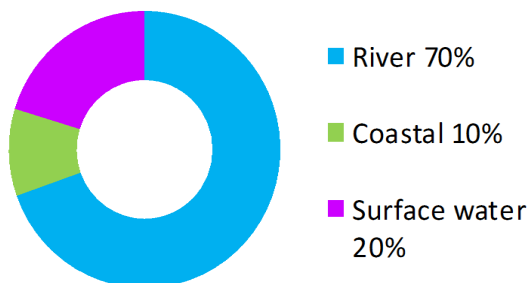


Ayr east (Potentially Vulnerable Area 12/12)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	River Ayr

Summary of flooding impacts



At risk of flooding

- 290 residential properties
- 10 non-residential properties
- £720,000 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

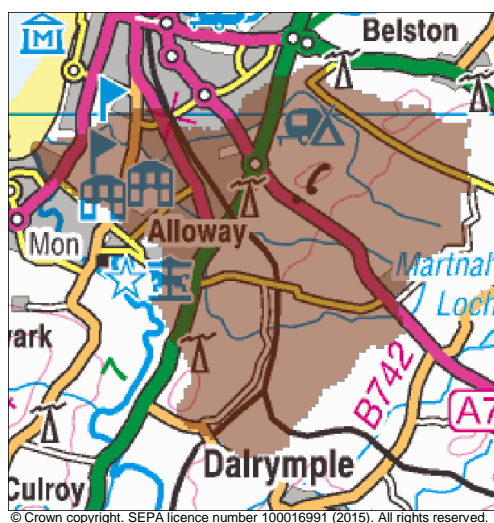
Actions

Ayr east (Potentially Vulnerable Area 12/12)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	River Ayr

Background

This Potentially Vulnerable Area is located to the south of Ayr and has an area of approximately 20km² (shown below). It incorporates the Alloway, Mountcharles and Rozelle areas of Ayr and the rural catchments of the Slaphouse and Annfield Burns.



There are approximately 290 residential properties and 10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £720,000.

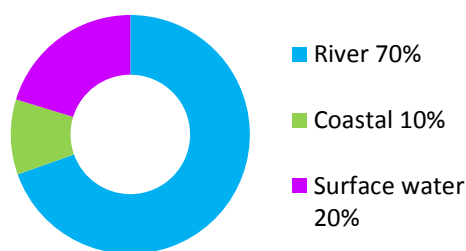


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

River flooding from the Slaphouse Burn is predicted to impact, the residential area to the south of Cunning Park and the area around Belleisle Park. At the confluence of the Annfield Burn and the Slaphouse Burn, in Rozelle, residential properties and cultural heritage sites are predicted to be at risk of flooding. Just to the south of the Potentially Vulnerable Area, the River Doon is predicted to affect the Mountcharles and Alloway areas of Ayr.

There are approximately 70 residential properties at risk from surface water flooding, notably to the south of Cunning Park. Flooding may also affect sections of the road and rail network (notably the A77). The areas at highest risk from surface water flooding have been prioritised. These priority areas were identified using SEPA flood models, supplemented with historical flood information and, where available, more detailed modelling from local authorities. These priority areas require the preparation of surface water management plans, the details of which can be found in Section 2.

This area has a very short frontage onto the Firth of Clyde where there is potentially a risk to the residential area south of Cunning Park from coastal flooding.

Within this Potentially Vulnerable Area it is estimated that climate change will increase the number of residential properties at risk of flooding from approximately 290 to 390.

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 damages associated with floods of different likelihood are shown in Figure 2. Residential properties affected by river flooding experience the highest economic impact at approximately 70% of the damages.

The location of the impacts of flooding is shown in Figure 3. Most of impacts are within Rozelle and Kincaidston with flooding to people, non-residential properties, utilities and roads. Railways are at risk of flooding at Broomberry and Pleasantfield. Two designated cultural heritage sites are also at risk of flooding.

	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 3,900)	130	290	360
Non-residential properties (total 130)	<10	10	10
People	280	640	790
Community facilities	0	<10 Emergency services	<10 Emergency services
Utilities assets	<10	<10	<10
Transport links – roads (km)	0.6 (of which 0.1 is A road)	1.8 (of which 0.4 is A road)	2.2 (of which 0.6 is A road)
Transport links - rail (km)	1.1	1.5	1.7
Environmental designated areas (km ²)	0	0	0
Designated cultural heritage sites	2	2	2
Agricultural land (km ²)	0.3	0.5	0.5

Table 1: Summary of flooding impacts¹

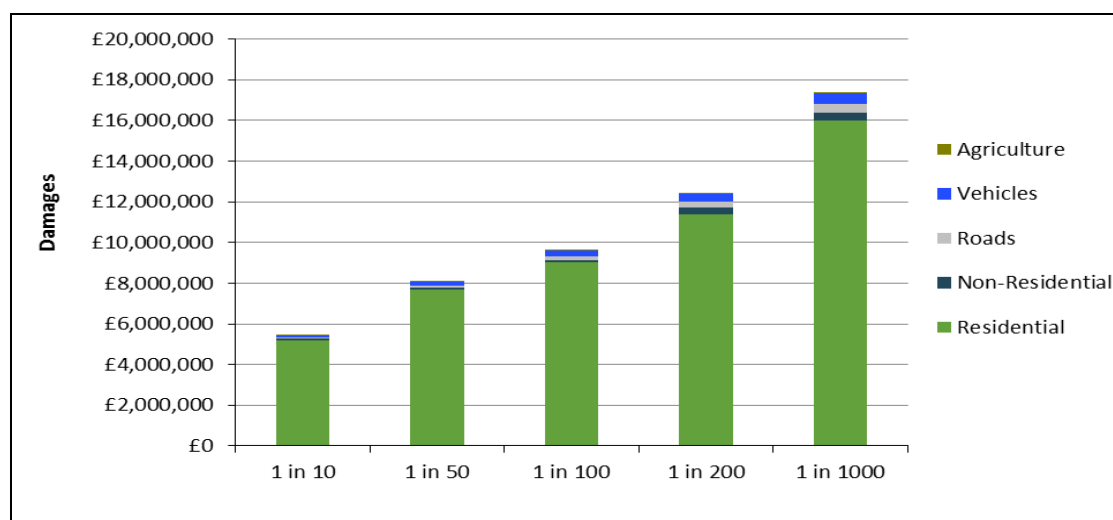


Figure 2: Damages by flood likelihood

History of flooding

There have been recent reports of flooding within this area. Both river and surface water flooding occurred in 2008 impacting residential properties and gardens in Doonfoot Road, Willow Park and Taybank Drive, Ayr.

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

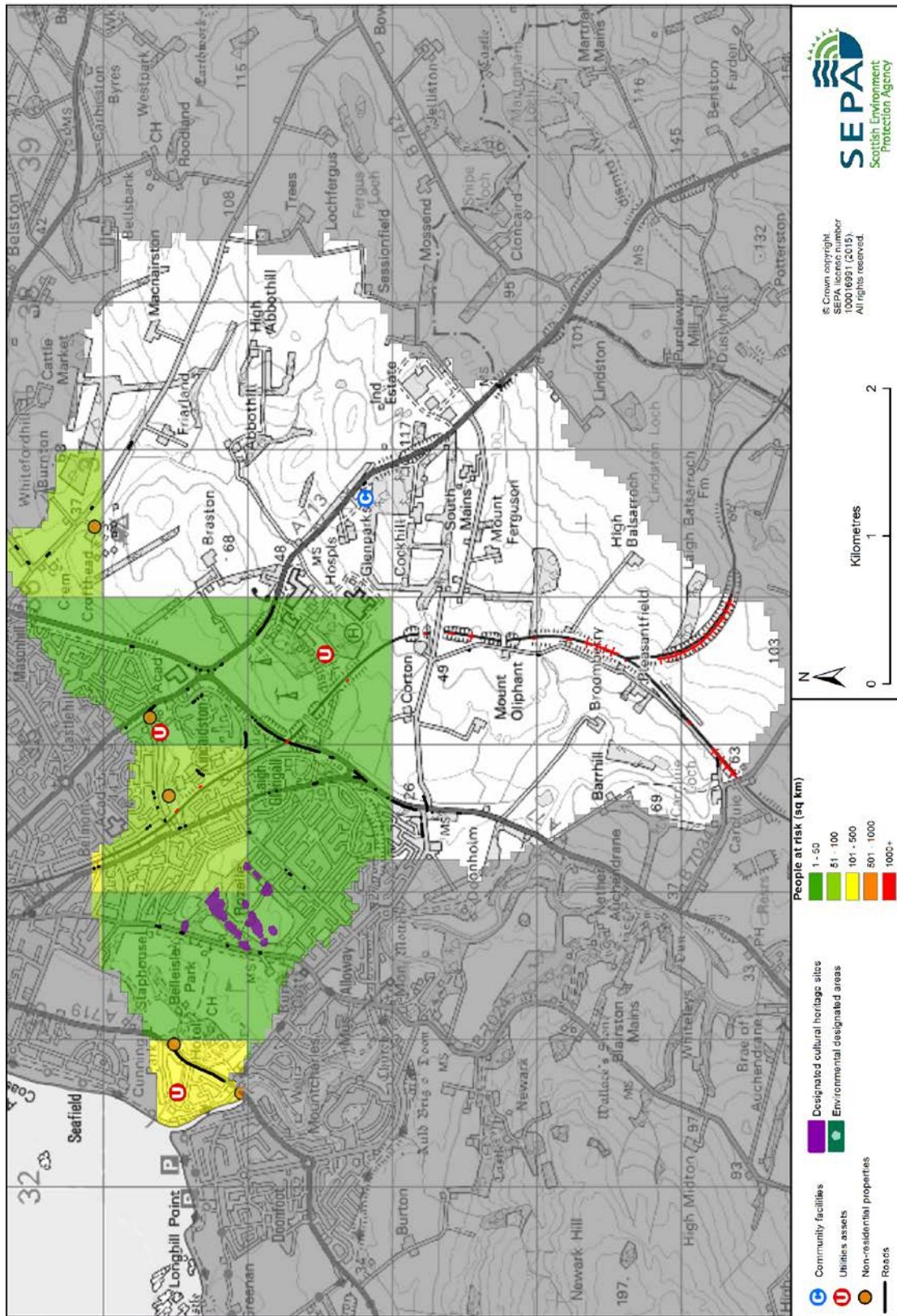


Figure 3: Impacts of flooding

Objectives to manage flooding in Potentially Vulnerable Area 12/12

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 Ayr east Potentially Vulnerable Area.

Target area	Objective	ID	Indicators within PVA
Applies across Ayrshire Local Plan District	Avoid an overall increase in flood risk	12039	<ul style="list-style-type: none"> • 290 residential properties • £720,000 Annual Average Damages
Applies across Ayrshire Local Plan District	Reduce overall flood risk	12082	<ul style="list-style-type: none"> • 290 residential properties • £720,000 Annual Average Damages
Applies across Ayrshire 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 12/12

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 Ayr east 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 (120820016)		
Objective (ID):	Reduce overall flood risk (12082)		
Delivery lead:	SEPA		
Status:	Not started	Indicative delivery:	2016-2021
Description:	SEPA will seek to develop flood mapping in the Ayr to Ardrossan area to improve understanding of coastal flood risk. The extent and timing of improvements will depend on detailed scoping and data availability. Where this work coincides with local authority studies, SEPA will work collaboratively to ensure consistent modelling approaches are applied.		

Action (ID):	STRATEGIC MAPPING AND MODELLING (120820019)		
Objective (ID):	Reduce overall flood risk (12082)		
Delivery lead:	Scottish Water		
Status:	Not started	Indicative delivery:	2016-2021
Description:	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.		

Action (ID):	MAINTAIN FLOOD WARNING (120820030)		
Objective (ID):	Reduce overall flood risk (12082)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the Ayr Seafield flood warning area which is part of the Firth of Clyde coastal flood warning scheme.		

Action (ID):	FLOOD FORECASTING (120820009)		
Objective (ID):	Reduce overall flood risk (12082)		
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.		

Action (ID):	SELF HELP (120820011)		
Objective (ID):	Reduce overall flood risk (12082)		
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 (120820013)		
Objective (ID):	Reduce overall flood risk (12082)		
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 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>		

Action (ID):	MAINTENANCE (120820007)		
Objective (ID):	Reduce overall flood risk (12082)		
Delivery lead:	South Ayrshire 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 (120820014)		
Objective (ID):	Reduce overall flood risk (12082)		
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 (120390001)		
Objective (ID):	Avoid an overall increase in flood risk (12039) Reduce overall flood risk (12082)		
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.		