

Fish Habitat Restoration Methods Concept Specification Brush Bundles (Fascines or Wattles) and Brush Mattresses

Purpose:

- Primarily to stabilize stream banks.
- Also provides shade and leaf fall for fish habitat.

Conditions where applicable:

- Location must be approved by an Adopt-A-Stream Biologist.
- Eroding earth banks.

Advantages:

- Looks natural.
- Self maintaining.
- Provides shade and primary productivity to the stream.

Disadvantages:

- Full stabilization effect takes time to develop.
- Plants may need to be replaced if they do not grow.

Design criteria:

- Select plants suitable for the soils and moisture content.
- Use integrated methods of bank stabilization to ensure stability.

Implementation steps:

1. Fascines:

- Tie live cuttings into bundles.
- Use on slopes at 2:1 slope or less.
- Dig trenches parallel to the stream.
- Typical spacing of trenches 1 m to 1.5 m apart.
- Place bundles in trenches and stake in place.
- Cover with a thin layer of soil.
- This is best done in the spring or fall.

2. Brush Mattresses:

- Place live branches longer than 1.5 m at a density of 20 to 50 branches per metre.
- The butt ends of the branches are buried to facilitate rooting.
- Secure with stakes and tie down with smooth wire or jute rope.

- Cover the entire mattress with a thin layer of soil.
- Use on banks with 2:1 or 3:1 slopes and greater than 2 m high.

References:

British Columbia Ministry of Environment, Lands, and Parks and Ministry of Forestry. 1997. Fish Habitat Rehabilitation Procedures, Watershed Restoration Technical Bulletin No. 9.

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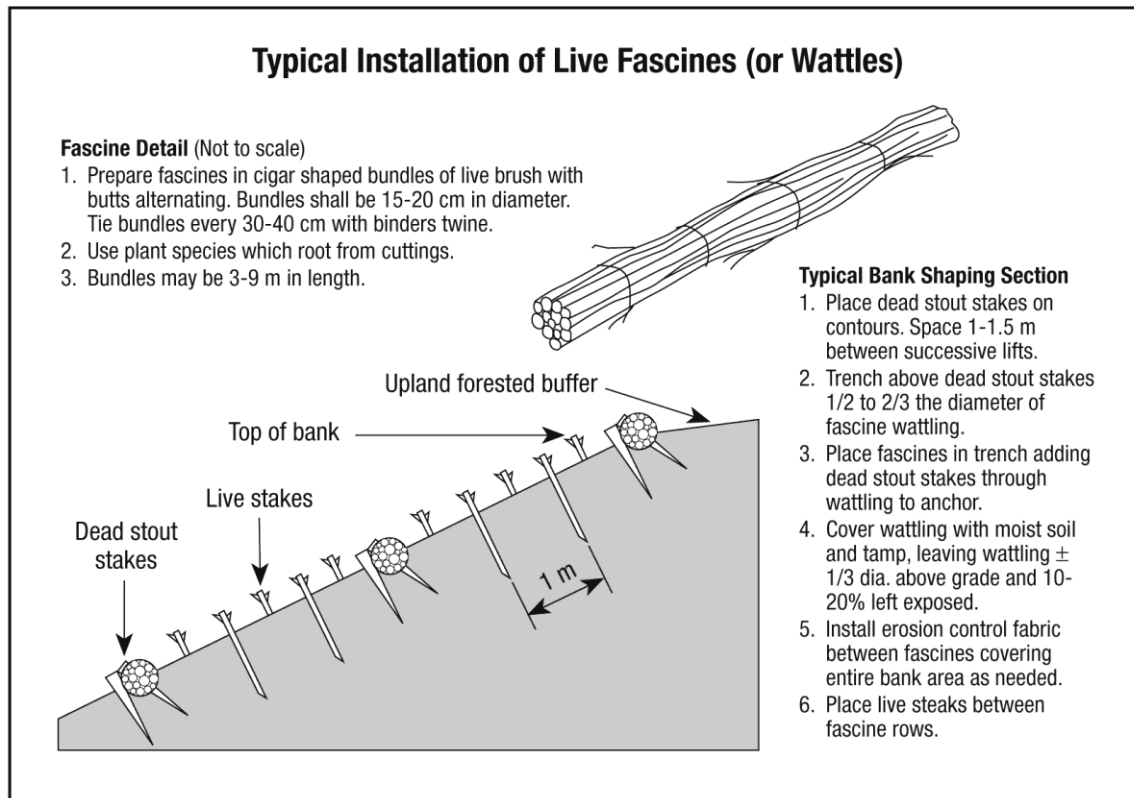


Figure 1. Conceptual drawing of brush bundles (also called fascines or wattles) used to protect stream bank from erosion (B.C. Ministry of Environment, Lands, and Parks and Ministry of Forestry, 1997).

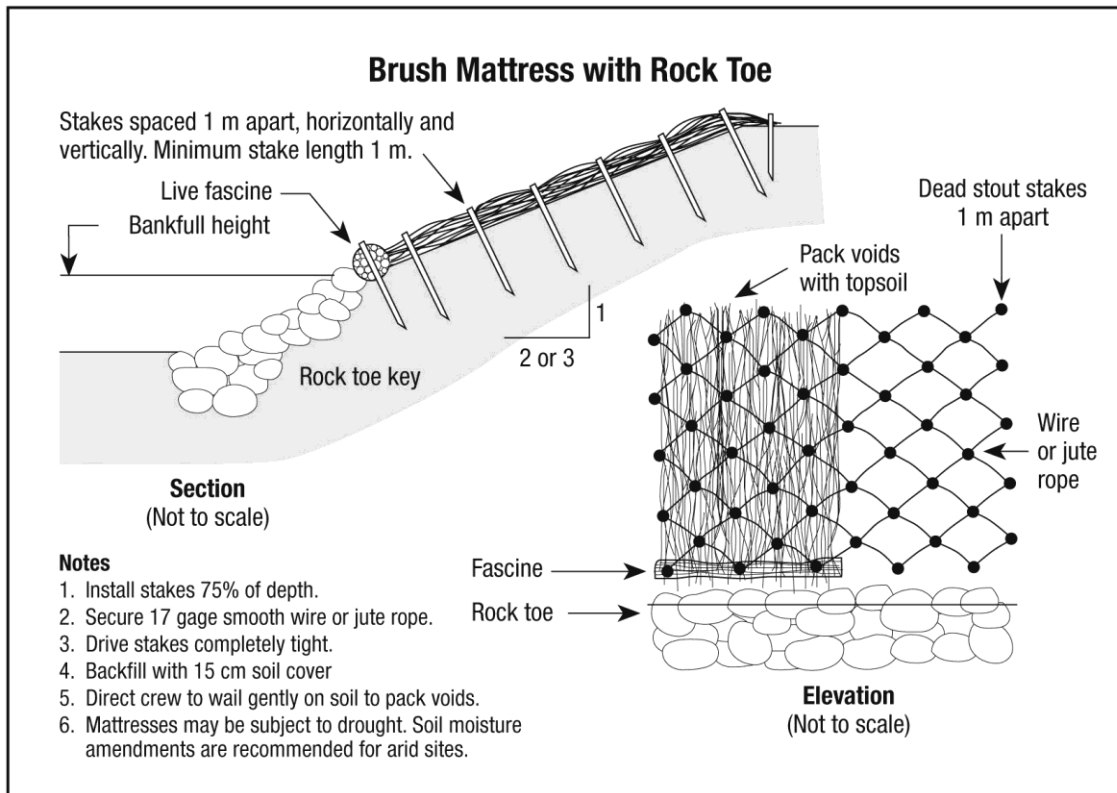


Figure 2. Conceptual drawing of brush mattresses used to protect stream bank from erosion (B.C. Ministry of Environment, Lands, and Parks and Ministry of Forestry, 1997).