

STRUCTURES FOR WILDLIFE

(No.)
Code 649

Natural Resources Conservation Service
Conservation Practice Standard

I. Definition

A structure installed to replace or modify a missing or deficient wildlife habitat component.

II. Purpose

To provide structures, in proper amounts, locations and seasons to:

- Enhance or sustain non-domesticated wildlife; or
- Modify existing structures that pose a hazard to wildlife

III. Conditions Where Practice Applies

This practice applies to all lands where planning or managing vegetation fails to meet the short term needs of the species or guild under consideration. This practice can also be applied where a State approved wildlife habitat assessment identifies the need to:

- Provide loafing, escape, nesting, rearing, roosting, perching and/or basking habitat; examples are nesting islands, nesting boxes, roosting boxes, rock piles, perching structures and brush piles.
- Modify existing structures to minimize the risks of injury or mortality to wildlife; examples are the need to:
 1. Add markers to an existing fence
 2. Modify an existing fence by removing wire or adding wildlife friendly wire at appropriate spacing, or
 3. Modify an existing watering facility by installing escape ramps or removing obstacles that impede safe access to water

Do not use this practice to:

- Install new structures or modify existing structures for the control or nuisance animal species.
- Install new structures or modify existing structures for the benefit of captive, feral or domesticated animals.

IV. Criteria

A. General Criteria Applicable To All Purposes

A habitat evaluation shall be conducted utilizing an appraisal tool, approved by Wisconsin NRCS to identify habitat limiting factors by target wildlife species within the planning unit. Wisconsin recognized habitat assessment tools can be found in the References section of this practice standard and Section III of the Wisconsin NRCS Field Office Technical Guide (WI FOTG).

Evaluate the planning unit for the presence of threatened or endangered species (T&E) utilizing the Wisconsin Natural Heritage Inventory (NHI). When T&E species are present in the planning unit, evaluate the potential to maintain or enhance beneficial species habitat as a part of the overall wildlife habitat management plan. The type and/or timing of habitat management activities specified by the plan shall not cause a substantial long term negative impact on the T&E species. Consult the State Biologist for T&E species specific habitat management recommendations. NRCS clients shall obtain all required permits prior to implementation of habitat management activities and implement all actions required by the permit.

Use the following criteria to design, install or modify structures for wildlife:

1. Select the location of structures to meet the needs of the targeted species and not subject individuals to increased risks of injury or mortality.
2. Select materials that are durable and safe for wildlife. Avoid caustic, dangerous, debilitating, and/or irritating materials. If the structure is exposed to sunlight, utilize ultraviolet resistance materials and/or coatings made with non-toxic substances for additional protection from deterioration due to sunlight exposure.
3. Construct habitat structures to withstand normal environmental conditions and meet the needs of the targeted wildlife for the target period of time.
4. If identified as a wildlife structure requiring monitoring and/or management, the structure will be designed and constructed to allow the capability for access.

B. Additional Criteria for Placement of Artificial Habitat Structures

1. Adding artificial habitat structures that are appropriate for the region can increase utilization of these areas. Utilization of artificial habitat structure shall be based on an identified need using a species specific habitat assessment tool. Improper placement and lack of maintenance of artificial habitat structures can result in a net negative impact on wildlife species.
2. Artificial nesting structures can be used to increase wildlife reproductive success in areas where natural nest sites are unavailable or unsuitable. Artificial nesting structures must be installed in habitat conducive to the targeted species. Improperly sited structures can lead to territorial issues, competition and predation. Nest monitoring and nesting structure maintenance must be conducted to limit use by competing or undesirable species and to assess reproductive success.
3. Apply this component to construct nest boxes, bat houses, roost poles, nesting

platforms, and other artificial structures for cavity or roost nesting species. Follow NRCS design and construction specifications.

4. Hibernacula are constructed to act as refuges for species such as reptiles and amphibians as well as invertebrates, providing habitat, shelter and places to bask. Hibernacula are constructed using different materials and specifications depending on the targeted species. They need to be free draining and have good sun exposure. The south facing side should ideally have slightly sparser vegetation so that the reptiles and amphibians can bask easily. Vegetation should be heavier on the north side to provide extra shelter. Hibernacula for amphibians are best located near a water body.

V. Considerations

Consider the following, prior to implementation of this standard and implement mitigation measures as appropriate:

1. Potential negative impacts to target species and non-target species through an increase in predation, disease transmission, nest parasitism or other means.
2. Modification of existing onsite and offsite, barriers, or other conservation structures that may inhibit safe daily and seasonal movement of wildlife.
3. The establishment of native vegetation to supplement and/or eventually replace installed habitat structures.
4. Risks associated with the use of structures by non-target or nuisance species.
5. Safe passage strategies for non-target species.
6. Modifications to structures to inhibit access to the structure by predators.
7. Select appropriate color, orientation and exposure to support thermal regulation.

VI. Plans and Specifications

Develop plans and specifications for wildlife structures within the criteria of this standard and the available standard drawings. Within the plan, describe the biological and physical requirements for applying the practice.

Specify the number, location, spacing, grade, quantities, dimensions, materials and timing of installation of new or modification of existing structures.

Develop specifications for construction and installation of habitat structures by following State technical notes or cited literature. An example of technical literature is the Wildlife Habitat Management Leaflet Number 20 entitled Artificial Nesting Structures (USDA 2008).

VII. Operation and Maintenance

Provide an operation and maintenance plan that is customary and reasonable for the wildlife structures being installed or modified. Provided the timing, scope and intensity of operation and maintenance, with consideration of the needs of the target and associated species. As a minimum, the O&M will include a schedule (timing, frequency, duration) to:

1. Monitor condition and/or usage of structures.
2. Implement adaptive management by relocating, modifying or repairing structures as needed during the season with the least disturbance to target species.
3. Conduct needed maintenance of structures such as removal of old nesting materials, nests of non-target species, undesirable debris, or abandoned structures.
4. Install, modify and/or monitor during the season of year or time of day to minimize disturbance to wildlife.
5. Remove all structures if they are determined (i.e. upon abandonment) to be potentially detrimental to the target species.

VIII. References

USDA, Natural Resources Conservation Service and Wildlife Habitat Council. 2008. Artificial Nesting Structures. Fish and Wildlife Habitat Management Leaflet No 20 (revised) Washington, D.C.

WI NRCS Standard Drawings

WI NRCS Habitat Evaluation Tools