

Upstream Management

Upstream management, otherwise known as slow the flow, is a collective term for techniques used to manage flood risk and includes flood storage solutions as well as natural flood management (NFM). Upstream management is the alteration, restoration or use of landscape features to manage flood risk. One technique is agricultural land management.

Agricultural Land Management

Farmland can create rapid water runoff due to the 'poaching' or compacting of soils by livestock and machinery. Agricultural land management aims to reduce compaction, improve soil structure, and increase soil permeability in order to increase the capacity of the land to store water.

Agricultural land is valuable and it is important that land owners are given incentives to encourage them to change the way they manage their land, such as through Catchment Sensitive Farming grants.

Soil Land Management

Cover crops protect and improve soil quality which reduces runoff, and machinery practices such as minimising loads and using flexible tyres (particularly on weakly structured or saturated soils) minimises soil compaction. This improves soil aeration which is useful for increasing infiltration and vegetation growth.

Farm yard techniques

These techniques help to improve runoff management and related diffuse pollution issues. Sediment ponds can manage runoff from roofing and tracks, along with strategic placement of field entrances and the construction of check dams.

Runoff control

Techniques vary from in-field buffer strips and hedgerows to stabilise banks and intercept surface flow paths, to contour cultivation across fields instead of up and down fields to reduce surface runoff.

Benefits

- Enhances soil productivity by increasing aeration and relieving compaction.
- Increases biodiversity by planting buffer strips and farm woodland.
- Reduces diffuse pollution through decreasing sediment transportation and fertiliser runoff.
- Reduces soil erosion which in turn improves soil quality and productivity.

Case Study: Roe and Ive

This project is being carried out by Roe Catchment Community Water Management Group in partnership with various other agencies and groups. The project is still ongoing with the aim of reducing the amount and rate of surface water runoff, and storing water in the wider catchment.

Issues

- Local community flooded three times since 2005.
- In 2005 and 2013, some resulting property repairs took over a year.

Completed so far

- Soil aeration and subsoiling across 63 hectares.
- 25 woody debris dams installed.

Further Solutions

- Convert land in the catchment to deciduous woodland.
- Construct more woody debris dams.
- Help farmers understand potential NFM options.

Benefits

- Store water in the wider catchment, reduce runoff and delay peak flooding.
- Increase awareness of diffuse water pollution.
- Reduce sediment runoff into watercourses.
- Benefits to habitat creation from tree planting and offline storage areas

