

Northern Ireland
Environment Agency

River Basin Management Plans (2015 - 2021)

Programme of Measures

Key Sectors: Sediment

Pressure Type: Diffuse and Point Source Pollution

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Sediment

Sediment is an essential, integral and dynamic part of our water environment. However, where human activities interfere with sediment quantity or quality, sediment management becomes necessary.

Sediment is one of the less well defined pressures. There is no in-river Water Framework Directive sediment standard; sediment pressures are assessed by a link to biological element failures, and we do not routinely monitor sediment run-off or in-river siltation, so there is limited data available. Sediment is also primarily a diffuse pressure, and river walk evidence has highlighted that this can make sources more difficult to identify.

Why is this a significant issue?

Sediment impacts range from damage to the health of aquatic ecosystems, to poor water quality for abstraction in drinking water protected areas. The effects of siltation can impact Natura 2000 sites for example, through effects on salmon spawning sites and survival of Freshwater pearl mussels (FWPM), and may have a significant effect on room for water in the channel and consequently flood risk. Sediment can act as a source and transport contaminants that may be associated to sediment particles such as chemicals, nutrients and faecal indicator organisms. The amount of sediment delivered from the catchment to the water body, and the ability of the water body to move sediment along are crucial factors in determining how sediment is retained.

Too much fine sediment causes a range of problems, from damaging wildlife to increasing the costs of treatment drinking water, and increased risk of flooding from silted up drains. Sediment has direct impacts, carrying other pollutants like nutrients, chemicals and faecal contamination into the water environment. Tackling fine sediment not only tackles the direct effects of sediment, but also brings wider benefits, including reducing the risk of flooding. Fine sediment results from soil erosion, soil compaction (which increases run-off) and the erosion of riverbanks and road verges.

What are we already doing about this?

Diffuse pollution risk mapping tools, such as SCIMAP, are being developed to help determine where the most probable sources of diffuse source pollution are within a catchment and the associated risk that the sediment will get into the water environment. Through the programme of river walks carried out by Catchment Management Officers, locations where sediment is having an impact on water quality are being recorded. This information, in conjunction with model outputs, helps to inform measures targeted to address sediment issues.

The quantity of sediment reaching the water environment is controlled through regulation of industrial and sewage discharges. In rural areas, land erosion, run-off and sediment movement is reduced through controls contained in water pollution legislation, agri-environment schemes and requirements under cross-compliance. In forested areas,

compliance with the Forest and Water Guidelines ensures that the risk of sediment pollution from forest management and practices is minimised. In addition, Rivers Agency advises that when maintenance work is being carried out in rivers, marginal vegetation should be retained to reduce sediment movement and improve ecological value.

What further actions will deliver environmental improvements?

The following table summarises the measures which we will take forward in the second cycle.

These are measures which will improve our understanding of the pressures, enable us to improve the evidence base to target actions, and build on actions already complete.

In the current economic climate there is no certainty at this stage around future funding and budgets that will be available throughout the lifetime of this plan. However DOE will in collaboration with other departments and agencies continue to make a strong case for additional funding through the standard government bidding processes.

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Summary of supplementary measures for 2015 to 2021.

Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of action (year end)
Reduction in pollution from sediment	Develop and enhance modelling tools to help understand the natural dynamics and science of the catchments, such as further development of the SCIMAP tool	Working in partnership with other agencies, and research community	NIEA		2017
	Develop a pilot project in a catchment with diffuse pollution including sediment problems to consider alternative sustainable methods to dealing with issues e.g in FWPM catchments	Partnership working with stakeholders, NGOs and Government Agencies	All partners and stakeholders		2021
	The Environmental Farming Scheme (EFS) will include measures for riverbank fencing, riparian buffers and pasture pumps. These measures will help to address sediment input to rivers caused by livestock poaching and bank erosion by livestock	Proposed EFS under the NI Rural Development Programme	DARD		2016
	Assess the need and incorporate sediment management plans as part of NIW Abstraction Licences	Abstraction and Impoundment Licensing regime	NIEA	NIW	2021
	Develop expertise and knowledge to carry out catchment fluvial audits	Training course provided by River Restoration Centre	NIEA	Inter Agency River Restoration and Continuity Group, DARD RA	2017
	To develop and consult on appropriate sediment standards for UK	Working with other UK Agencies through UKTAG and related groups	NIEA	DARD Rivers Agency	2019

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Reduction in pollution from sediment	Consider further research into the impacts of sediment in agricultural catchments, in conjunction with nutrients and biological quality	Joint funded project and collaboration with DARD/AFBI or other external agencies.	NIEA		2021
	Trial the use of new instrumentation and technology to better understand sediment issues and impacts	In house investigations by NIEA in conjunction with external research projects.	NIEA		2018
	Consider the findings of Interreg IVA FWPM project and implement appropriate measures in designated FWPM sites with a focus on sediment issues as part of a pilot project	Partnership working between Government and NGOs	NIEA		2021
Reduction in pollution from sediment from agriculture and forestry	Produce guidance on best practice to minimise sediment disturbance during river works	Regulation of in river works	DARD Rivers Agency		2016
Reduction in pollution from sediment	Continue with Environmental Liaison Groups as part of TransportNI consultation process to minimise sediment disturbance during each major road scheme	Environmental liaison group	DRD TransportNI		2015



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