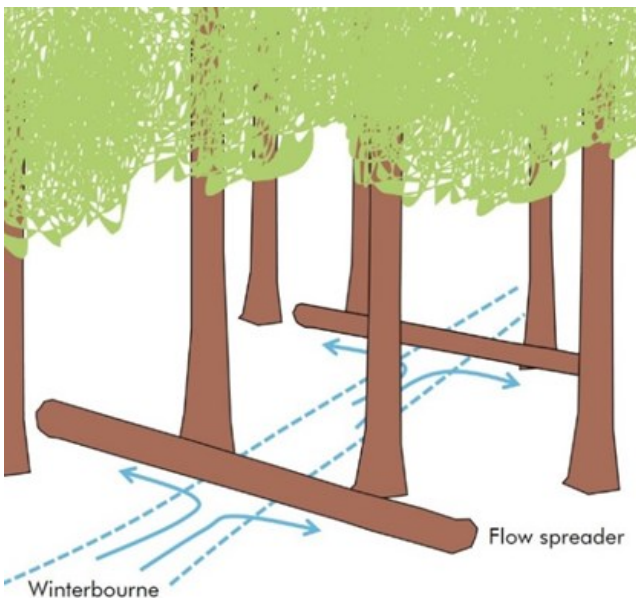


A flow spreader (also known as a leaky barrier) is a green engineering option for natural flood management, made from logs or branches, which mimic naturally fallen trees. Woody flow spreaders build up over time and trap small woody debris and leaf litter. This helps slow the flow of run-off or natural temporary flow paths and gives time for the water to be soaked away into the soils. Other forms of flow spreader such as coir rolls are available and may be considered.

Flow spreaders are ideal for slowing the flow that has been diverted off tracks or roads, and can be used to direct water into ponds or fields of less productivity on the farm. Sediment trapped by the flow spreader can be removed and spread on fields.

## Site Selection

- Across seasonal run-off channels, or in/near field gateways and corners which see high levels of runoff and sediment loss
- Consider the anticipated direction of flow and where this will be stored/directed into
- Where fallen trees could be used to mimic a natural process
- In relatively unproductive sites that are naturally wet and can be temporarily flooded
- Where local wood is easily available, accessible and away from housing, bridges and culverts



*(Left) Woody flow spreader design and (right) an example of a flow spreader constructed in another FWAG SW project.*

## Construction

- Woody flow spreaders work best in a cascade
- Fell suitable trees and think about where the tree will fall when felled
  - Trees that have low habitat, historic, landscape or economic value
- Choose stems of branches and logs that are at least 20 cm in diameter
- Choose branches and logs that are 1.5 - 2 times the channel width; they are unlikely to be moved by high flows
- Secure using wooden stakes
- Jam the logs between standing trees
- Lay / hinge / cleave the stems to allow re-sprouting and re-rooting

**Remember: do not fell between 1<sup>st</sup> March and 1<sup>st</sup> September (GAEC 7A & 7C)**

- You can also use coir rolls (made of recycled coconut husks) as another type of flow spreader, although these must be purchased and hauled to their intended location.
- These also work best in a cascade formation.



## Managing flow spreaders

Long-term management will be required:

- Regular checking of the stability and functioning of the leaky flow spreaders
- In some cases, trapped sediment should be removed regularly. If rapid sediment build-up is a repeated issue, consider assessing the source of sediment loss upstream.

## Further Information

- County Council Land Drainage Consent is not likely to be required. You may need consent from Natural England if the land is designated as a SSSI or in an agri-environment agreement. FWAG SW advisers can help you with this.
- A felling licence is only required if one landowner is felling more than 5m<sup>3</sup> in any calendar quarter.

**Please note: successful bids for constructing flow spreaders will require their construction by December 31st 2022, unless otherwise agreed.**

