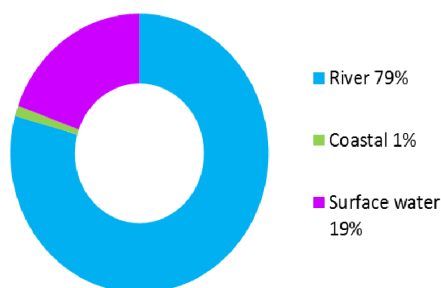


Macduff (Potentially Vulnerable Area 06/04)

Local Plan District	Local authority	Main catchment
North East	Aberdeenshire Council	Banff coastal

Summary of flooding impacts



At risk of flooding

- 40 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>
<i>Flood protection study</i>	<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

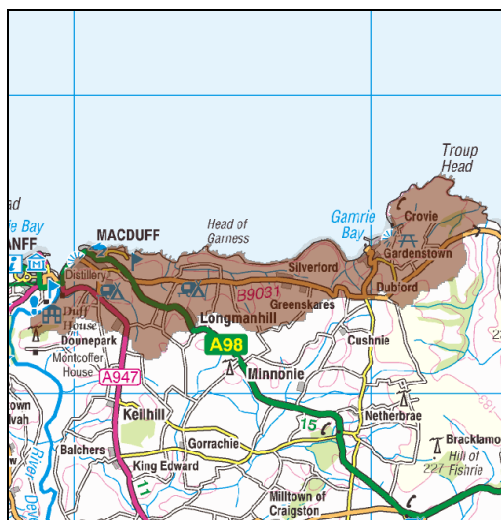
Macduff (Potentially Vulnerable Area 06/04)

Local Plan District	Local authority	Main catchment
North East	Aberdeenshire Council	Banff coastal

Background

This Potentially Vulnerable Area is located in the Moray Firth to the east of Banff. It is approximately 36km² and extends from the River Deveron at Banff Bay to the Tore Burn east of Troup Head.

The A98 passes through the area.



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The River Deveron is the main river in this area with smaller burns draining northwards into the Moray Firth.

There are approximately 40 residential and 20 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £240,000 with the majority from river flooding. It is recognised however that wave overtopping contributes to coastal flooding which is not fully represented in this analysis.

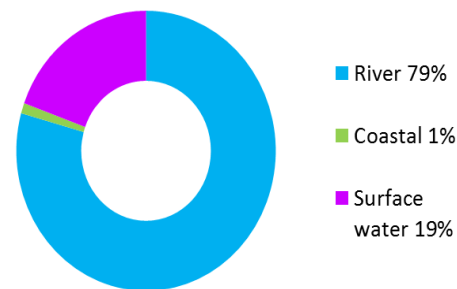


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

Flooding from wave action is not fully represented in the assessment of flood risk. It is likely that the number of properties at risk of coastal flooding and the associated damages are underestimated. For example, coastal flooding from overtopping waves is known to occur at Macduff, Gardenstown and Crovie.

River flood risk is associated with the Burn of Myrehouse, particularly adjacent to its confluence with the Deveron.

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. Several road locations are at risk of flooding including sections of the A947, B9026 and B9031. There are ten designated cultural heritage sites and a small area of designated environmental sites at risk.

The damages associated with floods of different likelihood are shown in Figure 2. Non-residential properties experience the greatest economic impact. Note that there is some uncertainty around the high level of damages estimated for river flooding, which is mostly attributed to a single site and which will require further investigation. 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 2,400)	<10	40	40
Non-residential properties (total 360)	<10	20	20
People	10	80	80
Community facilities	0	0	0
Utilities assets	0	<10	<10
Transport links (excluding minor roads)	Roads at 30 locations	Roads at 40 locations	Roads at 40 locations
Environmental designated areas (km ²)	0.5	0.5	0.5
Designated cultural heritage sites	9	10	10
Agricultural land (km ²)	0.2	0.3	0.3

Table 1: Summary of flooding impacts¹

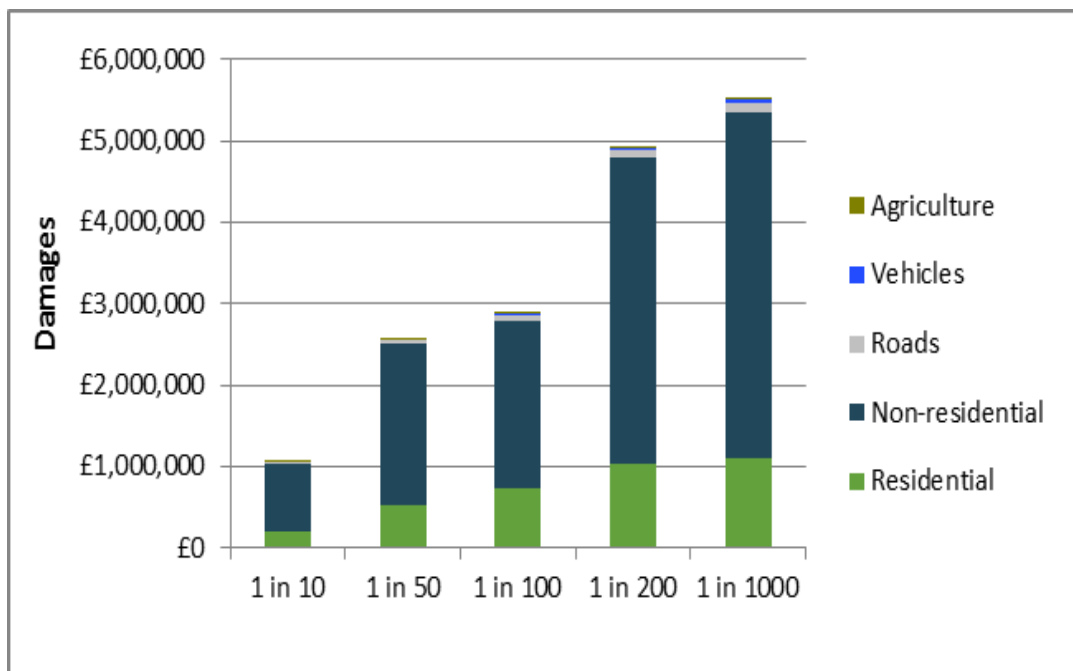


Figure 2: Damages by flood likelihood

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

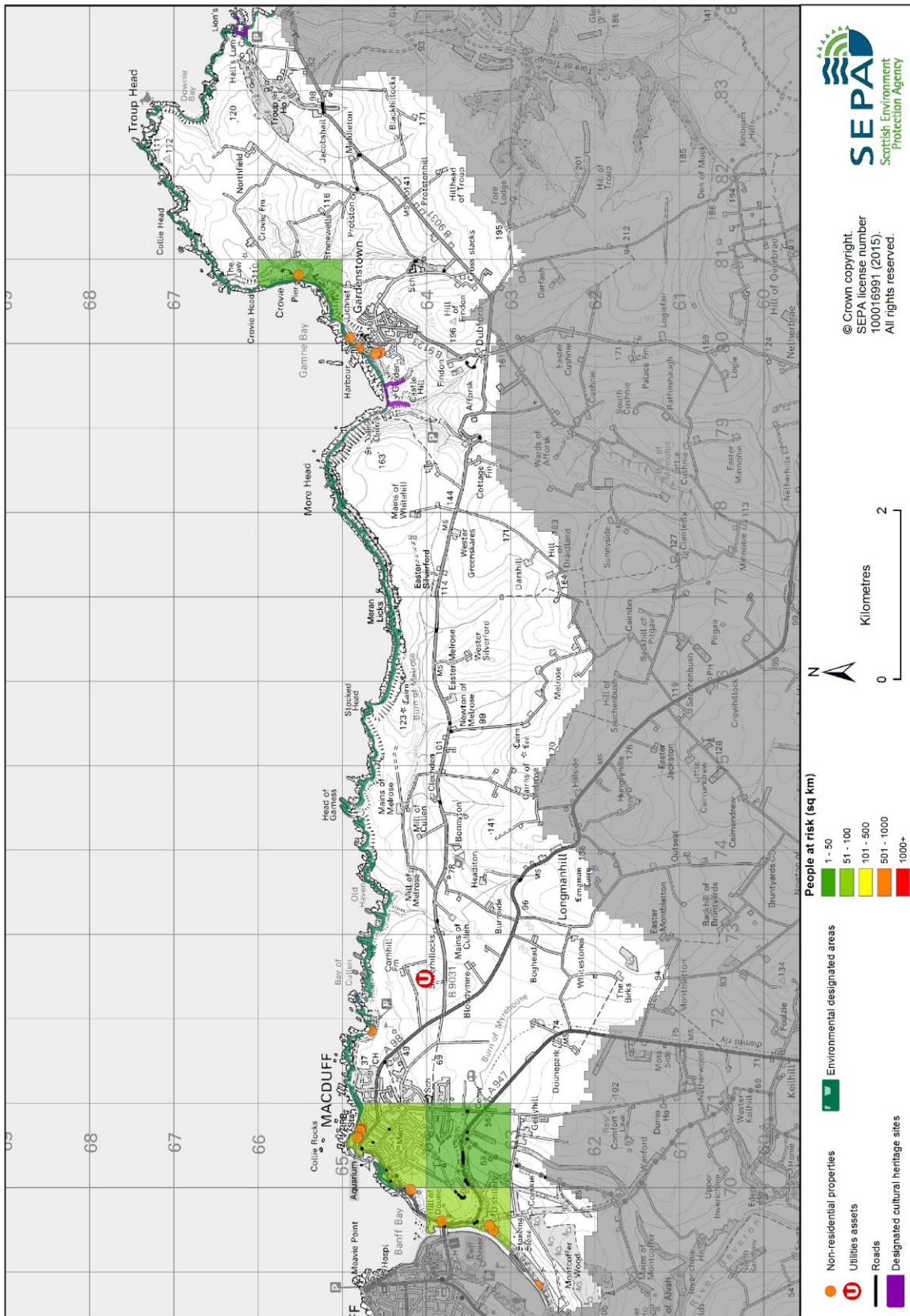


Figure 3: Impacts of flooding

History of flooding

The earliest recorded flood was in 1880, when waves overtopped the sea wall in Macduff causing damage to the harbour and boats. The 1953 North Sea flood undermined and washed away sections of seawall and damaged the slipway and boat launching beach. In addition wave overtopping caused flooding to properties in Macduff and Gardenstown. In Crovie the flooding was so severe the village was abandoned after the 1953 storm event.

In 1957 coastal flooding affected properties on the sea front, washed away the cliff road, and required the evacuation of families. In August 2008 surface water flooding in Macduff affected properties in Duff Street, Commercial Street, and George Street. Old Gamrie Road in Macduff flooded in 2009 following a heavy rainstorm.

Objectives to manage flooding in Potentially Vulnerable Area 06/04

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 Macduff Potentially Vulnerable Area.

Target area	Objective	ID	Indicators within PVA
Applies across North East Local Plan District	Avoid an overall increase in flood risk	600001	<ul style="list-style-type: none"> • 40 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"> • 40 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.		

Actions to manage flooding in Potentially Vulnerable Area 06/04

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 Macduff 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>
<i>Flood protection study</i>	<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

Action (ID):	STRATEGIC MAPPING AND MODELLING (6000020016)		
Objective (ID):	Reduce overall flood risk (600002)		
Delivery lead:	SEPA		
Status:	Not started	Indicative delivery:	2016-2021
Description:	SEPA will be seeking to develop the flood hazard mapping in the Banff area to improve understanding of the coastal flood risk. The extent and timing of the completed improvements will be dependent on detailed scoping and data availability.		

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 'Banff' flood warning area which is part of the Deveron river flood warning scheme. Continue to maintain the 'Gardenstown to Pennan' and 'Portsoy to Macduff' flood warning areas which are part of the Moray Firth coastal flood warning scheme.		

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

Action (ID):	SELF HELP (6000020011)		
Objective (ID):	Reduce overall flood risk (600002)		
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. 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.		

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 community education events.</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 (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>		

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.		