



Introducing the new approach to flood risk management

RAFTS Conference

Andrea Johnstonova, SEPA

Flood Risk Management Act



The talk will cover



- FRM Act: statutory framework for SFM
- Important role of natural approaches to managing floods
- Implementation so far and examples of work

Flood management is changing

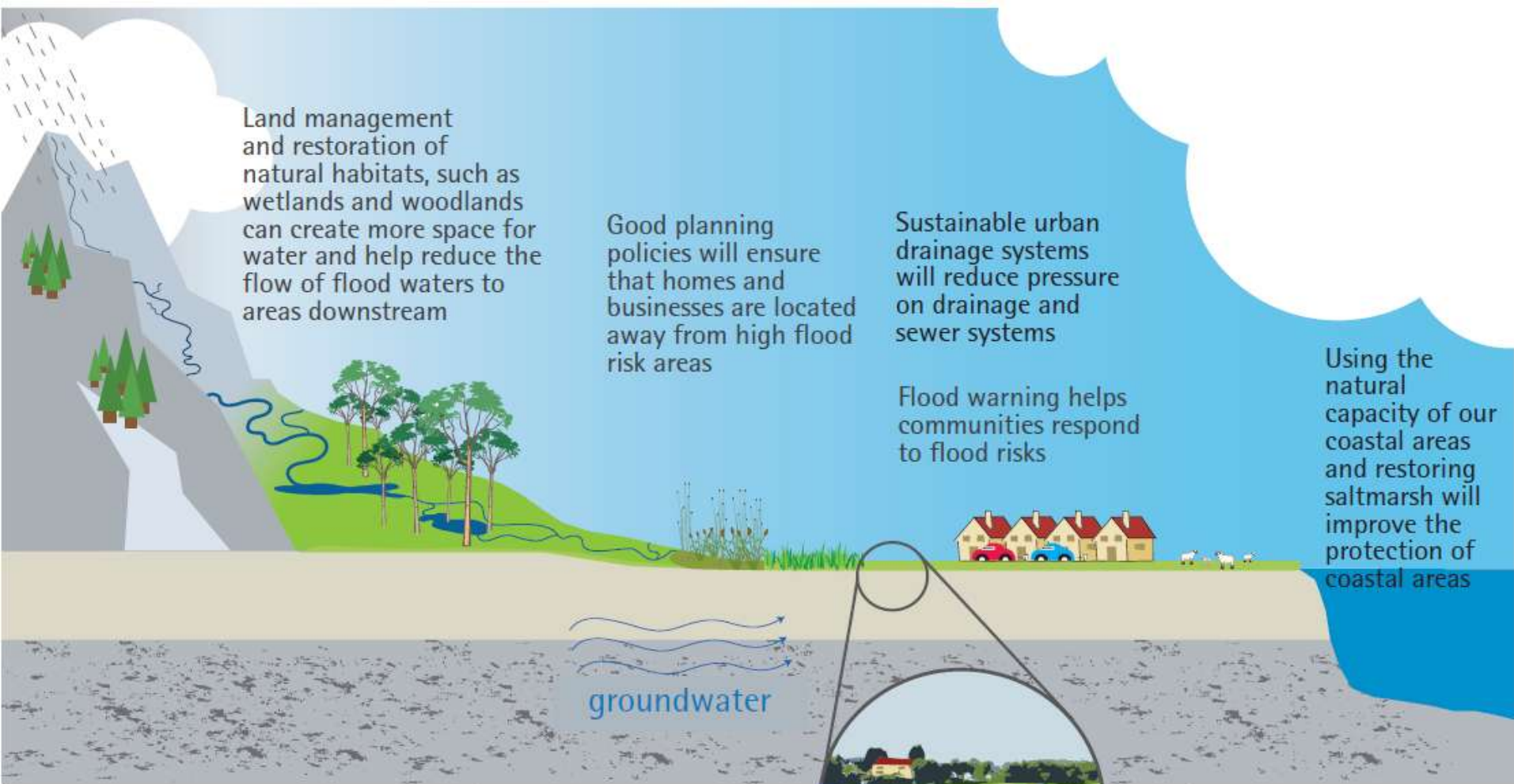


Figure 1: Sustainable flood risk management



Where flood defence structures are necessary, they play a critical role in protecting communities and infrastructure from floods

FRM (Scotland) Act 2009

- Transposes EC Floods Directive
- Creates a framework for the sustainable management of flood risk
- *New roles and responsibilities*
- *Collaborative working*
- *Integrated, risk based approach to flood management*
- *Developing new information - flood risk assessments/maps and plans, national assessment of the NFM*
- *Public consultation and engagement, including advisory groups*



Key milestones

2011

- National flood risk assessment
- Identification of vulnerable areas to flooding and local plan areas
- Setting up national advisory group

2013

- Flood hazard and risk maps
- National assessment of potential for natural flood management
- Advisory groups and partnerships

2015

- National and Local Flood risk management plans

Cyclic process – based on 6 year cycles

Table 1 Key steps in preparing flood risk management plans

(National) Flood risk assessment – by 22nd December 2011

The national flood risk assessment will create a broad-scale picture of the causes and impacts of flooding across Scotland. The assessment will lead to the identification of Potentially Vulnerable Areas that will be used to help target studies, action and investment to reduce flood risk.

Flood hazard and flood risk maps – by 22nd December 2013

Flood hazard and risk maps will show the likely extent of different flood events and summarise the potential impacts of those events. The maps will include information on all sources of flooding, including rivers, the sea, groundwater and surface water run-off. This information will improve our understanding of flooding problems and inform the selection of actions to manage flood risk.

Flood risk management plans – by 22nd December 2015

Building on flood risk assessment and mapping exercises, plans will be prepared to coordinate actions across catchments. Flood risk management plans will allow for targeted investments and better decisions to be made about actions to reduce flood risk.

Draft Ministerial guidance on SFM

Sets out what is required of SEPA, LAs and SW in fulfilling the responsibilities under the Act to *'act in the way best calculated to manage flood risk in a sustainable way'* by *describing:*

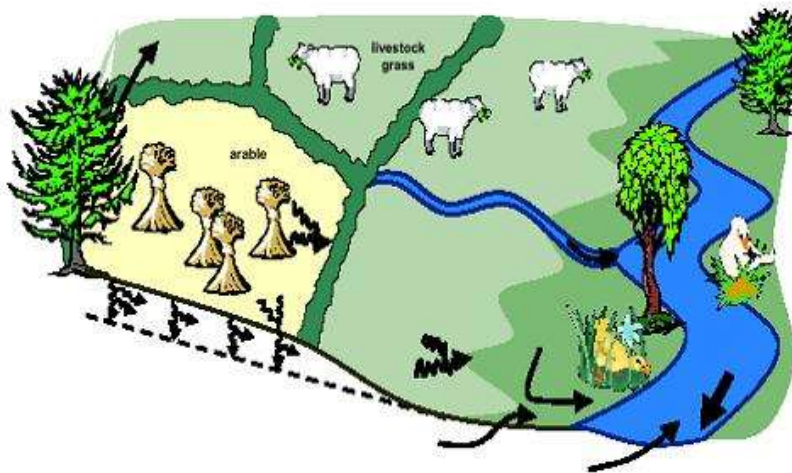
- An integrated approach to flood risk management
- Delivering responsibilities collectively
- Risk-based assessments and decisions
- **Understanding and working with catchments**
- An integrated approach to urban drainage
- Selecting and implementing sustainable actions
- Engaging with the public



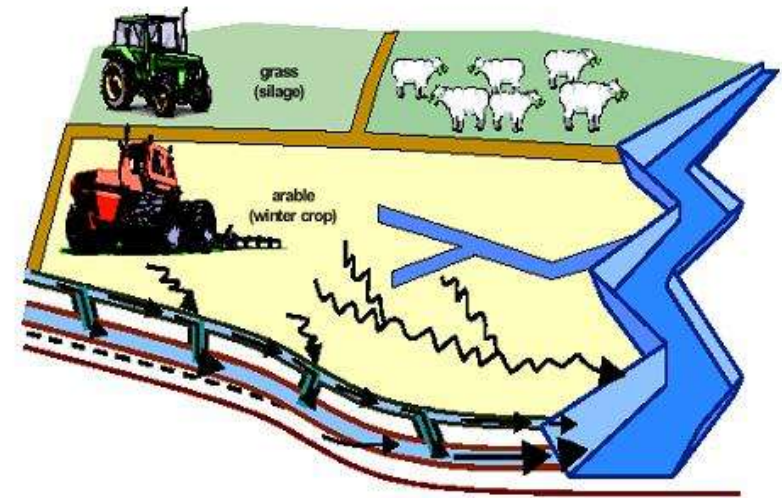
Working with catchments: concepts

- Human interventions have altered the character of our landscape and affected the timing, magnitude and duration of flood events
- Reinstatement of natural features of the landscape (e.g. flood plains, wetland and forests etc) can help restore a more natural hydrological regime and reduce flood risk;
- By reinstating natural features of the landscape, a wide range of coincident benefits can be realised, including biodiversity, amenity and recreational benefits.

Pre - War



Post - War



Understanding and working with catchments

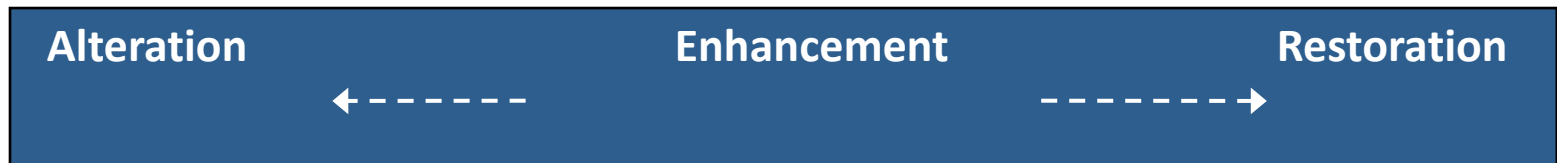
A key theme under the FRM Act and SFM guidance:

- Development of information about catchments and how they changed over time, including influence of human interventions on water run-off and storage
- Development of information about the contribution that actions to restore natural functionality can make to the management of flood risk
- Assessment of structural and non-structural actions, including natural flood management options (restoring and enhancing catchments and coasts) with the aim of identifying most sustainable measures
- SEPA will be responsible for developing better understanding of catchments characteristics, for assessing how restoration and enhancement could contribute to FRM and for selecting most sustainable actions to manage flood risk

NFM under the FRM Act

'Alteration (including enhancement) or restoration of natural features and characteristics of any river basins or coastal areas that could contribute to the management of flood risk for the district' (FRM Act section 20 (1))

- Working with nature +



A change/modification to the existing function for the purpose of FRM, eg creation of washlands, storage reservoirs, flood defences.

Improving the existing function of the natural environments to manage flood risk, eg through increased roughness and land management changes.
Land use change
SUDS
Regulated tidal exchange

Return to a more natural state, eg re-meandering, restoration of floodplains, and coastal realignment.

Section 20 assessment



- Section 20 requires SEPA, by 22 December 2013, to undertake national assessment of NFM (*whether alteration (including enhancement) or restoration of natural features and characteristics of any river basin or coastal area in a flood risk management district could contribute to the management of flood risk for that district*).
- High level screening tool that will require more detailed assessment at catchment/sub-catchment level
- Outputs of section 20 will inform the setting of objectives and identification of measures
- Section 20 is likely to identify potential for e.g. floodplain restoration, river restoration, woodland creation and coastal realignment
- Other measures, e.g. farm wetlands, buffer strips, changes in land use or land management will be promoted
- Close links with WFD objectives and delivery of other multiple benefits



SFM guidance: restoring catchments



Restore

Reinstate natural features of the landscape (e.g. flood plains, wetlands and forests etc) to help slow and store flood waters.

Alter or enhance

Enhance the function of a natural feature or process to make it more effective for flood risk management.

Introduce engineered flood protection

Skillfully designed flood protection schemes to protect our towns and cities, includes flood walls embankments, storage

- There is unlikely to be a simple line between restoration actions and more traditional engineering, and in many cases options will need to be considered in combination
- However, in recognition of the range of potential benefits that can be obtained from restoring our natural landscape, **all reasonable and practical efforts should be made to restore or enhance the (urban and rural) landscapes natural ability to slow and store flood waters before investing on other structural actions**

How is it being implemented?

1. Partnership approach to implementation through SAIFF and Task and Finish groups
2. Development of catchment information through national flood risk assessment
3. Development of GIS tool for section 20 assessment
4. **Demonstration projects - learning from doing**





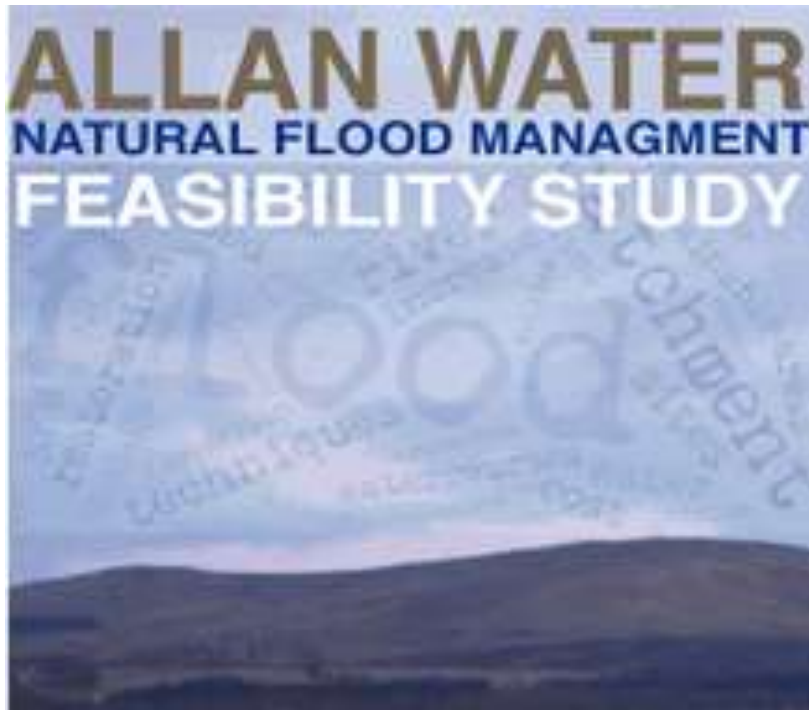
The Eddleston Water project

Restoring natural habitats
and reducing flood risk

This leaflet summarises a study led by the Tweed Forum, which investigated the potential to restore and enhance the Eddleston Water to benefit the local community and wildlife. A restoration strategy is now being developed using the results of this research.

Project aims to:

- Investigate the possibility of reducing flood risk to the communities of Eddleston and Peebles by restoring some of the original natural features of the river, its floodplain and surrounding hill slopes;
- Examine the potential to improve the river habitat for wildlife and fisheries;
- Work with landowners and communities in the Eddleston valley to maximise the benefits they would gain from such work, while maintaining the profitability of local farms.



Project aim to:

- Examine the potential for using more natural solutions to manage flood risk in the catchment
- Analyse catchment characteristics and the impact of human influences
- Produce a catchment restoration strategy and assess options for restoration
- Undertake landowner and community engagement
- Design a monitoring plan
- Design a trial site

Conclusions

- **NFM is an important part of the sustainable approach**
- **FRM Act sets out requirements for developing information about catchment and considering NFM when identifying objectives and selecting measures**
- **Lots of work on the way and planned but still a long way to go**
- **Communications and partnership working will be essential to the success of all activities**
- **Anything we can learn from stakeholders and those with experience is of crucial importance**