LEAKY DAMS

These may also be known as 'leaky barriers' or 'leaky debris dams'. They are constructed in-stream to slow the flow by creating a permeable space that allows water through, but reduces the amount of water in the stream during high flows, such as during a storm. These structures can also encourage out of bank spill over which delays downstream peak flows.

Whilst maintaining banks and removing obstructions from rivers is sometimes essential to reducing flood risk, other times there will be certain areas in the channel where leaving obstructions such as fallen trees or adding leaky woody dams could have multiple benefits.

Wooden Structures

Leaky woody dams consist of trees or logs that fall or are manually placed into a rivers channel. They are often designed to replicate naturally fallen trees and create a variety of different habitats and flow conditions. By sitting above normal stream level, fish movement is not affected. These wooden structures can be designed with varying levels of complexity, from one or two pieces of wood placed across a channel to dozens of stacked logs secured to the bank. They begin to gather debris and create a permeable space that still allows the normal flow of water, but at a reduced flow rate during higher flows. To increase the effectiveness of the dams, it may be recommended to create a series of them along the same watercourse.

Image: West Cumbria Rivers Trust

Benefits

- Reduces flow rates to delay floodwater flows downstream.
- Can create pools and riffles on the river's bank which provide habitats for fish and aquatic insects.
- They do not affect fish migration paths.
- Trap or slow the movement of silt and sediment downstream which also improves water quality.