



Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

CONSERVATION COVER

CODE 327

(ac)

DEFINITION

Establishing and maintaining permanent vegetative cover.

PURPOSE

This practice may be applied for one or more of the following purposes:

- Reduce sheet, rill, and wind erosion and sedimentation
- Reduce ground and surface water quality degradation by nutrients, and surface water quality degradation by sediment
- Reduce emissions of particulate matter (PM), PM precursors, and greenhouse gases
- Enhance wildlife, pollinator, and beneficial organism habitat
- Improve soil health

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands needing permanent herbaceous vegetative cover. This practice can be applied on a portion of a field. This practice does not apply to:

1. Plantings intended for forage production. Refer to the conservation practice standard Forage and Biomass Planting (512);
2. Plantings that will be established on critically eroding areas that usually cannot be stabilized by ordinary conservation treatment and management. Refer to the conservation practice standard Critical Area Planting (342);
3. Plantings on field edges or in riparian buffers, for which other standards are applicable. Refer to the conservation practice standards for Field Border (386), Filter Strip (393), and Riparian Herbaceous Cover (390).

CRITERIA

General Criteria Applicable to All Purposes

Select vegetative cover to accomplish the intended purpose of the practice and the objectives of the client. Select plant types and species selected based on their compatibility in growth rates, shade tolerance, moisture requirements, and other characteristics. Plant materials shall either be native to Delaware or introduced and non-invasive (i.e., not likely to spread beyond the planted area and displace native species). When feasible, select locally native plant species and/or species that are beneficial to wildlife. No plant listed by the state of Delaware as an invasive species shall be established in the planting.

Planting rates, dates, and planting methods shall be adequate to accomplish the planned purpose. When available, use certified, high quality seed and planting stock. The method of planting shall include hand

or machine planting techniques, suited to achieving proper depths and placement for the selected plant species.

Vegetation may be established by using seed, bare-root plants, bulbs, rhizomes, corms, tubers, or containerized stock. Younger planting stock is generally preferred to older stock because younger plants adapt more readily to new conditions.

Plantings shall consist of two or more species to provide greater vegetative diversity. For additional requirements concerning species selection, planting dates, and planting rates for seed and planting stock, refer to the applicable sections of the Delaware Conservation Planting Guide.

Apply lime and fertilizer if needed based on soil test results. Refer to the appropriate fact sheets for warm-season grasses, cool-season grasses, and pollinator habitat for more specific information about pH and nutrient requirements. The use of commercial fertilizer and other forms of plant nutrients must be in compliance with Delaware nutrient management regulations, as applicable.

All plant materials shall be correctly handled before planting. In general, all materials shall be planted as soon as possible after receiving them from the supplier. For bare-root plants, keep the roots moist at all times and keep the plants out of direct sunlight as much as possible. Keep seed and other unrooted plant materials cool and dry until planting.

Protect the planting from unacceptable impacts due to pests, wildlife, livestock, or wildfire. Exclude livestock as needed to establish the planting. Control noxious weeds as required by state law.

Additional Criteria to Reduce Sheet, Rill, and Wind Erosion and Sedimentation

Use the current approved wind and/or water erosion prediction technology to determine and maintain the amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective.

Additional Criteria Reduce Emissions of Particulate Matter (PM), PM Precursors, and Greenhouse Gases

In perennial crop systems such as orchards, vineyards, berries, and nursery stock, establish vegetation to provide full ground coverage in alleyways to minimize generation of particulate matter during mowing and harvest operations.

Additional Criteria to Enhance Wildlife, Pollinator, and Beneficial Organism Habitat

To establish high-quality habitat for wildlife, select mixes that have a diverse combination of grasses, forbs, and legumes to provide food and cover.

Schedule mowing, harvesting, weed control, and other management activities to accommodate reproduction and other life cycle requirements of desired wildlife species. Do not mow during the primary nesting season (April 15 to August 15).

If establishing cover specifically to address pollinator habitat, utilize mixes, seeding rates, and species identified in the Delaware NRCS fact sheet *Herbaceous Plantings for Pollinator Habitat*.

Locate habitat plantings to reduce pesticide exposures that could harm wildlife, pollinators, and other beneficial organisms.

Additional Criteria to Improve Soil Health

To maintain or improve soil organic matter, select plants that will produce high volumes of organic material. Use the current soil conditioning index procedure to determine the amount of biomass needed.

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

CONSIDERATIONS

This practice may be used to promote the conservation of wildlife species in general, including threatened and endangered species.

Consider using plant species that have multiple values such as those suited for nesting, biomass, fruit, seeds, browse, aesthetics, and tolerance to locally used herbicides.

Avoid selecting plant species or planting near existing species that may be alternate hosts to undesirable pests or that may be considered invasive or undesirable. Species diversity should be encouraged in order to minimize problems due to species-specific pests.

Consider the potential for volunteer invasive species that could pose establishment or management risks. Include mitigation for these risks in the establishment, maintenance, and management plans, when appropriate.

When establishing habitats with diverse plant species needs, such as pollinator habitat, consider establishing separate planting areas for plantings with different management requirements (e.g., establish clovers for early season pollination in a separate area from a native pollinator mix).

Mature plantings of warm-season grasses can be flammable. Large areas of warm-season grasses should have cool-season grass firebreaks adjacent to woodlands and buildings and in other locations where firebreaks may be needed to manage a prescribed burn.

Inoculating legume seed with the proper *Rhizobium* bacteria should be considered on sites where the legumes to be planted have not been previously grown.

Mowing may be needed during the establishment period to reduce competition from broadleaf annual weeds.

Consider rotating management and maintenance activities (e.g., mow only one-fourth or one-third of the area each year) throughout the managed area to maximize spatial and temporal diversity.

Consider the resource and management requirements for maintaining the planting.

Where pollinator and wildlife habitat are primary purposes, consider less dense seeding rates as long as soil loss is within tolerable soil loss limits.

Consider a diverse mix of plant species that come into bloom at different times and provide a sequence of bloom throughout the year (e.g., plant at least three flowering species from each of the three bloom periods — spring, summer, and fall).

To provide habitat for natural enemies of crop pests, consider a mix of plant species that provide year round habitat and food (accessible pollen or nectar) for the desired beneficial species. Consider habitat requirements of predatory and parasitic insects, spiders, insectivorous birds and bats, raptors, and terrestrial rodent predators. Consult University of Delaware Cooperative Extension Integrated Pest Management (IPM) recommendations for beneficial habitat plantings to manage the target pest species.

During vegetation establishment, natural mulches, such as wood products or hay, can be used to conserve soil moisture, support beneficial soil life, and suppress competing vegetation.

Consider the adverse impacts of high populations of nuisance wildlife such as deer, groundhog, beaver, or resident geese, on the establishment and maintenance of vegetation. When feasible, select plant species that are not preferred foods of the nuisance animals and utilize methods for protecting the plants until they become well established.

Consider the potential for attracting nuisance wildlife into an area, either intentionally or unintentionally. Plantings that contain preferred wildlife foods may be used to attract nuisance wildlife away from valuable

agricultural crops or ornamental plantings, but may also result in attracting additional nuisance wildlife into an area.

Consider the use of grazing animals to maintain herbaceous cover.

Take note of other constraints such as economic feasibility, access, regulatory or program requirements, social effects, and visual aspects.

PLANS AND SPECIFICATIONS

Plans and specifications for this practice shall be prepared in accordance with the previously listed criteria. Plans and specifications shall contain sufficient detail to ensure successful implementation of this practice and may be recorded in narrative form, on Implementation Requirements (IR) worksheets, or other approved forms.

Follow the establishment recommendations provided in the Delaware fact sheets for warm season grass plantings and/or cool season grass plantings and complete the 327 IR worksheet.

The following items shall be addressed, as appropriate:

1. Method of site preparation;
2. Species and rates to be seeded/planted;
3. Seeding/planting dates;
4. Rate and type of soil amendments to be applied (if any);
5. Method(s) used to protect plantings from animal damage (e.g., fencing, repellents, etc.) or for weed control.

Supporting Data and Documentation

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

1. Extent of planting in acres, field number where the practice located, and the location of the practice marked on the conservation plan map;
2. Assistance notes. The notes shall include dates of site visits, name or initials of the person who made the visit, specifics as to alternatives discussed, decisions made, and by whom;
3. Copy of the appropriate fact sheet(s) and completed IR worksheet, or other specifications and management plans.

OPERATION AND MAINTENANCE

An Operation and Management (O&M) plan shall be prepared and is the responsibility of the client to implement. The appropriate fact sheet(s) and IR worksheet may serve as the management plan, as well as supporting documentation, and shall be reviewed with and provided to the client.

At a minimum, the following components shall be addressed in the O&M plan, as applicable:

1. Describe the extent of management needed to maintain vegetation in the desired species composition or age class (if applicable), or no management required (e.g., natural area);
2. Inspect the planting at least annually. Shape and reseed areas damaged by heavy rainfall, animals, chemicals, tillage, or equipment traffic, and any other areas where the stand is not adequate;
3. Check for insects and diseases, and if an incidence threatens stand survival, take corrective action to keep the pest under control;
4. Control undesirable plants by pulling, mowing, or spraying with a selective herbicide. Control noxious weeds as required by state law;
5. Protect the planting from wildfire and damage from livestock, wildlife, and equipment, to the extent

feasible;

6. Where wildlife habitat is a concern, do not mow during the primary nesting season (April 15 to August 15);
7. Apply soil amendments periodically, if needed to maintain plant vigor. If nutrients are applied, refer to the conservation practice standard for Nutrient Management (590);
8. Do not use the planted area for hay storage or machinery parking for an extended period of time, especially if doing so will damage or impair the function of the practice;
9. Describe the acceptable uses (e.g., flash grazing, haying, etc.) and time of year or frequency of use restrictions, if any. *Pay particular attention to program requirements as they relate to acceptable vs. restricted uses and other management restrictions.*

If native cover (other than what was planted) becomes established, and this cover meets the intended purpose of the practice and the client's objectives, the cover should be considered adequate.

REFERENCES

Brown, Melvin L. and Russell G. Brown. 1984. *Herbaceous Plants of Maryland*. University of Maryland, Port City Press, Baltimore.

Brown, Russell G. and Melvin L. Brown. 1972. *Woody Plants of Maryland*. University of Maryland, Port City Press, Baltimore.

Delaware Department of Natural Resources and Environmental Control. *The Flora of Delaware Online Database*. <http://www.wra.udel.edu/de-flora/Introduction/>

US Fish and Wildlife Service, Chesapeake Bay Watershed. 2003. *Native Plants for Wildlife Habitat & Conservation Landscaping*.

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

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

USDA, Natural Resources Conservation Service. *Preventing or Mitigating Potential Negative Impacts of Pesticides on Pollinators Using IPM and Other Conservation Practices*. National Agronomy Technical Note 9, Washington, DC.

Vaughan, Mace, Matthew Shepherd, Claire Kremen, and Scott Hoffman Black. 2011. *Farming for Bees: Guidelines for Providing Native Bee Habitat on Farms*. The Xerces Society for Invertebrate Conservation, Portland, OR.