

River Irvine and Annick Water catchments (Potentially Vulnerable Area 12/06)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council, East Renfrewshire Council, North Ayrshire Council, South Ayrshire Council, South Lanarkshire Council	River Irvine

Background

This Potentially Vulnerable Area is in the centre of the Ayrshire Local Plan District and covers an extensive section of the River Irvine catchment, including the towns of Kilmarnock and Irvine (shown below). The area is centred on Kilmarnock, extending west to the Irvine coast and north encompassing Stewarton with an area of approximately 220km².



The area has a risk of river, surface water and coastal flooding. The majority of damages are caused by river flooding predominately from the River Irvine and Annick Water.

There are approximately 2,900 residential properties at risk of flooding. The Annual Average Damages are approximately £7.1 million.

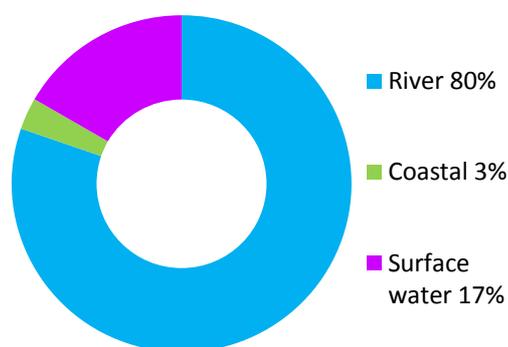


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

River flooding within the area is primarily from the River Irvine, which flows west towards the Firth of Clyde. There are also a number of tributaries of the River Irvine including the Annick Water, Carmel Water, Fenwick Water and Kilmarnock Water, which all present a risk to people and properties. There are also a number of structures on the Annick Water within the Stewarton area which could possibly impede the flow of flood water. This may contribute towards a heightened risk of flooding to local properties, particularly in the area where the B778 crosses the Annick Water.

There are sections of road and rail infrastructure at risk of flooding, notably; the M77, A71, A76, A77 and A78, which could affect access to Irvine and other main access routes.

There are approximately 620 residential properties at risk of surface water flooding around Irvine, Kilmarnock and Galston. The areas at highest risk from surface water flooding will require the preparation of surface water management plans.

The tidal weir downstream of the Marress Bridge in Irvine limits the impact from coastal flooding in the area, with no residential properties at identified at risk.

Residential properties affected by river flooding experience the highest economic impact at approximately 50% of the damages. Non-residential properties also contribute a notable portion 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 2,900 to 4,000 and the number of non-residential properties from approximately 1,200 to 1,500.

Most of the impacts are within Kilmarnock, Irvine, Galston and Newmilns and include flooding to people, non-residential properties, community facilities, utilities, roads and railways. The A71 is at risk of flooding at various locations including Kilmarnock and Irvine. Thirteen designated cultural heritage sites are at risk of flooding, along with small areas of environmentally designated sites.

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, River Irvine and Annick Water Potentially Vulnerable Area 12/05.

http://apps.sepa.org.uk/FRMStrategies/pdf/pva/PVA_12_06_Full.pdf

Objectives to reduce flooding in the Potentially Vulnerable Area 12/06

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 River Irvine and Annick Water Potentially Vulnerable Area:

- Reduce the economic damages and risk to people from surface water flooding in Kilmarnock and Greenholm (ID 12040)
- Reduce the economic damages and risk to people from surface water flooding in Irvine (ID 12042)
- Avoid an overall increase in flood risk (ID 12039)
- Reduce overall flood risk (ID 12082)
- 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 Kilwinning 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)
Kilmarnock Flood Protection Study					
	Irvine Town Flood Protection Study				
New Flood Warning					
Surface Water Management Plan					
Integrated Catchment Study					

The Maintain flood warning, Maintain flood protection scheme, Strategic mapping and modelling, Supporting Community Action Groups, 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 12/06

Action (ID):	NEW FLOOD WARNING (120820010)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	SEPA
Action Description:	<p>The scope of a new flood warning for the River Irvine is currently being examined. The area under consideration for a new flood warning includes properties in Newmilns affected by flooding from the River Irvine. The risk to Galston will be reviewed using the councils new flood study for the River Irvine. This could impact on the potential for provision of warnings at Galston. For areas where the risk is from the Irvine an update to the flood forecasting system will be required.</p> <p>Another area under consideration includes properties in Kilmarnock affected by flooding from the Kilmarnock Water and River Irvine. An update to the existing flood forecasting system will be required to deliver flood warning in this location. Flood warning is also required for properties mainly in Irvine and Stewarton affected by flooding from the Annick Water. Full scoping, infrastructure and a flood forecasting system will be required to develop a new flood warning scheme in this area.</p>
Timing and status:	<p>Further flood risk management studies will be carried out to determine whether the River Irvine flood warning scheme should be delivered in cycle 1.</p> <p>Annick Water flood warning scheme: the hydrometry development begins in spring 2016, the flood forecasting system update will begin in autumn 2019 and the launch will take place in spring 2020.</p>
Funding:	The maintenance of SEPA's flood warning service is funded by Scottish Government through SEPA's grant in aid settlement. In addition, the Government provide grant funding to enable SEPA to implement new flood warning schemes.
Coordination:	A flood protection study is proposed for along the River Irvine and Kilmarnock Water which will cover Kilmarnock and Galston. SEPA will work with the local authority to ensure that new information about flood risk resulting from the proposed flood protection study is considered in developing the new flood warning system.

Action (ID):	FLOOD PROTECTION STUDY (120150005)
Objective (ID):	<p>Reduce the risk of flooding from the River Irvine in Galston (12019)</p> <p>Reduce the risk of flooding from the River Irvine and the Kilmarnock Water in Kilmarnock (12015)</p>
Delivery lead:	East Ayrshire Council

Action (ID):	PLANNING POLICIES (120390001)
Objective (ID):	Reduce overall flood risk (12082) Avoid an overall increase in flood risk (12039)
Delivery lead:	Planning authority
Action Description:	<p>North Ayrshire Council adopted its first and current Local Development Plan (LDP) on 20 May 2014. The plan plays an important part in reducing the vulnerability of existing and future development to flooding. Through Policy PI8: Drainage, SUDS and Flooding and in accordance with the Scottish Government's Scottish Planning Policy, we apply the Flood Risk Framework, or a sequential approach, to guide certain types of development to appropriate locations in terms of flood risk. We have a presumption against new development in areas of significant flood risk unless the stringent criteria in Policy PI8 can be satisfied. Planning applications received by us are individually reviewed and, if flooding is a potential and significant concern, further information is sought by consultation with the applicant, SEPA and/or the Council's Flooding & Structure Design Team and, where appropriate, by submission of a flood risk assessment. Through both Policy PI8 and appropriate planning conditions, we also seek to minimise the impact of new developments on flood flow through the use of sustainable urban drainage systems. We are now reviewing the current LDP and moving toward preparation of a replacement plan or LDP2. The key stage in preparing the new plan is the Main Issues Report, anticipated for publication in January 2017. To help us prepare the MIR, we are undertaking a 'Call for Sites' exercise to identify sites within North Ayrshire that may have potential for development. We will apply the Flood Risk Framework to site selection so that development is, as far as reasonably possible, located where the risk of flooding is acceptable, taking account of climate change and the vulnerability of future uses to flood risk. We also will use the strategic flood risk assessment process to inform choices about the location of development and planning policies for flood risk management. SEPA's flood risk plans and approved Flood Risk Management Strategies and Plans will also influence choices. LDP2 will cover a 10 year period, starting from 2019 when the new plan is likely to be adopted.</p> <p>Scottish Water is a statutory consultee within the planning legislation and is required to comment on all outline or full planning applications which are referred by a local authority.</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>
<p>Timing and status:</p>	<p>Ongoing</p>
<p>Funding:</p>	<p>The development and review of three Council's Planning Policies and Guidance notes will be funded through North 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.</p>
<p>Coordination:</p>	<p>North Ayrshire Council's and SEPA's land use planning activities will be co-ordinated with the activities of other responsible authorities as required.</p>

Action Description:	<p>A study is underway to further investigate the flood risk from the River Irvine and Kilmarnock Water. The study will look at the actions that have previously been implemented in the area to assess the level of protection that is offered within Kilmarnock and in other areas along the River Irvine valley including Galston.</p> <p>Depending on the findings from the study there may be the requirement to look at enhancing the current defences or complimentary actions which could help to improve the level of protection offered. One of the actions that should be investigated is a property level protection scheme. East Ayrshire Council appointed RPS to undertake this study which commenced at the end of 2015.</p>
Timing and status:	This flood protection study is ongoing and will be completed in 2016.
Funding:	This study will be funded through East Ayrshire Council's revenue budget provided by Scottish Government.
Coordination:	The scope of this study was agreed with SEPA/SW, and SEPA are Vetting the report as it is produced.
Potential Environmental Impacts:	Flood protection studies will consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Further impacts will be assessed by the local authority.

Action (ID):	SURFACE WATER PLAN/STUDY (120400018)
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Kilmarnock and Greenholm (12040)
Delivery lead:	East Ayrshire Council
Action Description:	<p>East Ayrshire Council will develop a surface water management plan or plans to cover Kilmarnock which set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives.</p> <p>Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and outputs of the Meadowhead integrated catchment study and Section 16 modelling, to assist with the surface water management planning process.</p>
Timing and status:	A surface water management plan for these areas will be developed between 2016 and 2021.
Funding:	This study will be funded through East Ayrshire Council's revenue budget provided by Scottish Government.
Coordination:	East Ayrshire Council will co-ordinate the preparation of a surface water management plan in partnership with other responsible authorities. Scottish Water will work with local authorities and support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plans.

Action (ID):	SURFACE WATER PLAN/STUDY (120400019)
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Kilmarnock and Greenholm (12040)
Delivery lead:	Scottish Water in partnership with East Ayrshire Council
Action Description:	An integrated catchment study covering the Meadowhead catchment was carried out in SR10 (2010-2015) to support the surface water management planning process in Kilmarnock, Greenholm, Irvine, Prestwick and Ayr. The study has improved knowledge and understanding of surface water flood risk and interactions between the above ground and below ground drainage network e.g. with the sewer network and watercourses. The Optioneering phase of this study, to establish the preferred solution(s) to the significant flooding issues, will be carried out in SR15 (2015-2021).
Timing and status:	Characterisation of flood risk from the Integrated Catchment Study was completed in 2015. The Optioneering phase of this study, to establish the preferred solution(s) to the significant flooding issues, will be carried out in SR15 (2015-2021).
Funding:	The Integrated Catchment Study is being funded by Scottish Water in partnership with North, East and South Ayrshire Councils. Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021) which is approved by its regulators and customers. The Councils are funding both the Integrated Catchment project and the Surface Water Management Plan from their revenue budget.
Coordination:	Scottish Water will work collaboratively with project partners throughout the studies. Scottish Water will provide project partners with the outputs of the integrated catchment study which, where relevant, may be used to inform surface water management plans.

Action (ID):	SURFACE WATER PLAN/STUDY (120421018)
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Irvine (12042) Reduce the risk of flooding from the River Irvine and the Annick Water combined with surface water, to residential properties and non-residential properties in Irvine (12017)
Delivery lead:	North Ayrshire Council
Action Description:	North Ayrshire Council will develop a surface water management plan or plans to cover Irvine which set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives. Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water corporate data (as applicable) and outputs of the Meadowhead integrated catchment study and Section 16 modelling, to assist with the surface water management planning process.

Timing and status:	A surface water management plan for these areas will be developed between 2016 and 2021.
Funding:	This study will be funded through North Ayrshire Council's revenue budget provided by Scottish Government.
Coordination:	North Ayrshire Council will co-ordinate the preparation of a surface water management plan in partnership with other responsible authorities. Scottish Water will work with local authorities and support surface water management planning through ensuring that best available knowledge and data is used to input into the surface water management plans.

Action (ID):	SURFACE WATER PLAN/STUDY (120421019)
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Irvine (12042) Reduce the risk of flooding from the River Irvine and the Annick Water combined with surface water, to residential properties and non-residential properties in Irvine (12017)
Delivery lead:	Scottish Water in partnership with North Ayrshire Council
Action Description:	An integrated catchment study covering the Meadowhead catchment was carried out in SR10 (2010-2015) to support the surface water management planning process in Kilmarnock, Greenholm, Irvine, Prestwick and Ayr. The study has improved knowledge and understanding of surface water flood risk and interactions between the above ground and below ground drainage network e.g. with the sewer network and watercourses. The Optioneering phase of this study, to establish the preferred solution(s) to the significant flooding issues, will be carried out in SR15 (2015-2021).
Timing and status:	Characterisation of flood risk from the Integrated Catchment Study was completed in 2015. The Optioneering phase of this study, to establish the preferred solution(s) to the significant flooding issues, will be carried out in SR15 (2015-2021).
Funding:	The Integrated Catchment Study is being funded by Scottish Water in partnership with North, East and South Ayrshire Councils. Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021) which is approved by its regulators and customers. The Councils are funding both the Integrated Catchment project and the Surface Water Management Plan from their revenue budget.
Coordination:	Scottish Water will work collaboratively with project partners throughout the studies. Scottish Water will provide project partners with the outputs of the integrated catchment study which, where relevant, may be used to inform surface water management plans.

Action (ID):	STRATEGIC MAPPING AND MODELLING (120820016)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	SEPA

Action Description:	<p>SEPA will work with East Ayrshire Council to improve the understanding of flood risk along the River Irvine. The Council are leading on the production of the River Irvine modelling with SEPA providing advice and reviewing information during the process.</p> <p>SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk. Approximately 1,300km² of improved surface water data is currently available within this Local Plan District. The inclusion of additional surface water hazard data resulting from the completion of local authority surface water management plans will be considered as these projects are completed.</p>
Timing and status:	<p>The surface water strategic mapping and modelling will begin in 2016 and will be completed by the end of the year.</p> <p>The River Irvine strategic mapping and modelling will begin in 2017 and will be completed by 2021.</p> <p>As improvements for the River Irvine catchment are largely third party led studies and works, there is currently considerable uncertainty over delivery timescales. SFR will seek to better understand these during 2016 in order to refine timescales and inform resource planning.</p>
Funding:	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.
Coordination:	<p>A flood protection study is proposed for the Upper Irvine Valley. SEPA will work with the local authority to ensure that new information about flood risk resulting from the proposed flood protection study is considered in SEPA's strategic mapping and modelling developments where appropriate and relevant.</p> <p>A surface water management plan and integrated catchment study are proposed for Irvine, Kilmarnock and Greenholm. SEPA will work with the responsible authorities to ensure that new information about flood risk resulting from the proposed surface water study is considered in SEPA's strategic mapping and modelling developments where appropriate and relevant.</p> <p>A new flood warning scheme is under consideration for Newmilns, Kilmarnock and Galston. SEPA will ensure that any new information about flood risk resulting from the proposed flood warning developments is considered in SEPA's strategic mapping and modelling developments where appropriate and relevant.</p>

Action (ID):	STRATEGIC MAPPING AND MODELLING (120820019)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	Scottish Water
Action Description:	Scottish Water will undertake further investigation and modelling in the Meadowhead and Stevenston Point sewer catchments to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.

Timing and status:	This project will commence in 2016 and will be completed in 2020.
Funding:	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021) which is approved by its regulators and customers.
Coordination:	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and by regularly keeping the responsible authorities informed of their progress. Scottish Water will provide responsible authorities with the outputs of the Section 16 assessment which, where relevant, may be used to inform surface water management plans and SEPA flood hazard and risk maps.

Action (ID):	MAINTAIN FLOOD PROTECTION SCHEME (120150017)
Objective (ID):	Reduce the risk of flooding from the River Irvine and the Kilmarnock Water in Kilmarnock (12015)
Delivery lead:	East Ayrshire Council
Action Description:	<p>The Kilmarnock Flood Protection Scheme was designed to mitigate flooding from the River Irvine in the Riccarton and Crookedholm areas of Kilmarnock. The scheme has a standard of protection of 100 years. The schemes currently constructed form two main types: Walled structures maintained under the Annual Flap valve and Penstock Maintenance Contract; and Earth Embankments maintained by Panel engineers and supported by the annual grass cutting contract (to allow inspection).</p> <p>In addition the effectiveness of these schemes is under review. See objective 12015 River Irvine Flood Study. These defences will be maintained, and will continue to manage flooding according to the design standard at the time of construction. If the defences remain the same, levels of flood risk are likely to increase over time as a consequence of climate change.</p>
Timing and status:	Ongoing. Known problem areas have been identified and are being inspected on a weekly basis.
Funding:	The maintenance of flood protection scheme 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.

Action (ID):	MAINTAIN FLOOD PROTECTION SCHEME (120170017)
Objective (ID):	Reduce the risk of flooding from the River Irvine and the Annick Water combined with surface water, to residential properties and non-residential properties in Irvine (12017)
Delivery lead:	North Ayrshire Council

Action Description:	Defences along the banks of the Irvine River protect properties in the Waterside up to a 20 year flood. North Ayrshire Council will continue to inspect and maintain the River Irvine flood defences at Waterside, which will continue to manage flooding according to the design standard at the time of construction. Given the relatively minor nature of the structures, the inspection works will be scheduled as part of the Council's duties in accordance with Sections 18 of the Flood Risk Management (Scotland) Act 2009. In 2014 the River embankment stabilisation was carried out, and recently the surface water outfall valves were inspected and proposed to be lowered/replaced as part of the surface water flood mitigation effort for the area. If the defences remain the same, levels of flood risk are likely to increase over time as a consequence of climate change.
Timing and status:	Ongoing. Known problem areas have been identified and are being inspected on a regular basis.
Funding:	The maintenance of flood protection scheme will be funded through North Ayrshire Council's Revenue Budget provided by Scottish Government.
Coordination:	North Ayrshire Council will work in coordination with all appropriate stakeholders identified through the inspection and maintenance process.

Action (ID):	MAINTAIN FLOOD WARNING (120820030)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	SEPA
Action Description:	SEPA will continue to maintain the Irvine Waterside/Low Green flood warning area in Irvine and the Queen's Drive, New Mill Road and Samson Avenue flood warning areas in Kilmarnock which are part of the Irvine river flood warning scheme. When flood events occur in an area with a flood warning service, SEPA will seek to verify and validate the warning service. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.
Timing and status:	Ongoing
Funding:	The maintenance of SEPA's flood warning service is funded by Scottish Government through SEPA's grant in aid settlement.
Coordination:	A flood protection study is proposed for Kilmarnock. SEPA will work with the local authority to ensure that any new information about flood risk resulting from the proposed flood protection study is considered in the existing flood warning system.

Action (ID):	FLOOD FORECASTING (120820009)
Objective (ID):	Reduce overall flood risk (12082)
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):	COMMUNITY FLOOD ACTION GROUPS (120820012)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	Community
Action Description:	Although not part of a community flood action group the public take an active interest in flooding issues within Galston and inform the council about debris in the watercourse. East Ayrshire Council will liaise with the group through Community Council meetings and directly to the public.
Timing and status:	Ongoing
Funding:	This project will be funded through East Ayrshire Council's Revenue Budget provided by Scottish Government.
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):	SELF HELP (120820011)
Objective (ID):	Reduce overall flood risk (12082)
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 (120820013)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	Responsible authorities
Action Description:	<p>The Council's, SEPA and Scottish Water collectively work to raise awareness of flood risk and how those affected can be better prepared. Most recently in April /May 2015, as part of the Draft Flood Risk Management Strategy Public Consultation, North Ayrshire Council, East Ayrshire Council and SEPA gave residents in 7 towns, including Irvine, the opportunity to meet and discuss the Strategy and raise awareness of the SEPA Flood Warning Scheme.</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 activity and promotion of SEPA's flood forecasting and warning services (Floodline). To support the delivery of the new SEPA flood warning scheme, SEPA will carry out a local launch event and engage directly with residents in the area. This will be supported by local and national media communications. SEPA will also support and participate in local public awareness events, in partnership with the local authority, community council or other local representative organisations, including schools.</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 North Ayrshire Council, East</p>

	Ayrshire Council, South Ayrshire Council, SEPA, Scottish Water and the Ayrshire Road Alliance websites.
Timing and status:	Ongoing
Funding:	<p>East Ayrshire, North Ayrshire and South 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:	<p>A new flood warning scheme is proposed for the River Irvine and Kilmarnock Water. To support the delivery of the new SEPA flood warning scheme, SEPA will carry out communications and engagement activities.</p> <p>East Ayrshire, North Ayrshire and South 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.</p>

Action (ID):	MAINTENANCE (120820007)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	Local authorities, asset / land managers
Action Description:	<p>North Ayrshire, South Ayrshire and East Ayrshire Councils 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>The Councils review 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 works at that location. The Councils works with riparian landowners to ensure that, within the constraints of the legal obligations, they manage their</p>

	responsibilities in a manner which reduces flood risk. Scottish Water undertake risk based inspection, maintenance and repair on the public sewer network.
Timing and status:	Ongoing
Funding:	The maintenance work will be funded through North Ayrshire Council's Revenue Budget provided by Scottish Government.
Coordination:	North 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 (120820014)
Objective (ID):	Reduce overall flood risk (12082)
Delivery lead:	Category 1 and 2 Responders
Action Description:	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.
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:	Category 1 and 2 responders will coordinate in the development of the Emergency Response Plan and actions during a flood event. When civil contingencies come into force Police Scotland co-ordinate category 1 and 2 responders in severe flood events.

Action (ID):	PLANNING POLICIES (120390001)
Objective (ID):	Reduce overall flood risk (12082) Avoid an overall increase in flood risk (12039)
Delivery lead:	Planning authority
Action Description:	<p>North Ayrshire Council adopted its first and current Local Development Plan (LDP) on 20 May 2014. The plan plays an important part in reducing the vulnerability of existing and future development to flooding. Through Policy PI8: Drainage, SUDS and Flooding and in accordance with the Scottish Government's Scottish Planning Policy, we apply the Flood Risk Framework, or a sequential approach, to guide certain types of development to appropriate locations in terms of flood risk. We have a presumption against new development in areas of significant flood risk unless the stringent criteria in Policy PI8 can be satisfied. Planning applications received by us are individually reviewed and, if flooding is a potential and significant concern, further information is sought by consultation with the applicant, SEPA and/or the Council's Flooding & Structure Design Team and, where appropriate, by submission of a flood risk assessment. Through both Policy PI8 and appropriate planning conditions, we also seek to minimise the impact of new developments on flood flow through the use of sustainable urban drainage systems. We are now reviewing the current LDP and moving toward preparation of a replacement plan or LDP2. The key stage in preparing the new plan is the Main Issues Report, anticipated for publication in January 2017. To help us prepare the MIR, we are undertaking a 'Call for Sites' exercise to identify sites within North Ayrshire that may have potential for development. We will apply the Flood Risk Framework to site selection so that development is, as far as reasonably possible, located where the risk of flooding is acceptable, taking account of climate change and the vulnerability of future uses to flood risk. We also will use the strategic flood risk assessment process to inform choices about the location of development and planning policies for flood risk management. SEPA's flood risk plans and approved Flood Risk Management Strategies and Plans will also influence choices. LDP2 will cover a 10 year period, starting from 2019 when the new plan is likely to be adopted.</p> <p>Scottish Water is a statutory consultee within the planning legislation and is required to comment on all outline or full planning applications which are referred by a local authority.</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>
<p>Timing and status:</p>	<p>Ongoing CDG</p>
<p>Funding:</p>	<p>The development and review of the Council's Planning Policies and Guidance notes will be funded through North 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.</p>
<p>Coordination:</p>	<p>North Ayrshire Council's and SEPA's land use planning activities will be co-ordinated with the activities of other responsible authorities as required.</p>