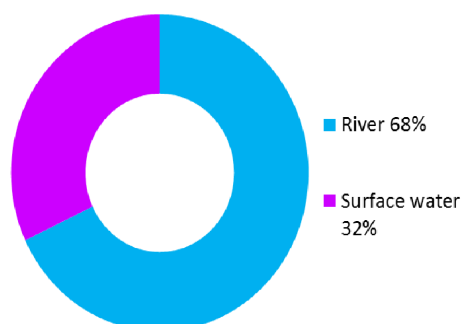


East of Glasgow (Potentially Vulnerable Area 11/17/1)

Local Plan District	Local authority	Main catchment
Clyde and Loch Lomond	Glasgow City Council, North Lanarkshire Council, South Lanarkshire Council	River Clyde

Summary of flooding impacts



At risk of flooding

- 2,500 residential properties
- 650 non-residential properties
- £6.7 million 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.

Flood protection scheme/works	<i>Natural flood management works</i>	<i>New flood warning</i>	Community flood action groups	<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
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

Actions

East of Glasgow (Potentially Vulnerable Area 11/17/1)

Local Plan District	Local authority	Main catchment
Clyde and Loch Lomond	Glasgow City Council, North Lanarkshire Council, South Lanarkshire Council	River Clyde

Background

This Potentially Vulnerable Area covers the area south of Glasgow City centre down through Hamilton and Strathaven (shown below). It is approximately 160km².



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The area has a risk of river and surface water flooding. The majority of damages are caused by river flooding.

There are approximately 2,500 residential properties and 650 non-residential properties at risk of flooding. The Annual Average Damages are approximately £6.7 million.

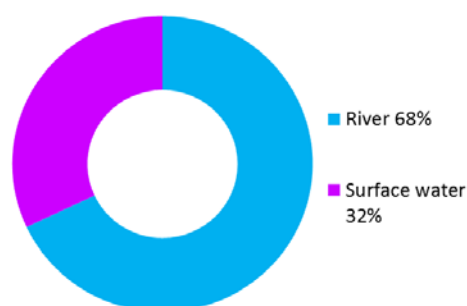


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

River flooding within the area is primarily attributed to the River Clyde and its tributaries. The River Clyde flows in a north westerly direction through the area from Dalsersf, through Hamilton and Uddingston to Rutherglen.

Residential and non-residential properties and utilities are at risk of flooding in Rutherglen and around Hamilton and Uddingston. There are also a number of transport routes impacted across the Potentially Vulnerable Area including railway lines and main roads (notably the A723, A724, A725, A74, A8, M74). Other notable areas at risk include Strathclyde Country Park (an area of protected land) and agricultural land to the north around Hamilton and Uddingston.

There are approximately 870 residential properties at risk of surface water flooding. Surface water flooding of residential and non-residential properties is also predicted in East Kilbride, Hamilton and Rutherglen. The areas at highest risk from surface water flooding will require the preparation of surface water management plans.

Scottish Water and local authorities have completed a number of studies, including strategic and detailed assessments of the risk from surface water flooding and its interaction with river flooding, as well as considering mitigation actions. Many of

these studies have been helped by the partnership working developed within the Metropolitan Glasgow Strategic Drainage Partnership. This has led to the implementation of schemes and works to protect properties from river and surface water flooding.

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 50% 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 2,500 to 4,200 and the number of non-residential properties from approximately 650 to 970.

The location of the impacts of flooding is shown in Figure 3. The greatest concentration of risk is within Shettleston, Cambuslang and Hamilton with impacts to people, non-residential properties, utilities, roads and railways.

The risk of flooding to utilities in Table 1 does not include Scottish Water data. Scottish Water undertook a national assessment of above ground assets at medium likelihood of flooding (including water treatment works, wastewater treatment works, and pumping stations). Within this Potentially Vulnerable Area there is one asset identified as being at risk of flooding.

History of flooding

There is a long history of flooding within this Potentially Vulnerable Area. The river floods which caused the highest impact to properties and people are detailed below:

- South Lanarkshire, Larkhall, Netherburn – 21 July 2010. Flooded Hamilton driveways and roads; Rutherglen roads and bowling club; property in Cambuslang; East Kilbride including A749, Eaglesham Road as well as local access roads. Mixture of river and surface water flooding;
- South Lanarkshire – 30 and 31 July 2002. Flooding to property, gardens, roads and railway lines. Areas affected included Larkhall, Uddingston, Cambuslang, Hamilton, Halfway;
- East Kilbride – 30 and 31 July 2002, Stonehouse and Rutherglen flood included surface water, river and sewer flooding;
- South Lanarkshire – 1 December 1999. Properties and roads affected including the A749 Trunk Road. Areas affected included Hallside, Rutherglen, Cambuslang and East Kilbride;
- Strathaven – December 1999. Commercial properties, High Blantyre/Blantyre and Cathkin. River / surface water and sewer.
- South Lanarkshire – 16 October 1998. Properties were evacuated in Kenmar Road, Kenmar Terrace, Auchenraith Avenue and areas of Hamilton. Roads were flooded and there was a loss of electricity.
- South Lanarkshire – 27 October 1998. Properties were evacuated for five days.
- South Lanarkshire – 12 December 1994. 50-100 year return period. Areas affected include East Kilbride, Hamilton, Rutherglen and many other areas within South Lanarkshire Council (The 1994 flood is one of the main drivers for South Lanarkshire Council flooding programme).

Surface water floods which caused the highest damages to properties and people are detailed below:

- South Lanarkshire – 21 July 2010. Major road flooded (A749);
- Glasgow City – 30 July 2002. Return period of 100 years. There were 500 properties affected in Glasgow due to extreme rainfall which exceeded the drainage capacity and resulted in sewer flooding. Road and rail links were severely disrupted as a result, with estimated damages of £100m;
- North Lanarkshire – 30 May 2003. Torrential rain / hailstorm resulting in the flooding of roads.

	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 100,000)	200	2,500	3,900
Non-residential properties (total 9,000)	130	650	1,000
People	450	5,400	8,700
Community facilities	<10 Includes: educational buildings and emergency services	<10 Includes: educational buildings and emergency services	10 Includes: educational buildings and emergency services
Utilities assets	20	90	110
Transport links - roads (km)	10.7 (of which 1.2 is motorway and 2.2 is A road)	33.5 (of which 4.9 is motorway and 4.9 is A road)	46.0 (of which 8.9 is motorway and 5.7 is A road)
Transport links - rail (km)	2.4	12.2	15.4
Environmental designated areas (km ²)	1.2	1.2	1.2
Designated cultural heritage sites	18	19	20
Agricultural land (km ²)	1.9	2.8	3.3

Table 1: Summary of flooding impacts¹

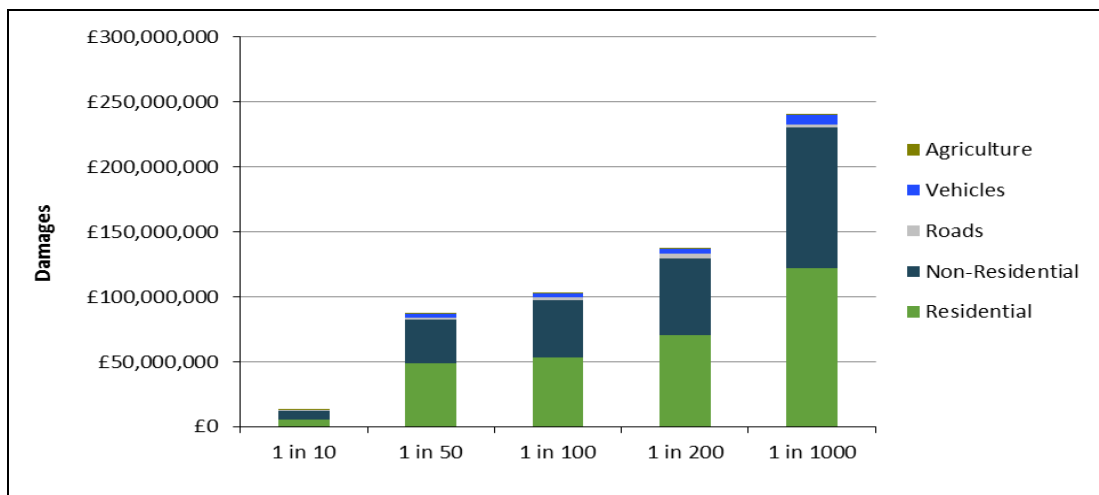


Figure 2: Damages by flood likelihood

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

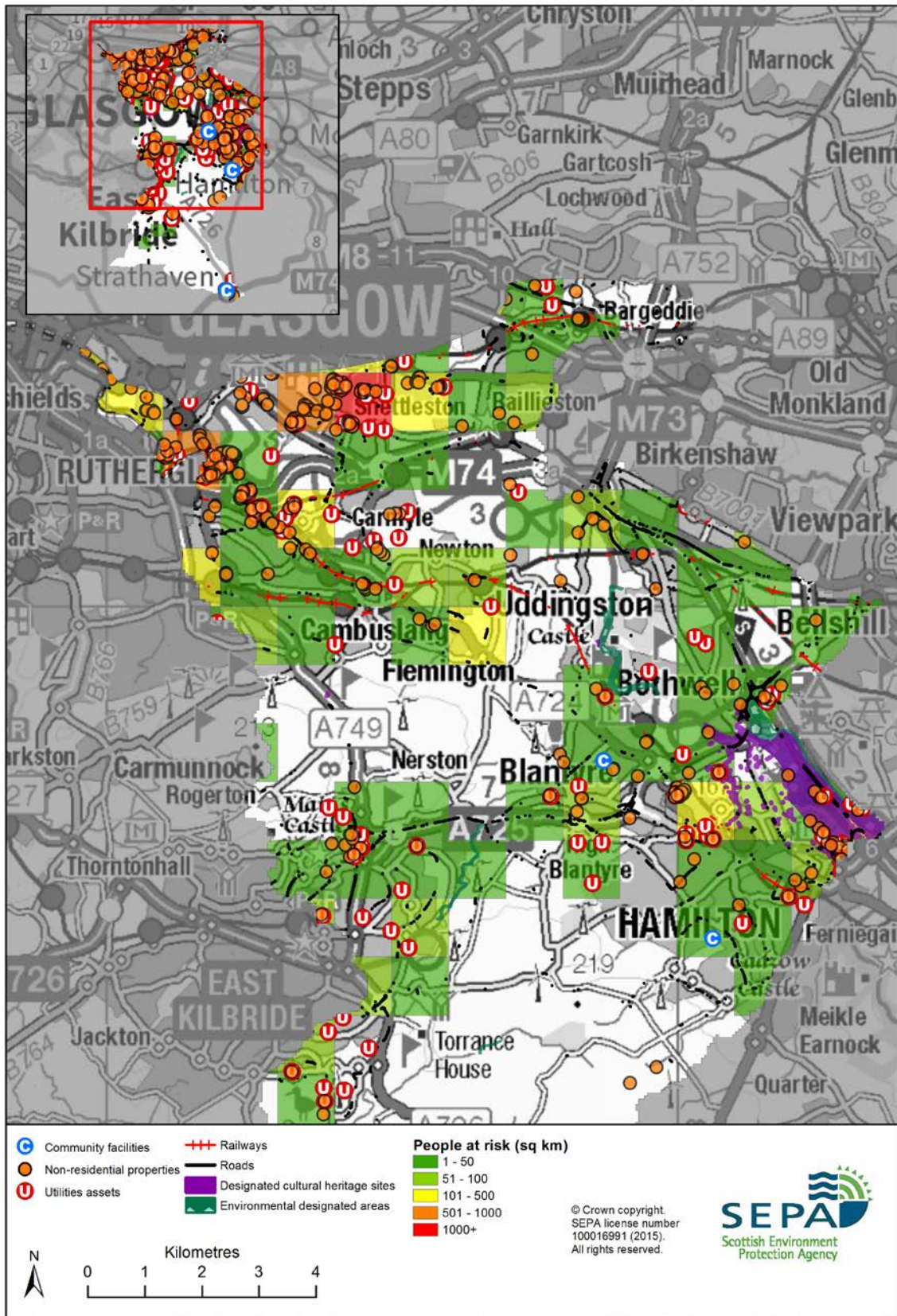


Figure 3: Impacts of flooding

Objectives to manage flooding in Potentially Vulnerable Area 11/17/1

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 East of Glasgow Potentially Vulnerable Area.

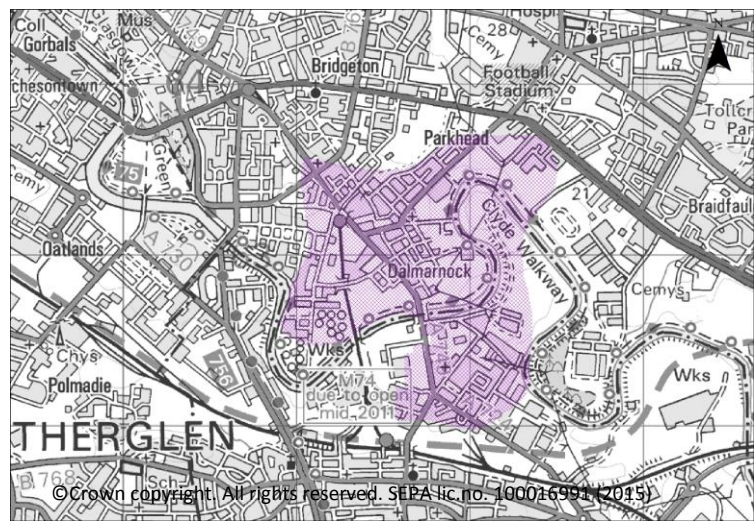
Reduce the risk of river and surface water flooding to residential properties, non-residential properties, community facilities and transport routes in Dalmarnock

Indicators:

- 300 residential properties
- 130 non-residential properties
- £560,000 Annual Average Damages
- 0.6km of road

Objective ID: 11024

Target area:



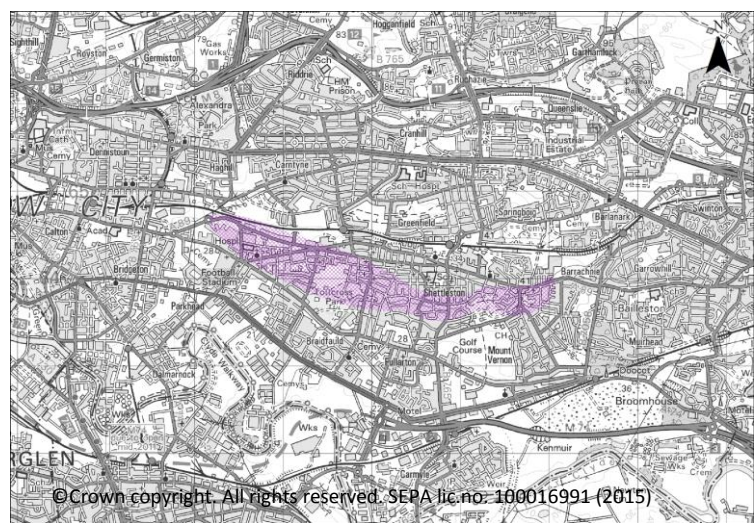
Reduce the risk of flooding from the Tollcross Burn and Camlachie Burn to residential properties and non-residential properties in Shettleston

Indicators:

- 710 residential properties
- 70 non-residential properties
- £1.9 million Annual Average Damages

Objective ID: 11026

Target area:

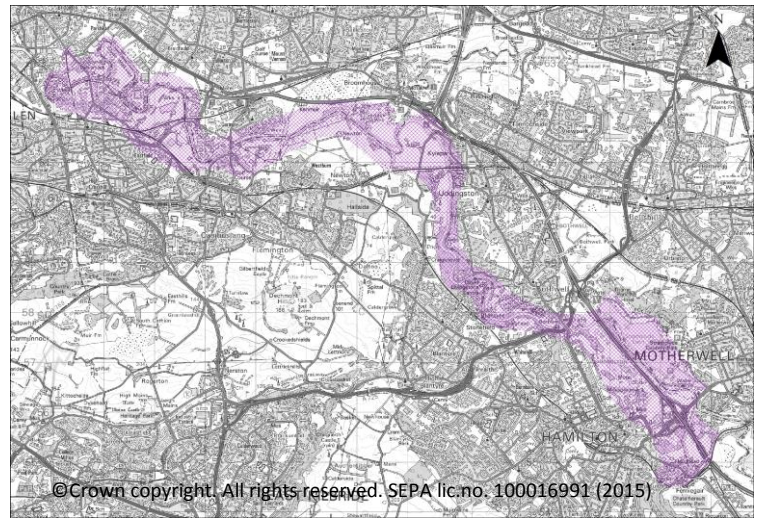


Reduce the risk of flooding to residential properties, non-residential properties and transport routes along the River Clyde from Strathclyde Park to Shawfield

Indicators:

Target area:

- 560 residential properties
- 240 non-residential properties
- £3.2 million Annual Average Damages
- 8.8km of road



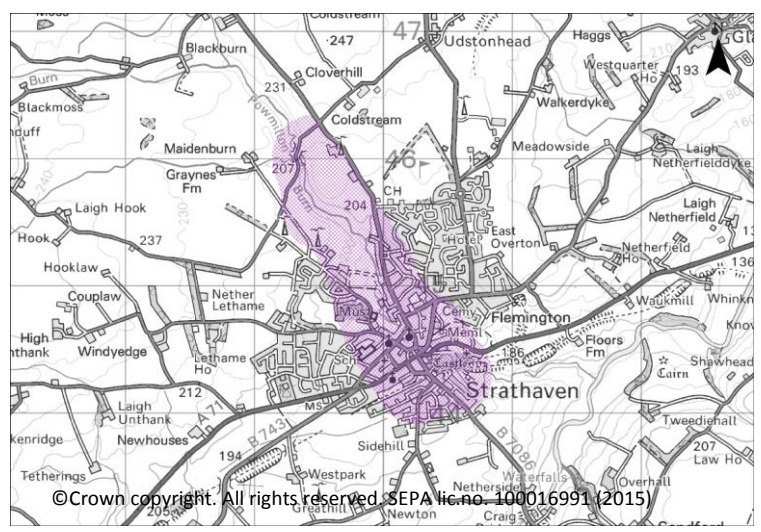
Objective ID: 11065

Reduce the risk of river and surface water flooding to residential properties, non-residential properties, community facilities and transport routes in Strathaven

Indicators:

Target area:

- 40 residential properties
- 40 non-residential properties
- £320,000 Annual Average Damages
- 1 emergency service
- 0.4km of road



Objective ID: 11071

Target area	Objective	ID	Indicators within PVA
Dalmarnock	Reduce the physical or disruption risk related to the transport network for rail.	11304	<ul style="list-style-type: none"> • 110m of rail track at 3 locations
East of Glasgow	Reduce the physical risk, or disruption risk, related to areas of the M8, M73, M74 at risk of flooding	11305	<ul style="list-style-type: none"> • 20m of the M73 at 5 locations • 160m of the M74 at 22 locations • 380m of the M8 at 5 locations
Glasgow	Reduce the economic damages and number of people at risk of surface water flooding in Glasgow City	11007	* See note below
Garrowhill and Baillieston, Glasgow	Reduce the economic damages and risk to people from surface water flooding in Garrowhill and Baillieston	11095	* See note below
Tollcross Burn catchment, Glasgow	Reduce the economic damages and risk to people from surface water flooding in the Tollcross Burn catchment	11104	* See note below
Motherwell and Wishaw	Reduce the economic damages and risk to people from surface water flooding in Motherwell and Wishaw	11113	* See note below
East Kilbride	Reduce the economic damages and risk to people from surface water flooding in East Kilbride	11119	* See note below
Eastfield	Reduce the economic damages and risk to people from surface water flooding in Eastfield	11120	* See note below
Halfway	Reduce the economic damages and risk to people from surface water flooding in Halfway	11121	* See note below
Hamilton	Reduce the economic damages and risk to people from surface water flooding in Hamilton	11122	* See note below
Applies across Clyde and Loch Lomond Local Plan District	Avoid an overall increase in flood risk	11127	<ul style="list-style-type: none"> • 2,500 residential properties • £6.7 million Annual Average Damages
Applies across Clyde and Loch Lomond Local Plan District	Reduce overall flood risk	11132	<ul style="list-style-type: none"> • 2,500 residential properties • £6.7 million Annual Average Damages
Applies across Clyde and Loch Lomond 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 11/17/1 there are 910 residential properties at risk and Annual Average Damages of £2.2 million.

Actions to manage flooding in Potentially Vulnerable Area 11/17/1

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 East of Glasgow Potentially Vulnerable Area.

Selected actions					
Flood protection scheme/works	<i>Natural flood management works</i>	<i>New flood warning</i>	Community flood action groups	<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
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

Action (ID):	FLOOD PROTECTION SCHEME/WORKS (110260006)				
Objective (ID):	Reduce the risk of flooding from the Tollcross Burn and Camlachie Burn to residential properties and non-residential properties in Shettleston (11026)				
Delivery lead:	Glasgow City Council				
Priority:	National:		Within local authority:		
	39 of 42		2 of 2		
Status:	Under development	Indicative delivery:	2016-2021		
Description:	<p>It is recommended that the council look to progress the flood protection scheme proposed for the Camlachie Burn. The proposed work includes three elements of improvement works linked to the overall strategy to address existing network constraints in the area, which has the potential to contribute to substantial flooding within the wider catchment if not addressed.</p> <p>The work includes diversion of extreme flows and watercourse restoration to remove a substantial network constraint close to Biggar Street.</p> <p>The flood mapping for the Camlachie Burn should be revised to include all elements of the scheme to understand any remaining residual risk now and in the future.</p>				
Potential impacts					
Economic:	The proposed scheme may benefit 410 residential properties at risk of flooding in this location, damages avoided are estimated to be £990,000. The flood protection scheme has an estimated benefit cost ratio of 0.9.				
Social:	A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people located within the flood protection study area. In addition there are				

Social:	four utilities which have been identified as potentially benefitting from this action. There may be negative impacts through disturbance to the local community during the construction phase and changes in visual amenity and land use as a result of this action.
Environmental:	Flood protection schemes can have both positive and negative impacts on the ecological quality of the environment depending on how they are designed.

Action (ID):	FLOOD PROTECTION SCHEME/WORKS (11304021)		
Objective (ID):	Reduce the physical or disruption risk related to the transport network for rail. (11304)		
Delivery lead:	Network Rail		
Status:	Under development	Indicative delivery:	2016-2021
Description:	Network Rail will carry out civil engineering work which will reduce flood risk to identified sections of the rail network within this Potentially Vulnerable Area.		

Action (ID):	FLOOD PROTECTION SCHEME/WORKS (11305021)		
Objective (ID):	Reduce the physical risk, or disruption risk, related to areas of the M8, M73, M74 at risk of flooding (11305)		
Delivery lead:	Transport Scotland		
Status:	Under development	Indicative delivery:	2016-2021
Description:	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the trunk road.		

Action (ID):	FLOOD PROTECTION STUDY (110650005)		
Objective (ID):	Reduce the risk of flooding to residential properties, non-residential properties and transport routes along the River Clyde from Strathclyde Park to Shawfield (11065)		
Delivery lead:	South Lanarkshire Council		
Priority:	National:	Within local authority:	
	8 of 168	1 of 4	
Status:	Not started	Indicative delivery:	2016-2021
Description:	A study is recommended to further investigate the feasibility of a flood protection scheme along the lower River Clyde. The Clyde Gateway Masterplan should initially be reviewed and built upon for this study. The study should focus on establishing the most sustainable combination of actions including; improving the conveyance through a number of structures, the construction of a control structure on the Powburn with a pumping station to force		

	<p>water into the River Clyde, and the benefit of flood defences. The study should also assess the benefit of sustainable drainage systems and property level protection. A separate study of the upper River Clyde is also being carried out (ID 110680005) and should be considered when identifying actions. SEPA will review the output from this study for inclusion in the Flood Maps.</p>
Potential impacts	
Economic:	The flood protection study should consider how to reduce flood risk to 210 residential properties and 780 non-residential properties in this location, with potential damages avoided of up to £33.4 million.
Social:	A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people located within the flood protection study area. In addition there are nine utilities which have been identified as potentially benefitting from this action. There may be changes in visual amenity and land use as a result of this action.
Environmental:	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Natural flood management actions can have a positive impact by restoring and enhancing natural habitats. There is the potential for direct construction impacts to the Bothwell Castle Grounds and the Hamilton Low Parks both a Site of Special Scientific Interest. There is likely to be the loss of habitat and displacement of species in the vicinity of conveyance works; however, these may re-establish and return to the area. Downstream of these conveyance works there may be negative impacts on water quality through localised increased erosion and sedimentation on the River Clyde. Introduction of control structures on the river may impede fish passage. There is likely to be a loss of natural and semi-natural habitat in the footprint and vicinity of the defences. There is the potential for permanent, negative impacts from conveyance actions to Bothwell Bridge, Livingstone Memorial Bridge, Uddingston Railway viaduct, Haughhead Bridge, Dalmarnock Bridge, St Andrews Bridge and Kings Bridge, which are all listed structures. There is the potential for direct defences to have negative impacts on the setting of Hamilton Palace and Chatelherault protected gardens and designed landscapes in the Hamilton area, along with the Kylepark Heritage Conservation Area and the Uddingston railway viaduct listed structure.

Action (ID):	FLOOD PROTECTION STUDY (110260005)		
Objective (ID):	Reduce the risk of flooding from the Tollcross Burn and Camlachie Burn to residential properties and non-residential properties in Shettleston (11026)		
Delivery lead:	Glasgow City Council		
Priority:	National:		Within local authority:
	11 of 168		1 of 8
Status:	Not started	Indicative delivery:	2016-2021

Description:	<p>Glasgow City Council should progress the work to deculvert sections of the Tollcross Burn in Sandyhills Park. The work is being carried out in coordination with river basin management planning and should help to improve the condition of the river.</p> <p>A study is recommended to further investigate the flood benefit of the deculverting work and feasibility of a flood protection scheme on the Tollcross Burn focusing on, upstream storage, modification of conveyance by upgrading a culverts, sustainable drainage systems, modification of fluvial control structures by replacing existing trash screens and construction of a river wall. Other actions may also be considered to select the most sustainable combination of actions.</p>
Potential impacts	
Economic:	The economic impacts have not been defined at this stage.
Social:	A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people located within the flood protection study area.
Environmental:	<p>Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. This study is proposed for the Tollcross Burn (water body ID 10048). The physical condition of this river 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 river should be considered by coordinating with river basin management planning. There are no international, national or local level environmental designations that are likely to be impacted by this action. There may be a loss of recreational land and natural and semi-natural habitats in the footprint of the storage areas and in the footprint and vicinity of the direct defences. There is the potential for creation of new wetland habitats. Downstream of the storage and culvert action there may be negative impacts on water quality through increased erosion and sedimentation. There is the potential for slight positive impacts on water quality from the implementation of sustainable drainage systems in the area.</p>

Action (ID):	FLOOD PROTECTION STUDY (110710005)		
Objective (ID):	Reduce the risk of river and surface water flooding to residential properties, non-residential properties, community facilities and transport routes in Strathaven (11071)		
Delivery lead:	South Lanarkshire Council		
Priority:	National: 40 of 168	Within local authority: 2 of 4	
Status:	Not started	Indicative delivery:	2016-2021
Description:	A study is recommended to further investigate the feasibility of a flood protection scheme in Strathaven focusing on the benefit from storage from the Powmillon Burn, improving the conveyance through existing structures on the Powmillon Burn, modification of the existing weirs at Strathaven Park and the Old Mill and construction of flood defences along the Powmillon Burn within Strathaven.		

	Sustainable drainage systems should be assessed in any future flood study undertaken in the area. This study may also consider natural flood management, property level protection actions and other complementary actions.
Potential impacts	
Economic:	The flood protection study should consider how to reduce flood risk to 40 residential properties and 30 non-residential properties in this location, with potential damages avoided of up to £10 million. The economic impact of natural flood management actions is difficult to define, however, these actions can reduce flood risk for high likelihood events. In this location, it has been estimated that 60 residential and non-residential properties could potentially benefit from natural flood management actions.
Social:	A reduction in flood risk would have a positive benefit to the health and wellbeing of the community. In addition there are one emergency service and one utility which have been identified as potentially benefitting from this action. Natural flood management actions can restore and enhance natural environments and create opportunities for recreation and tourism. There may be changes in visual amenity and land use as a result of this action.
Environmental:	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Natural flood management actions can have a positive impact by restoring and enhancing natural habitats. Runoff control actions could have an impact on the Waukenwae Moss Site of Special Scientific Interest. To be in accord with the Flood Risk Management 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 Waukenwae Moss Special Area of Conservation. There will be a loss of existing habitat and displacement of species with storage; however, these will be replaced with new wetland habitat and species. Downstream of the conveyance works there may be negative impacts on water quality through localised increased erosion and sedimentation on the Powmillon Burn. Removal of control structures on the river may assist fish passage. There is likely to be a loss of semi-natural habitat in the footprint and vicinity of the defences. There is the potential for modification of conveyance to have negative impacts on the Strathaven Boo-Backed Bridge listed structure. There is the potential for direct defences to have negative impacts on a listed bridge and the setting of several listed buildings on Kirk Street and the setting of the Strathaven heritage conservation area.

Action (ID):	SURFACE WATER PLAN/STUDY (110070018)		
Objective (ID):	Reduce the economic damages and number of people at risk of surface water flooding in Glasgow City (11007)		
Delivery lead:	Glasgow City Council		
Status:	Not started	Indicative delivery:	2028-2033
Description:	The area must be covered by a strategy to manage and reduce surface water flood risk and identify the most sustainable actions to achieve the objectives. This strategy has been developed by the		

Metropolitan Glasgow Strategic Drainage Partnership. The detailed objectives and actions to manage and reduce surface water flood risk will be set out in the area specific surface water management plans described below.

Action (ID):	SURFACE WATER PLAN/STUDY (110950018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Garrowhill and Baillieston (11095)		
Delivery lead:	Glasgow City 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. The Metropolitan Glasgow Strategic Drainage Partnership will support the process and improve knowledge and understanding of surface water flood risk and interactions with other sources of flooding e.g. with the sewer network, watercourses and the sea.		

Action (ID):	SURFACE WATER PLAN/STUDY (111040018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in the Tollcross Burn catchment (11104)		
Delivery lead:	Glasgow City Council		
Status:	Not started	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. The Metropolitan Glasgow Strategic Drainage Partnership will support the process and improve knowledge and understanding of surface water flood risk and interactions with other sources of flooding e.g. with the sewer network, watercourses and the sea.		

Action (ID):	SURFACE WATER PLAN/STUDY (111130018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Motherwell and Wishaw (11113)		
Delivery lead:	North Lanarkshire Council		
Status:	Not started	Indicative delivery:	2022-2027
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. The Metropolitan Glasgow Strategic Drainage Partnership will support the process and improve knowledge and understanding of surface water flood risk and interactions with other sources of flooding e.g. with the sewer network and watercourses.		

Action (ID):	SURFACE WATER PLAN/STUDY (111191018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in East Kilbride (11119)		
Delivery lead:	South Lanarkshire Council		
Status:	Not started	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):	SURFACE WATER PLAN/STUDY (111191019)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in East Kilbride (11119)		
Delivery lead:	Scottish Water in partnership with South Lanarkshire Council		
Status:	Ongoing	Indicative delivery:	2016-2021
Description:	An integrated catchment study will be carried out to support the surface water management plan process and improve knowledge and understanding of surface water flood risk and interactions with other sources of flooding e.g. with the sewer network and watercourses.		

Action (ID):	SURFACE WATER PLAN/STUDY (111200018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Eastfield (11120)		
Delivery lead:	South Lanarkshire 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):	SURFACE WATER PLAN/STUDY (111210018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Halfway (11121)		
Delivery lead:	South Lanarkshire 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):	SURFACE WATER PLAN/STUDY (111220018)		
Objective (ID):	Reduce the economic damages and risk to people from surface water flooding in Hamilton (11122)		
Delivery lead:	South Lanarkshire Council		
Status:	Not started	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 (111320016)		
Objective (ID):	Reduce overall flood risk (11132)		
Delivery lead:	SEPA		
Status:	Not started	Indicative delivery:	2016-2021
Description:	SEPA will seek to incorporate additional surface water data into the flood maps to improve understanding of flood risk. Approximately 2,200km ² 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 and Scottish Water integrated catchment studies will be considered as these projects are completed.		

Action (ID):	STRATEGIC MAPPING AND MODELLING (111320019)		
Objective (ID):	Reduce overall flood risk (11132)		
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 PROTECTION SCHEME (110240017)		
Objective (ID):	Reduce the risk of river and surface water flooding to residential properties, non-residential properties, community facilities and transport routes in Dalmarnock (11024)		
Delivery lead:	Glasgow City Council		
Status:	Existing	Indicative delivery:	Ongoing
Description:	The Dalmarnock Flood Bund Flood Protection Scheme consists of a flood embankment adjacent to the River Clyde at Downiebrae Road. It protects properties in the area against a 200 year flood. This scheme will be maintained, and will continue to manage flooding according to the design standard at the time of construction. Levels of flood risk are likely to increase over time as a consequence of climate change.		

Action (ID):	MAINTAIN FLOOD PROTECTION SCHEME (110650017)		
Objective (ID):	Reduce the risk of flooding to residential properties, non-residential properties and transport routes along the River Clyde from Strathclyde Park to Shawfield (11065)		
Delivery lead:	South Lanarkshire Council		
Status:	Existing	Indicative delivery:	Ongoing
Description:	The Dalmarnock Flood Bund Flood Protection Scheme consists of a flood embankment adjacent to the River Clyde at Downiebrae Road. It protects properties in the area against a 200 year flood. These defences will be maintained, and will continue to manage flooding according to the design standard at the time of construction. Levels of flood risk are likely to increase over time as a consequence of climate change.		

Action (ID):	MAINTAIN FLOOD WARNING (111320030)		
Objective (ID):	Reduce overall flood risk (11132)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	Continue to maintain the Cambuslang Road and Morrison Park, Carmyle, Dalbeth, Dalmarnock Bridge, Hamilton Services and the Watersports Centre at Strathclyde Loch flood warning areas which are part of the River Clyde flood warning scheme.		

Action (ID):	FLOOD FORECASTING (111320009)		
Objective (ID):	Reduce overall flood risk (11132)		
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):	COMMUNITY FLOOD ACTION GROUPS (110240012)		
Objective (ID):	Reduce the risk of river and surface water flooding to residential properties, non-residential properties, community facilities and transport routes in Dalmarnock (11024)		
Delivery lead:	Community		
Status:	Existing	Indicative delivery:	Ongoing
Description:	The local community set up the Clyde River Users group, to raise awareness of flood risk in the area. The group should continue its activities.		

Action (ID):	SELF HELP (111320011)		
Objective (ID):	Reduce overall flood risk (11132)		
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 (111320013)		
Objective (ID):	Reduce overall flood risk (11132)		
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. The South Lanarkshire Council winter awareness campaign, between October and March includes information on flooding.</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 (111320007)		
Objective (ID):	Reduce overall flood risk (11132)		
Delivery lead:	Local authorities, 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 (111320014)		
Objective (ID):	Reduce overall flood risk (11132)		
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 (111270001)		
Objective (ID):	Avoid an overall increase in flood risk (11127) Reduce overall flood risk (11132)		
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.		