

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CRITICAL AREA PLANTING

(Ac.)

CODE 342

DEFINITION

Establishing permanent vegetation on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

PURPOSE

- Stabilize areas with existing or expected high rates of soil erosion by water.
- Stabilize areas with existing or expected high rates of soil erosion by wind.
- Rehabilitate and revegetate degraded sites that cannot be stabilized through normal farming practices.
- Stabilize coastal areas, such as sand dunes and riparian areas.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to highly disturbed areas such as active or abandoned mined lands, urban conservation sites, road construction areas, conservation practice construction sites, areas needing stabilization before or after natural disasters such as floods, hurricanes, tornados and wildfires and other areas degraded by human activities or natural events.

CRITERIA

General Criteria Applicable To All Purposes

A site investigation shall be conducted to identify any physical, chemical or biological conditions that could affect the successful establishment of vegetation.

Species selected for seeding or planting shall be suited to current site conditions and intended uses.

No plants on the [Vermont](#) noxious weeds list shall be planted.

Selected species will have the capacity to achieve adequate density and vigor within an appropriate period to stabilize the site sufficiently to permit suited uses with ordinary management activities.

Species, rates of seeding or planting, minimum quality of planting stock, such as pure live seed (PLS) or stem caliper, method of seedbed preparation, and method of establishment shall be specified before application. Only viable, high quality seed or planting stock will be used.

Seeding or planting shall be done at a time and in a manner that best ensures establishment and growth of the selected species. What constitutes successful establishment, e.g. minimum percent ground/canopy cover, percent survival, stand density, etc. shall be specified before application.

Planting dates shall be scheduled during approved dates for the species and to optimize soil moisture for germination and/or establishment.

Apply soil amendments (e.g. lime, fertilizer, compost) at rates necessary to insure stand establishment.

Plantings shall be protected from pests (e.g. weeds, insects, diseases, livestock, and wildlife) as necessary to ensure stand establishment.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service [State Office](#) or visit the [electronic Field Office Technical Guide](#).

All soil amendment application and pest control shall follow the requirements in the Field Office Technical Guide (FOTG).

The amount of plant biomass and cover needed to reduce wind and water erosion to the planned soil loss objective shall be determined using the current approved wind and/or water erosion prediction technology.

Refer to the *Specification Guide Sheet for Critical Area Planting (342)*, FOTG Section IV for site preparation, seeding and mowing recommendations.

Additional Criteria Applicable to Temporary Grass or Grain Cover

Temporary cover during the first year of establishment is allowed if:

1. Required seeds or plant stocks are not available.
2. The normal planting period for the species has passed.
3. Where chemical residue does not allow for establishment of intended planting.
4. Permanent cover will be established the following year.

Additional Criteria Applicable to Shrubs and Ground Cover Plantings

Use good planting stock, adapted to soil and site conditions. Special plants require special handling and care. See <http://plants.usda.gov/> for fact sheets, and contact the State Resource Conservationist for assistance in selecting appropriate plant type and species.

Keep plants moist and cool until planted. Dormant stock should not have initiated growth. Plant in early spring and some species in early fall. The density of cover and species type will govern plant spacing.

Check plants in the spring of the second year of growth. Replant if necessary.

Additional Criteria to Restore Degraded Sites

If gullies or deep rills are present, they will be treated, if feasible, to allow equipment operation and ensure proper site and seedbed preparation.

Based on a soil test, soil amendments will be added as necessary to ameliorate or eliminate physical or chemical conditions that inhibit plant establishment and growth. Required amendments, such as compost or manure to add organic matter and improve soil structure and water holding capacity; agricultural limestone to increase the pH of acid soils; or elemental sulfur to lower the pH of calcareous soils shall be included in the site specification with amounts, timing, and method of application.

Additional Criteria to Restore Sand Dunes and Coastal Sites

Plants for sand dunes and coastal sites must be able to survive being buried by blowing sand, sand blasting, salt spray, salt water flooding, drought, heat, and low nutrient supply.

Local plant lists including appropriate species shall be developed and utilized.

Sand trapping devices such as sand fences or brush matting shall be included in the revegetation/ stabilization plans where applicable.

CONSIDERATIONS

Species or mixes that are adapted to the site and have multiple values should be considered. Native species should be considered when appropriate to site treatment.

Avoid species that may harbor pests. Species diversity should be considered to avoid loss of function due to species-specific pests.

Some seed mixtures contain KY-31 tall fescue that contains an endophyte harmful to grazing domestic animals and wildlife.

In using perennial ryegrass within a mixture it is critical to select only those varieties with a known adaptation in Vermont, such as Yorktown II, Manhattan, Diplomat, Omega and Pennfine. Do not use tetraploid varieties.

Some site locations and conditions may require more innovative approaches to establish adequate cover. For these sites the State Resource Conservationist may elect to refer the site directly to the Plant Materials Specialist.

If mature tree cover is the ultimate goal of a plan, use a temporary herbaceous seeding recommendation listed in the *Specification Guide Sheet for Critical Area Planting (342)*, Table 1. These may also be used when herbicide residue is likely to preclude successful establishment of perennial species.

For the establishment of trees and the enhancement of wildlife, use Standard 612 – Tree/Shrub Establishment and Standard 645 – Upland Wildlife Habitat Management.

Plans should be in compliance with the Migratory Bird Treaty Act.

Planning and installation of other conservation practices such as Diversions, Land Smoothing, Obstruction Removal, Surface and Subsurface Drains or Underground Outlets may be necessary to prepare a critical area for planting.

If mulching is needed, follow the Mulching (484) standard.

When planning nutrient applications and tillage applications, encourage soil carbon buildup while discouraging greenhouse gas emissions.

PLANS AND SPECIFICATIONS

Prepare plans and specifications for each field or management unit according to the criteria and operation and maintenance sections of this standard. Specifications shall describe the requirements for applying this practice to meet the intended purpose.

Record practice specifications using approved specification sheets, job sheets or other acceptable documentation.

The following elements shall be addressed in the plan, as applicable, to meet the intended purpose.

- Site Preparation
- Topsoil

- Fertilizer Application
- Seedbed/Planting Bed Preparation
- Methods of Seeding/Planting
- Time of Seeding/Planting
- Selection of Species
- Seed/Plant Source
- Seed Analysis
- Rates of Seeding
- Mulching
- Planting Trees, Shrubs and Vines
- Supplemental Water for Plant Establishment
- Protection of Plantings

OPERATION AND MAINTENANCE

Use of the area shall be managed as long as necessary to stabilize the site and achieve the intended purpose.

Control or exclude pests that will interfere with the timely establishment of vegetation.

Inspections, reseeding or replanting, fertilization, and pest control may be needed to insure that this practice functions as intended throughout its expected life. Observation of establishment progress and success should be performed at regular intervals until the practice has met the criteria for successful establishment and implementation.

Where establishment of vegetation creates potential habitat for grass-nesting birds, the impacts of vegetative disturbance upon these birds and their nests should be considered and included in operation and maintenance plans. Maintenance activities that result in disturbance of vegetation will not be conducted during the primary nesting season for grass-nesting birds where occupied habitat for these species exists.

Mowing of vegetation shall be done only at specified times.

If required to maintain the vegetative stand, remove trees, brush and other woody vegetation.

Grazing in areas of Critical Area Planting shall not be permitted and livestock shall be excluded at all times.

Inspect and repair water control practices as needed.

Vegetation used on streambanks is subject to considerable damage. The site should be inspected annually in the spring and after heavy runoff to check for needed repairs. Gaps should be filled in by replanting, or laying down and covering the branches with soil of nearby plants. Any structural measures used to control the bank, such as stone riprap, must be kept in repair in order to maintain the effective plant cover.

REFERENCES

USDA, NRCS. 2006. The PLANTS Database (<http://plants.usda.gov>, 19 October 2006). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDA NRCS and Ducks Unlimited. 1997. [Vegetating with Native Grasses in Northeastern North America](#). 63 pp.

<http://plant-materials.nrcs.usda.gov/technical/publications/critical-pubs.html>