

Riparian Management



Water vole

Mike Read

Caring for Aberdeenshire's Burns and River Banks

Aberdeenshire's rivers add diversity to our landscape and provide habitats for a wide variety of plants and animals.

Many of the species and habitats identified as being locally and nationally important are associated with rivers and burns. These include Atlantic salmon, water vole, otter, freshwater pearl mussel and riparian woodland.

The purpose of this leaflet is to encourage and help landowners, farmers and fishery managers to contribute to the wildlife value of their watercourses by raising awareness of the factors affecting these habitats and highlighting the options available for appropriate management.

Factors affecting riparian management...

Erosion & lack of vegetation



This can be a common problem on farmland, when livestock graze the banks and poach the ground on their way to the water to drink.

- Cultivation close to water margins can also cause erosion. In severe cases, bank collapse can occur.

Lack of vegetation results in little cover for bankside wildlife and allows soil to wash into the water more readily, choking fish spawning gravels.

- Livestock dung can seriously pollute a watercourse, causing a reduction in water quality and risks to both animal and public health. Pesticide, fertiliser and slurry run-off can have disastrous effects on the aquatic habitat.



Dee District Salmon Fishery Board



Dee District Salmon Fishery Board

Changes in vegetation just months after a fence is erected to protect a water margin

Simple measures can be applied to help eroded banks recover:

- **Create a Buffer strip ...** A buffer strip of about 5m of natural vegetation left between cultivated fields and watercourses will reduce the impact of run-off, minimise danger from spray drift and create wildlife habitat. If natural vegetation is not present, the buffer strip can be sown with a grass and wildflower mix which will attract insects. Tree planting within the strip can create an attractive landscape feature, provide shelter and stabilise banks in the long term. It is a requirement under LERAP spraying regulations that most sprays are not used within 5m of a watercourse and the creation of a permanent buffer strip ensures that these regulations are not breached.



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A buffer strip on arable land adjacent to a watercourse, eligible for a grant through agri-environment schemes. It protects the burn from spray drift and attracts a range of wildlife.

10m buffer strips can be established as part of set-aside and are an ideal way to maximise the benefit of set-aside.

- **Fencing to exclude stock ...** Where livestock needs to be excluded, fencing is the best option. The fenced-off water margin will recover quickly and tree planting will further enhance the habitat and landscape.
- **Reduce siltation ...** Soil loss from fields and ditches can be intercepted with silt traps created as small rushy wetlands that slow the water, causing the sediment to be dumped before it reaches the main watercourse.
- **Repair works ...** In many cases where erosion has previously been a problem, the protected bank, once fenced, will recover in a relatively short time. If bank repair is needed, there are 'soft' engineering options which are less intrusive, cheaper and more effective in the long term, than 'hard' engineering. Soft bank repairs can be carried out using willow stakes, conifers from thinnings, logs, etc. Contact the organisations listed for more details.
- **Grants ...** Grant aid, such as the Rural Stewardship Scheme, may be available for the creation and management of some types of water margins and buffer strips. Contact FWAG for details.



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Healthy bankside vegetation.

Wetlands and Floodplains



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Lapwing

- Flooding is a natural feature of rivers and is the reason flood plains exist, but this function has been greatly affected by drainage works.
- Flooding of farmland can be a problem, especially if newly sown arable fields are affected, but while some unexpected flooding may occur, allowing parts of the farm to flood is sometimes a more realistic approach than trying to prevent it.
- Allowing controlled flooding can have benefits - it takes pressure off land downstream and slows down the erosive force of the watercourse.
- A regime of light grazing in late summer can be beneficial to wetland wildlife. In this way the flood plain can be managed both for livestock grazing and as a habitat to encourage wildlife, supporting declining species such as lapwing, snipe and curlew.

- Consider turning frequently flooded arable fields into permanent pasture and investigating grant aid potential under the Rural Stewardship Scheme for wetland management. It may be possible to carry out joint management with a neighbour.
- Woodland management or planting of species such as willows and alders may be another option on a flood plain. This may be eligible for grant aid. Contact the Forestry Commission for details.



Ian Francis RSPB

Seasonally flooded pasture, excellent feeding ground for lapwing

Access

- Many watercourses are subject to some form of access, whether for management, fishing, shooting or walking. Often a water margin can be a useful tool for allowing access whilst keeping users safely away from farm operations and livestock.
- Paths should be sited carefully to avoid disturbance to wildlife, erosion of the bank or path flooding.
- Gates or stiles might be needed to allow safe access.
- Contact your local council for assistance and advice on access provision.

Canalised Burns

- Many of Aberdeenshire's burns have been straightened to form uniform channels.
- Commonly associated problems are steep banks prone to erosion, increased siltation of the burn, lack of vegetation cover and fast flowing water of little value to fish and other wildlife. These canalised watercourses often require regular and expensive maintenance.
- When managing such burns, it is important not to over-deepen the channel bed and to maintain a bank profile which can support vegetation and resist erosion and slipping. If a return to a more natural, self-cleaning profile can be achieved, this usually reduces the need for regular maintenance.
- Careful tree planting can help to improve bankside habitat, shape and stability.



Dee District Salmon Fishery Board

Canalised burn many years after dredging activities have stopped.



Dee District Salmon Fishery Board

Recently dredged burn, prone to erosion, leading to siltation and on-going management.

- In some cases, sensitive bankside works such as placing small boulders into the bank or channel can help re-create a meandering varied flow of water, which helps the self-cleaning process. Advice should be sought in such instances however, as interfering with water flow in one location can have knock-on effects downstream.
- For more information refer to the Dredging, Ditching and Drainage leaflet available from Grampian FWAG

Riparian Woodland



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Mature riparian woodland fenced off to allow tree regeneration



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Native tree planting along a riverbank

- Broadleaved riparian woodland is a valuable habitat, helping to boost fish populations by providing a source of insects which drop into the water, and producing leaf litter which encourages invertebrate populations in streams.
- If there is a seed source nearby, a protected water margin can develop into riparian woodland, a priority habitat for biodiversity action in Aberdeenshire.
- Livestock grazing in woodlands hinders the establishment of young trees, so the wood becomes old and moribund. Fencing to exclude stock will allow seedlings to establish.
- Planting new trees along a water margin is an attractive option which may be eligible for grant aid. Use trees grown from native seed or cuttings if possible. Suitable species include wych elm, alder, goat and grey willow, ash and bird cherry.

Forestry

- In contrast to broadleaved woodland, conifer plantations next to watercourses are undesirable but until recently, many commercial conifer forestry plantations were planted right up to watercourses.
- Conifer plantations can cause localised acidification and run-off and drainage problems can lead to heavy silting of the burn.
- Conifers should be removed if growing too close to the banks to reduce shading and allow vegetation to develop naturally. Where appropriate, native trees and shrubs should be planted



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Before and after management - Conifer plantation on the River Don. The conifers were too close to the bank, but selective felling has allowed natural bankside vegetation to develop.

For more information and advice contact:

Grampian Farming and Wildlife Advisory Group (FWAG)

Provides practical on-farm advice on a range of issues including sources of grant aid. Free initial visit. Tel 01330 830080 email grampian@fwag.org.uk

Scottish Executive Environment & Rural Affairs Department (SEERAD)

Administers the Rural Stewardship Scheme, the main source of grant aid for environmental improvement on farms. Aberdeenshire office. Tel 01467 626222

Scottish Natural Heritage

The government agency for nature conservation. May offer grant aid towards small projects. Tel 01224 642863

Scottish Environment Protection Agency (SEPA)

The statutory agency for water quality. Tel 01224 248338

Aberdeenshire Council Planning and Environmental Services

Advice on planning regulations and guidelines. Tel 01224 664342

Forestry Commission

Provides grant aid for tree planting. Tel 01466 794542

North East Native Woodlands

Provides advice on riparian woodlands Tel 01464 821070

References

Management of watercourses is a complex subject and this leaflet is just an introduction. For further information the following references should be consulted.

Dredging, Ditching and Drainage. A guidance leaflet on best practice. Available from Grampian FWAG

A manual of River Restoration Techniques.

Published by the River Restoration Centre, Silsoe Campus, Silsoe, Beds MK45 4DT

Farming and Watercourse Management - A Good Practice Handbook.

Available from WWF, The Square, Aberfeldy PH15 2DD Tel 01887 820449

Restoring and Managing Riparian Woodlands

Scottish Native Woods Tel 01456 486426

Grant aid

Rural Stewardship Scheme (RSS). This is the main source of grant aid for farmers to assist with the creation and management of habitats. It is administered by SEERAD. Options include annual management payments for watermargins, wetlands, and flood plains. Payments are made over 5 years based on a farm environmental audit. FWAG can provide advice and draw up the audit.

Forestry Commission Woodland Grant Scheme. This provides payments for planting schemes greater than 0.25 ha which can be suitable for creating or enhancing riparian woodland.

Local projects. FWAG runs locally based river projects with grants for fencing and tree planting. Contact FWAG for further details.

