Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

WILDLIFE HABITAT PLANTING

CODE 420

(ac)

DEFINITION

Establishing wildlife habitat by planting herbaceous vegetation or shrubs.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Improve degraded wildlife habitat for the target wildlife species or guild
- Establish wildlife habitat that resembles the historic, desired, and reference native plant community

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where inadequate wildlife habitat is identified as a primary resource concern and a plant community inventory or wildlife habitat evaluation indicates a benefit in altering the current vegetative conditions (species diversity, richness, structure, and pattern) by establishing herbaceous plants or shrubs. The use of annuals that persist over the life of the practice, and annuals that serve as a nurse crop to support the establishment of the persistent vegetative species are appropriate under this conservation practice.

This practice does not apply to—

- Planting of trees. For such plantings, use NRCS Conservation Practice Standard (CPS) Tree/Shrub Establishment (Code 612).
- Wildlife plantings requiring repeated cultivation and planting. For such plantings, use CPSs Wetland Wildlife Habitat Management (Code 644), or Upland Wildlife Habitat Management (Code 645).
- Plantings requiring restoration of abiotic conditions, and plantings with the objective of restoring a rare or declining natural community. For such projects, use CPS Restoration of Rare or Declining Natural Communities (Code 643).
- Plantings with a principle goal of providing forage for livestock or other domesticated animals (e.g., domesticated elk, bison, and deer). For such plantings, use CPSs Forage and Biomass Planting (Code 512) or Range Planting (Code 550) criteria.
- Plantings where erosion control or water quality is a primary resource concern. For such plantings, use CPSs Conservation Cover (Code 327), Windbreak/Shelterbelt Establishment (Code 380), Critical Area Planting (Code 342), or Filter Strip (Code 393).
- Treatment of noxious woody or herbaceous vegetation, when aggressive efforts are required and where success monitoring of treatment efforts is necessary. Use CPSs Brush Management (Code 314) and Herbaceous Weed Treatment (Code 315) when the resource concern is a degraded plant condition due to very difficult to control noxious or invasive species. Following application of CPS Brush Management, and as needed, CPS Herbaceous Weed Treatment (Code 315), the

NRCS reviews and periodically updates conservation practice standards. To obtain the current version of this standard, contact your Natural Resources Conservation Service State office or visit the Field Office Technical Guide online by going to the NRCS website at https://www.nrcs.usda.gov/ and type FOTG in the search field.

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application of CPS Wildlife Habitat Planting (Code 420) may be determined to be needed to fully address the habitat-limiting factors.

CRITERIA

General Criteria Applicable to All Purposes

Identify the target wildlife species or guild and implement all vegetative establishment measures needed to meet minimum NRCS planning criteria of “50 percent of the habitat potential for the species of concern” (USDA NRCS 2003) as identified in a State-approved habitat evaluation protocol (e.g., Wildlife Habitat Evaluation Guide). In most habitat evaluation protocols this is reflected by a score of at least 0.5.

Identify the target habitat conditions to be created with the establishment of selected plant materials. The targeted habitat conditions will include a description of plant species richness, diversity, pattern, and structure. The target conditions include species that do not require annual cultivation and annual planting.

Inventory or assess the adjacent plant communities to determine sensitivity to potential risk of introducing unwanted species (noxious, invasive, and aggressive natives) into sensitive adjacent habitats. This assessment includes risks associated with ingress and egress of people and equipment, and the introduction of new plant materials. Implement actions necessary to address identified risks.

Design wildlife plantings with respect to season of use, life history, home range, condition of adjacent habitats, and landscape context.

Evaluate the location and value of the habitat for the target species or guild, versus risks to nontarget species (e.g., predation of ground-nesting birds in linear and edge-of-field plantings, insecticide impacts on invertebrates, and potential of the new habitat to encourage use by unwanted wildlife). Adjust the species, location, or design accordingly.

Wildlife plantings can create safety concerns for humans and wildlife when such habitat is located near transportation and utility infrastructure. Locate plantings away transportation and utility infrastructure, when safety hazards to wildlife or humans is identified.

Use only species that are noninvasive and adapted to the site.

Native flora often provide greater ecological benefits relative to introduced species. When suitable, practicable, and available use native plant materials.

Seeding rates will be calculated on a pure life seed (PLS) basis.

Plant materials will meet State quality standards.

If seeds are harvested locally from native sites, test seed for purity and germination in order to determine PLS and for weed content, including State-listed noxious weeds. Locally harvested plants (plugs or shrub seedlings) must be harvested from sites without noxious or invasive species. If such sites are not available, then choose the most appropriate commercially available seed or plant materials to meet the intended habitat requirements..

For wildlife plantings (e.g., small pollinator plantings) on native rangeland sites, the species of grass in the mix must be endemic to the site, as determined by ecological site descriptions (ESD) or other technical resources. If endemic native grass seed is not commercially available or suitable, refer to NRCS State specifications for alternatives. The percent grass in the mix will follow the State standard and specifications for this practice.

Specify the composition, rates, planting depth, and proper handling of plant materials to create target habitat conditions within the practice life span.

Implement all necessary vegetative establishment protocols such as site preparation, weed and pest control, planting rates, planting dates, planting methods, cold storage, legume inoculation, and plant material care. Implement post-planting management actions (e.g., mowing annual weeds during establishment) needed to maximize the success of the planting. Follow the best available local, State, or regional level technical information, such as NRCS Plant Materials Center guidelines.

Apply nutrients and other soil amendments only as needed for establishment.

During the establishment period, protect plantings from identified risks such as grazing, fire, excessive weed competition, and other pests.

During the establishment period, inspect the planting site for noxious or invasive plants. Implement appropriate control efforts.

Additional Criteria for Establishing Habitat that Resembles the Historic/Desired/Reference Native Plant Community

Native wildlife are adapted to native flora. Most native wildlife respond favorably to creating habitat conditions that closely resembles those conditions that the wildlife species evolved. These historic conditions (commonly referred to as desired conditions, pre-European development conditions, or reference community conditions) include different disturbance regimes. Implement the following when the wildlife habitat establishment objective is to manage for native wildlife by establishing vegetative conditions that resemble the historic habitat conditions.

- Vegetative establishment efforts shall replicate native plant species richness within the targeted successional stage, as provided by an NRCS-approved data source (e.g., ESD, Natural Heritage Program, and NRCS reference sites).
- If available, maintain the integrity of the local genotype by using source-identified plant materials or local plant materials (e.g., use of local seedbank or harvest of plant materials from local native areas).
- Establish vegetation to create the targeted mosaic pattern (uniform, random, or clumped distribution).
- Following planting, utilize supporting conservation practices necessary to restore or mimic the natural disturbance regime identified and necessary to reach target conditions.

CONSIDERATIONS

Many grassland habitats historically lacked a woody component. Adding shrubs into these habitats can be detrimental to many native wildlife species.

Meeting the target conditions of a seral or late successional plant community on disturbed sites may require a staged approach to establishment of the target plant community. For example, a disturbed site may require 1–2 years of plantings of annuals or crops using standards CPSs Upland Wildlife Habitat Management (Code 645), Conservation Crop Rotation (Code 328), or Cover Crop (Code 340) to build soil organic matter and control noxious grasses.

On native rangeland and native grassland, use of other standards (such as CPSs Prescribed Grazing (Code 528) and Prescribed Burning (Code 338)) may provide the same habitat functions and values necessary for the identified target species or guild but with less site disturbance and with less risk of introducing invasive species.

After the site and soils are suitable, the seral or late successional plant species are established.

Land use and habitat in the associated landscape may influence the ability to achieve wildlife population and management goals. Establish project outcome goals with consideration of adjacent habitats.

If the site was recently used for cropland, hayland, or pastureland, test soils on the establishment site and also on a site with similar soils that have not been fertilized in the past 10 years. If the nitrogen level exceeds natural levels by more than 25 percent, implement nitrogen sequestration techniques, such as planting noninvasive annual grasses (sorghum) and harvesting as hay.

Residual pesticides, herbicides, and nutrients from previous land uses can negatively affect the soil microbiology and establishment success. Plant scavenging cover crops or relocate planting, as appropriate.

Plantings immediately adjacent to lands treated with pesticides provide risks to invertebrates. Use NRCS technical notes and other resources to implement techniques to mitigate for pesticide risks.

Production agriculture, urban development, and energy development can reduce the availability and quality of habitat to resident and migratory wildlife. Increasing the quality of habitat to levels in excess of the minimum NRCS planning criteria threshold of 50 percent (USDA NRCS 2003) of the habitat potential can maximize local wildlife populations and help offset habitat losses in the surrounding agricultural landscape.

PLANS AND SPECIFICATIONS

Develop plans and specifications for each treatment unit according to the criteria. Include in the plan, a detailed implementation schedule with success criteria that covers the entire practice life-span.

The plan will—

- Include the target wildlife species or guild.
- Describe the important target biotic conditions such as species composition, age, structure, or density.
- Document baseline conditions and planned conditions using an approved wildlife habitat evaluation procedure.
- Identify control treatments for noxious, invasive, undesirable, and competing plant and animal species necessary to restore the site to the target conditions.
- As applicable, describe actions necessary to minimize impacts to nontarget wildlife species.
- Include a practice implementation schedule. The schedule will include activities and dates critical to practice implementation and all supporting standards (e.g., CPSs Herbaceous Weed Treatment (Code 315), Brush Management (Code 314), Fence (Code 382), and Stream Crossing (Code 578)).
- Describe site/seedbed preparation methods.
- Provide fertilizer application methods and rates (if applicable).
- Provide planting methods and rates.
- Provide for supplemental water (if applicable).
- Provide for protection of plantings (if applicable).
- Provide a success criteria (target conditions) for the planting, including the target conditions and timeframes.

OPERATION AND MAINTENANCE

An operation and maintenance (O&M) plan will include all activities required to maintain the improved habitat conditions, including—

- Postestablishment assessment process.
- O&M schedule with consideration for adaptive management in the O&M plan.
- Identifying periods of the day or season to avoid disturbance with O&M activities.

REFERENCES

USDA NRCS. 2003. National Biology Manual, Section 511.04 (c), Resource management systems and quality criteria.

USDA NRCS. Plant Materials Tech Note No. 2A, March 2019. Plants for Pollinators in the Intermountain West.

USDA NRCS. Plant Materials Tech Note No. 2B, March 2013. Plants for Pollinators in the Inland Northwest.

USDA NRCS. Plant Materials Tech Note No. 2C, July 2013.Plant Materials for Pollinators and Other Beneficial Insects in Eastern Utah and Western Colorado.

USDA NRCS. Plant Materials Tech Note No. 71, December 2018. Monarch Butterfly Habitat:development and maintenance.