FINDHORN, NAIRN AND SPEYSIDE

Local Flood Risk Management Plan

Published by Moray Council June 2016

Photographs of the Elgin Flood Alleviation Scheme

This is the first local flood risk management plan for the Findhorn, Nairn and Speyside local plan district, describing the actions which will make a real difference to managing the risk of flooding and recovering from any future flood events.

The task now for us – The Moray Council, The Highland Council, Scottish Water, the Scottish Environment Protection Agency (SEPA), the Scottish Government and all other responsible authorities and public bodies – is to turn our plan into action.

the moray Council

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Foreword

The impacts of flooding experienced by individuals, communities and businesses can be devastating and long lasting. It is vital that we continue to reduce the risk of any such future events and improve Scotland's ability to manage and recover from any events that occur.

The publication of this Plan is an important milestone in implementing the Flood Risk Management (Scotland) Act 2009 and improving our understanding of flood risk and how we will manage floods in the Findhorn, Nairn and Speyside Local Plan District. The Plan translates this legislation into actions to reduce the damage and distress caused by flooding over the first planning cycle from 2016 to 2022 and beyond.

Within the Local Plan District (LPD), areas with the greatest risk of flooding have been identified and these have been designated as Potentially Vulnerable Areas (PVAs). The actions identified in the Plan are within these PVAs. The current PVAs were designated using the best information available at the time and additional PVAs may be identified when investigation work is done during the development of future plans.

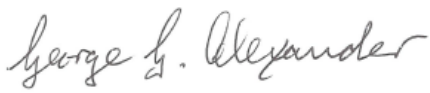
In summary, there are fourteen areas that have been identified as being potentially vulnerable to flood risk across the Findhorn, Nairn and Speyside LPD. Across the entire district there are a total of 1,800 residential and 580 non-residential properties at risk of flooding with estimated Annual Average Damages of £5.9 million.

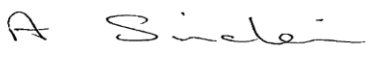
The Findhorn, Nairn and Speyside Local Flood Risk Management Plan published by The Moray Council has been developed in partnership and with the agreement of:

- The Highland Council,
- Scottish Water;
- SEPA;
- Forestry Commission Scotland; and
- Cairngorms National Park Authority.

The Plan recognises that individuals are the first line of defence against flooding and are primarily responsible for their own protection.

The Plan sets objectives to avoid and reduce the risk of flooding, and prepare and protect ourselves and our communities within these PVAs and across the LPD. Actions identified to achieve these objectives include flood protection schemes or works; flood protection studies; flood warning schemes, surface water management plans, and resilience measures property owners can employ to protect themselves.





Councillor George Alexander
The Moray Council

Councillor Audrey Sinclair
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Contents

Section1: Flood Risk Management in Findhorn, Nairn and Speyside Local Plan District 1

1.1. What is a Local Flood Risk Management Plan? 1

1.2. How to read this plan 1

1.3. How we have developed the Plan 2

1.4. Links with other plans, policies, strategies and legislative requirements 5

Section2: Managing Flood Risk in Findhorn, Nairn and Speyside LPD 8

2.1. Understanding of flooding within the Findhorn, Nairn Speyside LPD 8

2.2. Background information on the Findhorn, Nairn and Speyside LPD 8

2.3. Flood risk in Findhorn, Nairn and Speyside LPD 9

2.4. Summary of actions in Findhorn, Nairn and Speyside LPD 12

2.5. Findhorn, Nairn and Speyside LPD wide Objectives and Actions 13

2.6. Flood risk, objectives, actions and prioritisation for Findhorn, Nairn and Speyside PVAs .. 20

2.7. Flood risk, objectives, and actions for Findhorn Nairn Speyside Potentially Vulnerable Areas 21

Burghead to Lossiemouth (Potentially Vulnerable Area 05/01) 21

Spynie (Potentially Vulnerable Area 05/02) 24

Lhanbryde (Potentially Vulnerable Area 05/03) 28

Spey Bay (Potentially Vulnerable Area 05/04) 32

Elgin (Potentially Vulnerable Area 05/05) 36

Forres (Potentially Vulnerable Area 05/06) 41

Findhorn (Potentially Vulnerable Area 05/07) 46

Nairn East and Auldearn (Potentially Vulnerable Area 05/08) 51

Rothes and Aberlour (Potentially Vulnerable Area 05/09) 56

Carrbrige (Potentially Vulnerable Area 05/10) 61

Aviemore and Boat of Garten (Potentially Vulnerable Area 05/11) 64

Kingussie (Potentially Vulnerable Area 05/12) 69

Newtonmore (Potentially Vulnerable Area 05/13) 74

Dalwhinnie (Potentially Vulnerable Area 05/14) 78

Section3: Next Steps 82

Annexes 83

Annex: 1. LPD roles & responsibilities 84

Annex: 2. Links to Schedules of Clearance and Repair 87

Annex: 3. Land Use Planning 88

Annex: 4. Extract from Scottish Water's Business Plan 89
Annex: 5. Supporting information..... 90
Annex: 6. Glossary..... 93
Annex: 7. Acknowledgements..... 100

Section1: Flood Risk Management in Findhorn, Nairn and Speyside Local Plan District

1.1. What is a Local Flood Risk Management Plan?

The Flood Risk Management (Scotland) Act 2009 (the Act) provides a framework for managing flood risk in accordance with the EC Floods Directive and transposes the Directive into Scots Law. The Act repeals the Flood Prevention (Scotland) Act 1961 as amended by the Flood Prevention and Land Drainage (Scotland) Act 1997.

The Act promotes a risk-based, plan-led approach to managing flood risk and requires SEPA, in partnership with responsible authorities to develop and implement flood risk management strategies and plans.

This Local Flood Risk Management Plan (the Plan) sets out how and when actions to reduce the impact of flooding in the Findhorn, Nairn and Speyside Local Plan District (LPD) identified in the Flood Risk Management Strategy (the Strategy) will be delivered. The Strategy identifies where the risk of flooding and benefit of investment is greatest and the Plan says how and when prioritised actions will be delivered. Plans will be delivered over six-year cycles starting with the first cycle running from 2016 to 2022.

The content of the Plan has been agreed by The Moray Council as the lead local authority and every other responsible authority that has flood risk related functions exercisable in or in relation to this LPD, and SEPA.

The Plan is published by The Moray Council in agreement with

- The Highland Council;
- Scottish Water;
- SEPA;
- Forestry Commission Scotland; and
- Cairngorms National Park Authority

1.2. How to read this plan

This Plan should be read in parallel with the Strategy for the Findhorn, Nairn and Speyside LPD. It contains detailed information on flood risk and the impact it has on communities in the designated PVAs. Where appropriate the Plan refers readers to the Strategy. The Strategy is on SEPA's website at http://apps.sepa.org.uk/FRMStrategies/findhorn-nairn-speyside.html. Extracts of the Strategy are available from SEPA on request.

The layout of the Plan is broadly similar to the Strategy and uses the same objective and action identification references (IDs).

- Section 1 contains background information on the approach taken in Scotland to manage flooding. It explains the duties and aims of relevant organisations, including how they work together and how flood risk management planning is linked to other policies and initiatives. It also describes how flood risk management planning is delivered through a Local Flood Risk Management Plan.

- Section 2 will be of most interest to those individuals and communities seeking to understand flood risk and its management in their area. For each PVA there is a short description of the causes and consequences of flooding, and agreed objectives and actions. It also describes the objectives and actions that apply across the entire LPD that will deliver progress in reducing flood risk over the first six-year planning cycle from 2016 and 2022, including when they will be implemented, who is responsible and the funding arrangements.

- Section 3 sets out how the implementation of the plan will be monitored, when it will be reviewed, and how progress will be reported.

- Annexes to the Plan provide supporting and additional information including a glossary of terms.

1.3. How we have developed the Plan

The Plan was developed in partnership by:

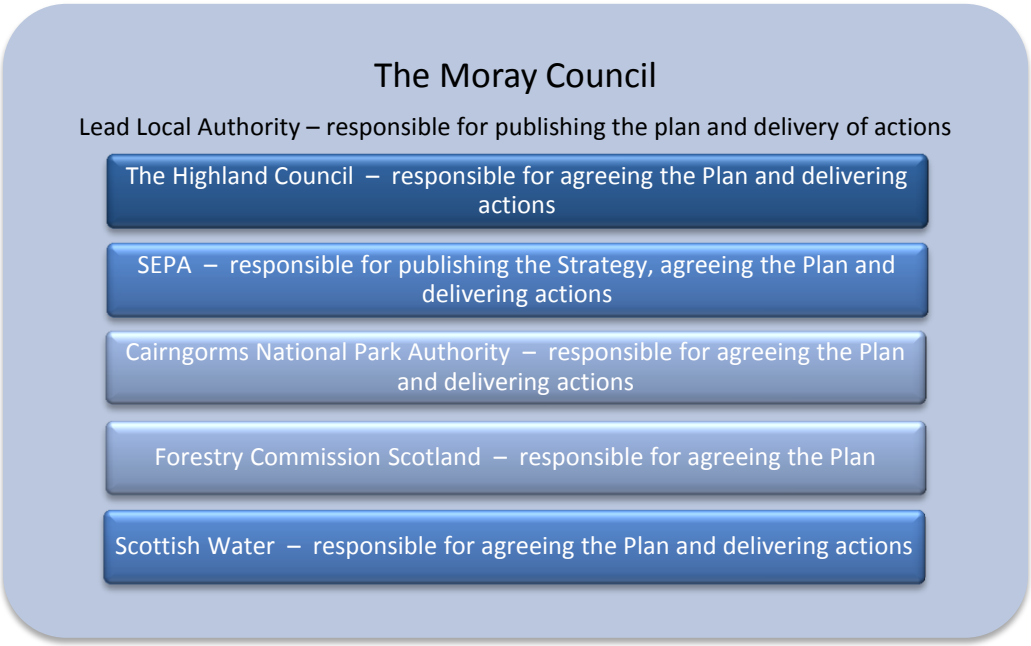

Figure 1 Findhorn, Nairn and Speyside Local Plan District Partnership

Roles and responsibilities for flood risk management planning

Individuals are the first line of defence against flooding and have responsibilities to protect themselves from flooding. Being prepared by knowing what to do and who to contact if flooding happens can help reduce the damage and disruption flooding can have.

However, the responsibility for planning flood risk management falls to the authorities identified in the Act.

The Moray Council is the Lead Local Authority for the Findhorn, Nairn and Speyside LPD. This means that it is responsible for overseeing the Plan delivery, in partnership with the other authorities listed below.

SEPA is Scotland's flood forecasting, flood warning and strategic flood risk management authority. SEPA has a statutory duty to produce Scotland's Flood Risk Management Strategies. These Strategies were developed in partnership with responsible authorities.

The Highland Council worked in partnership with The Moray Council to develop this Plan. It is the responsibility of each local authority to implement its flood protection actions.

Scottish Water has the public drainage duty and is responsible for foul drainage and the drainage of rainwater run-off from roofs and any paved ground surface from the boundary of properties.

Cairngorms National Park Authority is responsible for land use planning and carrying out or granting permission for activities within the Cairngorms National Park area that can play a key role in managing and reducing flood risk.

Forestry Commission Scotland has engaged in the development of the Flood Risk Management Strategies through National and Local Advisory Groups and has a role in managing flood risk.

Further information on the roles and responsibilities for flood management are in Annex 1.

Consultation, engagement and advice

Two statutory public consultations were held during the development of the Strategy and Plan. The first, by SEPA, was on the general approach to flood risk management planning and the identification of priority areas (2011). The second, held jointly by SEPA and local authorities, was on the understanding of flooding in these priority areas, setting the objectives and developing actions to manage flooding (2015).

The Moray Council hosted four public consultation events in the selected PVAs of Aberlour, Lossiemouth, Elgin, and Forres. Details of the draft Strategies and Plans were provided at these events and members of the Council's flood risk management team were on hand to answer any questions or discuss concerns raised. The questions raised at these events did not relate to the contents of the Strategy or Plan but focussed on other local flooding issues.

The Strategy and Plan have benefited from input from the Local Advisory Group, providing important area-based knowledge on both the causes and consequences of flooding and on the appropriate actions for future management. Advice was also provided by the National Flood Risk Management Advisory Group comprising over 50 organisations, reflecting the national importance and impact of flooding on our communities, economy, environment and cultural heritage.

Strategic Environmental Assessment and Habitats Regulations Assessment

The Moray Council submitted a Strategic Environmental Assessment (SEA) Screening Report to the SEA Gateway. The SEA Gateway advised that a Strategic Environmental Assessment was not required for this Plan.

A Habitats Regulations Appraisal (HRA) has been undertaken for the Strategy that has informed the Plan. Where the HRA identified mitigation measures to protect the Natura interests, these have been incorporated into the Plan. The Plan only includes actions identified in the Strategy. Studies included in the Strategy and Plan may recommend schemes or works that will be the subject of a future strategy and plan and full assessment would be undertaken as part of the development process. Where studies identify actions likely to have significant effects on qualifying interests of Natura sites an Appropriate Assessment will be required. Where it cannot be shown that there will be no adverse effect on site integrity, proposals will be refused.

Identification of objectives, appraisal and prioritisation of actions

SEPA identified objectives and appraised actions to reduce flood risk. The Moray Council, The Highland Council and Scottish Water supported SEPA. The objectives and option appraisals were informed by the flood hazard maps and flood risk maps SEPA prepared under s21 of the Act. These maps are at http://map.sepa.org.uk/floodmap/map.htm. In addition, local studies and knowledge played a significant role.

Objectives focus on the main sources and impacts of flooding identified for each of the fourteen PVAs. A wide range of actions were appraised, including flood protection works and schemes, flood protection studies, flood warning schemes, surface water management plans, and natural flood management studies and works, alongside awareness raising and community resilience measures.

To prioritise actions, SEPA separated the technical, risk-based assessment of priorities from aspects of local, practical deliverability. The costs and impacts of actions were used alongside information from delivery and funding bodies jointly to agree priorities and identify indicative delivery dates for actions. A National Prioritisation Advisory Group guided SEPA on the relative priority of flood risk management actions, having considered both the technical ranking and issues of local priority. This group included representatives from SEPA, local authorities, Scottish Water, Convention of Scottish Local Authorities (CoSLA) and Scottish Government.

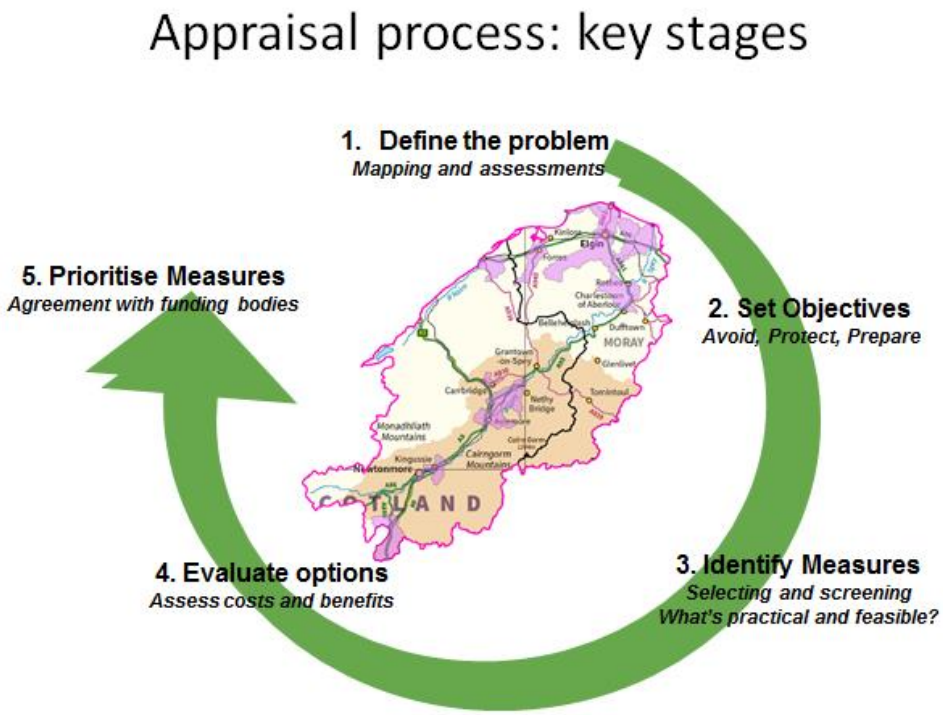

Figure 2 Appraisal Process

Figure 2 illustrates the appraisal process. The Strategy provided the list of prioritised actions for the first six-year flood risk management planning cycle, 2016 to 2022 and beyond. The Plan identifies who will be responsible for each action, a timetable of when it will be undertaken and the funding arrangements.

The agreed actions identified for the first six-year cycle were based on the current level of funding available. However, future spending reviews and annualised financial settlements may affect each party's ability to deliver these actions.

Implementation of the Plan will be monitored through the Steering Group, which will meet from time to time throughout the first cycle. Progress will be reported through each responsible authority's governance processes. An interim report on the progress of the Plan will be published after two years and after five years of the cycle there will be a final report, both as set out in the Act. Section 3 of this Plan provides more details.

1.4. Links with other plans, policies, strategies and legislative requirements

This Plan does not stand in isolation. As far as is practicable, an integrated approach to land and water management has been pursued. When developing the Strategy and Plan, early links were made with other relevant aspects of water and land management including local development plans, river basin management plans and emergency plans. Responsible authorities collaborated to ensure that flood risk management plans and strategies will support other planning initiatives.

The duty to assess bodies of water and schedule clearance and repair works lies with The Moray Council and The Highland Council.

The Moray Council has a risk-based approach to assessing bodies of water that may give rise to flooding. Where potential flood risk has been identified the relevant water body has been included in the Council's routine inspection schedule. The frequency of inspection is dependent on the assessed risk. Any works identified during these inspections are included in the Council's schedule of clearance and repair. The Moray Council's schedule of clearance and repair works is published online at: www.moray.gov.uk/flooding

The Highland Council has implemented a plan-led, risk-based approach to assessing bodies of water that may give rise to flooding and has documented over 500 watercourses and 2,000 related structures throughout the Highland Council area. A full-time watercourse inspector is employed to assess routinely the risk of flooding from each structure (e.g. a culvert inlet or screen). Should any routine clearance work be required that cannot be carried out at the time of inspection, the work required substantially to reduce the risk of flooding is entered in a schedule of clearance and repair works and made available for public inspection. The Highland Council's schedule of clearance and repair works is published online at: http://www.highland.gov.uk/info/1210/environment/81/flooding/5 .

River Basin Management Planning aims to protect and improve the condition of Scotland's rivers, lochs, firths and coastal waters. Taking action to reduce flood risk provides an opportunity to connect with plans to improve the water environment at the same time. SEPA, through the delivery of the River Basin Management Plans and the Flood Risk Management Strategies has worked to ensure there is integration and coordination between them.

Land use and spatial planning are pivotal to achieving sustainable flood risk management. Flood risk management can have significant implications for the location of development and similarly the location of development can have an impact on flood risk. Actions that deliver national land use planning policies are summarised in Annex 3.

The Moray Council develops and adopts a new Local Development Plan every five years. It sets out the Council's strategy for delivering appropriate development in Moray, considering a number of potential constraints, including flooding. The current plan was adopted in 2015 and consultation on the next plan has begun.

Periodically The Highland Council will review and update its Local Development Plans. These plans set out the strategy for delivering appropriate development within each area and take into account a number of constraints, including flooding. . The current Highland-wide Local Development Plan was adopted in 2012. A review of this plan has begun and consultation on the Main Issues Report, carried out by The Highland Council, concluded in January 2016. The new plan is programmed to be published in summer of 2016 and adopted in winter 2017. The new Highland-wide plan will take account of flood risk and the actions proposed in this Plan.

The Inner Moray Firth Local Development Plan is the part of the Highland wide development plan relevant to this Plan.

SEPA is a statutory consultee providing flood risk advice on planning applications. Flood risk management teams within both local authorities provide advice to the planning authorities that informs the local development plans and planning decisions.

Emergency planning and response is undertaken by Category 1 and 2 Responders including Police Scotland, the Scottish Fire and Rescue Service, the Scottish Ambulance Service, both local authorities, the NHS, the Met Office and SEPA. Emergency plans are prepared under the Civil Contingencies Act 2004. The Moray Council is part of the Grampian Emergency Planning Unit, which is part of the Grampian Local Resilience Partnership, covering Moray, Aberdeenshire and Aberdeen City. The Highland Council is a member of the Highlands and Islands Local Resilience Partnership. These partnerships coordinate the emergency response to flood events, such as road closures, evacuations and temporary accommodation.

This Plan includes **Surface Water Management Plans** as actions. The Moray Council will develop Surface Water Management Plans in Forres, Elgin, and Rothes/Aberlour. The Highland Council will develop a Highland-wide Surface Water Management Plan which includes a specific plan for Newtonmore.

These plans will identify flooding risk from small watercourses (catchment of less than 3km^2), surface water runoff (overland flow) and inadequate surface water and road drainage networks. These Surface Water Management Plans will also identify existing and proposed mitigation measures to protect properties.

Scottish Water Investment Plans include an Integrated Catchment Study in Forres during the first plan cycle. Scottish Water will lead this study in partnership with The Moray Council and SEPA. The study will improve knowledge and understanding of the interactions between the sewer network, watercourses and the sea in relation to local surface water flood risk and will inform the Surface Water Management Plan for Forres.

Information regarding how Scottish Water will address flooding from sewers throughout Scotland is provided in Annex 4.

Section2: Managing Flood Risk in Findhorn, Nairn and Speyside LPD

2.1. Understanding of flooding within the Findhorn, Nairn Speyside LPD

This section contains a summary of flooding for the Findhorn, Nairn and Speyside LPD and its PVAs. It also provides information on the agreed actions to manage flooding prioritised for delivery between 2016 and 2022, across the LPD, and in each PVA. It says who is responsible for delivering the actions, along with a timetable and the funding arrangements.

2.2. Background information on the Findhorn, Nairn and Speyside LPD

The Findhorn, Nairn and Speyside LPD extends from the Moray Firth in the north to the Grampian mountains in the south. It has an area of approximately 4,800km^2 and a coastline approximately 70km long. There are 14 PVAs in the Findhorn, Nairn and Speyside LPD, which are shown on the map below.

Figure 3: The Findhorn, Nairn and Speyside LPD

The extent of the Findhorn, Nairn and Speyside LPD and the locations of the PVAs are shown in Figure 3. The population of the LPD is approximately 100,000 with Elgin being the largest settlement.

The LPD contains two local authorities –The Moray Council and The Highland Council, and areas of the Cairngorms National Park. Approximately 1% of the area is classified as urban. The predominant types of land cover are montane habitats, coniferous woodland, heather grassland, and heather, which each cover between 11% and 18% of the area.

2.3. Flood risk in Findhorn, Nairn and Speyside LPD

There are approximately 1,800 residential properties and 580 non-residential properties at risk of flooding within this LPD. This is approximately 4% of residential properties and 10% of non-residential properties. An estimated 63% of these are in PVAs. The Annual Average Damages from flooding are approximately £5.9 million, with an estimated 53% of the damages for the entire LPD accounted for in the PVAs.

The main source of flooding is from rivers which accounts for approximately 72% of the Annual Average Damages (Figure 5). The Annual Average Damages caused by river floods are £4.2 million with those caused by surface water and coastal floods being approximately £1.2 million and £430,000 respectively.

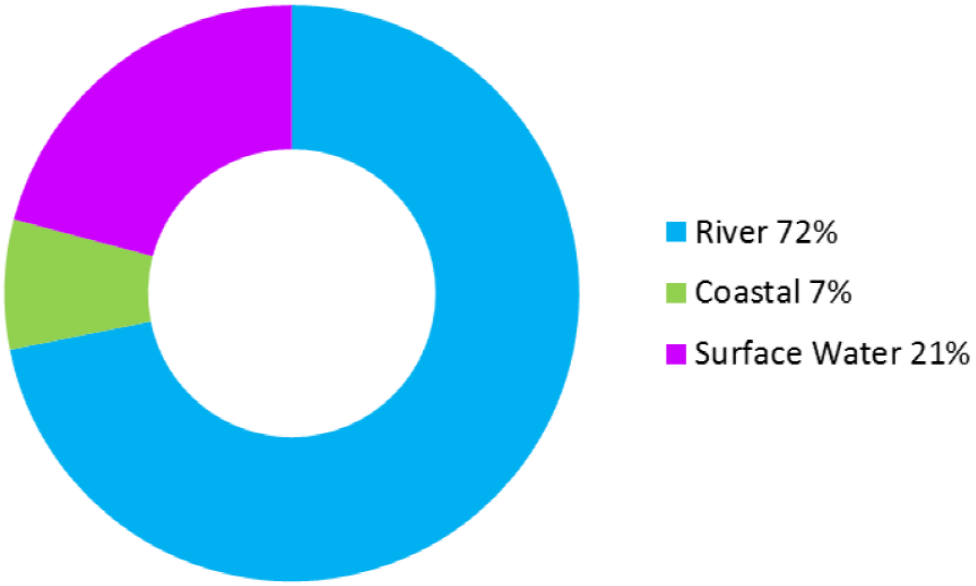

Figure 5 Annual Average Damages by flood source

(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

The areas with most properties at risk are shown in Figure 4.

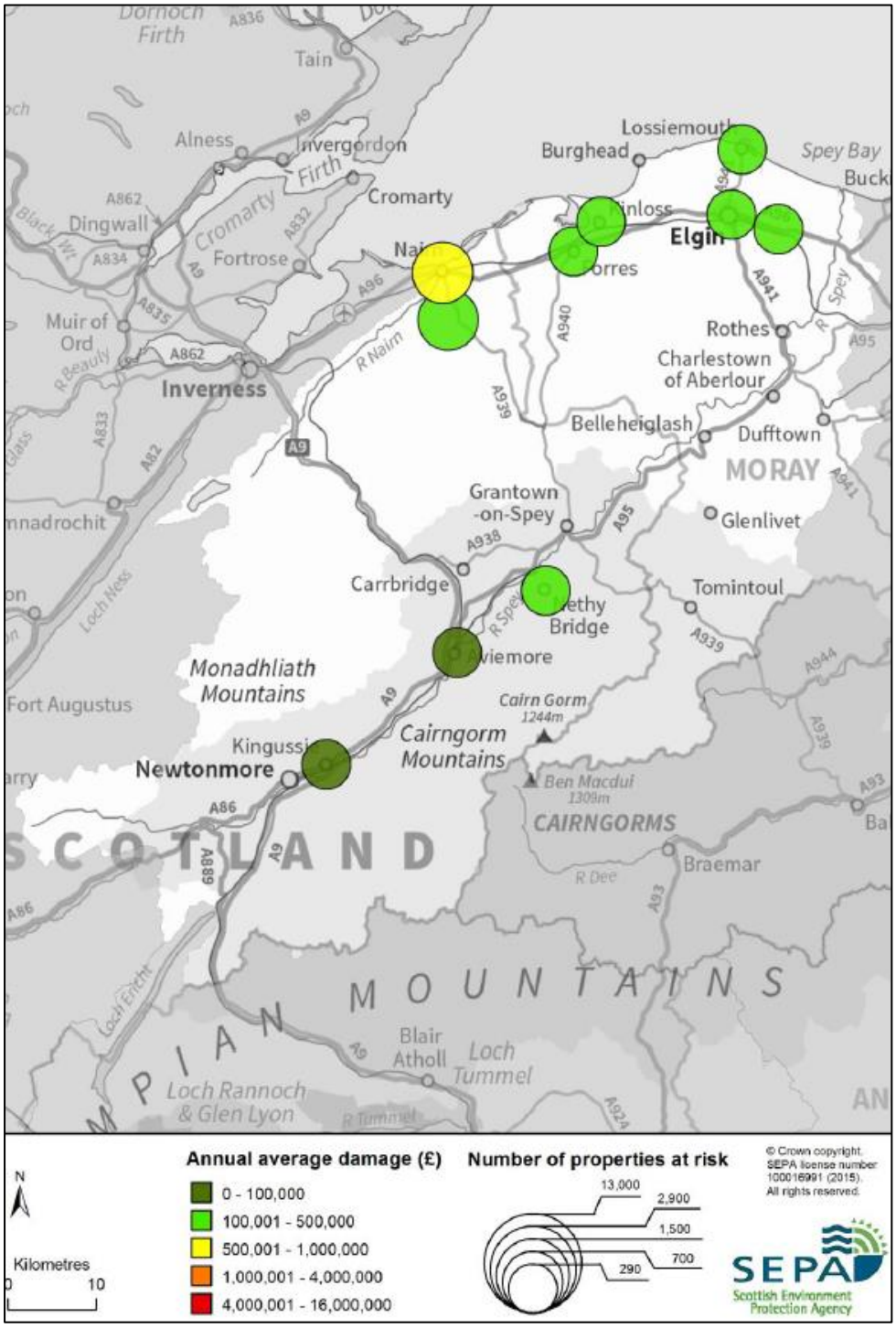

Figure 4: Findhorn, Nairn, and Speyside LPD areas with most properties at risk of flooding and associated damages.

(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Table 1 below shows the number of properties at risk and the Annual Average Damages caused by flooding in the main settlements within the LPD. This includes damages to residential properties, non-residential properties, transport and agriculture.

Economic damages to rail infrastructure are not included because they are not available.

	Residential and non-residential properties at risk of flooding	Annual Average Damages
Rothes	350	£330,000
Nairn	340	£550,000
Forres	250	£390,000
Elgin	200	£490,000
Kinloss	110	£350,000
Lossiemouth	100	£240,000
Aviemore	80	£93,000
Nethybridge	70	£230,000
Cawdor	60	£260,000
Kingussie	60	£92,000

Table 1: Main areas with properties at flood risk and associated damages

Nairn is split between two Local Plan Districts; Findhorn, Nairn and Speyside and Highland and Argyll. The numbers of properties listed in Table 1 as “at risk” in Nairn include the total number located in both Local Plan Districts.

2.4. Summary of actions in Findhorn, Nairn and Speyside LPD

Table 2 below summarises the actions in this Plan for Cycle 1 by PVA. The actions are described in more detail in 2.6 and 2.8 in this Plan.

PVA	Flood Protection Scheme Works	Natural Flood Management Works	New Flood Warning	Flood Protection Study	Natural Flood Management Study	Surface Water Plan/Study	Strategic Mapping and Modelling	Maintain Flood Protection Scheme	Maintain Flood Warning	Flood Forecasting	Property Level Protection Scheme	Community Flood Action Group	Self Help	Awareness Raising	Maintenance	Site Protection Plan	Emergency Response Plans	Planning Policy
05/01 Burghead to Lossiemouth							✓		✓	✓			✓	✓	✓		✓	✓
05/02 Spynie				✓			✓		✓	✓			✓	✓	✓		✓	✓
05/03 Lhanbryde	✓						✓	✓		✓			✓	✓	✓		✓	✓
05/04 Spey Bay	✓						✓		✓	✓		✓	✓	✓	✓		✓	✓
05/05 Elgin	✓					✓	✓	✓	✓	✓			✓	✓	✓		✓	✓
05/06 Forres	✓					✓	✓	✓	✓	✓			✓	✓	✓		✓	✓
05/07 Findhorn	✓					✓	✓	✓	✓	✓			✓	✓	✓		✓	✓
05/08 Nairn East and Auldearn	✓			✓			✓		✓	✓			✓	✓	✓		✓	✓
05/09 Rothes and Aberlour	✓					✓	✓	✓	✓	✓			✓	✓	✓		✓	✓
05/10 Carrbridge	✓								✓	✓			✓	✓	✓		✓	✓
05/11 Aviemore & Boat of Garten	✓			✓			✓		✓	✓			✓	✓	✓		✓	✓
05/12 Kingussie	✓			✓			✓		✓	✓			✓	✓	✓		✓	✓
05/13 Newtonmore	✓					✓	✓		✓	✓		✓	✓	✓	✓		✓	✓
05/14 Dalwhinnie	✓						✓			✓			✓	✓	✓		✓	✓

Table 2 – Summary of Actions (Refer Section 2.6 for PVA locations)

2.5. Findhorn, Nairn and Speyside LPD wide Objectives and Actions

This section summarises the flood risk, objectives, actions and delivery across the entire Findhorn, Nairn and Speyside LPD. It identifies who will be responsible for the delivery and implementation of the actions, a timetable and the funding arrangements.

Target Area	Objectives	ID	Indicators
Applies across the Findhorn, Nairn and Speyside Local Plan District	Avoid overall increase in flood risk.	500001	• 1,800 residential properties • 580 non-residential properties • 3,900 people
Applies across the Findhorn, Nairn and Speyside Local Plan District	Reduce overall flood risk.	500002	• 1,800 residential properties • 580 non-residential properties • 3,900 people

Action ID	**FLOOD FORECASTING (50002009)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	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 flood guidance statements provide an assessment of the risk of flooding for a five day period allowing responders time to put preparations in place to reduce the impact of flooding. The service also provides information which allows SEPA to issue flood alerts or 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. The Flood Alert area within the plan is Findhorn, Nairn and Speyside		
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 the Met Office. SEPA uses the information to predict the likelihood and timing of the river, coastal and surface water flooding.		

Action ID	**SELF HELP (500020011)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Property owners	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. The Moray Council's Emergency Planning officer will, on request, provide assistance to communities who wish to develop a community resilience plan. Information on resilience can be found at http://www.readyscotland.org/. The Highland Council will continue to provide impartial advice to property and business owners to help them protect their property from flooding. The Highland Council does not provide Property Level Protection products (e.g. flood gates). These should be purchased direct from accredited suppliers.		
Funding	Property owners.		
Coordination	Both Councils, SEPA and Scottish Water support communities and coordinate their efforts. They will work closely with the Scottish Flood Forum (a National Charity) to provide home and business owners advice on flood risk, community resilience groups and property level protection.		

Action ID	**AWARENESS RAISING (5000020013)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Responsible Authorities	Indicative Delivery	Ongoing
Description	The Moray Council and The Highland Council will seek opportunities to raise awareness of flood risk and actions that prepare individuals, homes and businesses to reduce overall impact. The Highland Council's Ward Managers and Emergency Planners will continue to support community resilience groups working with SEPA, utility providers, responsible authorities, and the Scottish Flood Forum. It's Flood Risk Management team is available to provide specific advice		

	about the flood risks in each community and help develop response plans appropriate to each location. Both Councils will support efforts to raise awareness of resilience and flooding in the curriculum, by providing resources and examples of best practice to Education Scotland's campaign 'Ready for Emergencies'- http://www.educationscotland.gov.uk/readyforemergencies/flooding/index.asp Flood Risk Management covers a broad range of academic subjects so where Flood Protection Schemes are being developed or constructed, The Highland Council will engage local schools to develop curriculum links with the work of the Council. 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). Where they exist, SEPA will engage with community resilience groups and community safety partnerships. 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. Scottish Water will support SEPA and responsible authorities with their awareness raising activities as required and provide targeted flooding communications for Scottish Water specific activities. Scottish Water will raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies. More general information and flooding guidance is available on their website at: https://www.scottishwater.co.uk/you-and-your-home/your-home/flooding-information.
Funding	Council revenue budgets 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 its economic regulator. All business activities required under this action by Scottish Water are accounted for in capital or operational expenditure.
Coordination	Awareness Raising will be coordinated with the other responsible authorities through the LPD Partnership

Action ID	**MAINTENANCE (5000020017)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Responsible Authorities and land and asset managers	Indicative Delivery	Ongoing
Description	Scottish Water undertakes risk-based inspections, maintenance and repair on the public sewer network. Councils have a duty to assess water bodies and carry out clearance and repair works where such works would substantially reduce flood risk. Local authorities produce schedules of clearance and repair works and make these available for public inspection. The Moray Council's schedule of clearance and repair is published online at www.moray.gov.uk/flooding The Highland Council's schedule of clearance and repair works is published online at: http://www.highland.gov.uk/info/1210/environment/81/flooding/5 Both Councils maintain their assets such as flood and coastal defences, pumps, sluices, culverts and river level monitors.		
Funding	The assessment of water bodies, clearance and repair works and maintenance of assets are funded through each Council's revenue budget. Scottish Water is funded by customer charges as set by its economic regulator. All business activities required under this action by Scottish Water are accounted for in capital or operational expenditure.		
Coordination	Scottish Water will keep responsible authorities informed of large scale capital maintenance work to identify opportunities for coordination. Local authorities will keep partners advised of any major work to identify opportunities for coordination.		

Action ID	**EMERGENCY PLANS/RESPONSE (5000020014)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Category 1 and 2 responders	Indicative Delivery	Ongoing
Description	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 Moray Council is a member of the Grampian Local Resilience Partnership, which covers Moray, Aberdeenshire and Aberdeen City. This partnership ensures good multi-agency working throughout the region to produce plans to deal with any emergency, including flooding, which may affect this area. The Highland Council is a member of the Highlands and Islands Local Resilience Partnership (HILRP). This partnership ensures good multi-agency working in the region. Through the HILRP, The Highland Council also influences national emergency planning arrangements. Follow @handiprepared on Twitter for updates from the emergency services. The Highland Council has worked with HILRP to produce "Preparing for Emergencies in the Highland and Islands", a guide which provides basic information about what individuals can do to protect themselves and their family in the event of a major emergency. Councils provide their staff with the plans, procedures and information they require to enable them to reduce the impacts of any major emergency and provide the services listed below. • Advice and guidance on the preparation of community resilience plans; • Caring for people who may be affected by emergencies in the immediate, medium and longer term, which may include support such as reception centres and transportation for people evacuated from their homes; • Plant and equipment during emergencies; • A control centre to coordinate the response during emergencies; • Advice on potentially dangerous structures or buildings; • Advice on environmental health and public health; and • Advice and guidance during an event and during the post event recovery period. During an emergency information is made available to the public as quickly as possible, in the local media, Council websites and social		

	media. Both Councils maintain a number of river level monitors and/or rain gauges in key locations. These are used to provide early warning of flood risk. The Highland Council monitors can be viewed by the public by visiting the council's web site. This helps individuals be prepared for the risk of flooding. Both councils review locations and may provide rain gauges and river and coastal level monitors to assist with flood warning.
Funding	Emergency planning and response is funded through revenue budgets.
Coordination	Emergency Planning Category 1 and 2 responders coordinate the emergency response during flood events. Grampian Local Resilience Partnership and Highland and Islands Local Resilience Partnership ensure good multi-agency working with other bodies such as Police Scotland, Scottish Fire and Rescue Service, Maritime Coastguard Agency, NHS, SEPA, Met Office the British Red Cross.

Action ID	**PLANNING POLICIES (500001001)**		
Objective ID	**Avoid an overall increase in flood risk (500001)** **Reduce overall flood risk (500002)**		
Delivery Lead	Planning Authorities	Indicative Delivery	Ongoing
Description	National planning policies 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, development in areas with medium to high likelihood of flooding should be avoided. The Moray Council, The Highland Council and Cairngorms National Park Authority are the Planning Authorities within this LPD. They consider flood risk and drainage impact to be material considerations of any new application. Within The Highland Council area, new developments must satisfy local adopted supplementary guidance on Flood Risk and Drainage Impact Assessment (http://www.highland.gov.uk/downloads.file/2954/flood risk and drainage impact assessment supplementary guidance). SEPA has a statutory role in relation to the provision of flood risk advice to planning authorities. This role is expressed in s72 of the Act. SEPA has a duty to cooperate 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 Act. Further information about how SEPA engage in the planning system, including guidance on flood risk and planning is available on SEPA website http://www.sepa.org.uk/environment/land/planning/ 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.
Funding	Local authority revenue budget. SEPA's land use planning activities are funded by Scottish Government through SEPA's grant in aid settlement
Coordination	Planning authorities coordinate the responses of statutory authorities and other relevant organisations when considering planning applications. Local Development Plans are revised every five years. All statutory and other relevant authorities are consulted during this revision period. SEPA's land use planning activities will be coordinated with the activities of other responsible authorities as required.

2.6. Flood risk, objectives, actions and prioritisation for Findhorn, Nairn and Speyside PVAs

The Findhorn, Nairn and Speyside LPD has fourteen PVAs, which have specific actions to address flood risk in addition to the actions in 2.6 which apply to the LPD overall. The PVAs are:-

- Burghead to Lossiemouth (05/01)
- Spynie (05/02)
- Lhanbryde (05/03)
- Spey Bay (05/04)
- Elgin (05/05)
- Forres (05/06)
- River Findhorn (05/07)
- Nairn East and Auldearn (05/08)
- Rothes and Aberlour (05/09)
- Carrbridge (05/10)
- Aviemore and Boat of Garten (05/11)
- Kingussie (05/12)
- Newtonmore (05/13)
- Dalwhinnie (05/14)

Section 2.8 provides information on the flood risk in each of the PVAs and details of the objectives and actions set to address this risk. More detailed information regarding flood risk, flood history, flood damages, and land use is provided in the Strategy, which can be found at http://apps.sepa.org.uk/FRMStrategies/.

2.7. Flood risk, objectives, and actions for Findhorn Nairn Speyside Potentially Vulnerable Areas

Burghead to Lossiemouth (Potentially Vulnerable Area 05/01)

Background

This PVA is located on the Moray Firth (shown below). It is approximately 14km^2.

The area is characterised by a long coastline and by small watercourses draining northwards into the Moray Firth.

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It includes Burghead, Hopeman and the north west part of Lossiemouth. The A941, B9040, B9135 and B9013 all pass through the area.

There are approximately 30 residential and 40 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £120,000 with the majority caused by surface water flooding.

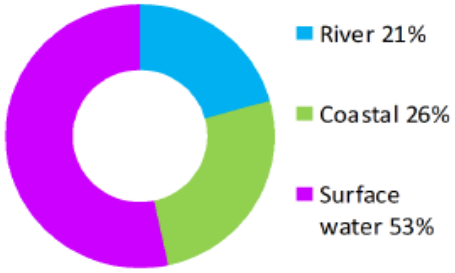


Figure 6: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 30 Residential Properties • £120,000 Annual Average Damages.
Reduce overall flood risk	500002	• 30 Residential Properties • £120,000 Annual Average Damages.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Lossiemouth

Action ID	**STRATEGIC MAPPING AND MODELLING** (5000010016)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	2017
Description	SEPA will be seeking to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of the coastal flood risk. The extent and timing of the completed improvements will be dependent on detailed scoping and data availability.		
Funding	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA's strategic mapping activities will be coordinated with the activities of other responsible authorities as required.		

Action ID	**STRATEGIC MAPPING AND MODELLING** 5000020019		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2019
Description	Scottish Water will undertake further investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

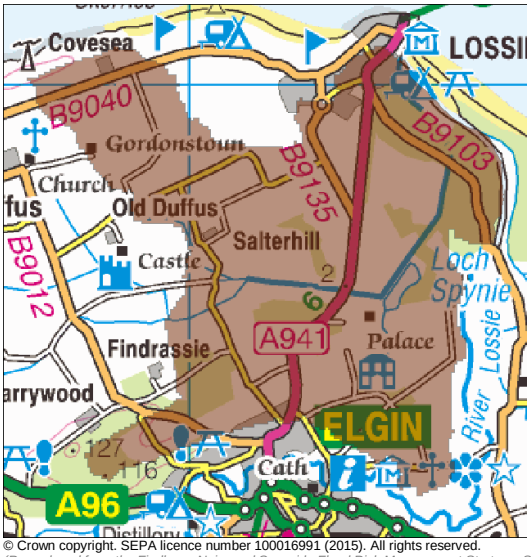
Action ID	MAINTAIN FLOOD WARNING (5000020030)		
Objective ID	Reduce overall flood risk (500002)		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Findhorn to Lossiemouth' flood warning area which is part of the Moray Firth coastal flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Co-ordination	SEPA will work with the local authority to ensure that any new information is considered in the existing flood warning system.		

Spynie (Potentially Vulnerable Area 05/02)

Background

This PVA covers the mostly rural area between Lossiemouth and Elgin (Figure 1). It has an area of approximately 37km^2.

The main watercourse in the Potentially Vulnerable Area is the Spynie Canal which flows through the PVA before joining the River Lossie in Lossiemouth.



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Several roads pass through the area, including the A941, B9040, B9135 and the B9103.

There are approximately 80 residential and 10 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £260,000 with the majority caused by coastal flooding.

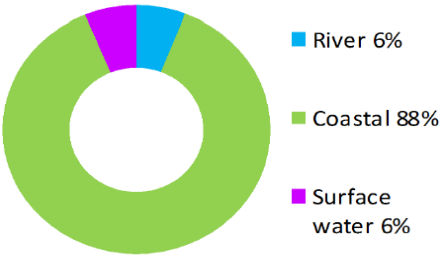


Figure 7: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 80 Residential Properties • £260,000 Annual Average Damages.
Reduce overall flood risk	500002	• 80 Residential Properties • £260,000 Annual Average Damages.
Reduce flood risk to the Seatown area of Lossiemouth from river and coastal flooding	500201	• 130 people • £270,000 Annual Average Damages.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**FLOOD PROTECTION STUDY (5002010005)**		
Objective ID	Reduce flood risk to the Seatown area of Lossiemouth from river and coastal flooding**(500201)**		
Delivery Lead	The Moray Council	Indicative Delivery	2016 - 2019
Description	A flood protection study is required to consider a scheme for Seatown in Lossiemouth. The scheme will include investigation of direct defences to reduce the risk of flooding from the river and sea. Other actions may be considered to develop the most sustainable range of options. Flood mitigation works based on the preferred option are unlikely to extend beyond the estuary and should not impact on the Special Area of Conservation (SAC) interests. Construction work is unlikely to be undertaken during this first cycle. However, when works are undertaken mitigation will address potential risks such as water / marine pollution, and noise through the marine environment. The Moray Council will consider these potential issues as part of this study to avoid any significant adverse effect on the integrity of the Moray Firth SAC.		
Funding	The Moray Council's Capital Plan		
Coordination	The outcome of this study will be shared with SEPA to inform the Moray Firth Flood Warning Scheme and the coastal flood hazard maps.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (5000020019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2019
Description	Scottish Water will undertake further investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Seatown, Lossiemouth

Action ID	**STRATEGIC MAPPING AND MODELLING** (5000010016)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	2017
Description	SEPA will be seeking to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of the coastal flood risk. The extent and timing of the completed improvements will be dependent on detailed scoping and data availability.		
Funding	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Co-ordination	A flood protection study is proposed for the Seatown area of Lossiemouth. 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.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Findhorn to Lossiemouth' flood warning area which is part of the Moray Firth coastal flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	A flood protection study is proposed for the Seatown area of Lossiemouth. SEPA will work with The Moray Council to ensure that any new information about flood risk resulting from this study is considered in the existing flood warning system.		

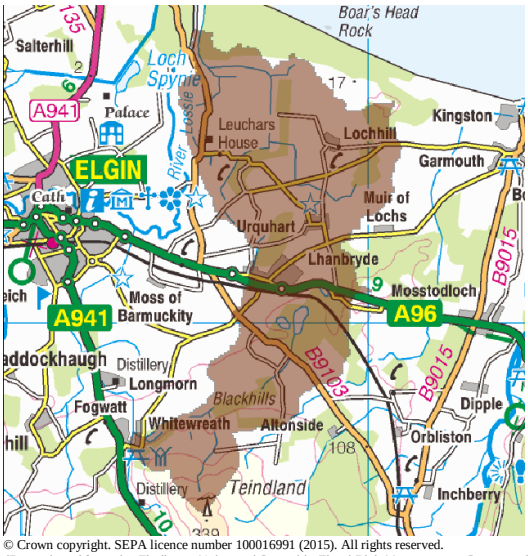
Lhanbryde (Potentially Vulnerable Area 05/03)

Background

This PVA covers the rural areas to the east of Elgin and includes Lhanbryde (shown below).

It is approximately 40km^2.

The main watercourse in this PVA is the Longhill Burn which becomes the Innes Canal, a tributary to the River Lossie.



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Lhanbryde benefits from a flood prevention scheme that was completed in 2005.

An estimated 30 residential and 5 non-residential properties benefit from this scheme.

There are approximately 60 residential and 10 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £160,000 with the majority caused by river flooding.

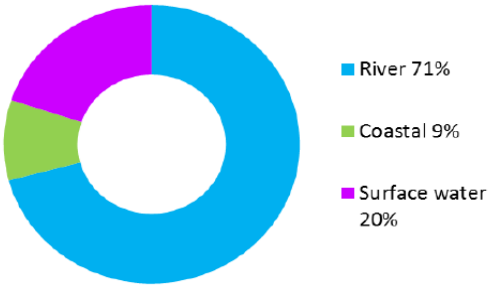

Figure 8: Annual Average Damages by flood source

(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Lhanbryde Control Structure during flood event

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 60 Residential Properties • £160,000 Annual Average Damages.
Reduce overall flood risk	500002	• 60 Residential Properties • £160,000 Annual Average Damages.
Maintain the Lhanbryde Flood Protection Scheme and accept existing levels of flood risk from the Longhill Burn	500301	• An estimated 70 people will continue to be protected (to a 100 year standard of protection plus an allowance for climate change.) • 5 non-residential properties will continue to be protected (to a 100 year standard of protection plus an allowance for climate change.).
Reduce the physical disruption related to areas of the A96 at risk of flooding	5300	• 3 locations of the A96 with a total length of 20m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies

Action ID	**MAINTAIN FLOOD SCHEME (5003010017)**		
Objective ID	**Maintain the Lhanbryde Flood Protection Scheme and accept existing levels of flood risk from the Longhill Burn (500301)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Lhanbryde flood prevention scheme. The scheme provides a 1 in 100 year standard of protection to 30 residential and five non-residential properties, including an allowance for climate change. The Lhanbryde scheme consists of an upstream storage reservoir that controls the flow entering the Lhanbryde Burn at Scotsburn. There are also flood retaining walls constructed between the burn and adjacent properties through the village of Lhanbryde. Maintenance is undertaken in accordance with the requirements under the Reservoirs Scotland Act and the scheme's Operation and Maintenance Manual.		
Funding	The Moray Council's Revenue Budget		
Coordination	Any changes to this scheme will be communicated through the LPD Partnership.		

Lhanbryde Flood Storage Reservoir in operation

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016-2019
Description	Scottish Water will undertake further investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Action ID	**FLOOD PROTECTION WORKS** (5300021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5300)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

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Spey Bay (Potentially Vulnerable Area 05/04)

Background

This PVA is located south of Spey Bay on the Moray Firth (shown below).

It is approximately 42km^2.

The River Spey flows along the eastern edge of the area and the A96 passes through it.

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Garmouth, Mosstodloch and part of Kingston are located in the PVA.

There are approximately 40 residential and fewer than 10 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £120,000 with the majority caused by river flooding.

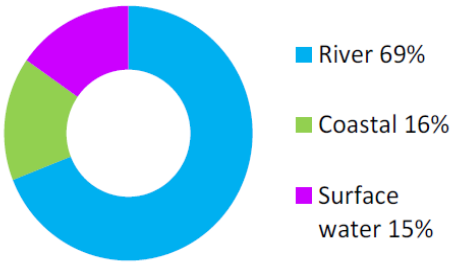


Figure 9: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 40 Residential Properties • £120,000 Annual Average Damages.
Reduce overall flood risk	500002	• 40 Residential Properties • £120,000 Annual Average Damages.
Reduce the physical risk or disruption related to areas of the A96 at risk of flooding	5301	• 4 locations of the A96 with a total length of 60m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002016)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	2017 - 2018
Description	SEPA will be seeking to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of the coastal flood risk. The extent and timing of the completed improvements will be dependent on detailed scoping and data availability. SEPA will be seeking to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk. Approximately 700km^2 of improved data is currently available within this LPD.		
Funding	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA's strategic mapping activities will be coordinated with the activities of other responsible authorities as required.		

Action ID	**COMMUNITY FLOOD ACTION GROUPS** (5000020012)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Community	Indicative Delivery	Ongoing
Description	There are community groups in the Garmouth and Kingston area who have engaged with authorities with respect to flooding issues.		
Funding	These groups are voluntary organisations.		
Co-ordination	The Moray Council liaises with local groups and coordinates with other parties as appropriate.		

Kingston

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2020
Description	Scottish Water will undertake further investigation and modelling in the Fochabers and Garmouth sewer catchment areas to improve knowledge and understanding of flood risk in these areas as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Boat o' Brig to Spey Viaduct' flood warning area which forms part of the Spey river flood warning scheme. Continue to maintain the 'Spey Viaduct to Spey Bay' flood warning area which takes account of combined coastal and river flooding and forms part of both the Spey river flood warning scheme and the Moray Firth coastal flood warning scheme. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with the local authority to ensure that any new information is considered in the existing flood warning system.		

Action ID	**FLOOD PROTECTION WORKS** (5301021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5301)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

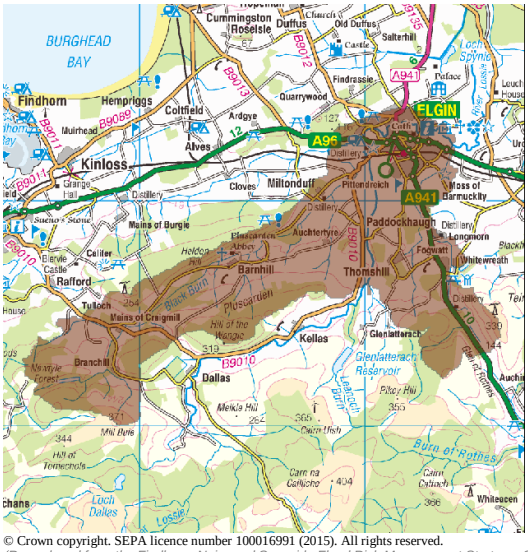
Elgin (Potentially Vulnerable Area 05/05)

Background

This PVA covers Elgin and the mostly rural areas to the south (shown below).

It is approximately 110km^2.

The main watercourse in this area is the River Lossie.



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The Elgin Flood Prevention Scheme was completed in 2015. An estimated 600 residential and 270 non-residential properties benefit from the protection afforded by this scheme.

There are approximately 140 residential and 110 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £750,000 with the majority caused by river flooding.

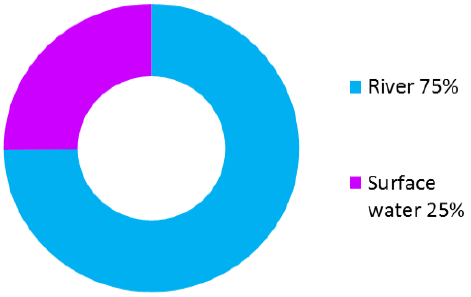


Figure 10: Annual Average Damages by flood source

(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 140 Residential Properties • £750,000 Annual Average Damages.
Reduce overall flood risk	500002	• 140 Residential Properties • £750,000 Annual Average Damages.

Objective(s)	ID	Indicators
Maintain the Elgin Flood Protection Scheme and accept existing levels of flood risk from the River Lossie, Tyock Burn and Linkwood Burn.	500501	• An estimated 1,300 people will continue to be protected (to a 200 year standard of protection) • An estimated 270 non-residential properties will continue to be protected (to a 200 year standard of protection.
Reduce flood risk from surface water in Elgin	500504	• 90 Residential Properties • £190,000 Annual Average Damages.
Reduce the physical risk or disruption related to areas of the A96 at risk of flooding	5302	• 19 locations of the A96 with a total length of 90m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**MAINTAIN FLOOD SCHEME (5005010017)**		
Objective ID	**Maintain the Elgin Flood Prevention Scheme and accept existing levels of flood risk from the River Lossie, Tyock Burn, and Linkwood Burn (500501)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Elgin Flood Prevention Scheme. It provides a 1 in 200 year standard of protection for 600 residential and 270 non-residential properties and was completed in 2016. It comprises walls and embankments set back from the river through Elgin. Maintenance of the scheme is in accordance with the Operation and Maintenance Manual.		
Funding	The Moray Council's Revenue Budget		
Coordination	Any changes to this scheme will be communicated through the LPD Partnership.		

Elgin Flood Alleviation Scheme – Landshut Bridge

Action ID	**SURFACE WATER PLAN/STUDY (5005040018)**		
Objective ID	**Reduce risk from surface water flooding in Elgin (500504)**		
Delivery Lead	The Moray Council	Indicative Delivery	2016 – 2019
Description	The Elgin area will be covered by a Surface Water Management Plan that sets objectives for the management of surface water flood risk and identifies the most sustainable actions to achieve the objectives.		
Funding	The Moray Council's Revenue Budget		
Coordination	The Moray Council will work with Scottish Water and other authorities to develop and deliver this plan.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (500001016)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	2018
Description	SEPA will be seeking to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk. Approximately 700km² of improved data is currently available within this Local Plan District.		
Funding	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA's strategic mapping activities will be coordinated with the activities of other responsible authorities as required.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Borough Briggs', 'Cooper Park', 'Kingsmill', 'Tyock, Chanonry and Elgin East End' and 'Old Mills' flood warning areas in Elgin which warn of flooding from the River Lossie as part of the Lossie river flood warning scheme. Continue to maintain 'Glen Moray Distillery' flood warning area which warns of flooding from the River Lossie and the 'Miltonduff' and 'Miltonduff Distillery' flood warning areas on the Black Burn as part of the Lossie river flood warning scheme. A review and rationalisation of these flood warning areas will be undertaken to take account of the Elgin Flood Prevention Scheme. When flood events occur in the Elgin area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2019
Description	Scottish Water will undertake further investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Linkwood Road during a flood event

Action ID	**FLOOD PROTECTION WORKS** (5302021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5302)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

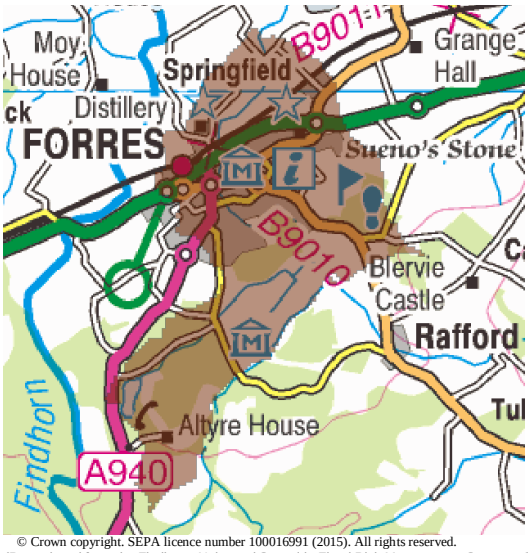
Forres (Potentially Vulnerable Area 05/06)

Background

This PVA covers most of Forres and the surrounding rural areas to the south and east (shown below).

It is approximately 13km^2.

The main watercourse in this area is the Burn of Mosset.



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Forres benefits from two flood prevention schemes, one on the Burn of Mosset and one on the River Findhorn. An estimated 1,700 residential and 120 non-residential properties benefit from these two schemes.

Approximately 200 residential and 20 non-residential properties remain at risk of flooding in the PVA

The Annual Average Damages are approximately £380,000 with the majority caused by river flooding.

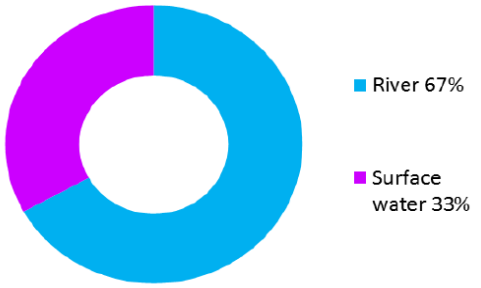


Figure 11: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 200 Residential Properties • £380,000 Annual Average Damages.
Reduce overall flood risk	500002	• 200 Residential Properties • £380,000 Annual Average Damages.

Objective(s)	ID	Indicators
Maintain the Burn of Mosset Flood Protection Scheme and accept existing levels of flood risk from the Burn of Mosset	500601	• 792 residential properties will continue to be protected (to a 100 year standard of protection plus an allowance for climate change) • 41 non-residential properties will continue to be protected (to a 100 year standard of protection plus an allowance for climate change).
Reduce flood risk from surface water in Forres	500605	• 190 Residential Properties £130,000 Annual Average Damages.
Reduce the physical risk or disruption related to areas of the A96 at risk of flooding	5303	• 7 locations of the A96 with a total length of 760m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self help, awareness raising, maintenance, emergency plan/response and planning policies. Properties in PVA 05/06 also benefit from the protection provided by the River Findhorn and Pilmuir Flood Prevention Scheme, details of which are provided in PVA 05/07.

Action ID	**MAINTAIN FLOOD SCHEME (5006010017)**		
Objective ID	**Maintain the Forres (Burn of Mosset) Flood Prevention Scheme and accept existing levels of flood risk from the Burn of Mosset (500601)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Burn of Mosset Flood Prevention Scheme in Forres. It provides a 1 in 100 year standard of protection, plus an allowance for climate change, to 792 residential and 41 non-residential properties. The Scheme comprises an upstream storage reservoir that controls the flow entering the burn from Chapelton. There are also flood retaining walls and embankments along the burn as it flows through Forres, and a relief channel at Rafford which is southeast of Forres. The Scheme is maintained in accordance with the requirements set out in the Reservoirs (Scotland) Act and the Scheme's Operation and Maintenance manual.		
Funding	The Moray Council's Revenue Budget.		
Coordination	Any changes to this Scheme will be communicated through the LPD Partnership.		

Chapelton Flood Storage Reservoir, Forres

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Object ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2017 - 2020
Description	Scottish Water will undertake further investigation and modelling in the Forres sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies 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 to SEPA for use in flood hazard and risk maps.		

Action ID	**SURFACE WATER PLAN/STUDY (5006050018)**		
Objective ID	**Reduce risk from surface water flooding in Forres (500605)**		
Delivery Lead	The Moray Council	Indicative Delivery	2016 – 2019
Description	The Forres area will be covered by a Surface Water Management Plan that sets objectives for the management of surface water flood risk and identifies the most sustainable actions to achieve the objectives. This plan will be developed by The Moray Council in partnership with Scottish Water and SEPA. An Integrated Catchment Study will be undertaken in Forres during this cycle. Scottish Water will lead the study in partnership with The Moray Council and SEPA. The study will improve knowledge and understanding of the interactions between the sewer network, watercourses and the sea. This will improve the understanding of contributions these drainage networks play in local surface water flood risk and inform the Surface Water Management Plan for Forres.		
Funding	The Moray Council will fund this study from its revenue budget. Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
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	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Forres' and the 'Waterford, Seafield and Invererne' flood warning areas which are part of the Findhorn river flood warning scheme. This will include the review and rationalisation of flood warning areas in the Findhorn taking account of the Forres flood protection schemes. When flood events occur in the Forres area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

Natural Flood Management, Burn of Mosset, Forres

Action ID	**FLOOD PROTECTION WORKS** (5303021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5303)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

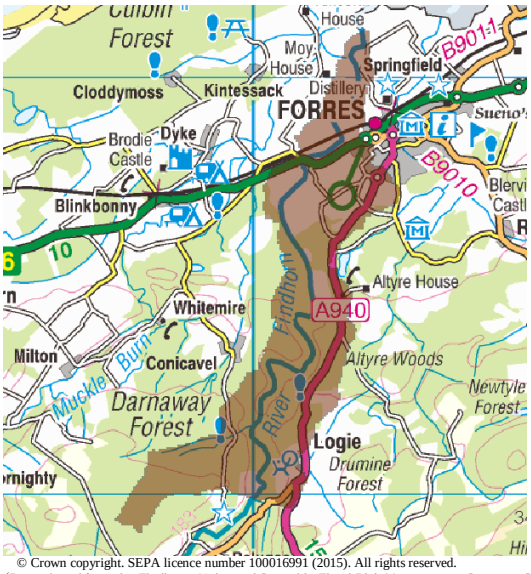
Findhorn (Potentially Vulnerable Area 05/07)

Background

This PVA covers the west of Forres and the mainly rural areas to the south (shown below).

It is approximately 23km^2.

The main watercourse in this area is the River Findhorn.



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Forres benefits from two flood protection schemes, one on the Burn of Mosset and one on the River Findhorn. An estimated 1,700 residential and 120 non-residential properties benefit from these two schemes.

Approximately 100 residential and fewer than 10 non-residential properties remain at risk of flooding in the PVA

The Annual Average Damages are approximately £200,000 with the majority caused by river flooding.

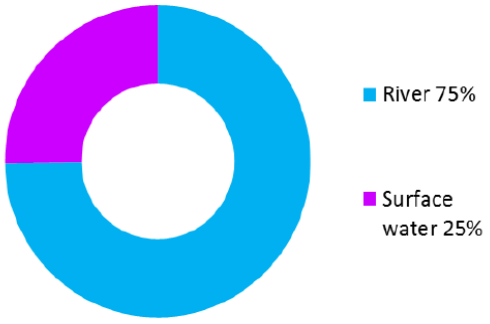


Figure 12: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 100 Residential Properties • £200,000 Annual Average Damages.
Reduce overall flood risk	500002	• 100 Residential Properties • £200,000 Annual Average Damages.

Objective(s)	ID	Indicators
Maintain the Forres (River Findhorn & Pilmuir) Flood Prevention Scheme and accept existing levels of flood risk from the River Findhorn	500702	• An estimated 2,000 people will continue to be protected (to a 200 year standard of protection plus an allowance for climate change.) • An estimated 80 non-residential properties will continue to be protected (to a 200 year standard of protection plus an allowance for climate change.)
Reduce flood risk from surface water in Forres	500705	• 190 Residential Properties £130,000 Annual Average Damages.
Reduce the physical risk or disruption related to areas of the A96 at risk of flooding	5304	• 4 locations of the A96 with a total length of 110m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies. Properties in PVA 05/07 also benefit from the protection provided by the Burn of Mosset Flood Prevention Scheme, details of which are provided in PVA 05/06

Action ID	**MAINTAIN FLOOD SCHEME (5007020017)**		
Objective ID	**Maintain the Forres (River Findhorn & Pilmuir) Flood Prevention Scheme and accept existing levels of flood risk from the River Findhorn (500702)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Forres (River Findhorn & Pilmuir) Flood Prevention Scheme in Forres. It provides a 1 in 200 year standard of protection, plus an allowance for climate change, to 908 residential and 80 non-residential properties. The Scheme comprises flood retaining embankments set back from the river, sediment management, a network of surface water drainage channels and a pumping station. Maintenance is undertaken in accordance with the Operation and Maintenance Manual.		
Funding	The Moray Council's Revenue Budget.		
Coordination	Any changes to this scheme will be communicated through the LPD Partnership.		

Pilmuir Drainage & Pumping Station, Forres

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Broom of Moy', 'Forres', 'Red Craig' and 'Waterford, Seafield and Invererne' flood warning areas which are part of the Findhorn river flood warning scheme. This will include the review and rationalisation of flood warning areas in the Findhorn taking account of the Forres flood protection schemes. When flood events occur in an area with an existing flood warning service, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure that our flood warning service is timely and accurate.When flood events occur in the Forres area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

Broom of Moy Footbridge, Forres

Action ID	**FLOOD PROTECTION WORKS** (5304021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5304)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Object ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2017 - 2020
Description	Scottish Water will undertake further investigation and modelling in the Forres sewer catchment, which includes Findhorn, to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
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.		

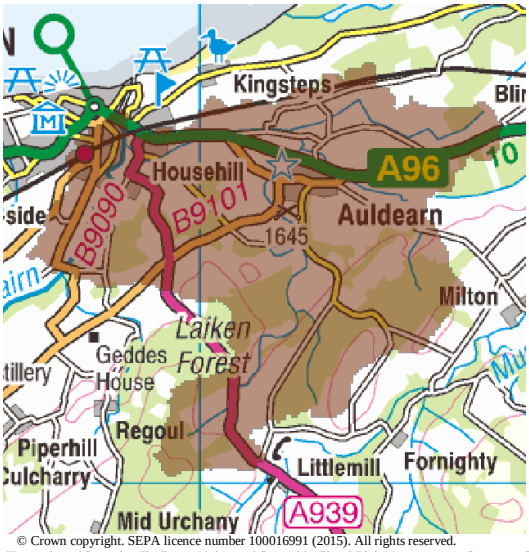
Action ID	**SURFACE WATER PLAN/STUDY** (5007050018)		
Object ID	**Reduce overall flood risk (500705)**		
Delivery Lead	The Moray Council	Indicative Delivery	2015 - 2020
Description	The Forres area will be covered by a Surface Water Management Plan that sets objectives for the management of surface water flood risk and identifies the most sustainable actions to achieve the objectives. This plan will be developed by The Moray Council in partnership with Scottish Water and SEPA. An Integrated Catchment Study will be undertaken in Forres (including Findhorn) during this cycle. Scottish Water will lead the study in partnership with The Moray Council and SEPA. The study will improve knowledge and understanding of the interactions between the sewer network, watercourses and the sea. This will improve the understanding of contributions these drainage networks play in local surface water flood risk and inform the Surface Water Management Plan for Forres.		
Funding	The Moray Council will fund this study from its revenue budget. Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
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.		

Nairn East and Auldearn (Potentially Vulnerable Area 05/08)

Background

This PVA covers the south eastern section of Nairn as well as Auldearn and surrounding rural areas (shown below).

It is approximately 33km^2.



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The A96, A939 and B9090 and B9101 all pass through the area. The main watercourse is the River Nairn.

There are approximately 80 residential and 30 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £230,000 with the majority caused by river flooding.

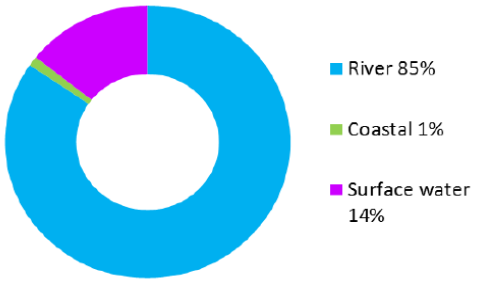


Figure 13: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 80 Residential Properties • £230,000 Annual Average Damages.
Reduce overall flood risk	500002	• 80 Residential Properties • £230,000 Annual Average Damages.
Reduce flood risk in Nairn from the River Nairn and Auldearn Burn.	500801	• 130 People • £110,000 Annual Average Damages.
Reduce flood risk in Newmill from Auldearn Burn	500802	• 10 People • £16,000 Annual Average Damages.

Objective(s)	ID	Indicators
Reduce the physical disruption related to areas of the A96 at risk of flooding	5305	• 7 locations of the A96 with a total length of 120m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

River Nairn in Nairn

Action ID	**FLOOD PROTECTION STUDY (5008010005)**		
Objective ID	**Reduce flood risk in Nairn from the River Nairn and Auldearn Burn (500801)**		
Delivery Lead	The Highland Council	Indicative Delivery	2016 - 2019
Description	A flood protection study is required to further investigate the feasibility of developing a Flood Protection Scheme (or Works) for the Balmakeith area of Nairn (from the Auldearn Burn) and Nairn from the River Nairn. The study will prioritise the assessment of options (such as increasing culvert sizes on the Auldearn Burn, or the construction of direct defences) in the Balmakeith area of Nairn. The Study will also include an investigation into the potential benefits of Natural Flood Management techniques such as floodplain restoration and sediment management actions. Other actions (including property level protection) will be considered in order to develop the most sustainable range of options.		
Funding	The Highland Council's Capital Programme includes funding to develop the study within the cycle (approved June 2015).		
Coordination	The Highland Council will coordinate the development of the study, in particular any Natural Flood Management aspects that include the alteration (including enhancement) or restoration of natural features and characteristics with any actions of other responsible authorities and local community groups. This study will be joined up with the flood protection study for Central Nairn PVA ref 01/18 (part of the Highland & Argyll LPD) to alleviate flood risk from the river and sea. This will ensure a coordinated response to the flood risk in Nairn is developed.		

Action ID	**FLOOD PROTECTION STUDY (5008020005)**		
Objective ID	**Reduce flood risk in Newmill from the Auldearn Burn (5008002)**		
Delivery Lead	The Highland Council	Indicative Delivery	2022 - 2028
Description	A Flood Protection Study is required to investigate further the feasibility of developing a Flood Protection Scheme (or Works) to alleviate the risk of flooding from the Auldearn Burn in Newmill. The study will focus on the potential benefits of improving the conveyance through structures and providing direct defences. Other actions (including property level protection) will be considered in order to develop the most sustainable range of options.		
Funding	Funding to develop this Study will be secured from The Highland Council's Capital Programme in 2022.		
Coordination	The Highland Council will coordinate the development of the study with actions of other responsible authorities and engage local community groups.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Nairn', 'Nairn (River Park)' and 'Nairn Side (Cawdor)' flood warning areas which are part of the Nairn river flood warning scheme. When flood events occur in the Nairn area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	A flood protection study is proposed for Nairn. SEPA will work with The Highland Council 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	**STRATEGIC MAPPING AND MODELLING** (5000020019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2018 - 2020
Description	Scottish Water will undertake further investigation and modelling in the Nairn sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans.		

Action ID	**FLOOD PROTECTION WORKS** (5305021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A96 at risk of flooding (5305)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2028 - 2033
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A96.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

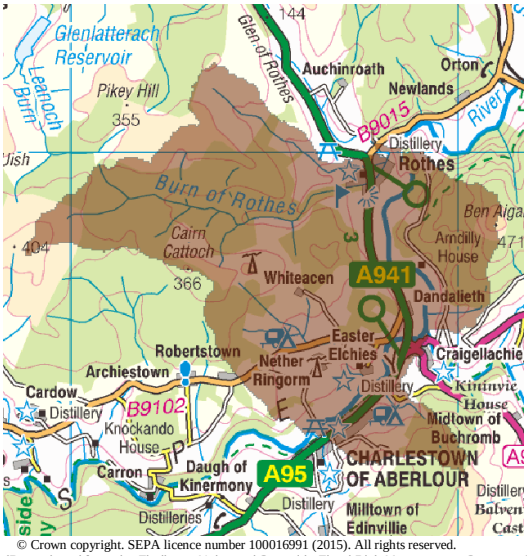
Rothes and Aberlour (Potentially Vulnerable Area 05/09)

Background

This PVA covers Rothes and Charlestown of Aberlour along with the surrounding rural areas (shown below).

It is approximately 61km^2.

The main river in the area is the River Spey. There are also several smaller watercourses including the Burn of Rothes, Back Burn, and Black Burn.



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Rothes Flood Prevention Scheme was completed in 2011 and benefits an estimated 365 residential and 35 non-residential properties. It provides protection from flooding on the Back Burn, Burn of Rothes and the Black Burn up to a one in 100 year flood plus an allowance for climate change. There is also a Scheme that protects parts of Aberlour.

There are approximately 350 residential and 100 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £390,000, split between river and surface water flooding.

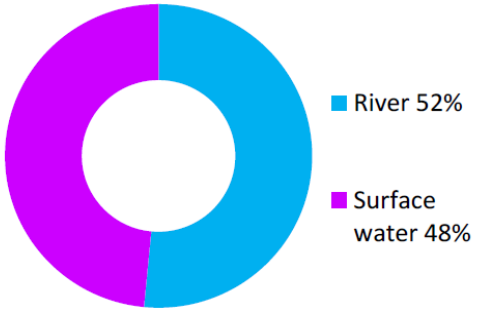


Figure 14: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 350 Residential Properties • £390,000 Annual Average Damages.
Reduce overall flood risk	500002	• 350 Residential Properties • £390,000 Annual Average Damages.

Objective(s)	ID	Indicators
Maintain the Rothes Flood Protection Scheme and accept existing levels of flood risk from the Burn of Rothes, Back Burn and Black Burn.	500901	• An estimated 800 people will continue to be protected (to a 100 year standard of protection plus and allowance for climate change.) • An estimated 35 non-residential properties will continue to be protected (to a 100 year standard of protection plus an allowance for climate change).
Reduce flood risk from surface water in Rothes and Aberlour	500903	• 60 Residential Properties • £190,000 Annual Average Damages.
Reduce risk of flooding to one electricity sub-station	5306	• 1 electricity sub-station

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**MAINTAIN FLOOD SCHEME (5000020017)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Aberlour Flood Prevention Scheme (1991). This is a surface water flood prevention scheme that consists of a network of ditches and culverts. It was designed to provide a 1 in 100 year level of protection. This Scheme is inspected twice a year and maintained as required.		
Funding	The Moray Council's Revenue Budget		
Coordination	Any changes to this scheme will be communicated through the LPD Partnership.		

Action ID	**MAINTAIN FLOOD SCHEME (5009010017)**		
Objective ID	**Maintain the Rothes Flood Prevention Scheme and accept existing levels of flood risk from the Burn of Rothes, Back Burn and Black Burn (500901)**		
Delivery Lead	The Moray Council	Indicative Delivery	Ongoing
Description	Continue to maintain the Rothes Flood Prevention Scheme. It provides a 1 in 100 year standard of protection, plus an allowance for climate change, to 365 residential and 35 non-residential properties. This Scheme mainly comprises flood retaining walls and embankments along the Burn of Rothes, the Back Burn and the Black Burn through the village of Rothes. There is also a cut off ditch that intercepts overland flow from the northwest of the village, which is conveyed to a drainage ditch via a cascade. Maintenance of this Scheme is undertaken in accordance with the Operation and Maintenance Manual.		
Funding	The Moray Council's Revenue Budget		
Coordination	Any changes to this scheme will be communicated through the LPD Partnership.		

Action ID	**SURFACE WATER PLAN/STUDY (5009030018)**		
Objective ID	**Reduce risk from surface water flooding in Rothes and Aberlour (500903)**		
Delivery Lead	The Moray Council	Indicative Delivery	2016 – 2019
Description	The area of Rothes and Aberlour will be covered by a Surface Water Management Plan that sets objectives for the management of surface water flood risk and identifies the most sustainable actions to achieve the objectives.		
Funding	The Moray Council's Revenue Budget		
Coordination	The Moray Council will work with Scottish Water and other authorities to develop and deliver this plan.		

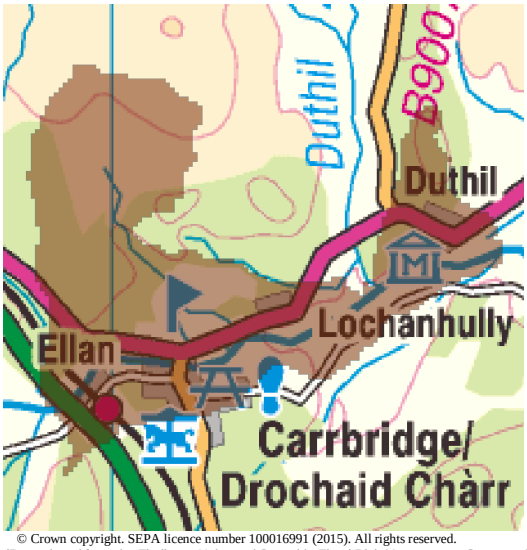
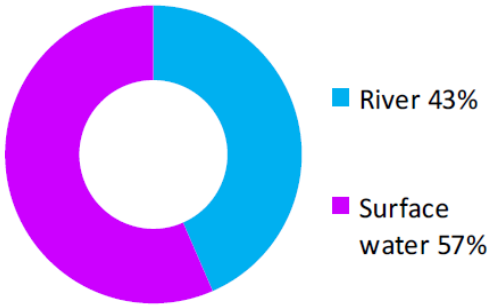
Glen Grant Distillery – Flood Wall and Seating

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Aberlour, Craigellachie and Dandaleith' and 'Rothes' flood warning areas which form part of the Spey river flood warning scheme. When flood events occur in the Aberlour and Rothes area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (500002019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2020
Description	Scottish Water will undertake further investigation and modelling in the Aberlour and Rothes sewer catchment areas to improve knowledge and understanding of flood risk in these areas as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans.		

Action ID	**FLOOD PROTECTION SCHEME/WORKS** (5306021)		
Objective ID	**Reduce risk of flooding to one electricity substation (5306)**		
Delivery Lead	Asset owner	Indicative Delivery	2016 - 2021
Description	Asset owners will carry out flood protection works to reduce flooding to one electricity sub-station in Rothes.		
Funding	Not known at this time.		
Coordination	The utility company will consult with appropriate authorities through its statutory processes.		

Carrbridge (Potentially Vulnerable Area 05/10)

Background	
This PVA covers the community of Carrbridge and the surrounding mainly rural areas (shown below). It is approximately 10km^2 and is located within the Cairngorms National Park.  © Crown copyright. SEPA licence number 100016991 (2015). All rights reserved. *(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)* The A9, A938 and B9153 pass through the area. The main watercourse in the area is the River Dulnain. There are fewer than 10 residential and non-residential properties at risk of flooding. The Annual Average Damages are approximately £9,000 with the majority caused by surface water flooding.  **Figure 15:** Annual Average Damages by flood source *(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)*	

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• <10 Residential Properties • £9,000 Annual Average Damages.
Reduce overall flood risk	500002	• <10 Residential Properties • £9,000 Annual Average Damages.
Reduce the physical risk of disruption related to flood risk to the A9	5307	• 3 locations on the A9 with a total of 90m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Sluggan to Dulnain Bridge' flood warning area on the River Dulnain which forms part of the Spey river flood warning scheme. When flood events occur in the Carrbridge area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

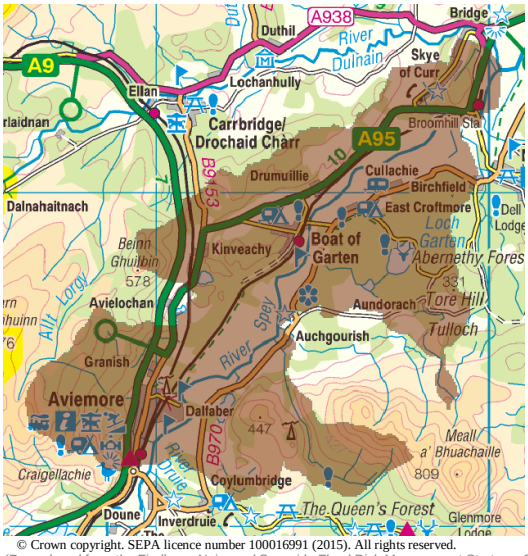
Action ID	**FLOOD PROTECTION WORKS** (5307021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5307)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2022 - 2027
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

River Dulnain, Carrbridge

Aviemore and Boat of Garten (Potentially Vulnerable Area 05/11)

Background

This PVA covers Aviemore, Boat of Garten and the surrounding area (shown below). It is approximately 94km$_2$ and is within the Cairngorms National Park.



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The A95, A9, B970 and B9153 roads pass through the area and the main watercourse is the River Spey.

There are approximately 70 residential and 30 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £180,000 with the majority caused by surface water flooding.

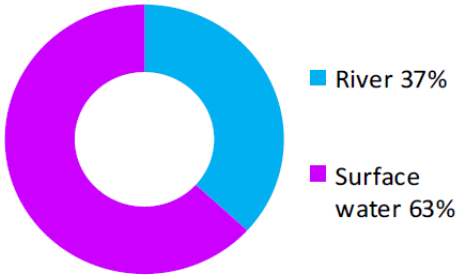


Figure 16: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 70 Residential Properties • £180,000 Annual Average Damages.
Reduce overall flood risk	500002	• 70 Residential Properties • £180,000 Annual Average Damages.
Reduce flood risk to Aviemore from the River Spey.	501101	• £25,000 Annual Average Damages from Residential Properties • £15,000 Annual Average Damages from non-residential properties

Objective(s)	ID	Indicators
Reduce flood risk to Aviemore from the Aviemore Burn.	501102	• £1,100 Average Annual Damages from residential properties.
Reduce the physical risk or disruption related to areas of the A9 at risk of flooding	5308	• 9 locations of the A9 with a total length of 1.3km.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

River Spey near Aviemore

Action ID	**FLOOD PROTECTION STUDY (5011010005)**		
Objective ID	Reduce flood risk to Aviemore from the River Spey (501101)		
Delivery Lead	The Highland Council	Indicative Delivery	2019 - 2022
Description	A Flood Protection Study is required to further investigate the feasibility of developing a Flood Protection Scheme (or Works) for the Dalfaber Road area within Aviemore. The Study will investigate the potential costs and benefits of providing direct defences to the area to determine if a business case for a scheme exists. Other actions, such as property level protection, will be considered in order to develop the most sustainable range of options. This Study will not have an adverse effect on the River Spey SAC.		
Funding	The Highland Council's Capital Programme includes funding to develop the study within this cycle (approved June 2015).		
Coordination	The Highland Council will coordinate the development of the study with actions of other responsible authorities and engage local community groups.		

Action ID	**FLOOD PROTECTION STUDY (5011020005)**		
Objective ID	Reduce flood risk to Aviemore from the Aviemore Burn (501102)		
Delivery Lead	The Highland Council	Indicative Delivery	2022 - 2028
Description	A hydraulic study will be taken forward to confirm flood risk in Aviemore from the Aviemore Burn. Currently SEPA's flood risk and hazard maps do not match historic flood extents and are considered to be underestimating the potential damages. If appropriate, a flood protection study will be developed to investigate options to reduce the flood risk from the Aviemore Burn. This study will not have an adverse effect on the River Spey SAC, Kinveachy Forest SAC, and Kinveachy Forest SPA.		
Funding	Funding to develop this study will be secured from The Highland Council's Capital Programme in 2022		
Coordination	The Highland Council will coordinate the development of the study with actions of other responsible authorities and engage local community groups.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (5000020019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2018
Description	Scottish Water will undertake further investigation and modelling in the Aviemore sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Aviemore/Dalfaber' and 'Aviemore/Dalfaber to Grantown' flood warning areas which form part of the Spey river flood warning scheme. When flood events occur in the Aviemore area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	A flood protection study is proposed for Aviemore. 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.		

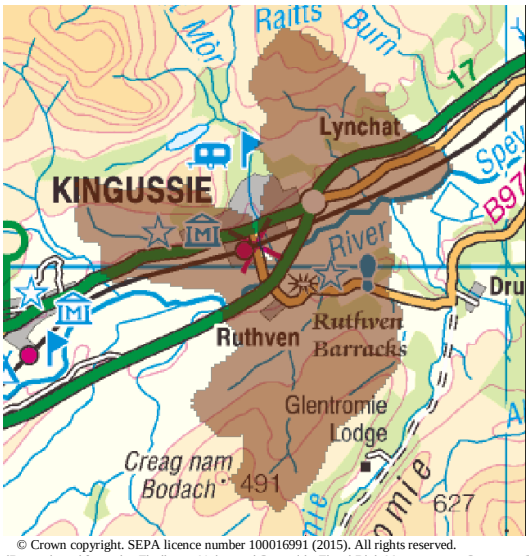
Action ID	**FLOOD PROTECTION WORKS** (5308021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5308)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2022 - 2027
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

Kingussie (Potentially Vulnerable Area 05/12)

Background

This PVA covers the town of Kingussie and surrounding rural areas (shown below).

It is approximately 24km² and located within the Cairngorms National Park



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The main river in the area is the River Spey. There are also several smaller burns including the Gynack Burn which flows through the centre of Kingussie.

There are approximately 30 residential and 20 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £92,000 with the majority caused by river flooding.

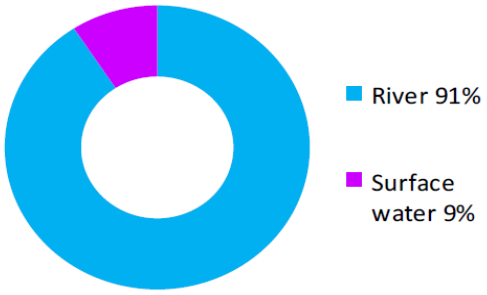


Figure 17: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 30 Residential Properties • £92,000 Annual Average Damages.
Reduce overall flood risk	500002	• 30 Residential Properties • £92,000 Annual Average Damages.
Reduce flood risk to Kingussie from the Gynack Burn	501201	• £39,000 Annual Average Damages from Residential Properties • £21,000 Annual Average Damages from non-residential properties

Objective(s)	ID	Indicators
Reduce the physical risk or disruption related to areas of the A9 at risk of flooding	5309	• 3 locations of the A9 with a total length of 50m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Gynack Burn, Kingussie

Action ID	**FLOOD PROTECTION STUDY (5012010005)**		
Objective ID	**Reduce flood risk to Kingussie from the Gynack Burn (501201)**		
Delivery Lead	The Highland Council	Indicative Delivery	2016 - 2019
Description	A Flood Protection Study is required to assess the feasibility of developing a Flood Protection Scheme (or Works) in Kingussie. The Study will assess the residual risk in the town from the Gynack Burn (assuming the planned diversion of flood flows to Loch Gynack is implemented). The Study will investigate the potential benefits of providing direct defences downstream of the High Street bridge, and improvements to (or removal of) structures such as the road and railway bridges. Other actions will be considered in order to develop the most sustainable range of options. This Study will also include investigation of benefits of including Natural Flood Management techniques to manage sediment, to ensure a coordinated response to the flood risk is developed. This Study will not have an adverse effect on the River Spey SAC, Insh Marshes SAC, and River Spey - Insh Marshes SPA		
Funding	The Highland Council's Capital Programme includes funding to develop the study within the cycle (approved June 2015).		
Coordination	The Highland Council will coordinate the development of the study, in particular any Natural Flood Management aspects that include the alteration (including enhancement) or restoration of natural features and characteristics with any actions of other responsible authorities and local community groups.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Kingussie to Kincraig' and 'Newtonmore to Kingussie' flood warning areas which form part of the Spey river flood warning scheme. When flood events occur in the Kingussie area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	A flood protection study is proposed for Kingussie. SEPA will work with The Highland Council 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	**STRATEGIC MAPPING AND MODELLING** (5000020019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2019
Description	Scottish Water will undertake further investigation and modelling in the Kingussie sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

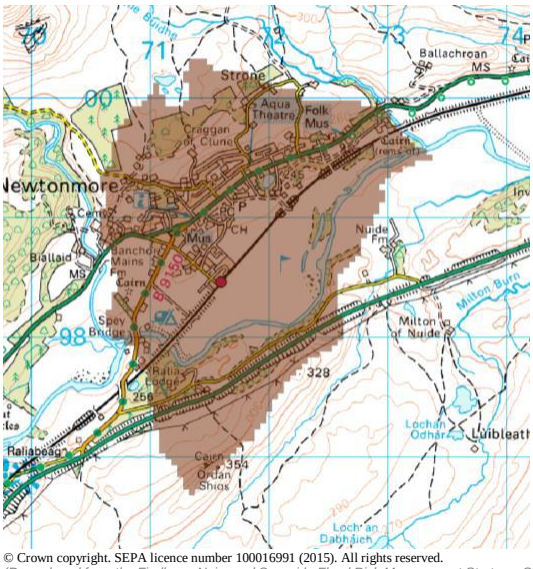
Action ID	**FLOOD PROTECTION WORKS** (5309021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5309)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2022 - 2027
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

Newtonmore (Potentially Vulnerable Area 05/13)

Background

This PVA covers the town of Newtonmore and surrounding rural area (shown below).

It is located within the Cairngorms National Park and is approximately 6km^2.



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The A9, A86 roads and the Inverness to Perth railway pass through the area. The main watercourse is the River Spey.

There are approximately 20 residential and 20 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £41,000 with the majority caused by surface water flooding.

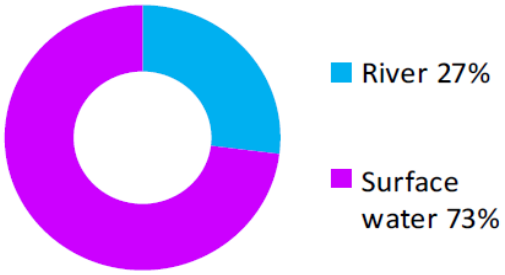


Figure 18: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 20 Residential Properties • £41,000 Annual Average Damages.
Reduce overall flood risk	500002	• 20 Residential Properties • £41,000 Annual Average Damages.
Reduce flood risk from surface water in Newtonmore	501303	• 20 Residential Properties • £30,000 Annual Average Damages.
Reduce the physical risk or disruption related to areas of the A9 at risk of flooding	5310	• 2 locations of the A9 with a total length of 370m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

Action ID	**SURFACE WATER PLAN/STUDY (5013030018)**		
Objective ID	**Reduce risk from surface water flooding in Newtonmore (501303)**		
Delivery Lead	The Highland Council	Indicative Delivery	2016 – 2021
Description	The Highland Council will develop a Highland-wide Surface Water Management Plan that will describe existing and future actions to reduce the flood risk from small watercourses (less than 3km^2) and surface water runoff (e.g. overland flows across roads, fields and other areas). The Plan will describe existing activities such as watercourse inspections, assessments and gully maintenance and identify appropriate specific actions to alleviate surface water flooding in Newtonmore. Scottish Water will provide local knowledge and understanding of the sewer network. This includes Scottish Water data (as applicable) and, where available, outputs of Section 16 or integrated catchment studies, to assist with the Surface Water Management Planning process.		
Funding	The Highland Council's Capital Programme includes funding to develop the study within the cycle (approved June 2015).		
Coordination	The Highland Council will work with Scottish Water, SEPA and the local community to understand flooding caused by surface water runoff and urban drainage and agree appropriate objectives and actions to alleviate flooding.		

Action ID	**MAINTAIN FLOOD WARNING (5000020030)**		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	SEPA	Indicative Delivery	Ongoing
Description	Continue to maintain the 'Spey Dam to Newtonmore' flood warning area which forms part of the Spey river flood warning scheme. When flood events occur in the Newtonmore area, SEPA will seek to verify the flood forecasts and warnings. SEPA will use feedback and post-event data to ensure its flood warning service is timely and accurate.		
Funding	SEPA's flood warning activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	SEPA will work with responsible authorities to maintain and improve its existing flood warning service.		

Action ID	**STRATEGIC MAPPING AND MODELLING** (5000020019)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Scottish Water	Indicative Delivery	2016 - 2019
Description	Scottish Water will undertake further investigation and modelling in the Newtonmore sewer catchment to improve knowledge and understanding of flood risk in this area as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.		
Funding	Scottish Water funding is committed in its capital programme through Q&S 4a (2015-2021).		
Coordination	Scottish Water will work with responsible authorities to incorporate relevant information into these studies and keep them informed of progress. Outputs of the Section 16 assessments will be provided to responsible authorities to inform Surface Water Management Plans and to SEPA for use in flood hazard and risk maps.		

Action ID	**FLOOD PROTECTION WORKS** (5310021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5310)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2022 - 2027
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

Action ID	**COMMUNITY FLOOD ACTION GROUPS** (5000020012)		
Objective ID	**Reduce overall flood risk (500002)**		
Delivery Lead	Community	Indicative Delivery	Ongoing
Description	Community groups such as the Newtonmore Community Council and Newtonmore Community Woodlands & Development Trust, have engaged with the authorities with respect to flooding issues in the past.		
Funding	The group is unfunded and its membership is voluntary.		
Co-ordination	The group aims to work with The Highland Council and other responsible authorities to develop sustainable solutions to flooding in Newtonmore.		

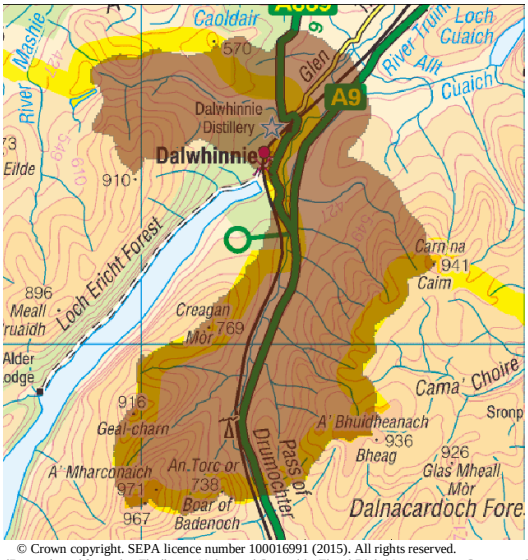
Loch na Leoba, Newtonmore

Dalwhinnie (Potentially Vulnerable Area 05/14)

Background

This PVA covers the town of Dalwhinnie and the surrounding rural area (shown right).

It is approximately 63km^2 and large parts of it are within the Cairngorms National Park.



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(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

The River Truim is the main river in this Potentially Vulnerable Area and there are many small burns draining off the steep hillsides.

There are approximately 20 residential and fewer than 10 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £170,000, all caused by river flooding.

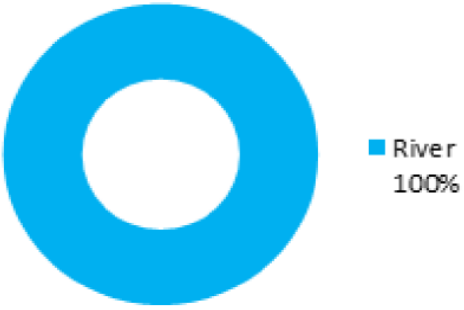


Figure 19: Annual Average Damages by flood source
(Reproduced from the Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

Objective(s)	ID	Indicators
Avoid an overall increase in flood risk	500001	• 20 Residential Properties • £170,000 Annual Average Damages.
Reduce overall flood risk	500002	• 20 Residential Properties • £170,000 Annual Average Damages.

Objective(s)	ID	Indicators
Reduce economic damages and flood risk to Dalwhinnie from River Truim	501401	• 20 People • £43,000 Annual Average Damages to residential properties • £80,000 Average Annual Damages to non-residential properties.
Reduce the physical risk or disruption related to areas of the A9 at risk of flooding	5311	• 3 locations of the A9 with a total length of 330m.

Actions for this PVA					
Flood protection scheme/works	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 plan study	Emergency plans/response
Maintain flood protection scheme	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

The actions identified below are specific to this PVA. Section 2.6 of this plan provides details of actions that will be undertaken over the entire LPD, including this PVA. These actions include flood forecasting, self-help, awareness raising, maintenance, emergency plan/response and planning policies.

River Truim, Dalwhinnie

Action ID	**STRATEGIC MAPPING AND MODELLING** (5014020016)		
Objective ID	**Reduce economic damages and flood risk to Dalwhinnie from River Truim (501401)**		
Delivery Lead	SEPA	Indicative Delivery	2021
Description	SEPA will review existing modelling for this area to determine if any improvements can be made to the flood maps. SEPA will also engage with Transport Scotland to support the modelling studies being undertaken in this area as part of the A9 Dualling Programme. SEPA will support the local authority if further detailed study beyond a strategic scale is required.		
Funding	SEPA's strategic mapping and modelling activities are funded by Scottish Government through SEPA's grant in aid settlement.		
Coordination	The Transport Scotland studies for the A9 dualling scheme will inform the flood risk maps in this area and hence timing for delivery of the mapping improvements is dependent on external studies. SEPA's strategic mapping activities will be coordinated with the activities of other responsible authorities and Transport Scotland as required.		

Action ID	**FLOOD PROTECTION WORKS** (5311021)		
Objective ID	**Reduce the physical risk, or disruption risk, related to areas of the A9 at risk of flooding (5311)**		
Delivery Lead	Transport Scotland	Indicative Delivery	2022 - 2027
Description	Transport Scotland will carry out civil engineering work which will reduce flood risk to identified sections of the A9.		
Funding	Not known at this time.		
Coordination	Transport Scotland will consult with appropriate authorities through its statutory processes.		

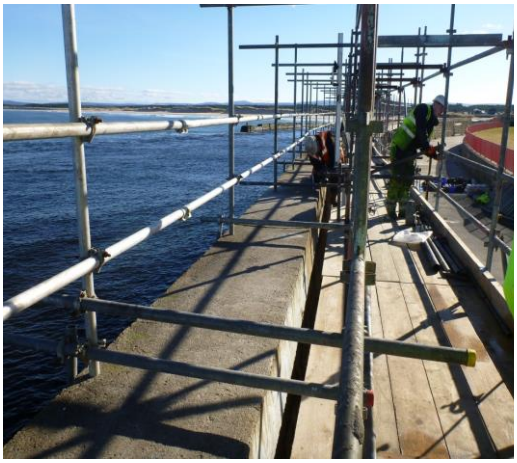
2.9 Other flood risk activities by local authorities in Findhorn, Nairn and Speyside LPD

This Plan presents the actions to manage flood risk in the Findhorn, Nairn and Speyside LPD. In addition to the actions in this Plan, responsible authorities and SEPA may undertake other activities to manage flood risk. There are activities included in the Act that are undertaken by each local authority in the LPD. The main activities that have a significant effect and should be considered in conjunction with the Plan are summarised as follows:

s18 & s59 of the Act: Works of Clearance and Repair

Based on an assessment of the condition of a body of water, the Councils must prepare a schedule of clearance and repair works where these works would substantially reduce flood risk. This is sometimes referred to as a s18 Schedule, which is made available by each local authority within the LPD for public inspection. They must carry out the works in the Schedule if they consider that carrying out these works will contribute to the implementation of actions in the Plan, and will not affect the implementation of the actions in the Plan. Details of how to access clearance and repair schedules for The Moray Council and The Highland Council are provided in Section 1.3 of this Plan.

Burn of Rothes – Sediment Removal



Lossiemouth Sea Wall Repairs

Section 56 of the Act: General Power to manage flood risk

Without affecting the implementation of actions in this Plan, a local authority may do anything which it considers will contribute to the implementation of actions in the Plan or is necessary to reduce the risk of a flood, which is likely to occur imminently and have serious adverse consequences for human health, the environment, cultural heritage or economic activity in its area.

This Plan does not include any specifically targeted actions beyond those already described.

Section3: Next Steps

Next steps and monitoring progress

This Plan will run for six years from June 2016. Over this period the Findhorn, Nairn and Speyside LPD partnership Steering Group will meet from time to time to monitor progress on implementing the actions detailed in Section 2 of the Plan. Each partner organisation will receive reports through its governance processes and actions arising will be considered by the Steering Group.

Between years two and three of the cycle (i.e. before June 2019), The Moray Council, as lead local authority will publish a report on the conclusions of a review of the Plan, including information on the progress that has been made towards delivering the actions identified in the Plan.

Between years five and six of the cycle (i.e. before June 2022), Moray Council, as lead local authority will publish a report on the Plan containing an assessment of the progress made towards delivering the “current actions”, a summary of the actions not implemented, with reasons why, and a description of any other actions undertaken since the plan was finalised, which the lead local authority considers have contributed to the achievement of the objectives in the Plan.

The Moray Council will make these reports available for public inspection.

Annexes

Annex: 1. LPD roles & responsibilities

Roles and responsibilities for flood risk management planning

Individuals are the first line of defence against flooding. However, public and private bodies have responsibilities too and are working together to reduce the impacts of flooding in Scotland. SEPA, the local authorities and Scottish Water are predominantly responsible for flood risk management planning. However, individuals have a personal responsibility to protect themselves and their property.

Some of the key roles are outlined below and more information is available from the SEPA website.

Your responsibilities

Organisations and individuals have responsibilities to protect themselves from flooding. Being prepared by knowing what to do and who to contact if flooding happens can help you reduce the damage and disruption flooding can have on your life.

The first step to being prepared is signing up to Floodline so you can receive messages to let you know where and when flooding is likely to happen. Other useful tools and advice on how to be prepared are available on the Floodline website including a quick guide to who to contact in the event of a flood. You can also check how your area could be affected by flooding by looking at SEPA's flood maps.

SEPA

SEPA is Scotland's national flood forecasting, flood warning and strategic flood risk management authority. SEPA has a statutory duty to produce Scotland's Flood Risk Management Strategies. SEPA works closely with other organisations responsible for managing flood risk through a network of partnerships and stakeholder groups to ensure that a nationally consistent approach to flood risk management is adopted.

SEPA also has a responsibility to identify where in Scotland there is the potential for natural flood management techniques to be introduced. Natural flood management is the use of the natural features of the land to store and slow down the flow of water.

Floodline provides live flooding information and advice on how to prepare for or cope with the impacts of flooding 24 hours a day, seven days a week. To help SEPA forecast for flooding they work closely with the Met Office.

To raise awareness of flooding at a national level SEPA runs education initiatives, community engagement programmes and an annual campaign to promote the useful advice and information available through Floodline. SEPA works in partnership with local authorities, Neighbourhood Watch Scotland, Ready Scotland and others to share our resources and help to promote preparedness and understanding of how flood risk is managed.

Local authorities

The Moray Council as lead local authority with the responsibility to produce the Plan has worked together with The Highland Council, SEPA and other responsible authorities for flood risk management planning purposes. It is the responsibility of

each organisation to implement its flood protection actions, including flood protection schemes or works, operations and maintenance and the clearance and repair of water bodies. You can help your local authority to manage flooding by letting them know if debris is blocking watercourses or if flood defences are tampered with.

During severe flooding, the local authorities will work with the emergency services and coordinate shelter for people evacuated from their homes.

Scottish Water

Scottish Water is a responsible authority for flood risk management and is working closely with SEPA, local authorities and others to coordinate plans to manage flood risk.
Scottish Water has the public drainage duty and is responsible for foul drainage and the drainage of rainwater run-off from roofs and any paved ground surface from the boundary of properties. Additionally, Scottish Water helps to protect homes from flooding caused by sewers either overflowing or becoming blocked. Scottish Water is not responsible for private pipework or guttering within the property boundary.

National parks

The Cairngorms National Park was designated as a responsible authority for flood risk management purposes in 2012. It has worked with SEPA, local authorities and Scottish Water to help develop the Strategy and Plan. It fulfils an important role in land use planning, carrying out or granting permission for activities that can play a key role in managing and reducing flood risk.

Other organisations

- The **Scottish Government** oversees the implementation of the Act which requires the production of Strategies and Plans. Scottish Ministers are responsible for setting the policy framework for how organisations collectively manage flooding in Scotland. They have approved Strategy for this LPD.
- **Scottish Natural Heritage (SNH)** has provided general and local advice in the development of the Strategy. Flooding is seen as a natural process that can maintain the features of interest at many designated sites, so SNH helps to ensure that any changes to patterns of flooding do not adversely affect the environment. SNH also provides advice on the impact of Flood Protection Schemes and other land use development on designated sites and species.
- **Forestry Commission Scotland** was designated in 2012 as a responsible authority for flood risk management planning purposes and has engaged in the development of the Strategy through national and local advisory groups. This reflects the widely held view that forestry can play a significant role in managing flooding.
- During the preparation of the first flood risk management plans **Network Rail** and **Transport Scotland** have agreed works to address flooding at a number of frequently flooded sites. Further engagement is planned with SEPA and the local authorities to identify areas of future work. There is the opportunity for further

works to be undertaken during the first flood risk management planning cycle although locations for these works are yet to be confirmed.

- **Utility companies** have undertaken site specific flood risk studies for their primary assets and have management plans in place to mitigate the effects of flooding to their assets and also minimise the impacts on customers.
- The **Met Office** provides a wide range of forecasts and weather warnings. SEPA and the Met Office work together through the Scottish Flood Forecasting Service.
- The **emergency services** provide emergency response when flooding occurs and can coordinate actions. You should call the emergency services on 999 if you are concerned about your safety or the safety of others and act immediately on any advice provided.
- **Historic Environment Scotland** considers flooding as part of their regular site assessments. As such, flooding is considered as one of the many factors which inform the development and delivery of its management and maintenance programmes.
- **The Scottish Flood Forum** is a Scottish charitable organisation that provides support for those who are affected by, or are at risk of flooding. It provides flood advice, information, awareness, education and training to individuals and communities to help reduce the risk of flooding; in partnership with the local authority, provides support during the recovery process following a flood incident and aims to support the development of resilient communities.

Annex: 2. Links to Schedules of Clearance and Repair

S18 Schedule of Clearance and Repair

The following are links for each local authority to access schedules of clearance and repair under Section 18 of the Flood Risk Management (Scotland) Act 2009:

Local Authority	Method of public access to the S18 Schedule	Hyperlink or web access
The Moray Council	Website	www.moray.gov.uk/flooding
The Highland Council	Website	http://www.highland.gov.uk/info/1210/environment/81/flooding/5

Annex: 3. Land Use Planning

Flood risk management actions from national planning policies
AVOID DEVELOPMENT IN MEDIUM TO HIGH RISK AREAS a) **Planning authorities** work in partnership undertaking catchment-wide Strategic Flood Risk Assessments to inform their development plan allocations in line with SEPA's guidance and Land Use Vulnerability. b) **Planning authorities and SEPA** require the submission of flood risk assessments that accord with SEPA's *Technical Flood Risk Guidance for Stakeholders*, to support planning applications where there is a potential flood risk. The flood risk assessment should be used to demonstrate as far as possible that the development will be safe for its lifetime, without increasing flood risk elsewhere and, where possible, takesopportunities to reduce flood risk overall. c) **SEPA** ensures that its flood risk advice to planning authorities is clear and appropriate. SEPA, in consultation with planning authorities, undertakes an annual assessment of planning advice and its contribution to flood risk. d) **SEPA and planning authorities** engage at an early stage of the development plan process to agree appropriate forms of development to help inform the preparation and implementation of Strategic Flood Risk Assessments.
REDUCE IMPACTS TO EXISTING BUILDINGS a) **SEPA, planning authorities and local communities** are required to engage at an early stage of the development plan process to agree the best long term land uses for areas where relocation, abandonment and/or change of use have been identified to deliver sustainable flood risk management. Where possible, new land uses should aim to achieve multiple benefits for local communities such as the creation of blue / green infrastructure and increased resilience to climate change.
PROTECT AND ENHANCE NATURAL FEATURES THAT HAVE A POSITIVE IMPACT ON REDUCING OVERALL FLOOD RISK a) **SEPA and planning authorities** are required to engage early in the development plan process to identify opportunities for the restoration and protection of natural features which help manage flood risk. Opportunities should be maximised to achieve multiple benefits such as the development of green / blue infrastructure and improved place making. Areas of land that may contribute to flood management should be identified and protected.
NEW DEVELOPMENTS ARE DESIGNED TO ENSURE THAT SURFACE WATER DRAINAGE DOES NOT INCREASE FLOOD RISK ON OR OFF SITE a) **SEPA** prepares guidance for planning authorities and developers on the use of surface water hazard maps for land use planning purposes. b) **Planning authorities** support the implementation of Surface Water Management Plans, developed by the local authorities, through development plan allocations and policies. Surface Water Management Plans should take account of development opportunities that could contribute to the reduction of surface water flood risk. c) **SEPA** engages at an early stage of the development plan process to progress exemplar projects that demonstrate the potential for land use planning to mitigate surface water flooding and contribute to wider environmental benefits.
a) **NEW DEVELOPMENT IS RESILIENT TO PREDICTED FUTURE CHANGES IN CLIMATE Planning authorities** ensure that climate change is considered in Strategic Flood Risk Assessments and Flood Risk Assessments, based upon the best scientific evidence and the information requirements of planners to make informed decisions.

Annex: 4. Extract from Scottish Water's Business Plan

Scottish Water's investment programme is set out in their Business Plan 2015-2021, which can be found in their website https://www.scottishwater.co.uk/about-us/publications/strategic-projections.

Scottish Water's customers have told them that reducing internal property flooding from sewers is a high priority and this is reflected in Scottish Water's Business Plan commitments for the period 2015-21. Addressing sewer flooding is of the highest importance to Scottish Water, as highlighted by our customers who have helped shape the investment plans for 2015-21.

In recognition of this high priority, within the period 2015-2021, Scottish Water will invest c£115m to improve the hydraulic capability of the sewer network so that they can remove all customers from the high risk internal sewer flooding register (greater than 10% chance per annum) as quickly as possible, typically within four years of their problem being confirmed. Scottish Water has made a commitment to those customers on the register on 31 st March 2015 that they will no longer be on the register by 31st March 2021.

Scottish Water's customers have also highlighted that external flooding is an important issue. As a result, within the period 2015-2021, they are investing c£40m to develop and to begin to implement solutions to reduce the flood risk for 400 high priority external sewer flooding areas suffering from frequent repeat flooding events.

As a Responsible Authority under the Flood Risk Management (Scotland) Act 2009, Scottish Water is also working collaboratively with third parties such as SEPA and Local Authorities through the Flood Risk Management Planning process, which will assess the risk of flooding into the future.

As part of that work, Scottish Water has allocated investment to undertake further modelling and assessment in sewer catchments within PVA's to improve knowledge and understanding of flood risk from the sewers in these areas, as required under Section 16 of the Flood Risk Management (Scotland) Act 2009. Scottish Water is also working in partnership with SEPA and Local Authorities, to lead on the production of Integrated Catchment Studies across key catchments. Work carried out under these Flood Risk Management (Scotland) Act 2009 duties will continue to inform future investment requirements for Scottish Water.

Annex: 5. Supporting information

1. Sources of flooding described in the Strategy and this Plan

The Strategy and this Plan address the risk of flooding from rivers, the coast and surface water. The risk of flooding from rivers is usually due to rainfall causing a river to rise above bank level spreading out and inundating adjacent areas. Coastal flooding is where the risk is from the sea. Sea levels can change in response to tidal cycles or atmospheric conditions. Over the longer term sea levels and coastal flood risk may change due to climate change. Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

There can be interactions between these sources of flooding, but for the purposes of this Plan they are dealt with independently.

The following aspects of flooding have not been incorporated:

- **Groundwater** is generally a contributing factor to flooding rather than the primary source. It is caused by water rising up from underlying rocks or flowing from springs.
- **Reservoir breaches** have been assessed under separate legislation. Further information and maps can be found on SEPA's website.
- The Act does not include powers for SEPA or responsible authorities to assess or manage **coastal erosion**. SEPA has included consideration of erosion in the Strategy by identifying areas that are likely to be vulnerable to erosion and therefore where erosion can exacerbate flood risk. As part of considering where actions might deliver multiple benefits, SEPA has looked to see where the focus of coastal flood risk management studies coincides with areas of high susceptibility to coastal erosion. Subsequent detailed studies and scheme design will need to consider how coastal flood risk management actions interact with coastal erosion. The Moray Council has a policy in relation to erosion whereby it may take action if erosion may substantially increase flood risk or its assets are at risk.
- **Wave overtopping.** The information on coastal flooding in the Strategy is based on SEPA modelling using still water level predictions. The method used simplifies the coastal processes and flooding mechanisms at work during a storm. Wave overtopping cannot be accurately modelled at a national scale due to the importance of local factors such as prevailing wind conditions, the depth and profile of the near-shore sea bed or the influence of any existing defences or management structures. As a result the Strategy underestimates coastal flood risk in some areas. Conversely, in locations with wide and flat floodplains, the modelling may overestimate flood risk because the volumes of water able to inundate an area over a tidal cycle are not taken into account. Where wave overtopping has been specifically identified as a concern – but where no further detailed modelling is available – particular compensation has been made in the selection of appropriate actions to address coastal flood risk.

2. Understanding commonly used terms in flood risk management

Below are explanatory notes for the approach taken in this strategy and commonly used terms in flood risk management. A glossary of terms is also available.

- **Reference to flood risk.** During the development of the Strategy flood risk has been assessed over a range of likelihoods. For consistency in reporting information within the Strategy, unless otherwise stated, all references to properties or other receptors being 'at risk of flooding' refer to a medium likelihood flood (up to a 1 in 200 chance of flooding in any given year). By exception, references will be made to high or low risk flooding, which should be taken to mean a 1 in 10 chance/likelihood and 1 in 1000 chance/likelihood of flooding in any given year respectively.

Likelihood of flooding	Return period
High	10 year
Medium	200 year
Low	1000 year

- **Annual Average Damages** have been used to assess the potential economic impact of flooding within an area. Depending on its size or severity each flood will cause a different amount of damage to a given area. Annual Average Damages are the theoretical average economic damages caused by flooding when considered over a very long period of time. It does not mean that damage will occur every year: in many years there will be no damages, in some years minor damages and in a few years major damages may occur. High likelihood events, which occur more regularly, contribute proportionally more to Annual Average Damages than rarer events. Within the Flood Risk Management Strategies Annual Average Damages incorporate economic damages to the following receptors: residential properties, non-residential properties, vehicles, emergency services, agriculture and roads. They have been calculated based on the principles set out in the Flood Hazard Research Centre Multi-Coloured Handbook (2010).
- **History of flooding**. The history of flooding sections of this document report floods that have occurred up to July 2015.

3. Flood Risk Management Planning Process

Flood risk management in Scotland aims to manage flooding in a sustainable way. Sustainable flood risk management considers where floods are likely to occur in the future and takes action to reduce their impact without moving the problem elsewhere. It considers all sources of flooding, whether from rivers, the sea or from surface water. It delivers actions that will meet the needs of present and future generations whilst also protecting and enhancing the environment.

The sustainable approach to managing flood risk works on a six year planning cycle, progressing through the key stages outlined below.

Identifying priority areas at significant flood risk

The first step to delivering a risk-based, sustainable and plan-led approach to flood risk management was SEPA's **National Flood Risk Assessment**, which was

published in 2011. The assessment considered the likelihood of flooding from rivers, groundwater and the sea, as well as flooding caused when heavy rainfall is unable to enter drainage systems or the river network. The likelihood of flooding was examined alongside the estimated impact on people, the economy, cultural heritage and the environment. It significantly improved our understanding of the causes and consequences of flooding, and identified areas most vulnerable to floods.

Based on the National Flood Risk Assessment, SEPA identified areas where flooding was considered to be nationally significant. These areas are based on catchment units as it is within the context of the wider catchment that flooding can be best understood and managed. These nationally significant catchments are referred to as **Potentially Vulnerable Areas**. In Scotland, 243 Potentially Vulnerable Areas were identified. They are estimated to contain 92% of the total number of properties at risk.

A small number of Candidate Potentially Vulnerable Areas were identified after the National Flood Risk Assessment in light of new information that warranted further assessment and appraisal. They are included in the flood risk management planning process. The National Flood Risk Assessment will be updated to inform each subsequent planning cycle.

Improving the understanding of flooding

SEPA developed **flood hazard and flood risk maps** between 2012 and 2014. These maps improved our understanding of flooding and helped inform the subsequent selection of actions to manage flood risk in Potentially Vulnerable Areas. The flood hazard maps show information such as the extent of flooding, water level, as well as depth and velocity where appropriate. The flood risk maps provide detail on the impacts on people, the economy, cultural heritage and the environment.

In 2012 SEPA also developed an **assessment of the potential for natural flood management**. The assessment produced the first national source of information on where natural flood management actions would be most effective within Scotland.
Flood hazard and flood risk maps and the assessment of the potential for natural flood management can be viewed on the SEPA website www.sepa.org.uk.

Identifying objectives and selecting actions

The objectives and actions to manage flooding will provide the long-term vision and practical steps for delivering flood risk management in Scotland.

Working collaboratively with local partnerships, SEPA has agreed the objectives for addressing the main flooding impacts. Actions that could deliver these agreed objectives have been appraised for their costs and benefits to ensure the right combinations are identified and prioritised. The actions considered in the development of this strategy include structural actions (such as building floodwalls, restoring flood plains, or clearance and repair works to rivers) and non-structural actions (such as flood warning, land use planning or improving our emergency response). Structural and non-structural actions should be used together to manage flood risk effectively.

An assessment of the potential for natural flood management was used to help identify opportunities for using the land and coast to slow down and store water. Natural flood management actions were recommended in areas where they could contribute to the management of flood risk. In such instances these actions were put forward as part of flood protection or natural flood management studies.

Annex: 6. Glossary

Term	Definition
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 has been based on a detailed assessment and comparison of economic, social and environmental criteria.
Annual Average Damages (AAD)	Depending on its size or severity each flood will cause a different amount of damage to a given area. Annual Average Damages are the theoretical average economic damages caused by flooding when considered over a very long period of time. It does not mean that damage will occur every year: in many years there will be no damages, in some years minor damages and in a few years major damages may occur. High likelihood events, which occur more regularly, contribute proportionally more to AADs than rarer events. Within the Flood Risk Management Strategies AADs incorporate economic damages to the following receptors: residential properties, non-residential properties, vehicles, emergency services, agriculture and roads. They have been calculated based on the principles set out in the Flood Hazard Research Centre Multi-Coloured Handbook (2010).
Appraisal	Appraisal is the process of defining objectives, examining options and weighing up the costs, benefits, risks and uncertainties before a decision is made. The FRM Strategy appraisal method is designed to set objectives and identify the most sustainable combination of actions to tackle flooding from rivers, sea and surface water.
Appraisal baseline	Defines the existing level of flood risk under the current flood risk management regime.
Awareness raising	Public awareness, participation and community support are essential components of sustainable flood risk management. SEPA and the responsible authorities have a duty to raise public awareness of flood risk. This is undertaken both individually and collaboratively by a range of organisations. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact.
Benefit Cost Ratio (BCR)	A benefit cost ratio summarises the overall value for money of an action or project. It is expressed as the ratio of benefits to costs (both expressed as present value monetary values). A ratio of greater than 1:1 indicates that the economic benefits associated with an action are greater than the economic costs of implementation; therefore this is taken as the threshold of economic viability. It should be acknowledged that it is not always possible to accurately estimate economic values for all elements of benefit, and BCR is just one of a number of techniques used in appraisal.
Catchment	All the land drained by a river and its tributaries.
Category 1 and 2 Responders (Cat 1/2)	Category 1 and 2 Responders are defined as part of the Civil Contingencies Act 2004 which seeks to minimise disruption in the event of an emergency. Category 1 Responders are 'core' responders: local authorities, police, fire and rescue services, ambulance service, NHS health boards, SEPA and the Maritime and Coastguard Agency. Category 2 Responders are key cooperating responders in support of Category 1 Responders. These include gas and electricity companies, rail and air transport operators, harbour authorities, telecommunications providers, Scottish Water, the Health and Safety Executive and NHS National Services Scotland.

Term	Definition
Characterisation	Provides a description of the natural characteristics of catchments, coastlines and urban areas in terms of hydrology, geomorphology, topography and land use. It also includes the characterisation of existing levels of flood risk and existing flood risk management activity.
Coastal flooding	Flooding that results from high sea levels or a combination of high sea levels and stormy conditions. The term coastal flooding is used under the Flood Risk Management (Scotland) Act 2009, but in some areas it is also referred to as tidal flooding and covers areas such as estuaries and river channels that are influenced by tidal flows.
Community flood action groups	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups.
Culvert	A pipe, channel or tunnel used for the conveyance of a watercourse or surface drainage water under a road, railway, canal or other obstacle.
Damages	Flood damages are categorised as direct or indirect i.e. as a result of the flood water itself, or subsequent knock on effects. Damage to buildings and contents caused by flood water are an example of direct damages, whilst loss of industrial production, travel disruption or stress and anxiety are indirect. Some damages can be quantified in monetary terms, and others can only be described. The potential damages avoided by implementation of a flood risk management action are commonly referred to as the benefits of that action. When comparing the effectiveness of different actions, it is useful to consider estimated damages and damages avoided across the lifespan of the action. Within the FRM Strategies, a 100 year appraisal period has been used as standard. This allows costs, damages and benefits across this time frame to be compared in present value terms. See also 'Annual Average Damages'
Economic impact	An assessment of the economic value of the positive and negative effects of flooding and / or the actions taken to manage floods.
Embankment	Flood embankments are engineered earthfill structures designed to contain high river levels or protect against coastal flooding. They are commonly grass-covered, but may need additional protection against erosion by swiftly flowing water, waves or overtopping.
Emergency plans / response	Emergency response plans are applicable for all types of flooding. They set out the steps to be taken during flooding in order to maximise safety and minimise impacts where possible. Under the Civil Contingencies Act, Category 1 Responders have a duty to maintain emergency plans. Emergency plans may also be prepared by individuals, businesses, organisations or communities.
Environmental impact	A change in the environment as a result of an action or activity. Impacts can be positive or negative and may vary in significance, scale and duration.
Erosion	A natural process leading to the removal of sediment from a river bed, bank or floodplain or coastline.
Flood	In the terms of the FRM Act, 'flood' means a temporary covering by water, from any source, of land not normally covered by water. This does not include a flood solely from a sewerage system, as a result of normal weather or infrastructure drainage. A flood can cause significant adverse impacts on people, property and the environment.
Flood defence	Infrastructure, such as flood walls, embankments or flood storage intended to protect an area against flooding to a specified standard of protection.
Flood extent	The area that has been affected by flooding, or is at risk of flooding from one or more sources for a particular likelihood.

Term	Definition
Flood forecasting	SEPA operates a network of over 250 rainfall, river and coastal monitoring stations throughout Scotland that generate data 24 hours a day. This hydrological information is combined with meteorological information from the Met Office. A team of experts then predict the likelihood and timing of river, coastal and surface water flooding. This joint initiative between SEPA and the Met Office forms the Scottish Flood Forecasting Service.
Flood frequency	The probability that a particular size/severity of flood will occur in a given year (see likelihood).
Flood hazard	In terms of the FRM Act, hazard refers to the characteristics (extent, depth, velocity) of a flood.
Flood hazard map	Flood hazard maps are required by the FRM Act to show information that describes the nature of a flood in terms of the source, extent, water level or depth and, where appropriate, velocity of water. Flood hazard and risk maps are referred to collectively as flood maps and are available on the SEPA website.
Flood Prevention Scheme / Flood Protection Scheme (FPS)	A flood protection scheme, as defined by the FRM Act, is a scheme by a local authority for the management of flood risk within the authority area. This includes defence measures (flood prevention schemes) formerly promoted under the Flood Prevention (Scotland) Act 1961.
Flood Protection Study	Flood protection studies aim to refine understanding of the hazard and risk associated with flooding in a particular area, catchment or coastline. They will involve detailed assessment of flood hazard and / or risk and may develop options for managing flood risk.
Flood protection works	Flood protection works can include the same flood defence measures that would make up a formal Flood Protection Scheme but without the legal process, protections and requirements that would come by delivering the works as a scheme.
Flood risk	A measure of the combination of the likelihood of flooding occurring and the associated impacts on people, the economy and the environment.
Flood Risk Assessment (FRA)	Flood Risk Assessments are detailed studies of an area where flood risk may be present. These are often used to inform planning decisions, may help to develop flood schemes and have also contributed to the National Flood Risk Assessment.
Flood Risk Management (Scotland) Act 2009 (FRM Act)	The flood risk management legislation for Scotland. It transposes the EC Floods Directive into Scots Law and aims to reduce the adverse consequences of flooding on communities, the environment, cultural heritage and economic activity.
Flood risk management cycle	Under the FRM Act flood risk management planning is undertaken in six year cycles. The first planning cycle is 2015 – 2021. The first delivery cycle is lagged by approximately 6 months and is from 2016 - 2022.
Flood Prevention (Scotland) Act 1961	The Flood Prevention (Scotland) Act 1961 gave local authorities discretionary powers to make and build flood prevention schemes. It was superseded by the Flood Risk Management (Scotland) Act 2009.
Flood Risk Management Local Advisory Groups	FRM Local Advisory Groups are stakeholder groups convened to advise SEPA and lead local authorities in the preparation of Flood Risk Management Plans. SEPA and lead local authorities must have regard to the advice they provide.
Flood Risk Management Plans	A term used in the FRM Act. FRM Plans set out the actions that will be taken to reduce flood risk in a Local Plan District. They comprise Flood Risk Management Strategies, developed by SEPA, and Local

Term	Definition
(FRM Plans)	Flood Risk Management Plans produced by lead local authorities.
Flood Risk Management Strategy (FRM Strategy)	Sets out a long-term vision for the overall reduction of flood risk. They contain a summary of flood risk in each Local Plan District, together with information on catchment characteristics and a summary of objectives and actions for Potentially Vulnerable Areas.
Flood risk map	Complements the flood hazard maps published on the SEPA website providing detail on the impacts of flooding on people, the economy and the environment. Flood hazard and risk maps are referred to collectively as flood maps and are available on the SEPA website.
Flood wall	A flood defence feature used to defend an area from flood water to a specified standard of protection.
Flood Warning Area (FWA)	A Flood Warning area is where SEPA operates a formal Flood Monitoring Scheme to issue targeted Flood Warning messages for properties located in the area.
Flood warning scheme	A flood warning scheme is the network of monitoring on a coastal stretch or river, which provides SEPA with the ability to issue Flood Warnings.
Floods Directive	European Directive 2007/60/EC on the Assessment and Management of Flood Risks builds on and is closely related to the Water Framework Directive (see river basin management planning). It was transposed into Scots Law by the Flood Risk Management (Scotland) Act 2009. The Directive requires Member States to assess if all watercourses and coastlines are at risk from flooding, to map the flood extent, assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.
Floodplain	Area of land that borders a watercourse, an estuary or the sea, over which water flows in time of flood, or would naturally flow but for the presence of flood defences and other structures where they exist.
Integrated Catchment Study (ICS)	In urban areas, the causes of flooding are complex because of the interactions between rivers, surface water drainage and combined sewer systems and tidal waters. Scottish Water works with SEPA and local authorities to assess these interactions through detailed studies.
Land Use Planning (LUP)	The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long term economic, social and environmental objectives and the implications for different communities and interest groups.
Lead Local Authority (LLA)	A local authority responsible for leading the production, consultation, publication and review of a Local Flood Risk Management Plan.
Likelihood of flooding	The chance of flooding occurring. **High likelihood**: A flood is likely to occur in the defined area on average once in every ten years (1:10). Or a 10% chance of happening in any one year. **Medium likelihood:** A flood is likely to occur in the defined area on average once in every two hundred years (1:200). Or a 0.5% chance of happening in any one year. **Low likelihood:** A flood is likely to occur in the defined area on average once in every thousand years (1:1000). Or a 0.1% chance of happening in any one year.
Local Flood Risk Management Plans (Local FRM Plans)	Local Flood Risk Management Plans, produced by lead local authorities, will take forward the objectives and actions set out in Flood Risk Management Strategies. They will provide detail on the funding, timeline of delivery, arrangements and coordination of actions at the local level during each six year FRM planning cycle.
Local Plan District	Geographical areas for the purposes of flood risk management planning. There are 14 Local Plan Districts in Scotland.

Term	Definition
(LPD)	
Local Plan District partnerships	Each LPD has established a local partnership comprised of local authorities, SEPA, Scottish Water and others as appropriate. These partnerships are distinct from the FRM Local Advisory Groups and they retain clear responsibility for delivery of the FRM actions set out in the Local Flood Risk Management Plans. It is the local partnership that makes decisions and supports the delivery of these plans.
Maintenance	Sections 18 and 59 of the Flood Risk Management (Scotland) Act 2009 put duties of watercourse inspection, clearance and repair on local authorities. In addition, local authorities may also be responsible for maintenance of existing flood protection schemes or defences.
National Flood Management Advisory Group (NFMAG)	The National Flood Management Advisory Group provides advice and support to SEPA and, where required, Scottish Water, local authorities and other responsible authorities on the production of FRM Strategies and Local FRM Plans.
National Flood Risk Assessment (NFRA)	A national analysis of flood risk from all sources of flooding which also considers climate change impacts. Completed in December 2011 this provides the information required to undertake a strategic approach to flood management that identifies areas at flood risk that require further appraisal. The NFRA will be reviewed and updated for the second cycle of FRM Planning by December 2018.
Natural Flood Management (NFM)	A set of flood management techniques that aim to work with natural processes (or nature) to manage flood risk.
Non-residential properties	Properties that are not used for people to live in, such as shops or other public, commercial or industrial buildings.
Objectives	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.
Planning policies	Current national planning policies, Scottish Planning Policy and accompanying Planning Advice notes restrict development within the floodplain and limit exposure of new receptors to flood risk. In addition to national policies, local planning policies may place further requirements within their area of operation to restrict inappropriate development and prevent unacceptable risk.
Potentially Vulnerable Areas (PVA)	Catchments identified as being at risk of flooding and where the impact of flooding is sufficient to justify further assessment and appraisal. There were 243 PVAs identified by SEPA in the National Flood Risk Assessment and these are the focus of the first FRM planning cycle.
Receptor	Refers to the entity that may be impacted by flooding (a person, property, infrastructure or habitat). The vulnerability of a receptor can be reduced by increasing its resilience to flooding.
Residual risk	The risk that remains after risk management and mitigation. This may include risk due to very severe (above design standard) storms or risks from unforeseen hazards.
Resilience	The ability of an individual, community or system to recover from flooding.
Responsible authority	Designated under the FRM (Scotland) Act 2009 and associated legislation as local authorities, Scottish Water and, from 21 December 2013, the National Park Authorities and Forestry Commission

Term	Definition
	Scotland. Responsible authorities, along with SEPA and Scottish Ministers, have specific duties in relation to their flood risk related functions.
Return period	A measure of the rarity of a flood event. It is the statistical average length of time separating flood events of a similar size. (see likelihood)
River Basin Management Planning (RBMP)	The Water Environment and Water Services (Scotland) Act 2003 transposed the European Water Framework Directive into Scots law. The Act created the River Basin Management Planning process to achieve environmental improvements to protect and improve our water environment. It also provided the framework for regulations to control the negative impacts of all activities likely to have an impact on the water environment.
Sediment management	Sediment management covers a wide range of activities that includes anything from the small scale removal of dry gravels to the dredging of whole river channels and the reintroduction of removed sediment into the water environment. Historically, sediment management has been carried out for several reasons, including reducing flood risk, reducing bank erosion, for use as aggregate and to improve land drainage.
Sewer flooding (and other artificial drainage system flooding)	Flooding as a result of the sewer or other artificial drainage system (e.g. road drainage) capacity being exceeded by rainfall runoff or when the drainage system cannot discharge water at the outfall due to high water levels (river and sea levels) in receiving waters.
Source of flooding	The type of flooding. This can be coastal, river, surface water or groundwater.
Standard of protection	All flood protection structures are designed to be effective up to a specified flood likelihood (Standard of Protection). For events beyond this standard, flooding will occur. The chosen Standard of Protection will determine the required defence height and / or capacity.
Strategic Environmental Assessment (SEA)	A process for the early identification and assessment of the likely significant environmental effects, positive and negative, of activities. Often considered before actions are approved or adopted.
Strategic mapping and modelling	Strategic mapping and modelling actions have been identified in locations where SEPA is planning to undertake additional modelling or analysis of catchments and coastlines, working collaboratively with local authorities where appropriate, to improve the national understanding of flood risk.
Surface water flooding	Flooding that occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead
Surface Water Management Plan (SWMP)	A plan that takes an integrated approach to drainage accounting for all aspects of urban drainage systems and produces long term and sustainable actions. The aim is to ensure that during a flood the flows created can be managed in a way that will cause minimum harm to people, buildings, the environment and business.
Surface water plan / study	The management of flooding from surface water sewers, drains, small watercourses and ditches that occurs, primarily in urban areas, during heavy rainfall. FRM Strategy actions in this category include: Surface Water Management Plans, Integrated Catchment Studies and assessment of flood risk from sewerage systems (FRM Act Section 16) by Scottish Water. These have been selected as appropriate for each Potentially Vulnerable Area.
Sustainable flood risk	The sustainable flood risk management approach aims to meet human needs, whilst preserving the environment so that these needs can be met not only in the present, but also for future generations. The delivery of

Term	Definition
management	sustainable development is generally recognised to reconcile three pillars of sustainability – environmental, social and economic.
Utility assets	Within the FRM Strategies this refers to electricity sub stations, mineral and fuel extraction sites, telephone assets, television and radio assets.
Vulnerability	A measure of how likely someone or something is to suffer long-term damage as a result of flooding. It is a combination of the likelihood of suffering harm or damage during a flood (susceptibility) and the ability to recover following a flood (resilience).
Wave overtopping	Wave overtopping occurs when water passes over a flood wall or other structure as a result of wave action. Wave overtopping may lead to flooding particularly in exposed coastal locations.

Annex: 7. Acknowledgements

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