

The Problems

Land management will influence the way in which water infiltrates through the soil. Where infiltration is reduced, it can result in surface water runoff. Excess runoff can result in flooding to roads and properties. It can also carry sediment and pollutants into rivers and groundwater, affecting local ecology and the quality of water supplies.

Soil Compaction

Soil damage can be caused by compaction, where the soil surface becomes impermeable and prevents water from infiltrating. This can then result in excess overland surface water flows.

High Risk Crops

Arable crops such as maize, vegetables, winter cereals and fodder crops have a high risk of producing runoff and soil erosion. The risk of runoff occurs particularly where the soils are left bare and compacted over the winter.



Muddy surface water runoff from a field

The Solutions

Excessive surface water runoff can be prevented by good soil husbandry and by matching the choice of crops to suitable ground. This is the expectation of the Code of Good Agricultural Practice.

Reduce soil compaction by...

Avoiding poaching and unnecessary travelling on soil. *Three quarters of farmers always take action to reduce stocking rates when fields are excessively wet* (Defra, England Farm Practices Survey June 2015).

Subsoiling and aeration to break up and loosen dense and compacted soil. Doing this when the soil is dry will ensure that the soil breaks up easily.



Positioning access gates on higher land can help prevent surface runoff onto the roads

Time appropriate activities such as...

Planting crops early in the autumn when the soil is dry. This can ensure good crop cover over the winter to protect the soil from the battering action of the rain.

Avoid planting high risk crops on high steep ground in areas prone to flooding.

Manage overland flow by...

Utilising Natural Flood Management (NFM) techniques, as described below, to slow the flow and manage flood waters in upper catchments, instead of sole reliance on hard engineering.

Maintaining ditches and watercourses

to keep clear of blockages and restrictions.

A well maintained ditch allowing a free flow of water



Using buffer strips and field margins.

Planting trees and vegetation, particularly along contours and across surface water flow paths can help to slow down and reduce overland flow.



Cross-contour ploughing

Creating ponds and wetlands can make valuable storage capacity for flood waters and help to slow down flood flows.

Contour ploughing across the slope where possible can help to reduce the rate of runoff.

Subsoiling, pond creation and woodland planting could potentially damage archaeological sites. To find out more, please contact Devon County Council's Historic Environment Team.

Funding Opportunities

Countryside Stewardship

Countryside Stewardship can help farmers and land managers to achieve benefits for biodiversity, water quality and flood management together. Further information can be found at gov.uk/government/collections/countryside-stewardship-get-paid-for-environmental-land-management.

Cross Compliance

To receive rural payments for schemes such as Countryside Stewardship, cross compliance rules must be followed. These are covered in the Code of Good Agricultural Practice (gov.uk/government/publications/protecting-our-water-soil-and-air) and the Government cross compliance guidance (gov.uk/guidance/cross-compliance-2018).

Land Drainage Consent

Most land management activities will not require any consent. However, some restrictions may apply.

Please contact your Local Planning Authority to check if any planning permissions are required.

Any works within the channel of a watercourse may require either a Land Drainage Consent from Devon County Council (for Ordinary Watercourses), or an Environmental Permit from the Environment Agency (for Main Rivers).

To find out if a stretch of river is a Main River, please contact the Environment Agency or see Devon County Council's Environment Viewer: map.devon.gov.uk/DCCViewer

For more information on Land Drainage Consent and Environmental Permitting, please see: new.devon.gov.uk/floodriskmanagement/land-drainage-consent

and gov.uk/topic/environmental-management/environmental-permits

Useful Contacts and Information

For further guidance on good land management practices to help reduce flood risk, please contact the Devon County Council Flood and Coastal Risk Management team via the contact details below.

Advice and Guidance

National Farmers Union
024 7685 8500 | nfuonline.com/home

Natural England
0300 060 3900 | gov.uk/topic/environmental-management/land-management

Devon Wildlife Trust
01392 279244 | devonwildlifetrust.org

FWAG SW (Farming and Wildlife Advisory Group South West)
01823 660684 | fwagsw.org.uk

Westcountry Rivers Trust
01579 372140 | wrt.org.uk/our-work/activities/land

Environment Agency
03708 506 506 | gov.uk/government/organisations/environment-agency

Devon County Council— Flood and Coastal Risk Management
01392 383000 (and ask for 'Flood Risk') | new.devon.gov.uk/floodriskmanagement

Devon County Council—Historic Environment
01392 382246 | new.devon.gov.uk/historicenvironment/land-management

Soils and Natural Flood Management manual
wrt.org.uk/project/soils-and-natural-flood-management

Managing Land to Reduce Flood Risk

If you farm or own large areas of rural or agricultural land prone to surface water runoff, this guide is for you.

