

**PRIMARY USE:** Minimize bank erosion.

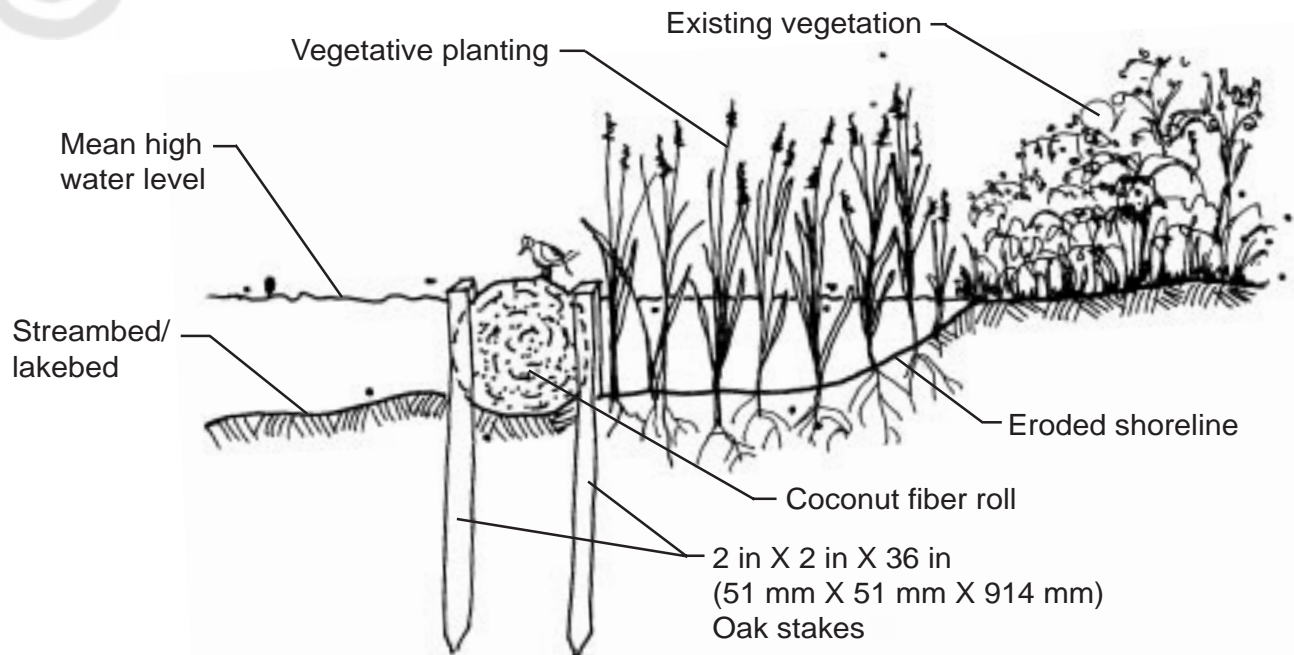
**ADDITIONAL USES:** Sediments are trapped within the fiber roll, encouraging vegetative growth at the water's edge.

## COCONUT FIBER ROLL

**What is it ?** These are cylindrical structures composed of coconut husk fibers bound together with twine woven from coconut. These rolls are most commonly available in 20 ft (6 m) lengths with a 12 in (305 mm) diameter. They are staked in place at the toe of the slope, generally at the stream-forming flow stage.

### Purpose

Coconut fiber rolls are used to protect slopes from shallow slides or undermining. Since the rolls are flexible, they mold to the existing curvature of the stream bank requiring little site disturbance.



**Coconut Fiber Roll with Emergent Vegetation  
Section View**

### Limitations

They are not appropriate for sites with high velocity flows or large ice build up. Because they are manufactured, coconut-fiber rolls can be expensive and must be ordered well in advance of the anticipated installation date. Manufacturers estimate the product has an effective life of 6 to 10 years.

### Materials

Manufactured coconut fiber rolls and dead stout stakes.

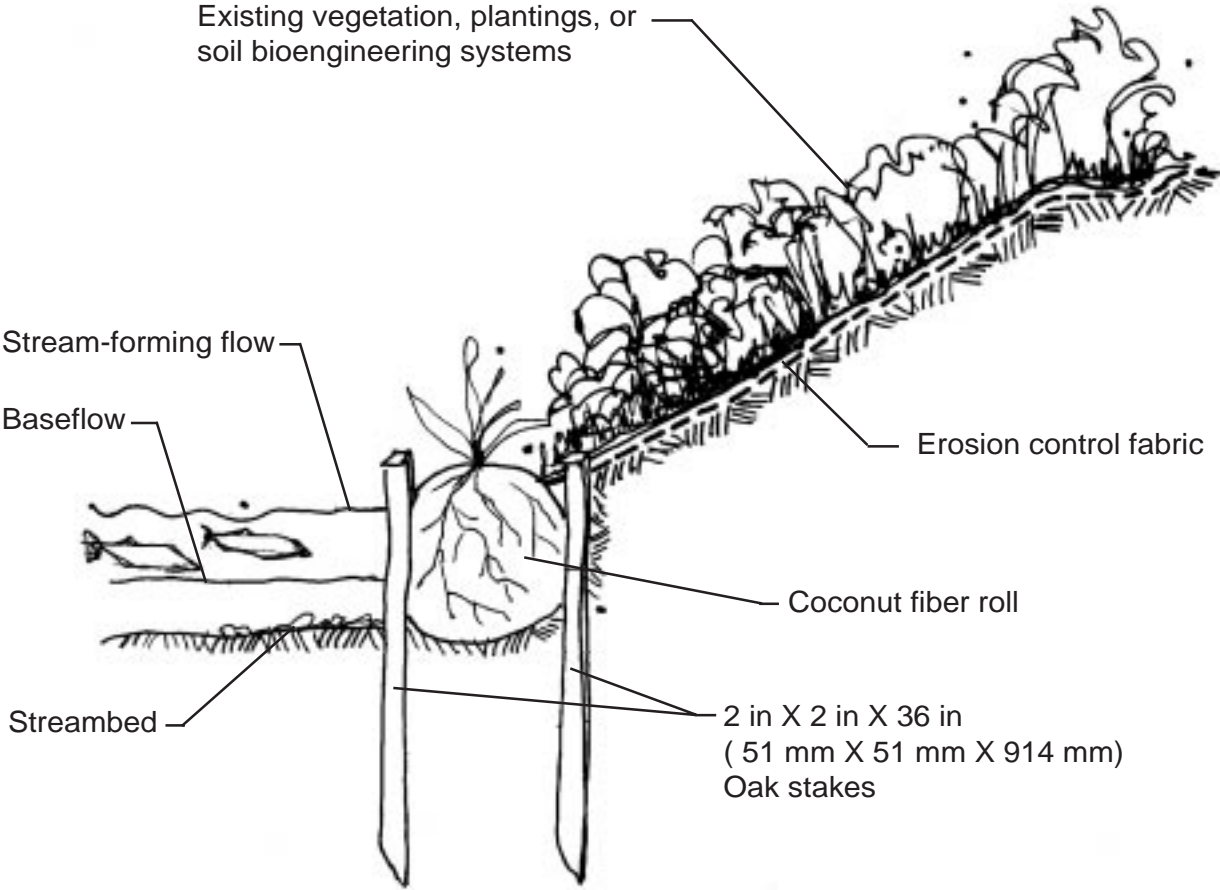
### Installation

Coordinate installation of the coconut-fiber rolls with other bank treatments. Excavate a shallow trench at the toe of slope to a depth slightly below channel grade. Place the fiber roll in the trench. Drive 2 in by 2 in by 36 in (51 mm by 51 mm by 914 mm) hardwood stakes on both sides of the roll at 2-4 ft (0.6-1.2 m) spacing. Spacing is dependent upon the anticipated velocities. The top of the stakes should not extend above the fiber roll. Quarter inch (6 mm) rope can be laced across the top of the fiber roll and secured from stake to stake. Backfill with soil behind the roll. If conditions permit, rooted herbaceous plants may be installed in the coconut fiber. Install appropriate vegetation or soil bioengineering systems up-slope from the fiber roll.

**Source:** Stream Corridor Restoration Handbook, USDA.

# COCONUT FIBER ROLL

**Additional Drawings:**



**Coconut Fiber Roll  
Section View**