

PRIMARY USE: Minimize bank erosion.

ADDITIONAL USES: Improve habitat for aquatic plants and animals, contribute to food web dynamics, and enhance aesthetics through the establishment of vegetation.

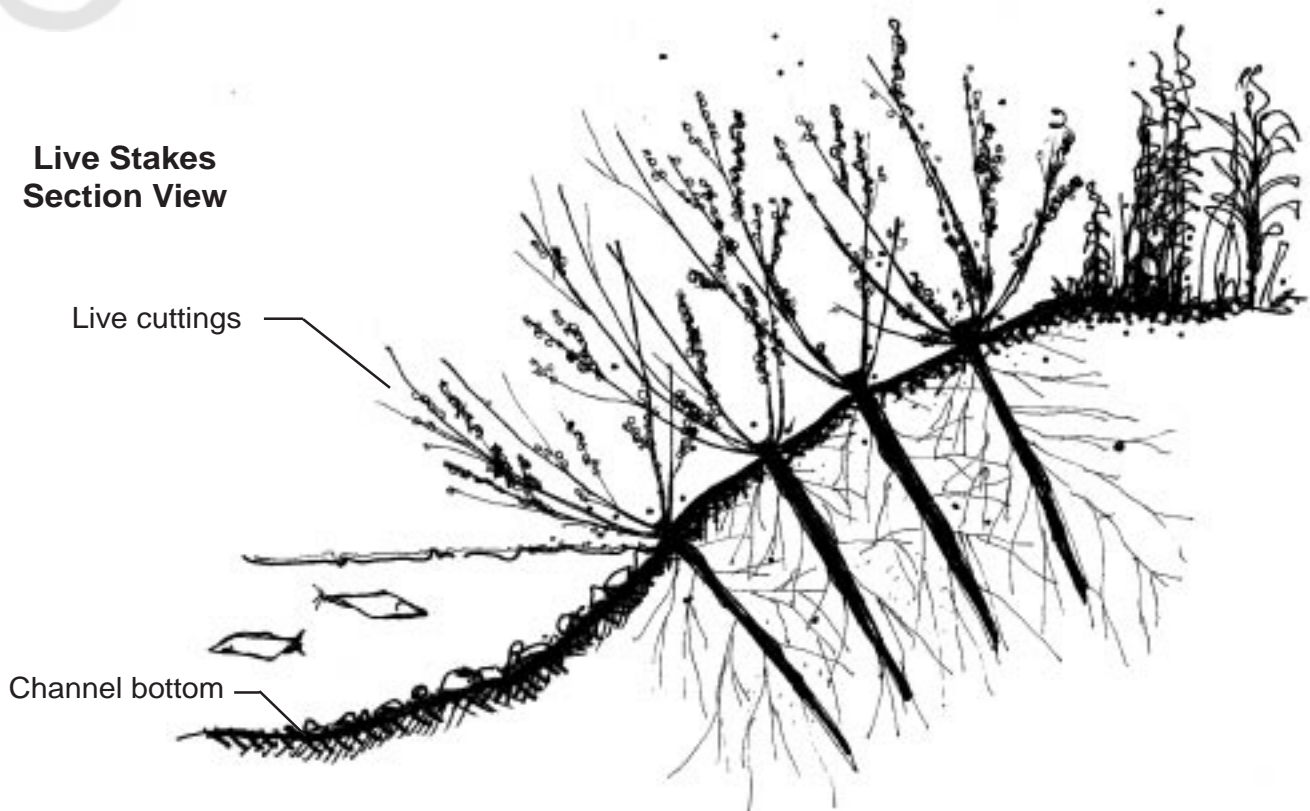
LIVE STAKES

What is it? Dormant, woody cuttings are inserted directly into the toe or streambank.

Purpose

The plant's roots stabilize the soil and control shallow mass movement by binding soil particles together and by removing moisture from the soil.

**Live Stakes
Section View**



Limitations

Complex sites require integrating this technique with others for best results. Cuttings must be installed when dormant, usually September to March.

Materials

Live, dormant materials between 0.5 in (13 mm) and 1 in (25 mm) in diameter and 2-3 ft (0.6-0.9 m) long. Remove side branches, being careful not to damage the bark. Cut basal ends at an angle for easier penetration into soil, and cut tops square to make a suitable pounding surface. Be certain that the buds will be pointed up when planted.

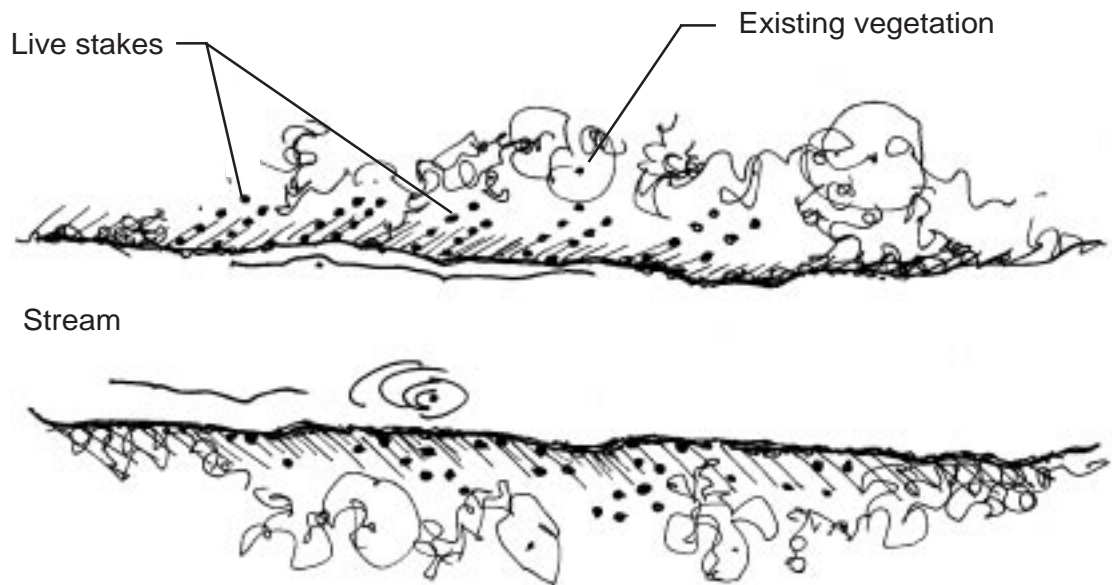
Installation

Pound live stakes at right angles to slope face using only dead blow hammers. Optimally, 4-5 ft (1.2-1.5 m) of the stake is buried. Make pilot holes when necessary. Discard any stakes that split during planting. Tamp soil around stake. Space in a random configuration of clusters with an overall average density of 2 to 4 stakes per square yard (square meter). In other applications, stakes may be installed 18-24 in (457-610 mm) apart in rows that point downstream. Also, water velocity is slowed, sediments are trapped, and erosion is reduced by this method.

Source: Stream Corridor Restoration Handbook, USDA, Gray and Sotir.

LIVE STAKES

Additional Drawings:



**Live Stakes Location
Plan View**