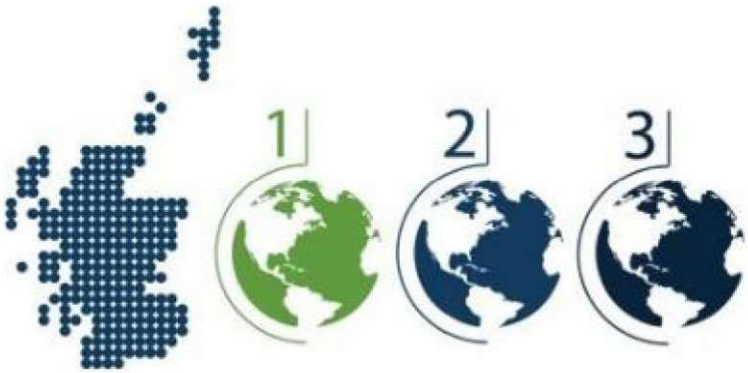
Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Findhorn, Nairn and Speyside Local Plan District (LPD 5)

Draft flood risk management plans 2022-2028

Every day SEPA works to protect and enhance Scotland's environment, helping communities and businesses thrive within the resources of our planet.

We call this One Planet Prosperity



Potentially Vulnerable Areas

Potentially Vulnerable Areas (PVA) were designated in 2018 based on the potential current or future risk from all sources of flooding. This designation was informed by the National Flood Risk Assessment (link). As part of continued analysis of flood risk, the National Flood Risk Assessment and Potentially Vulnerable Areas (PVA) will be reviewed every six years to take on board any new information. There are 15 Potentially Vulnerable Areas (PVA) in this Local Plan District. Following sections provide more information on these areas.

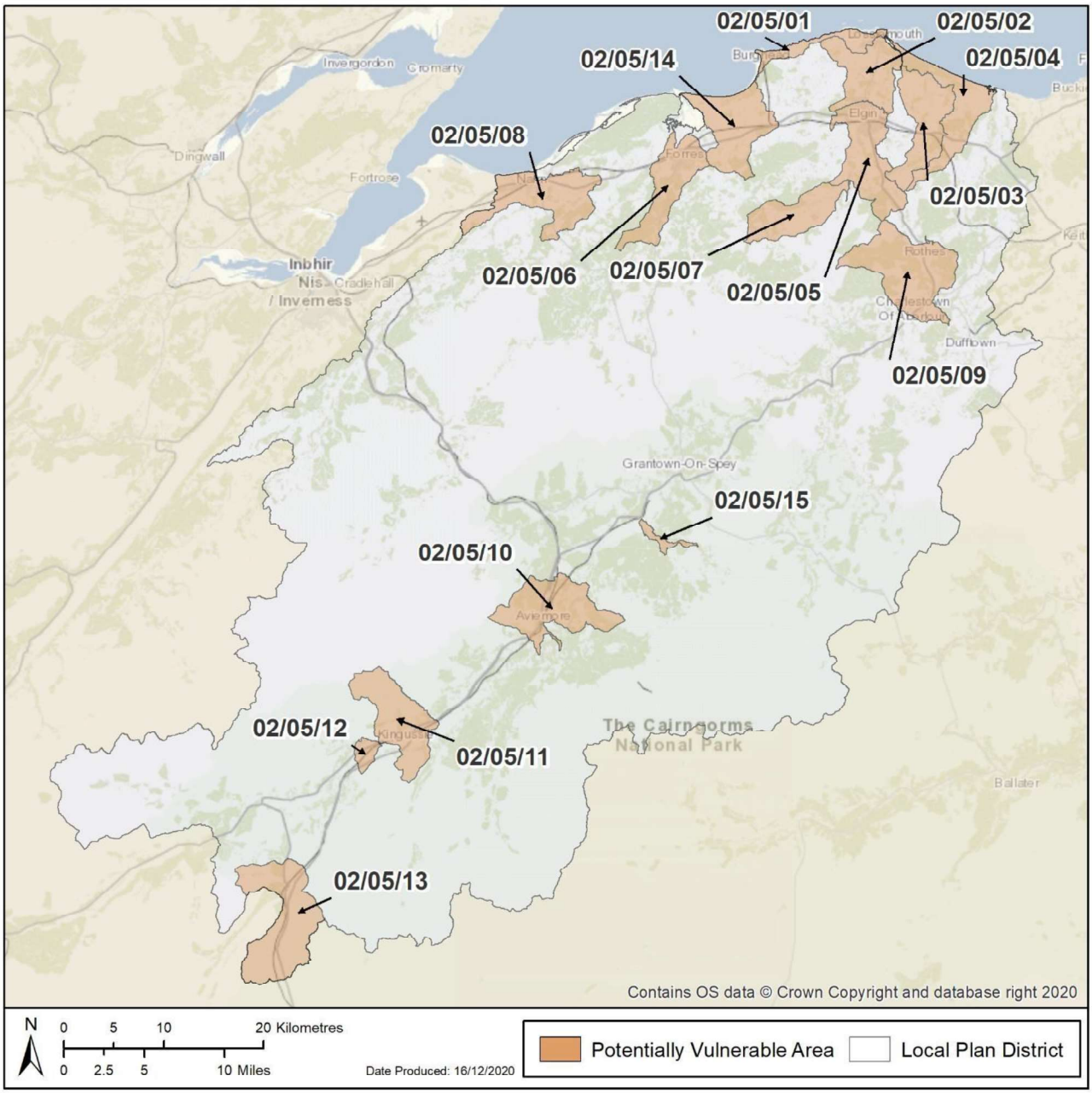


Figure 1. Potentially Vulnerable Areas in Findhorn, Nairn and Speyside Local Plan District

LPD 5 Findhorn, Nairn and Speyside - table of contents

Click the blue text to select your area of interest

02/05/01 (Burghead to Lossiemouth)

This area is designated as a Potentially Vulnerable Area due to the risk of surface water flooding to Hopeman.

There are 2 areas in this Potentially Vulnerable Area, which have been the focus of further assessment, these are listed below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Hopeman	(target area 389)
Lossiemouth	(target area 391)

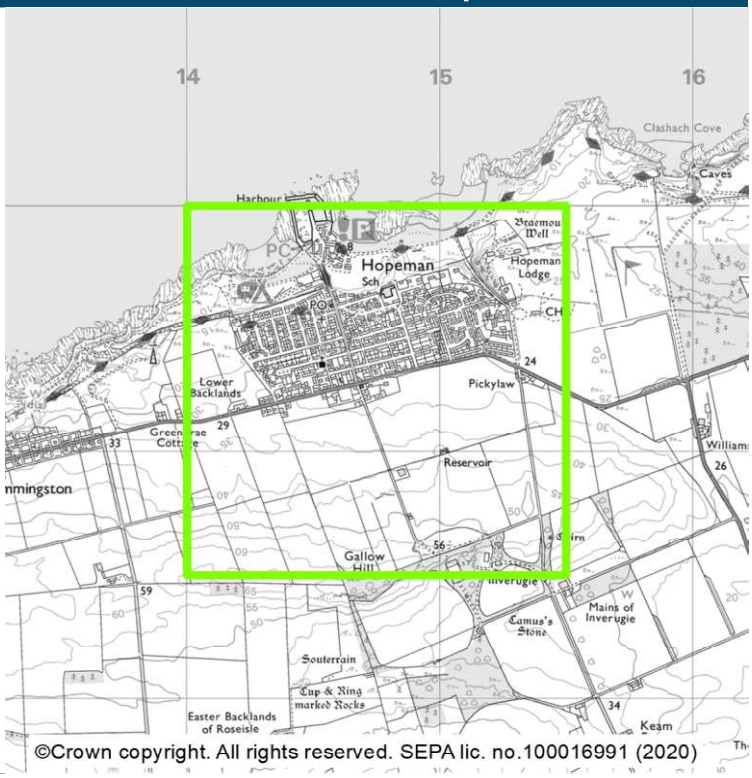
Flood risk management plan datasheet

Hopeman (target area 389)

Summary

Hopeman is located along the southern shore of the Moray Firth and is within the Moray Council area. The main source of flooding in the area is surface water flooding. There are approximately 180 people and 110 homes and businesses currently at risk from flooding. This is likely to increase to 240 people and 150 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources, and this national assessment has highlighted the risk of surface water flooding in this target area. Hopeman has therefore been identified as a new target area for the 2021 flood risk management plans. The national assessment is improved for surface water flooding by the development of private works to reduce the risk of surface water flooding in the Hopeman area. Heavy rainfall is known to run off the steep surrounding hills overwhelming the local drainage systems. There are frequent records of surface water flooding in Hopeman, including floods during August and October 2014.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3891	Avoid flood risk	Avoid inappropriate development that increases flood risk in Hopeman.
3892	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of flood protection works at Hopeman.
3893	Improve data and understanding	Improve data and understanding of the performance of the flood protection asset in Hopeman.
3894	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Hopeman.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 38901)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the flood protection works at Hopeman. The scheme is to be maintained by the current landowner.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Sewer flood risk assessment (Ref: 38902)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Lossiemouth sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Flood warning maintenance (Ref: 38903)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

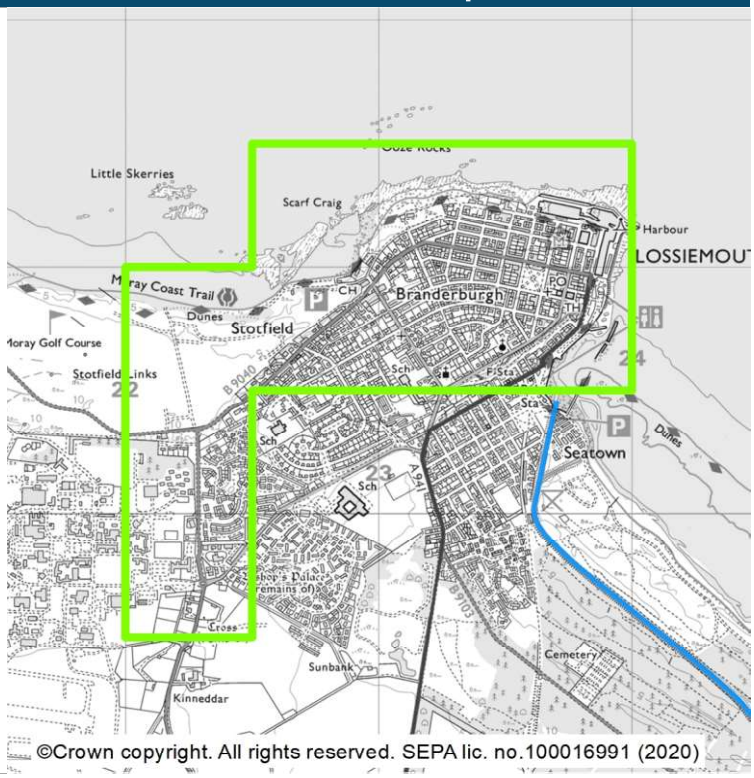
Flood risk management plan datasheet

Lossiemouth (target area 391)

Summary

Lossiemouth is located on the southern shore of the Moray Firth south and is within the Moray Council area. The main source of flooding in Lossiemouth is coastal flooding. There are approximately 140 people and 90 homes and businesses currently at risk from flooding. This is estimated to increase to 200 people and 130 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for coastal flooding by the development and operation of the Moray Firth flood warning scheme. There is a long history of coastal flooding in Lossiemouth.

The Dynamic coast project has shown that parts of the shoreline in or adjacent to this target area are subject to erosion at present or are considered likely to erode in the future. Consideration should be given to how erosion might impact flood risk. Any actions taken should aim to support building natural resilience to flooding and not lead to an increase in erosion.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3911	Avoid flood risk	Avoid inappropriate development that increases flood risk in Lossiemouth.
3912	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Lossiemouth.
3913	Reduce flood risk	Reduce the risk of coastal flooding to Lossiemouth.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Sewer flood risk assessment (Ref: 39101)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Lossiemouth sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Strategic mapping improvements (Ref: 39102)
Action	SEPA will continue to update flood maps based on new information.
Action detail	SEPA has undertaken improved coastal modelling in this target area including taking account of the impact of waves on coastal flooding. We will complete and publish the outcomes of this modelling work to inform decision making with respect to flooding at the coast.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 39103)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/05/02 (Spynie)

This area is designated as a Potentially Vulnerable Area due to the risk of coastal flooding to the Seatown area of Lossiemouth. There is a history of flooding in the area, recently caused by combined coastal and river flooding.

There is 1 area in this Potentially Vulnerable Area, which has been the focus of further assessment, this is identified below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Seatown (target area 9991)

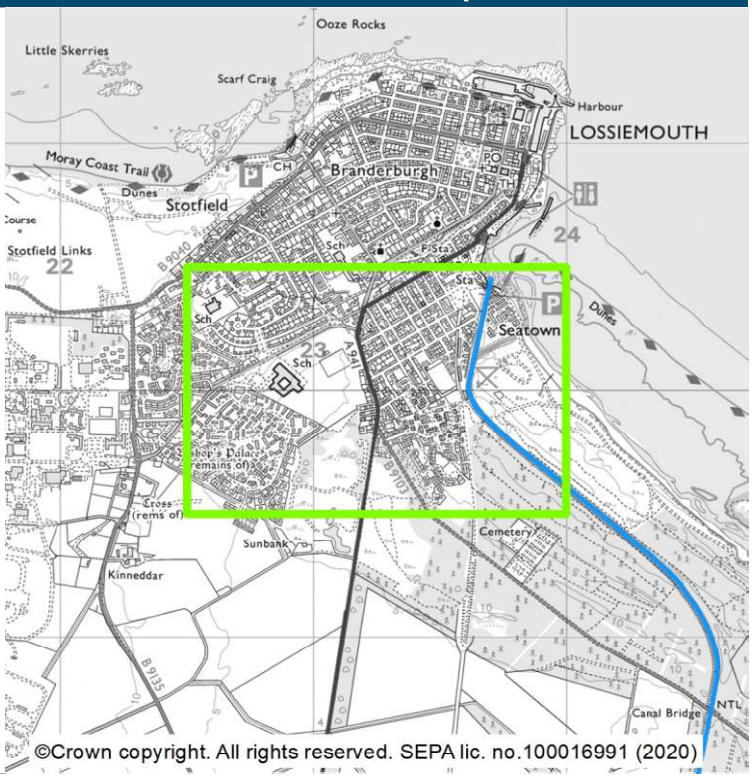
Flood risk management plan datasheet

Seatown, Lossiemouth (target area 9991)

Summary

Seatown is an area of Lossiemouth, facing onto the River Lossie estuary, in the Moray Council area. The main source of flooding in Seatown is coastal flooding. There are approximately 390 people and 200 homes and businesses currently at risk of flooding. This is likely to increase to 490 people and 250 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for coastal flooding by the Lossiemouth Coastal Flood Study. There are records of coastal flooding in the Seatown area of Lossiemouth including floods in December 2012.
The Dynamic coast project has shown that parts of the shoreline in or adjacent to this target area are subject to erosion at present or are considered likely to erode in the future. Consideration should be given to how erosion might impact flood risk. Any actions taken should aim to support building natural resilience to flooding and not lead to an increase in erosion.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
99911	Avoid flood risk	Avoid inappropriate development that increases flood risk in the Seatown area of Lossiemouth.
99912	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in the Seatown area of Lossiemouth.
99913	Reduce flood risk	Reduce the risk of coastal flooding to the Seatown area of Lossiemouth.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood scheme or works design (Ref: 999101)
Action	The selected preferred approach for managing flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Further development of the preferred option will be required prior to commencing with the detailed design. This is to address current and future flood risk. The need for an adaptation plan should also be assessed. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works implementation (Ref: 999102)
Action	The flood scheme/works is to be built following agreement of the design, costs and timescales.
Action detail	Progress the Seatown Flood Protection Scheme based on the detailed design. As built drawings should be made available to SEPA, for consideration in the Scottish Flood Defence Asset Database, flood map improvements and flood warning scheme updates. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Community engagement (Ref: 999103)
Action	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk.
Action detail	The responsible authorities to continue to engage with the community, with particular focus on the detailed design of the flood protection scheme.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Sewer flood risk assessment (Ref: 999104)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Lossiemouth sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Flood warning maintenance (Ref: 999105)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

	Strategic mapping improvements (Ref: 999106)
Action	SEPA will continue to update flood maps based on new information.
Action detail	SEPA has undertaken improved coastal modelling in this target area including taking account of the impact of waves on coastal flooding. We will complete and publish the outcomes of this modelling work to inform decision making with respect to flooding at the coast.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/05/03 (Lhanbryde)

This area is designated as a Potentially Vulnerable Area due to the risk of river flooding in Lhanbryde. This is managed by the Lhanbryde flood alleviation scheme. There are no recent records of river flooding in Lhanbryde.

There is 1 area in this Potentially Vulnerable Area, which has been the focus of further assessment, this is identified below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Lhanbryde (target area 390)

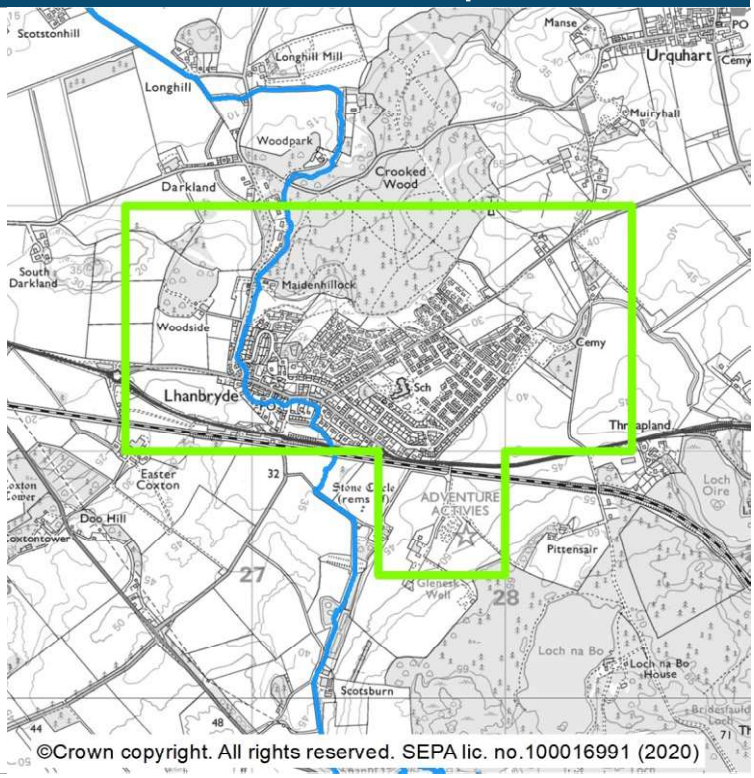
Flood risk management plan datasheet

Lhanbryde (target area 390)

Summary

Lhanbryde is located east of Elgin in the Moray Council area. The national assessment estimates that there are approximately 180 people and 100 homes and businesses at risk from flooding. The Lhanbryde Flood Protection Scheme benefits an estimated 30 homes and 5 businesses up to a 1 in 100 year standard of protection. The number of people, homes and businesses at risk is expected to increase by approximately 10% by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is underpinned for river flooding by the design of the Lhanbryde Flood Protection Scheme (2005) and is improved for surface water flooding by a sewer flood risk assessment. There were frequent records of flooding prior to completion of the flood scheme including notable floods in 1997. Since completion, surface water flooding has been recorded, and there are also records of floods in nearby areas not protected by the scheme.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3901	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Lhanbryde Flood Alleviation Scheme.
3902	Avoid flood risk	Avoid inappropriate development that increases flood risk in Lhanbryde.
3903	Improve data and understanding	Improve data and understanding of the performance of the Lhanbryde Flood Alleviation Scheme.
3904	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Lhanbryde.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 39001)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	The Lhanbryde Flood Alleviation Scheme should be maintained as per the design requirements in order to continue to reliably provide the appropriate level of protection.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood study (existing flood defences) (Ref: 39002)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the Lhanbryde Flood Alleviation Scheme. This is because our understanding of hydrology and climate change has improved since the construction of the scheme in 2005. The need for an adaptation plan should be evaluated. The impact of the sediment trap on the channel should be assessed as part of this.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Sewer flood risk assessment (Ref: 39003)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Lossiemouth sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/05/04 (Kingston and Garmouth)

This area is designated as a Potentially Vulnerable Area due to the risk of coastal flooding to Garmouth and Kingston. Sea level rise as a result of climate change is expected to increase the risk of flooding. Recent flooding has been caused by river and coastal flooding.

There are 2 areas in this Potentially Vulnerable Area, which have been the focus of further assessment, these are listed below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Garmouth	(target area 393)
Kingston	(target area 463)

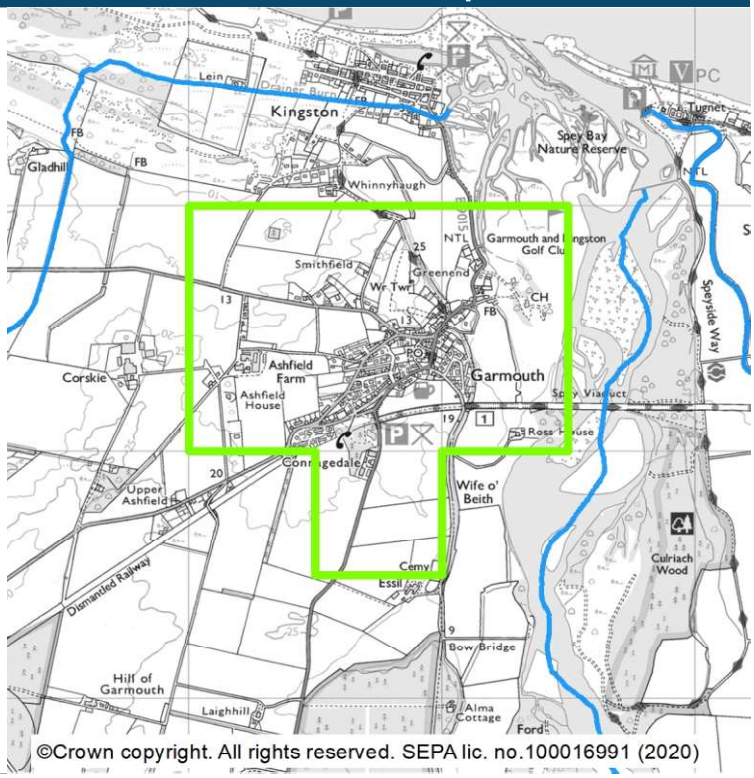
Flood risk management plan datasheet

Garmouth (target area 393)

Summary

Garmouth is located near the mouth of the River Spey within in the Moray Council area. The main source of flooding in Garmouth is the River Spey. There is also a risk of surface water and coastal flooding. Combined river and coastal flooding may also be an issue. There are approximately 80 people and 50 homes and businesses currently at risk from flooding. A local assessment indicates that this may be over-estimated. This is estimated to increase to 90 people and 60 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved by studies and inspections carried out by Moray Council. Understanding of both river and coastal flooding is improved by the development and operation of the Moray Firth and the River Spey flood warning schemes. The understanding of surface water flooding is improved by a sewer flood risk assessment. There are frequent records of flooding in Garmouth.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3931	Avoid flood risk	Avoid inappropriate development that increases flood risk in Garmouth.
3932	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Garmouth.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Adaptation plan (Ref: 39301)
Action	Information on climate change is to be used to develop an adaptation plan to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	An adaptation plan should be developed in conjunction with community engagement. The plan should consider the current and future flood risk to receptors and assets and consider how they can be modified to manage the flood risk or removed from the flood risk.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 39302)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Spey and the Moray Firth coastal flood warning schemes.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Flood warning maintenance (Ref: 39303)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should investigate improvements to the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

There is potential to work with SEPA's River Basin Management team to improve the physical condition of the water environment.

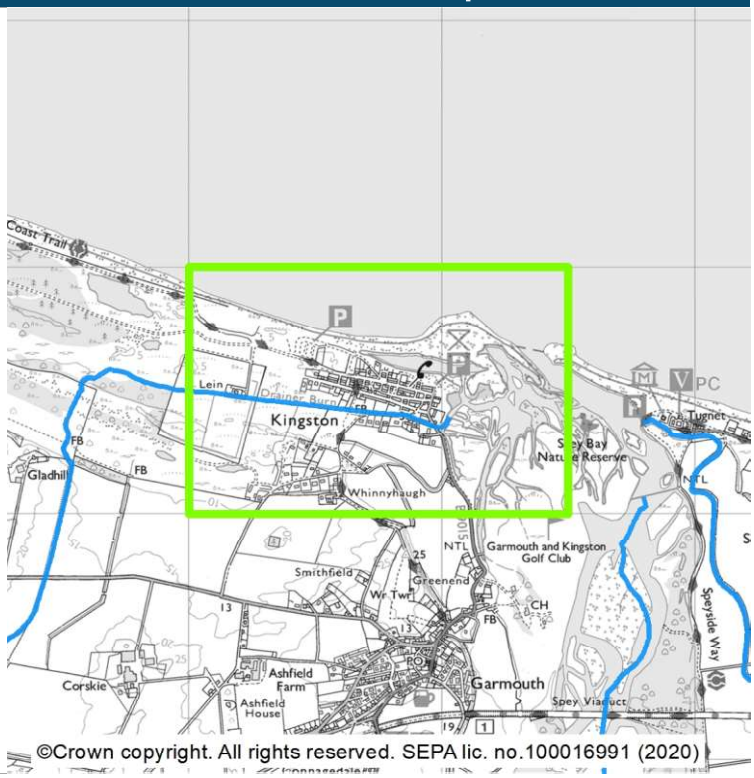
Flood risk management plan datasheet

Kingston (target area 463)

Summary

Kingston is located on the Moray Firth by the west bank of the River Spey as it flows into Spey Bay. It is in the Moray Council area. The main source of flooding in Kingston is coastal flooding. The area is particularly vulnerable to erosion and the River mouth shifts periodically. There are approximately 30 people and 20 homes and businesses currently at risk of flooding. Based on a local assessment, this may be overestimated. This is likely to increase to 70 people and 40 homes and businesses by the 2080's due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for coastal flood risk by the Moray Firth flood warning scheme. The understanding of flood risk is also being improved by monitoring of the shingle bank in front of Kingston. There are frequent records of coastal flooding. The access roads are often affected, resulting in Kingston being cut off from the surrounding area.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4631	Avoid flood risk	Avoid inappropriate development that increases flood risk in Kingston.
4632	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Kingston.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Data collection (Ref: 46301)
Action	Equipment that measures rainfall, river levels, erosion, ground levels or wave height may be installed and maintained to improve our understanding of flood risk. This can be done over short term or to measure longer term impacts.
Action detail	The shingle bank in front of Kingston should be monitored in line with the study recommendations. Once the bank is within 25m of the landline, the actions outlined in the adaptation plan (to be developed) should be implemented.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Adaptation plan (Ref: 46302)
Action	Information on climate change is to be used to develop an adaptation plan to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Climate change is expected to cause rising sea levels and changes to storm patterns. This could lead to flooding happening more often and changes to erosion. It is important to plan for this and ensure future risk to communities and infrastructure is managed appropriately. An adaptation plan should be developed in conjunction with community engagement and the monitoring strategy for the shingle bank. The plan should consider the current and future flood risk to receptors and assets and consider how they can be modified to manage the flood risk or removed from the flood risk.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 46303)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Spey and the Moray Firth coastal flood warning schemes.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Flood warning maintenance (Ref: 46304)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should investigate improvements to the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/05/05 (Elgin)

Elgin is designated as a Potentially Vulnerable Area due to the risk of river and surface water flooding. The Elgin flood protection scheme benefits over 800 properties. Recent flooding occurred in August 2019 as a result of surface water flooding.

There is 1 area in this Potentially Vulnerable Area, which has been the focus of further assessment, this is identified below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Elgin (target area 392)

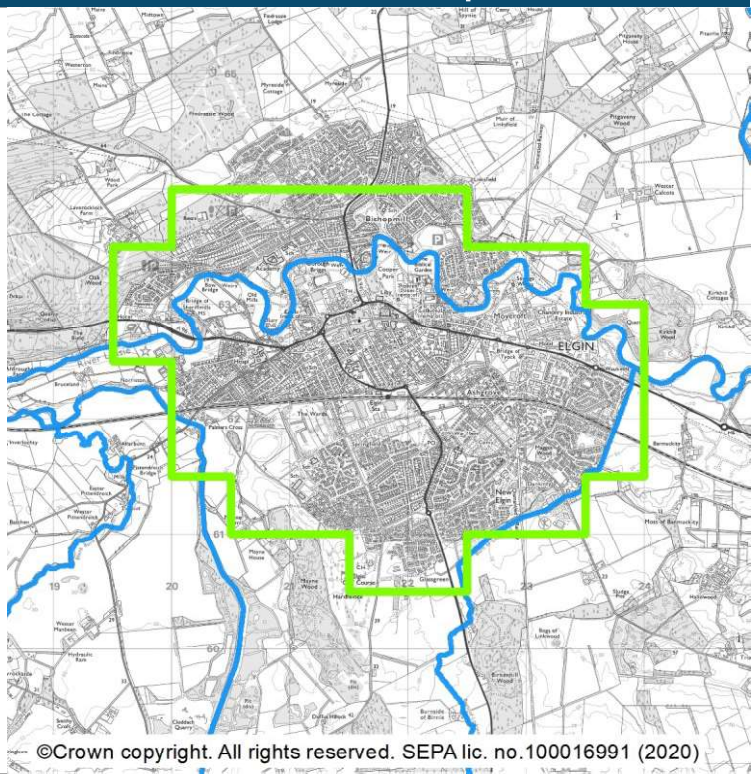
Flood risk management plan datasheet

Elgin (target area 392)

Summary

Elgin is located in the north of Scotland on the banks of the River Lossie in the Moray Council area. The main sources of flooding in Elgin are river and surface water flooding. There are approximately 1,200 people and 780 homes and businesses currently at risk from flooding. This is likely to increase to 3,400 people and 2,000 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for flooding from the River Lossie due to the development of the Elgin Flood Alleviation Scheme and the River Lossie flood warning scheme. The understanding of surface water flood risk is improved by the Moray Surface Water Management Plan. There is a long history of river flooding in the Elgin target area including notable floods prior to the construction of the flood scheme in July 1997 and in November 2002. There are also records of surface water flooding, including recent flash floods in August 2019.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3921	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Elgin Flood Protection Scheme.
3922	Avoid flood risk	Avoid inappropriate development that increases flood risk in Elgin.
3923	Improve data and understanding	Improve data and understanding of the performance of the flood protection assets in Elgin.
3924	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Elgin.
3925	Reduce flood risk	Reduce the risk of surface water flooding in Elgin.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 39201)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the Elgin Flood Alleviation Scheme.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood study (existing flood defences) (Ref: 39202)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the Elgin Flood Alleviation Scheme. This is because new climate change data has become available since the construction of the scheme. The need for an adaptation plan should be evaluated.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works design (Ref: 39203)
Action	The selected preferred approach for managing flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Works are proposed to address flood risk from surface water in Elgin. Further work may be required to determine business case prior to progressing to detailed design. The detailed design for the flood works identified in the surface water management plan should be progressed. Proposals could include development of new overland flood paths, installation of non-return valves and road reprofiling. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Community engagement (Ref: 39204)
Action	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk.
Action detail	The responsible authorities to continue to engage with the community, with particular focus on the detailed design of works identified in the surface water management plan.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works implementation (Ref: 39205)
Action	The flood scheme/works is to be built following agreement of the design, costs and timescales.
Action detail	Progress the flood works based on the detailed design to reduce surface water flood risk in Elgin. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Sewer flood risk assessment (Ref: 39206)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Lossiemouth sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Surface water management plan (Ref: 39207)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system are to be identified. These priority areas will provide a baseline for the identification of next steps in managing water ponding or over-whelmed drainage systems. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Continue to develop and implement the surface water management plan, working with Scottish Water as appropriate.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Flood warning maintenance (Ref: 39208)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Lossie flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/05/06 (Forres)

Forres is designated as a Potentially Vulnerable Area due to the risk of river and surface water flooding. Forres benefits from two flood protection schemes, one on the Burn of Mosset and the other on the River Findhorn.

There is 1 area in this Potentially Vulnerable Area, which has been the focus of further assessment, this is identified below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Forres (target area 427)

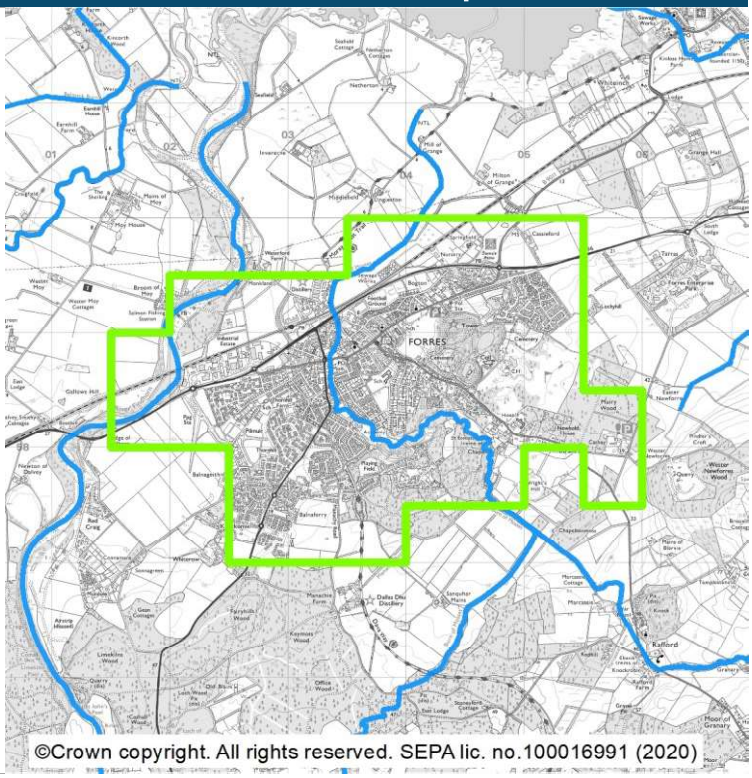
Flood risk management plan datasheet

Forres (target area 427)

Summary

Forres is located in the north east of Scotland and is within the Moray Council area. The main source of flooding in Forres is surface water flooding. However there is also a risk of river flooding, which is largely managed by the 2 flood schemes. There are approximately 2,000 people and 1,000 homes and businesses currently at risk from flooding. This is likely to increase to 2,400 people and 1,200 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for river flooding by the studies to develop the Forres (River Findhorn and Pilmuir) and the Forres (Burn of Mosset) Flood Alleviation Schemes. The understanding of surface water flood risk is improved by the Moray Surface Water Management Plan. Prior to the development of the flood protection schemes there was a long history of river flooding in Forres, including notable flooding in 1997 when the Burn of Mosset burst its banks. There are frequent records of surface water flooding.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4271	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Forres (Burn of Mosset) Flood Prevention Scheme 2005 and the Forres (Findhorn and Pilmuir) Flood Prevention Scheme 2008.
4272	Avoid flood risk	Avoid inappropriate development that increases flood risk in Forres.
4273	Improve data and understanding	Improve data and understanding of the performance of the flood protection assets in Forres.
4274	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Forres.
4275	Reduce flood risk	Reduce the risk of surface water flooding in Forres.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 42701)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the Forres (Burn of Mosset, 2005) Flood Alleviation Scheme and the Forres (Findhorn and Pilmuir, 2008) Flood Alleviation Scheme.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Sewer flood risk assessment (Ref: 42702)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Forres sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Surface water management plan (Ref: 42703)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system are to be identified. These priority areas will provide a baseline for the identification of next steps in managing water ponding or over-whelmed drainage systems. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Continue to develop and implement the surface water management plan, working with Scottish Water as appropriate.
Coordination	The action delivery lead is The Moray Council and coordinated with Scottish Water.

	Flood study (existing flood defences) (Ref: 42704)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the Forres (Burn of Mosset, 2005) Flood Alleviation Scheme and the Forres (Findhorn and Pilmuir, 2008) Flood Alleviation Scheme. This is because new climate change data has become available since the construction of the scheme. The need for an adaptation plan should be evaluated.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 42705)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Findhorn flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

There is potential to work with SEPA's River Basin Management team to improve the physical condition of the water environment.

02/05/07 (Dallas)

This area is designated as a Potentially Vulnerable Area due to a large proportion of Dallas being at risk of flooding from the River Lossie. Recent floods have occurred as a result of river flooding. Moray Council delivered flood protection works to benefit properties, however, roads remain at risk of flooding.

There is 1 area in this Potentially Vulnerable Area, which has been the focus of further assessment, this is identified below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Dallas (target area 421)

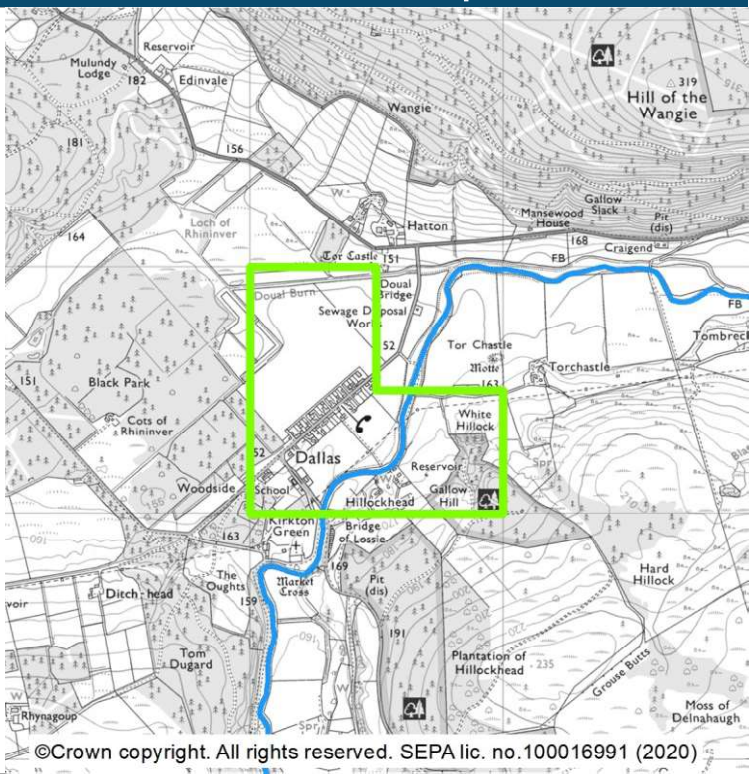
Flood risk management plan datasheet

Dallas (target area 421)

Summary

Dallas is south west of Elgin on the banks of the River Lossie. It is within the Moray Council area. The main source of flooding in Dallas is river flooding. There are approximately 30 people and 20 homes and businesses currently at risk from flooding. This is likely to increase to 40 people and 30 homes and businesses by the 2080s due to climate change. Dallas benefits from a flood protection embankment, which reduces flood risk from the River Lossie.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources, and this national assessment has highlighted the risk of flooding from the River Lossie to a significant proportion of the community in Dallas. Access roads are also at risk. Dallas has therefore been identified as a new target area for the 2021 flood risk management plans. The national assessment of flooding from the River Lossie has improved through the Dallas Flood Appraisal Study (2016) which identified the option of a set-bank embankment to reduce flood risk. The embankment was built in 2017. Prior to its construction there was periodic flooding from the River Lossie in the Dallas target area.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4211	Avoid flood risk	Avoid inappropriate development that increases flood risk in Dallas.
4212	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Dallas Flood Prevention Scheme.
4213	Improve data and understanding	Improve data and understanding of the performance of the flood protection asset in Dallas.
4214	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Dallas.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 42101)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the existing flood defences in Dallas.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 42103)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Lossie flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Flood study (existing flood defences) (Ref: 42102)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the existing flood defences in Dallas. The impacts of climate change on flood risk should also be considered. As built drawings should be made available to SEPA, for inclusion in the Scottish Flood Defence Asset Database.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

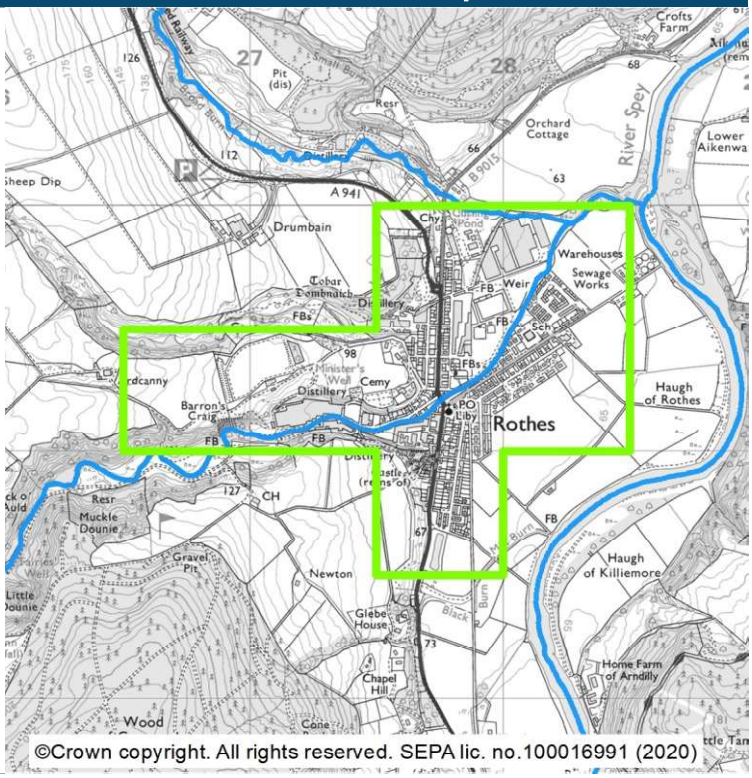
Flood risk management plan datasheet

Rothes (target area 397)

Summary

Rothes is on the banks of the River Spey and is within the Moray Council area. The main source of flooding in Rothes is from surface water flooding, however there is also a risk from river flooding. There are approximately 780 people and 520 homes and businesses currently at risk from flooding, which is a significant proportion of the community. This is likely to increase to 830 people and 560 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for surface water by the Moray Surface Water Management Plan. The understanding of flood risk from the Burn of Rothes, Back Burn and Black Burn is underpinned by the studies to develop the Rothes Flood Protection Scheme. The understanding of flood risk from the River Spey is improved by the development and operation of the Spey flood warning scheme. There is a long history of flooding in Rothes, including notable flooding in September 2009 from the River Spey, the Back Burn and the Burn of Rothes, prior to the completion of the Rothes Flood Protection Scheme.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3971	Avoid flood risk	Avoid inappropriate development that increases flood risk in Rothes.
3972	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Rothes Flood Prevention Schemes.
3973	Improve data and understanding	Improve data and understanding of the performance of the flood protection assets in Rothes.
3974	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Rothes.
3975	Reduce flood risk	Reduce the risk of surface water flooding to Rothes.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood scheme or works design (Ref: 39701)
Action	The selected preferred approach for managing flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	The selected preferred approach for managing Surface Water flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Community engagement (Ref: 39702)
Action	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk.
Action detail	The responsible authorities to continue to engage with the community, with particular focus on the detailed design of works identified in the surface water management plan.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works implementation (Ref: 39703)
Action	The flood scheme/works is to be built following agreement of the design, costs and timescales.
Action detail	The Surface Water flood scheme/works is to be built following agreement of the design, costs and timescales. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Flood defence maintenance (Ref: 39704)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the Rothes Flood Protection Scheme (2011).
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood study (existing flood defences) (Ref: 39705)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the Rothes Flood Protection Scheme (2011). This is because new climate change data has become available since the construction of the scheme. The need for an adaptation plan should be evaluated.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 39706)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Flood warning maintenance (Ref: 39707)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should investigate improvements to the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

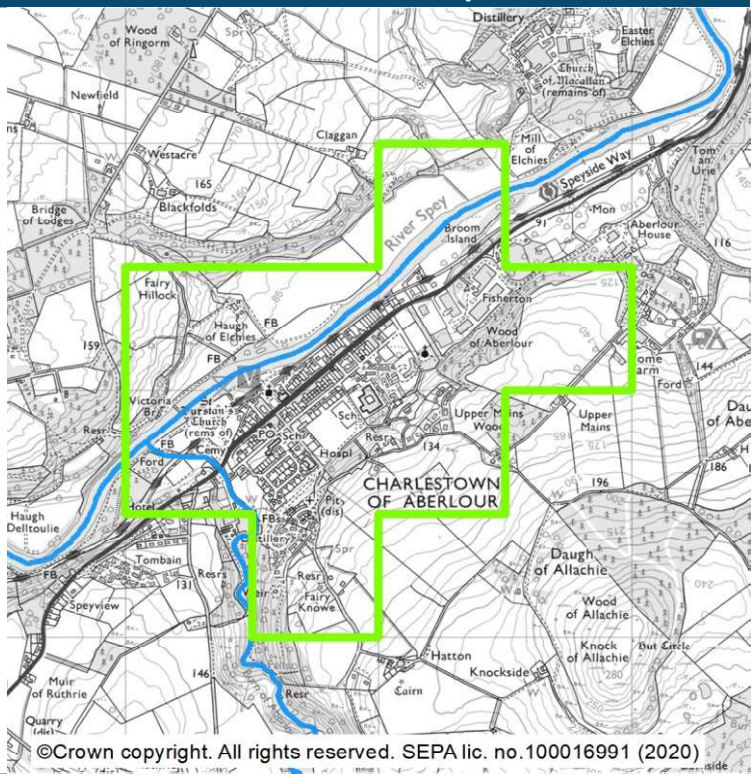
Flood risk management plan datasheet

Aberlour (target area 432)

Summary

Aberlour lies 20km south of Elgin and is within the Moray Council Area. The main source of flooding in Aberlour is surface water flooding, however there is also risk of river flooding. There are approximately 130 people and 90 homes and businesses currently at risk from flooding. This is likely to increase to 140 people and 110 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for surface water flooding by the Moray Surface Water Management Plan. Understanding is improved for river flooding by the development and operation of the River Spey flood warning scheme. There is a long history of flooding in the Aberlour target area.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4321	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Aberlour - Moray Flood Prevention Scheme 1984.
4322	Avoid flood risk	Avoid inappropriate development that increases flood risk in Aberlour.
4323	Improve data and understanding	Improve data and understanding of the Aberlour - Moray Flood Prevention Scheme 1984.
4324	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Aberlour.
4325	Reduce flood risk	Reduce the risk of surface water flooding to Aberlour.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood study (existing flood defences) (Ref: 43201)
Action	The performance and condition of the existing flood defences are to be evaluated, including consideration of the likely impacts of climate change. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Assess the performance of the Aberlour Flood Protection Scheme. The scheme was designed in the 1980s. Since then new modelling techniques and data have emerged. The impacts of climate change on flood risk should also be considered. The need for an adaptation plan should be evaluated.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Surface water management plan (Ref: 43202)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system have been identified. Next steps in managing such water ponding or over-whelmed drainage systems have been identified and should be implemented. The plan is to be reviewed and updated as needed.
Action detail	Implement the surface water management plan, working with Scottish Water as appropriate. This may be progressed further as part of the flood study and a wider adaptation plan for Aberlour.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Flood defence maintenance (Ref: 43203)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the Aberlour Flood Protection Scheme.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 43204)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Flood warning maintenance (Ref: 43205)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should investigate improvements to the River Spey flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

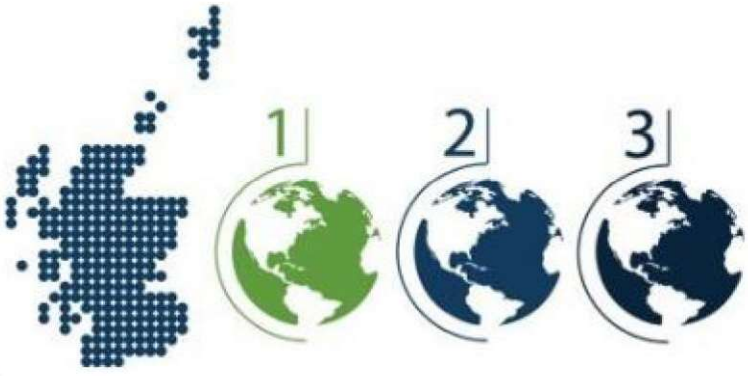
Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

North East Local Plan District (LPD 6)

Draft flood risk management plans 2022-2028

Every day SEPA works to protect and enhance Scotland's environment, helping communities and businesses thrive within the resources of our planet.

We call this **One Planet Prosperity**



Potentially Vulnerable Areas

Potentially Vulnerable Areas (PVA) were designated in 2018 based on the potential current or future risk from all sources of flooding. This designation was informed by the National Flood Risk Assessment (link). As part of continued analysis of flood risk, the National Flood Risk Assessment and Potentially Vulnerable Areas (PVA) will be reviewed every six years to take on board any new information. There are 26 Potentially Vulnerable Areas (PVA) in this Local Plan District. Following sections provide more information on these areas.

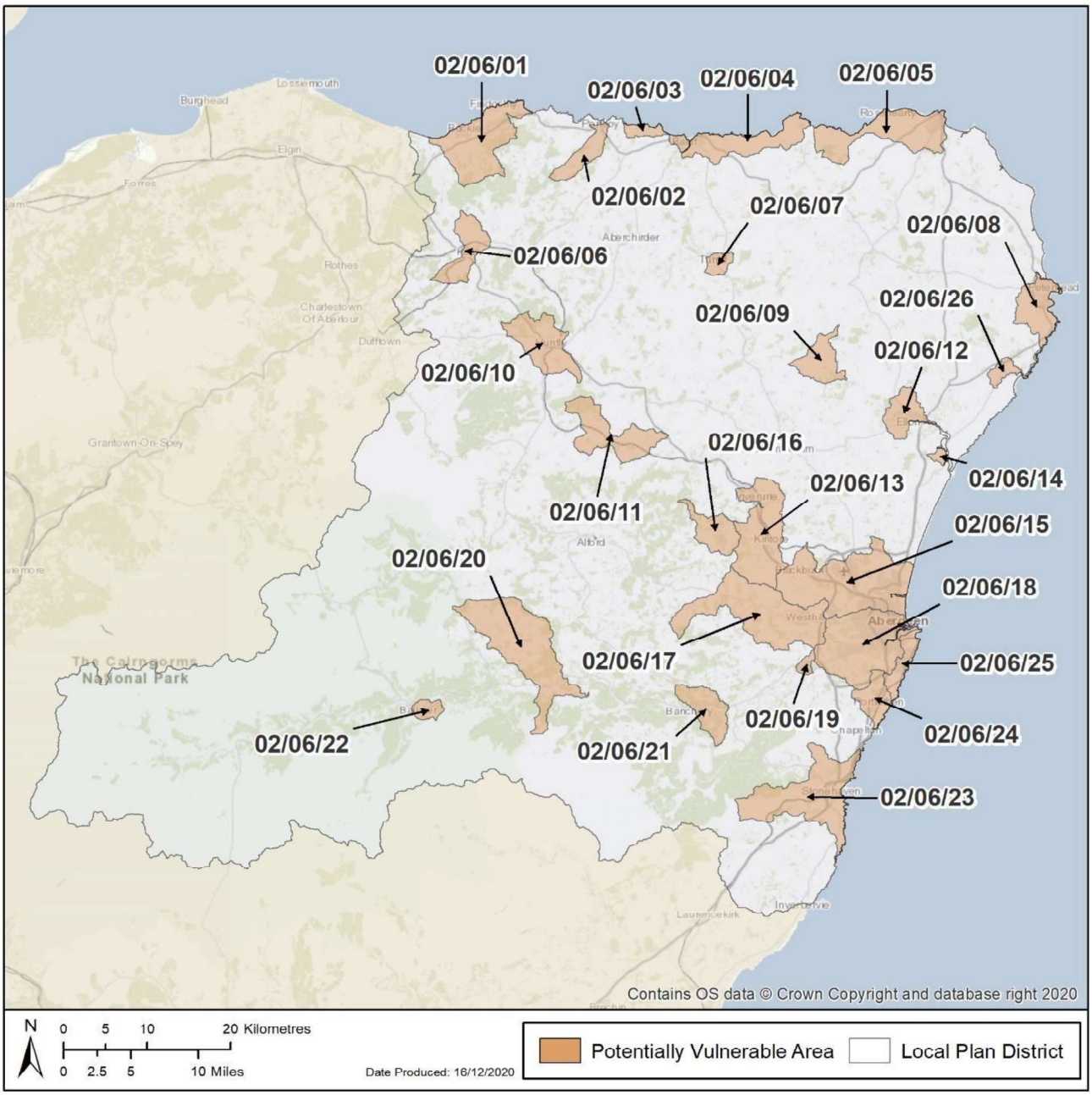


Figure 1. Potentially Vulnerable Areas in North East Local Plan District

LPD 6 North East - table of contents

Click the blue text to select your area of interest

PVA Ref	PVA NAME	Local authority
02/06/01	Portgordon and Buckie	Moray
02/06/02	Portsoy	Aberdeenshire
02/06/03	Banff and Whitehills	Aberdeenshire
02/06/04	Macduff	Aberdeenshire
02/06/05	Fraserburgh and Rosehearty	Aberdeenshire
02/06/06	Keith and Newmill	Moray
02/06/07	Turriff	Aberdeenshire
02/06/08	Peterhead	Aberdeenshire
02/06/09	Methlick	Aberdeenshire
02/06/10	Huntly	Aberdeenshire
02/06/11	Insch	Aberdeenshire
02/06/12	Ellon	Aberdeenshire
02/06/13	Inverurie and Kintore	Aberdeenshire
02/06/14	Newburgh	Aberdeenshire
02/06/15	Aberdeen City - North	Aberdeen City
02/06/16	Kemnay	Aberdeenshire
02/06/17	Westhill	Aberdeenshire
02/06/18	Aberdeen City - South	Aberdeen City

PVA Ref	PVA NAME	Local authority
02/06/19	Peterculter	Aberdeen City
02/06/20	Aboyne	Aberdeenshire
02/06/21	Banchory	Aberdeenshire
02/06/22	Ballater	Aberdeenshire
02/06/23	Stonehaven	Aberdeenshire
02/06/24	Portlethen	Aberdeenshire
02/06/25	Cove and Nigg Bay	Aberdeen City
02/06/26	Cruden Bay	Aberdeenshire

02/06/01 (Portgordon and Buckie)

This area is designated as a Potentially Vulnerable Area due to Buckie and Portgordon being at risk of coastal and surface water flooding. Due to climate change induced sea-level rise, this flood risk is expected to increase. Recent flooding has occurred due to coastal, river and surface water flooding.

There are 2 areas in this Potentially Vulnerable Area, which have been the focus of further assessment, these are listed below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Portgordon	(target area 398)
Buckie and Portessie	(target area 455)

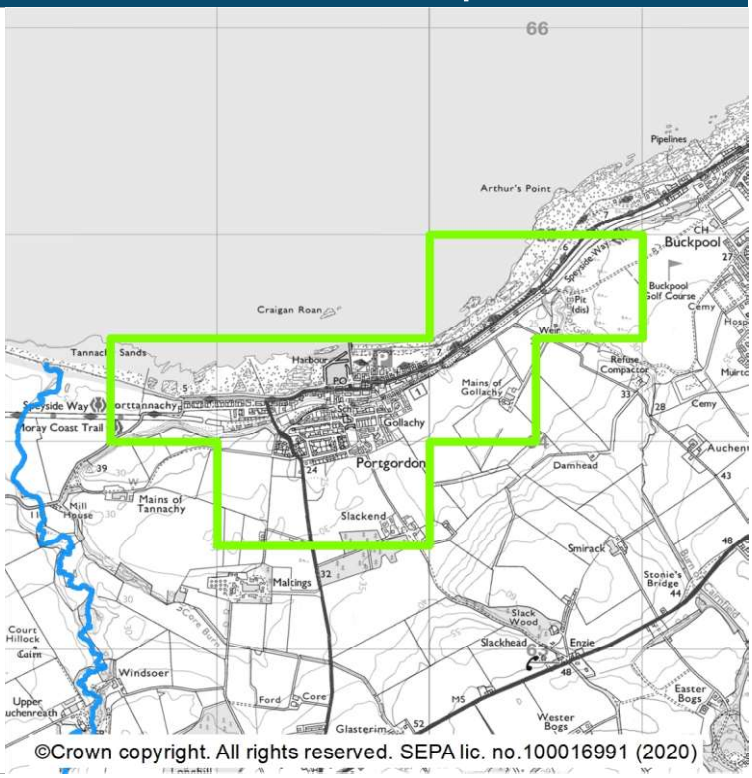
Flood risk management plan datasheet

Portgordon (target area 398)

Summary

Portgordon lies 2km south west of Buckie, in the Moray Council area. The main source of flooding in Portgordon is surface water flooding, however there is also risk of coastal flooding. The risk of coastal flooding is underestimated as wave overtopping is not currently accounted for in the SEPA strategic mapping. There are approximately 100 people and 50 homes and businesses currently at risk from flooding. This is likely to increase to 120 people and 70 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for coastal flooding by the Portgordon Flood Study (2019). The understanding of surface water flooding is improved by the Moray Surface Water Management Plan. There is a long history of coastal flooding in the Portgordon target area including notable flooding during the North Sea flood of January 1953. There are also periodic records of surface water flooding.

The Dynamic coast project has shown that parts of the shoreline in or adjacent to this target area are subject to erosion at present or are considered likely to erode in the future. Consideration should be given to how erosion might impact flood risk. Any actions taken should aim to support building natural resilience to flooding and not lead to an increase in erosion.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
3981	Avoid flood risk	Avoid inappropriate development that increases flood risk in Portgordon.
3982	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Portgordon.
3983	Reduce flood risk	Reduce the risk of surface water flooding in Portgordon.
3984	Reduce flood risk	Reduce the risk of coastal flooding in Portgordon.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Strategic mapping improvements (Ref: 39801)
Action	SEPA will continue to update flood maps based on new information.
Action detail	SEPA has undertaken improved coastal modelling in this target area including taking account of the impact of waves on coastal flooding. We will complete and publish the outcomes of this modelling work to inform decision making with respect to flooding at the coast.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

	Sewer flood risk assessment (Ref: 39802)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Buckie Moray East sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Flood defence maintenance (Ref: 39803)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Maintenance of the existing coastal defences should continue and updates to the maintenance regime be made based on the findings of the flood study. The surface water management plan did not make any recommendations for improvement works in Portgordon.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 39804)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Adaptation plan (Ref: 39805)
Action	Information on climate change is to be used to develop an adaptation plan to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Consider how the improved understanding of long term flood risk can be managed in the area through an adaptation plan.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

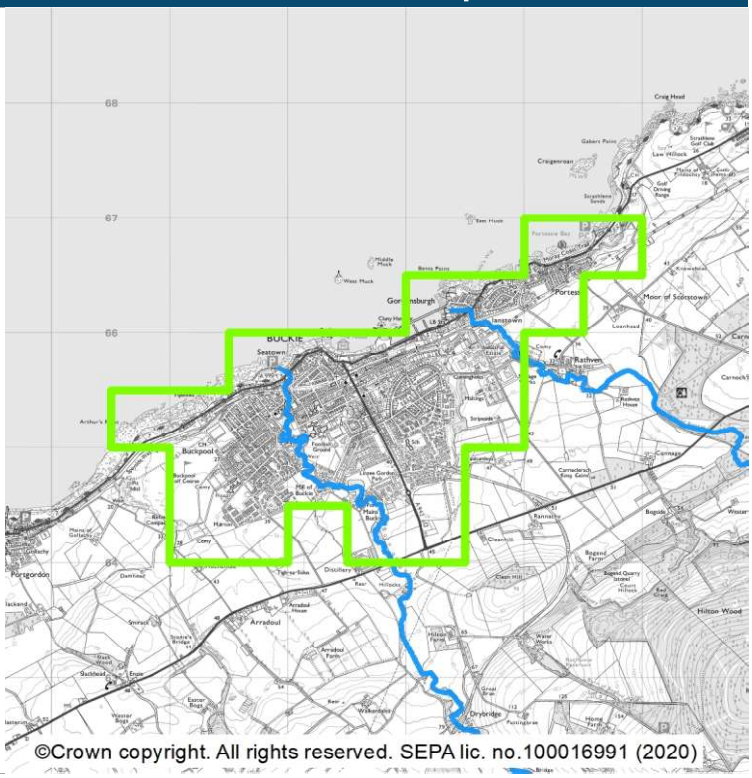
Flood risk management plan datasheet

Buckie and Portessie (target area 455)

Summary

Buckie and Portessie front onto Spey Bay on the south coast of the Moray Firth in the Moray Council area. The main sources of flooding are coastal and surface water flooding. The flood maps currently don't include the impact of waves. As a result, the assessment of coastal flood risk is considered to be an underestimate. There are approximately 520 people and 300 homes and businesses currently at risk from flooding. This is likely to increase to 810 people and 460 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for surface water by the Moray Surface Water Management Plan which includes Buckie as a priority area. The understanding of coastal flooding is improved in Portessie by the coastal flood risk assessment completed in 2016 and is improved across the target area by the development and operation of the Moray Firth flood warning scheme. There is a long history of flooding in the Buckie and Portessie area including notable coastal flooding during the North Sea flood of January 1953. There are also frequent records of surface water flooding in Buckie.
The Dynamic coast project has shown that parts of the shoreline in or adjacent to this target area are subject to erosion at present or are considered likely to erode in the future. Consideration should be given to how erosion might impact flood risk. Any actions taken should aim to support building natural resilience to flooding and not lead to an increase in erosion.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4551	Avoid flood risk	Avoid inappropriate development that increases flood risk in Buckie and Portessie.
4552	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Buckie and Portessie.
4553	Reduce flood risk	Reduce the risk of coastal flooding in Portessie.
4554	Reduce flood risk	Reduce the risk of surface water flooding in Buckie and Portessie.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood scheme or works design (Ref: 45501)
Action	The selected preferred approach for managing flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	The detailed design for the coastal flood works identified in the Portessie Options Appraisal Report (2016) should be progressed. It is proposed that the existing setback wall is rebuilt to a greater height. This option would provide a 200yr (0.5% annual exceedance probability) event plus climate change standard of protection. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works implementation (Ref: 45502)
Action	The flood scheme/works is to be built following agreement of the design, costs and timescales.
Action detail	Progress the coastal Portessie Flood Protection Scheme based on the detailed design. As built drawings should be made available to SEPA, for consideration in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood scheme or works design (Ref: 45503)
Action	The selected preferred approach for managing flood risk is to be designed following the completion of the flood study, including consideration of the long-term impacts of climate change. These can include small scale works or works to improve catchment management. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Further work may be required to determine business case prior to progressing to detailed design. The detailed design for the flood works identified in the surface water management plan should be progressed. The preferred options for surface water management in Buckie provides a 30 year (3.33% annual exceedance probability) event standard of protection and consists of drainage improvements, including a new combined sewer overflow, flap valves and an interception trench. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Flood scheme or works implementation (Ref: 45504)
Action	The flood scheme/works is to be built following agreement of the design, costs and timescales.
Action detail	Progress the flood works identified in the surface water management plan based on the detailed design. As built drawings should be made available to SEPA, for consideration in the Scottish Flood Defence Asset Database, flood map updates and flood warning scheme updates. The responsible authority proposes this action as the best viable option for managing flood risk in this community. The delivery of this action is subject to capital funding being made available.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Community engagement (Ref: 45505)
Action	Community engagement is to continue to be carried out in the area by the responsible authorities to raise awareness of flood risk.
Action detail	The responsible authorities to continue to engage with the community, with particular focus on the detailed design of the Portessie Flood Protection Scheme and the works identified in the surface water management plan for Buckie.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Sewer flood risk assessment (Ref: 45506)
Action	The volume of water that would overwhelm the sewer system and cause flooding from man-holes or inside our homes is to be assessed, to support understanding of the performance of the urban drainage network
Action detail	Scottish Water will carry out an assessment of sewer flood risk within the highest priority sewer catchments, which includes Buckie Moray East sewer catchment in this target area. This will help to improve knowledge and understanding of potential surface water flood risk. Funding for this action is secured through Scottish Water's strategic planning commitments.
Coordination	The action delivery lead is Scottish Water in coordination with the local authority and SEPA.

	Surface water management plan (Ref: 45507)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system have been identified. Next steps in managing such water ponding or over-whelmed drainage systems have been identified and should be implemented. The plan is to be reviewed and updated as needed.
Action detail	The surface water management plan will be implemented. It should regularly be updated and reviewed.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

	Strategic mapping improvements (Ref: 45508)
Action	SEPA will continue to update flood maps based on new information.
Action detail	SEPA has undertaken improved coastal modelling in this target area including taking account of the impact of waves on coastal flooding. We will complete and publish the outcomes of this modelling work to inform decision making with respect to flooding at the coast.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 45509)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

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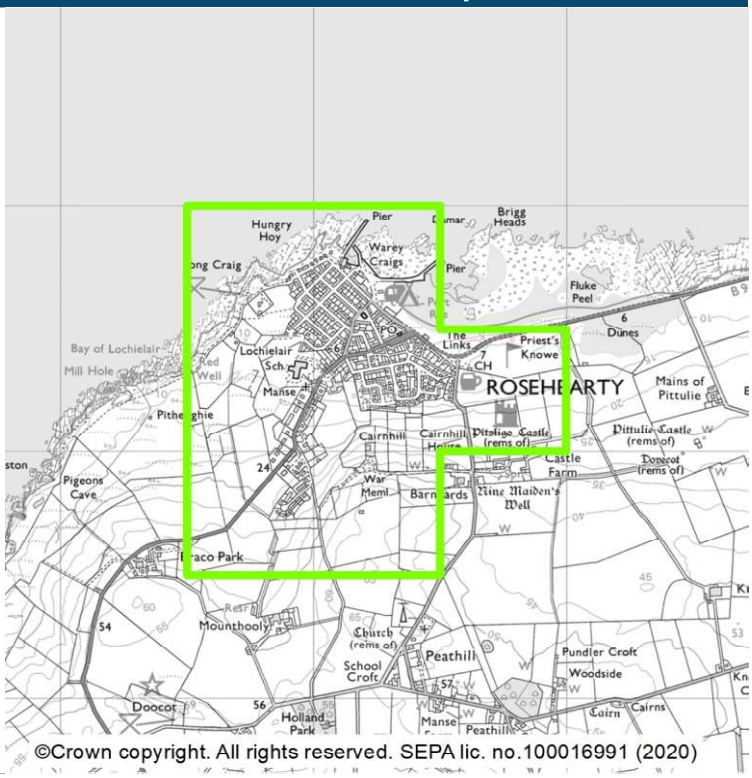
Flood risk management plan datasheet

Rosehearty (target area 462)

Summary

Rosehearty is located on the southern shore of the Moray Firth in the Aberdeenshire Council area. The main source of flood risk in Rosehearty is from surface water flooding. However, there is also a risk from coastal flooding, which is not reflected in SEPA's flood maps. There are approximately 90 people and 50 homes and businesses currently at risk from flooding. This is likely to increase to 60 homes and businesses by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for coastal flood risk through the development and operation of the Moray Firth flood warning scheme. Understanding of surface water flooding is improving through the development of a surface water management plan for Rosehearty and Fraserburgh. A sewer flood risk assessment has also been completed. There are periodic records of coastal and surface water flooding in Rosehearty.

The Dynamic coast project has shown that parts of the shoreline in or adjacent to this target area are subject to erosion at present or are considered likely to erode in the future. Consideration should be given to how erosion might impact flood risk. Any actions taken should aim to support building natural resilience to flooding and not lead to an increase in erosion.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4621	Avoid flood risk	Avoid inappropriate development that increases flood risk in Rosehearty.
4622	Improve data and understanding	Improve data and understanding of the risk of coastal flooding including the impacts of climate change in Rosehearty.
4623	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Rosehearty.
4624	Reduce flood risk	Reduce the risk of surface water flooding in Rosehearty.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Strategic mapping improvements (Ref: 46201)
Action	SEPA will continue to update flood maps based on new information.
Action detail	SEPA has undertaken improved coastal modelling in this target area including taking account of the impact of waves on coastal flooding. We will complete and publish the outcomes of this modelling work to inform decision making with respect to flooding at the coast.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

	Surface water management plan (Ref: 46202)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system are to be identified. These priority areas will provide a baseline for the identification of next steps in managing water ponding or over-whelmed drainage systems. This should guide adaptive planning to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Progress the surface water management plan. The results from Scottish Waters sewer flood risk assessment should be incorporated. The impacts of climate change on flood risk should be considered. Interactions with coastal flooding should be noted.
Coordination	The action delivery lead is Aberdeenshire Council in coordination with Scottish Water and other actions in the area.

	Flood warning maintenance (Ref: 46203)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the Moray Firth coastal flood warning scheme.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Shoreline Management Plan (Coastal Adaptive Plan) (Ref: 46204)
Action	An assessment of coastal flood and erosion risk is to be carried out. The plan should include assessment of climate change and develop adaptive approaches to allow for the impacts of climate change to be monitored, understood and managed.
Action detail	Prepare a shoreline management plan. In particular this should identify locations at risk of flooding and coastal erosion. The impacts of climate change on sea level rise, coastal flood risk and erosion should be considered. The need for an adaptation plan should be assessed.
Coordination	The action delivery lead is Aberdeenshire Council in coordination with SEPA. Any other coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

02/06/06 (Keith and Newmill)

This area is designated as a Potentially Vulnerable Area due to surface water flood risk in Keith and Newmill. Newmill benefits from a flood scheme, which reduces the risk of flooding from surface water and the Burn of Kimminitie at Low Road.

There are 2 areas in this Potentially Vulnerable Area, which have been the focus of further assessment, these are listed below. Further information on the proposed objectives and actions to manage flood risk within this area is provided below.

List of target areas

Keith	(target area 404)
Newmill (Keith)	(target area 444)

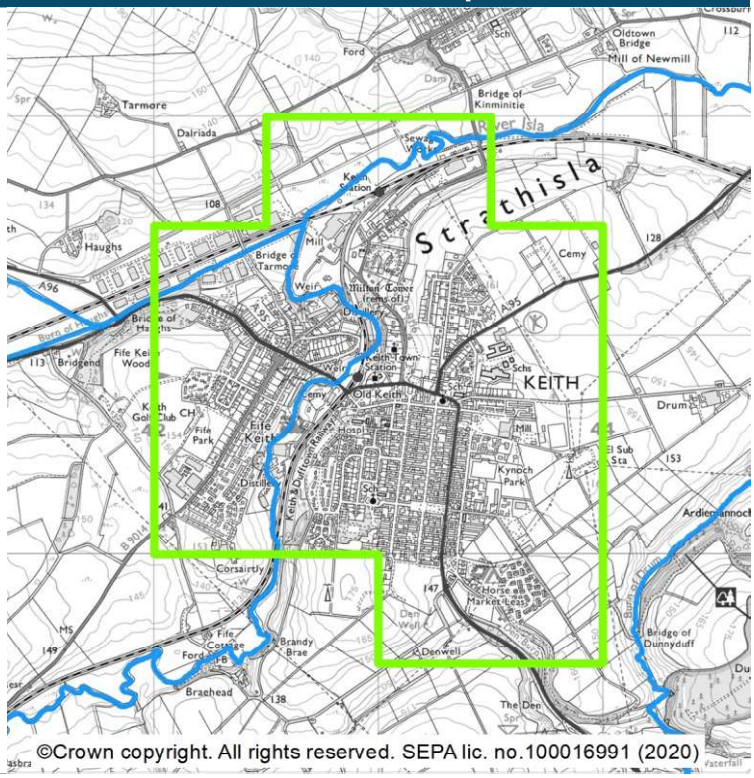
Flood risk management plan datasheet

Keith (target area 404)

Summary

Keith is located in north east Scotland within the Moray Council area. The main source of flooding in Keith is from surface water flooding. There are approximately 60 people and 70 homes and businesses currently at risk from flooding. This is likely to remain the same by the 2080s due to climate change.

Location map



What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources, and this national assessment has highlighted the risk of surface water flooding. Keith has therefore been identified as a new target area for the 2021 flood risk management plans. The national assessment is improved for surface water by the Moray Surface Water Management Plan. The understanding of river flooding is improved by the operation of the River Deveron flood warning scheme. There are records of surface water flooding in the Keith target area.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4041	Avoid flood risk	Avoid inappropriate development that increases flood risk in Keith.
4042	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Keith.
4043	Reduce flood risk	Reduce the risk of surface water flooding in Keith.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood warning maintenance (Ref: 40401)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Deveron flood warning scheme. The scheme should be investigated for improvement and/or recalibration.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

Actions proposed after June 2028

The following actions are proposed to take place after June 2028. These will be reviewed in 2026, considering added information at that time, to ensure they are still the most appropriate actions for the community.

	Surface water management plan (Ref: 40402)
Action	Areas at risk of heavy or prolonged rainfall causing flooding due to water ponding on man-made surfaces or overwhelming the drainage system have been identified. Next steps in managing such water ponding or over-whelmed drainage systems have been identified and should be implemented. The plan is to be reviewed and updated as needed.
Action detail	Implement the surface water management plan, working with Scottish Water as appropriate. This may include further assessments of surface water flood risk.
Coordination	The action delivery lead is The Moray Council in coordination with Scottish Water.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

Working in partnership is at the heart of flood risk management, responsible authorities and SEPA regularly work together in all areas to improve the coordination of flood management. Working across organisations and groups contributes to sustainable ways of managing current and future flood risk in a community. The potential for joint working will be further explored following the consultation feedback.

Flood risk management plan datasheet

Newmill (Keith) (target area 444)

Summary

Newmill lies just north of the town of Keith and is within the Moray Council area. The main source of flooding in Newmill is from surface water flooding. There are approximately 40 people and 20 homes and businesses at risk of flooding. This is expected to remain the same by the 2080s, despite the impact of climate change.

Location map

What is the current understanding of flood risk?

This section provides a summary of information, which has helped to develop an understanding of flood risk in the area. Since 2011 SEPA has developed and updated national level assessments of flooding from rivers, surface water and coastal sources. The national level assessment is improved for surface water by the studies to develop the Newmill Flood Protection Scheme (2016) and the development of the Moray Surface Water Management Plan. Prior to the construction of the flood protection scheme there are records of periodic flooding from surface water including notable flooding in September 2009 and September 2013. Flooding was also recorded in June 2017 when surface water flooding damaged flood defences.

What are the objectives for the area?

In each target area, SEPA and the responsible authorities have set objectives for the management of flood risk. In some locations, the objectives provide a short-term direction that will be reviewed and updated when more information is available. In others they provide a long-term direction for the management of flooding within a community. The objectives along with the current understanding of flood risk help to identify the actions that are required in the short and long term. It may take several years or multiple 6 year cycles to achieve the identified objectives, but they set a common goal for multiple agencies. The following package of objectives have been established for this area. The objectives must be considered alongside national principles to manage flood risk. These include:

• Take a long term, risk-based approach to flood risk management decisions and one that considers the impacts of and adaptability to climate change.

• Deliver coordinated and integrated flood risk management by engaging with communities and working in partnership, sharing data, expertise, services, and resources.

• Consider whole catchments and coastlines and work with natural processes and the environment to deliver multiple outcomes.

Objective ref	Objective type	Objective description
4441	Avoid flood risk	Avoid inappropriate development that increases flood risk in Newmill.
4442	Avoid flood risk	Avoid an increase in flood risk by the appropriate management and maintenance of the Newmill flood protection scheme.
4443	Improve data and understanding	Improve data and understanding of the performance of the Newmill flood protection scheme.
4444	Prepare for flooding	Prepare for current flood risk and future flooding as a result of climate change in Newmill.

What actions are proposed for this area?

This section provides information on the draft proposed actions for this target area. The proposed actions take account of the understanding of flood risk and the package of objectives set for the area. Actions will be coordinated to achieve maximum benefit; this will be determined once the actions have been finalised. The proposed actions are draft for consultation and are provided for comment. Your comments will help shape future flood risk management. The delivery of the proposed actions is subject to available funding and resources.

Actions proposed to start before June 2028

	Flood defence maintenance (Ref: 44401)
Action	The existing flood defences are to be maintained by the asset owner to ensure they are in good condition.
Action detail	Continue to maintain the Newmill Flood Protection Scheme.
Coordination	The action delivery lead is The Moray Council and coordination will be determined once the actions have been finalised.

	Flood warning maintenance (Ref: 44402)
Action	The Floodline flood warning service is to be kept operational through maintenance to the existing system and updates being undertaken as required.
Action detail	SEPA should maintain the River Deveron flood warning scheme. The scheme should be investigated for improvement and/or recalibration.
Coordination	The action delivery lead is SEPA and coordination will be determined once the actions have been finalised.

SEPA and responsible authorities carry out actions in all areas which help to manage current and future flooding. These actions help to ensure that key aspects of flood risk management are taken forward in all locations. They ensure that for example new housing developments occur in the right places, and that critical flood risk information is developed and updated for all areas. A description of these actions is included in the Local Plan District section at the start of this document.

What are the opportunities for joint working?

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Flood Risk Management Glossary

July 2021

Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Term	Definition
Accretion	Accumulation of sediment.
Actions	Activities undertaken to reduce the impact of flooding. Actions describe where and how flood risk will be managed. These actions have been set by SEPA and agreed with flood risk management authorities following consultation. Selection of actions to deliver the agreed objectives has been based on a detailed assessment and comparison of economic, social and environmental criteria.
Annual Average Damages (AAD)	Depending on its size or severity each flood will cause a different amount of damage to a given area. Annual Average Damages are the theoretical average economic damages caused by flooding when considered over a very long period of time. It does not mean that damage will occur every year: in many years there will be no damages, in some years minor damages and in a few years major damages may occur. High likelihood events, which occur more regularly, contribute proportionally more to AADs than rarer events. Within the Flood Risk Management Strategies AADs incorporate economic damages to the following receptors: residential properties, non-residential properties, vehicles, emergency services, agriculture and roads. They have been calculated based on the principles set out in the Flood Hazard Research Centre Multi-Coloured Handbook (2010).
Appraisal	Appraisal is the process of defining objectives, examining options and weighing up 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, the sea and surface water.
Appraisal baseline	Defines the existing level of flood risk under the current flood risk management regime.
Awareness raising	Public awareness, participation and community support are essential components of sustainable flood risk management. SEPA and the responsible authorities have a duty to raise public awareness of flood risk. This is undertaken both individually and collaboratively by a range of organisations. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce overall impact.
Bathing waters	Bathing waters are classed as protected areas under Annex IV of the Water Framework Directive (WFD). There are 84 designated bathing waters in Scotland.

Term	Definition
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 a number of techniques used in appraisal.
Blue infrastructure	Blue infrastructure is often complementary to 'green infrastructure' and includes sustainable drainage systems, swales (shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants), wetlands, rivers, canals (and their banks) and all watercourses.
Catchment	All the land drained by a river and its tributaries.
Category 1 and 2 responders (Cat 1 / 2)	Category 1 and 2 Responders are defined as part of the Civil Contingencies Act 2004 which seeks to minimise disruption in the event of an emergency. Category 1 Responders are 'core' responders: local authorities, police, fire and rescue services, ambulance service, NHS health boards, SEPA and the Maritime and Coastguard Agency. Category 2 Responders are key 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.
Channel improvement	Where work has been carried out on the river's channel allowing an increase in the volume of water it can carry.
Characterisation	Provides a description of the natural characteristics of catchments, coastlines and urban areas in terms of hydrology, geomorphology, topography and land use. It also includes the characterisation of existing levels of flood risk and existing flood risk management activity.
Coastal flooding	Flooding that results from high sea levels or a combination of high sea levels and stormy conditions. The term coastal flooding is used under the Flood Risk Management (Scotland) Act 2009, but in some areas it is also referred to as tidal flooding and covers areas such as estuaries and river channels that are influenced by tidal flows.
Combined sewer	Combined sewers transport 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) (CSO)	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.

Term	Definition
Community facility	Within the FRM Strategies this term includes: Emergency Services (Police, Fire, Ambulance, Coastguard, and Mountain Rescue) Educational Buildings (crèche, nursery, primary, secondary, further, higher and special education premises) Healthcare facilities: hospitals, health centres and residential care homes.
Community flood action groups	Community flood action groups are community based resilience groups which, on behalf of local residents and business, help to prepare for and minimise the effects of flooding. They reflect the interests of their local communities and may differ in composition and remit. There are over 60 groups already established in Scotland. The Scottish Flood Forum provides support for both new and existing groups.
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.
Cross Border Advisory Group (CBAG)	The Cross Border Advisory Group is a statutory group made up of representatives from the Environment Agency, SEPA, Scottish Water and the four lead local flood authorities located within the Solway Tweed River Basin District.
Cultural heritage site	Historic Environment Scotland maintains lists of buildings of special architectural or historic interest; these buildings are referred to as 'listed buildings'. The highest level of designation is a World Heritage Site. Other designations included in this assessment are scheduled monuments, gardens and designed landscapes, and battlefields.
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'

Demountable defences	A temporary flood barrier is one that is only installed when the need arises, that is, when flooding is forecast. A demountable flood defence is a particular type of temporary defence that requires built-in parts and therefore can only be deployed in one specific location.

Term	Definition
Deposition	A natural process leading to an accumulation of sediment on a river bed, floodplain or coastline.
Economic Impact	An assessment of the economic value of the positive and negative effects of flooding and/or the actions taken to manage floods.
Embankment	Flood embankments are engineered earthfill structures designed to contain high river levels or protect against coastal flooding. They are commonly grass-covered, but may need additional protection against erosion by swiftly flowing water, waves or overtopping.
Emergency plans / response	Emergency response plans are applicable for all types of flooding. They set out the steps to be taken during flooding in order to maximise safety and minimise impacts where possible. Under the Civil Contingencies Act, Category 1 Responders have a duty to maintain emergency plans. Emergency plans may also be prepared by individuals, businesses, organisations or communities.
Environmental Impact	A change in the environment as a result of an action or activity. Impacts can be positive or negative and may vary in significance, scale and duration.
Environmental Impact Assessment (EIA)	Environmental Impact Assessment (EIA) is a process which identifies the potential environmental impacts, both negative and positive, of a proposal.
Environmental sites / environmental designated areas/ environmentally designated sites	Areas formally designated for environmental importance, such as Sites of Special Scientific Interest (SSSI) Special Protection Area (SPA) or Special Areas of Conservation (SAC).
Episodic erosion	Erosion induced by a single event, such as a storm.
Erosion	A natural process leading to the removal of sediment from a river bed, bank, floodplain or coastline.
Estuarine surge attenuation	A reduction in the wave energy caused by storm surge. Breakwaters (barriers built out into the sea to protect a coast or harbour from the force of waves) or habitats such as saltmarsh can slow down and reduce the inland impact of storm surges (the rising of the sea due to wind and atmospheric pressure changes associated with storms), thereby reducing coastal flood risk.
Estuary	A coastal body of water usually found where a river meets the sea; the part of the river that is affected by tides.
Fault (fault line)	A break or fracture in the earth's crust as a result of the displacement of one side with respect to the other. In Scotland the Great Glen Fault is a major geological fault line cutting diagonally across the Highlands from Fort William to Inverness.

Flash flood	A flood that occurs a short period of time after high intensity rainfall or a sudden snow melt. A sudden increase in the level and velocity of the water body is often characteristic of these events, leaving a short time for warning or actions.

Term	Definition
Flashy watercourse	A 'flashy' river or watercourse has a short lag time (the delay between peak rainfall intensity and peak river discharge), high peak discharge, and quickly returns to average flow. Rivers with these characteristics can be prone to flooding and leave a short time for warning or actions.
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 and embankments, 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 forecasting	SEPA operates a network of over 250 rainfall, river and coastal monitoring stations throughout Scotland that generate data 24 hours a day. This hydrological information is combined with meteorological information from the Met Office. A team of experts then predict the likelihood and timing of river, coastal and surface water flooding. This joint initiative between SEPA and the Met Office forms the Scottish Flood Forecasting Service.
Flood frequency	The probability that a particular size/severity of flood will occur in a given year (see likelihood).
Flood gate	An adjustable, sometimes temporary, barrier used as a flood defence to control the flow of water within a water system or during a flood. Flood gates can also be part of operational flood defences or protect individual buildings or sites.
Flood guard	Flood guards cover a variety of types of door and window barriers that can be fitted to individual properties and operated by the owners / occupiers prior to a flood event. They act as a physical barrier to water entering the property and can provide protection against frequent and relatively shallow flooding.
Flood hazard	In terms of the FRM Act, hazard refers to the characteristics (extent, depth, velocity) of a flood.
Flood hazard map	Flood hazard maps are required by the FRM Act to show information that describes the nature of a flood in terms of the source, extent, water level or depth and, where appropriate, velocity of water. Flood hazard and risk maps are referred to collectively as flood maps and are available on the SEPA website.

Flood Prevention Scheme / Flood Protection Scheme (FPS)	A flood protection scheme, as defined by the FRM Act, is a scheme by a local authority for the management of flood risk within the authority area. This includes defence measures (flood prevention schemes) formerly promoted under the Flood Prevention (Scotland) Act 1961.

Term	Definition
Flood Prevention (Scotland) Act 1961	The Flood Prevention (Scotland) Act 1961 gave local authorities discretionary powers to make and build flood prevention schemes. It was superseded by the Flood Risk Management (Scotland) Act 2009.
Flood 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 (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 20162022.
Flood Risk Management Local Advisory Groups	FRM Local Advisory Groups are stakeholder groups convened to advise SEPA and lead local authorities in the preparation of Flood Risk Management Plans. SEPA and lead local authorities must have regard to the advice they provide.
Flood Risk Management Plan (FRM Plans)	A term used in the FRM Act. FRM Plans set out the actions that will be taken to reduce flood risk in a Local Plan District. They comprise Flood Risk Management Strategies, developed by SEPA, and Local Flood Risk Management Plans produced by lead local authorities.
Flood Risk Management Strategy (FRM Strategy)	Sets out a long-term vision for the overall reduction of flood risk. They contain a summary of flood risk in each Local Plan District, together with information on catchment characteristics and a summary of objectives and actions for Potentially Vulnerable Areas.

Flood risk map	Complements the flood hazard maps published on the SEPA website providing detail on the impacts of flooding on people, the economy and the environment. Flood hazard and risk maps are referred to collectively as flood maps and are available on the SEPA website.
Flood wall	A flood defence feature used to defend an area from flood water to a specified standard of protection.
Flood Warning Area (FWA)	A Flood Warning area is where SEPA operates a formal Flood Monitoring Scheme to issue targeted Flood Warning messages for properties located in the area.

Term	Definition
Flood warning scheme	A flood warning scheme is the network of monitoring on a coastal stretch or river, which provides SEPA with the ability to issue Flood Warnings.
Floods directive	European Directive 2007/60/EC on the Assessment and Management of Flood Risks builds on and is closely related to the Water Framework Directive (see river basin management planning). It was transposed into Scots Law by the Flood Risk Management (Scotland) Act 2009. The Directive requires Member States to assess if all watercourses and coastlines are at risk from flooding, to map the flood extent, assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk.
Floodplain	Area of land that borders a watercourse, an estuary or the sea, over which water flows in time of flood, or would 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.
Fluvial flooding	Flooding from a river or other watercourse.
Gabion	A metal cage filled with rocks often used in river bank protection.
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.” See also ‘blue infrastructure’.
Groundwater flooding	This type of flooding is caused by water rising up from underlying rocks or flowing from springs. In Scotland groundwater is generally a contributing factor to flooding rather than the primary source.
Integrated catchment study (ICS)	In urban areas, the causes of flooding are complex because of the interactions between rivers, surface water drainage and combined sewer systems and tidal waters. Scottish Water works with SEPA and local authorities to assess these interactions through detailed studies.

Land use planning (LUP)	The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long term economic, social and environmental objectives and the implications for different communities and interest groups.
Lead local authority	A local authority responsible for leading the production, consultation, publication and review of a Local Flood Risk Management Plan.

Term	Definition
Likelihood of flooding	The chance of flooding occurring. **High likelihood**: A flood event is likely in the defined area on average once in every ten years (1:10). Or a 10% chance of happening in any one year. **Medium likelihood**: A flood event is likely in the defined area on average once in every two hundred years (1:200). Or a 0.5% chance of happening in any one year. **Low likelihood**: A flood event is likely in the defined area on average once in every thousand years (1:1000). Ora 0.1% chance of happening in any one year.
Local Flood Risk Management Plans (Local FRM Plan)	Local Flood Risk Management Plans, produced by lead local authorities, will take forward the objectives and actions set out in Flood Risk Management Strategies. They will provide detail on the funding, timeline of delivery, arrangements and co-ordination of actions at the local level during each six year FRM planning cycle.
Local Nature Reserve (LNR)	A Local Nature Reserve is a protected area of land designated by a local authority because of its local special natural interest and / or educational value. Local authorities select and designate local nature reserves using their powers under the National Parks and Access to the Countryside Act 1949.
Local Plan District	Geographical areas for the purposes of flood risk management planning. There are 14 of Local Plan Districts in Scotland.
Local Plan District Partnerships	Each LPD has established a local partnership comprised of local authorities, SEPA and 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.
Montane habitat	This habitat encompasses a range of natural or near-natural vegetation occurring in the montane zone, lying above or beyond the natural tree-line.

National Flood Management Advisory Group (NFMAG)	The National Flood Management Advisory Group provides advice and support to SEPA and, where required, Scottish Water, local authorities and other responsible authorities on the production of FRM Strategies and Local FRM Plans.
National Flood Risk Assessment (NFRA)	A national analysis of flood risk from all sources of flooding which also considers climate change impacts. First published 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.

Term	Definition
Natural flood management (NFM)	A set of flood management techniques that aim to work with natural processes (or nature) to manage flood risk.
Non-residential properties	Properties that are not used for people to live in, such as shops or other public, commercial or industrial buildings
Objectives	Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding.
One in 200 year flood	See 'likelihood of flooding' and 'return period'.
Planning policies	Current national planning policies, Scottish Planning Policy and accompanying Planning Advice notes restrict development within the floodplain and limit exposure of new receptors to flood risk. In addition to national policies, local planning policies may place further requirements within their area of operation to restrict inappropriate development and prevent unacceptable risk.
Potentially Vulnerable Areas (PVA)	Catchments identified as being at risk of flooding and where the impact of flooding is sufficient to justify further assessment and appraisal. There were 243 PVAs identified by SEPA in the 2011 National Flood Risk Assessment and were the focus of the first FRM planning cycle. There are 233 PVAs identified for the 2018 National Flood Risk Assessment.
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.
Property level protection scheme	Some responsible authorities may have a formal scheme to provide, install and maintain property level protection for properties.
Ramsar sites	Ramsar sites are wetlands of international importance designated under the Ramsar Convention.
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 which 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. (see likelihood)

Term	Definition
Revetment	Sloping structures placed on banks or at the foot of cliffs in such a way as to deflect the energy of incoming water.
Riparian	The riparian area is the interface between land and a river or stream. For the purposes of FRM this commonly refers to the riparian owner, which denotes ownership of the land area beside a river or stream.
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.
Sediment balance	Within a river where erosion and deposition processes are equal over the medium to long-term resulting in channel dimensions (width, depth, slope) that are relatively stable.
Sediment management	Sediment management covers a wide range of activities that includes anything from the small scale removal of dry gravels to the dredging of whole river channels and the reintroduction of removed sediment into the water environment. Historically, sediment management has been carried out for several reasons, including reducing flood risk, reducing bank erosion, for use as aggregate and to improve land drainage.

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.
Sewer flooding (and other artificial drainage system flooding)	Flooding as a result of the sewer or other artificial drainage system (e.g. road drainage) capacity being exceeded by rainfall runoff or when the drainage system cannot discharge water at the outfall due to high water levels (river and sea levels) in receiving waters.
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.
Shoreline management Plan (SMP)	A Shoreline Management Plan is a large scale assessment of the coastal flood and erosion risks to people and the developed, historic and natural environment. It sets out a long-term framework for the management of these risks in a sustainable manner.
Site of Special Scientific Interest (SSSI)	Sites of Special Scientific Interest are protected by law under the Nature Conservation (Scotland) Act 2004 to conserve their plants, animals and habitats, rocks and landforms

Term	Definition
Source of flooding	The type of flooding. This can be coastal, river, surface water or groundwater.
Special Area of Conservation (SAC)	Special Areas of Conservation are strictly protected sites 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
Special Protection Areas (SPA)	Special Protection Areas are strictly protected sites classified in accordance with the European Birds Directive. They are classified for rare and vulnerable birds (as listed in the Directive), and for regularly occurring migratory species
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.
Storage area	A feature that can be used to store floodwater, this can be natural in the form of low lying land or manmade such as a reservoir or modified landform.
Strategic Environmental Assessment (SEA)	A process for the early identification and assessment of the likely significant environmental effects, positive and negative, of activities. Often considered before actions are approved or adopted.
Strategic 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.

Strategic mapping and modelling	Strategic mapping and modelling actions have been identified in locations where SEPA is planning to undertake additional modelling or analysis of catchments and coastlines, working collaboratively with local authorities where appropriate, to improve the national understanding of flood risk.
Surcharge	Watercourses and culverts can carry a limited amount of water. When they can no longer cope, they overflow, or 'surcharge'.
Surface water flooding	Flooding that occurs when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead
Surface Water Management Plan (SWMP)	A plan that takes an integrated approach to drainage accounting for all aspects of urban drainage systems and produces long term and sustainable actions. The aim is to ensure that during a flood the flows created can be managed in a way that will cause minimum harm to people, buildings, the environment and business.
Surface water plan / study	The management of flooding from surface water sewers, drains, small watercourses and ditches that occurs, primarily in urban areas, during heavy rainfall. FRM Strategy actions in this category include: Surface Water Management Plans, Integrated Catchment Studies and assessment of flood risk from sewerage systems (FRM Act Section 16) by Scottish Water. These have been selected as appropriate for each Potentially Vulnerable Area.
Term	**Definition**
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.
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.
Target area	Target areas are based on communities at risk of flooding. These are situated within Potentially Vulnerable Areas and should benefit from actions to reduce flood risk. To benefit the community, actions may apply to outside the target area. National flood risk management efforts and funding should be targeted to benefit these target areas.
UK Climate Change Projections (UKCP09)	The leading source of climate change information for the UK. It can help users to assess their climate risks and plan how to adapt to a changing climate. The high emissions scenario refers to the SRES A1F1 emission scenario. See Annex 1 of the UKCP09 Climate change projections report for details.
Utility assets	Within the FRM Strategies this refers to electricity sub stations, mineral and fuel extraction sites, telephone assets, television and radio assets.

Voe	A dialect term, common in place names and used to refer to a small bay or creek in Orkney or Shetland.
Vulnerability	A measure of how likely someone or something is to suffer long-term damage as a result of flooding. It is a combination of the likelihood of suffering harm or damage during a flood (susceptibility) and the ability to recover following a flood (resilience).
Wave energy dissipation	Process by which a wave loses its energy.
Wave overtopping	Wave overtopping occurs when water passes over a flood wall or other structure as a result of wave action. Wave overtopping may lead to flooding particularly in exposed coastal locations.