

Best Practice Information Sheet

Riparian management

Sheet 45.0a

Managing bank erosion

Why change?

Erosion of your riverbanks by natural processes or livestock can reduce the capital value of your farm. Not all erosion is a problem, but management of damaged or vulnerable areas can help you to reduce costs by:

- limiting the loss of land and maximising crop production
- protecting wildlife habitats, e.g. for fisheries and game
- improving livestock health
- reducing the risk of water pollution.



Accelerated bank erosion resulting from cattle poaching

Steps to success

1. **Review the current situation** by examining the stability of the riverbanks on your farm and the potential for bank erosion. In your review, consider the availability and timing of stock access, stocking densities, vegetation cover and management of woody debris.
2. **Identify potential opportunities** for the improved management of bank erosion on your farm. Identify where banks are eroding and identify the causes of erosion. Look out for damaged and vulnerable areas, e.g. overgrazing, poaching and degradation by livestock, undercutting and slumping, baying between trees, woody debris concentrating flow, lack of bankside vegetation and bare soil.
3. **Calculate the cost-benefit of these opportunities** by considering the potential savings such as reduced loss of land, improved stock welfare and potential income from fishing versus the cost of remedial measures including fencing and the provision of an alternative water supply.
4. **Prioritise** the most vulnerable or damaged locations, e.g. where flood flows are concentrated, erosion and loss of land is severe and/or vegetation is absent.
5. **Develop an action plan** to manage bank erosion on your farm:
 - reduce stocking densities to avoid overgrazing and bank-side erosion, particularly during winter and spring months and drought conditions
 - provide an alternative water supply away from the river to reduce livestock pressure on riverbanks
 - use temporary or permanent fencing to exclude livestock from damaged or vulnerable areas, and allow vegetation to regenerate. Allow bank-side access for drinking water at specific points only, or provide an alternative water supply. Reduce stocking densities after removal of temporary fencing to avoid future erosion damage
 - consider establishing riparian buffer strips to encourage natural regeneration of riparian vegetation, including trees
 - plant native tree species, including willow stakes and whips, to protect riverbanks and benefit fisheries. Aim to create dappled shade with some open sections to allow sunlight in, and to maintain the growth of ground cover. Manage existing and newly planted trees regularly by selective coppicing and pollarding
 - manage bankside footpaths to avoid damage to riverbanks and protect footpaths from bank erosion. Consider re-routing footpaths where erosion is severe
 - always consult the Environment Agency (EA) for advice and permission before planning any work on your riverbanks. Remember that if bank erosion is severe an engineering solution may be required.
6. **Monitor** your riverbanks as part of routine farm walks to help identify erosion problems early.

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Managing bank erosion - Practical examples

Periodic woody debris removal

Only woody debris causing erosion problems was removed from a section of the River Thrushel. The rest was left in place.

As a result, over three years, the trout fishery improved significantly. The farmer saved himself an estimated 15 hours/year by removing less debris.

It is expected that future revenue from the fishery will grow as anglers increasingly return to fish the beat.



Good bankside habitat regenerating once stock is fenced out



A fallen tree may cause a blockage that will result in erosion

Erosion management and fishery improvement

Overgrazing can affect the stability of riverbanks, as well as the quality of habitat for fish and other wildlife, including otters and voles.

Work carried out by the Game and Wildlife Conservation Trust' on the River Piddle in Dorset has shown that fish stocks increased when riverbanks were restored.

The Westcountry Rivers Trust found that livestock grazed 50% of the banks of main-river and its tributaries. Numbers of wild trout were 50% greater in the ungrazed sections.

In the second year, work to fence off and restore riverbanks led to a ten-fold increase in the numbers of juvenile trout in comparison with grazed areas. This leads to increased income from fishing and capital value.



Absence of bankside vegetation makes erosion more serious

Remember

- Work on your riverbanks could have an impact upstream, downstream or on the opposite bank. Always contact the Environment Agency for permission before planning any work.
- Prevention is better and cheaper than cure. Identify vulnerable areas and protect them as soon as practicable. Never use fly-tipped material to stabilise your riverbanks. It is illegal and ineffective in the long term.
- Grant aid may be available under an agri-environment scheme such as Entry Level or Higher Level Stewardship (ELS/HLS). Rivers Trusts often have Angling Passport schemes that help deliver value back to farms which maintain bankside improvements.

For further information: Defra (www.defra.gov.uk), Environment Agency (www.environment-agency.gov.uk), ECSFDI (<http://www.defra.gov.uk/foodfarm/landmanage/water/csf/delivery-initiative.htm>), Natural England (www.naturalengland.org.uk), Cross Compliance Helpline 0845 345 1302 (www.crosscompliance.org.uk) and ART (www.associationofrivertrusts.org.uk)



This information sheet is part of a series providing farmers with advice on land management practices to protect water bodies, produced by Association of Rivers Trusts with support from the England Catchment Sensitive Farming Delivery Initiative. The advice will also enable farmers to use farm resources more efficiently and help meet Nitrate Vulnerable Zone and Soil Protection Review requirements under Cross Compliance and environmental regulation.



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