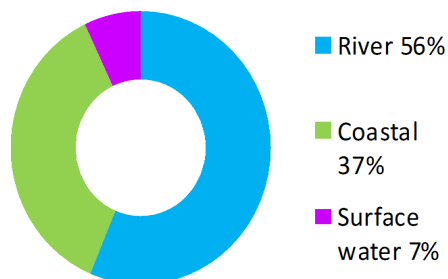


Lochinver (Potentially Vulnerable Area 01/05)

Local Plan District	Local authority	Main catchment
Highland and Argyll	The Highland Council	Minch coastal

Summary of flooding impacts



At risk of flooding

- 10 residential properties
- 10 non-residential properties
- £140,000 Annual Average Damages

(damages by flood source shown left)

Summary of flooding impacts

Summary of objectives to manage flooding

Objectives have been set by SEPA and agreed with flood risk management authorities. These are the aims for managing local flood risk. The objectives have been grouped in three main ways: by reducing risk, avoiding increasing risk or accepting risk by maintaining current levels of management.

Many organisations, such as Scottish Water and energy companies, actively maintain and manage their own assets including their risk from flooding. Where known, these actions are described here. Scottish Natural Heritage and Historic Environment Scotland work with site owners to manage flooding where appropriate at designated environmental and/or cultural heritage sites. These actions are not detailed further in the Flood Risk Management Strategies.

Objectives

Summary of actions to manage flooding

The actions below have been selected to manage flood risk.

<i>Flood protection scheme/works</i>	<i>Natural flood management works</i>	<i>New flood warning</i>	<i>Community flood action groups</i>	<i>Property level protection scheme</i>	Site protection plans
Flood protection study	<i>Natural flood management study</i>	<i>Maintain flood warning</i>	Awareness raising	<i>Surface water plan/study</i>	Emergency plans/response
<i>Maintain flood protection scheme</i>	<i>Strategic mapping and modelling</i>	Flood forecasting	Self help	Maintenance	Planning policies

Actions

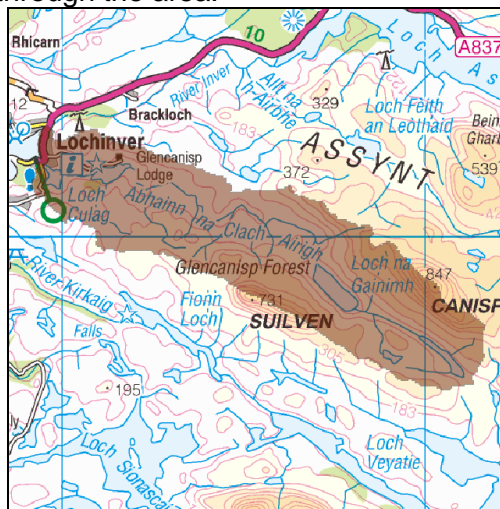
Lochinver (Potentially Vulnerable Area 01/05)

Local Plan District	Local authority	Main catchment
Highland and Argyll	The Highland Council	Minch coastal

Background

This Potentially Vulnerable Area covers Lochinver and the rural areas to the south east (shown below). It is approximately 35km².

A short section of the A837 passes through the area.



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The main river in this area is the Abhainn na Clach Airigh system which includes several lochs, the largest of which is Loch na Gainimh.

There are approximately 10 residential properties and 10 non-residential properties at risk of flooding.

The Annual Average Damages are £140,000 with the majority caused by river flooding.

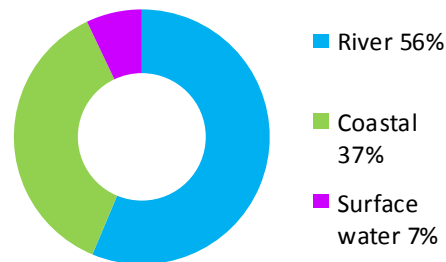


Figure 1: Annual Average Damages by flood source

Summary of flooding impacts

Coastal flood risk affects Lochinver seafront along the head of Loch Inver and the Culaig Hotel. River flood risk is also focused on Lochinver.

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.

Lochinver Pre-school and Primary School are at risk from river and surface water flooding, as is a short section of the A837 road.

The damages associated with floods of different likelihood are shown in Figure 2. For this Potentially Vulnerable Area the highest damages are to non-residential properties followed by damages to residential properties and roads.

The location of the impacts is shown in Figure 3.

	1 in 10 High likelihood	1 in 200 Medium likelihood	1 in 1000 Low likelihood
Residential properties (total 60)	10	10	10
Non-residential properties (total 60)	10	10	20
People	20	20	30
Community facilities	<10 Educational buildings	<10 Educational buildings	<10 Educational buildings
Utilities assets	0	<10	<10
Transport links (excluding minor roads)	Roads at 10 locations	Roads at 10 locations	Roads at 10 locations
Environmental designated areas (km ²)	0	0	0
Designated cultural heritage sites	0	0	0
Agricultural land (km ²)	0.9	1	1

Table 1: Summary of flooding impacts¹

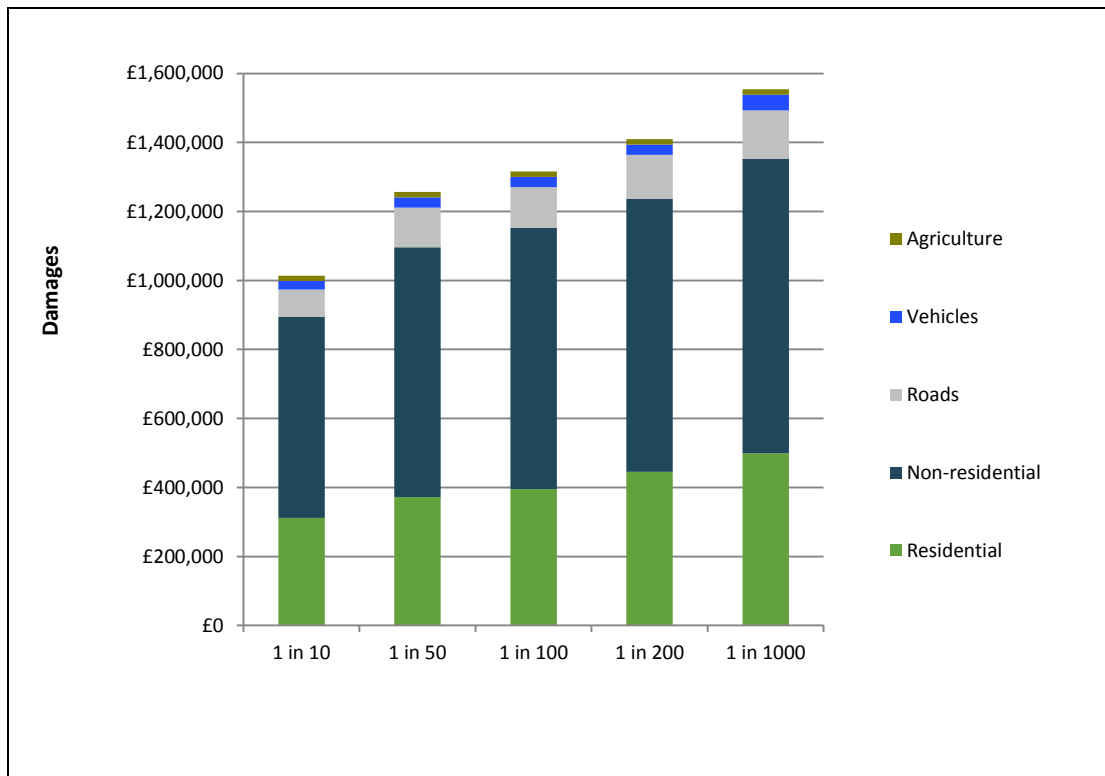


Figure 2: Damages by flood likelihood

History of flooding

In February 1998 heavy rainfall caused flooding up to three inches deep and is understood to have affected Lochinver Primary School.

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

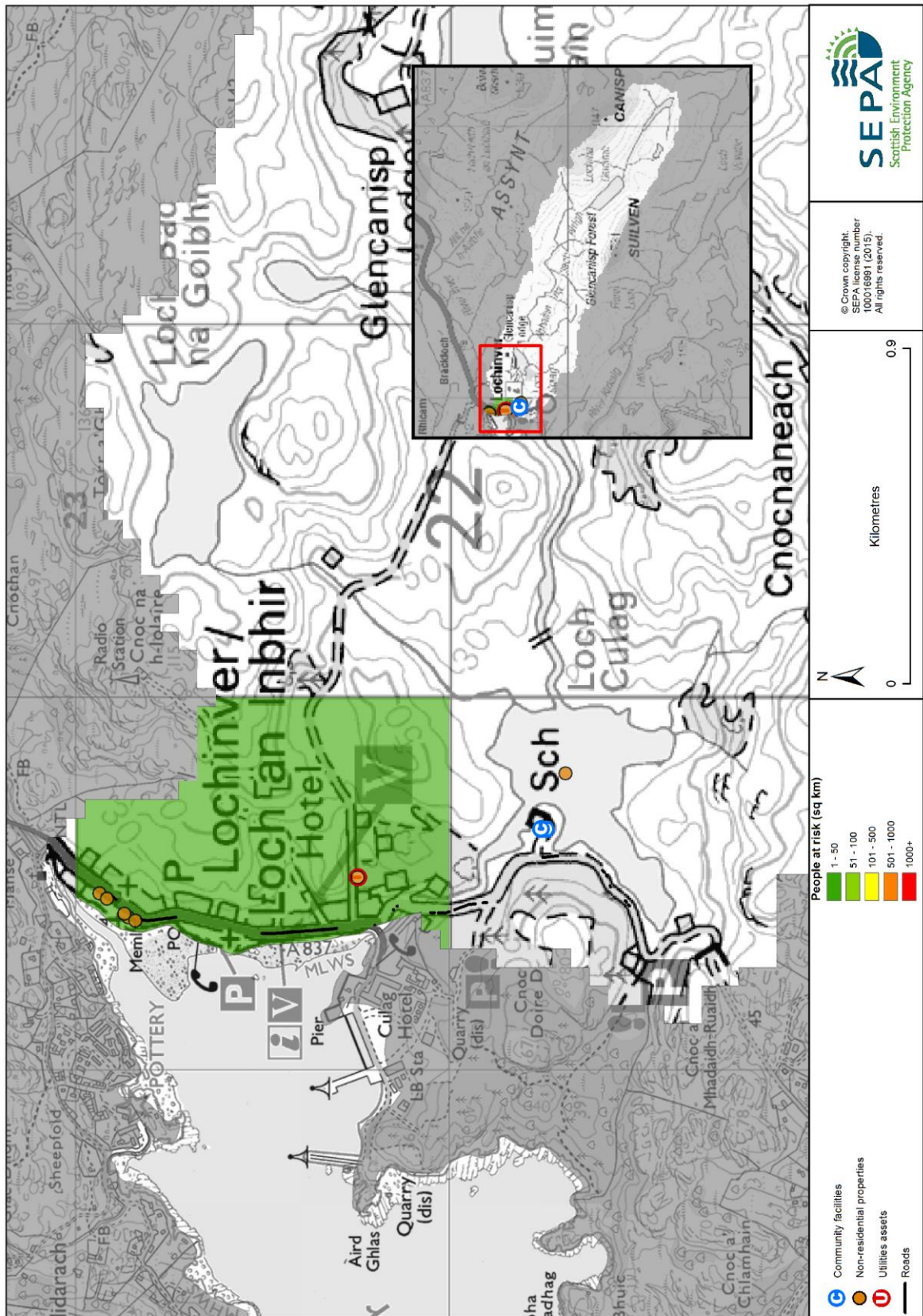


Figure 3: Impacts of flooding

Objectives to manage flooding in Potentially Vulnerable Area 01/05

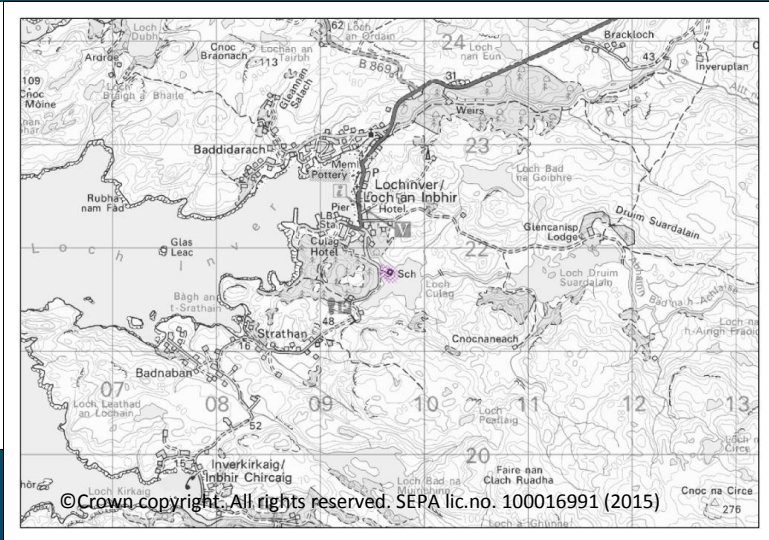
Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding. Target 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 Lochinver Potentially Vulnerable Area.

Reduce the number of community facilities at risk of flooding from Loch Culag in Lochinver

Indicators:

- 2 educational buildings

Objective ID: 100501



Target area	Objective	ID	Indicators within PVA
Applies across Highland and Argyll Local Plan District	Avoid an overall increase in flood risk	100001	<ul style="list-style-type: none"> • 10 residential properties • £140,000 Annual Average Damages
Applies across Highland and Argyll Local Plan District	Reduce overall flood risk	100002	<ul style="list-style-type: none"> • 10 residential properties • £140,000 Annual Average Damages
Applies across Highland and Argyll Local Plan District	Organisations such as Scottish Water, energy companies and Historic Environment Scotland actively maintain and manage their own assets, including the risk of flooding. These actions are not detailed further in the Flood Risk Management Strategies.		

Actions to manage flooding in Potentially Vulnerable Area 01/05

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 Lochinver Potentially Vulnerable Area.

Selected actions					
<i>Flood protection scheme/works</i>	<i>Natural flood management works</i>	<i>New flood warning</i>	<i>Community flood action groups</i>	<i>Property level protection scheme</i>	Site protection plans
Flood protection study	<i>Natural flood management study</i>	<i>Maintain flood warning</i>	Awareness raising	<i>Surface water plan/study</i>	Emergency plans/response
<i>Maintain flood protection scheme</i>	<i>Strategic mapping and modelling</i>	Flood forecasting	Self help	Maintenance	Planning policies

Action (ID):	FLOOD PROTECTION STUDY (1005010005)		
Objective (ID):	Reduce the number of community facilities at risk of flooding from Loch Culag in Lochinver (100501)		
Delivery lead:	The Highland Council		
Priority:	National:		Within local authority:
	132 of 168		15 of 23
Status:	Not started	Indicative delivery:	2022-2027
Description:	A study is required for Lochinver Primary School and nursery to reduce the risk of flooding from Loch Culag. The study should primarily focus on direct defences around the perimeter of the school grounds, but other actions may also be considered in order to develop the most sustainable range of options. The study should look to confirm the size of defence required and the business case for flood protection works.		
Potential impacts			
Economic:	The flood protection study should consider how to reduce the impact of flooding to Lochinver Primary School and nursery. Potential damages avoided of up to £1.8 million.		
Social:	A reduction in flood risk would have a positive benefit to the health and wellbeing of the community. Flood protection works for Lochinver Primary School and nursery may reduce disruption to pupils and the community (e.g. teachers and parents) during flood events, as the school would be able to remain open. Flood protection works could also protect the access road to the school. Negative impacts through disturbance to the local community during the construction phase should be considered.		

Environmental:	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Opportunities to mitigate any environmental impacts may include design and timing of works. There is potential that flood protection works could impact on habitats at the edge of Loch Culag. Direct defences could impact on the natural landscapes. There are no environmentally designated sites which could be affected by flood protection works for Lochinver Primary School and nursery.
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Action (ID):	FLOOD FORECASTING (1000020009)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	SEPA		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>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.</p> <p>The Potentially Vulnerable Area is within the 'Caithness and Sutherland' flood alert area.</p>		

Action (ID):	SELF HELP (1000020011)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	—		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>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.</p>		

Action (ID):	AWARENESS RAISING (1000020013)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	Responsible authorities		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact.</p> <p>From 2016 SEPA will engage with the community through local participation in national initiatives, including partnership working with Neighbourhood Watch Scotland. In addition, SEPA will engage with local authorities and community resilience groups where possible. Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.</p>		

Action (ID):	MAINTENANCE (1000020007)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	The Highland Council, asset / land managers		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<p>Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They produce schedules of clearance and repair works and make these available for public inspection. Scottish Water undertake inspection and repair on the public sewer network. Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk.</p>		

Action (ID):	SITE PROTECTION PLANS (1005010015)		
Objective (ID):	Reduce the number of community facilities at risk of flooding from Loch Culag in Lochinver (100501)		
Delivery lead:	The Highland Council		
Status:	Not started	Indicative delivery:	2016-2021
Description:	<p>Site protection plans are developed to identify whether normal operation of a facility can be maintained during a flood. This may be due to existing protection or resilience of the facility or the network. A site protection plan for Lochinver primary and secondary school should be developed.</p>		

Action (ID):	EMERGENCY PLANS/RESPONSE (1000020014)		
Objective (ID):	Reduce overall flood risk (100002)		
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 (1000020001)		
Objective (ID):	Reduce overall flood risk (100002)		
Delivery lead:	Planning authority		
Status:	Existing	Indicative delivery:	Ongoing
Description:	<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 Annex 2.</p>		