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.

Clerk to the Rural Affairs and Environment Committee
T1.01
The Scottish Parliament
Edinburgh
EH99 1SP

Flooding and Flood Management Inquiry

Additional written evidence by the Freshwater Taskforce of the Scottish Environment LINK

LINK Freshwater Task Force welcomes this opportunity to provide further evidence to the Rural Affairs and Environment Committee for their Flooding and Flood Management Inquiry. Some issues arose during the oral evidence session, subsequently we would like to provide additional information with regards to:

i) Natural flood management techniques and the role of natural habitats in storing and slowing down the flow of water
ii) Provide further evidence of the current practices of building on floodplains

i) Natural flood management and the role of natural aquatic habitats in storing and slowing down the flow of water

It is now widely accepted that natural flood management (NFM) is an important component of a sustainable approach to flood management. Whilst sustainable flood management has been extensively discussed and developed in Scotland, (and it is now understood to be a holistic, integrated and catchment-based approach), natural flood management is a relatively new theme, largely aimed at dealing with the causes of flooding not just the effects, and therefore may not be as well understood. It is about identifying where the flood processes arise in the whole catchment, from source to the sea, and then reducing the flood risk by restoring, enhancing and protecting the natural environments underpinned by those processes.

Many important freshwater and upland habitats and the processes supporting them have been lost or degraded. Agricultural and forestry land use have had the greatest impact on these habitats, mainly due to drainage for increased agricultural and timber production. River regulation, straightening and widening for flood protection, and other purposes, have led to the loss of natural processes and biodiversity. All of these factors are known to known to have contributed to the risk of flooding that we experience today, and this situation is likely to get worse due to climate change.

By restoring natural water and land processes, natural flood management techniques can; in addition to many other benefits such as increased biodiversity, water quality and amenity; directly contribute to reducing flood risk to people and property further downstream. This means looking at opportunities to restore processes supporting habitats in the upper (where action is most easily targeted), middle and lower reaches of catchments. In upland areas, it is likely that former bogs would require restoration, native woodland could provide hydraulic roughness on smooth slopes, grazing could be managed in such a way as to promote more tree regeneration, gullies could be replanted and sediments could be allowed to build up behind large woody debris in the burns. In middle reaches, lowland wetlands should be restored, farmers could be supported to allow flood plains to function normally, and grants

could be awarded for lining appropriate areas with riparian woodland to create leaky barriers and thus slow flow from the flood plain back to the river. In the lower reaches, space has to be given for the river to go where it needs to go. NFM includes a combination of measures designed to suit the circumstances within a particular catchment at risk of flooding.

The Scottish Rural Development Programme (SRDP) has an important role to play in providing financial assistance towards appropriate land management and the restoration of natural environments in high flood risk areas. SRDP currently includes some management options that will go some way towards achieving the aims of NFM, but further measures and funding will be needed once we have improved our understanding of the implementation of NFM.

The Inquiry Committee is already aware of the work done by WWF, RSPB and others in Scotland on developing natural flood management and sustainable flood management. Some experience already exists elsewhere in the UK and in Europe where a more natural approach has been used as a means of achieving flood reductions through working to restore natural processes. Generally, these have not taken a fully catchment approach, but are excellent examples of the multi-beneficial approach to flooding and restoration. Scotland leads the way in developing and implementing that approach within sustainable flood management.

In this submission, we have included two examples from Europe. However, our current knowledge is not limited to these two examples, and further information is available on request.

a) Middle Elbe restoration project, Germany

The restoration of floodwater retention areas along the floodplain of the river Elbe is part of a large-scale flood risk policy in Germany. It includes several projects at various stages of implementation, the largest being the realignment of flood embankments in the Middle Elbe floodplain to re-establish 600ha of formal natural floodplain to act as a floodwater storage area. The project includes the restoration of native woodland, reconnection of formal river channels and oxbow lakes with the main river. The project will increase the biodiversity value of the area, as well as provide flood benefit to local communities. The project is funded by the German Federal Agency for Nature Conservation.

b) Lacha River, Poland

This completed project involved the restoration of a small river and associated wetlands. The Lacha river is a small tributary of the river Barycz. In the early 20th century, the river was straightened and deepened and floodplains were drained for agricultural production. The river canalisation resulted in increased flooding downstream. The main aim of the project was to increase the floodwater retention capacity and to restore wetland habitats and wet meadows. It included land purchase from Agricultural Property Agency and private owners. A biomass energy heating facility was established in a nearby school utilising the biomass removed from the meadows. The project had a range of benefits for biodiversity, local communities and flood protection. In 2001 when the big floods in Europe occurred, the floodwater retention area significantly reduced the flood peak.

ii) Further evidence of the current practices of building on floodplains

Scottish Environment LINK has made enquiries into several new-build projects on flood plains in Scotland since the introduction of SPP7 and PAN 69. Each of the projects examined had been in the planning process prior to the introduction of the guidance and advice. Therefore, since they were not subject to the new instruments, the projects continued unabated.