

Guidance for Developers

Buffer Strips Adjacent to Water Courses and Water Bodies

A buffer strip is an area of land maintained in permanent vegetation that helps to control soil and water quality and has other environmental benefits. Physical separation of activities from the stream maintains bank vegetation which helps to maintain temperatures and leaf litter inputs, enriches the riparian habitat and promotes connectivity between the river and its floodplain.

Buffer strips alongside water courses and water bodies are important in protecting and promoting biodiversity and in improving water quality and run-off. The effectiveness of a buffer strip will be influenced by the width of the buffer, its characteristics (slope, vegetation and soil type), and how it is managed.

1. Value

Buffer strips alongside watercourses are valuable for the following reasons

- Larger buffer strips can reduce run-off into watercourses and therefore reduce flooding.
- They are essential in allowing access for the maintenance and inspection of watercourses, and for dealing with pollution incidents.
- They provide space for natural fluvial processes such as channel shape and planform adjustment which help restore and maintain the natural dynamic balance of river systems and associated habitats.
- Vegetation stabilises banks and reduces soil erosion.
- They provide a habitat for plants and animals and can form part of a habitat network.
- They provide opportunities for access.
- They can help to improve water quality by filtering run-off before it enters the watercourse.
- They provide opportunities to undertake restoration of straightened or realigned watercourses in the future.
- They improve the visual landscape of the area.

2. Recommended width of buffers

The optimum width of a buffer strip adjacent to watercourses will be affected by the width of the water course, site conditions and topography. Buffer strips should be proportional to the bed width of the river and should be a minimum of 6m with up to 20m for major rivers such as the Rivers Dee and Don. Where semi-natural habitat is present adjacent to the water course (e.g. riparian woodland) the whole of this habitat should be protected, regardless of width. Where there are opportunities to undertake restoration of straightened or realigned watercourses, a wider buffer may be required.

Scottish Planning Policy states that development must not take place within the functional floodplain and the need to protect the whole of these areas will override the buffer width guidelines suggested below. Areas at risk of disturbance by fluvial processes will require a geomorphological assessment in order to assess the appropriate buffer strip.

Where the ground is steeply sloping, run-off will be faster and a wider buffer will be required.

Buffers strips can contribute towards open space allocations.

This is guidance for use within Aberdeenshire Council for commenting on planning applications and related issues.

For a site bordering still water (i.e. lochs and ponds) the margin should be between 6m and 20m wide, depending on the size of the water body with larger areas having a wider buffer.

For all watercourses a buffer strip of a minimum of 6m and up to 12m (or 20m for larger rivers) on either side of the watercourse should be retained, with wider rivers having a larger buffer strip than a narrow burn. This will be measured from the top of the bank. Where semi natural habitat such as riparian woodland or species rich grassland is present, the buffer could be extended to include the whole of this area.

For ditches a buffer strip is still required, but for smaller ditches there is some discretion to reduce the buffer strip to a minimum of 3m depending on requirements for access for maintenance.

This table provides guidelines only as the width will be dependent on site conditions such as the nature and topography of the surrounding land. Wet, poorly drained soils and steep slopes (>10°) will require a larger buffer strip.

The creation of hard standing such as vehicle access track should normally be avoided within buffer strips as this will increase run-off, however pedestrian access with permeable surfaces is generally acceptable.

Width of watercourse	Width of buffer strip
Less than 1m	6m buffer
1-5m	6-12m
5-15m	12-20m
15m+	20m+

This guidance is supported by SEPA and SNH.

Where possible bridge abutments must be a sufficient distance back from the river bank to allow for future river movement, and where appropriate access under the structure.

Developers carrying out works in or adjacent to watercourses and water bodies should be aware of General Binding Rules under the Controlled Activities Regulations.

3. Characteristics

The characteristics of a buffer strip will influence its effectiveness.

During the development phase buffer strips should be fenced off and vegetation should be left undisturbed and this is particularly so where wetlands, woodland, grassland or other semi-improved habitats are present. Only in exceptional circumstances should the vegetation within a buffer strip be removed, and only then for landscaping if required. Within a buffer strip all works should be carried out in accordance with SEPA Pollution Prevention Guidelines.

If the land forming the buffer strip is arable or improved grassland there may be some merit in sowing with a grassland or wildflower mix but this should be made up of indigenous species, where possible from a local source.

Some planting of locally native trees and shrubs can enhance a buffer strip and can help to stabilise banks and limit erosion (although here may be areas where planting could cause hydraulic issues downstream). Overhanging trees create shade and the leaf litter can provide shelter and food for invertebrates. Care should be taken to avoid too much planting with at least 50% of the watercourse left open to sunlight during the summer when leaves are on the trees.

It is important to avoid gaps in buffer strips in order to provide continuity of habitat.

4. Management

Management prescriptions will be site specific and should be included in any Landscape Maintenance Plan. In general the preference would be to leave these as more natural areas with limited management of the vegetation to avoid build up of leaf litter, development of scrub and risk of blockages in the channel downstream. More intensive management of some areas may be appropriate for particular uses such as access and recreation.

Wherever possible buffer strips should be retained with open space for the development to ensure long term protection.

Policy background

Water Framework Directive (2005) Water Environment and Water Services Act establishes a new framework for the management and protection of the natural water environment.

The Nature Conservation (Scotland) Act 2004 introduces a duty on all public bodies to further the interests of biodiversity.

Aberdeenshire Local Plan Policies ENV\16 Water Catchment Areas and ENV\4 Biodiversity are relevant.

Additional Reading

SEPA Pollution Prevention Guidelines PPG 5 'Works & Maintenance In or Near Water'.

Watercourses in the Community: A Guide to Sustainable Watercourse Management in the Urban Environment' SEPA 2000.

SEPA Good Practice Guide WAT-SG-44 'Riparian Vegetation Management'.

River Restoration Centre 'Manual of Techniques'.