensure the critical habitat elements for the target species are met.

Management practices and activities will be conducted as needed to maintain plant communities yet avoid negative impacts to the life cycle needs of target and non-target species to the greatest extent possible, such as nest disturbance or reduction in winter cover.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service State Office, or download it from the Field Office Technical Guide for your State.

When managing for early successional species such as Bobwhite quail, pheasant, rabbit, and grassland songbirds, regular, periodic disturbance of the habitat is required. See IN FOTG Standard (647) Early Successional Habitat Development and Management for further guidance.

If a natural cover (other than what was planted) establishes and this cover meets the intended purpose and the landowner's objective, the cover will be considered adequate.

Harvesting or grazing by domestic livestock will not be permitted unless specified in an approved grazing plan.

Additional criteria to provide food, cover, and shelter for the target wildlife species

Refer to the Indiana Seeding Tool and IN Biology Technical Note: Upland Wildlife Habitat Management for more information regarding suitable species and vegetation establishment.

Grasses, Legumes and Forbs

Plant grasses, forbs, shrubs and/or legumes in a diverse mix to promote biodiversity and meet the needs of targeted wildlife species. Use the Indiana Seeding Tool to identify suitable mixes that are wildlife friendly.

- All mixes will consist of at least 2 graminoids, and a legume.
- Native plantings will include at least 5 species of forbs. Additional forbs are encouraged.

Herbaceous plantings designed as buffers, field borders, or corridors will be based on wildlife species requirements. Habitat buffers, borders, and corridors will be a minimum width of 30 feet.

Food Plots. Planning for food plots will include species, seeding rates, and layout. Known invasive species will not be used. Refer to the IN FOTG Standard (645) Upland Wildlife Habitat Management Job - Wildlife Food Plot Sheet for specifications.

Food Plots will be left standing throughout the winter and spring until replanted. Planting will occur early enough to allow the selected species to mature before frost.

Annual food plots will be rotated each year. Plant only one-third ($\frac{1}{3}$) of the food plot each year. Allow the natural succession of forbs to occur on the remaining two-thirds ($\frac{2}{3}$) of the plot.

On sites where noxious, invasive, or undesirable weed species are present and threaten beneficial natural succession, plant 100% of the acreage to an annual species each year, otherwise use perennial food plot vegetation.

When food plots are relocated or discontinued, the site will be re-seeded to appropriate cover, based on this standard.

Trees and Shrubs. Tree and shrub planting density will be based on requirements of the target wildlife species.

Tree and/or shrub plantings will follow IN FOTG Standard (612) Tree/Shrub Establishment for site preparation, planting dates, planting and storage guidelines.

Trees and shrubs will be planted in blocks, clumps or strips with spacing designed to meet the habitat requirements of the desired wildlife species. Clumps and strips will have an irregular shape. Plant strips based upon field configuration and wildlife habitat needs.

Tree and shrub plantings designed for wildlife buffer, field border, or corridors will be based on wildlife species requirements. Habitat buffers, borders, and corridors will be a minimum width of 50 feet.

Wildlife corridors will address species needs including mast production, habitat structure (shrubby, short-statured vs. tall, woodland), and/or thermal cover,

Pollinators and Beneficial Insects. When pollinator and beneficial insect habitat is the primary purpose, planting mixes will consist of:

1. A minimum of three (3) broadleaf species for each bloom period (early, mid and late) that are beneficial to pollinators for a total of nine (9) species;
 - a. Plant species may include a combination of trees, shrubs, forbs, legumes, and vines.
2. Native, non-competitive graminoids with bunch growth characteristics may be included to provide habitat structure and cover, weed suppression, erosion control, and to facilitate future management.

When pollinator habitat is one of multiple purposes, a minimum of two (2) broadleaf species beneficial to pollinators will be planted that cover the entire bloom period (early, mid and late).

When planning for butterflies, appropriate nectaring forbs and larval host plants will be selected.

For further information see Illinois Biology Technical Note No. 23 [Pollinator Biology and Habitat](#), and IN Biology Technical Note: Upland Wildlife Habitat Management for more information on species selection.

Insecticides will not be used in areas designated as pollinator habitat. Pest control activities occurring on lands adjacent to pollinator habitat will minimize impact on the pollinator habitat and be incorporated into the conservation plan. See IN FOTG Integrated Pest Management (595) for more information.

Management or maintenance activities will be conducted outside of the growing season or period of bloom to the extent practical. When operation and maintenance activities are needed to protect habitat integrity, they will be conducted in a manner to reduce impact on target pollinator species.

Any use of the pollinator habitat area will not compromise its intended purpose.

CONSIDERATIONS

General

Consider irregular edges on plantings and transition areas which provide greater habitat quality than straight or square plantings.

Nuisance wildlife control is a responsibility of the landowner. Control or prevention activities may be necessary to protect and maintain certain habitats.

Consider diversifying habitat and available food sources by planting a minimum of 1 forb or legume per bloom period (early, mid, late). Use perennial forbs and legumes as much as possible. Consider incorporating native forbs into introduced grass plantings to provide additional diversity, or to meet the needs of target wildlife species.

Consider developing wildlife management plans with assistance from a qualified wildlife biologist when habitat needs are complex. Planners should seek assistance for plans addressing the needs of multiple wildlife species.

Food

In general, consider developing one (1) food plot for every 40 acres of land as a minimum, not to exceed 5% of total planned acreage. Consider making food plots at least 50 feet wide, and a minimum of one-fourth ($\frac{1}{4}$) acre. However, in high deer density areas, food plots should be planted in squares (to reduce the proportion of edge) with a plot size of two (2) to five (5) acres.

Consider locating food plots in the least erosive areas of the field, and dispersing evenly.

Common annual weeds such as foxtail, common ragweed, and smartweeds in food plots are desirable in many instances and control is not necessary. The presence of many native forbs benefit wildlife by providing higher protein and greater number of seeds than domestic grains.

Consider leaving grain crop strips along field edges adjacent to other cover types.

Consider inter-seeding legumes into existing cool season grass stands to provide a needed food source and add plant diversity to attract greater insect populations. See IN FOTG Standard (647) Early Successional Habitat Development/Management for additional guidance.

Cover

Consider using natural regeneration along woodland edges if the sites have an acceptable seed source from adjacent areas. Natural regeneration of light seeded species (e.g. green ash, silver maple, and cottonwood) is likely to establish large numbers of tree seedlings. Consider planting hard-mast trees, such as oaks and hickories, when acceptable seed sources are limiting.

Consider emphasizing placement of tree and shrub plantings which connect isolated wooded sites to reduce habitat fragmentation.

Consider sourcing herbaceous plant material with a local (200-mile radius) genotype.

Consider not disturbing cover during the primary nesting period of April 1 through August 1.

Consider creating brush piles for wildlife cover with materials left from timber stand improvement or opening development. Brush piles should be distributed adjacent to clearings, roads, and along the outer edges of the site. See IN FOTG (645) Upland Wildlife Habitat Management - Wildlife Brush Pile Job Sheet for more details.

PLANS AND SPECIFICATIONS

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

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

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

Plans and specifications will be prepared for the practice site. Plans will include the following:

- Primary wildlife species to be attracted/managed for.
- The amounts and kinds of habitat elements, locations and management actions necessary to achieve the client's management objectives.
- Plan view.
- Species of plants to be established.
- Seeding rates.
- Seeding dates.
- Establishment procedure.
- Planned rates and timing of nutrient application.
- Other information pertinent to establishing and managing the species of plants to be established.
- If grazed, use a prescribed grazing plan according to NRCS IN FOTG Standard (528) Prescribed Grazing.

OPERATION AND MAINTENANCE

Manage habitat elements in proper amounts and locations to benefit the desired wildlife species.

An operation and maintenance plan will be provided to and reviewed with the landowner. The plan will include the following items and others as appropriate.

Any plant species, whose presence or overpopulation may jeopardize this practice, will be controlled. Spraying or other control methods will be performed on a “spot” basis to protect forbs/legumes that benefit native pollinators and other wildlife.

Reestablish vegetative cover immediately where scour erosion has removed established seeding.

Promptly repair eroded areas.

Periodically inspect the area for any new maintenance items and take immediate action to protect from further damage or deterioration.

When mowing is necessary, restrict mowing to August 1 through August 20 to allow re-growth for winter cover. Mow cool season grasses no shorter than six (6) inches and native warm season grasses no shorter than 10 inches.

Use IN FOTG Standard (647) Early Successional Habitat Development/Management, to maintain early successional habitat.

REFERENCES

IDNR Division of Fish & Wildlife. *Species Information*. <http://www.in.gov/dnr/fishwild/3357.htm>

IDNR Division of Fish & Wildlife. *Managing Deer Damage*. <http://www.in.gov/dnr/fishwild/2718.htm>

IDNR Division of Fish & Wildlife. *Wildlife Habitat Fact Sheets* <http://www.in.gov/dnr/fishwild/3025.htm>

Illinois Department of Conservation, Division of Natural Heritage. 1993. Habitat Establishment, Enhancement & Management of Forest and Grassland Birds in Illinois.

United States Department of Agriculture, Natural Resources Conservation Service. *National Biology Manual*. Title 190, Washington, DC. <http://directives.nrcs.usda.gov/17895.wba>

United States Department of Agriculture, Natural Resources Conservation Service. 2004. *National Biology Handbook*. Washington, DC. <http://www.nrcs.usda.gov/technical/biology.html>

United States Department of Agriculture, Natural Resources Conservation Service. *Indiana Biology Home Page* www.in.nrcs.usda.gov/technical/biology/biology.html

United States Department of Agriculture, Natural Resources Conservation Service, *Ecological Sciences Tools and Documents - Technical Notes* <http://www.nrcs.usda.gov/technical/ECS/database/technotes.html>