

Stream Restoration with Leaky Debris Dams

Project Aims - To improve water quality and provide natural flood management in target streams in Somerset. We are aiming to use green engineering and install leaky woody debris dams. They are naturally leaky so that they divert and slow water flow and don't impound it.



Historically - Woody debris dams that occurred naturally were removed because they were believed to impair fish migration and cause local flooding.

Now - We are seeking to re-introduce leaky woody debris, as research has shown that they are essential to stream health, for aquatic wildlife and for natural flood management.

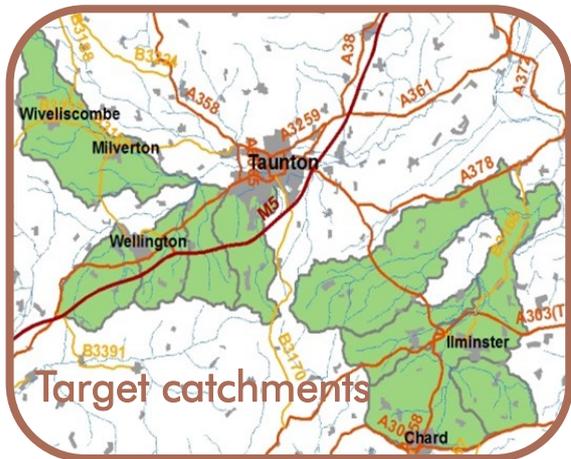
Leaky debris dams have multiple benefits

Improved physical and chemical water quality: Leaky woody debris dams introduce variability of flow speed and depth within streams. Animals and plants that colonise debris take up nutrients. Additionally, leaky woody debris dams stabilise river banks and reduce bank erosion.

Benefits to wildlife: Leaky debris dams provide food sources and more variable habitat for wildlife - shelter from floods and predators, spawning ground, rooting habitat, bird nesting sites, surfaces for microbes and algae to colonise.

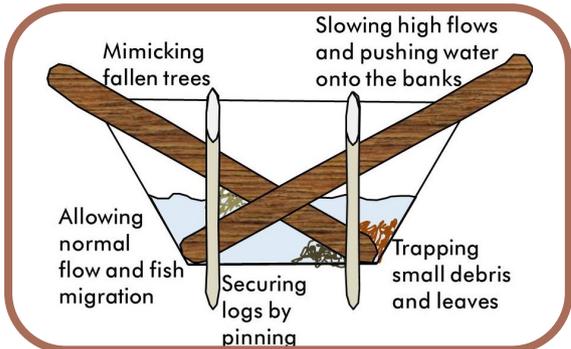
Flood prevention: Leaky debris dams slow the flow from the hills to the levels, allowing more time for the floods to drain off the levels. The efficiency of such debris dams will vary, which introduces variation to the time when high flows arrive at the levels.





Where and how are leaky woody debris dams installed ?

- ◆ Use relatively unproductive sites (woodland or low input grassland).
- ◆ Locally sourced wood is used to mimic fallen trees, debris dams naturally occur in woodland streams every 20 - 30m.
- ◆ The logs are secured by pinning.
- ◆ The stream is not dammed in normal flows therefore fish migration is not impaired.
- ◆ Small woody debris and leaf litter will be trapped, but debris dams are naturally leaky and allow dynamic natural processes.
- ◆ The long-term management is minimal.



What do I have to do & how much will it cost ?

There is minimal work for you, in return we will:

- ◆ Liaise and identify suitable sites on your land.
- ◆ Develop suitable debris dam designs, as will vary depending on the stream type and lay of the land.
- ◆ Organise contractors or you can carry out the work.
- ◆ Help apply for felling licence (if not already in place) and watercourse consent.

No arising costs for you: the funding will pay for:

- ◆ Contractors or for your time
- ◆ Consents and licences

Are you interested ?

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