

Illustrated guide to water courses beside grassland

Rivers, streams and ditches supply much of the water we consume and those with high water quality are also valuable wildlife habitats. Water quality can be damaged by intensive grazing, poaching and other soil disturbance. These activities can contaminate water with sediment containing soil, nutrients and pesticides. This not only affects the quality of downstream water supplies, but can smother river gravels and damage fish spawning areas.

Ideal river bank



River bank in good condition

Bank side vegetation helps to stabilise stream and river banks. Vegetation acts as a barrier preventing sediment, nutrients and pesticides from entering the watercourse.

Fencing off bank sides encourages the development of vegetation. However, this may have landscape implications and temporary fencing may be more appropriate than permanent fencing.

Soil compaction increases the risk of surface water run-off, which contains soil and other unwanted materials. Soil compaction and

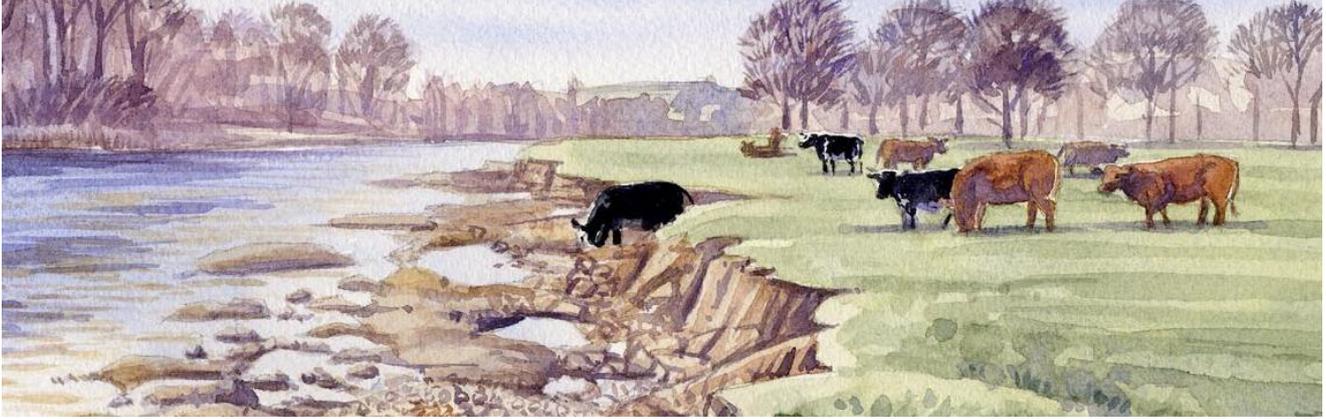
surface water run-off can be reduced by careful grazing management.

Where livestock receive their water supply from watercourses water troughs, drinking bays or stock operated pasture pumps should be installed.

Where they frequently cross a watercourse, consider providing stream culverts and fencing to restrict access.

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Avoid



Risk of contaminating river water

Keep livestock out of watercourses to reduce bacterial contamination.

Do not intensively graze adjacent to rivers and streams, particularly in the winter or during wet conditions.

Do not feed livestock near watercourses and move feeding sites regularly to reduce poaching.

Do not locate manure heaps where there is a risk of run-off polluting water.

Streams may be on a smaller scale than rivers but the principles are the same and there may be greater opportunities for livestock to access, and contaminate, the water.



Threats to stream

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Ditches

Light grazing can be beneficial for ditches as it controls coarse grasses, helps maintain open water and creates trampled areas for plants and insects. However, like rivers and streams heavy grazing and poaching of margins should be avoided.

Ditches may get silted up and need to be managed. This should be done sympathetically. Do not leave all the ditches unmanaged and then carry out drastic management on them all at the same time.

Remove all cut vegetation from the bank side immediately after cutting to prevent pollution, but only remove spoil, roots and under-water vegetation after it has been left for a few hours on the top of the bank. This will allow invertebrates and amphibians to return to the water.

Do not use spoil to create ditch edge embankments or to infill wet hollows in fields.

Ideal ditch profile



Ideal ditch profile

Unless managing for a particular species with different requirements, such as water voles, aim to maintain or create a variable, shallow profile with gentle slopes or with submerged ledges.

Water Voles require some steep banks with uncut grass and tall herbs on the bank tops.

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Ideal management of ditch network



Sympathetic management of the ditch network

Avoid



Avoid managing all the ditches at the same time and removing all the bank-side vegetation

Notes

Ditches should be cleaned out on rotation so that there are a range of conditions, from recently cleared, through well vegetated, to silted ditches.

Work from one bank only, leaving the plants on the other bank undisturbed. Retain channel features such as gravel beds and riffles.

Work in the autumn, after 1st October, to minimise disturbance to plants and animals.

Ditches are man-made features that were primarily created to drain farmland. Some were first dug in medieval times or earlier.

They can be an important part of the historic landscape and provide clues about how our ancestors used and altered their environment. When cleaning or restoring a ditch do not dig beyond its original shape as this can damage the historic interest. If you need to re-profile an old ditch then retain some existing silt over the whole profile.

Further information

Natural England publications are available to download from the Natural England website at www.naturalengland.org.uk.

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In particular see:

- NE230 - *Farming for cleaner water and healthier soil*

For enquiries please contact the Natural England Helpline on 0300 060 0863 or email enquiries@naturalengland.org.uk

This guidance has been developed to support Environmental Stewardship agreements. It does not replace an agreement and you must continue to follow the prescriptions and specifications.

The outcomes shown may not be appropriate or suitable for all sites. Please consult scheme

handbooks or your Natural England adviser for further information.

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