

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD

**CLEARING AND SNAGGING**

(feet)  
CODE 326

**DEFINITION**

Removing snags, drifts, or other obstructions from a channel.

**Scope**

This standard applies to the clearing of trees and brush and the removal of sediment bars, drifts, logs, snags, boulders, piling, piers, headwalls, debris, and other obstructions from the flow area of a natural or excavated channel. It also applies to selective snagging, which is the selective removal of obstructions from the channel and streambanks to increase its capacity to carry water.

**PURPOSES**

To increase the flow capacity of a channel by improving its flow characteristics; to prevent bank erosion by eddies; to reduce the -forming of bars; and to minimize blockages by debris and ice.

Special attention shall be given to restoring, maintaining or improving landscape resources and habitat for fish and wildlife, were applicable.

**CONDITIONS WHERE PRACTICE APPLIES**

Any channel or floodway where the removal of trees, brush, and other obstructions is needed to accomplish one or more of the listed purposes. If clearing and snagging are likely to result in channel erosion, impairment to the landscape resource quality, or impairment to habitat for fish and wildlife, either the clearing and snagging shall not be done or practices to minimize such damages shall be applied concurrently with the clearing and snagging.

**CRITERIA**

The capacity of the channel, both before and after improvement, shall be determined by use of Manning's Formula, using applicable values of the retardance factor "n," for both conditions. The value of "n" used to determine channel capacity after improvement shall

reflect the degree of maintenance expected in future years.

The area to be cleared and snagged shall include the perimeter of the channel, the flow area of the floodway, or both. Adjacent trees or other objects that may fall into the channel shall also be included. Clearing and snagging may be specified for other areas, including berms, for use as temporary disposal areas or travelways, or for planned conservation uses.

Channel stability shall not be impaired by clearing and snagging. The criteria for determining channel stability in open channels (582) shall be complied with. The effect of removing obstructions on downstream reaches shall be considered.

**CONSIDERATIONS**

**Water Quantity**

1. Possible downstream flooding.
2. Effect of changed drawdown on bank stability.
3. Effect of changed flow conditions on ground water recharge.

**Water Quality**

1. Effects of discharge on the flood plain and channel relative to erosion and sediment production, both during construction and after establishment.
2. Effects sediment load, sediment-attached substances, organic loadings.
3. Relationships between stream quality and aquifer quality where ground water recharge occurs.
4. Temporary and long-term effects on visual quality of water and landscape.
5. Effects on onsite and downstream water temperatures.

### **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 critical periods, such as spawning, eggs in gravel's, 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.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for clearing and snagging shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

### **OPERATION AND MAINTENANCE**

An operation and maintenance plan must be prepared by the Designer for use by the owner or other responsible for operating this practice. The plan should provide specific instructions for operating and

maintaining the system to insure that it functions properly. It should also provide for periodic inspections and prompt repair or replacement of damage components.