

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

CHANNEL VEGETATION

(acre)
CODE 322

DEFINITION

Establishing and maintaining adequate plants on channel banks, berms, spoil, and associated areas.

PURPOSES

To stabilize channel banks and adjacent areas and reduce erosion and sedimentation. To maintain or enhance the quality of the environment, including visual aspects and fish and wildlife habitat.

CONDITIONS WHERE PRACTICE APPLIES

On channel banks, berms, spoil, and associated areas; except grassed waterways, diversions and areas with protective linings, those covered with water for an extended period, or in areas where conditions will not support adequate vegetation.

This standard applies to the revegetation of open channels, streams, or ditches installed as floodwater diversions (400), floodways (404), open channels (582), stream channel stabilization (584), streambank protection (580), and surface drainage, main or lateral (608). It does not apply to diversions (362), grassed waterways (412), or surface drainage, field ditches (607).

CRITERIA

Side slopes shall permit establishing and maintaining desired vegetation and shall not be steeper than 2:1. In urban and recreation areas, flatter side slopes may be required to provide for public safety and enhancement of visual resources.

Plant species shall be selected from the Vegetative Guide in the FOTG. They must provide a lasting cover to protect the channel area and to maintain the channel design capacity.

Apply fertilizers and soil amendments to supply at least 40 pounds per acre of nitrogen at planting.

Mulch materials will be anchored in place.

Apply irrigation if it is needed for establishing vegetation.

CONSIDERATIONS

Evaluate slopes and soil material, time of year for proper establishment of vegetation, necessity for irrigation, visual aspects, fish and wildlife, fire hazards and special needs.

Provide for protection of channel vegetation from sediment deposits resulting from wind and water erosion.

Provisions for safety and protection of human life and property in all aspects of application and maintenance.

Protection for any endangered and threatened plants and nationally recognized natural vegetated areas.

Need for overseeding or planting woody or herbaceous vegetation on the unexcavated sides.

Protection of existing desirable trees and other vegetation.

Special techniques for establishing and maintaining vegetation near inlets, outlets, or other appurtenances.

The application of channel vegetation can be accomplished by the requirements prescribed by the appropriate Specification for conservation practice 342-Critical Area Planting.

When grazing will be performed as part of the operation and maintenance, consult with a Range Conservationist for grazing period and extent. Control access to channels, as needed by fencing or by other means to protect slopes and vegetation from damage.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these

species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

Channel vegetation may reduce the rate and velocity for the same flow depth. Soil water in the channel banks will be reduced by the amount used by the plants to support their growth.

1. Potential runoff from bare soil during construction.
2. Effects on the water budget components, especially on volumes and rates of runoff.

Water Quality

Channel vegetation may have an effect on surface water quality during the time of establishment. The banks will be exposed during grading, seedbed preparation, seeding/planting until the protective vegetation is established. During the establishment period sediment delivery may be increased. Where

fertilizers are applied, they may be washed into the stream or be applied directly to the water.

Streambank erosion will be reduced in the long term. The channel side slope may be stabilized, reducing the potential for bank failure. These sources of sediment and associated sediment-attached substances may be reduced which will improve water quality. If pesticides are used to control undesired vegetation they may drift or wash into surface water. The vegetation will trap some of the sediment moving overland to the channel and some of the sediment carried by the stream. Stream temperatures could be reduced because of shading and lower soil temperatures when woody vegetation is used.

Vegetation in ditches take up nitrate-nitrogen which may be released during vegetation die-back.

1. Effects of nutrients or pesticides in runoff during establishment of vegetation.
2. Effects of streambank erosion before vegetative establishment.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for specific field sites. Plant species and planting rates shall conform to the Vegetative Guide in Section II of the FOTG.

The location of all supporting practices will be shown on the drawings or conservation plan map.

Specifications for each supporting practice will be developed as addendums to this specification. Specifications will be consistent with federal, state and local regulations.

OPERATION AND MAINTENANCE

Maintenance needed for this practice includes:

Periodic inspection and evaluation of the vegetation to determine stand density, soil fertility, weed problems, pest problems, and any overgrazing.

Management of vegetation growth, as applicable, by mowing, controlled grazing, applying approved pesticides and fertilizer, or other means to maintain the desired cover.

Reseeding or replanting, along with the use of fertilizers and/or soil amendments and irrigation, as needed.