

## ISSUE STUDY 4

# SECURING THE BENEFITS OF LAND USE CHANGE LONG TERM

## *FARMING FLOODPLAINS for the FUTURE*

The Farming Floodplains for the Future project has shown that farming and land owning communities can be engaged to deliver land use change that contributes to reducing downstream flood risk. But managing flood risk is a long term undertaking – the Environment Agency’s Catchment Flood Management Plans (CFMPs) are 50-100 year strategies, and the Water Framework Directive is seeking permanent improvements in the water environment.

A key question therefore raised in relation to the project (especially by the Environment Agency) is how can the benefits of appropriate flood management schemes be retained into the future? This is particularly pertinent given that much of the success of the project’s delivery is tied into agri-environment agreements (see Issue Study 3: The Role of Agri-Environment Schemes in Flood Risk Management). These only provide a guarantee for the life of the agreement: a maximum of 10 years (with some case study sites having less than 5 years to run on existing agreements). Clearly the hope is that agri-environment agreements will be renewed in the future and consequently schemes remain in place, but there are risks that this will not happen :-

- Options may not be available that secure retention; flood management may no longer be a priority / target for funding; or payments may no longer be sufficient to ensure on-going farmer engagement.
- Economics may swing away from environmental land management (especially in light of current discussions around food security), such that landowners do not seek to renew agreements.

The concern is that in the absence of appropriate mechanisms, in time any cumulative gain achieved will gradually be eroded away as individual schemes are abandoned or removed. This could result in increasing downstream flood risk, especially in catchments where a more sustainable approach has brought significant benefits that have come to be relied upon. Consequently, as land use change becomes an increasingly popular flood risk management tool, mechanisms that effectively restrict such losses must be put in place. These must take account of the risk that because the individual schemes advocated by the Farming Floodplains for the Future approach are low-tech and relatively small scale, they may be ‘under-valued’; and the fact that, with the exception of occasional schemes where there may be other drivers, generally landowners need to be ‘encouraged’ to provide such a public good.

### Regulation

Existing regulations<sup>1</sup> mean that works affecting designated ‘main rivers’ (and their floodplains), or involving the installation of structures within ordinary watercourses, require Environment Agency (or Internal Drainage Board) consent. Subsequent removal of such works would require a further consent, giving the Agency an opportunity to maintain relevant schemes through the refusal of this latter consent (on the grounds of preventing increases in downstream flood risk). However, the applicability of this mechanism is limited, particularly when implementing schemes at the wider catchment scale – the majority of the Farming Floodplains for the Future case studies did not require formal consent prior to implementation, including the three largest schemes in terms of flood storage capacity.

This issue may potentially be overcome by new powers included in the Flood and Water Management Bill (before Parliament at the time of writing). The Bill makes provision<sup>2</sup> for certain authorities with flood management responsibilities to designate “a structure or a natural or man-made feature of the environment” (examples of which could include “walls, channels, culverts, raised ground and embankments”<sup>3</sup>) where its “existence or location affects flood risk”. A designated structure / feature may not subsequently be altered, removed or replaced without consent

<sup>1</sup> Under the Water Resources Act 1991 and the Land Drainage Act 1991

<sup>2</sup> Section 30 and Schedule 1

<sup>3</sup> Flood & Water Management Bill Explanatory Notes

(see [www.publications.parliament.uk/pa/ld200910/ldbills/028/en/10028x-a.htm](http://www.publications.parliament.uk/pa/ld200910/ldbills/028/en/10028x-a.htm))

from the relevant authority, with permission potentially refused where any such action may adversely affect flood risk (with any breach potentially constituting a criminal offence). It seems clear that the types of scheme implemented under the Farming Floodplains for the Future project could be subject to such a designation and thus be secured for the long term. However, the interpretation and subsequent application of such a power will be critical. Such a mechanism can only be applied to schemes once completed, and there is a concern that the threat of designation may act as a major disincentive to farmers' involvement in such projects. Appropriate incentives must be available from the outset, both to promote delivery in the first place and ensure long term retention.

## Incentive

The success of Farming Floodplains for the Future shows how the use of appropriate incentives can promote land use change with positive flood management benefits. In particular, agri-environment schemes have played a key role, despite their shortfalls (see Issue Study 3: The Role of Agri-Environment Schemes in Flood Risk Management). While this study suggests options for the enhancement of HLS (the current scheme most relevant to delivery of the Farming Floodplains for the Future approach), potential problems remain relating to budgeting, securing value for money, and ensuring scheme benefits survive beyond the 10 year life of agreements.

If HLS is not deemed to be, or cannot be adapted to become, the 'right' mechanism, the alternative is to establish a new incentive, specifically tailored to the delivery of flood management objectives through land use change. Using a template similar to agri-environment grants, this could make one-off capital payments to cover initial outlay, plus regular incentive payments. Such a scheme may also permit longer agreements (i.e. >10 years). Any such scheme should however be compatible with HLS, allowing delivery of multi-functional wetlands through the combination of elements of both grants. The regular payment part of a new scheme could be annual, for example a yearly flat rate payment based on the volume of storage created. However this may be difficult to justify, particularly where a scheme is designed to flood infrequently. The alternative may be a more flexible payment, for example a per flood payment made according to a pre-determined equation that could automatically take account of various factors (land use at time of flood, commodity prices, season and duration of flood etc). Consideration would also need to be given to who would administer such a scheme; and where and how it would be targeted, to ensure payment for specific new flood benefits (rather than paying for sites that naturally flood) in priority catchments.

Whether HLS or a new mechanism is utilised, the biggest issues relate to funding. The first is how additional spending would be funded. While the tax-payer is perhaps the obvious solution, particularly via the Environment Agency (possibly utilising a percentage of its large annual flood management budget, especially where land use change replaces other expenditure or reduces maintenance costs), other novel alternatives should be considered. Examples might include a levy on properties at risk or benefiting in target catchments, or money from the insurance industry. The second is quantifying the incentive required to secure co-operation – the experience of Farming Floodplains for the Future suggests that the incentive necessary (especially when supplementary to payments for habitat management) can be relatively small. However, this is unlikely to hold true should any scheme be automatically designated upon completion (as set out above). In these cases the incentive is likely to need to be much greater if the result of co-operation by farmers is a permanent reduction in management control of their land.

## Conclusion

While the experience of Farming Floodplains for the Future has shown that a relatively modest incentive can bring delivery of land use change of flood management benefit, current mechanisms do not necessarily guarantee long term retention. Proposed powers included in the Flood and Water Management Bill for the designation of appropriate features potentially provide a neat solution but, implemented alone, will act as a major disincentive. They must be balanced by appropriate incentive that will engender goodwill and the co-operation of farmers and landowners in future projects.