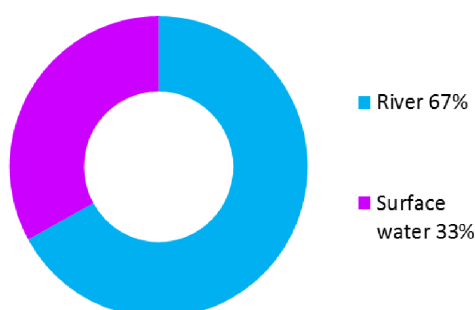


Forres (Potentially Vulnerable Area 05/06)

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

Summary of flooding impacts



At risk of flooding

- 200 residential properties
- 20 non-residential properties
- £380,000 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

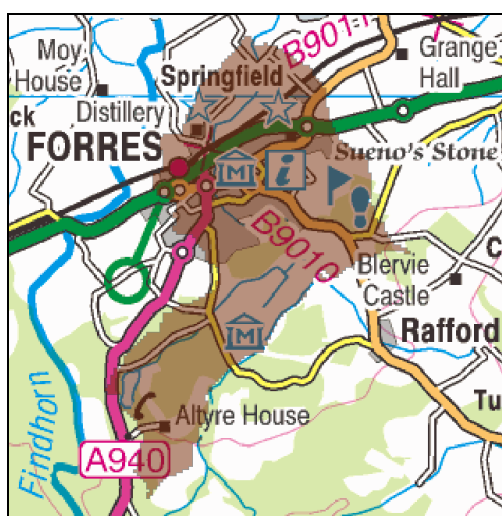
Forres (Potentially Vulnerable Area 05/06)

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

Background

This Potentially Vulnerable Area covers most of Forres and the surrounding rural areas to the south and east (shown below). It is approximately 13km².

The main watercourse in this area is the Burn of Mosset.



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Forres benefits from two flood protection schemes, one on the Burn of Mosset and one on the River Findhorn. An estimated 1,700 residential and 120 non-residential properties benefit from these two schemes.

Approximately 200 residential and 20 non-residential properties remain at risk of flooding in this area.

The Annual Average Damages are approximately £380,000 with the majority caused by river flooding.

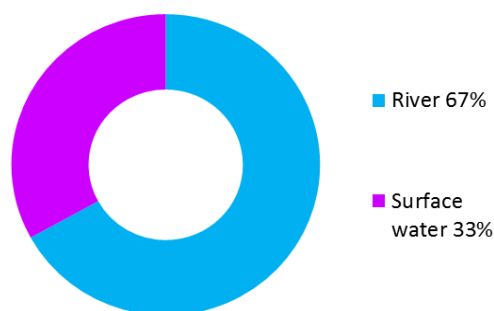


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

The Burn of Mosset Flood Protection Scheme is designed for a one in a 100 year flood with an additional 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 100 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 number of residential properties, non-residential properties and people reported to be at risk of river flooding in this Potentially Vulnerable Area is considered to be overestimated. The Annual Average Damages from river flooding are also 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 affected by flooding include the A96, A940, B9010 and B9011. The Inverness to Aberdeen railway is at risk of flooding at several locations. Three designated cultural heritage sites are also at risk of flooding.

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

The location of the impacts of flooding is shown in Figure 3.

	1 in 10	1 in 200	1 in 1000
	High likelihood	Medium likelihood	Low likelihood
Residential properties (total 4,100)	10	200	1,300
Non-residential properties (total 390)	<10	20	160
People	30	440	2,900
Community facilities	0	<10 Educational buildings	<10 Educational buildings
Utilities assets	<10	10	30
Transport links (excluding minor roads)	Roads at 20 locations Rail at <10 locations	Roads at 80 locations Rail at <10 locations	Roads at 110 locations Rail at <10 locations
Environmental designated areas (km ²)	0	0	0
Designated cultural heritage sites	3	3	4
Agricultural land (km ²)	1.2	1.5	2.8

Table 1: Summary of flooding impacts¹

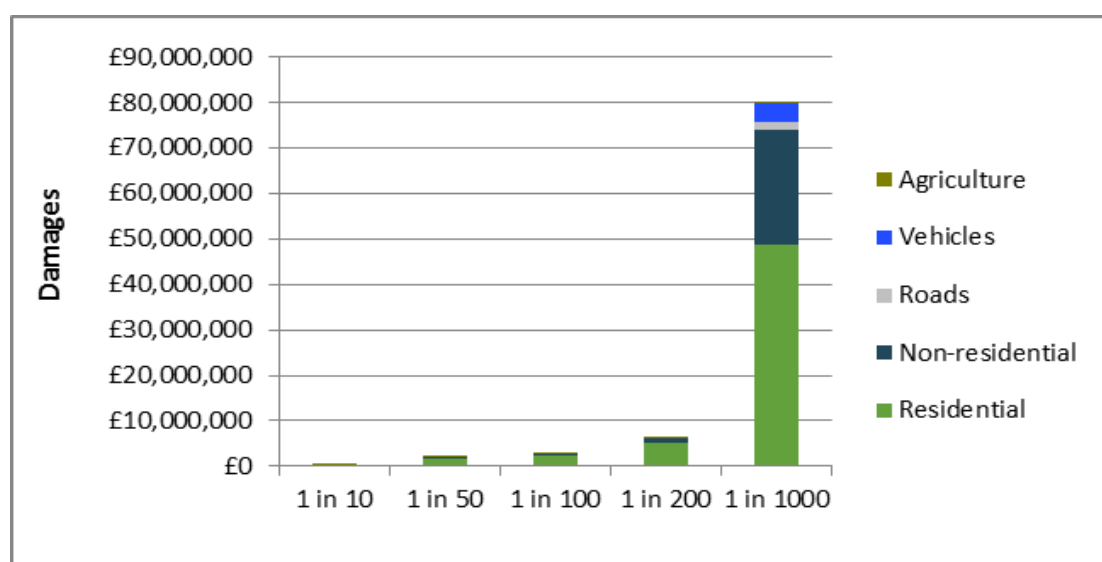


Figure 2: Damages by flood likelihood

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

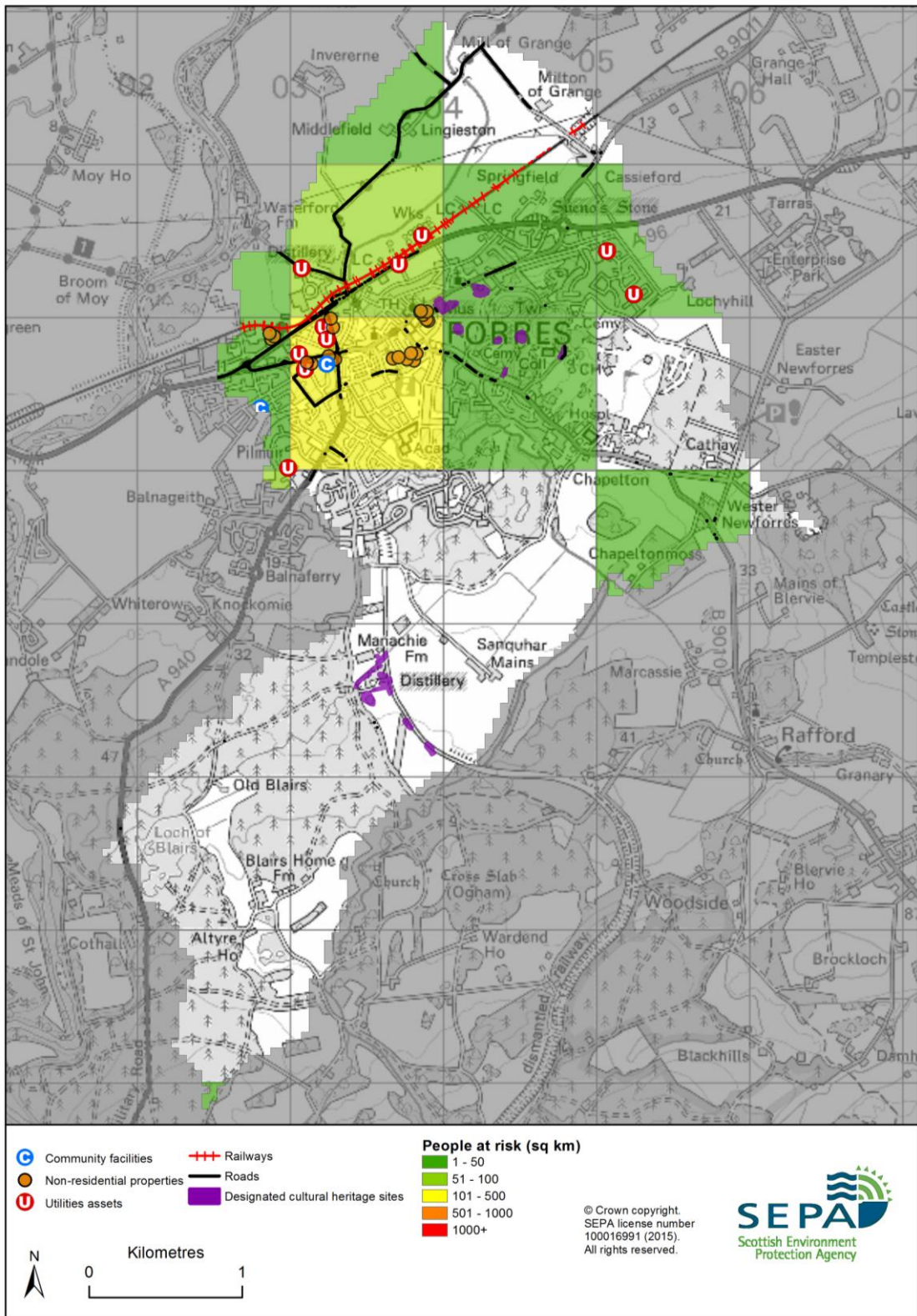


Figure 3: Impacts of flooding

History of flooding

The earliest recorded flood was in 1829, when Forres was flooded from the River Findhorn and Forres Burn during the Great Muckle Spate. In August 1990 a large pond in Sanquhar burst its banks flooding the west end of the town, bridges were washed away and properties in Bogton Place, Burdshaugh, St Catherine, Iowa Place, Tyler Street and Robertson Place were flooded.

The highest impact flood occurred in 1997 when the Burn of Mosset burst its banks, inundating 430 residential properties and 27 non-residential properties at an estimated cost of £3.7 million.

The Burn of Mosset flooded properties in November 2002. Additionally, Fleurs Road and Fleurs Place regularly suffer from surface water flooding.

Objectives to manage flooding in Potentially Vulnerable Area 05/06

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 Forres Potentially Vulnerable Area.

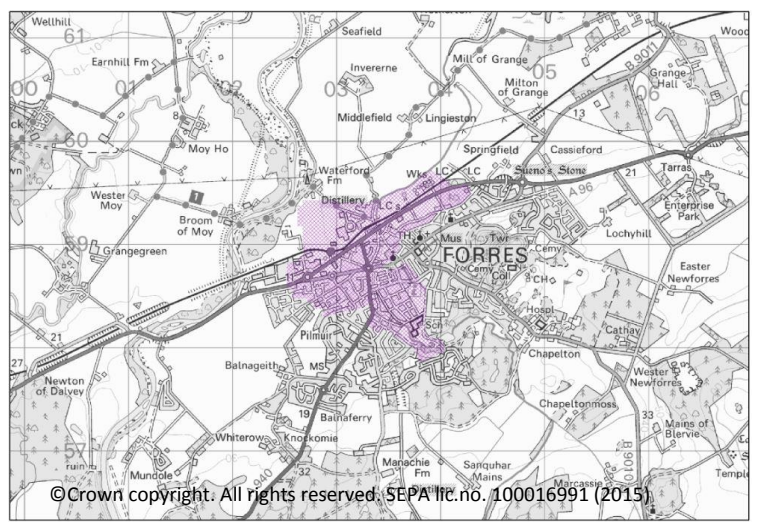
Maintain the Forres (Burn of Mosset) Flood Protection Scheme and accept existing levels of flood risk from the Burn of Mosset

Indicators:

- An estimated 40 non-residential properties will continue to be protected (to a 1 in 100 year standard of protection)
- An estimated 1,700 people will continue to be protected (to a 1 in 100 year standard of protection)

Objective ID: 500601

Target area:



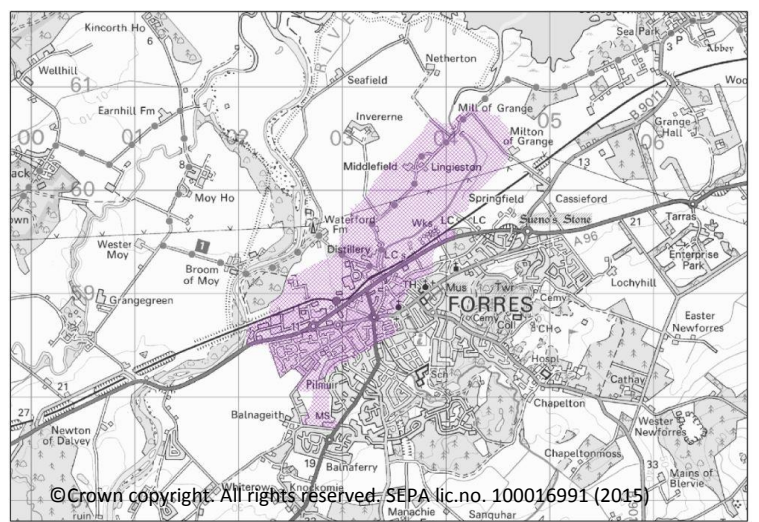
Maintain the Forres (River Findhorn) Flood Protection Scheme and accept existing levels of flood risk from the River Findhorn

Indicators:

- An estimated 80 non-residential properties will continue to be protected (to a 1 in 200 year standard of protection)
- An estimated 2,000 people continue to be protected (to a 1 in 200 year standard of protection)

Objective ID: 500602

Target area:



Target area	Objective	ID	Indicators within PVA
Forres	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding	5303	<ul style="list-style-type: none"> • 7 locations of the A96 with a total length of 760m
Forres	Reduce risk from surface water flooding in Forres	500605	* 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"> • 200 residential properties • £380,000 Annual Average Damages
Applies across Findhorn, Nairn and Speyside Local Plan District	Reduce overall flood risk	500002	<ul style="list-style-type: none"> • 200 residential properties • £380,000 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 05/06 there are 190 residential properties at risk and Annual Average Damages of £130,000.

Actions to manage flooding in Potentially Vulnerable Area 05/06

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 Forres 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 (5303021)		
Objective (ID):	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5303)		
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 (5006050018)		
Objective (ID):	Reduce risk from surface water flooding in Forres (500605)		
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. An integrated catchment study will be carried out to support the surface water management plan process and improve knowledge and understanding of surface water flood risk and interactions with other sources of flooding e.g. with the sewer network, watercourses and the sea.		

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 carry out an 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 (5006010017)		
Objective (ID):	Maintain the Forres (Burn of Mosset) Flood Protection Scheme and accept existing levels of flood risk from the Burn of Mosset (500601)		
Delivery lead:	The Moray Council		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the Burn of Mosset Flood Protection Scheme in Forres. The existing scheme provides a 1 in 100 year standard of protection, including an allowance for climate change, to 792 residential and 41 non-residential properties.		

Action (ID):	MAINTAIN FLOOD PROTECTION SCHEME (5006020017)		
Objective (ID):	Maintain the Forres (River Findhorn) Flood Protection Scheme and accept existing levels of flood risk from the River Findhorn (500602)		
Delivery lead:	The Moray Council		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the River Findhorn and Pilmuir Flood Protection Scheme in Forres. The existing scheme provides a 1 in 200 year standard of protection, including an allowance for climate change, to 908 residential and 83 non-residential properties.		

Action (ID):	MAINTAIN FLOOD WARNING (5000020030)		
Objective (ID):	Reduce overall flood risk (500002)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the 'Forres' and the 'Waterford, Seafield and Invererne' flood warning areas which are part of the Findhorn river flood warning scheme. This will include the review and rationalisation of flood warning areas in the Findhorn taking account of the Forres flood protection schemes.		

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>SEPA will engage with the community through local participation in national initiatives, including partnership working with Neighbourhood Watch Scotland. In addition, SEPA will engage with local authorities and community resilience groups where possible.</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:	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.		

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:	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.		

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.		