

Water Framework Directive and Flooding – Implications for Flooding Policies in Scotland

A Policy Statement by the Freshwater Taskforce of the Scottish Environment LINK

Scottish Environment LINK is the forum for Scotland's voluntary environment organisations representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

Summary and recommendations

- The Water Framework Directive (WFD) requires Member States to take measures for flood management and land-drainage schemes to ensure **compatibility with the new WFD environmental standards**. In Scotland, the Controlled Activities Regulations will come into force in April 2006, and will regulate, amongst other activities, flood defence proposals.
- The WFD will in many cases require the **restoration of river and coastal hydro-morphology** adversely impacted by flood management and land drainage schemes, unless these impacts can be justified through derogation.
- Whilst the WFD includes derogations for flood risk management and land-drainage, **stringent tests exist to ensure that no better environmental alternatives exist to proposed or existing schemes, and that they are in the widest interests of society**.
- Action is needed now to ensure 'read-across' between **WFD economic analyses and derogation tests, and flood risk management appraisal**, scoring and cost-benefit regimes.
- The WFD offers a unique opportunity to **integrate flood management with other aspects of river basin planning**. The Scottish Parliament recognised this and introduced a new duty on Scottish Ministers, SEPA and 'responsible' authorities to **promote sustainable flood management** as part of the Water Environment and Water Services (Scotland) Act 2003 (the WEWS Act) that transposes the Water Framework Directive in Scotland. However, further work is required to translate the WEWS Act requirements into practice

and to ensure compatibility between flood risk management and WFD **economic appraisal and public participation** systems.

- The Scottish Executive needs to clarify the role of **agricultural and other sectors in delivering benefits for flood management and biodiversity**. An opportunity exists to use the Scottish Executive's funding for flood alleviation schemes for the purpose of reversion of agricultural land to wetlands, riparian woodlands and floodplain as part of catchment based solutions to flood risk to Scottish communities. Further changes to CAP and agri-environment schemes are required to incorporate WFD objectives on flooding
- **Farmers, landowners, foresters, planners and engineers** must be convinced of the benefits of the new approach, and provided with incentives and rewards to practice/promote long-term sympathetic flood management throughout catchments.
- There is the potential to use **funding through sectors other than agriculture**, such as forestry to help achieve the WFD objective of good ecological status for hydro-morphology and flooding.
- SEPA needs to issue **best management guidance** in order to encourage good management in relation to erosion control, building of small/temporary bridges, bank reinforcements, channelisation and river dredging.
- **New funding streams and clear lines of responsibility are necessary** for Scotland to meet its WFD obligations, to protect and restore the physical condition of water bodies. The Freshwater Taskforce believes that in Scotland SEPA must be given a role of **flood defence co-ordinator**, whilst also commenting on flood alleviation schemes, and operating a new engineering consent regime. This new role would, however, require **additional resources**.
- The Scottish Executive must clarify the role of '**responsible**' authorities and their relevant functions in delivering WFD objectives.
- The Freshwater Taskforce warmly welcomes the Scottish Executive's initiative to revise and improve the **statutory planning policies, such as the SPP7** in order to bring them in line with WFD objectives and sustainable flood management policies.

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1. The Water Framework Directive.

The Water Framework Directive came into force in December 2000. It is widely recognised as one of the most far-reaching pieces of environmental legislation ever to emerge from Europe. Article 1 outlines the purposes of the Directive, which include:

- establishing a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters.
- preventing the deterioration and enhancing the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands that are directly depending on the aquatic ecosystems.

An ancillary purpose, identified in Article 1, is to contribute to **mitigating the impacts of floods and droughts.**

2. Water Framework Directive ecological objectives.

The WFD requires Member States to implement the necessary measures to:

- prevent deterioration of the status of all bodies of surface waters and
- protect, enhance and restore all bodies of surface water, with the aim of achieving good surface water status by 2015.

Surface water status includes chemical, biological and hydromorphological elements. Hydromorphology includes tidal patterns, connectivity to groundwater, channel morphology, flow regimes, and the condition and structure of riparian, inter-tidal and lake-shore zones. Many of these aspects of water body health are or could be subject to impacts from flood management and land drainage schemes.

Water bodies under WFD are classified as high, good, moderate, poor or bad status. 'High Status' water bodies, which should be pristine or close to pristine, must be specifically protected from hydromorphological deterioration. 'Good Status' water bodies must have

hydromorphology consistent with the achievement of the appropriate biological standards. **Hence, any proposed scheme that results in failure to achieve these biological standards will be incompatible with the requirements of WFD, and need to be justified through derogation. Similarly, all existing schemes resulting in such a failure will require restorative measures, or need to be justified through derogation.**

3. Heavily Modified Water Bodies and Good Ecological Potential.

The WFD includes a number of derogations that allow Member States to relax ecological standards for a water body, or the timescale over which standards are to be achieved. Member States may designate a body of surface water as artificial or heavily modified when restoring its hydromorphology to achieve good ecological status would have significant adverse effects on a range of water uses, including:

- (i) *impacts on the wider environment*” and;
- (iv) *water regulation, flood protection, land drainage*”.

(Article 4.3)

The designation can only be applied, however, where:

“...the beneficial objectives served by the artificial or modified characteristics of the water body cannot, for reasons of technical feasibility or disproportionate costs, reasonably be achieved by other means, which are a significantly better environmental option.”

Therefore **just because a water body appears to be heavily modified for flood defence or land drainage this does not mean that it can be designated as such under the WFD.** Indeed there is a clear presumption **against** applying the derogation **unless any environmentally better option** can be shown to fail the test of technical feasibility or disproportionate costs. It should also be noted that the derogation should only be applied to “beneficial objectives” of the modification. This would suggest that existing structures and modifications that serve no useful purpose (social, economic or environmental) could not be designated as HMWB, with significant implications for un-economic defences, where these are impacting water body status.

Where a water body is designated as Heavily Modified the status objective is relaxed from Good Ecological Status to Good Ecological Potential. **This means that the water body must come close to achieving good status for a comparable natural system, whilst still maintaining the beneficial objective of the modification.** The implication of the requirement to achieve Good Ecological Potential should be a substantial improvement in the environmental design of flood management structures.

4. Flood Risk Management (FRM) and Water Framework Directive.

The WFD has substantial legal and administrative implications for the future of flood risk management in the UK. In Scotland, these implications were recognised and the Water Environment and Water Services (Scotland) Act 2003 introduced a new duty on Scottish ministers, SEPA and 'responsible' authorities **to promote sustainable flood management**. In practice this means that:

- Scottish Ministers are required to promote sustainable flood management when considering grant applications for flood defence schemes, when planning agriculture/forestry funding and in other policy developments.
- Local authorities are required to promote and implement sustainable flood management provision when exercising their function under the town and country planning to secure compliance with the WFD.
- SEPA is required to safeguard the compliance with the WFD objectives through the new regime on engineering activities.
- Ministers must ensure that RBMPs and sub-basin plans address flood prevention issues
- RBMP Area Advisory Groups will bring together all those with interest/responsibility for flooding.
- The newly created Flood Issues Advisory Committee (FIAC) will consider the workings of the Flood Prevention (Scotland) Act 1961 and its relationship with sustainable flood management and WFD implementation.
- Scottish Water and local authorities must make the use of sustainable urban drainage schemes in all new developments and in flood prone areas. The issue of responsibility for SUDS maintenance requires further clarification.

Key to achieving this will be 'convergence' of crucial elements of flood risk management planning with WFD river basin planning. In particular, **action is needed now to ensure 'read-across' between WFD economic analyses and derogation tests, and flood risk management appraisal, scoring and cost-benefit regimes**. Furthermore, Scottish Ministers must urgently clarify **'responsible' authorities and their role** in delivering Water Framework Directive objectives and sustainable flood management.

4.1 Controlled Activities Regulations

The WFD will subject flood risk management to a new regulatory regime. In Scotland, the new regime will come into force on 1 April 2006 through the introduction of Controlled Activities Regulations. These regulations will control impacts of point source pollution, water abstractions and impoundments, **and building and engineering works**. All **existing or proposed** modifications of river corridors, estuaries or coastlines that affect water status will fall under the Directive's regulatory regime. The WFD acts as a constraint on proposed schemes, defining the range of modifications and maintenance regimes compatible with its

objectives. It also requires appraisal of the impacts of existing defences on water status, and where these cannot be justified through derogation, the restoration of affected water bodies. WFD will create a powerful driver for the restoration of water bodies negatively affected by flood management schemes. Finally, it also ensures greater public scrutiny of flood risk management, and provides impetus to the integration of flood risk management with other water-related plans and policies, through River Basin Planning.

4.2 Building and engineering works

The new Controlled Activities Regulations introduce a three tier system of regulation: general binding rules (GBRs), registration and licenses. The simplest level of control, general binding rules, includes activities that are considered to have a low impact on the status of the water environment. These activities, amongst others include erosion control, bank reinforcement, river channelisation and river dredging. However, these activities can (cumulatively) increase the rate of water run-off from the surrounding land, drain small catchments faster and contribute to the risk of flooding. The new regulations (CAR) will require SEPA to periodically review the provisions of General Binding Rules and make recommendations to Scottish Ministers of any changes required. This is particularly welcome, since the enforcement of GBRs can be very difficult, and sensitive catchments could be damaged as a result. This provision must be used to impose stricter conditions to GBRs if they cause further deterioration of the water environment.

4.3 SEPA's role in flood management

SEPA is the competent authority for implementing the WFD, and has a key role to play in sustainable water resource management. SEPA's role will be vital in determining the degree to which sustainable flood management occurs, and particularly in relation to its duties under the WEWS Act, CAR, river basin management planning and its restoration powers. **Scotland needs clear lines of responsibility** to meet its WEWS Act obligations for sustainable flood management, to protect and restore the physical condition of water bodies and ensure that flood management strategies are co-ordinated on a national scale. The Freshwater Taskforce believes that in Scotland SEPA must be given a role of **flood defence co-ordinator**, whilst also commenting on flood alleviation schemes, and operating a new engineering consent regime. This new role would require **additional funding**.

4.4 Restoration and remedial works

Scottish Ministers have powers to make regulations which allow SEPA to undertake active restoration work in order to meet the environmental objectives for water bodies, and recover cost from landowners/appropriate agencies. Such restoration should not only apply to any new damage (from April 2006), but also historic damage due to inappropriate flood defences, land drainage and land claim.

5. Impact of land use on flooding

It is clear that the way we manage land has an impact on surface water run-off, drainage and flooding. These issues need to be addressed as part of our approach to flooding. Agricultural activities, such as drainage of shallow lochs and wetlands, channelisation of burns and ditches must be reversed in order to slow the flow of water from the land to river and reduce the peak flow discharge to rivers. Opportunities must be taken to re-establish natural systems designed to hold floodwater and slowly release it back into the system.

5.1 General Binding Rules

The General Binding Rules to be introduced in April 2006 as part of Controlled Activities Regulations will legally permit certain engineering activities to take place. These include certain dredging activities, construction of minor and temporary bridges, and works to control erosion using revetments. Some of these activities can be destructive to the ecosystems and hydrological functions of streams, and affect the status of biological communities, including invertebrates, fish and macrophytes¹. We believe that while it is necessary to permit these activities, **SEPA must issue best practice guidance to ensure no deterioration/further damage** occurs as a result. Restoration of small catchments is important in meeting WFD requirements for hydromorphology and sustainable flood management. It is crucial that SEPA liaises with other government bodies, such as SEERAD (agriculture, biodiversity and water), Forestry Commission for Scotland and Scottish Natural Heritage on this issue.

6. Taking an integrated approach

WFD offers an opportunity to align more closely the management of flood risk at a river basin and catchment scale, with other water management activities. The Water Environment and Water Services (Scotland) Act introduces a duty on Scottish Ministers, SEPA and responsible authorities '*as far as practicable*) to adopt an integrated approach by co-operating with each other with a view to co-ordinating the exercise of their respective functions'. A truly integrated approach across land use policy is essential in delivering sustainable flood management objectives. This duty applies to all government agencies and departments, including business and enterprise companies. **More changes are needed** to deliver a fully integrated, sustainable land use system. **Farmers, landowners, foresters, engineers and planners** must be convinced of the benefits of the new approach, and provided with incentives and rewards to practice/promote long-term sympathetic flood management throughout catchments.

¹ Peacock, C (2003): Rivers, Floodplains and Wetlands: Connectivity and Dynamics, RSPB publications

6.1 Statutory planning policies

Local authorities will be required to secure compliance with WFD objectives in the design of flood management schemes. Local authorities will also be required to adopt a strategic approach to flood management involving all authorities across the catchment area, rather than where flooding occurs. This is a major opportunity for engineers and planners to adopt new engineering solutions to flooding problems. The newly created Flood Issues Advisory Committee (FAIC) will provide a forum for feedback on the statutory planning guidance (SPP7) on planning and flooding and will provide advice on sustainable flood management and WFD implementation in relation to it and its accompanying Planning Advice Note 69.

6.2 Agriculture policy

In the past land drainage, intensive farming and inappropriate grazing regimes have contributed to the loss of wetlands and floodplains and resulted in damage to habitats such as lowland raised bogs. Agriculture policy in Europe and the UK is changing and more emphasis is being placed on delivering public benefits and environmental enhancement. Where floodbanks are protecting marginally viable land (or even higher quality land) it should be considered whether current land management practices provide the widest public benefit from that land. Agriculture has the potential to deliver widespread environmental benefits as no other industry can – including environmentally sensitive flood alleviation on agricultural land. The new Rural Development Plan (RDP), to start in 2007, must recognise the role of agriculture in sustainable flood management and provide adequate reward for farmers through the Land Management Contract scheme. The RDP should provide farmers with advice and plans to safeguard greater contribution from this sector towards achieving WFD aims and objectives. Through the RDP it must be recognised that flood management action by farmers will not only benefit the environment, but also Scotland's economy and communities.

A potential here also exists to use the Scottish Executive's funding for flood alleviation schemes for the purpose of restoration of agricultural land to wetland floodplain, where this would form a part of a catchment-scale flood alleviation scheme. The Rural Stewardship Scheme includes option for floodplain management, but uptake of this prescription has been low. **The Freshwater Taskforce recommends that changes to CAP policy and agri-environment schemes are required to further incorporate WFD objectives hydromorphology and flooding.**

6.3 Forestry policy

Forestry Commission Scotland (FCS) has a major role to play in contributing to sustainable flood management, through approval of public and private sector forest planting and forestry operations in catchments. This ranges from coniferous plantation forestry and native woods in upper catchments, through to native riverine and floodplain woods. FCS directly manages the

Scottish state forest and funds the planting and management of non-FCS woods through the Scottish Forestry Grants Scheme (SFGS). Potential exists here to fund the restoration of wet woodlands through SFGS where such elements would be needed as part of flood alleviation schemes.

The ongoing move towards better forestry practice, through FCS enforced cross-compliance of the *2003 UK Forests & Water Guidelines* (part of the *2004 UK Forestry Standard*) offers the opportunity to improve water quality. FCS is the UK Biodiversity Action Plan (UKBAP) lead partner for priority native woodland Habitat Action Plans (HAPs), including the Wet Woodland HAP.

The implementation of the WFD and the 2005 review of the Scottish Forestry Strategy could drive the expansion and condition improvement of UKBAP wet woodlands, which play a valuable role in flood attenuation. Woodland expansion for flood attenuation must benefit UKBAP priority woodland habitats and not damage important wetland habitats, either through direct habitat loss or changes to water quantity and quality.

6.4 Biodiversity Action Plans and the Scottish Biodiversity Strategy

Designing and restoring wetlands as part of flood management schemes is an opportunity to reverse the decline, and achieve targets for national and local biodiversity action plans for species and habitats. The restoration of riverine floodplains will provide habitat for vulnerable species and contribute to flood attenuation. By adopting principals of soft engineering, flood management responses can make a contribution to the UK meeting its international commitment to "halting the loss of biodiversity" by 2010.

7. The Extent and Impacts of Water Body Modification in the UK.

The UK has an extensive system of flood defences, including embankments, channel modifications, dams for the provision of on-line storage, pumped and gravity-drained former floodplains and tidal barrages. These modifications are subject to ongoing management and maintenance such as dredging and weed cutting. Their impacts on water body ecology are well documented, and are summarised in an RSPB research report (Peacock, 2003)¹. The extent of damage of such modifications on water bodies (and especially on small catchments) in Scotland is not known, but some information could be provided through the characterisation assessment and the 'Pressures and Impacts' report (Article 5 report) published by SEPA in December 2004.

8. Next Steps.

The WFD introduces new and challenging requirements to restore the physical integrity of rivers, lakes and coasts and their associated habitats. As yet, however, it is not clear who will be charged with delivering these obligations, and what sources of funding will be made available to do so. In Scotland, the authority and technical where-with-all to protect and restore the physical condition of water bodies lies within flood management authorities. Scottish Environment LINK believes that these authorities (especially SEPA and local authorities) should now be specifically charged with delivering the hydro-morphological aspects of WFD, including a programme of river and coastal habitat restoration. This new role should sit alongside existing (and vital) obligations to protect people and property from flooding, and the delivery of other relevant nature conservation obligations, including duties towards statutory sites, Biodiversity Action Plan targets, and a duty to further the conservation of biodiversity. The current Scottish Executive's policy on sustainable flood management offers the perfect opportunity to establish a new era and ethos for river and coastal management, based on the principles that managing flood risks to people and property also provides wider benefits for the aquatic environment and its associated wildlife.