

## **Fish Habitat Restoration Methods Concept Specification**

### **Fence Posts**

#### **Purpose:**

- To re-establish an eroding bank.
- To narrow an over-widened section of stream.

#### **Conditions Where Applicable:**

- Instream location and design must be approved by an Adopt-A-Stream Biologist.
- Where the stream has been over widened by erosion or other activities and you need to re-establish the natural stream width.

#### **Habitats Created:**

- Stabilizes bank and reduces siltation of habitats.
- Narrows the channel improving thalweg and pool development.

#### **Advantages:**

- Inexpensive if materials are on site.
- Easy to install.
- Excellent bank stabilization.
- Blends into surroundings.

#### **Disadvantages:**

- Labour intensive.
- Will not tolerate wide fluctuations in water levels.
- Limited life span. Requires regular maintenance.
- Use on streams less than 15 m wide.
- Does not provide cover.
- May undermine if the stream bed is erodible.

#### **Design Criteria:**

- Build the wall up to the height of the high water or the flood plain height on the adjacent bank, whichever is lowest.
- Based on natural stream width and lay out the posts to blend into the banks at both ends.
- Use wood that is resistant to rot such as cedar or hemlock.
- Do not stack logs above the original bank height.
- Backfill should be sloped into the existing bank.

### **Implementation Steps:**

- Drive fence posts or metal t-bar stakes in a double row the width of your logs.
- Drive stakes along the top of the bank at least 3 m into the bank to act as bracing.
- Wire the outside line of stakes to the bracing stakes in a zigzag fashion using heavy gauge wire or heavy braded twine.
- Place a windlass in each wire/twine to tighten the structure after the logs have been placed.
- The wire/twine on the bracing stakes should be buried in a shallow trench.
- Stack the logs between the outer rows of posts, tie each layer of logs to the posts, and overlap the ends of the logs as you each layer is stacked.
- Backfill the area behind the log wall to just above the bracing wires, with brush, and earth as available.
- Be sure backfill cannot get through the log wall. If necessary use filter fabric to line the wall
- Top the bank with soil and plant with grasses and shrubs.

### **References:**

Bastien-Daigle, S., A. Vromans, and M. MacLean. 1991. A Guide for Fish Habitat Improvement in New Brunswick. Fisheries and Oceans Canada. Canadian Technical Report of Fisheries and Aquatic Sciences. 1786E : iv + 109 p.

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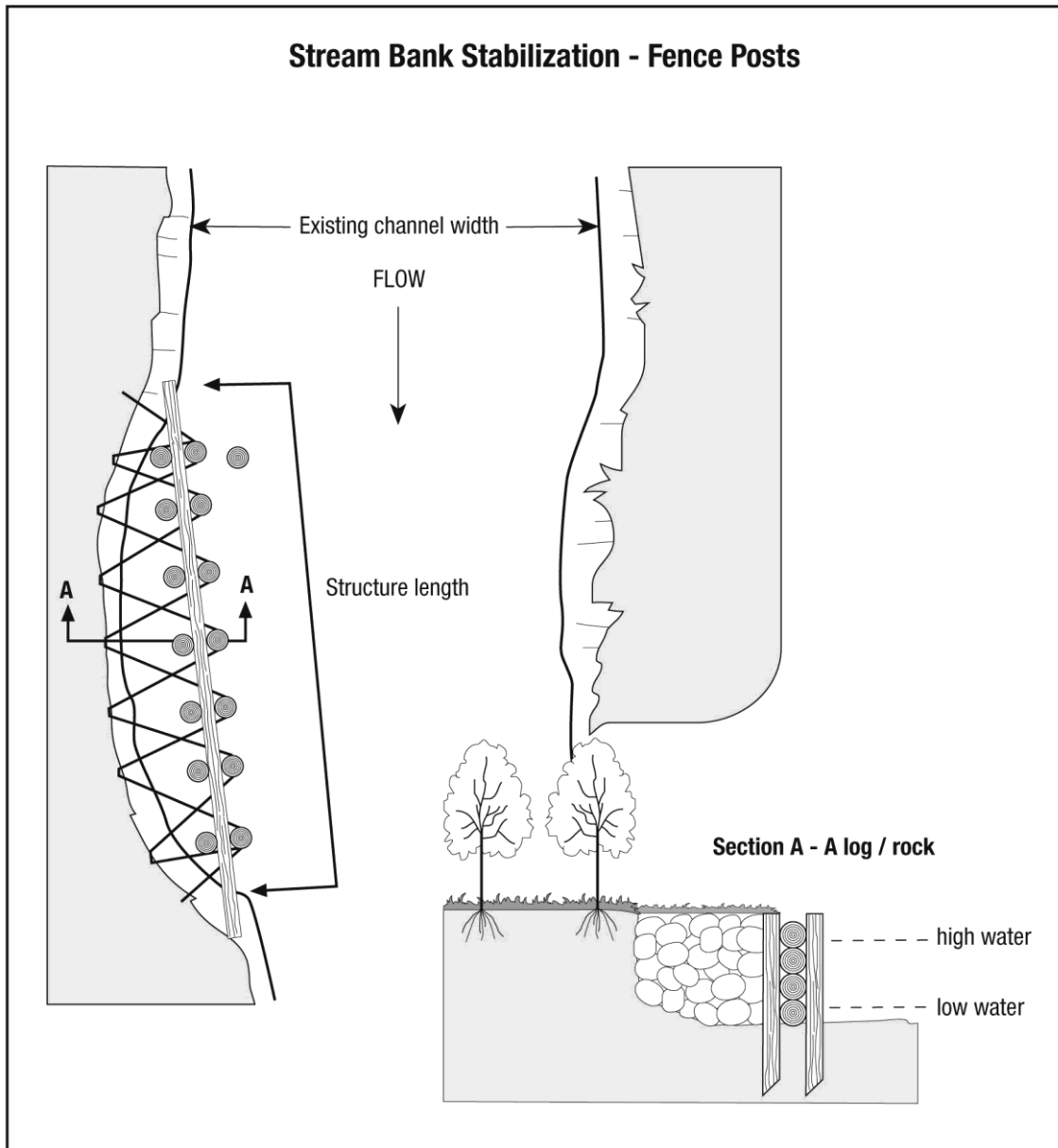


Figure 1. Conceptual drawing of fence posts used to protect stream bank from erosion (Thaumas Environmental Consultants Ltd.).