USDA
NATURAL RESOURCES
CONSERVATION SERVICE

MARYLAND CONSERVATION
PRACTICE STANDARD

UPLAND WILDLIFE HABITAT MANAGEMENT

CODE 645
(Reported by Acre)

DEFINITION

Managing areas to provide the needs of upland wildlife and other wildlife species that use upland habitat for a portion of their life cycle.

PURPOSE

To treat upland wildlife habitat concerns by managing upland areas for one or more of the following purposes:

1. To provide a variety of foods for the desired wildlife species;
2. To provide cover for nesting, fawning, loafing, resting, escape, travel corridors, summer shade, and winter protection for the desired wildlife species;
3. To provide drinking water for the desired wildlife species.

CONDITIONS WHERE PRACTICE APPLIES

This management practice may be applied on upland (i.e., non-wetland) areas where habitat will be actively managed for nesting, feeding, resting, and/or protective cover and travel corridors for upland wildlife, such as songbirds, game birds, deer, rabbits, and squirrels.

This practice does not apply to preserving natural areas, such as shrub lands, forests, and riparian corridors, where no active management or periodic maintenance is planned.

CONSIDERATIONS

The following items must be considered when managing an area for upland wildlife:

1. Purpose of the project, including identification of the wildlife species or groups of species to be supported and the habitat needs that can be met on the managed property;
2. Surrounding landscape and its relationship to the project location;
3. Site conditions such as soils, available water sources, water quality and quantity, and existing vegetation;
4. The feasibility of providing food, cover, and water for the desired wildlife species at the appropriate time of year;
5. The positive and negative impacts that deer, groundhogs, and other upland wildlife may have on the successful management of the site as well as on surrounding areas. Also consider the potential for attracting nuisance wildlife into an area;
6. The effects of management on plants and plant diversity, including the potential for invasion by undesirable and invasive species;
7. The effects of timing of management on wildlife;
8. The effects of management on non-targeted species, especially threatened and endangered species, and other species of concern;
9. The potential use of ecological services in place of mechanical or chemical treatments to achieve management goals (e.g., services provided by grazers);

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service - Maryland or visit the electronic Field Office Technical Guide (eFOTG).

10. The effects of management actions on compliance with federal and state hunting regulations (e.g., baiting);

11. Other constraints such as recurring costs, availability of equipment, access to the site, regulatory or cost-share program requirements, social effects, and visual aspects such as compatibility with the natural landscape.

Refer to the Maryland Wildlife Biology and Management Handbook and the NRCS-Maryland Biology Technical Resources website for additional habitat considerations for songbirds, game birds, rabbits, squirrels, and bears.

CRITERIA

Upland wildlife habitat management shall consist primarily of managing vegetation to provide the quantity, quality, and distribution of upland habitat elements that will best meet the land user's objectives and the needs of the targeted species.

The following elements shall be considered when assessing wildlife habitat. Not all elements may apply to every habitat type.

1. Food – Types of food, quantity, quality, distribution, and seasonal availability;
2. Cover - Types of cover (for nesting, brood rearing, fawning, resting, roosting, escape from predators, summer shade, winter protection, travel corridors), quantity, quality, and distribution;
3. Water - Quantity, quality, accessibility, and seasonal availability;
4. Interspersion and Connectedness - Distance and connections to food, cover, and water.

Habitat development and management shall be based on the results of a habitat appraisal. The appraisal shall be used to determine a quality rating or Habitat Suitability Index (HSI) for an individual field, land unit, or ecological community.

If an evaluation determines that the current habitat quality is less than 0.5 (on a scale of 0 to 1), recommendations shall be made to improve the existing habitat so that the planned (future) condition will have a quality rating of 0.5 or more.

If an evaluation determines that the current condition is equal to or greater than 0.5, recommendations shall be made to maintain the existing habitat in its present condition, or improve it towards optimum conditions.

Where habitat is lacking or less than optimum, provide nesting, feeding, resting, and/or protective cover, travel corridors, and water sources as needed, according to Maryland conservation practice standards. These standards include, but are not limited to, those listed as follows:

1. Conservation Cover, Code 327;
2. Conservation Cropping Rotation, Code 328;
3. Field Border, Code 386;
4. Filter Strip, Code 393;
5. Forage Harvest Management, Code 511;
6. Forest Stand Improvement, Code 666;
7. Hedgerow Planting, Code 422;
8. Pasture and Hayland Planting, Code 512;
9. Pond, Code 378;
10. Residue Management, Codes 329A-C and Code 344;
11. Riparian Forest Buffer, Code 391;
12. Shallow Water Development and Management, Code 646;
13. Tree/Shrub Establishment, Code 612;
14. Wetland Creation, Code 658;
15. Wetland Restoration, Code 657.

Vegetative manipulations to restore plant diversity and provide for wildlife habitat shall be accomplished by mowing, burning, light disking, selective cutting, prescribed grazing, planting of annual food plots, or a combination of these methods, as appropriate. Artificial nest structures shall be provided when natural sites are insufficient for the desired species.

All areas managed for upland wildlife habitat shall be protected, insofar as practicable, from the adverse effects of agricultural, commercial,

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and residential activities. Livestock and other domestic animals shall be managed or excluded as appropriate from designated habitat areas.

Management and maintenance activities shall be conducted at times when there will be minimal disturbance of wildlife and their habitat.

Contamination by pesticides, herbicides, and other chemicals shall be avoided. If weed control is necessary, preference shall be given to mechanical rather than chemical methods, whenever feasible. Frequent monitoring of the habitat area and adjacent areas should minimize the need to control invasive plant species. Noxious weeds shall be controlled as required by state law. Control undesirable invasive species and nuisance species to the extent feasible.

Refer to the Maryland Wildlife Biology and Management Handbook and the NRCS-Maryland Biology Technical Resources website for specific design and management criteria for selected wildlife species.

If the land user wants to manage for wildlife not listed in the handbook, contact the NRCS State Biologist or the Maryland Department of Natural Resources Regional Biologist for assistance.

Note: Specific cost-sharing programs or other funding sources may dictate criteria in addition to, or more restrictive than, those specified in this standard.

PLANS AND SPECIFICATIONS

Plans and specifications for upland wildlife habitat management shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail concerning management of habitat elements to ensure successful implementation of this practice. Documentation shall be in accordance with the section "Supporting Data and Documentation" in this standard.

At a minimum, develop plans and specifications based on the habitat requirements for selected upland wildlife species, or groups of species, as described in the Maryland Wildlife Biology and Management Handbook, with additional items added where appropriate.

The land user's decisions shall be recorded in a wildlife plan. This "wildlife plan" can be written directly into the conservation plan, or incorporated into the conservation plan by referring to a job sheet or to a separate wildlife habitat management plan (e.g., a wildlife plan developed by a Maryland Department of Natural Resources Regional Biologist, or other professional wildlife biologist).

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan shall be prepared for each upland habitat management site. Appropriate Job Sheet(s) may be used to serve as the management plan as well as supporting documentation, and shall be provided to the land user. At a minimum, the following components shall be addressed in the O&M plan, as applicable:

Vegetation

Inspection to determine whether the desired vegetation is present in suitable quantity, quality, and distribution to meet the objectives of the project; the extent of management needed to maintain the desired plant species; and time of year restrictions on mowing, burning, etc., as applicable.

Water Sources

Water availability and quality to meet objectives of the practice; required inspections to assess the integrity of the structure and determine whether it is functioning properly.

Nuisance Plants and Animals

Describe the extent to which plant and animal pest species, including noxious weeds, will need to be controlled.

Acceptable Uses

Describe the acceptable uses (e.g., haying, grazing, timber production, hunting, nature preserve, etc.) and time of year/frequency of use restrictions, if any. Pay particular attention to cost-sharing program requirements as they relate to acceptable vs. restricted uses, and other management restrictions.

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Frequency of Inspections

At a minimum, require annual inspections of vegetative and structural components.

SUPPORTING DATA AND DOCUMENTATION

The following is a list of the minimum data and documentation to be recorded in the case file:

1. Identify the wildlife species desired and the type of habitat to be managed. Provide the field location of the project and acres, and assistance notes. Also note the location of the managed habitat on the conservation plan map.

2. Management plan or completed copy of the appropriate Job Sheet(s), if used.

REFERENCES

1. Martin, Alexander C., Herbert S. Zim, and Arnold L. Nelson, 1951. *American Wildlife and Plants: A Guide to Wildlife Food Habits*. Dover Publications, New York. 500 pages.

2. USDA, Natural Resources Conservation Service, *Maryland Wildlife Biology and Management Handbook*.

3. USDA, Natural Resources Conservation Service. *Conservation Practice Standards*. Maryland Field Office Technical Guide, Section IV.

4. U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, with the Natural Science Center and Adkins Arboretum, 1995. *Native Plants for Wildlife Habitat.* Annapolis, MD.

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