

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION
UPLAND WILDLIFE HABITAT MANAGEMENT

(Ac.)

CODE 645

DEFINITION

Wildlife is a broad term defined for this practice to include all living organisms which are out of the direct control of humans (undomesticated). Including but not limited to: mammals, birds, reptiles, amphibians, fish, and insects.

Habitat is the environment in which an organism lives for all or part of their life cycle, which provides cover/shelter, food, water and space in the proper amounts, location and times to sustain health.

Note: All lands, and land uses, can provide habitat for wildlife; but there is great variability in the quality of the land to support wildlife.

Management is a human action to control, direct, or manipulate wildlife populations or their habitats. For this practice, the management purpose is defined as "treating upland habitat to enable movement or to provide cover, food and water in proper amounts, locations and times to sustain wildlife".

Wildlife Habitat Conservation vs. Management

Conservation is an effort to preserve or protect habitat by using natural resources wisely; to ensure that those resources will not be changed, lost, or damaged. NRCS practices, which are not primarily designed for wildlife, all contain measures or considerations to preserve or protect wildlife habitat. Alternatively, practices designed primarily for wildlife include "management"; designed to elevate actions beyond preservation or protection to improve wildlife habitat.

NRCS practice code 645 - Upland Wildlife Habitat Management is designed to *actively* promote, restore, enhance or create habitat for wildlife.

PLANNING

Define Goals & Objectives

Clearly define the landowner or client's wildlife goals & objectives and project expectations. Provided below are a few considerations:

Wildlife as the Primary or Secondary Goal

The landowner or client may identify wildlife (or wildlife habitat) as being the primary goal for their property, or for a portion of their property. There are also situations where wildlife can be the primary goal on a seasonal basis.

Alternatively, wildlife objectives may be considered secondarily to other land use goals. In those situations it is important to assess all goals and objectives to ensure compatibility.

> When wildlife is a secondary objective, all practice criteria must still be met. Refer the NRCS practice standard.

Approaches to Wildlife Habitat Management

Under this practice, there are two main approaches to managing wildlife habitat. It is important to identify which approach is being used.

I. Targeted Wildlife (Species, Group or Guild).

Where the landowner or client has identified that they would like to management for a specific wildlife species, a group of similar species (such as pollinators), or a group of different species which occupy a similar habitat type (called a guild or suite). Under this approach, the project site has to be within the targeted wildlife's distribution range and be capable of supporting the habitat needed to sustain the targeted wildlife.

II. Species Richness/Diversity. Another approach is to provide a healthy and diverse natural ecosystem to support and benefit as many wildlife species and populations as possible. Under this approach, the project site has to be capable of supporting the desired habitat.

PLANNING (cont.)

Resource Inventory & Evaluation

As part of the resource inventory, a wildlife habitat evaluation of the site is required to determine: 1] if the project site is within the targeted wildlife's distribution range, and 2] if the project site is capable of supporting the desired habitat, and 3] to identify if factors may be limiting the value or suitability of the site for the targeted wildlife.

1] Determine Wildlife Distribution Range

If using the targeted wildlife approach, identify if the project site is within the targeted wildlife's distribution range. In some cases this will be an easy determination. For example, species with wide-spread occurrence (pollinators, songbirds), or where they have been reported on or near the site. In other cases it may require some research. On-line data sources include: NM Biota Information System (BISON-M) <http://www.bison-m.org>, and the NM Department of Game & Fish <http://www.wildlife.state.nm.us/>.

General Assumption: If the species is shown to occur in the county, and the project site is within the species elevation range, and the site has, or will have, the habitat associations identified for the species; then it can be assumed that the project site is within the targeted wildlife's distribution range.

If the project site is determined to not be within the targeted wildlife's distribution range, then work with the landowner or client to establish alternative goals and objectives appropriate to the site.

2] Determine Site Capability/Potential

Use all available resource inventory data (soils, topography, precipitation, landscape position, plant communities, etc.) to help determine if the project site has the capability to support the desired habitat. Other references may include soil data reports and [Ecological Site Descriptions \(ESD's\)](#).

If the project site is determined to not have the capability to support the desired habitat, then work with the landowner or client to establish alternative goals and objectives appropriate to the site.

3] Determine the Habitat-Limiting Factors

In the greater context, limiting factors refer to anything which reduces the size, quality or growth of a wildlife population. This may include disease, predation, loss of habitat, natural disasters, hunting or reduced habitat quality (among many others).

However, this practice is designed to primarily address those limiting factors related to habitat.

Habitat-related limiting factors are generally categorized based on elements of the habitat; which are cover/shelter, food, water, and space. If an element is determined to not occur in the proper amounts, location and/or time to sustain the health for the targeted wildlife; then it may be a limiting factor. For example, if nectar and pollen (food) is not provided throughout the growing season (not occurring at the proper time); then this would be a habitat-related limiting factor for pollinators.

At any given site, there may be more than one habitat-related limiting factor.

It may also be determined that there are limiting factors (habitat related or not) that cannot be addressed with this practice. It is important to identify and evaluate all these factors to ensure that the project site can support adequate habitat for the targeted wildlife.

Wildlife Habitat Evaluation/Appraisal Guides

To assist in identifying limiting factors on-site, NRCS has developed Wildlife Habitat Evaluation Guides (WHEG's) for commonly encountered species and groups of species, and Wildlife Habitat Appraisal Guides (WHAG's) for commonly encountered ecosystems or habitats.

- WHEG's or WHAG's can be found online in the [NRCS New Mexico FOTG Section II](#). If one is not provided for the targeted wildlife or habitat, contact the State Biologist for further assistance.
- The 645 practice standard requires an evaluation/appraisal be completed to identify the project area's habitat related limiting factors.

These guides are qualitative and regionally based; they require an understanding of the biology of the species and ecology of the habitat, and should be completed by persons with adequate training. The National Employee Development Center (NEDC) provides [wildlife habitat management training](#), and regional/local-level training may be requested from the NRCS State Biologist.

PLANNING (cont.)

Plan Development

The 645 Practice Standard requires that:

I. application of this practice will remove or reduce habitat related limiting factors 'in their order of significance' as indicated by results of the wildlife habitat evaluation or appraisal. To the extent that:

II. the planning area will provide 'adequate habitat' to support the life requirements of the targeted species. Adequate habitat is defined as "meeting or exceeding the minimum quality criteria for wildlife habitat" as established in the [NRCS FOTG Section III under Resource Quality Criteria](#).

These two criteria are addressed in-detail in this document; however, ensure that all practice standard criteria are incorporated into the plan.

Minimum Quality Criteria

The Wildlife Habitat Evaluation/Appraisal Guide (WHEG/WHAG) is the primary tool used to determine if the proposed plan will meet or exceed the minimum quality criteria. Refer the appropriate guide for more information.

- The practice standard requires application of this practice to meet the minimum criteria; however the Wildlife Habitat Management Plan should be developed to elevate habitat conditions to the highest quality possible.

Wildlife Habitat Management Plan

The 645 job sheet may serve as the Wildlife Habitat Management Plan. The job sheet provides the basic plan requirements:

1. Goals & Objectives
2. Habitat Evaluation
3. Improvement/Management Actions
4. Operation & Maintenance
5. Habitat Monitoring

Supplemental information, or a more in-depth plan, may be attached to or reference in the job sheet.

Supporting or Facilitating Practices

The Wildlife Habitat Management Plan may include supporting or facilitating practices to implement the plan. Practices commonly include:

- Access Control - Code 472
- Brush Management - Code 314
- Early Successional Habitat & Mgmt. - Code 647
- Forage Harvest Management - Code 511
- Forage and Biomass Planting - Code 512

- Forest Stand Improvement - Code 666
- Herbaceous Weed Control - Code 315
- Prescribed Burning - Code 338
- Prescribed Grazing - Code 528
- Range Planting - Code 550
- Restoration and Management of Rare or Declining Habitats - Code 643
- Riparian Forest Buffer - Code 391
- Riparian Herbaceous Cover - Code 390
- Tree/Shrub Establishment - Code 612
- Watering Facility - Code 614

OPERATION and MAINTENANCE

Operation and Maintenance (O&M) includes normal repetitive activities in the application and use of the practice (operation) and repair and upkeep of the practice (maintenance); to ensure that the practice functions as intended throughout its expected life.

An example would be to check bird nesting boxes in the early spring for wasps. If wasps are present, the boxes will not be used by birds (the practice will not function as intended). Operation: check boxes in March. Maintenance: remove any wasp nests.

In addition, each supporting or facilitating practice will also have O&M requirements in their respective job sheets that will need to be met in order for this practice to function as intended.

MONITORING and MANAGEMENT

Monitoring evaluates the effect the practice is having on the targeted wildlife or the habitat quality. This differs from an O&M review which evaluates the function of the practice. For example, the O&M review may find that a practice is functioning as intended, but it may not be having the effect that was intended. In which case, the practice is either re-designed or management actions are implemented to ensure the desired results are achieved.

An example: check bird boxes during or after the nesting season; to see if they were used by the targeted wildlife (monitoring). If used, the practice had the desired effect of providing nesting cover. If the box was not used, move the box to a more suitable location (management) and monitor the following year to ensure success.

- **O&M** evaluates **Function** and results in **Maintenance**.
- **Monitoring** evaluates **Effects** and results in **Management**.

MONITORING / MANAGEMENT (cont.)

The NRCS planner must determine when monitoring is necessary and appropriate. Generally, monitoring is used when the effects of the practice are uncertain, or where it is anticipated that the practice will need to be managed to achieve or maintain effectiveness.

Levels of Monitoring

The level (complexity and intensity) of monitoring depends largely upon what is needed to determine the effects of a practice. In some cases, this will be relatively simple (ex. check nest boxes). In more complex cases, it may require the use of a qualitative monitoring protocol (ex. measure canopy density). Consideration must be made for the skill and ability of whomever will be responsible for carrying-out the monitoring.

The NRCS planner must determine the appropriate method and level of monitoring. General guidance is provided below:

Low-Level Monitoring: Does not require training beyond simple guidance and does not require qualitative data assessment. Examples: taking photo points, documenting livestock rotations/rest periods, keeping annual management records, recording wildlife sightings, documenting location and species of invasive plants, and evaluating basic vegetative condition (one person, one field kit). Anticipated to take 2-4 hours per monitoring site.

Medium-Level Monitoring: May require some training (i.e. attending a workshop) or assistance from someone with a specialized skill set (such as a biologist, agronomist, forester), but it does not require qualitative data assessment. Anticipated to take 4-6 hours per monitoring site.

High-Level Monitoring: May require in-depth training (i.e. class, conference, or series of workshops) or completed by someone with a specialized skill set, and it does require a qualitative data assessment. This may require more than one person monitoring. Examples: evaluating complex or intensive vegetative conditions. Anticipated to take 6-8 hours per monitoring site.

REFERENCES

New Mexico Department of Game and Fish. 2006. [Comprehensive Wildlife Conservation Strategy for New Mexico](#). New Mexico Department of Game and Fish. Santa Fe, New Mexico. 526 pp

New Mexico Department of Game and Fish. 2012. NM Biota Information System (BISON-M) <http://www.bison-m.org>

USDA. [Fish and Wildlife Insights](#). Natural Resources Conservation Service. Online: www.nrcs.usda.gov

USDA. [Fish and Wildlife Habitat Leaflets](#). Natural Resources Conservation Service. Online: www.nrcs.usda.gov

USDA, NRCS. 2003. [National Biology Manual](#). Title 190, Washington, DC.