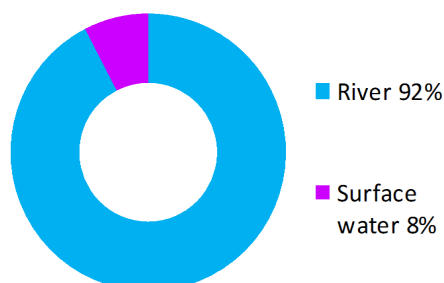


Aboyne (Potentially Vulnerable Area 06/20)

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

Summary of flooding impacts



At risk of flooding

- 60 residential properties
- 20 non-residential properties
- £240,000 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.

<i>Flood protection scheme/works</i>	<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	Surface water plan/study	Emergency plans/response
<i>Maintain flood protection scheme</i>	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

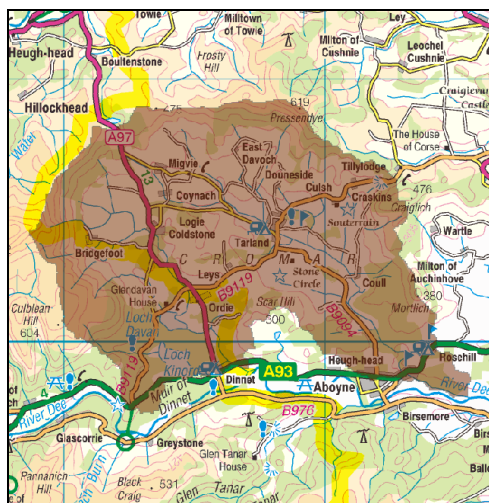
Actions

Aboyne (Potentially Vulnerable Area 06/20)

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

Background

This Potentially Vulnerable Area includes Tarland and Logie Coldstone, as well as the northern part of the town of Aboyne. It is approximately 125km² and located on the eastern edge of the Cairngorms National Park. The A93 and the A97 pass through the area.



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The River Dee flows just to the south of the Potentially Vulnerable Area. Several tributaries of the Dee including the Tarland Burn flow through the area.

There are approximately 60 residential and 20 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £240,000 with the majority from river flooding.

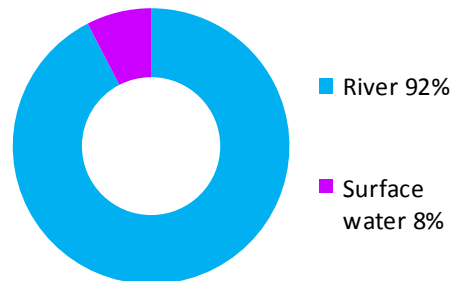


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

The main areas at risk of river flooding are along the Tarland Burn. This floods mainly agricultural land south east of Tarland village and north east of Coull. Tarland Burn also floods property in eastern Aboyne including Low Road and the A93 close to where it where it joins the River Dee.

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.

Logie Coldstone Primary School, several roads and 10 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 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 1,400)	40	60	140
Non-residential properties (total 270)	<10	20	30
People	90	140	310
Community facilities	0	<10 Educational buildings	<10 Educational buildings
Utilities assets	<10	<10	10
Transport links (excluding minor roads)	Roads at 60 locations	Roads at 80 locations	Roads at 80 locations
Environmental designated areas (km ²)	0	0	0
Designated cultural heritage sites	9	10	10
Agricultural land (km ²)	4	5	5

Table 1: Summary of flooding impacts¹

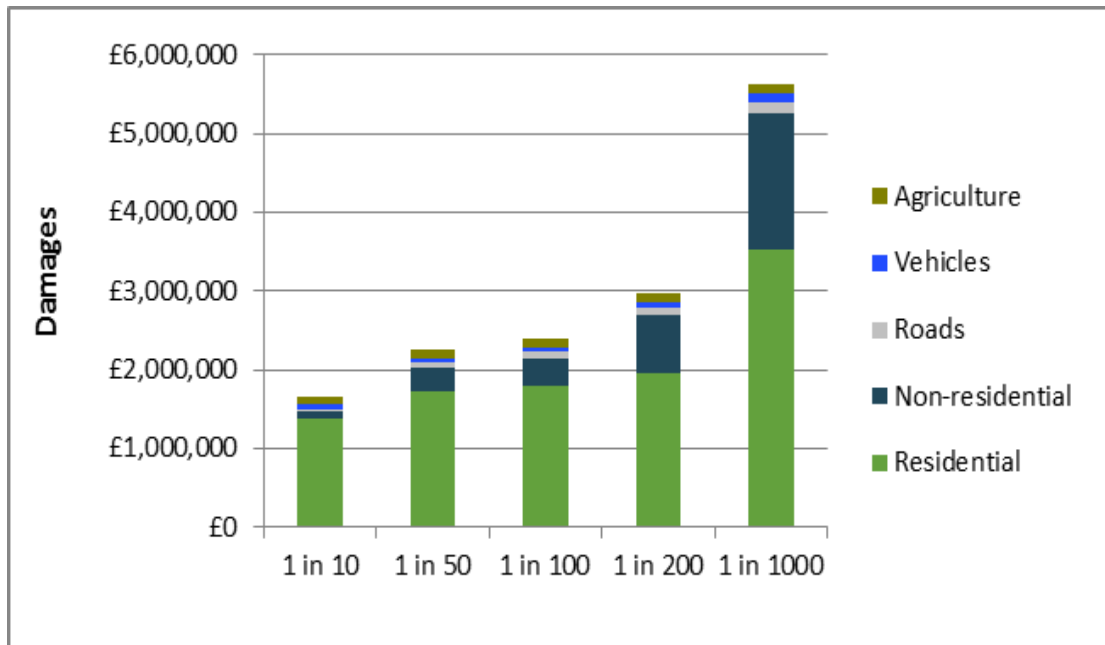


Figure 2: Damages by flood likelihood

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

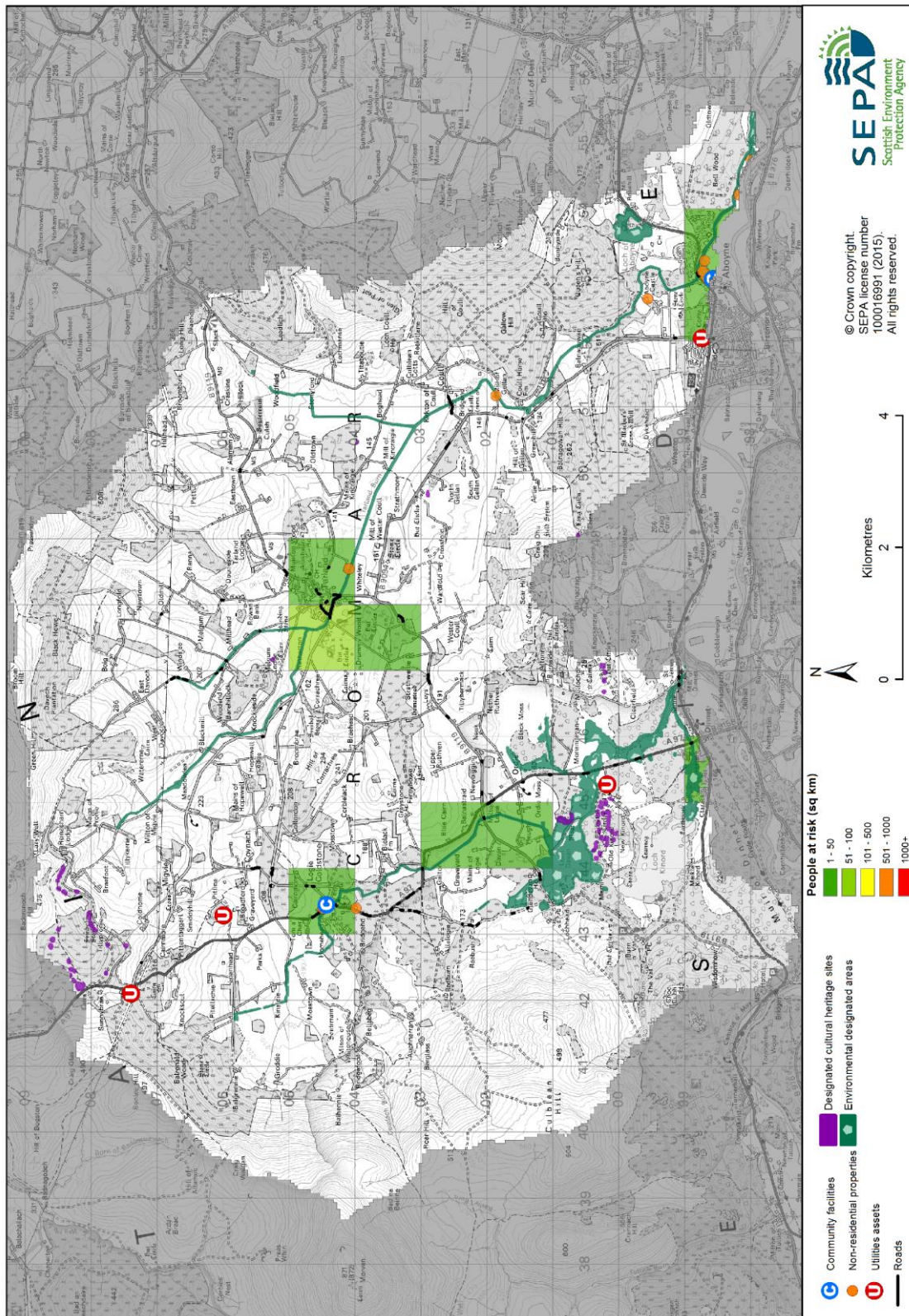


Figure 3: Impacts of flooding

History of flooding

In 2000 and 2002 the Tarland Burn caused flooding in Aboyne and Tarland when it overtopped its banks, flooding properties and roads. Flooding has occurred at Burnside Road, Tarland, due to the Tarland Burn in March 2006 and again in February and November 2009. In December 2005 and July 2009, surface water flooding impacted residential properties in Tarland.

In June 2005 the Logie Burn overtopped its banks causing localised flooding. Surface water flooding has also affected parts of Aboyne, south of the A93 which is just outside the southern boundary of the Potentially Vulnerable Area.

Objectives to manage flooding in Potentially Vulnerable Area 06/20

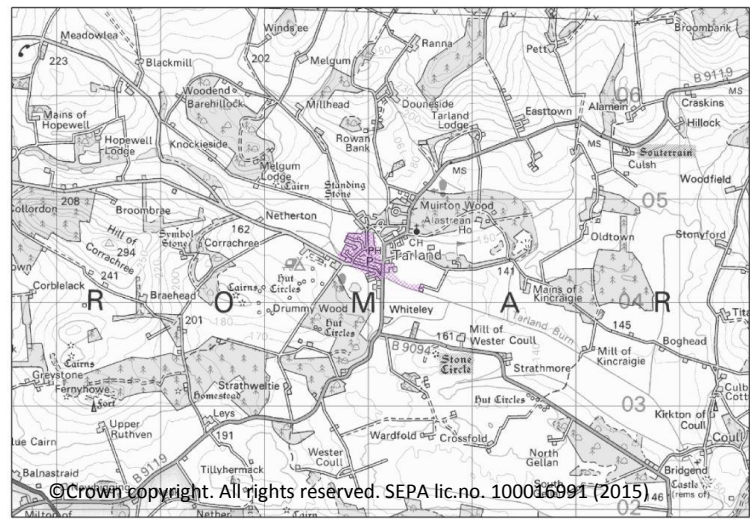
Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding. Target 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 Aboyne Potentially Vulnerable Area.

Reduce flood risk in Tarland from the Tarland Burn

Indicators:

Target area:

- 70 people
- £27,000 Annual Average Damages from residential properties



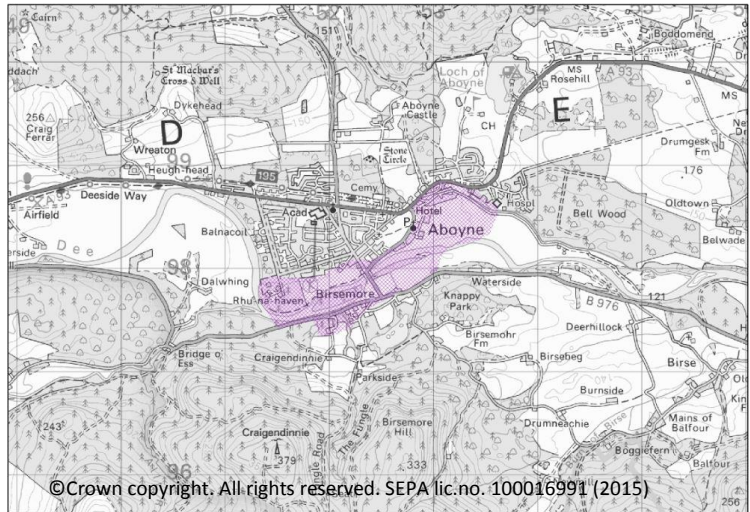
Objective ID: 602001

Reduce flood risk in Aboyne from Tarland Burn and River Dee

Indicators:

Target area:

- 220 people
- £114,000 Annual Average Damages
- 1 educational building



Objective ID: 602002

Target area	Objective	ID	Indicators within PVA
Aboyne	Reduce risk from surface water flooding in Aboyne	602005	* See note below
Applies across North East Local Plan District	Avoid an overall increase in flood risk	600001	<ul style="list-style-type: none"> • 60 residential properties • £240,000 Annual Average Damages
Applies across North East Local Plan District	Reduce overall flood risk	600002	<ul style="list-style-type: none"> • 60 residential properties • £240,000 Annual Average Damages
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 06/20 there are 10 residential properties at risk and Annual Average Damages of £18,000.

Actions to manage flooding in Potentially Vulnerable Area 06/20

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 Aboyne Potentially Vulnerable Area.

Selected actions					
<i>Flood protection scheme/works</i>	<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	Surface water plan/study	Emergency plans/response
<i>Maintain flood protection scheme</i>	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

Action (ID):	FLOOD PROTECTION STUDY (6020020005)		
Objective (ID):	Reduce flood risk in Aboyne from Tarland Burn and River Dee (602002)		
Delivery lead:	Aberdeenshire Council		
Priority:	National:		Within local authority:
	104 of 168		7 of 12
Status:	Not started	Indicative delivery:	2022-2027
Description:	A flood study should be carried out to address flooding from the Tarland Burn and River Dee in Aboyne. To reduce flood risk from the Tarland Burn it is recommended that previous work carried out by Aberdeenshire Council is developed further. The flood protection study should primarily focus on direct defences, relocation of properties, runoff reduction, river or floodplain restoration, sediment management and property level protection. Other actions may also be considered to develop the most sustainable range of options.		
Potential impacts			
Economic:	The study could benefit 140 properties at risk of flooding in this location, with potential damages avoided of up to £3.3 million.		
Social:	The development of flood protection works following the study would potentially reduce risk to 290 people. A school would also 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. 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		

Environmental:	environment. 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. The physical condition of the Tarland Burn (water body ID 23338) is identified by river basin management planning to be at less than good status. Future works could improve the condition of the river or degrade it. Opportunities to improve the condition of the rivers should be considered by coordinating with river basin management planning.
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Action (ID):	FLOOD PROTECTION STUDY (6020010005)		
Objective (ID):	Reduce flood risk in Tarland from the Tarland Burn (602001)		
Delivery lead:	Aberdeenshire Council		
Priority:	National: 136 of 168	Within local authority: 9 of 12	
Status:	Not started	Indicative delivery:	2022-2027
Description:	A flood protection study is required to develop the previous work carried out by Aberdeenshire Council to consider flood protection works to reduce flood risk in Tarland from the Tarland Burn. Development of the previous work should consider a combination of actions including modification of conveyance, construction of direct defences, relocation of properties and property level protection to compare against the previously identified online storage options. Other actions may also be considered in order to develop the most sustainable solution.		
Potential impacts			
Economic:	The study could benefit 22 properties at risk of flooding in this location, with potential damages avoided of up to £760,000.		
Social:	The development of flood protection works following the study would potentially reduce risk to 48 people. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. The roads through Tarland would also benefit from flood protection works. Natural flood management actions can restore and enhance natural environments and create opportunities for recreation and tourism. Negative impacts through disturbance to the local community during the construction phase should be considered.		
Environmental:	To be in accord with the FRM Strategy, the responsible authority should seek to ensure, as part of the studies, that the action will not have an adverse effect on the integrity of the River Dee Special Area of Conservation. Cultural heritage sites, including one garden and designed landscape site, could benefit from flood protection works identified in the study. However, this will depend on the final location and extent of the works. The flood protection study should consider 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, disruption to natural processes and loss of habitat. The following rivers are		

Environmental:	identified by river basin management planning to be at less than good status for their physical condition: River Don, River Dee and Bucks Burn (water body IDs 23265, 23315 and 23266). Future works could improve the condition of the rivers or degrade them. Opportunities to improve the condition of the rivers should be considered by coordinating with river basin management planning.
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Action (ID):	SURFACE WATER PLAN/STUDY (6020050018)		
Objective (ID):	Reduce risk from surface water flooding in Aboyne (602005)		
Delivery lead:	Aberdeenshire 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 (6000020019)		
Objective (ID):	Reduce overall flood risk (600002)		
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 (6000020030)		
Objective (ID):	Reduce overall flood risk (600002)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the 'Aboyne' flood warning area which is part of the Dee river flood warning scheme.		

Action (ID):	FLOOD FORECASTING (6000020009)		
Objective (ID):	Reduce overall flood risk (600002)		
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 'Aberdeenshire and Aberdeen City' flood alert area.</p>		

Action (ID):	SELF HELP (6000020011)		
Objective (ID):	Reduce overall flood risk (600002)		
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> <p>Aberdeenshire Council provide a small range of flood protection products for individual property protection, which are available for all types of flooding, at cost price with free delivery across Aberdeenshire.</p>		

Action (ID):	AWARENESS RAISING (6000020013)		
Objective (ID):	Reduce overall flood risk (600002)		
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 SEPA led education events. Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.</p>		

Action (ID):	MAINTENANCE (6000020007)		
Objective (ID):	Reduce overall flood risk (600002)		
Delivery lead:	Aberdeenshire 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 (6000020014)		
Objective (ID):	Reduce overall flood risk (600002)		
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> <p>Aberdeenshire Council and the James Hutton Institute operate river level gauges on the Tarland Burn to assist with emergency response.</p>		

Action (ID):	PLANNING POLICIES (6000010001)		
Objective (ID):	Avoid an overall increase in flood risk (600001) Reduce overall flood risk (600002)		
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.		