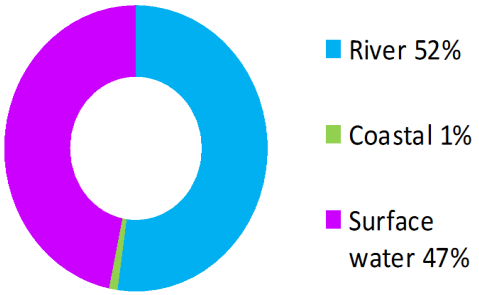
Alness (Potentially Vulnerable Area 01/10)

Local Plan District	Local authority	Main catchment
Highland and Argyll	The Highland Council	River Alness, Cromarty coastal

Summary of flooding impacts



At risk of flooding

- 50 residential properties
- 60 non-residential properties
- £180,000 Annual Average Damages

(damages by flood source shown left)

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.

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

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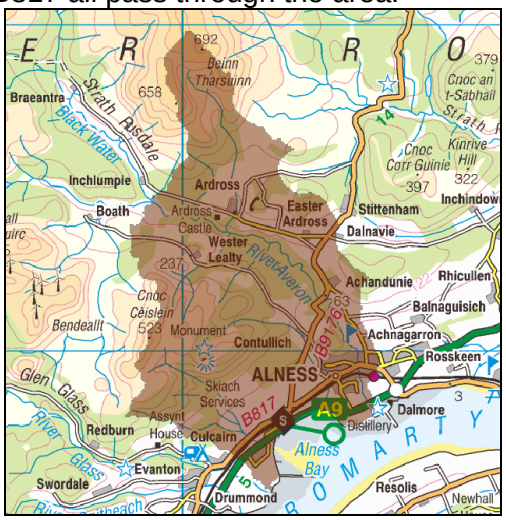
Local Plan District	Local authority	Main catchments
Highland and Argyll	The Highland Council	River Alness Cromarty coastal

Background

This Potentially Vulnerable Area is 60km^2. It is located on the north of the Cromarty Firth and includes Alness and the mainly rural areas to the north (shown below). The A9 and B9176 and B817 all pass through the area.



The main river in this Potentially Vulnerable Area is the River Alness / River Averon.

There are approximately 50 residential properties and 60 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £180,000 with the majority caused by river flooding.

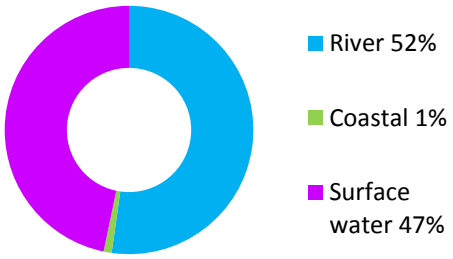


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

River flood risk in Alness is from the River Alness / Averon in the south and east of the town and the Contullich Burn in the west.

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.

A school and a nursing home are at risk of flooding. The A9 road is potentially affected by flooding and the Wick to Inverness railway line is at risk of being flooded in several locations.

There are seven designated cultural heritage sites and a small area of environmental importance at risk. These include the Cromarty Firth Special Protection Area and Site of Special Scientific Interest (SSSI), and the Alness River Valley SSSI.

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 of flooding is shown in Figure 3.

	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 2,000)	<10	50	60
Non-residential properties (total 310)	<10	60	70
People	20	120	130
Community facilities	0	<10 Healthcare facilities	<10 Healthcare facilities
Utilities assets	<10	10	10
Transport links (excluding minor roads)	Roads at 60 locations Rail at <10 locations	Roads at 90 locations Rail at 10 locations	Roads at 100 locations Rail at 20 locations
Environmental designated areas (km^2)	1	1	1
Designated cultural heritage sites	6	7	7
Agricultural land (km^2)	1	2	2

Table 1: Summary of flooding impacts[1]

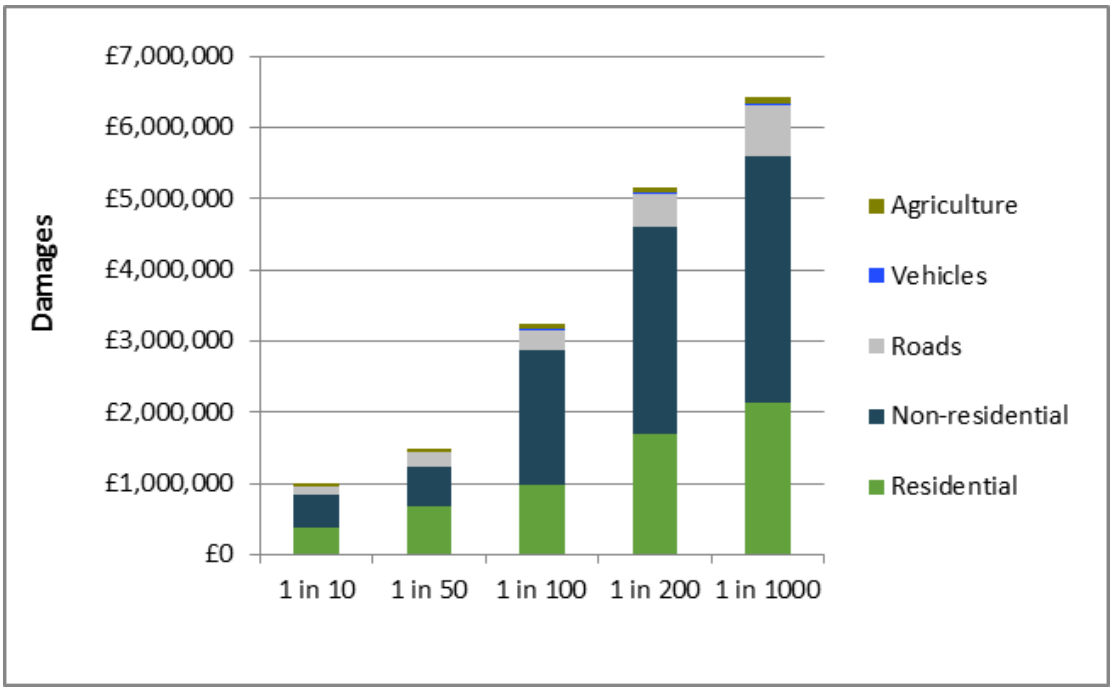


Figure 2: Damages by flood likelihood

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

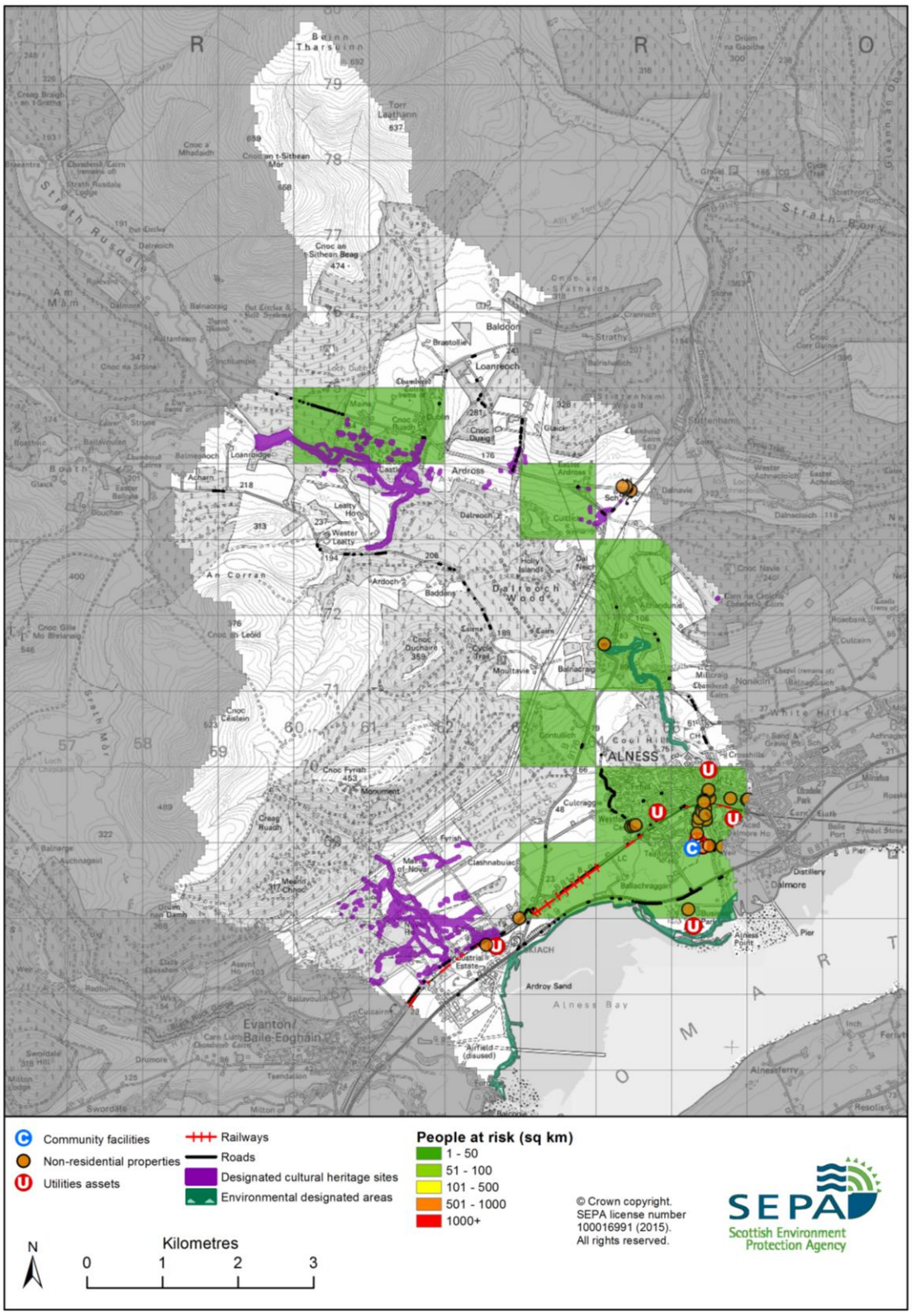


Figure 3: Impacts of flooding

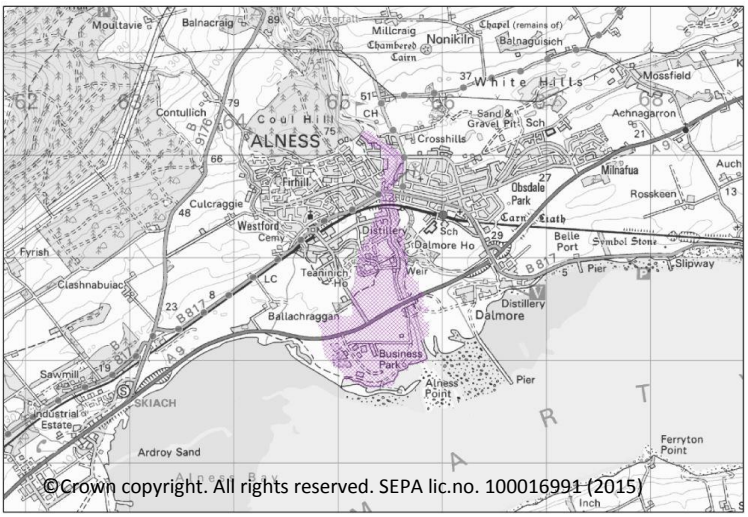
History of flooding

The earliest recorded flooding for this Potentially Vulnerable Area was in 1878. Since 2001 there have been three recorded incidents of river and surface water flooding which affected property. In October 2006, two separate landslides above the B9176 diverted surface water flows onto the road; the resulting blockages caused sections of culvert to collapse.

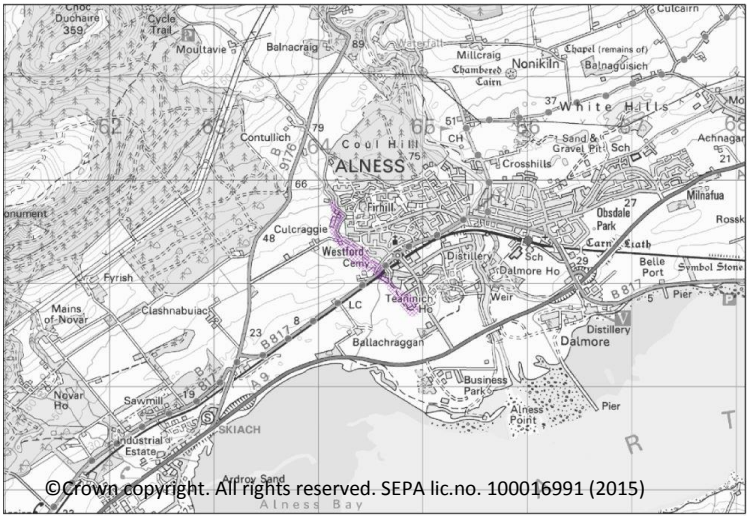
Objectives to manage flooding in Potentially Vulnerable Area 01/10

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 Alness Potentially Vulnerable Area.

Reduce flood risk in Alness from the River Alness / Averon

Indicators:	Target area:
• 60 people • £9,300 Annual Average Damages from residential properties • £30,000 Annual Average Damages from non-residential properties • 1 nursing home • 1 educational building	
Objective ID: 101001	

Reduce flood risk in Alness from the Contullich Burn

Indicators:	Target area:
• 20 people • £18,000 Annual Average Damages from residential properties • £1,700 Annual Average Damages from non-residential properties	
Objective ID: 101002	

Target area	Objective	ID	Indicators within PVA
Applies across Highland and Argyll Local Plan District	Avoid an overall increase in flood risk	100001	• 50 residential properties • £180,000 Annual Average Damages
Applies across Highland and Argyll Local Plan District	Reduce overall flood risk	100002	• 50 residential properties • £180,000 Annual Average Damages
Applies across Highland and Argyll 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.		

Actions to manage flooding in Potentially Vulnerable Area 01/10

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 Alness 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 STUDY** (1010020005)		
Objective (ID):	Reduce flood risk in Alness from the Contullich Burn (101002)		
Delivery lead:	The Highland Council		
Priority:	National:	Within local authority:	
	135 of 168	**16 of 23**	
Status:	**Not started**	Indicative delivery:	**2022-2027**
Description:	A study is recommended to further investigate the feasibility of a flood protection scheme for the Contullich Burn, focusing on trash screens for trees and other large debris (installation/modification of river control structures), sediment management (natural flood management) and consideration of property level protection. Other actions may also be considered to develop the most sustainable range of options. The study should look to confirm the business case for flood protection works.		
Potential impacts			
Economic:	The standard of protection, which could be provided by flood protection works, needs to be confirmed by the study. Up to seven residential and two non-residential properties may benefit from the study, with potential damages avoided of up to £670,000.		
Social:	Approximately 15 people may directly benefit from flood protection works. Alness has a higher than average proportion of vulnerable residents. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. Flooding to roads (including B817) and the railway line may be reduced, potentially benefitting the wider community. Natural flood management actions can restore and enhance natural environments		

Social:	and create opportunities for recreation and tourism. Negative impacts through disturbance to the local community during the construction phase should be considered.
Environmental:	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Natural flood management actions can have a positive impact by restoring and enhancing natural habitats. Opportunities to mitigate any environmental impacts may include design and timing of works. There is potential for a trash/debris screen to impact on the channel morphology. To be in accord with the FRM Strategy, the responsible authority should seek to ensure as part of the study that the action will not have an adverse effect on the integrity of the Cromarty Firth Special Protection Area. There are unlikely to be any significant impacts on the Cromarty Firth Site of Special Scientific Interest.

Action (ID):	**STRATEGIC MAPPING AND MODELLING** (1010020016)		
Objective (ID):	Reduce flood risk in Alness from the River Alness / Averon (101001)		
Delivery lead:	SEPA		
Status:	**Not started**	Indicative delivery:	**2016-2021**
Description:	SEPA will review existing modelling and data for this area, to determine if any improvements can be made to the flood maps. SEPA will support the local authority if further work beyond a strategic scale is required.		

Action (ID):	**STRATEGIC MAPPING AND MODELLING** (1000020019)		
Objective (ID):	Reduce overall flood risk (100002)		
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 WARNING** (1000020030)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	SEPA		
Status:	**Existing**	Indicative delivery:	**Ongoing**
Description:	Continue to maintain the 'Cromarty Firth' flood warning area which is part of the Moray Firth coastal flood warning scheme.		

Action (ID):	**FLOOD FORECASTING** (1000020009)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	SEPA		
Status:	**Existing**	Indicative delivery:	**Ongoing**
Description:	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. The Potentially Vulnerable Area is within the 'Easter Ross and Great Glen' flood alert area.		

Action (ID):	**SELF HELP** (1000020011)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	—		
Status:	**Existing**	Indicative delivery:	**Ongoing**
Description:	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.		

Action (ID):	**AWARENESS RAISING** (1000020013)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	Responsible authorities		
Status:	**Existing**	Indicative delivery:	**Ongoing**
Description:	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. From 2016 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. Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.		

Action (ID):	**MAINTENANCE** (1000020007)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	The Highland 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):	**SITE PROTECTION PLANS** (1010010015)		
Objective (ID):	Reduce flood risk in Alness from the River Alness / Averon (101001)		
Delivery lead:	The Highland Council		
Status:	**Not started**	Indicative delivery:	**2016-2021**
Description:	Site protection plans are developed to identify whether normal operation of a facility can be maintained during a flood. This may be due to existing protection or resilience of the facility or the network. A site protection plan for a school and a nursing home should be developed.		

Action (ID):	**EMERGENCY PLANS/RESPONSE** (1000020014)		
Objective (ID):	Reduce overall flood risk (100002)		
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** (1000010001)		
Objective (ID):	Avoid an overall increase in flood risk (100001) Reduce overall flood risk (100002)		
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.		