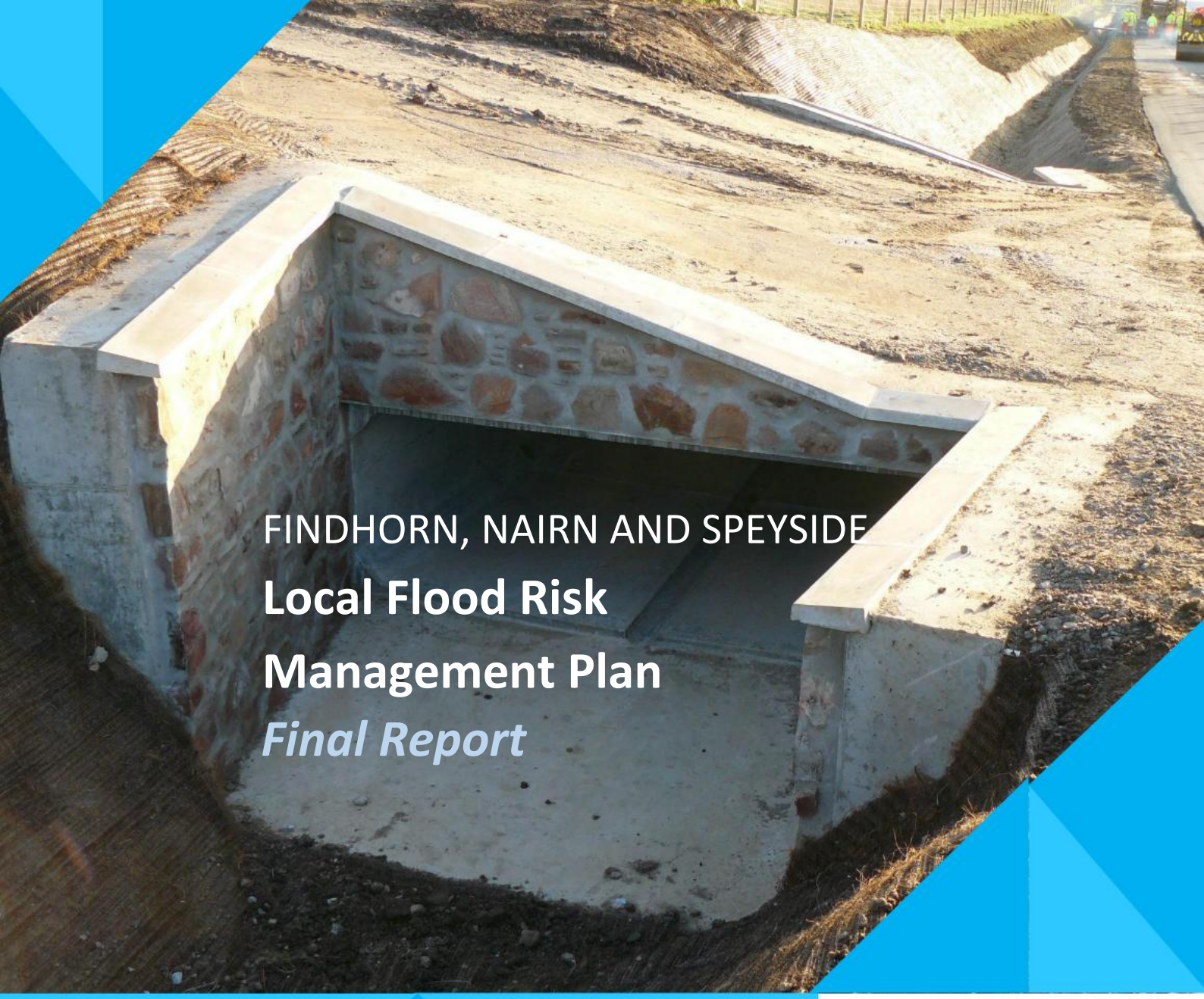

FINDHORN, NAIRN AND SPEYSIDE

Local Flood Risk Management Plan

Final Report

Published by Moray Council August 2022

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1 Foreword

This Final Report for the Local Flood Risk Management Plan shows the progress made in delivering the actions to avoid and reduce the risk of flooding, to allow us to prepare and protect ourselves and our communities across the breadth of the local plan district (LPD). The report also marks the completion of Cycle 1 as we now transition into Cycle 2.

"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 which do occur."

(Findhorn, Nairn and Speyside Local Flood Risk Management Plan, June 2016)

The publication of this Final Report shows that the coordinated and collaborative efforts of public bodies can be brought together to deliver sustainable outcomes.

The Interim Report for the Findhorn, Nairn and Speyside LPD is published by Moray Council on behalf of a partnership comprising two local authorities: Moray Council and The Highland Council; as well as Scottish Water; SEPA; Cairngorms National Park Authority and Forestry Commission Scotland.

Individuals are the first line of defense against flooding and have responsibilities to protect themselves from flooding. Through self-help and property level protection, awareness raising and signing up to Floodline (www.floodlinescotland.org.uk), individuals, businesses and communities can and have made key contributions to the delivery of the actions in the LFRMP (the 'Plan').

Since the publication of the Plan in June 2016, public sector finances in Scotland have continued to be under considerable pressure. This places an even greater responsibility on SEPA, local authorities and Scottish Water and other responsible authorities to deliver their flood risk management responsibilities and, in particular the actions in the Plan, to manage flooding in a sustainable way.

SEPA, local authorities, Scottish Water, and other responsible authorities will continue to work collaboratively to implement the actions set out in the 2nd planning cycle to June 2028.

2 Background

The Final Report is a statutory requirement of the Flood Risk Management (Scotland) Act 2009 (Section 38). The Final Report presents:

- an assessment of the progress made towards implementing the Findhorn, Nairn and Speyside Local Flood Risk Management Plan (the 'Plan');
- a summary of the planned actions which were not implemented, with reasons for their non-implementation; and
- a description of any other actions implemented since the plan was finalised which the lead authority considers have contributed to the achievement of the objectives.

Further details on flood risk management responsibilities in Scotland and the legal requirement for the publication of this Interim Report can be found in Appendix 1.

A copy of the Findhorn, Nairn and Speyside Cycle 1 Local Flood Risk Management Plan can be found at Moray Council FRM

3 Review of the plan

This section presents the review of the Plan including progress highlights, a statement on the planned actions not implemented, the significant challenges faced and the next steps to be taken forward during the 2nd planning cycle.

3.1 Progress Highlights

A selection of progress highlights since publication of the Plan in June 2016 are noted below to give a flavour of the work being undertaken across the Findhorn, Nairn and Speyside Local Plan District to reduce flood risk. A summary of progress against every action in the Plan is presented in Sections 4 and 5.

- PVA 05/01 Burghead to Lossiemouth – SEPA have continued to maintain and operate the Findhorn to Lossiemouth flood warning service
- PVA 05/02 Spynie – Scottish water have completed of the Lossiemouth sewer catchment
- PVA 05/03 Lhanbryde – Moray Council have continued to maintain the flood prevention scheme
- PVA 05/04 Spey Bay – SEPA have developed hazard mapping to improve the understanding of coastal flooding
- PVA 05/05 Elgin – Moray Council have prepared a Surface Water Management Plan for the Elgin area
- PVA 05/06 Forres – SEPA have continued to maintain and operate the Forres flood warning service from the River Findhorn

- PVA 05/08 Nairn East and Auldearn – Strategic mapping and modelling has been carried out by Scottish Water for high risk sewer catchment areas
- PVA 05/09 Rothes and Aberlour – The Moray Council have continued to carry out maintenance of the flood protection schemes and the local waterways to reduce the overall flood risk
- PVA 05/10 Carrbridge – The Highland Council have continued to carry out maintenance the local waterways to reduce the overall flood risk
- PVA 05/11 Aviemore & Boat of Garten – SEPA continuing to provide flood forecasting and flood warnings to the local area
- PVA 05/12 Kingussie – The Highland Council completed a flood protection study to help reduce the risk of flooding from the Gynack Burn
- PVA 05/13 Newtonmore – The Highland Council have continued to carry out maintenance the local waterways to reduce the overall flood risk
- PVA 05/14 Dalwhinnie - SEPA continuing to provide flood forecasting to the local area to help local prepare for a potential flood

3.2 Significant Deviations from the Plan

The status of the planned actions is summarised in Section 3 and detailed in Sections 4 and 5.

3.3 Significant Challenges

Based on a review of the assessment of the progress of actions detailed in this Interim Report, the following key challenges and issues have been identified, some of which have had an impact on the delivery of actions to manage flood risk. Where these challenges have had an impact on the delivery of specific actions, this impact is detailed in Sections 4 and 5.

3.3.1 Significant weather events

Whilst occasional flooding has occurred within the Findhorn, Nairn & Speyside LPD over recent years, the area has generally not experienced the exceptional flooding witnessed in other parts of Scotland e.g. Ballater and the Scottish Borders. Storms in 2016 and 2017 period, brought some flooding to the area, but the heaviest rainfall associated with these storm systems fell to the around Rothes and coastal flooding occurred along the Moray coast within the Findhorn, Nairn and Speyside Local Plan District. More recently, intense summer rainfall scotland July 2021 brought localised flooding to a number of areas, including Forres. When flooding does occur, resources are directed away from strategic planning to respond to the incident.

3.3.2 COVID-19 Pandemic

The COVID pandemic has impacted the delivery of the Plan actions including a requirement to suspend flood risk management construction works as part of the national effort to minimise the spread of the virus during the first national lockdown. The pandemic also disrupted flood risk

management studies due to the transition to home working and the challenges of effectively consulting flood vulnerable communities. These impacts have resulted in higher implementation costs and programme delays.

3.3.3 Resources

Whilst the majority of actions have either been progressed in line or have advanced further than set out in the Plan, the primary reason for actions not progressing as far as intended was a challenging resource environment. A range of resources were required to progress the actions set out in the Plan to reduce flood risk. These include the authorities responsible for progressing individual actions being able to allocate sufficient funding for that purpose.

The available human resource, with the necessary skills to manage and develop solutions to reduce flood risk, has also constrained progress. Much of this human resource pressure has arisen from the increased level of investment in flood risk management across Scotland and the wider UK, leading to challenging recruitment. This pressure is compounded by flood risk management demanding particular technical skills. This human resource pressure has been observed within the authorities responsible for progressing individual actions and the engineering consultants that these authorities seek to engage to support the development of solutions.

3.3.4 Technical Complexity

Developing an understanding of how flooding occurs and the most appropriate combination of solutions to reduce flood risk is technically challenging, including the need to build complex computer models to understand how storm events, tides, watercourse geometry, topography, land use and climate change all interact to cause flooding. This challenge has impacted progress on a number of actions which has delayed progress on subsequent actions. More appropriate technical solutions have also been identified for a number of actions, compared to the way forward envisaged when the Plan was prepared but these enhanced solutions, particularly in relation to strategic mapping and modelling, have taken longer to implement.

3.4 The Next Planning Cycle

This report marks the completion of Cycle 1 and we are now transitioning into Cycle 2. The Flood Risk Management Plan for Cycle 2 can be accessed via the following link:

[Insert Link]

The Cycle 2 Local Flood Risk Management Plan is scheduled to be published during December 2022.

Many of the Cycle 1 actions were to undertake studies that have led to the identification of further actions to be implemented in Cycle 2 and beyond. For example, a flood protection study may recommend that a community flood action group is set up to increase resilience to flooding, or that a flood defences are constructed.

3.5 Conclusions

Overall, through partnership working, by delivering the actions set out in the Findhorn, Nairn and Speyside LFRMP we have reduced flood risk and helped to inform future actions to further reduce flood risk that will be progressed during Cycle 2 and subsequent cycles. Whilst the majority of actions have either been progressed in line or have advanced further than set out in the Plan, a small number of actions have not progressed as far as intended, primarily due to a lack of resources. Other actions have been delayed where they have been dependent on the results from earlier studies. Some actions have also been superseded by a change in approach that will deliver better outputs but at a later date.

4 Assessment of Progress

This section sets out an assessment of the progress towards implementing the actions set out in the Plan. There are actions that apply across the whole of the Findhorn, Nairn & Speyside LPD and actions that are specific to each of the 14 Potentially Vulnerable Areas (as defined under Section 13 of the Act) in the Findhorn, Nairn & Speyside LPD, which are shown below in Figure 1.

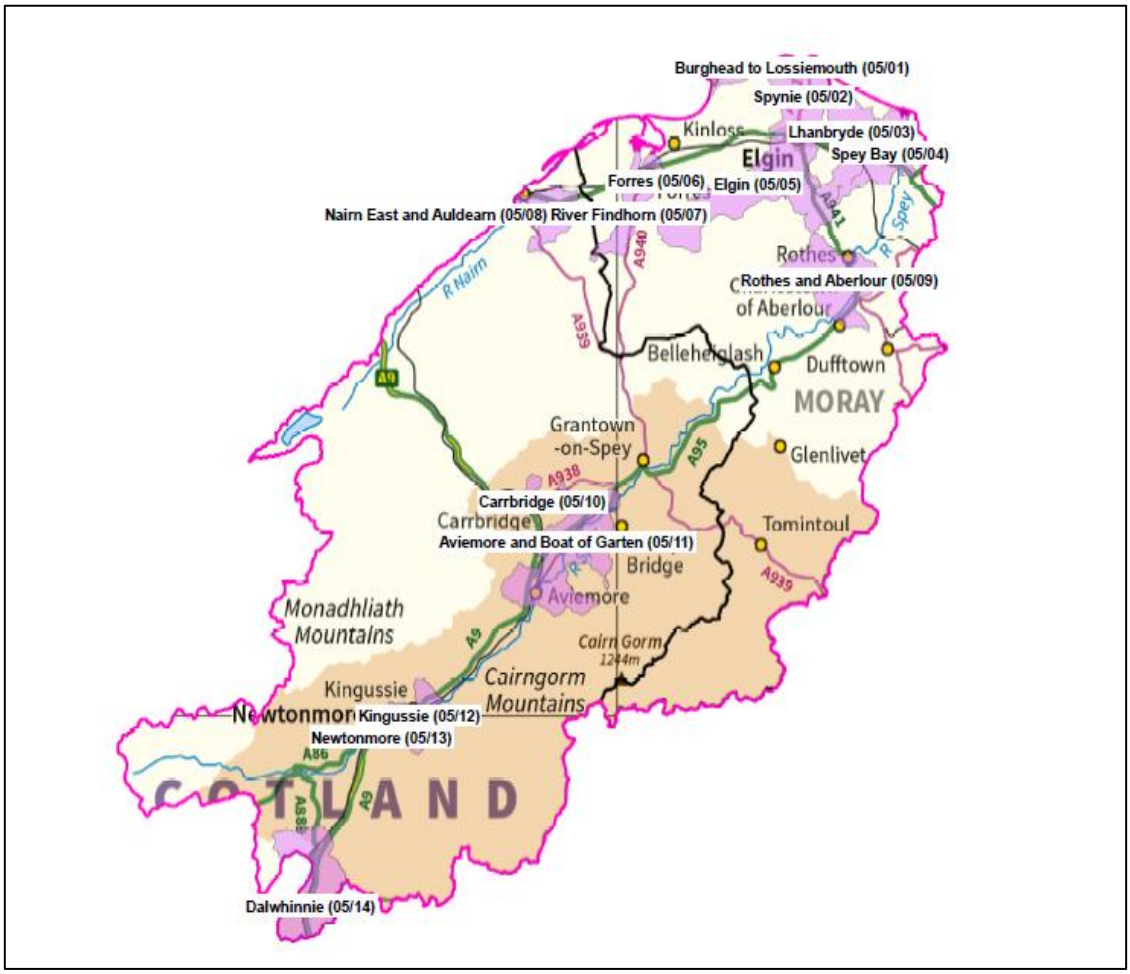

Figure 1: The Findhorn, Nairn and Speyside LPD with Potentially Vulnerable Areas identified
Details of Potentially Vulnerable Areas taken from Findhorn, Nairn and Speyside Flood Risk Management Strategy, SEPA (December 2015)

A progress summary of the actions set out in the Plan is shown overleaf in Figure 2. Progress is shown using a traffic light system based on data collected during February 2022, where each item is marked as Red, Amber or Green (RAG) to describe the status of the action as follows:

Green – Action has been completed.
Amber – Action has commenced but has not progressed as far as envisaged in the Plan.
Red – Action has not commenced.
O – Ongoing

The distribution of actions by Potentially Vulnerable Area is shown in Table 1. Further detail on specific actions can be found in the relevant Potentially Vulnerable Area section within Chapter 5.

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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											O	O			O	O	O		O	O
05/02 Spynie											O	O			O	O	O		O	O
05/03 Lhanbryde										O		O			O	O	O		O	O
05/04 Spey Bay											O	O		O	O	O	O		O	O
05/05 Elgin										O	O	O			O	O	O		O	O
05/06 Forres										O	O	O			O	O	O		O	O
05/07 Findhorm										O	O	O			O	O	O		O	O
05/08 Nairn East & Auldearn											O	O			O	O	O		O	O
05/09 Rothes & Aberlour										O	O	O			O	O	O		O	O
05/10 Carrbridge											O	O			O	O	O		O	O
05/11 Aviemore & Boat of Garten											O	O			O	O	O		O	O
05/12 Kingussie											O	O			O	O	O		O	O
05/13 Newtonmore											O	O		O	O	O	O		O	O
05/14 Dalwhinnie												O			O	O	O		O	O

Table 1: Range of Objectives and Actions identified for each Potentially Vulnerable Area

5 Progress with LPD-wide Actions

5.1 Actions applicable across the Local Plan District

Some flood risk management objectives and actions apply to all areas, whether designated as a Potentially Vulnerable Area or not. For example, flood risk can be managed through national planning policy or as part of ongoing statutory duties discharged by local authorities.

The Local Plan District-wide objectives and the corresponding actions are set out in the following tables by lead authority. No additional LPD wide actions have been implemented.

List of councils and authorities:

MC – Moray Council

HC – Highland Council

NR – Network Rail

SEPA – Scottish Environment Protection Agency

SW – Scottish Water

TS – Transport Scotland

5.2 Progress of LDP-wide actions

5.2.1 Summary of progress of PVA-wide actions to manage flood risk

Summary of progress of PVA-wide actions to manage flood risk for Findhorn, Nairn and Speyside							
Action	**Status**	**PVA**	**Description**	**Start**	**End**	**Progress**	**Future actions**
Flood Forecasting	G	05/01 to 05/14	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.	2015	2022	SEPA has continued to operate the Scottish Flood Forecasting Service (SFFS) Partnership with the Met Office with daily, national Flood Guidance Statements issued to Category 1 and 2 agencies (such as emergency responders, local authorities and other organisations with flooding management duties) and regional Flood Alerts issued to the public. Each daily statement gives an assessment of the risk of flooding for the next five days to enable these organisations to put preparations in place to reduce the impact of flooding. SEPA's Flood Alert service is freely available to everyone and enables communities to be aware and prepared to reduce the impacts of flooding.	SEPA will continue and improve the Scottish Flood Forecasting Service (SFFS) with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA is currently exploring options to develop a public version of the daily Flood Guidance Statement to provide better and earlier information to the public.
Self Help	G	05/01 to 05/14	Everyone is responsible for protecting themselves and their property from flooding. Local authorities, SEPA, Scottish water and other organisations support communities by providing advice and help in coordinating resilience measures.	2015	2022	The Highland Council work with Scottish Flood Forum to recommend areas which might benefit from independent Property Level Protection surveys and recommendations. To date no requests for support have been received by communities in the Findhorn, Nairn and Speyside LPD.	Local authorities, SEPA, Scottish water and other organisations will provide support to communities on request.

Awareness Raising	G	05/01 to 05/14	SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses.	2015	2022	SEPA has delivered a range of awareness raising activities through campaigning, education activities and partnership delivery. SEPA has run national and local digital and direct engagement campaigns to raise awareness of flood risk and SEPA's flood warning service, Floodline. SEPA publish and publicise an electronic newsletter (Flooding Gateway) four times a year which is distributed to a wide audience. SEPA is working with Education Scotland and Scottish Government Resilience team to embed flooding awareness within the Curriculum for Excellence, and resilience partners in Safer Communities programmes. SEPA has also developed an online tool that helps everyone share information on current flooding issues (Report-a-Flood). We have worked in partnership with local authorities, emergency services and community organisations (e.g. Neighbourhood Watch Scotland, Citizens Advice Scotland and others) to share our resources and help to promote preparedness and understanding of how we manage flood risk in Scotland. SEPA has actively supported the Scottish Flood Forum and worked closely with UK agencies to develop joint flooding information. The Highland Council, working with SFF and SEPA have begun developing a strategy for encouraging community resilience across the Highlands. The Highland Council continues to engage local members, community councils, schools and the public where Flood Protection Studies and Schemes are being carried out and aims to coordinate these events with SEPA and SFF. Moray Council has undertaken a number of visits to local schools to raise awareness and	SEPA will continue to raise awareness of flood risk through campaigning, developing education and engagement tools, creating new partnerships and improving the flood warning and forecasting service. Many of our awareness raising activities currently underway will continue. Our focus will be on promoting flood warning and forecasting service, innovation, education and engagement with partners and customers and the public. The Highland Council is working towards a strategy to address flood resilience in relevant communities. Moray Council will continue its programme of school visits and will hold public information events as and when required.

Summary of progress of PVA-wide actions to manage flood risk for Findhorn, Nairn and Speyside							
Action	**Status**	**PVA**	**Description**	**Start**	**End**	**Progress**	**Future actions**
						has held public exhibitions where studies/works are planned.	
Maintenance	G	05/01 to 05/14	Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. Scottish Water undertakes risk-based inspections, maintenance and repair on the public sewer network.	2015	2022	The Highland Council inspects watercourses within its region according to an inspection regime which also includes formal flood defences. The Highland Council's Schedule of clearance and repair works are published online at: https://www.highland.gov.uk/info/1226/emergencies/81/flooding/5 Moray Council inspects waterbodies and flood protection schemes within its region according to a risk based inspection regime and maintenance works are undertaken where required. Moray Council's schedule of Clearance and Repair Work is published online at www.moray.gov.uk/flooding. Scottish Water's risk based inspections are in progress.	The Highland Council will continue with its inspection regime and publish its Schedule of Clearance and Repair Work. Moray Council will continue with its inspection regime and publish its Schedule of Clearance and Repair Work. Scottish Water will continue to undertake risk based inspection and repair of the public sewer system.
Emergency Plans/ Response	G	05/01 to 05/14	Providing an emergency response to flooding is the responsibility of many organisations, including local authorities, the emergency services and SEPA.	2015	2022	The Highland Council Emergency Planners have in place and maintain Emergency Plans for all contingencies. The Highland Council is a member of the Highlands & Islands Local Resilience Partnership (HILRP). Moray Council's Emergency Planner has in place and maintains an Emergency Plan for all contingencies.	No further action planned.

Summary of progress of PVA-wide actions to manage flood risk for Findhorn, Nairn and Speyside							
Action	**Status**	**PVA**	**Description**	**Start**	**End**	**Progress**	**Future actions**
Planning Policy	G	05/01 to 05/14	Scottish Planning Policy and accompanying Planning Advice Notes set out Scottish Ministers' priorities for the operation of the planning system and for the development and use of land in terms of flood risk management.	2015	2022	The Highland Council, as a planning authority, considers flood risk and drainage impact to be a material consideration for any new planning application. When a new planning application is submitted to The Highland Council it must satisfy local adopted supplementary guidance on Flood Risk and Drainage Impact Assessment. Moray Council, as Planning Authority ensure that any new developments satisfy relevant guidance and policies on flooding and drainage.	The Highland Council and Moray Council to continue with to ensure any new developments satisfy relevant guidance on flooding and drainage.

6 Progress with PVA-specific Actions

This chapter is focused on the actions being taken to manage flood risk in the Potentially Vulnerable Areas. For each Potentially Vulnerable Area, background information including a summary of flood impacts and the actions to manage flooding is presented. Additional information on flooding within each Potentially Vulnerable Area is available within the Findhorn, Nairn and Speyside Flood Risk Management Strategy, available on the SEPA website here - http://apps.sepa.org.uk/FRMStrategies/

The background information sets the scene for the planned actions to manage flooding that have been prioritised for delivery between 2016 and 2022. The Potentially Vulnerable Area level action tables set out the flood management objective that is to be achieved, provide a description of the action, identify who will be responsible for the delivery and implementation and a timetable of when the actions will be undertaken. The Local Plan District wide actions noted in Section 4 apply to all Potentially Vulnerable Areas.

This information is provided for each of the 14 Potentially Vulnerable Areas Findhorn, Nairn and Speyside Local Plan District. Each Potentially Vulnerable Area has a separate sub-section with each sub-section following the same format.

The flood management objectives are the shared aims for managing flooding. Actions describe where and how flood risk will be managed. Objectives and actions have been set by SEPA and agreed by the flood risk management responsible authorities following consultation.

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

6.1 Findhorn, Nairn and Speyside Plan District (PVA 05/01)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	Moray coastal

Summary of Progress for Burghead to Lossiemouth (PVA 05/01)

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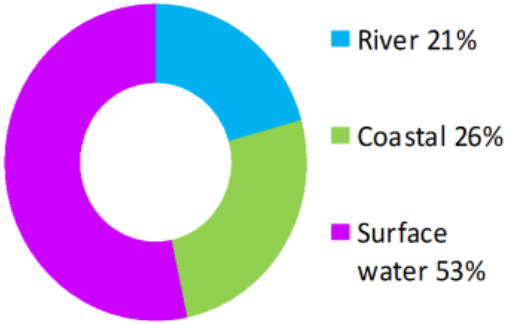
The area has a risk of surface water, coastal and river flooding. The majority of damages are caused by surface water flooding. There are approximately 30 residential properties and 40 non-residential properties at risk of flooding. The Annual Average Damages are approximately £120, 000. Further information can be found in the LFRMP under PVA 05/01.

Link to LFRMP PVA 05/01

Key progress:

- Strategic mapping and modelling – Coastal, SEPA have been updated the coastal flood maps
- Existing flood warnings are being maintained



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/01

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy

05/01																				

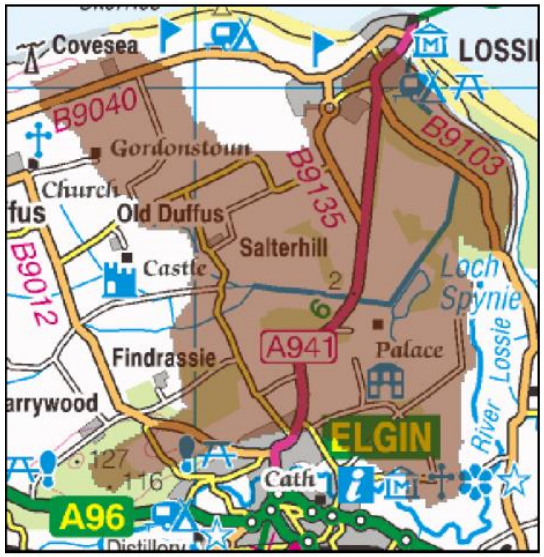
Summary of progress of actions to manage flood risk in PVA 05/01						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Strategic mapping and modelling - Coastal	A	SEPA plan to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of coastal flood risk.	SEPA	2017	Following the establishment of a coastal flood hazard map, development framework and characterisation of the coastline, several projects are currently underway at this location: • Development of a national coastal joint probability dataset; • Update to the UK design extreme sea level dataset; • Coastal modelling and mapping project for north-east Scotland. These projects will collectively enable the revision of flood mapping for the coastline from Scrabster to Arbroath including the Orkney Islands.	It is planned to complete this action in 2023.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Lossiemouth sewer catchment to improve	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	

		knowledge and understanding of flood risk in this area.				
Maintain flood warning	G	Continue to maintain the Findhorn to Lossiemouth flood warning area which is part of the Moray Firth Flood Warning scheme.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.2 Findhorn, Nairn and Speyside Plan District (PVA 05/02)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	Moray coastal

Summary of Progress for Spynie (PVA 05/02)



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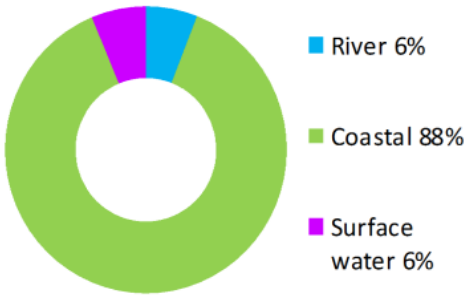
The area has a risk of coastal, surface water, river flooding. The majority of damages are caused by coastal flooding. There are approximately 80 residential properties and 10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £260, 000. Further information can be found in the LFRMP under PVA 05/02.

Link to LFRMP PVA 05/02

Key progress:

- Strategic mapping and modelling – Coastal, SEPA have been updated the coastal flood maps
- Maintenance to existing waterways has been carried out by Moray Council



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/02

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/02																				

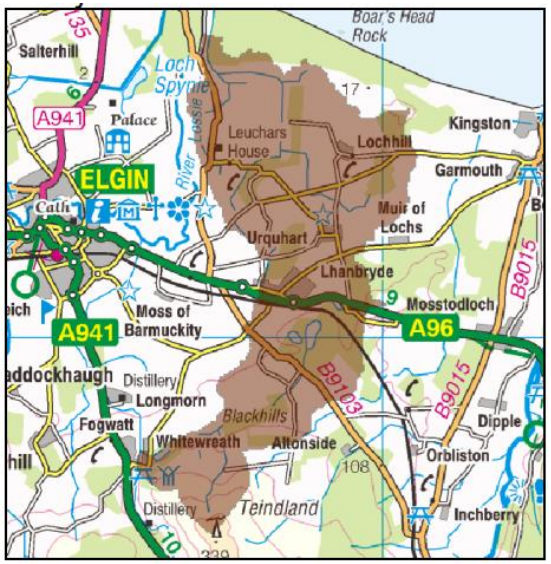
Summary of progress of actions to manage flood risk in PVA 05/02						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Flood Protection Study	G	A flood protection study is underway to consider a coastal flood protection scheme for Seatown in Lossiemouth.	Moray Council	2019	The feasibility section of this study is now complete and the option development is on track for completion in 2019.	Complete
Strategic mapping and modelling - Coastal	A	SEPA plan to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of coastal flood risk.	SEPA	2017	Following the establishment of a coastal flood hazard map development framework and characterisation of the coastline, several projects are currently underway at this location: • Development of a national coastal joint probability dataset; • Update to the UK design extreme sea level dataset; • Coastal modelling and mapping project for north-east Scotland. These projects will collectively enable the revision of flood mapping for the coastline from Scrabster to Arbroath including the Orkney Islands.	It is planned to complete this action in 2023.

Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	Complete

6.3 Findhorn, Nairn and Speyside Plan District (PVA 05/03)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	Moray coastal

Summary of Progress for Lhanbryde (PVA 05/03)



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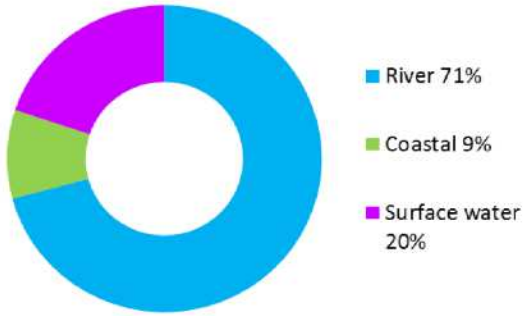
The area has a risk of river, surface water, coastal flooding. The majority of damages are caused by river flooding. There are approximately 60 residential properties and 10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £160, 000. Further information can be found in the LFRMP under PVA 05/03.

Link to LFRMP PVA 05/03

Key progress:

- Strategic mapping and modelling – Scottish Water have reviewed the highest risk sewer catchment areas
- Maintenance to existing Lhanbryde Flood Protection Scheme has been carried out by Moray Council



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/03

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/03																				

Summary of progress of actions to manage flood risk in PVA 05/03						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Maintain Flood Scheme	G	Continue to maintain the Lhanbryde Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Lhanbryde Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	Complete

6.4 Findhorn, Nairn and Speyside Plan District (PVA 05/04)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Spey, Spey Bay coastal

Summary of Progress for Spey Bay (PVA 05/04)

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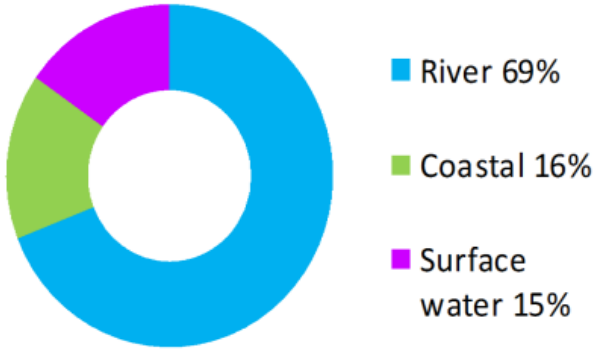
The area has a risk of river, surface water, coastal flooding. The majority of damages are caused by river flooding. There are approximately 40 residential properties and >10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £120, 000. Further information can be found in the LFRMP under PVA 05/04.

Link to LFRMP PVA 05/04

Key progress:

- Strategic mapping and modelling – Coastal, SEPA have been updated the coastal flood maps
- SEPA continuing to provide flood forecasting to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/04

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy

05/04																				

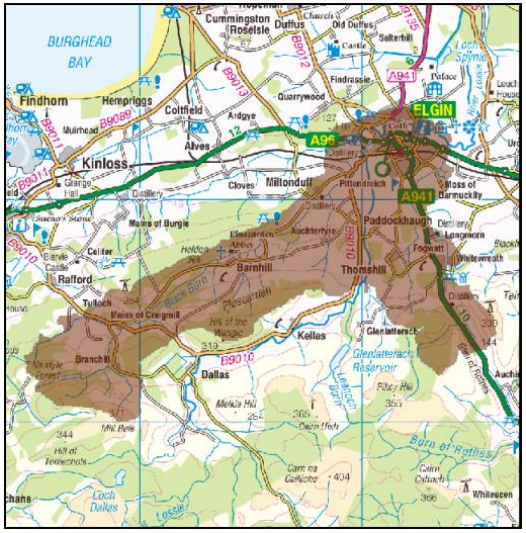
Summary of progress of actions to manage flood risk in PVA 05/04						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Strategic mapping and modelling - Coastal	A	SEPA plan to develop the flood hazard mapping in the Banff to Lossiemouth area to improve understanding of coastal flood risk.	SEPA	2017	Following the establishment of a coastal flood hazard map development framework and characterisation of the coastline, several projects are currently underway at this location: • Development of a national coastal joint probability dataset; • Update to the UK design extreme sea level dataset; • Coastal modelling and mapping project for north-east Scotland. These projects will collectively enable the revision of flood mapping for the coastline from Scrabster to Arbroath including the Orkney Islands.	It is planned to complete this action in 2023.
Strategic mapping and modelling	A	SEPA undertook to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk.	SEPA	2018	SEPA's current surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of Cycle 1. It is anticipated that updated flood

					contains the latest science and understanding of rainfall across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer consider appropriate to deliver this action as originally intended.	mapping from this revised action will be available early in Cycle 2. Alongside this SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	Complete
Maintain flood warning	G	Continue to maintain the Findhorn to Lossiemouth flood warning area which is part of the Moray Firth Flood Warning scheme.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service
Community Flood Action Group	A	Engage with flood action groups in the Garmouth and Kingston area with regard to flooding issues	Community	Ongoing	No flood action groups in this area have communicated with the responsible authorities since publishing the plan in 2016.	Moray Council will continue to work with interested parties to inform about flood risk

6.5 Findhorn, Nairn and Speyside Plan District (PVA 05/05)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Lossie

Summary of Progress for Elgin (PVA 05/05)



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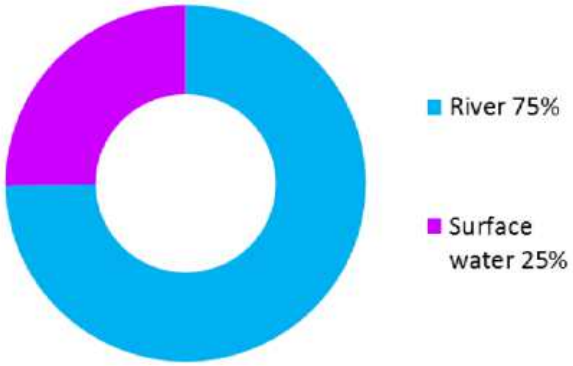
The area has a risk of river, surface water flooding. The majority of damages are caused by river flooding. There are approximately 140 residential properties and 110 non-residential properties at risk of flooding. The Annual Average Damages are approximately £750, 000. Further information can be found in the LFRMP under PVA 05/05.

Link to LFRMP PVA 05/05

Key progress:

- Maintenance to existing Elgin Flood Protection Scheme has been carried out by Moray Council
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/05

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/05																				

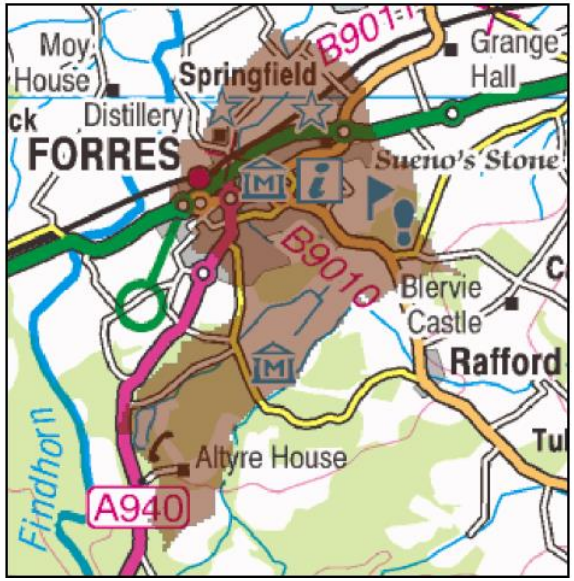
Summary of progress of actions to manage flood risk in PVA 05/05						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Maintain Flood Scheme	G	Continue to maintain the Elgin Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Elgin Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Surface Water Plans/Study	G	Elgin is a priority area within the Surface Water Management Plan that Moray Council will prepare for Moray.	Moray Council	2019	The high level Surface Water Management Plan for this area is complete and actions identified will be developed for inclusion as works in future cycles.	Action complete.
Strategic mapping and modelling	A	SEPA undertook to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of flood risk.	SEPA	2018	SEPA's current surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH13 methodology. The FEH13 dataset contains the latest science and understanding of rainfall across Scotland and represents a significant change in rainfall amounts compared to FEH99 dataset, as such it is no longer consider appropriate to deliver this action as originally intended.	This action will not be taken forwards as described. SEPA will develop new surface water flood hazard maps over the remainder of Cycle 1. It is anticipated that updated flood mapping from this revised action will be available early in Cycle 2. Alongside this SEPA will investigate the feasibility of developing an interim approach to assess the change in surface water hazard (and risk) associated with FEH13, such that we could consider it in the development of the 2021 FRM Strategies.

Maintain flood warning	G	Continue to maintain flood warning in Elgin, which warns of flooding from the River Lossie.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Lossiemouth sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales.	2019

6.6 Findhorn, Nairn and Speyside Plan District (PVA 05/06)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	Moray coastal

Summary of Progress for Forres (PVA 05/06)



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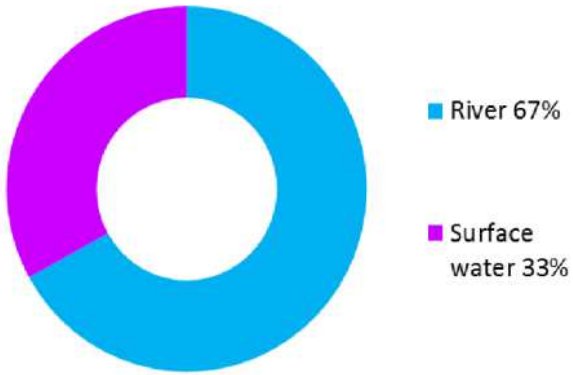
The area has a risk of river, surface water flooding. The majority of damages are caused by river flooding. There are approximately 200 residential properties and 20 non-residential properties at risk of flooding. The Annual Average Damages are approximately £380, 000. Further information can be found in the LFRMP under PVA 05/06.

Link to LFRMP PVA 05/06

Key progress:

- Strategic mapping and modelling has been carried out by Scottish Water for high risk sewer catchment areas
- The Moray Council have continued to carry out maintenance of the flood protection schemes and the surrounding waterways to reduce the overall flood risk



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/06

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy

05/06																				

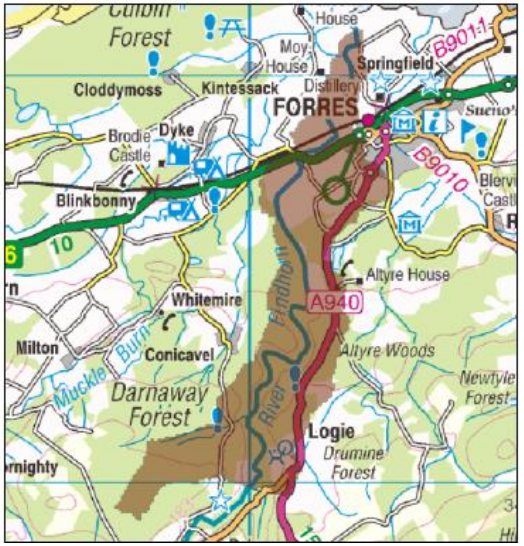
Summary of progress of actions to manage flood risk in PVA 05/06

Action	Status (Red; Amber; Green)	Description	Delivery Lead	Planned Dates	Progress in Delivery, including key deliverables and dates	Revised dates and planned actions to complete / address delay
Maintain Flood Scheme	G	Continue to maintain the Burn of Mosset Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Burn of Mosset Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Surface Water Plans/Study	A	Forres is a priority area within the Surface Water Management Plan that Moray Council will prepare for Moray.	Moray Council	2019	The proposed Integrated Catchment Study for Forres has been downgraded to a Section 16 assessment that will be completed in 2020. The findings of this assessment will inform the Surface Water Management Plan for Forres.	The Surface Water Management Plan for the Forres area will be developed between 2020 and 2024.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Forres sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2020	On track to deliver within agreed LFRMP timescales	Complete
Maintain flood warning	G	Continue to maintain flood warning in Forres, which warns of flooding from the River Findhorn.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.7 Findhorn, Nairn and Speyside Plan District (PVA 05/07)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Findhorn

Summary of Progress for Findhorn (PVA 05/07)



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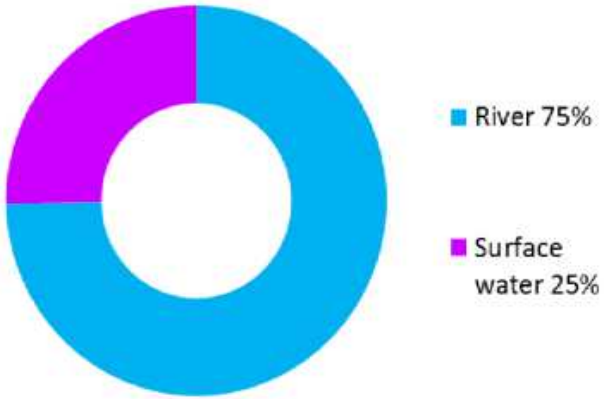
The area has a risk of river, surface water flooding. The majority of damages are caused by river flooding. There are approximately 100 residential properties and >10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £200, 000. Further information can be found in the LFRMP under PVA 05/07.

Link to LFRMP PVA 05/07

Key progress:

- The Moray Council have completed a surface water plan/study to improve knowledge surrounding surface water floods to help reduce the risks
- The Moray Council have continued to carry out maintenance of the flood protection schemes to reduce the overall flood risk



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/07

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/07																				

Summary of progress of actions to manage flood risk in PVA 05/07						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Maintain Flood Scheme	G	Continue to maintain the Findhorn Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Findhorn Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Surface Water Plans/Study	A	Forres is a priority area within the Surface Water Management Plan that Moray Council will prepare for Moray.	Moray Council	2019	The proposed Integrated Catchment Study for Forres has been downgraded to a Section 16 assessment that will be completed in 2020. The findings of this assessment will inform the Surface Water Management Plan for Forres.	The Surface Water Management Plan for the Forres area will be developed between 2020 and 2024.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Forres sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2020	On track to deliver within agreed LFRMP timescales	Complete
Maintain flood warning	G	Continue to maintain flood warning in Forres, which warns of flooding from the River Findhorn.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.8 Findhorn, Nairn and Speyside Plan District (PVA 05/08)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Nairn

Summary of Progress for Nairn East and Auldearn (PVA 05/08)

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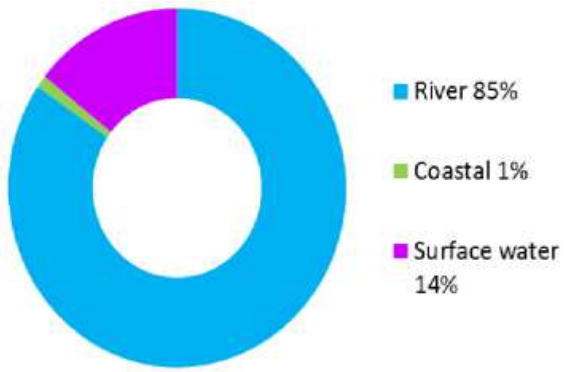
The area has a risk of river, surface water and coastal flooding. The majority of damages are caused by river flooding. There are approximately 80 residential properties and 30 non-residential properties at risk of flooding. The Annual Average Damages are approximately £230, 000. Further information can be found in the LFRMP under PVA 05/08.

Link to LFRMP PVA 05/08

Key progress:

- Strategic mapping and modelling has been carried out by Scottish Water for high risk sewer catchment areas
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/08

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/08																				

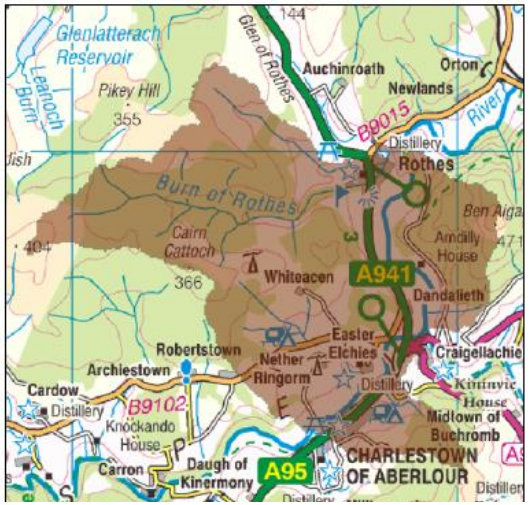
Summary of progress of actions to manage flood risk in PVA 05/08						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Flood Protection Study	A	The Highland Council will undertake a Flood Protection Study to further investigate the feasibility of developing a Flood Protection Scheme (or Works) for central Nairn.	The Highland Council	2022	The Highland Council has started the Flood Protection Study for the River Nairn which also includes its tributary the Auldearn Burn in 2022 with a hydraulic modelling study of the river and a damages assessment. This study will continue into cycle 2 and depending on the outcome of the first stage of the study, will move on to an Option Appraisal Assessment, identifying a preferred solution to the flood risk.	The Highland Council plan to complete during cycle 2.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Nairn sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2020	On track to deliver within agreed LFRMP timescales	2020

Maintain flood warning	G	Continue to maintain flood warning in Nairn, which warns of flooding from the River Nairn.	SEPA	Ongoing	SEPA has continued to operate the flood warning service. SEPA has merged the 'Nairn (River Park)' and 'Nairn' flood warning areas to create a new flood warning area for 'Nairn'.	SEPA will continue to operate the flood warning service

6.9 6.9 Findhorn, Nairn and Speyside Plan District (PVA 05/09)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Moray Council	River Spey

Summary of Progress for Rothes and Aberlour (PVA 05/09)



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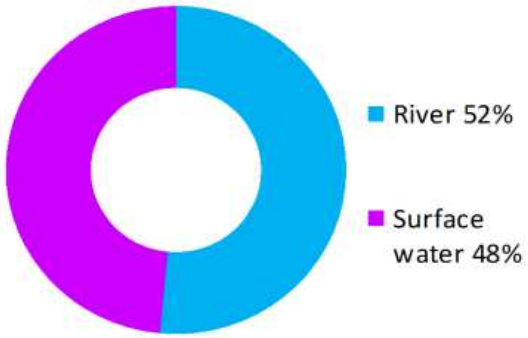
The area has a risk of river, surface water flooding. The majority of damages are caused by river flooding. There are approximately 350 residential properties and 100 non-residential properties at risk of flooding. The Annual Average Damages are approximately £390, 000. Further information can be found in the LFRMP under PVA 05/09.

Link to LFRMP PVA 05/09

Key progress:

- The Moray Council have completed a surface water plan/study to improve knowledge surrounding surface water floods to help reduce the risks
- The Moray Council have continued to carry out maintenance of the flood protection schemes and the local waterways to reduce the overall flood risk



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/09

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/09																				

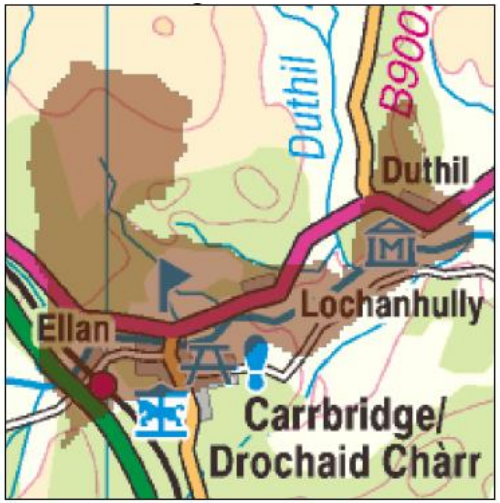
Summary of progress of actions to manage flood risk in PVA 05/09						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Maintain Flood Scheme	G	Continue to maintain the Aberlour Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Aberlour Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Maintain Flood Scheme	G	Continue to maintain the Rothes Flood Prevention Scheme.	Moray Council	2019	Moray Council continue to maintain the Rothes Flood Prevention Scheme.	Moray Council will continue to maintain this scheme.
Surface Water Plans/Study	G	Rothes and Aberlour is a priority area within the Surface Water Management Plan that Moray Council will prepare for Moray.	Moray Council	2019	The high level Surface Water Management Plan for this area is complete and actions identified will be developed for inclusion as works in future cycles.	Action complete.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Aberlour and Rothes catchment to	Scottish Water	2020	On track to deliver within agreed LFRMP timescales	2020

		improve knowledge and understanding of flood risk in this area.				
Maintain flood warning	G	Continue to maintain flood warning in Rothes and Aberlour, which warns of flooding from the River Spey.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service
Flood Protection Works	G	Flood protection works to reduce flooding to an electricity sub-station in Rothes.	Asset owner	2021	No information currently available	Works programmed for completion in 2033.

6.10 Findhorn, Nairn and Speyside Plan District (PVA 05/10)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Spey

Summary of Progress for Carrbridge (PVA 05/10)



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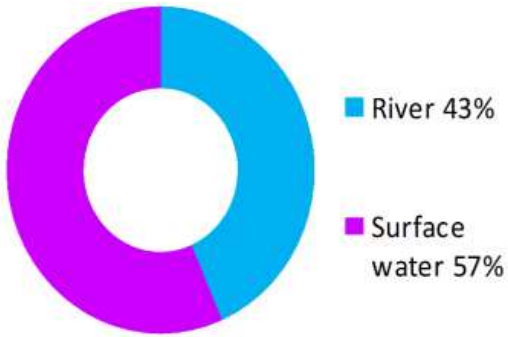
The area has a risk of river, surface water flooding. The majority of damages are caused by surface water flooding. There are fewer than 10 residential properties and non-residential properties at risk of flooding. The Annual Average Damages are approximately £9, 000. Further information can be found in the LFRMP under PVA 05/10.

Link to LFRMP PVA 05/10

Key progress:

- The Highland Council have continued to carry out maintenance the local waterways to reduce the overall flood risk
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/08

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/08																				

Summary of progress of actions to manage flood risk in PVA 05/10						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Maintain flood warning	G	Continue to maintain flood warning in Rothes and Aberlour, which warns of flooding from the River Spey.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.11 Findhorn, Nairn and Speyside Plan District (PVA 05/11)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Spey

Summary of Progress for Aviemore and Boat of Garten (PVA 05/11)

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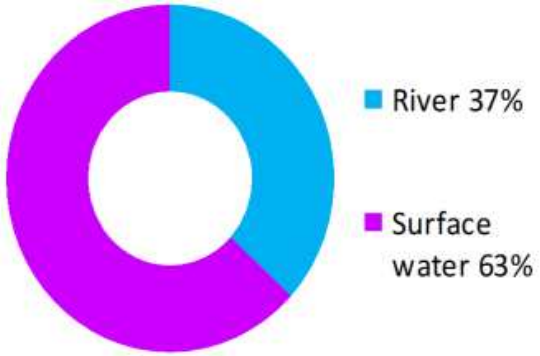
The area has a risk of river, surface water flooding. The majority of damages are caused by surface water flooding. There are approximately 70 residential properties and 30 non-residential properties at risk of flooding. The Annual Average Damages are approximately £180, 000. Further information can be found in the LFRMP under PVA 05/11.

Link to LFRMP PVA 05/11

Key progress:

- Strategic mapping and modelling has been carried out by Scottish Water for high risk sewer catchment areas
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/11

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/11																				

Summary of progress of actions to manage flood risk in PVA 05/11						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Flood Protection Study	R	A flood study will investigate the feasibility of providing flood protection for the Dalfaber Road area of Aviemore from the River Spey.	The Highland Council	2022	Due to a reduction of funding to The Highland Council's Capital Programme (March 2018) this study did not progress.	This will be prioritised against actions in cycle 2.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Aviemore sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2018	On track to deliver within agreed LFRMP timescales	2018
Maintain flood warning	G	Continue to maintain flood warning in Aviemore, which warns of flooding from the River Spey.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.12 Findhorn, Nairn and Speyside Plan District (PVA 05/12)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Spey

Summary of Progress for Kingussie (PVA 05/12)

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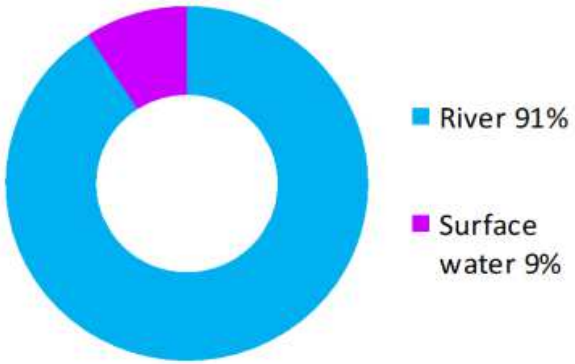
The area has a risk of river, surface water flooding. The majority of damages are caused by river flooding. There are approximately 30 residential properties and 20 non-residential properties at risk of flooding. The Annual Average Damages are approximately £92, 000. Further information can be found in the LFRMP under PVA 05/12.

Link to LFRMP PVA 05/12

Key progress:

- The Highland Council completed a flood protection study to help reduce the risk of flooding from the Gynack Burn
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/12

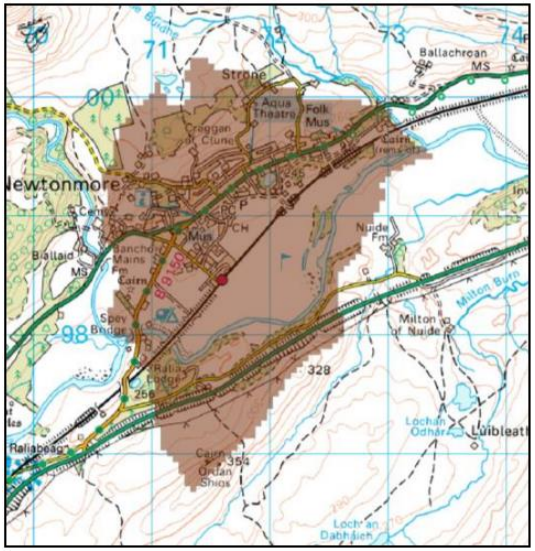
PVA	Flood Protection Scheme Works	Natural Flood Management Works	New Flood Warning	Flood Protection Study	Natural Flood Management Study	Surface Water Plan/Study	Strategic Mapping and Modelling SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/12																				

Summary of progress of actions to manage flood risk in PVA 05/12						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Flood Protection Study	A	A flood study to investigate the feasibility of providing flood protection for Kingussie from the River Gynack.	The Highland Council	2019	The Highland Council have completed the first stage with a hydraulic modelling study of the River Gynack. This study will continue into cycle 2 with an Option Appraisal Assessment, identifying preferred solutions to reduce the flood risk.	The Highland Council plans to commission a Flood Protection Study during Cycle 2.
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Kingussie sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	2019
Maintain flood warning	G	Continue to maintain flood warning in Aviemore, which warns of flooding from the River Spey.	SEPA	Ongoing	SEPA has continued to operate the flood warning service	SEPA will continue to operate the flood warning service

6.13 Findhorn, Nairn and Speyside Plan District (PVA 05/13)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Spey

Summary of Progress for Newtonmore (PVA 05/13)



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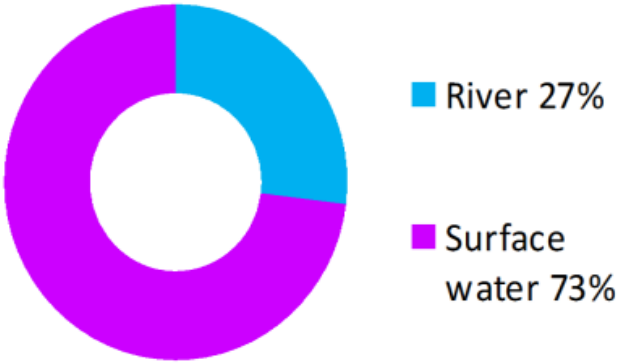
The area has a risk of surface water and river flooding. The majority of damages are caused by surface water flooding. There are approximately 20 residential properties and 20 non-residential properties at risk of flooding. The Annual Average Damages are approximately £41, 000. Further information can be found in the LFRMP under PVA 05/13.

Link to LFRMP PVA 05/13

Key progress:

- The Highland Council have continued to carry out maintenance the local waterways to reduce the overall flood risk
- SEPA continuing to provide flood forecasting and flood warnings to the local area



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/13

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy

05/13																				

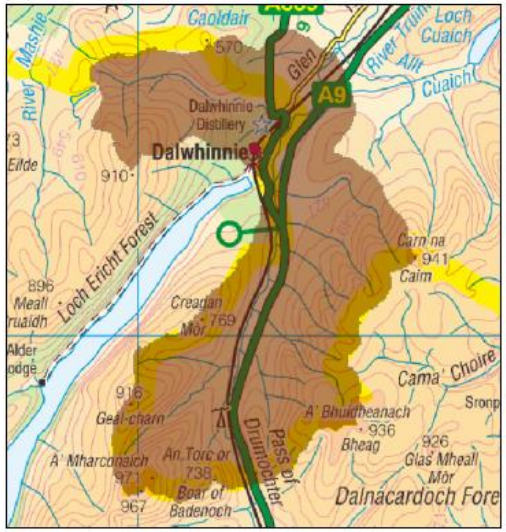
Summary of progress of actions to manage flood risk in PVA 05/13						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Surface Water Plan/Study	G	The Highland Council will develop a Highland-wide Surface Water Management Plan. Newtonmore will be one of the focus areas.	The Highland Council	Cycle 2	The Highland Council have started working on developing its SWMP. Hotspots within the priority areas have been identified and give priorities and objectives. For Newtonmore this initial assessment determined that it should no longer be considered a priority area and no further assessment for Newtonmore will be carried out.	
Strategic mapping and modelling	G	Scottish Water are undertaking investigation and modelling in the Newtonmore sewer catchment to improve knowledge and understanding of flood risk in this area.	Scottish Water	2019	On track to deliver within agreed LFRMP timescales	2019
Maintain flood warning	G	Continue to maintain flood warning in Newtonmore, which warns of flooding from the River Spey.	SEPA	Ongoing	SEPA has continued to operate the flood warning service.	SEPA will continue to operate the flood warning service

Community Flood Action Groups	G	The Newtonmore Community Council and Newtonmore Community Woodlands and Development Trust have engaged with authorities with respect to flooding issues in the past	Community		The Highland Council has engaged with local groups in the development of the Surface Water Management Plan.	Further engagement will be carried out to build resilience and raise awareness.

6.14 Findhorn, Nairn and Speyside Plan District (PVA 05/14)

Local Plan District	Local authority	Main catchment
Findhorn, Nairn and Speyside	The Highland Council	River Spey

Summary of Progress for Dalwhinnie (PVA 05/14)



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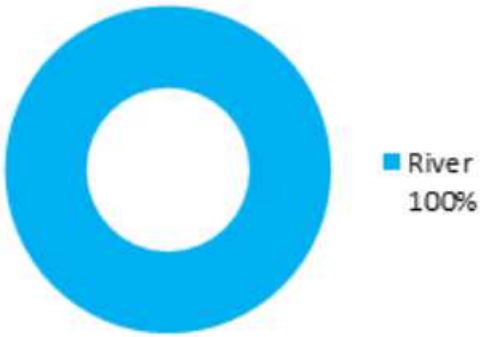
The area has a risk of river flooding. The majority of damages are caused by river flooding. There are approximately 20 residential properties and >10 non-residential properties at risk of flooding. The Annual Average Damages are approximately £170, 000. Further information can be found in the LFRMP under PVA 05/14.

Link to LFRMP PVA 05/14

Key progress:

- The Highland Council have continued to carry out maintenance the local waterways to reduce the overall flood risk
- SEPA continuing to provide flood forecasting to the local area to help local prepare for a potential flood



Annual Average Damages by flood source

Overview of actions to manage flooding in PVA 05/14

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 SEPA Coastal	Strategic Mapping and Modelling SEPA Pluvial/Fluvial	Strategic Mapping and Modelling Scottish Water	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 Plan	Planning Policy
05/14																				

Summary of progress of actions to manage flood risk in PVA 05/14						
Action	**Status (Red; Amber; Green)**	**Description**	**Delivery Lead**	**Planned Dates**	**Progress in Delivery, including key deliverables and dates**	**Revised dates and planned actions to complete / address delay**
Strategic mapping and modelling	A	SEPA will develop the strategic mapping for the River Trium in Dalwhinnie, taking into consideration information from the A9 dualling.	SEPA	2021	As part of the ongoing A9 Dualling Programme, a topographic survey has been undertaken. A modelling study on the River Truim has been undertaken as part of the A9 Dalwhinnie to Crubenmore road project.	Clarification is being sought from Transport Scotland over the likely timescales for the availability of this study. SEPA will await the conclusion of this study and a final route selection for the A9 at this location before progressing further with this action. Given the ongoing A9 dualling programme it is anticipated that this action will not progress to a study prior to Cycle 2. SEPA will continue to engage with Transport Scotland and their contractors for any opportunities to progress this action prior to Cycle 2 if appropriate.

Annex 1: Actions

Annex 1 provides a full list of Findhorn, Nairn and Speyside Local Plan District Cycle 1 Actions and is available for download from the Moray Council website here –

http://www.moray.gov.uk/moray_standard/page_80332.html

Annex 2: Roles and Responsibilities

Individuals are the first line of defence against flooding. However, public bodies have responsibilities too and are working together to reduce the impacts of flooding in Scotland. Responsibility for flood risk management planning falls in the main to SEPA, local authorities and Scottish Water. 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 to sign up to Floodline - www.floodlinescotland.org.uk - to 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 - www.sepa.org.uk/environment/water/flooding/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.

In running Floodline, SEPA 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 forecast for flooding SEPA works 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 resources and help to promote preparedness and understanding of how flood risk is managed.

SEPA has a statutory role in relation to the provision of flood risk advice to planning authorities. This role is expressed in Section 72 of the FRM Act, 2009. SEPA also has a duty to co-operate with planning authorities in the preparation of development plans. When consulted in relation to planning applications for development or site allocations in development plans, and where the planning authority considers there may be a risk of

flooding, SEPA will provide advice. The advice provided by SEPA will be with respect to the risk of flooding and on the basis of the relevant information it holds which is suitable for planning purposes. It will also be in line with the principles and duties set out in the FRM Act. Further information about how SEPA engage in the planning system, including guidance on flood risk and planning is available on SEPA website www.sepa.org.uk/environment/land/planning

Local authorities

Local authorities work together for flood risk management planning purposes through a single lead authority which has the responsibility to produce a Local Flood Risk Management Plan. Local authorities have been working collaboratively in the manner described above to develop these.

It is the responsibility of your local authority to implement its flood protection actions agreed within the Local Flood Risk Management Plan. You can help your local authority to manage flooding by not dumping material on the banks of a watercourse and by letting them know if flood defences are tampered with.

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

The Lead Local Authority for the Findhorn, Nairn and Speyside Local Plan District is:

Moray Council

Other local authorities who are responsible authorities for the Findhorn, Nairn and Speyside Local Plan District are:

Highland Council

Scottish Water

Scottish Water is a responsible authority for flood risk management and is working closely with SEPA, local authorities and other responsible authorities 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 surfaces 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 Park

The National Park Authorities for Cairngorms National Park, were designated as responsible authorities for flood risk management purposes in 2013. Both have worked with SEPA, local authorities and Scottish Water to help develop Flood Risk Management Strategies and Local Flood Risk Management Plans. They also fulfil 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.

Forestry Commission Scotland

Forestry Commission Scotland was designated in 2013 as a responsible authority for flood risk management planning purposes and has engaged in the development of the Local Flood Risk Management Plan. This reflects the widely held view that forestry can play a significant role in managing flooding.

Other organisations

- The **Scottish Government** oversees the implementation of the Flood Risk Management (Scotland) Act 2009 which requires the production of Flood Risk Management Strategies and Local Flood Risk Management Plans. Scottish Ministers are responsible for setting the policy framework for how organisations collectively manage flooding in Scotland.
- **NatureScot** has provided general and local advice in the development of this Flood Risk Management Strategies. Flooding is seen as a natural process that can maintain the features of interest at many designated sites, so NatureScot helps to ensure that any changes to patterns of flooding do not adversely affect the environment. NatureScot also provides advice on the impact of Flood Protection Schemes and other land use development on designated sites and species.
- During the preparation of the first flood risk management plans **Network Rail** and **Transport Scotland** have identified works to address flooding at a number of frequently flooded sites. Further engagement is planned with SEPA and 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 relief when flooding occurs and can coordinate evacuations. 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 3: Links to other plans, policies, strategies and legislative requirements

S18 Schedule of Clearance and Repair

The table below provides details of how to access schedules of clearance and repair for each local authority under Section 18 of the Flood Risk Management (Scotland) Act 2009:

Local Authority	Method of public access to the S18 Schedule
Moray Council	Information available on request. Details available here http://www.moray.gov.uk/moray_standard/page_92010.html or for further information contact flooding@moray.gov.uk
Highland Council	Information available on request. Details available here https://www.highland.gov.uk/info/1226/emergencies/81/flooding or for further information contact 01349 886601

Annex 4: Supporting information

Sources of flooding described in this Plan

The Local Flood Risk Management Plan addresses 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, and the Actions set out in this Plan take this into account.

The following aspects of flooding have not been incorporated into this Plan:

- **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 (Reservoirs (Scotland) Act 2011). Further information and maps can be found on SEPA's website.
- The Flood Risk Management Act (Scotland) 2009 does not require SEPA or responsible authorities to assess or manage **coastal erosion**. However, SEPA has included consideration of erosion in the Flood Risk Management Strategies by identifying areas that are likely to be susceptible to erosion and 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 erosion in these areas.
- **Coastal flood modelling.** The information on coastal flooding used to set objectives and identify actions is based on SEPA modelling using simplified 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, coastal flood risk may be underestimated in some areas. Conversely, in locations with wide and flat floodplains, the modelling may overestimate flood risk. To address this, in a number of locations where more detailed local models were available they have been incorporated into the development of the Flood Risk Management Strategies. 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.

Commonly used terms

Below are explanatory notes for commonly used terms in flood risk management. A glossary of terms is also available.

- **Reference to flood risk.** During the development of the Strategy and Plan, flood risk has been assessed over a range of likelihoods. For consistency in reporting information, 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 or 1 in 1000 chance/likelihood of flooding in any given year respectively.

Likelihood of Flooding	Return Period	Annual Exceedance Probability (chance of event occurring in any one year)
High	10 year	10%
Medium	200 year	0.5%
Low	1000 year	0.1%

- **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 year's 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. 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).

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.

- ***Potentially Vulnerable Areas and Local Plan Districts***

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.

For flood risk management purposes, Scotland was divided into 14 Local Plan Districts. Each Local Plan District will have a Flood Risk Management Strategy and a Local Flood Risk Management Plan.

- ***Improving the understanding of flooding***

SEPA developed **flood hazard and flood risk maps** between 2012 and 2014. These maps improved the 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.

- ***Lead local authority***

The FRM Act requires a lead local authority to be identified for each Local Plan District. The lead local authority is crucial to the successful implementation of the FRM Act and, as such, must perform several important functions over and above the general duties and powers given to local authorities elsewhere in the FRM Act.

The lead local authority, having contributed with other local authorities to the production of the Flood Risk Management Strategy, must prepare a Local Flood Risk Management Plan of co-ordinated actions to reduce flood risk within the Local Plan District. Although the lead local authority is responsible for the production of the plan, its content will be drawn from and agreed by all local authorities, other responsible authorities and SEPA within the Local Plan District.

- ***Surface Water Management Plans***

A Surface Water Management Plan (SWMP) is a best practice plan which outlines the preferred surface water management strategy in a given location. In this context surface water flooding describes flooding from sewers, drains, groundwater, and runoff from land, small water courses and ditches that occurs as a result of heavy rainfall.

A SWMP study is undertaken in consultation with key local partners who are responsible for surface water management and drainage in their area. Partners work together to understand the causes and effects of surface water flooding and agree the most cost effective way of managing surface water flood risk for the long term. The process of working together as a partnership is designed to encourage the development of innovative solutions and practices.

A SWMP should establish a long-term action plan to manage surface water in an area and should influence future capital investment, drainage maintenance, public engagement and understanding, land-use planning, emergency planning and future developments.

The UK Government SWMP guidance seeks to provide a simplified overarching framework, which allows different organisations to work together and develop a shared understanding of the most suitable solutions to surface water flooding problems. The SWMP guidance has

been written for local authorities to assist them as they co-ordinate and lead local flood risk management activities.

- ***Integrated Catchment Studies***

Integrated Catchment Studies (ICS) are led by Scottish Water in partnership with local authorities and SEPA. These studies will improve knowledge and understanding of the interactions between the above ground and below ground drainage network e.g. with the sewer network, watercourses and (where appropriate) the sea. This will improve the understanding of contributions these drainage networks play in local surface water flood risk.

Five ICS's were undertaken in Scotland during SR10 (2010-2015), to Modelling and Flood Risk Assessment stage, which have provided a fuller understanding of the sources and mechanisms of flooding across these catchments. These studies are expected to undertake an Pioneering phase between 2015-2021. This will identify the actions to reduce flood risk across the catchments, with the outputs feeding into the Local Authority led Surface Water Management Planning process.

Fifteen ICS's will begin in Scotland during SR15 (2015-2021). These studies will go through the Scoping and Modelling phases, which culminates in defining the sources and mechanisms of flooding in the catchment, and an understanding of the impacts of that flooding. It is expected that the ICS partnerships will remain and it is anticipated that the Optioneering phase for these studies will be initiated directly after the preceding phases.

- ***Natural flood management assessment and mapping of artificial and natural features***

The new approach to Flood Risk Management requires SEPA to consider whether techniques that restore, enhance or alter natural features and characteristics can contribute to managing flood risk. This means looking at the potential to work with natural hydrological and morphological processes.

Because the National Flood Risk Assessment provides only a strategic assessment of flood risk, further refined assessments may be required in Potentially Vulnerable Areas, including the mapping of artificial and natural features whose removal could increase flood risk.

The development of catchment characteristics and methodologies, to assess the potential for natural flood management, commenced in 2012 alongside work to identify natural flood management actions, which could contribute to the management of flood risk. The information was published in 2013. The assessment of natural flood management was a consideration in the setting of objectives and actions in the Flood Risk Management Strategies. In January 2016 SEPA published the Natural Flood Management Handbook to provide practitioners with information on how best to implement natural flood management measures.

- ***Flood hazard and flood risk maps***

The production of flood hazard and flood risk maps has improved our understanding of flooding and helped inform the selection of actions required to manage flood risk in Potentially Vulnerable Areas. Work on production of these maps began in January 2012.

These maps show details of flood events for a range of probabilities and cover flooding from rivers, the sea, sewers, surface water run-off and groundwater.

A flood hazard map shows information that describes the nature of a flood, such as the extent of flooding, water level, depth and velocity where appropriate.

A flood risk map provides detail on the impacts on people, the economy, cultural heritage and the environment.

Further information regarding the development of the flood maps and providing a link to the maps, is available online on the SEPA website here – http://www.sepa.org.uk/environment/water/flooding/flood-maps/

Annex 5: Acknowledgments

The information described in this Annex relates to the Figures and Maps that have been generated by SEPA as part of the Flood Risk Management Strategy and have been reproduced in this Local Flood Risk Management Plan. The Findhorn, Nairn and Speyside Local Plan District Partners gratefully acknowledge the cooperation and input that various parties have provided, including inter alia, the following organisations:

SEPA

Local authorities acknowledge the inclusion of Figures, Maps and text generated by SEPA in preparation of the Clyde and Loch Lomond Flood Risk Management Strategy. Figures and Maps produced by SEPA for the Findhorn, Nairn and Speyside Flood Risk Management Strategy have been reproduced in the Findhorn, Nairn and Speyside Local Flood Risk Management Plan with authorisation from SEPA under SEPA Licence number 100016991 (2015).

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Local authorities

Lead authorities acknowledge the provision of flood models and other supporting data and information from local authorities and their collaboration in the production of flood risk management information.

Scottish Water

Local authorities acknowledge the inclusion of surface water flooding data generated by Scottish Water in preparation of flood risk information.

Glossary

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. The FRM Act uses the term 'measures' rather than 'actions'.

Annual Average Damages (AAD) - Depending on its size or severity, each flood will cause a different amount of damage to a flood prone area and we can calculate the cost of this damage. Annual Average Damages for an area are the average costs per year that would occur from flooding over a very long period of time. Scottish figures have been calculated based on the method set out in the Flood Hazard Research Centre's 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.

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.

Candidate Potentially Vulnerable Area – 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.

Catchment – The area of land drained by a drainage system – either natural or piped.

Category (CAT) 1 and 2 Responders – As defined by the Civil Contingencies Act 2004. 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 co-operating 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.

Coastal Flooding – Flooding that results from sea level rise from a combination of high tides 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.

Combined Sewer - Combined sewers transport foul sewage from homes and industry as well as carrying surface water runoff from gutters, drains and some highways. Heavy or prolonged rainfall can rapidly increase the flow in a combined sewer until the amount of water exceeds sewer capacity.

Combined Sewer Overflow - Combined sewer overflows are purposely designed structures to ensure any excess water from sewerage systems is discharged in a controlled way and at a specific managed location.

Confluence - Where two or more rivers meet.

Conveyance - Conveyance is a measure of the carrying capacity of a watercourse. Increasing conveyance enables flow to pass more rapidly and reducing conveyance slows flow down. Both actions can be effective in managing flood risk depending on local conditions.

Cultural Heritage Site - Sites of particular cultural significance may be designated. The highest level of designation is a World Heritage Site. Historic Environment Scotland maintains lists of buildings of special architectural or historic interest; these buildings are referred to as 'listed buildings'.

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 – A flood embankment is an engineered earthfill structure 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.

Environmental Impact Assessment (EIA) - A process which identifies the potential environmental impacts, both negative and positive, of a proposal.

Estuary - A coastal body of water usually found where a river meets the sea; the part of the river that is affected by tides.

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 Bund - A constructed retaining wall, embankment or dyke designed to protect against flooding to a specified standard of protection.

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.

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 / Protection Scheme - 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 - 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 Strategy - Sets out a long-term vision for the overall reduction of flood risk. Contains 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 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 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.

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.

Floodplain Storage - Floodplains naturally store water during high flows. Storage can be increased through natural or man-made features to increase flood depth or slow flows in order to reduce flooding elsewhere.

Green (Blue-Green) Infrastructure - The European Commission defines green infrastructure as “the use of ecosystems, green spaces and water in strategic land use planning to deliver environmental and quality of life benefits. It includes parks, open spaces, playing fields, woodlands, wetlands, road verges, allotments and private gardens. Green infrastructure can contribute to climate change mitigation and adaptation, natural disaster risk mitigation, protection against flooding and erosion as well as biodiversity conservation.”

Historic Environment Scotland - The new lead public body for the country’s historic environment. It brings together Historic Scotland and the Royal Commission on the Ancient and Historic Monuments of Scotland.

Habitats Regulations Appraisal - The Habitats Regulations require competent authorities to assess certain plans or projects which affect Natura sites. Any development proposal, which requires planning permission or other consent, is a 'project' which may require consideration under the Habitats Regulations.

Land Use Planning – 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 - A local authority responsible for leading the production, consultation, publication and review of a Local Flood Risk Management Plan.

Local Development Plan – A Local Development Plan (LDP) provides the vision for how communities will grow and develop in the future. The intention is that they provide certainty for communities and investors alike about where development should take place and where it should not and the supporting infrastructure required for growth. A LDP is required for each council area across Scotland.

Local Flood Risk Management Plan - Produced by lead local authorities, these 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 co-ordination 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.

Local Plan District Partnerships - Each Local Plan District 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 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 - 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.

Potentially Vulnerable Area - 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 Potentially Vulnerable Areas identified by SEPA in the National Flood Risk Assessment and these will be the focus of the first FRM planning cycle.

Property Level Protection - Property level protection includes flood gates, sandbags and other temporary barriers that can be used to prevent water from entering individual properties during a flood.

Q&S - Quality and Standards (Q&S) is the process, governing costs and outputs, through which the planning and delivery of improvements by Scottish Water to the public drinking water and sewerage services in Scotland is carried out.

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 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.

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.

Runoff Reduction - Actions within a catchment or sub-catchment to reduce the amount of runoff during rainfall events. This can include intercepting rainfall, storing water, diverting flows or encouraging infiltration.

Scottish Advisory and Implementation Forum for Flooding (SAIFF) - The stakeholder forum on flooding set up by the Scottish Government to ensure legislative and policy aims are met and to provide a platform for sharing expertise and developing common aspirations and approaches to reducing the impact of flooding on Scotland's communities, environment, cultural heritage and economy.

Scottish Flood Forecasting Service - SEPA operates a network of over 250 rainfall, river and coastal monitoring stations throughout Scotland that generate data 24 hours a day. 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 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.

Self Help - Self help actions can be undertaken by any individuals, businesses, organisations or communities at risk of flooding. They are applicable to all sources, frequency and scales of flooding. They focus on awareness raising and understanding of flood risk.

Site Protection Plans - Site protection plans are developed to identify whether normal operation of a facility can be maintained during a flood. This may be due to existing protection or resilience of the facility or the network.

Site of Special Scientific Interest - Sites protected by law under the Nature Conservation (Scotland) Act 2004 to conserve their plants, animals and habitats, rocks and landforms.

Special Area of Conservation (SAC) - Strictly protected site designated under the European Habitats Directive. The Directive requires the establishment of a European network of protected areas which are internationally important for threatened habitats and species.

Strategic Environmental Assessment - 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 Flood Risk Assessment (SFRA) - A Strategic Flood Risk Assessment is designed for the purposes of specifically informing the Development Plan Process. A SFRA involves the collection, analysis and presentation of all existing and readily available flood risk information (from any source) for the area of interest. It constitutes a strategic overview of flood risk.

Standard of protection (SoP) - 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.

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 Drainage Systems (SuDS) - A set of techniques designed to slow the flow of water. They can contribute to reducing flood risk by absorbing some of the initial rainfall and then releasing it gradually, thereby reducing the flood peak and helping to mitigate downstream problems. SuDS encourage us to take account of quality, quantity and amenity / biodiversity.

Sustainable Flood Risk Management - 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 sustainable development is generally recognised to reconcile three pillars of sustainability – environmental, social and economic.

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.

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 and the ability to recover following a flood (resilience).