

## NATURAL RESOURCES CONSERVATION SERVICE

### CONSERVATION PRACTICE STANDARD

## CRITICAL AREA PLANTING

(acre)

CODE 342

### DEFINITION

Planting vegetation, such as trees, shrubs, vines, grasses, or legumes, on highly erodible or critically eroding areas (does not include tree planting mainly for wood products).

permanent site protection. Initial stabilization involves establishment of non-invasive vegetation. Secondary stabilization plantings with grasses, legumes, forbs and/or shrubs are installed in the year(s) following the initial stabilization.

### PURPOSES

This practice may be applied as part of a resource management system to accomplish one or more of the following purposes:

- Stabilize the soil
- Reduce damage from sediment and runoff to downstream areas
- Improve wildlife habitat and visual resources.

### Additional Criteria for Critical Area Planting

#### Side slopes

The ideal slopes for establishing a critical area planting are 3:1 or flatter. Site preparation is depend on local conditions such as intact fertile topsoil, soil texture, exposed subsoil, highly erodible soil, excessive wetness during part of the year may increase slumping, site accessibility, annual precipitation, and need to install water bars, diversion, or terraces.

### CONDITIONS WHERE PRACTICE APPLIES

On highly erodible or critically eroding areas. These areas usually cannot be stabilized by ordinary conservation treatment and management and if left untreated can cause severe erosion, undesirable plant growth, or sediment damage. Examples of applicable areas are dams, dike, levees, cuts, fills, mine spoils, surface-mined areas, and denuded or gullied areas where vegetation is difficult to establish by the usual planting methods.

#### Seedbed Preparation

Prepare the best seedbed possible for seeding herbaceous plants.

#### Seeding/Planting Methods

Drilling seed: slopes 3:1 or less shall be seeded with a seed drill. Other methods of establishing plants include; broadcasting seed, sprigging plants, sodding, and mechanical or hand planting bare root seedlings, containerized plants, unrooted cuttings, whips, or poles of woody plants.

### CRITERIA

#### General Criteria Applicable to All Purposes named Above

An adequate non-invasive vegetative cover stabilizes the critical area and provides for

#### Time of Planting

In western Washington, plant in early spring or early fall; if plantings can be irrigated during

the summer, they may

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

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be installed anytime during the growing season.

In eastern Washington, plant in early to mid-spring depending on precipitation, dormant seedings of herbaceous plants shall be installed in late fall to winter, frozen soil often limits woody plantings to spring or early fall providing irrigation water or adequate soil moisture is available.

### **Fertilizer and Soil Amendments**

Apply fertilizers to herbaceous seedings and woody plantings only according to the soil test. Fertilization of seedings and plantings is seldom required initially on fertile topsoil. Seeding or planting on sterile soil should be fertilized at rates according to the critical area's soil test.

### **Mulching**

Mulching may be necessary to protect the critical area from eroding during vegetative establishment or to conserve moisture for seedling establishment. See Mulching (484) for specification guidelines.

### **Controlled Access**

Access by domestic livestock, vehicle, or humans that would damage the critical area vegetation by grazing, browsing, or trampling shall be excluded. In some cases, the vegetation itself will control access, such as dense stands of shrubs. In some cases, fencing will be needed. See Fence (382) for specification guidelines.

## **CONSIDERATIONS**

Evaluate the critical area slopes and soils, time of year for proper vegetation establishment, necessity for irrigation, visual effects, fish and wildlife, fire hazards and special construction needs. Other considerations include:

1. Protection of critical area planting from sediment deposits.

2. Provisions for safety and protection of human life and property in all aspects of design, application, and maintenance.
3. Methods by which endangered and threatened plants and animals, and nationally recognized native plant communities will be identified and protected.
4. Requirements for overseeding or planting woody or herbaceous vegetation as necessary.
5. Identification of desirable trees and other vegetation and means for their preservation, and
6. Special techniques for establishing and maintaining vegetation on steep slopes and other critical areas.

Supplemental practice standards Fence (382), Range Planting (550), or Tree/Shrub Establishment (612) should be consulted as appropriate.

### **Water Quantity**

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Effects of vegetation management on soil moisture.
3. Effects of snow catch and melt on the water budget.
4. Effects of increased organic matter on water holding capacity of the soil.
5. Potential for a change in plant growth and transpiration because of changes in soil water volume.

### **Water Quality**

1. Effects on erosion and the movement of sediment and soluble and sediment-attached substances carried by runoff.
2. Filtering effect of vegetation on movement of sediment and dissolved and sediment-attached substance.
3. Short-term and construction-related effects on downstream water courses.

4. Potential for earth moving to uncover or redistribute toxic materials and effect on water or vegetation.
5. Effects on the use and management of nutrients and pesticides and resulting effects on surface and ground-water quality.
6. Effects on the visual quality of downstream water resources.

## **PLANS AND SPECIFICATIONS**

Plans and specifications for critical area planting shall be in keeping with the criteria in this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

Specify seeding and/or planting methods and determine plant species selection. Seeding rates (double the drilled seeding rates), seeding mixtures, recommended plant species and other plant information is available in "NRCS Washington and Oregon Guide for conservation Seeding and Plantings" (September 1999). Plant species native to the site are preferable to non-native species. For western Washington, use non-invasive plants adapted to the westside; in eastern Washington, use non-invasive plants adapted to the eastside conditions.

## **OPERATION AND MAINTENANCE**

The intent of the critical area planting practice is to maintain the appropriate amount of non-invasive vegetation possible on the site. Periodic inspection and evaluation of the critical area to determine maintenance needs. Maintenance activities will include reseeding or replanting damaged or dead plants as needed to obtain the appropriate ground cover. Secondary stabilization plantings are made after the initial stabilization plantings have become fully effective. Exclusion or control of livestock and human activities to prevent damage may be necessary. The primary purpose is to provide site stabilization and protection.