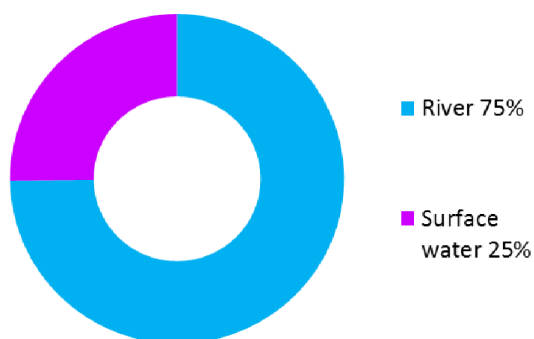


Elgin (Potentially Vulnerable Area 05/05)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Lossie

Summary of flooding impacts



At risk of flooding

- 140 residential properties
- 110 non-residential properties
- £750,000 Annual Average Damages

(damages by flood source shown left)

Summary of flooding impacts

Summary of objectives to manage flooding

Objectives have been set by SEPA and agreed with flood risk management authorities. These are the aims for managing local flood risk. The objectives have been grouped in three main ways: by reducing risk, avoiding increasing risk or accepting risk by maintaining current levels of management.

Many organisations, such as Scottish Water and energy companies, actively maintain and manage their own assets including their risk from flooding. Where known, these actions are described here. Scottish Natural Heritage and Historic Environment Scotland work with site owners to manage flooding where appropriate at designated environmental and/or cultural heritage sites. These actions are not detailed further in the Flood Risk Management Strategies.

Objectives

Summary of actions to manage flooding

The actions below have been selected to manage flood risk.

Flood protection scheme/works	Natural flood management works	New flood warning	Community flood action groups	Property level protection scheme	Site protection plans
Flood protection study	Natural flood management study	Maintain flood warning	Awareness raising	Surface water plan/study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

Actions

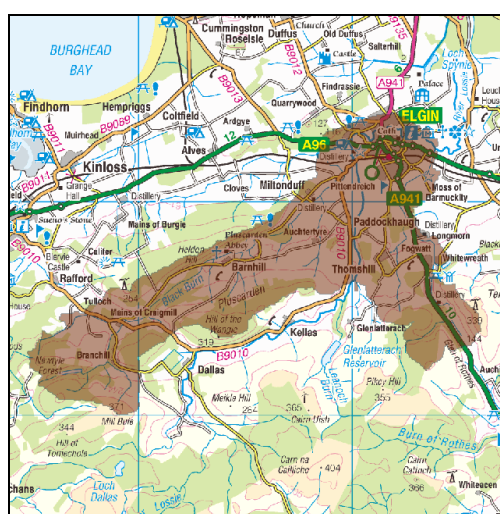
Elgin (Potentially Vulnerable Area 05/05)

Local Planning District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Lossie

Background

This Potentially Vulnerable Area covers the town of Elgin and the mostly rural areas to the south (shown below). It is approximately 110km².

The main watercourse in this area is the River Lossie.



© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved.

The Elgin Flood Protection Scheme was completed in 2015. An estimated 600 residential and 270 non-residential properties benefit from the protection afforded by this scheme.

There are approximately 140 residential and 110 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £750,000 with the majority caused by river flooding.

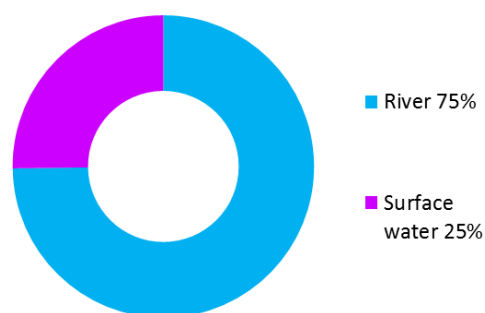


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

The Elgin Flood Protection Scheme is designed for a one in 200 year flood plus an allowance for climate change. The assessment of flood risk presented in this report takes account of the protection provided by the scheme up to and including the one in 200 year event. No allowance is made for the residual benefits that the flood protection scheme provides for events which exceed this standard of protection. As a result the Annual Average Damages from river flooding is considered to be overestimated.

The risk of flooding to people and property, as well as to community facilities, utilities, the transport network, designated sites and agricultural land is summarised in Table 1.

Roads potentially affected by flooding include the A96, A941 and B9010. The railway line through Elgin is at risk of flooding at several locations. Nine designated cultural heritage sites and a small area of environmental importance are shown to be at risk. This includes small areas of Scaat Craig Site of Special Scientific Interest.

The damages associated with floods of different likelihood are shown in Figure 2. For this Potentially Vulnerable Area the highest damages are to non-residential properties followed by damages to residential properties.

The location of the impacts is shown in Figure 3.

	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 11,000)	20	140	1,000
Non-residential properties (total 1,300)	20	110	430
People	50	320	2,300
Community facilities	0	<10 Includes; healthcare facilities and educational buildings	<10 Includes; healthcare facilities and educational buildings
Utilities assets	10	20	30
Transport links (excluding minor roads)	Roads at 150 locations Rail at 5 locations	Roads at 270 locations Rail at 30 locations	Roads at 530 locations Rail at 50 locations
Environmental designated areas (km ²)	<0.1	<0.1	<0.1
Designated cultural heritage sites	5	9	11
Agricultural land (km ²)	3	5.9	7.9

Table 1: Summary of flooding impacts¹

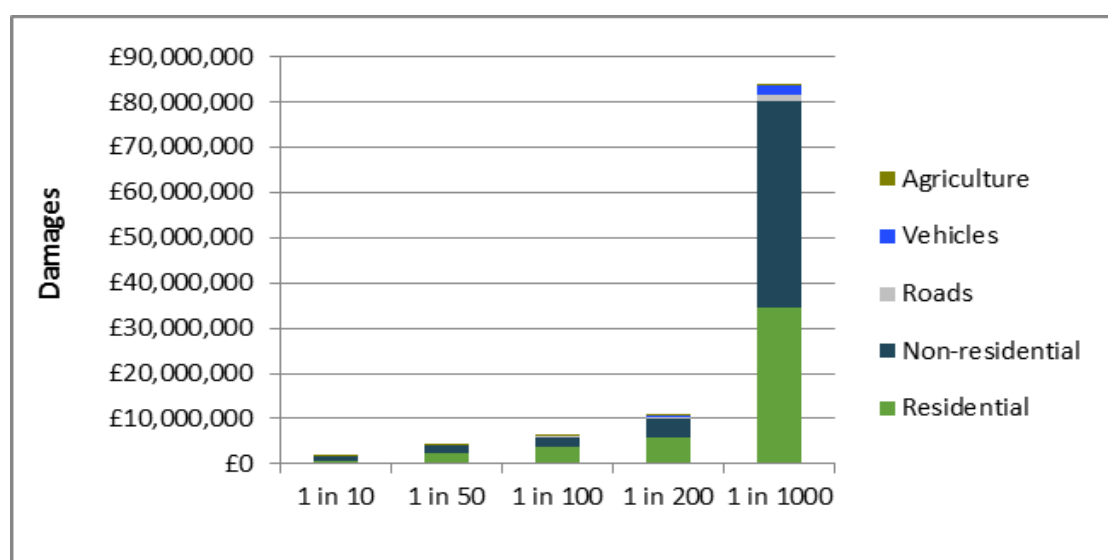


Figure 2: Damages by flood likelihood

¹ Some receptors are counted more than once if flooded from multiple sources

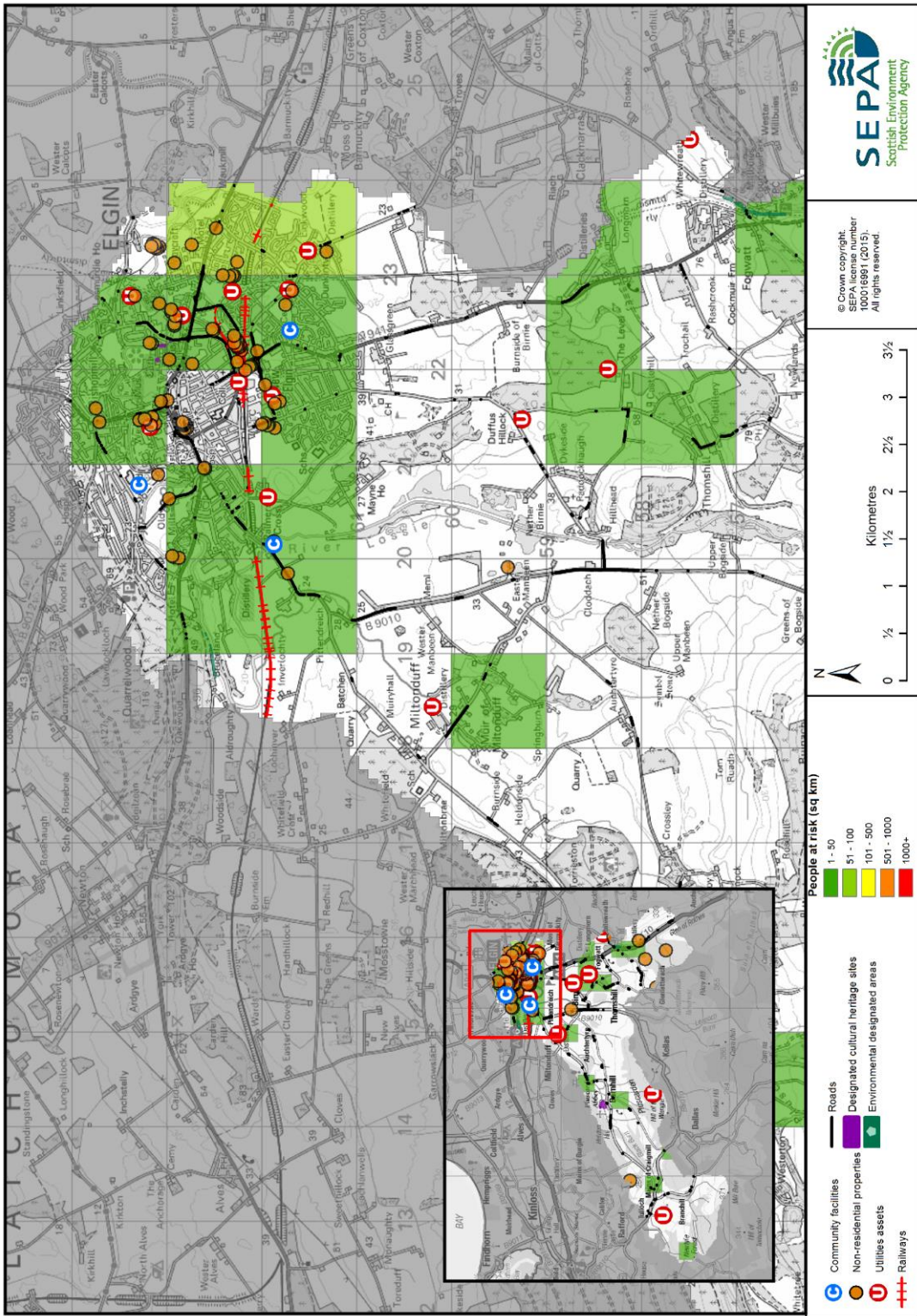


Figure 3: Impacts of flooding

History of flooding

The earliest recorded floods were in 1826 and in 1829, when the area between Fochabers and Elgin was flooded and a bridge was washed away during the Great Muckle Spate. There are records of floods in 1852, 1864, 1873, 1874, 1915, and 1924 associated with the River Lossie, Black Burn, Linkwood Burn and surface water. Many of these floods affected property and resulted in the temporary closure of the railway line.

In July 1997 a flood caused £35 million of damage to property, infrastructure, transport links and agriculture in Elgin. Flood defences were breached and 1,200 people were evacuated. In 2000, the River Lossie breached its banks flooding 15 properties, whilst in 2002 hundreds of residents were evacuated following flooding from the River Lossie caused by heavy rainfall. In 2004 water seeped through a flood bank flooding the Chanonry Industrial Estate. In September 2009 heavy rainfall resulted in flooding in residential areas of Elgin, with areas downstream from the town being inundated from local watercourses and surface water. The A96 was also flooded.

In August 2014, the River Lossie experienced a significant spate however, the partially complete flood defences held out. Around 45 properties were affected by flooding in Dallas. Whilst Dallas lies upstream of Elgin on the River Lossie, it lies outside the boundaries of this Potentially Vulnerable Area. There was surface water flooding in parts of Elgin (Chanonry, Lossie Green and around the Auction Mart in New Elgin most notably). Elgin Railway Station was flooded and the rail service suspended.

Objectives to manage flooding in Potentially Vulnerable Area 05/05

Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding. Target areas have been set to focus actions; they do not necessarily correspond to areas at risk in SEPA's flood map. The objectives below have been set for Elgin Potentially Vulnerable Area.

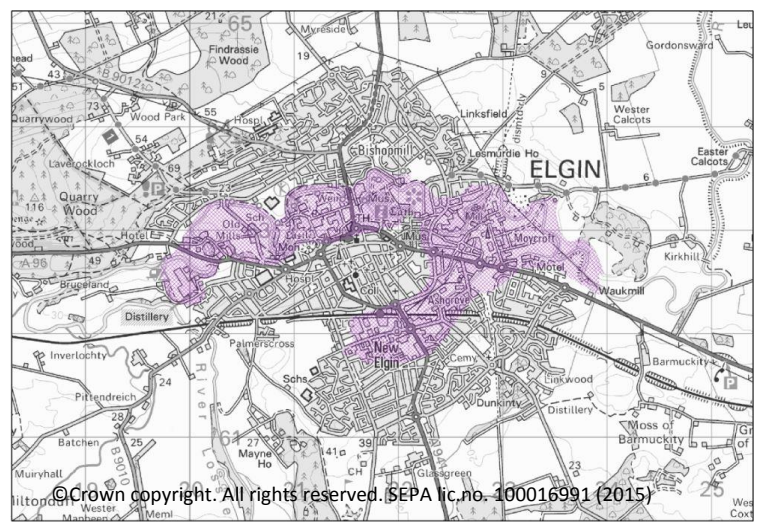
Maintain the Elgin Flood Protection Scheme and accept existing levels of flood risk from the River Lossie, Tyock Burn, and Linkwood Burn

Indicators:

Target area:

- An estimated 270 non-residential properties will continue to be protected (to a 1 in 200 year standard of protection)
- An estimated 1,300 people will continue to be protected (to a 1 in 200 year standard of protection)

Objective ID: 500501



Target area	Objective	ID	Indicators within PVA
Elgin	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding	5302	<ul style="list-style-type: none"> • 19 locations of the A96 with a total length of 90m
Elgin	Reduce risk from surface water flooding in Elgin	500504	* See note below
Applies across Findhorn, Nairn and Speyside Local Plan District	Avoid an overall increase in flood risk	500001	<ul style="list-style-type: none"> • 140 residential properties • £750,000 Annual Average Damages
Applies across Findhorn, Nairn and Speyside Local Plan District	Reduce overall flood risk	500002	<ul style="list-style-type: none"> • 140 residential properties • £750,000 Annual Average Damages
Applies across Findhorn, Nairn and Speyside Local Plan District	Organisations such as Scottish Water, energy companies and Historic Environment Scotland actively maintain and manage their own assets, including the risk of flooding. These actions are not detailed further in the Flood Risk Management Strategies.		

* This objective will be monitored using surface water flood risk across the Potentially Vulnerable Area. For 05/05 there are 90 residential properties at risk and Annual Average Damages of £190,000.

Actions to manage flooding in Potentially Vulnerable Area 05/05

Actions describe where and how flood risk will be managed. These actions have been set by SEPA and agreed with flood risk management authorities following consultation. Selection of actions to deliver the agreed objectives was based on a detailed assessment and comparison of economic, social and environmental criteria. The actions shaded and then described below have been selected as the most appropriate for Elgin Potentially Vulnerable Area.

Selected actions					
Flood protection scheme/works	Natural flood management works	New flood warning	Community flood action groups	Property level protection scheme	Site protection plans
Flood protection study	Natural flood management study	Maintain flood warning	Awareness raising	Surface water plan/study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

Action (ID):	FLOOD PROTECTION SCHEME/WORKS (5302021)		
Objective (ID):	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5302)		
Delivery lead:	Transport Scotland		
Status:	Not started	Indicative delivery:	2028-2033
Description:	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		

Action (ID):	SURFACE WATER PLAN/STUDY (5005040018)		
Objective (ID):	Reduce risk from surface water flooding in Elgin (500504)		
Delivery lead:	The Moray Council		
Status:	Ongoing	Indicative delivery:	2016-2021
Description:	The area must be covered by a surface water management plan or plans that set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives.		

Action (ID):	STRATEGIC MAPPING AND MODELLING (5000010016)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	SEPA		
Status:	Not started	Indicative delivery:	2016-2021
Description:	SEPA will be seeking to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk. Approximately 700km ² of improved data is currently available within this Local Plan District.		

Action (ID):	STRATEGIC MAPPING AND MODELLING (5000020019)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	Scottish Water		
Status:	Not started	Indicative delivery:	2016-2021
Description:	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk.		

Action (ID):	MAINTAIN FLOOD PROTECTION SCHEME (5005010017)		
Objective (ID):	Maintain the Elgin Flood Protection Scheme and accept existing levels of flood risk from the River Lossie, Tyock Burn, and Linkwood Burn (500501)		
Delivery lead:	The Moray Council		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the Elgin flood protection scheme. The existing scheme provides a 1 in 200 year standard of protection for 600 residential and 270 non-residential properties, including an allowance for climate change.		

Action (ID):	MAINTAIN FLOOD WARNING (5000020030)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>Continue to maintain the 'Borough Briggs', 'Cooper Park', 'Kingsmill', 'Tyock, Chanonry and Elgin East End' and 'Old Mills' flood warning areas in Elgin which warn of flooding from the River Lossie as part of the Lossie river flood warning scheme.</p> <p>Continue to maintain 'Glen Moray Distillery' flood warning area which warns of flooding from the River Lossie and the 'Miltoduff' and 'Miltoduff Distillery' flood warning areas on the Black Burn as part of the Lossie river flood warning scheme. A review and rationalisation of these flood warning areas will be undertaken to take account of the Elgin Flood Protection Scheme.</p>		

Action (ID):	FLOOD FORECASTING (5000020009)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>The Scottish Flood Forecasting Service is a joint initiative between SEPA and the Met Office that produces daily, national flood guidance statements which are issued to Category 1 and 2 Responders. The service also provides information which allows SEPA to issue flood warnings, giving people a better chance of reducing the impact of flooding on their home or business. For more information please visit SEPA's website.</p> <p>The Potentially Vulnerable Area is within the 'Findhorn Nairn Moray and Speyside' flood alert area.</p>		

Action (ID):	SELF HELP (5000020011)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	—		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>Everyone is responsible for protecting themselves and their property from flooding. Property and business owners can take simple steps to reduce damage and disruption to their homes and businesses should flooding happen. This includes preparing a flood plan and flood kit, installing property level protection, signing up to Floodline and Resilient Communities initiatives, and ensuring that properties and businesses are insured against flood damage.</p>		

Action (ID):	AWARENESS RAISING (5000020013)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	Responsible authorities		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact.</p> <p>From 2016 SEPA will engage with the community and promote Floodline. This will be achieved through property level protection events delivered by the Scottish Flood Forum and SEPA led education events.</p> <p>Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.</p>		

Action (ID):	MAINTENANCE (5000020007)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	The Moray Council, asset / land managers		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They produce schedules of clearance and repair works and make these available for public inspection. Scottish Water undertake inspection and repair on the public sewer network. Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk.</p>		

Action (ID):	EMERGENCY PLANS/RESPONSE (5000020014)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	Category 1 and 2 Responders		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>Providing an emergency response to flooding is the responsibility of many organisations, including local authorities, the emergency services and SEPA. Effective management of an emergency response relies on emergency plans that are prepared under the Civil Contingencies Act 2004 by Category 1 and 2 Responders. The emergency response by these organisations is co-ordinated through regional and local resilience partnerships. This response may be supported by the work of voluntary organisations.</p>		

Action (ID):	PLANNING POLICIES (5000010001)		
Objective (ID):	Avoid an overall increase in flood risk (500001) Reduce overall flood risk (500002)		
Delivery lead:	Planning authority		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Scottish Planning Policy and accompanying Planning Advice Notes set out Scottish Ministers' priorities for the operation of the planning system and for the development and use of land. In terms of flood risk management, the policy supports a catchment-scale approach to sustainable flood risk management and aims to build the resilience of our cities and towns, encourage sustainable land management in our rural areas, and to address the long-term vulnerability of parts of our coasts and islands. Under this approach, new development in areas with medium to high likelihood of flooding should be avoided. For further information on the application of national planning policies see Annex 2.		