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 and food in proper amounts, locations and times to sustain terrestrial wildlife species that inhabit uplands during a portion of their life cycle.

CONDITIONS WHERE PRACTICE APPLIES

Land where the decision maker has identified an objective for developing, conserving or restoring habitat for one or more species of wildlife.

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

CRITERIA

General Criteria Applicable to all Purposes:

1. Habitat management is based on the specific habitat requirements for the desired species or suite of species. Components of habitat are food, cover, water, the arrangement of these, and the extent or acreage of habitat needed.

2. Needed habitat management is based on an assessment or evaluation of the existing habitat. Based on the evaluation, weak or missing components in the habitat for a given species or suite of species are identified and appropriate management is prescribed.

3. Habitat management consists of the application of a combination of other conservation practices or habitat improvement measures that are applied in a specific manner to meet habitat requirements.

   Conservation Practices
   - Prescribed Grazing (528)
   - Prescribed Burning (338)
   - Range Planting (550)
   - Brush Management (314)
   - Fence (382)
   - Use Exclusion (472)
   - Conservation Cover (327)
   - Nutrient Management (590)
   - Residue Management (329, 344, 345, 346)
   - Filter Strip (393)

Conservation Practices (cont)

- Contour Buffer Strips (332)
- Riparian Forest Buffer (391)
- Riparian Herbaceous Cover (390)
- Pond (378)
- Water Well (642)
- Pipeline (516)
- Watering Facility (614)
- Tree/Shrub Establishment (612)
- Windbreak/Shelterbelt Establishment (380)
- Early Successional Habitat Development/Management (647)
- Restoration and Management or Rare or Declining Habitats (643)

Habitat Improvement Measures

- Disking
- Food Plots
- Over-seeding
- Forest Openings
- Timber Thinning
- Patch Burning
- Wildlife Population Management
- Nest Boxes
- Snag Development
- Browse Renovation
- Half Cutting
- Control or Management of Feral Hogs or other Exotics

4. Specific criteria and guidelines for planning habitat management for individual species are found in the attached supplements.

5. Habitat management for a desired species shall not cause harm to a population or the habitat of federally listed or state listed endangered or threatened or candidate species of plants or animals.

CONSIDERATIONS

The following principles should be considered when formulating habitat management plans.

- Diversity – A large variety of plant species, plant types (tree, shrub, forb, grass) and cover types (grassland, shrubland, woodland) will often provide the best and most stable wildlife habitat for the largest variety of wildlife species.

- Limiting Factor – The habitat component that is in shortest supply will limit the wildlife population. Management must identify the limiting factor and prescribe practices or measures that will enhance that factor. For example, management that would increase the food supply for quail will do no good if there is a shortage of suitable cover.

- Carrying Capacity – This principle applies mostly to species and habitats that are limited by the food supply. There is a biological limit to the ability of habitat to produce food. When there are more animals than the plant resource will safely support, damage can occur to the habitat. As damage occurs to the habitat, carrying capacity is further reduced and animals may suffer malnutrition.

- Sustainability – Wildlife habitat is a self-perpetuating renewable resource when it is properly managed. Sustainable management will insure that basic natural resources (soil, water, plants, animals) are maintained or improved. The manager must be aware of sustainability thresholds for basic natural resources and major wildlife species. Sustainability is the major guiding principle of land stewardship and natural resource conservation.

- Competition – When there is excessive demand for a limited resource, competition is occurring and will often adversely affect habitat. Competition occurs among plants and animals. Less desirable plants often compete with more desirable plants for moisture, sunlight and nutrients. Favoring one kind of plant at the expense of another is a common form of habitat management. Animals that compete for a limited food supply can degrade habitat and restrict wildlife populations. Decreasing the competition will often allow habitat improvement.

- Plant Succession – Plant succession is the change in vegetation that occurs as a site moves toward or away from the potential natural plant community. Much wildlife habitat management is accomplished by manipulating natural plant succession. The manager must know the dynamics of plant succession on the ecological sites that will be managed.

- Fragmentation and Edge – Some wildlife species require large contiguous tracts of uniform habitat while others prefer habitat that is a mixture of various cover types (woodland, shrubland, grassland). Creating edge between cover types may be beneficial to some species such as deer, but may be detrimental to other species such as woodland songbirds. When edge is created in some habitats, species such as brown-headed cowbirds may increase. These birds parasitize the nests of songbirds. Habitat fragmentation occurs when needed cover types become too small or isolated from each other without suitable corridors. Such fragmentation may contribute to the reduction or even loss of certain species.

- Natives – Introductions of exotic plant and animals have caused some ecological and economic problems. Some of these introductions have become invasive or aggressive and cause harm to wildlife habitat. In order to minimize these potential problems, native species are preferred. Invasive exotic species should never be used.

- Side Effects – Almost any desirable land management practice can also be detrimental to wildlife habitat depending on how it is applied and to what extent. There are often potentially harmful side effects that must be fully understood and considered before a practice is planned or applied. For example, herbicidal control of a problem shrub species may also injure or kill other desirable forbs or woody plants.

PLANS AND SPECIFICATIONS

Wildlife management plans and specifications should be developed on a case by case basis tailored to the objectives of the landowner or decision maker. Planning of this practice should be to the RMS (Resource Management System) level wherever possible. Plans should identify the desired wildlife species, the component(s) of habitat that are in need of management and the specific combination of practices or measures that are needed to accomplish management objectives. Plans and specifications shall be recorded using narrative documentation in the conservation plan, job sheets, technical notes, or other acceptable documentation.

OPERATION AND MAINTENANCE

The purpose of operation, maintenance and management is to insure that the practice functions as intended over time. Structural measures should be maintained to remain functional. Vegetative measures should be managed to retain their functional intent. Associated practices should be applied at the interval needed to maintain the habitat in the desired condition. Habitat should be monitored periodically to identify if changes or modifications in management are warranted.

REFERENCES

Bolen, Eric and William Robinson. 2002. Wildlife Ecology and Management 5th Edition. Prentice Hall, 656 pp.
Bookhout, T.A. (ed.). 1996. Research and Management Techniques for Wildlife and Habitats, 5th Ed. Wildlife Society, 740 pp
Rayne, Neil F. and Fred C. Bryant. 1994. Techniques for Wildlife Habitat Management of Uplands. McGraw-Hill, Inc., 841 pp.
United States Department of Agriculture, Natural Resources Conservation Service. National Biology Manual. Title 190, Washington, DC.
United States Department of Agriculture, Natural Resources Conservation Service. 2004. National Biology Handbook. Washington, DC.

Additional references that may be helpful for individual wildlife species are found at the end of species supplements.

APPROVAL AND CERTIFICATION

UPLAND WILDLIFE HABITAT MANAGEMENT

(Acre)

CODE 645

PRACTICE SPECIFICATIONS APPROVED:

/s/ Russell O. Castro	April 7, 2008
State Biologist	**Date**
/s/ Susan C. Baggett	April 11, 2008
State Resource Conservationist	**Date**

CERTIFICATION:

Reviewed and determined adequate without need of revision.

Zone Biologist	**Date**
Zone Biologist	**Date**
Zone Biologist	**Date**
Zone Biologist	**Date**
Zone Biologist	**Date**