

Rural Techniques to Reduce Surface Water Flooding



Surface water flooding poses a greater threat to people and property than any other form of flood risk, with over 3 million properties in England at risk. The cause of some surface water flooding may be clear, but there may be a number of actions which together can reduce the volume of surface water making its way into our communities.

Image: The Flood Hub



Natural Flood Management (NFM)

NFM reduces the amount of surface water running off hills and valleys, holding or infiltrating it away from development through the implementation of more natural approaches:

- **Moorland restoration** and replanting of **vegetation** helps to hold more water in the catchment, especially when using sphagnum moss which can hold up to 25 times its dry weight of water.
- **Afforestation**, creation of woodland areas, intercepts runoff which slows and stores surface water.
- Implementing structures such as **leaky dams**, which can be made from fallen trees or other woody material, helps to disrupt the flow of surface water, holding it back and slowing its flow which reduces runoff rates.
- Using natural features of the land to create **wetlands** provides areas for surface water to attenuate, infiltrate and evaporate.

Image: West Cumbria Rivers Trust



Subsoiler slits, Weasenham All Saints, Norfolk
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Soil Management and Farming Techniques

Compaction of soils by machinery and livestock can increase surface water runoff, but changing the way land is used and managed can reduce the volume of runoff:

- **Conservation tillage** leaves crop residue on the ground instead of bare earth, protects the soil surface and allows water to infiltrate instead of becoming runoff.
- **Contour ploughing** helps to reduce surface water runoff by ploughing perpendicular to slopes instead of top to bottom. This allows water to settle on the ground instead of being channelled away down the slope, and infiltration is increased.
- **Buffer strips** of vegetation bordering fields can provide rough areas where water can be attenuated, held and infiltrated which slows the flow of surface water.

Compton Downs
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