

SURFACE WATERS ALTERATIONS HANDBOOK

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1 Introduction

Rivers, lakes and coastal waters have been changed by man over the centuries.

Engineering activity, such as the construction of weirs and canals can change the shape and size of water bodies and alter their natural flows. Other activity near watercourses such as the removal of trees and vegetation from river banks can lead to soil erosion and can reduce protective shading for fish, fry and other water based animals.

In order to protect our waterbodies¹, it is important that everyone is aware of the laws and controls in place with respect to alterations to waterbodies. This handbook is for landowners and people and organisations involved in carrying out activities that may alter the physical characteristics or flows of waterbodies.

The following pages provide advice on the current regulatory controls and best practice guidelines which apply to alterations. The regulatory controls specified in the handbook should be followed before any alterations are carried out and the appropriate approvals/consents should be sought in advance. It should be noted that the granting of consent under one regulation does not remove the need for any other consent, nor does it mean that such other consents will necessarily be given. If in doubt, users are advised to contact the relevant Departments and Agencies for advice (see back page for details).

Head of Water Management Unit,
Northern Ireland Environment Agency

¹ Waterbodies – also referred to as watercourses in this guide - include rivers, streams, ponds, lakes and coastal waters



Glenariff Waterfall

2 Activities and Controls

2.1 Dredging activities or substrate addition

This refers to the removal or addition of silt and/or substrate (e.g. sand or gravel) from a river channel, lake or sea bed.



Annacloy

Consents and approvals are required as follows:

- For any works to or in any watercourse ([DAERA Marine and Fisheries Division](#)).
- Works that will modify / divert a watercourse or impede the passage of fish ([DFI Rivers](#)).
- For works at watercourses under tidal influence or at coastal locations ([DAERA Marine and Fisheries Division](#)).
- For the extraction of minerals from the sea. An Environmental Impact Assessment may be required ([DAERA Marine and Fisheries Division](#)).
- For the removal or disturbance of substrate in any watercourse in the Foyle and Carlingford areas ([Loughs Agency](#)).

- If working in/on the Lower Bann, Erne System or Shannon Erne Waterway ([Waterways Ireland](#)).
- For owners or occupiers making alterations to watercourses on land in ASSIs or Natura 2000 sites ([NIEA - CDP](#)).
- A licence is required to remove substances or objects from the sea bed; or for dredging ([DAERA Marine and Fisheries Division](#)).
- Approval is required before altering field boundary sheughs ([DfI Rivers](#)) / ([NIEA](#)).

X It is an offence to:

- Remove any river bed material (Fisheries Act and Foyle Fisheries Act).
- Place any matter within, below or above a watercourse without consent (Drainage Order).
- Use machinery or tools to break down or damage banks.
- Disturb or damage fish spawn or any spawning bed, bank or shallow.
- Dredge within 100 yards of any works being carried out in Lough Neagh by DAERA or DfI Rivers.
- Fish by suction – currently banned in all NI waters.
- Damage, destroy or alter an ASSI or Natura 2000 site.

✓ Good practice

- Landowners should ensure that soil is not added to rivers due to damage by livestock.
- Addition of gravels and boulders should be in keeping with natural catchment geology.

2.2 Natural barriers

This refers to natural barriers, for example waterfalls, which provide a refuge against disease and pollutants. The alteration or removal of these can cause detrimental changes to water flow rates and sediment patterns for several miles downstream. It can also lead to genetically distinct populations upstream being lost. Natural barriers should not be removed or made more passable (e.g. by reducing the height of a drop (waterfall) or the addition of a weir to aid fish migration).



Glenariff Waterfall

Consents and approvals are required as follows:

- Removing obstructions from rivers, e.g. large pieces of wood and gravel accumulations ([DAERA/Loughs Agency](#)).
- For any works to or in any watercourse ([DAERA Marine and Fisheries Division](#)).
- Works that will modify/divert a watercourse or impede the passage of fish ([DFI Rivers](#)).
- If in Foyle and Carlingford areas ([Loughs Agency](#)).
- For owners or occupiers making alterations to watercourses on land in ASSIs or Natura 2000 sites ([NIEA - CDP](#)).

X It is an offence to:

- Remove any river bed material (Fisheries Act and Foyle Fisheries Act).
- Place any matter within, below or above a watercourse without consent (Drainage Order).
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species such as otters and bats or to deliberately disturb such an animal.

✓ Good practice

- Permanent natural barriers such as waterfalls, trees and rock sills should not be altered or removed and there is a presumption against their removal in the Water Framework Directive.
- DfI Rivers may remove any tree or structure which is causing, or is likely cause urban flooding or impact on flood banks.

2.3 Removal of native bank side vegetation

This refers to the removal of native bank side vegetation which may alter flow and sediment regimes, disrupt habitats, affect protected species, and lead to a loss of biodiversity. Riverbank stability may be compromised and soil and sediment may enter the watercourse.



Himalayan balsam - an invasive alien species

Consents and approvals are required as follows:

- For owners or occupiers carrying out works or making alterations to land in ASSIs or Natura 2000 sites ([NIEA - CDP](#)).
- Any alteration or reclamation work in respect of semi natural habitats such as broadleaf woodland and wetlands ([DFI Rivers](#)).

X It is an offence to:

- Use machinery or tools to break down or damage banks.(Drainage Order)
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.
- Plant or cause to grow an invasive alien species under the Wildlife Order. Removal of alien species must be carried out in a carefully controlled manner – NIEA-CDP can provide advice. See link to alien species list on back page.

√ Good practice

- Trees and vegetation near waterways provide shelter and protection for fish and other aquatic animals.
- Native bank side vegetation should not be removed as it protects banks from erosion.
- Landowners and contractors should take steps to control and prevent any spread of alien species.
- Where removal of native vegetation is necessary, continuity should be maintained e.g. by leaving plants in patches or strips along one side of the watercourse.
- Landowners should protect soils to prevent fields /banks/embankments near waterways being damaged or eroded by livestock.

2.4 Bed and bank and shoreline reinforcement

This refers to the strengthening of river or lake beds or the reinforcement of shorelines for various purposes (e.g. erosion control; flood protection etc). This could potentially disrupt habitats and affect fish populations and protected species.



Altnahinch Dam

Consents and approvals are required as follows:

- For works to or in any watercourse ([DAERA Marine and Fisheries Division](#)). If in Foyle and Carlingford areas ([Loughs Agency](#)).
- Place any matter within, below or above a watercourse ([DFI Rivers](#)).
- For works at watercourses under tidal influence or at coastal locations ([DAERA Marine and Fisheries Division](#)).
- Planning permission is required for bed and bank or shoreline reinforcement. An Environmental Impact Assessment may be required ([Planning Authority](#)).
- Significant projects involving sea defences ([DfI Rivers](#)).
- For owners or occupiers making alterations to watercourses on land in ASSIs or Natura 2000 sites where planning permission is

not required (evidence of this should be provided with any application for consent) (NIEA - CDP).

X It is an offence to:

- Deposit any matter or substance in a river that will have a damaging impact on fisheries.
- Place any matter in a watercourse (excludes lakes) if it may make it less effective for drainage.
- Place any matter into any watercourse where either DAERA or DfI Rivers are carrying out works in Lough Neagh.
- Use machinery or tools to break down or damage banks.
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.

✓ Good practice

- If reinforcement is necessary, soft bank reinforcement such as willow planting (or other native species) should be considered, instead of concrete or placed boulders. Temporary revetment may also be appropriate.
- Where hard engineering is the only option, steps should be taken to minimize environmental impacts.
- Planting river banks with native vegetation is an effective way to avoid soil erosion.

2.5 Flow manipulation

Flow manipulation refers to the placement of boulders, deflectors, weirs etc. for redirecting the pattern of water flow. This can be potentially damaging because it may impact on flow hydraulics and increase erosion and deposition. Such works should always be done in consultation with the appropriate organisations as listed below.



Consents and approvals are required as follows:

- For works to or in any watercourse ([DAERA Marine and Fisheries Division](#)). If in Foyle and Carlingford areas ([Loughs Agency](#)).
- Place any matter within, below or above a watercourse ([DFI Rivers](#)).
- Abstracting or impounding requires a license which can be subject to certain conditions ([NIEA](#)).

- Planning permission may be required for activities which redirect water flow including construction of weirs. An Environmental Impact Assessment may be required ([Planning Authority](#)).
- Environmental effects must be assessed (and consent given) for water management projects ([NIEA](#)).
- For owners or occupiers carrying out works or making alterations to watercourses on land in ASSIs or Natura 2000 sites where planning permission is not required (evidence of this should be provided with any application for consent) ([NIEA - CDP](#)).

X It is an offence to:

- Deposit any matter or substance in a river that will have a damaging impact on fisheries.
- Place any matter in a watercourse if it may make it less effective for drainage.
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.

√ Good practice

- Operators should explore options for modifying structures whilst maintaining their overall performance e.g. reducing the height of structures to allow movement of aquatic species and sediment.
- Projects which use flow manipulation to restore natural flow regimes should also aim to enhance river habitats and ensure sustainability.

2.6 Abstraction and impoundment

Abstraction refers to the process of taking water from any source. Impoundment refers to the storage (or backing-up) of water through the construction of dams, weirs, sluices, fords etc.

These can alter flow and sediment regime, and disrupt fish migration and habitats.



Consents and approvals are required as follows:

- Abstracting or impounding requires a licence which can be subject to certain conditions. Approval must be sought for volumes over 10m³ per day (NIEA).
- Place any matter within, below or above a watercourse (DFI Rivers).
- When abstracting water, operators must provide and maintain gratings at the appropriate points and further conditions may also be applied e.g. fish passes (DAERA Marine and Fisheries Division).

- The construction of dams or weirs etc. requires planning permission. An Environmental Impact Assessment may be required ([Planning Authority](#)).
- For owners or occupiers carrying out works or making alterations to watercourses on land in ASSIs or Natura 2000 sites where planning permission is not required (evidence of this should be provided with any application for consent) ([NIEA - CDP](#)).

X It is an offence to:

- Deposit any matter or substance in a river that will have a damaging impact on fisheries.
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.
- Impede the passage of migratory fish under the Foyle Fisheries Act.

√ Good practice

- Larger scale abstractions and impoundments may disrupt river connectivity – it must be demonstrated that such works have an over-riding public importance.
- Consideration should be given to the passage of all native species before a fish pass is installed.
- Fish counters must be properly constructed and managed to allow movement of fauna and organic matter.
- Impoundments should be managed to allow movement & transport of sediment, woody habitat and organic matter.

2.7 Construction

This refers to the building of in-stream structures including jetties, outfalls, piers, flood relief channels, etc. which may reduce channel/ floodplain coupling, disrupt habitats or protected species.



Bridge repair work

Consents and approvals are required as follows:

- Planning permission is usually required. An Environmental Impact Assessment may be required ([Planning Authority](#)).
- A permit may be required for extracting any material from the river bed ([DAERA Marine and Fisheries Division /Loughs Agency](#)).
- Place any matter within, below or above a watercourse ([DFI Rivers](#)).
- A licence is required for works in or over the sea or on the sea bed or watercourses under tidal influence or at coastal locations ([DAERA Marine and Fisheries Division](#)).
- An Environmental Impact Assessment is usually required for harbour works and construction projects ([DAERA Marine and Fisheries Division](#)).

- For owners or occupiers carrying out works or making alterations to watercourses on land in ASSIs or Natura 2000 sites where planning permission is not required (evidence of this should be provided with any application for consent) ([NIEA - CDP](#)).

X It is an offence to:

- Place any matter in a watercourse if it may make it less effective for drainage.
- Use machinery or tools to break down or damage banks.
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.
- Deposit any matter or substance in a river that will have a damaging impact on fisheries.

✓ Good practice

- Where sediment is removed as part of construction works, appropriate reinstatement should be considered.
- Bank profiles should remain as undisturbed as possible. There should be no decline in the land adjacent to rivers, lakes and coastal banks.
- Steps should be taken to prevent runoff during construction.

2.8 Culverting

Culverting refers to the complete enclosure of a river channel. It can have a detrimental impact on fish migration; habitats and flow rates leading to a reduction in biodiversity and the natural purification processes that help to maintain the quality of watercourses.



Culvert at Hillsborough

Consents and approvals are required as follows:

- Planning permission is required ([Planning Authority](#)).
- Place any matter within, below or above a watercourse. Request for pipe size also required ([DfI Rivers](#)).
- For works to or in any watercourse ([DAERA Marine and Fisheries Division](#)). If in Foyle/Carlingford area ([Loughs Agency](#)).
- Before a culvert is constructed, authorities must be satisfied that it does not impede the free passage of fish ([DAERA Marine and Fisheries Division](#))/([Loughs Agency](#)).
- Access to agricultural culverts ([DfI Rivers](#)).

X It is an offence to:

- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.
- Disturb fish spawning sites or block fish passages.

✓ Good practice

- The retention of open watercourses should be encouraged. Options include open span bridges with existing banks and beds retained.
- Any necessary culverting should be designed to permit the passage of fish and aquatic fauna and measures should be taken to compensate for the loss of the river corridor for bats and otters.
- Culverting should only be considered in exceptional circumstances (as per PPS15).
- All culverts should reflect the natural shape of the river and should be at the same slope as the river channel.

2.9 River re-sectioning or straightening

This refers to alterations such as the re-profiling of the riverbank, changes to the gradient of a channel bed, the removal of meanders and straightening, widening or deepening of the channel. These activities may disrupt habitats and alter sediment and flows regimes.



Consents and approvals are required as follows:

- Planning permission is usually required. An Environmental Impact Assessment may also be required ([Planning Authority](#)).
- For works to or in any watercourse ([DAERA Marine and Fisheries Division](#)). If in Foyle and Carlingford areas ([Loughs Agency](#)).
- Works that will modify / divert a watercourse or impede the passage of fish ([DFI Rivers](#)).
- A Habitats Regulations Assessment may be required to assess impacts of projects on Natura 2000 sites ([NIEA - CDP](#)).

- For owners or occupiers carrying out works or making alterations to watercourses on land in ASSIs or Natura 2000 sites where planning permission is not required (evidence of this should be provided with any application for consent)([NIEA - CDP](#)).

X It is an offence to:

- Use machinery or tools to break down or damage banks.
- Place any matter in a watercourse if it may make it less effective for drainage.
- Disturb fish spawning sites or block fish passages.
- Damage or destroy an ASSI or Natura 2000 site or a breeding site or resting place of a protected species.

✓ Good practice

- Careful consideration should be given before making alterations to naturally shallow or narrow rivers. Environmental impacts on river/lake water levels and habitats upstream should be minimised.
- It is recommended that all projects begin by examining the river within its catchment.
- For culverts see notes in section 2.8.
- Bank re-profiling to a more natural height and slope, and river re-meandering are restoration techniques that can be used on previously channeled rivers.

3 Contacts for Further Advice

General contact details for the main Agencies and Departments mentioned in this guide can be found below:

Northern Ireland

Environment Agency

Water Management Unit (WMU)

General Enquiries

17 Antrim Road

Tonagh, Lisburn

BT28 3AL

waterinfo@daera-ni.gov.uk

Tel. 0800 807060

Northern Ireland Environment Agency

Conservation Designations and Protection (CDP) Klondyke Building

Cromac Avenue

Malone Lower

Belfast

BT7 2JA

cdp@daera-ni.gov.uk

Tel. 02890 569516

Planning NI

DfI Planning

Clarence Court

10-18 Adelaide Street

Belfast

BT2 8GB

planning@infrastructure-ni.gov.uk

Tel. 0300 200 7830

www.planningni.gov.uk

DfI Rivers

49 Tullywiggan

Road

Loughry

Cookstown

BT80 8SG

rivers.registry@infrastructure-ni.gov.uk

Tel. 02886 768342

Loughs Agency

22 Victoria Road

Derry-Londonderry

BT47 2AB

general@loughs-agency.org

Tel. 02871 342100

www.loughs-agency.org

Waterways Ireland

2 Sligo Road

Eniskillen

Co Fermanagh

BT74 7JY

info@waterwaysireland.org

Tel. 02866 323004

www.waterwaysireland.org

DAERA Marine and Fisheries Division

Marine and Fisheries Division

1st Floor, Klondyke Building

Cromac Avenue

Malone Lower

BELFAST, BT7 2JA

marine.inforequests@daera-ni.gov.uk

Tel. 02890 569262

General Notes

- Carrying out works in any water body requires permission from [DAERA Marine and Fisheries Division](#).
- Construction projects (e.g. dams, weirs, culverts etc.) require planning permission from [the relevant Planning Authority](#).
- The erection or alteration of any structure in, over or under any watercourse requires approval of DfI Rivers under [Schedule 6 of the Drainage Order](#).
- Care should always be taken to avoid disturbing breeding sites and resting places of any protected species such as otters and bats.
- Consideration should be given to the timing of works in or near watercourses to avoid disrupting the natural breeding cycles of fish and other species.
- Owners or occupiers making alterations to waterways on land in ASSIs or Natura 2000 sites should first contact [NIEA](#). If you are unsure whether your land is contained within an ASSI or Natura 2000 site you can check using the NIEA Natural Environment Map Viewer: <https://www.daera-ni.gov.uk/services/natural-environment-map-viewer>
- An application for consent can be downloaded, completed and submitted by email. The application may be accessed from DAERA's website: <https://www.daera-ni.gov.uk/publications/request-consent-carry-out-notifiable-operation-assi>.
- Alterations to any river, lake, estuary within the Foyle and Carlingford areas will require approval of the [Loughs Agency](#).
- Alterations on the Lower Bann, Erne System and the Shannon Erne Waterway which may impact on navigation will require the approval of [Waterways Ireland](#).

- NI invasive alien list can be accessed at www.habitas.org.uk/invasive/splist.asp
- PPS 15: Planning and Flood Risk Policy Statement can be accessed at www.planningni.gov.uk
- Responsibility for planning in Northern Ireland is shared between the 11 local councils and the Department for Infrastructure. The local councils are responsible for local development planning, development management and planning enforcement and will be the relevant authority for the majority of activities highlighted in this handbook.
- NIEA Water Pollution Hotline: 0800 80 70 60



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Department of Agriculture,
Environment and Rural Affairs
Klondyke Building
Gasworks Business Park
Malone Lower
Belfast
BT7 2JA
Telephone: 0300 200 7856
Email: daera.helpline@daera-ni.gov.uk
Web: www.daera-ni.gov.uk