

PRIMARY USE: Minimize bank erosion.

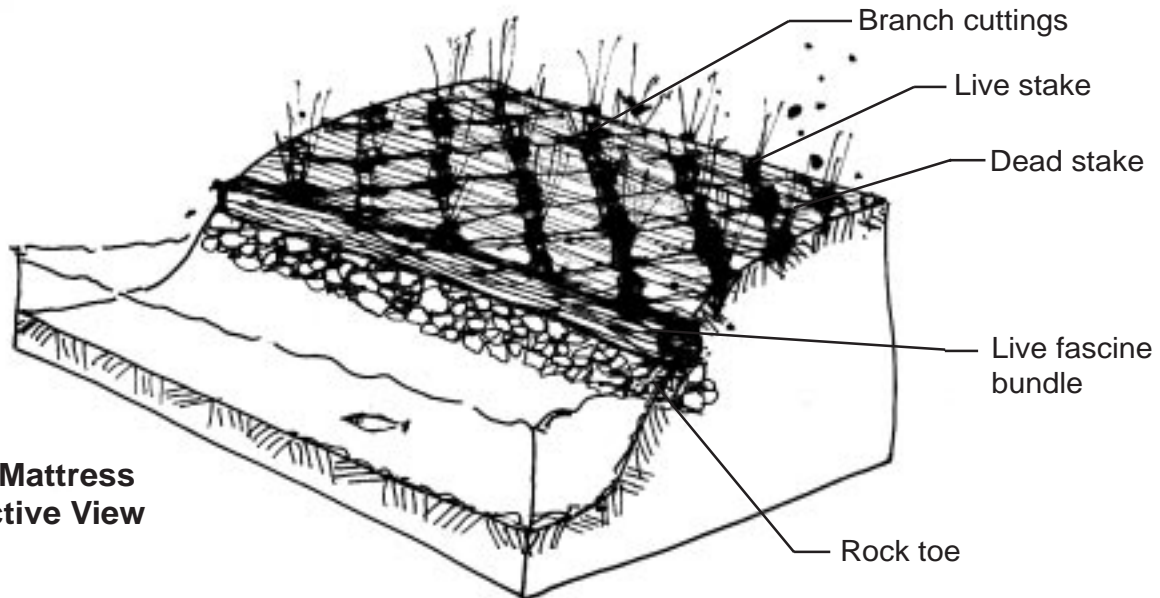
ADDITIONAL USES: Sediment is captured during flood flows and provides opportunities for rooting of the cuttings over the entire face of the bank.

BRUSH MATTRESS

What is it? Technique in which a thick layer of live branch cuttings are installed to cover and physically protect stream banks that is effective on steep banks, and fast-flowing streams.

Purpose

This technique provides immediate protective cover over the stream bank. The cuttings will eventually sprout and restore riparian vegetation and stream-side habitat.



**Brush Mattress
Perspective View**

Limitations

Brush mattresses should not be used on slopes which are experiencing mass-movement or other slope instability. Only stream banks with a maximum slope of 2:1 are suitable. Live stakes and live fascines must be prepared immediately before installation.

Materials

Branches 6 to 9 ft (1.8 to 2.7 m) long and approximately 1 in (25 mm) in diameter. Branches must be flexible enough to conform to slope surface irregularities. Live stakes, live fascines, and dead stakes are also necessary.

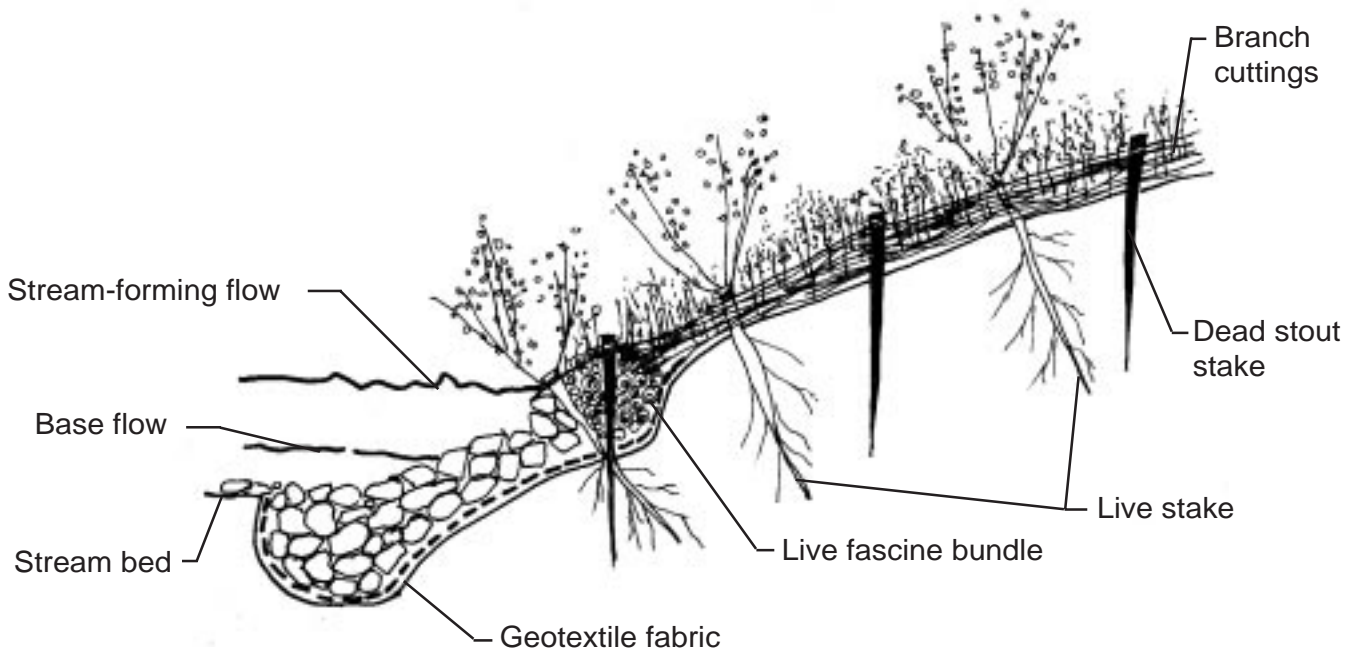
Installation

Construction must occur in the dormant season, generally September to March. A typical installation involves anchoring the lower edge of the brush mattress in a trench, using a fascine to anchor and protect the lower edge from undermining. Place live branches on slope with butt ends pushed into soil below mean water level with the growing tips placed at a slight angle in the direction of the stream flow. Branches should be placed to give coverage of approximately 4 branches every 6 in (152 mm). Pound wooden stakes to half their length into soil between branches, 3 ft (0.9 m) on center. Wrap wire around stakes and over branches as tightly as possible. Pound wooden stakes to tighten the wire as much as possible and compress branches to slope. Tamp live stakes between the wooden stakes. After fascine and branches are installed, place soil on top of the fascine leaving the top slightly exposed. Fill voids between the branches of the brush mattress with loose soil to promote rooting.

Source: [Stream Corridor Restoration Handbook](#), USDA; [Engineering Field Handbook](#), NRCS.

BRUSH MATTRESS

Additional Drawings:



**Brush Mattress
Section View**