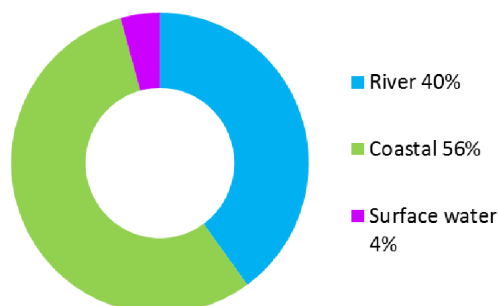


## Nairn Central (Potentially Vulnerable Area 01/18)

Local Plan District	Local authority	Main catchment
Highland and Argyll	The Highland Council	Moray coastal

### Summary of flooding impacts



### At risk of flooding

- 350 residential properties
- 30 non-residential properties
- £340,000 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	<i>Natural flood management works</i>	<i>New flood warning</i>	<i>Community flood action groups</i>	<i>Property level protection scheme</i>	<i>Site protection plans</i>
Flood protection study	<i>Natural flood management study</i>	Maintain flood warning	Awareness raising	<i>Surface water plan/study</i>	Emergency plans/response
<i>Maintain flood protection scheme</i>	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

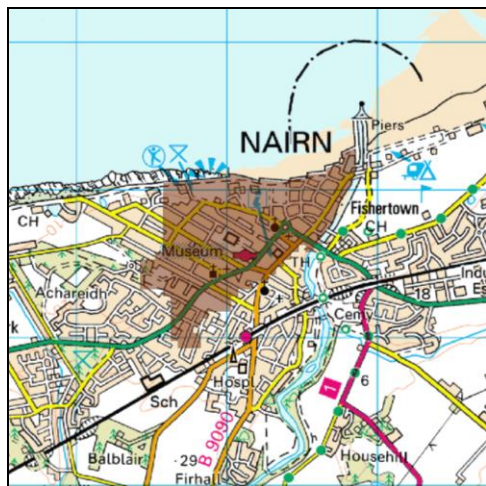
Actions

## Nairn Central (Potentially Vulnerable Area 01/18)

Local Plan District	Local authority	Main catchment
Highland and Argyll	The Highland Council	Moray coastal

### Background

This Potentially Vulnerable Area covers the urban area in the centre of Nairn (shown below). It is approximately 2km<sup>2</sup>.

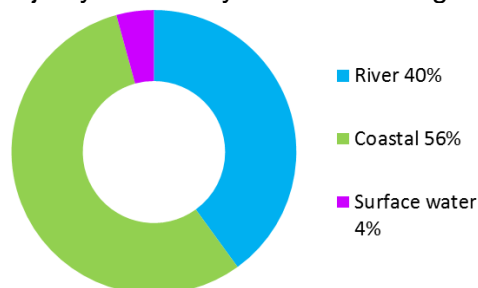


© Crown copyright. SEPA licence number 100016991 (2015). All rights reserved.

The A96 road passes through the area and the River Nairn flows along its eastern boundary.

There are approximately 350 residential properties and 30 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £340,000 with the majority caused by coastal flooding.



**Figure 1: Annual Average Damages by flood source**

### Summary of flooding impacts

Nairn, in particular the Fishertown area, is at risk of coastal flooding including, tidal flooding in the lower reaches of the River Nairn. Nairn is also at risk of flooding from the River Nairn and from the combined effects of high river flows and high sea levels.

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.

The risk of flooding to utilities in Table 1 does not include Scottish Water data. Scottish Water undertook a national assessment of above ground assets at medium likelihood of flooding (including water treatment works, wastewater treatment works, and pumping stations). Within this Potentially Vulnerable Area there is one asset identified as being at risk of flooding.

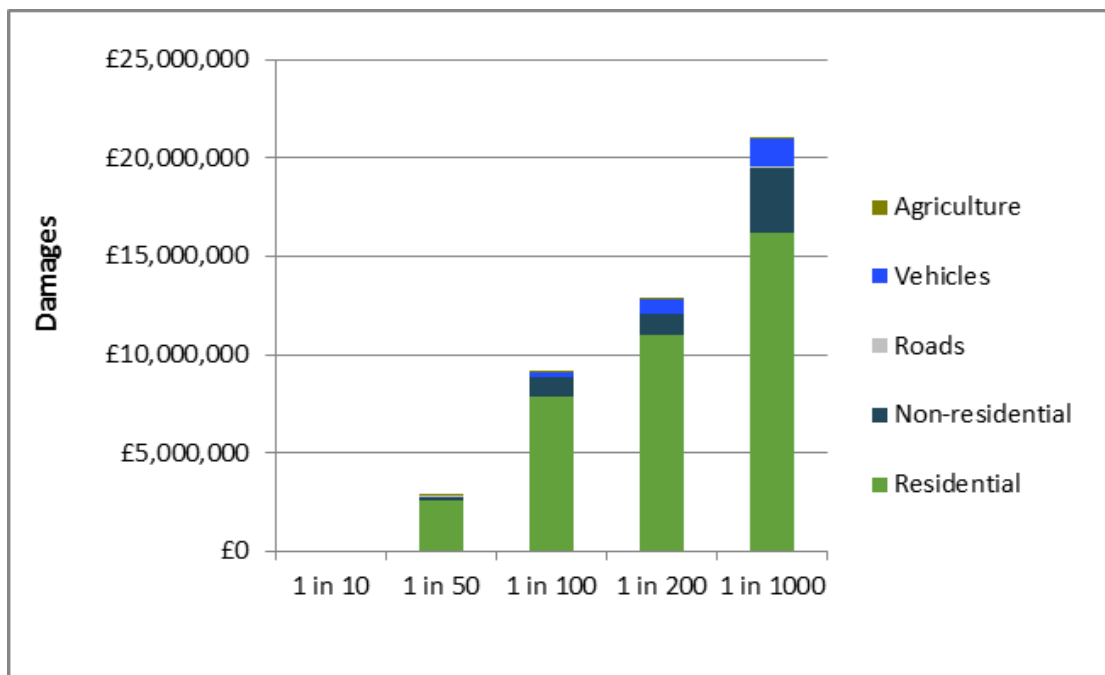
Roads affected by flooding include the A96 which is the major route between Inverness and Aberdeen.

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.

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 1,200)	<10	350	470
Non-residential properties (total 200)	<10	30	40
People	<10	780	1,000
Community facilities	0	0	0
Utilities assets	0	<10	<10
Transport links (excluding minor roads)	Roads at <10 locations	Roads at 30 locations	Roads at 30 locations
Environmental designated areas (km <sup>2</sup> )	0	0	0
Designated cultural heritage sites	0	0	0
Agricultural land (km <sup>2</sup> )	0	<0.1	<0.1

**Table 1:** Summary of flooding impacts<sup>1</sup>

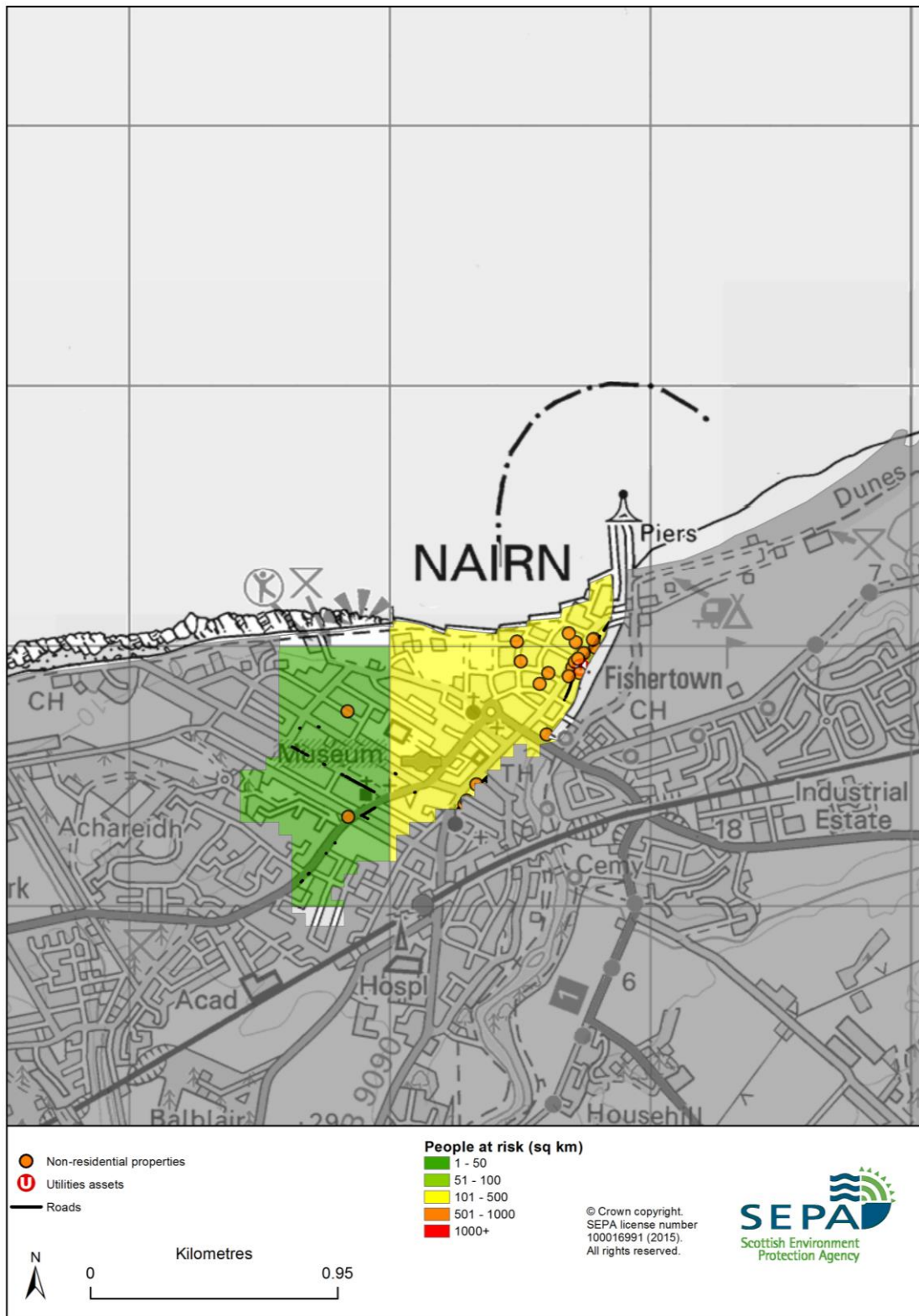


**Figure 2:** Damages by flood likelihood

## History of flooding

River flooding occurred in December 1999. In January 2005 a combined river and tidal flood threatened several properties, however no damage was recorded.

<sup>1</sup> Some receptors are counted more than once if flooded from multiple sources



**Figure 3: Impacts of flooding**

## Objectives to manage flooding in Potentially Vulnerable Area 01/18

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 Nairn Central Potentially Vulnerable Area.

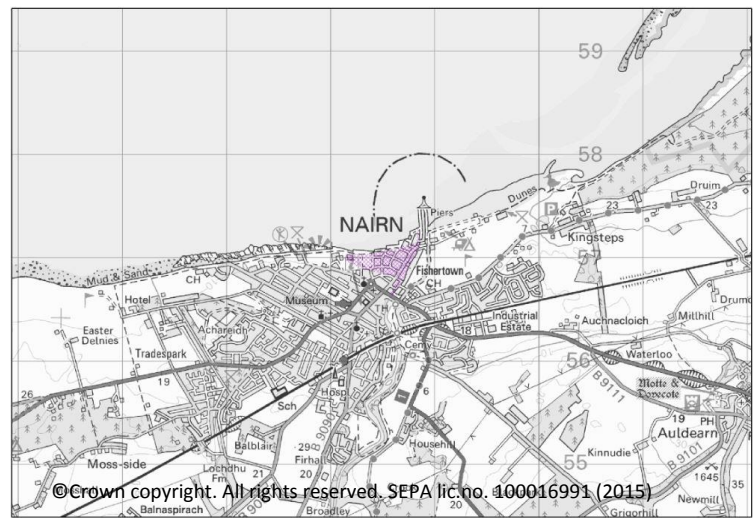
### Reduce flood risk in Nairn Central from the River Nairn

Indicators:

- 500 people
- £100,000 Annual Average Damages from residential properties
- £6,000 Annual Average Damages from non-residential properties

Objective ID: 101801

Target area:



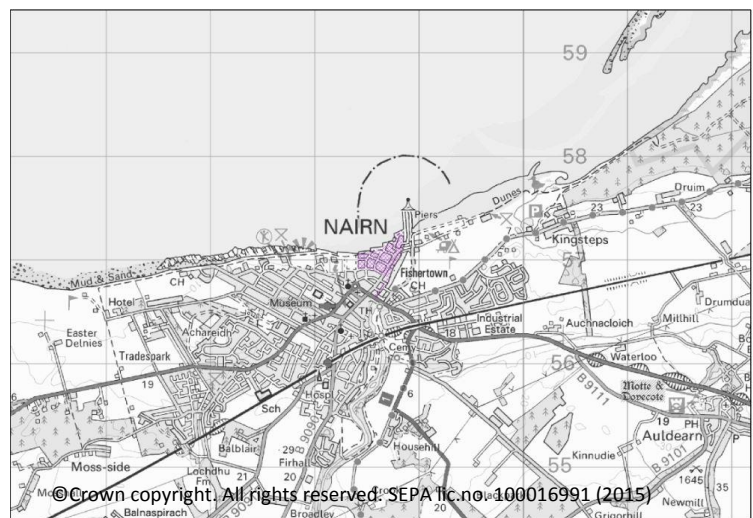
### Reduce risk in Nairn Central from coastal flooding

Indicators:

- 260 people
- £170,000 Annual Average Damages from residential properties
- £5,300 Annual Average Damages from non-residential properties

Objective ID: 101802

Target area:



Target area	Objective	ID	Indicators within PVA
Nairn central	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding	1304	<ul style="list-style-type: none"> <li>• 20m of road at 1 location of the A96</li> </ul>
Applies across Highland and Argyll Local Plan District	Avoid an overall increase in flood risk	100001	<ul style="list-style-type: none"> <li>• 350 residential properties</li> <li>• £340,000 Annual Average Damages</li> </ul>
Applies across Highland and Argyll Local Plan District	Reduce overall flood risk	100002	<ul style="list-style-type: none"> <li>• 350 residential properties</li> <li>• £340,000 Annual Average Damages</li> </ul>
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 01/18

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 Nairn Central Potentially Vulnerable Area.

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

<b>Action (ID):</b>	<b>FLOOD PROTECTION SCHEME/WORKS (1304021)</b>		
<b>Objective (ID):</b>	Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (1304)		
<b>Delivery lead:</b>	Transport Scotland		
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2028-2033</b>
<b>Description:</b>	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		

<b>Action (ID):</b>	<b>FLOOD PROTECTION STUDY (1018010005)</b>		
<b>Objective (ID):</b>	Reduce risk in Nairn Central from coastal flooding (101802) Reduce flood risk in Nairn Central from the River Nairn (101801)		
<b>Delivery lead:</b>	The Highland Council		
<b>Priority:</b>	National: <b>49 of 168</b>	Within local authority: <b>2 of 23</b>	
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	A study is required to focus on direct defences to provide protection from river and coastal flooding. Other actions may also be considered in order to develop the most sustainable range of options.		
<b>Potential impacts</b>			

<b>Economic:</b>	The study could benefit 344 residential and 24 non-residential properties at risk of flooding in this location, with potential damages avoided of up to £7.7 million.
<b>Social:</b>	Approximately 757 people may directly benefit from flood protection works. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. There may also be benefits to local roads and an energy production/electricity utility site, which may reduce disruption to the wider community. There are potential visual and access impacts for the community, reducing their connection to the watercourse. Negative impacts through disturbance to the local community during the construction phase should be considered.
<b>Environmental:</b>	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Opportunities to mitigate any environmental impacts may include design and timing of works. There is potential for impacts on habitats and changes to channel morphology. There may be impacts on the Nairn Fishertown conservation area. 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 Moray Firth Special Area of Conservation.

<b>Action (ID):</b>	<b>STRATEGIC MAPPING AND MODELLING (1000020016)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	SEPA will be seeking to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk. Approximately 2,100km <sup>2</sup> of improved data is currently available within this Local Plan District.		

<b>Action (ID):</b>	<b>STRATEGIC MAPPING AND MODELLING (1000020019)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Scottish Water		
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	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.		



<b>Action (ID):</b>	<b>MAINTAIN FLOOD WARNING (1000020030)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	Continue to maintain the 'Ardersier to Nairn' flood warning area which is part of the Moray Firth coastal flood warning scheme.		

<b>Action (ID):</b>	<b>FLOOD FORECASTING (1000020009)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<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>		

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

<b>Action (ID):</b>	<b>AWARENESS RAISING (1000020013)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Responsible authorities		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<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 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.</p>		

<b>Action (ID):</b>	<b>MAINTENANCE (1000020007)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	The Highland Council, asset / land managers		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<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>		

<b>Action (ID):</b>	<b>EMERGENCY PLANS/RESPONSE (1000020014)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Category 1 and 2 Responders		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<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>		

<b>Action (ID):</b>	<b>PLANNING POLICIES (1000010001)</b>		
<b>Objective (ID):</b>	Avoid an overall increase in flood risk (100001) Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Planning authority		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	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.		