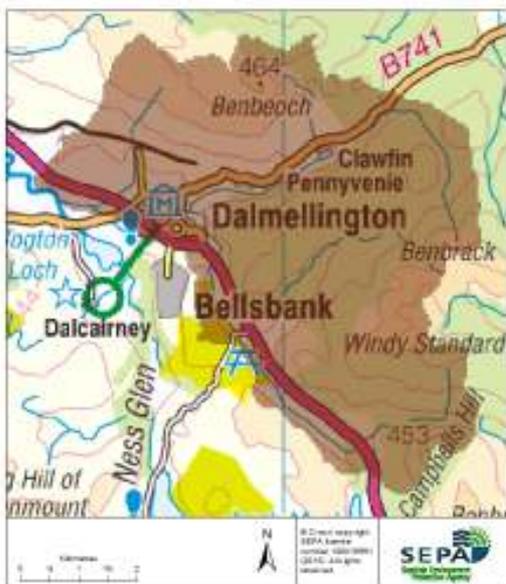


Dalmellington (Candidate Potentially Vulnerable Area 12/19c)

Local Plan District	Local authorities	Main catchment
Ayrshire	East Ayrshire Council	Muck Water

Background

This candidate Potentially Vulnerable Area is located to the south of the Ayrshire Local Plan District around Dalmellington and is approximately 35km² (shown below).



There are approximately 50 residential properties at risk of flooding. The total Annual Average Damages are approximately £140,000.

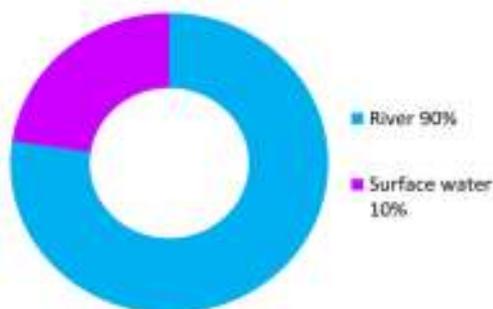


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

This area was not originally identified as a Potentially Vulnerable Area in 2011. However, updated information on flood risk from the new hazard maps identified that this area should be regarded as a candidate Potentially Vulnerable Area due to the risk to people and properties.

River flooding poses the largest flood risk to the area, with the majority being to residential properties within Dalmellington. The Muck Water flows from the south of through a steep forest area parallel to the A713 before flowing through Dalmellington after which it joins the River Doon. The Linn Water originates in forests to the north and flows around Dalmellington. The Linn Water joins the Muck Water to the south west of the town before joining the River Doon. The River Doon flows to the south of the candidate Potentially Vulnerable Area boundary where there is a wide floodplain at Bogton Loch. The largest area of flood risk is to the south west of Dalmellington near the confluence of the three watercourses. There are sections of road and rail infrastructure at risk of flooding (notably the A713 and B741).

There are a small number of isolated areas at risk of surface water flooding and these are predominantly in rural locations.

Damages to residential properties experience the highest economic impact at approximately 60% of the damages.

Within this Potentially Vulnerable Area it is estimated that climate change will increase the number of residential properties at risk of flooding from approximately 50 to 60.

Further details of the risk of flooding to people and property, as well as to community facilities, utilities, the transport network, designated sites and agricultural land is available in the Flood Risk Management Strategy for Ayrshire, Dalmellington Potentially Vulnerable Area 12/19c.

http://apps.sepa.org.uk/FRMStrategies/pdf/pva/PVA_12_19_Full.pdf

Objectives to reduce flooding in the Potentially Vulnerable Area 12/19c

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. The objectives below have been set for Dalmellington Potentially Vulnerable Area:

- Avoid an overall increase in flood risk (ID 12039)
- Reduce overall flood risk (ID 12101)
- 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.

Summary of flooding actions

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 Dalmellington Potentially Vulnerable Area.

Summary of flooding actions

Flood protection scheme/work	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 management	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The delivery of selected actions by year over the six-year plan cycle is summarised below.

Delivery of selected actions					
Year 1 (2016/17)	Year 2 (2017/18)	Year 3 (2018/19)	Year 4 (2019/20)	Year 5 (2020/21)	Year 6 (2021/22)
Dalmellington Flood Protection Study					

The Awareness Raising, Emergency Plans/response, Flood Forecasting, Self help, Maintenance and Planning policies will be delivered continuously throughout the 6 year cycle between 2016 and 2021.

Actions to manage flooding in Potentially Vulnerable Area 12/19c

Action (ID):	FLOOD PROTECTION STUDY (120330005)
Objective (ID):	Reduce the risk of flooding from the Muck Water, to residential properties in Dalmellington (12033)
Delivery lead:	East Ayrshire Council
Action Description:	A study will investigate the feasibility of a flood protection scheme along the Muck Water. East Ayrshire Council is currently procuring suitable flow and level monitoring installations on appropriate watercourses identified for studies, with the intention of informing those studies in areas known to have little or no information currently available. Information gaps and proposed locations are being identified in co-operation with SEPA. Once this information is available the study will look to refine understanding of the current and future flood risk in the area and investigate the feasibility of actions to reduce flooding, as prioritised in the Ayrshire Flood Risk Management Strategy.
Timing and status:	2019-2020 flood monitoring to be installed prior to study to allow information gathering
Funding:	This study will be funded through East Ayrshire Council's revenue budget provided by Scottish Government.
Coordination:	East Ayrshire Council will work in coordination with all appropriate stakeholders.
Potential Environmental Impacts:	Flood protection studies will consider the positive and negative impacts of proposed actions on the ecological quality of the environment. There is likely to be a loss of semi-natural habitats and displacement of species in the footprint and vicinity of the defences. There is the potential for negative impacts on local water quality downstream of works during the construction period, which has the potential for slight temporary impacts on the Dalmellington Moss Site of Special Scientific Interest. There is the potential for impacts on the setting of the Dalmellington Heritage Conservation Area and the Doon Tavern and Dalmellington Inn listed buildings.

Action (ID):	FLOOD FORECASTING (121010009)
Objective (ID):	Reduce overall flood risk (12101)
Delivery lead:	SEPA
Action 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.

Timing and status:	Ongoing
Funding:	SEPA's flood forecasting service is funded through Scottish Government's grant in aid allocation. The Met Office receives funding from the UK Government.
Coordination:	SEPA / Met Office joint initiative. Hydrological information is provided by SEPA and meteorological information is provided by the Met Office. SEPA uses the information to predict the likelihood and timing of river, coastal and surface water flooding.

Action (ID):	SELF HELP (121010011)
Objective (ID):	Reduce overall flood risk (12101)
Delivery lead:	—
Action 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. The Councils, SEPA and Scottish Water will continue to engage with responsible authorities and all other stakeholders, including community groups and the public to raise awareness of flood risk and how those affected can be better prepared. Further detail can be found in the Councils and Scottish Flood Forum websites.
Timing and status:	Ongoing
Funding:	Individual property owners have a responsibility to prevent flooding to their properties, therefore there is no fund allocated to this task in the Council's budget.
Coordination:	The Councils, SEPA and Scottish Water will continue to engage with responsible authorities and all other stakeholders, including community groups and the public to raise awareness of flood risk and how those affected can be better prepared.

Action (ID):	AWARENESS RAISING (121010013)
Objective (ID):	Reduce overall flood risk (12101)
Delivery lead:	Responsible authorities
Action Description:	<p>East Ayrshire Council, SEPA and Scottish Water collectively work to raise awareness of flood risk and how those affected can be better prepared.</p> <p>Across Scotland, SEPA will create and share communication and education resources with other responsible authorities. These resources will include awareness campaigns, media and marketing</p>

	<p>activity and promotion of SEPA's flood forecasting and warning services (Floodline).</p> <p>Scottish Water will provide targeted flooding communications for Scottish Water specific activities and raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies.</p> <p>Further Information is provided on East Ayrshire Council, SEPA, Scottish Water and Ayrshire Road Alliance websites.</p>
Timing and status:	Ongoing
Funding:	<p>East Ayrshire Council's awareness raising activities will continue to be funded from the revenue budget provided by Scottish Government.</p> <p>SEPA's awareness raising activities are funded by Scottish Government through SEPA's grant in aid settlement. Scottish Water is funded by customer charges as set by our economic regulator. All business activities required under this action by Scottish Water are accounted for in their capital or operational expenditure.</p>
Coordination:	East Ayrshire Council, SEPA and Scottish Water will continue to engage with responsible authorities and all other stakeholders, including community groups and the public to raise awareness of flood risk and how those affected can be better prepared.

Action (ID):	MAINTENANCE (121010007)
Objective (ID):	Reduce overall flood risk (12101)
Delivery lead:	East Ayrshire Council, asset / land managers
Action Description:	<p>East Ayrshire Council in accordance with Section 18 of the Flood Risk Management (Scotland) Act 2009 undertake assessment of water bodies to determine whether works of clearance and repair would substantially reduce the risk of flooding. This information is used to produce a schedule of works which is available for the public to inspect.</p> <p>High risk locations such as those with screens and some smaller culverts are inspected on a scheduled basis. The majority of inspections tend to be undertaken in the winter months when flows are higher, and leaves and other waterborne debris can be an issue. Works of clearance are carried out during these inspections which are not specifically "scheduled". The main water bodies, and other water bodies, within urban areas are subject to an annual visual inspection and any works identified are scheduled in accordance with Section 59 of the Act.</p> <p>East Ayrshire Council reviews the locations at which visual inspections are undertaken based on changing circumstances. For example a new flooding issue or concern raised by a member of the public at a location will lead to officers undertaking further inspection</p>

	<p>works at that location. East Ayrshire Council also works with riparian landowners to ensure that, within the constraints of the legal obligations, they manage their responsibilities in a manner which reduces flood risk.</p> <p>Scottish Water undertake risk based inspection, maintenance and repair on the public sewer network.</p>
Timing and status:	Ongoing
Funding:	The maintenance work will be funded through East Ayrshire Council's Revenue Budget provided by Scottish Government.
Coordination:	East Ayrshire Council will work in coordination with all appropriate stakeholders identified through the inspection and maintenance process. Scottish Water will keep responsible authorities informed of large scale capital maintenance work to identify opportunities for co-ordination.

Action (ID):	EMERGENCY PLANS/RESPONSE (121010014)
Objective (ID):	Reduce overall flood risk (12101)
Delivery lead:	Category 1 and 2 Responders
Action Description:	<p>The Civil Contingencies Team ensures that the Council will be able to respond speedily and effectively in a major emergency. North, South and East Ayrshire teams are a shared service team known as the Ayrshire Civil Contingencies Team. If disaster strikes, or if emergencies develop in Ayrshire, communities will look to the Council for support and advice. The Ayrshire Civil Contingencies Team ensures that the Council will be able to respond speedily and effectively in a major emergency in accordance with the Civil Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005. Our responsibilities include preparing comprehensive and robust contingency plans and procedures irrespective of the nature of the emergency. The main aim is to preserve life and property. Every emergency plan also sets out to: Mitigate the harmful effects of the emergency on the environment; bring about a swift return to normal life in the communities and environment affected; and encourage all agencies and organisations to prepare for their role.</p>
Timing and status:	Ongoing
Funding:	Funding is allocated to category 1 and 2 responders by the Scottish Government for dealing with emergency response and in extreme cases may reimburse responders after an extreme event.
Coordination:	<p>Category 1 and 2 responders will coordinate in the development of the Emergency Response Plan and actions during a flood event.</p> <p>When civil contingencies come into force Police Scotland co-ordinate category 1 and 2 responders in severe flood events.</p>

Action (ID):	PLANNING POLICIES (120390001)
Objective (ID):	Reduce overall flood risk (12101) Avoid an overall increase in flood risk (12039)
Delivery lead:	Planning authority
Action Description:	<p>The current East Ayrshire Council Local Plan (LP) was adopted in 26th October 2010 and will be replaced in November 2016 (by the Local Development Plan) and run for a further 5 years.</p> <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 SEPA's Strategy.</p> <p>SEPA has a statutory role in relation to the provision of flood risk advice to planning authorities. This role is expressed in Section 72 of the FRM Act, 2009. SEPA also has a duty to co-operate with planning authorities in the preparation of development plans. When consulted in relation to planning applications for development or site allocations in development plans, and where the planning authority considers there may be a risk of flooding, SEPA will provide advice. The advice provided by SEPA will be with respect to the risk of flooding and on the basis of the relevant information it holds which is suitable for planning purposes. It will also be in line with the principles and duties set out in the FRM Act. Further information about how SEPA engage in the planning system, including guidance on flood risk and planning is available on SEPA's website http://www.sepa.org.uk/environment/land/planning/.</p>
Timing and status:	Ongoing
Funding:	The development and review of the Council's Planning Policies and Guidance notes will be funded through East Ayrshire Council's revenue budget provided by Scottish Government. SEPA's land use planning activities are funded by Scottish Government through SEPA's grant in aid settlement.
Coordination:	East Ayrshire Council's and SEPA's land use planning activities will be co-ordinated with the activities of other responsible authorities as required.