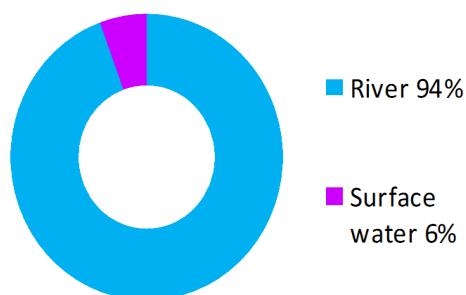


## Peterculter (Potentially Vulnerable Area 06/19)

Local Plan District	Local authority	Main catchment
North East	Aberdeen City Council, Aberdeenshire Council	River Dee (Grampian)

### Summary of flooding impacts



#### At risk of flooding

- 380 residential properties
- 20 non-residential properties
- £300,000 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

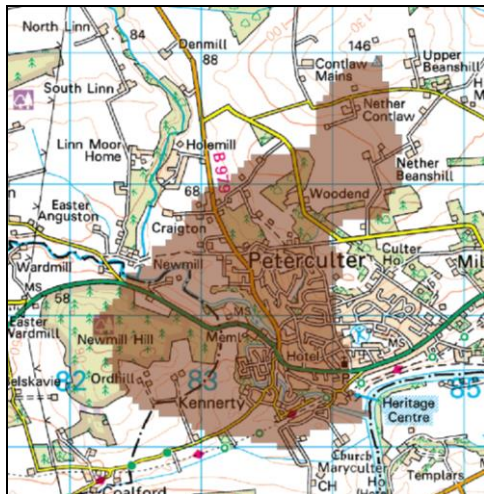
Actions

# Peterculter (Potentially Vulnerable Area 06/19)

Local Plan District	Local authority	Main catchment
North East	Aberdeen City Council	River Dee (Grampian)

## Background

This Potentially Vulnerable Area covers the west of Peterculter and is approximately 4km<sup>2</sup>. The A93, North Deeside road, passes through the area.

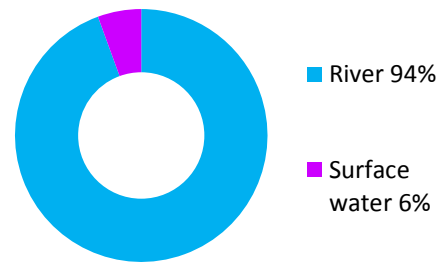


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The main river is the Culter Burn which flows through the south west of Peterculter before discharging into the River Dee.

There are approximately 380 residential and 20 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £300,000 with the majority caused by river flooding.



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

## Summary of flooding impacts

The main source of flood risk in the area is from the Culter Burn. This affects properties in the west and south west of Peterculter.

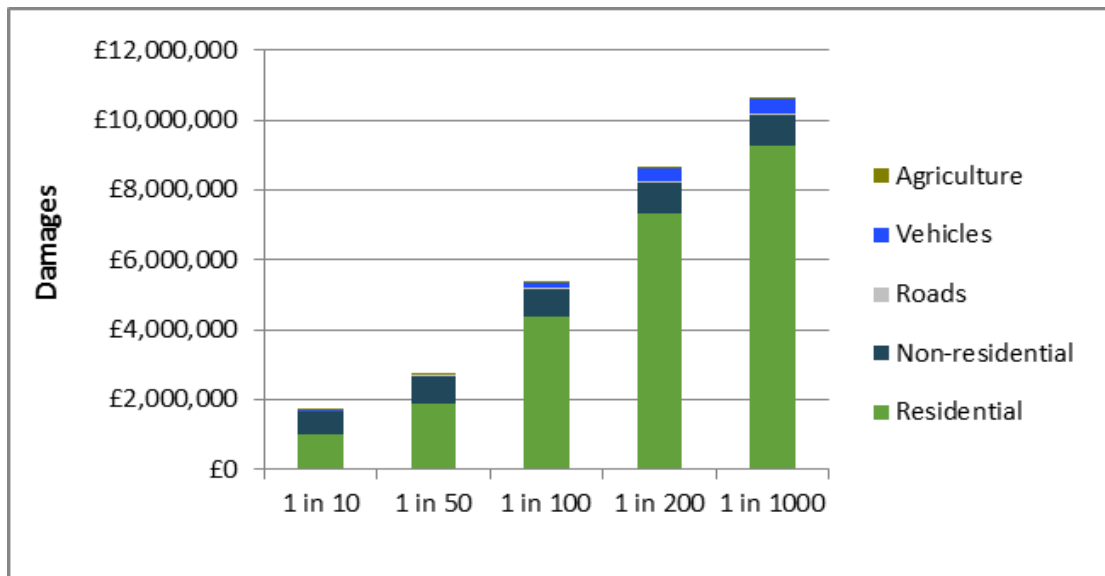
The risk of flooding to people and property, as well as to community facilities, utilities, the transport network, designated sites and agricultural land is summarised in Table 1. Roads affected by flooding include the A93.

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.

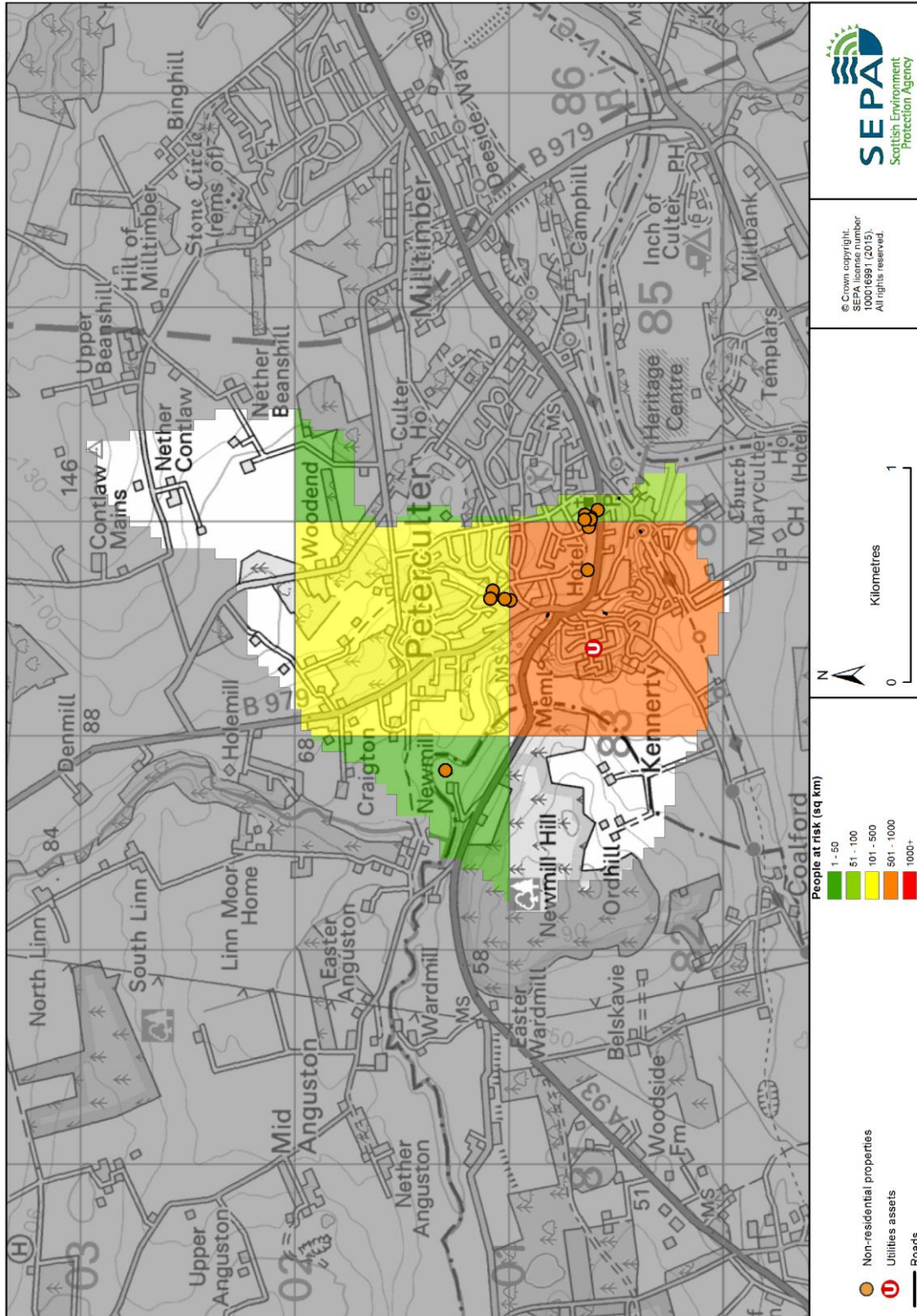
	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 1,600)	80	380	530
Non-residential properties (total 70)	<10	20	20
People	170	830	1,200
Community facilities	0	0	0
Utilities assets	<10	<10	<10
Transport links (excluding minor roads)	Roads at <10 locations	Roads at 10 locations	Roads at 10 locations
Environmental designated areas (km <sup>2</sup> )	<0.1	<0.1	<0.1
Designated cultural heritage sites	0	0	0
Agricultural land (km <sup>2</sup> )	0.1	0.1	0.9

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



**Figure 2:** Damages by flood likelihood

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



**Figure 3: Impacts of flooding**

## History of flooding

In 1827, heavy rainfall caused the failure of several small dams associated with paper milling on the Burn of Culter. This caused extensive damage to agricultural crops and the paper mill.

More recently, flooding occurred at North Deeside Road, Craigton Crescent and Buckleburn Place. These incidents were caused by blocked and inadequate drainage systems. On 23 December 2012 around 50 properties were affected by flooding from the Culter Burn.

## Objectives to manage flooding in Potentially Vulnerable Area 06/19

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 Peterculter Potentially Vulnerable Area.

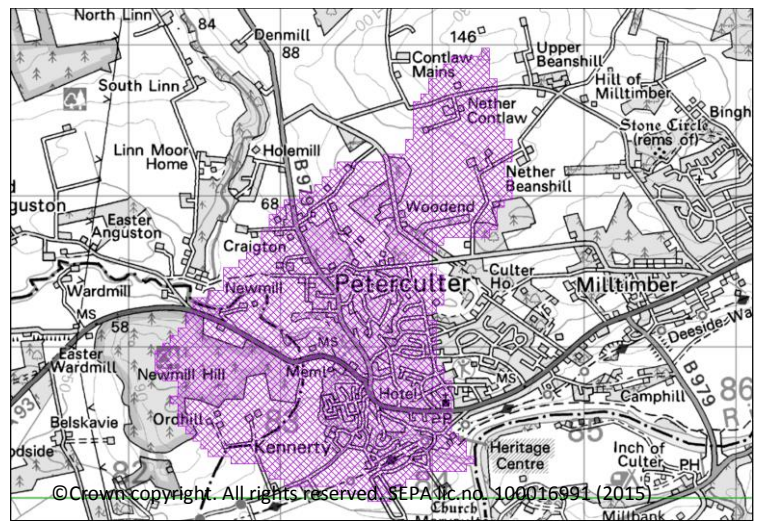
### Reduce flood risk in Peterculter from the Culter Burn

Indicators:

Target area:

- 720 people
- £180,000 Annual Average Damages from residential properties
- £71,000 Annual Average Damages from non-residential properties

Objective ID: 601901



Target area	Objective	ID	Indicators within PVA
Aberdeen	Reduce risk from surface water flooding in Peterculter	601906	* See note below
Applies across North East Local Plan District	Avoid an overall increase in flood risk	600001	<ul style="list-style-type: none"> <li>• 380 residential properties</li> <li>• £300,000 Annual Average Damages</li> </ul>
Applies across North East Local Plan District	Reduce overall flood risk	600002	<ul style="list-style-type: none"> <li>• 380 residential properties</li> <li>• £300,000 Annual Average Damages</li> </ul>
Applies across North East 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 06/19 there are 50 residential properties at risk and Annual Average Damages of £17,000.

## Actions to manage flooding in Potentially Vulnerable Area 06/19

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 Peterculter 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

<b>Action (ID):</b>	<b>FLOOD PROTECTION SCHEME/WORKS (6019010005)</b>		
<b>Objective (ID):</b>	Reduce flood risk in Peterculter from the Culter Burn (601901)		
<b>Delivery lead:</b>	Aberdeen City Council		
<b>Status:</b>	<b>Under development</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	Flood protection works are currently under development for the Culter Burn. The works are likely to be designed to a 1 in 200 year standard of protection, including an allowance for climate change and are likely to include direct defences to retain flood flows in the channel together with improvements to conveyance at points of restriction. The scheme will be complemented by further investigations into the potential for natural flood management on the burn and its tributaries upstream of Peterculter.		
<b>Potential impacts</b>			
<b>Economic:</b>	Flood protection works could benefit 330 residential properties at risk of flooding in this location, with estimated damages avoided of £8.6 million could be achieved.		
<b>Social:</b>	The development of flood protection works could potentially reduce risk to an estimated 730 people. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. Two energy production/electricity utility sites could benefit from flood protection works. However, this will depend on the final location and extent of the works.		
<b>Environmental:</b>	Flood protection works can have both positive and negative impacts on the ecological quality of the environment depending on how they are designed. To be in accord with the FRM Strategy, the responsible authority (and where applicable, the licensing authority) should seek		



<b>Environmental:</b>	to ensure as part of the scheme that the action will not have an adverse effect on the integrity of the River Dee Special Area of Conservation. This should include considering how to avoid/minimise potential impacts through good design and timing of works and consider how to avoid or minimise potential negative effects such as loss or disturbance of sediment.
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<b>Action (ID):</b>	<b>NATURAL FLOOD MANAGEMENT STUDY (6019010003)</b>		
<b>Objective (ID):</b>	Reduce flood risk in Peterculter from the Culter Burn (601901)		
<b>Delivery lead:</b>	Various		
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	The natural flood management actions should primarily focus on river/floodplain restoration and sediment management, but other actions may also be considered in order to develop the most sustainable range of options.		
<b>Potential impacts</b>			
<b>Economic:</b>	Natural flood management actions could reduce risk to properties at risk from the Culter Burn. The benefits provided by the actions should be defined in the study. Any natural flood management works identified by the study will complement the proposed flood protection scheme on the Culter Burn in Peterculter		
<b>Social:</b>	Natural flood management actions have the potential to reduce flood risk from the Culter Burn to people during a high likelihood flood. Natural flood management actions can restore and enhance natural environments and create opportunities for recreation and tourism. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. 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. 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. 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 River Dee Special Area of Conservation.		

<b>Action (ID):</b>	<b>SURFACE WATER PLAN/STUDY (6019060018)</b>		
<b>Objective (ID):</b>	Reduce risk from surface water flooding in Peterculter (601906)		
<b>Delivery lead:</b>	Aberdeen City Council		

<b>Status:</b>	<b>Ongoing</b>	Indicative delivery:	<b>2016-2021</b>
<b>Description:</b>	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 has been 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, small watercourses and the River Dee.		

<b>Action (ID):</b>	<b>STRATEGIC MAPPING AND MODELLING (6000020019)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<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 review the 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>FLOOD FORECASTING (6000020009)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<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 'Aberdeenshire and Aberdeen City' flood alert area.</p>		

<b>Action (ID):</b>	<b>SELF HELP (6000020011)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<b>Delivery lead:</b>	—		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<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> <p>Aberdeen City Council provides grants towards the fitting of flood guards on individual properties.</p>		

<b>Action (ID):</b>	<b>AWARENESS RAISING (6000020013)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<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 (6000020007)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<b>Delivery lead:</b>	Aberdeen City Council and 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 (6000020014)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (600002)		
<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 (6000010001)</b>		
<b>Objective (ID):</b>	Avoid an overall increase in flood risk (600001) Reduce overall flood risk (600002)		
<b>Delivery lead:</b>	Planning authority		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<p>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.</p>		