

Shetland

Local Plan District

Final Report 2022 - Local Flood Risk Management Plan Cycle 1



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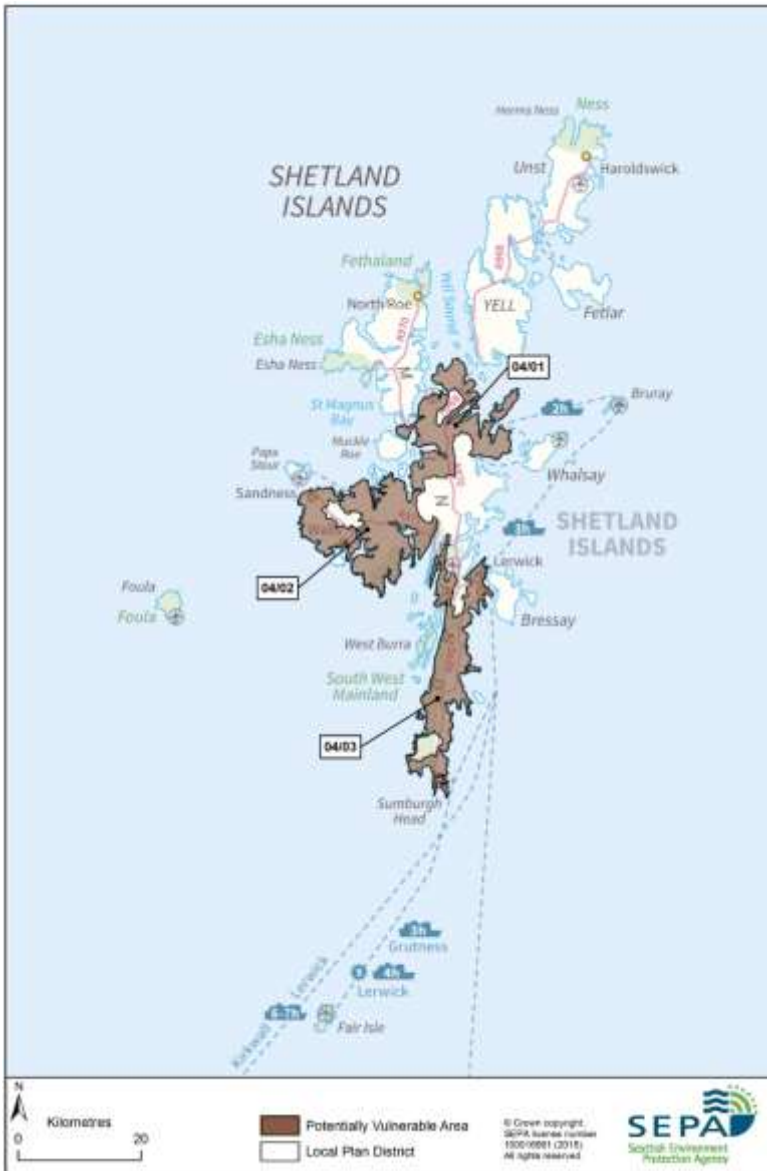
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INFOGRAPHIC: Shetland Plan Area



Reproduced from Shetland Local Plan District Flood Risk Management Strategy, SEPA (December 2015)


- Flood protection study 
- Surface water plan/study 
- Strategic mapping and modelling 
- Flood forecasting 
- Self help 
- Awareness raising 
- Maintenance 
- Emergency plans/response 
- Planning policies 
- Integrated Catchment Study 
- Section 16 assessment 


Local Flood Risk Management Plan

Shetland has an area of 1,500 km², a population of 23,200 and a coastline of approximately 2,700km.

Approximately 30 residential properties and 50 non-residential properties are at risk of flooding within the 3 Potentially Vulnerable Areas, with a total Annual Average Damages from flooding of approximately £178,000.

Summary

All actions have been undertaken. 

Progress on one action has been limited. 

Foreword

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

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

(Shetland Local Flood Risk Management Plan, June 2016)

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

The Final Report has been developed by the Shetland Local Plan District Partnership, which is comprised of the Shetland Islands Council, Scottish Water and SEPA. The partnership is led by the Shetland Islands Council, who have published this Report.

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

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

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

Cllr Dennis Leask – Chair SIC Development Committee

Background

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

The Final Report presents:

- an assessment of the progress made towards implementing the Shetland LFRMP (the 'Plan');
- a summary of the planned actions which were not fully completed with reasons for the non-completion; and
- a description of any other actions implemented since the plan was finalised which the lead authority considers have contributed to the achievement of the objectives.

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

A copy of the Shetland Local Flood Risk Management Plan 2016 can be found at the following link.

<https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5>

Review of the Plan

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

Key progress in reducing the impacts of flooding since publication

- Aerial surveys have been carried out, to gather more accurate ground level information, and so give a better indication of the actual coastal flood risk in areas of Vidlin, Walls and Scalloway.
- The Scalloway Local Place Plan has also produced information on the community vision for the Scalloway seafront.
- Closer working arrangements have been developed with SIC Emergency Planning regarding flood risk during severe weather.
- There have been initial discussion with the SIC's newly formed Climate Change team on areas of common interest and possible future collaboration where plans have shared interests. Future local and national flood risk management plans will grow to cover flood risk from climate change as a major part of their focus.
- Scottish Water sewer assessments have been completed for areas of Lerwick and Scalloway.
- Baseline work has been completed on the South Burn of Gremista surface water management plan in Lerwick.

Significant Deviations from the Plan

No significant deviations from the Plan are considered to have occurred.

Significant challenges

Based on a review of the assessment of the progress of actions detailed in this Interim Report, the following key challenges and issues have been identified that may have an impact on the delivery of actions to manage flood risk. Arrangements planned to deliver the remaining actions are described below. Where these challenges have had an impact on the delivery of specific actions or actions across an LPD, this is detailed in the 'Assessment of the progress of actions'.

- Funding
“The delivery of the actions in the first Flood Risk Management Plan cycle from 2016-2022, as detailed in the Local Flood Risk Management Plan, is therefore subject to revenue and capital funding allocations from Scottish Government to SEPA and Responsible Authorities; and to

revenue and capital budget setting by councils and other Responsible Authorities over the period 2016-2022.”, (Shetland Local Flood Risk Management Plan, June 2016).

The level of funding from Scottish Government for flood risk activities for the first years of the six year Plan has been at the levels anticipated. As per the principals of financial settlements for local government, the funding is not ‘ring fenced’ and local authorities may allocate these funds to the delivery of other priorities.

- Allocation of Resources

The delivery of flood risk management actions must be seen in the context of challenging local government finances and increased expectation and demand for public services. This applies to all of the responsible authorities and SEPA.

No additional budgets have been made directly available for delivering the flood risk actions in the Shetland LFRMP, but to date the work required has been able to be achieved using existing budgets and staff resources and there have been no delays in the planned delivery of actions.

- Cyber-attack on SEPA

On 24 December 2020, SEPA was subject to a serious and complex cyber-attack, which significantly impacted the organisation, staff, public and private partners, and the communities who rely on SEPA’s services. Since the attack, SEPA has worked with Scottish Government, Police Scotland, the National Cyber Security Centre (NCSC) and the Scottish Business Resilience Centre (SBRC), to a clear recovery strategy. The incident has, however, temporarily impacted progress on a number of actions such as new flood warnings, mapping and modelling projects and some engagement activities. Many of these projects are still going ahead but the timescales for them have been adjusted.

Next steps

This report marks the completion of Cycle 1 and we are now transitioning into Cycle 2.

A new cycle 2 LFRMP will be published by the SIC before the end of December 2022, and will then be available as an update on the existing LFRMP webpage, linked below.

This will continue to develop the work carried out in the cycle 1 plan and introduce new areas of risk and actions to be taken.

In the meantime, there is more information on how flood risk is being managed at the following links:

Shetland Islands Council, Local Flood Risk Management Plan

Information on the ongoing flood management actions for Shetland for 2016-2022.

<https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5>

SEPA Floodline

To sign up to flood alerts, report flooding and for more information on duties and responsibilities.

<https://floodline.sepa.org.uk/floodupdates/>

Scottish Water Flooding information

Information for homeowners on reporting flooding, information and responsibilities.

<https://www.scottishwater.co.uk/Help-and-Resources/Document-Hub/Factsheets-and-Leaflets/Leaflets>

Conclusions

Overall, through partnership working, by delivering the actions set out in the Shetland LFRMP we have gathered information that can be used to reduce future flood risk and which has helped to inform future actions to further reduce flood risk that will be progressed during Cycle 2 and subsequent cycles, and in other Council plans.

Whilst the majority of actions have either been progressed in line or have advanced further than set out in the Plan, some actions have not progressed as far as intended, primarily due to external factors as detailed later in the report.

Some actions have also been taken in new directions as a result of interim information gathering work.

Assessment of progress

This section sets out an assessment of the progress towards implementing the actions set out in the LFRMP.

There are actions that apply across the whole of the Shetland LPD and actions that are specific to each of the 3 Potentially Vulnerable Areas (as defined under Section 13 of the Act) in the Shetland LPD, which are shown below in Figure 1.

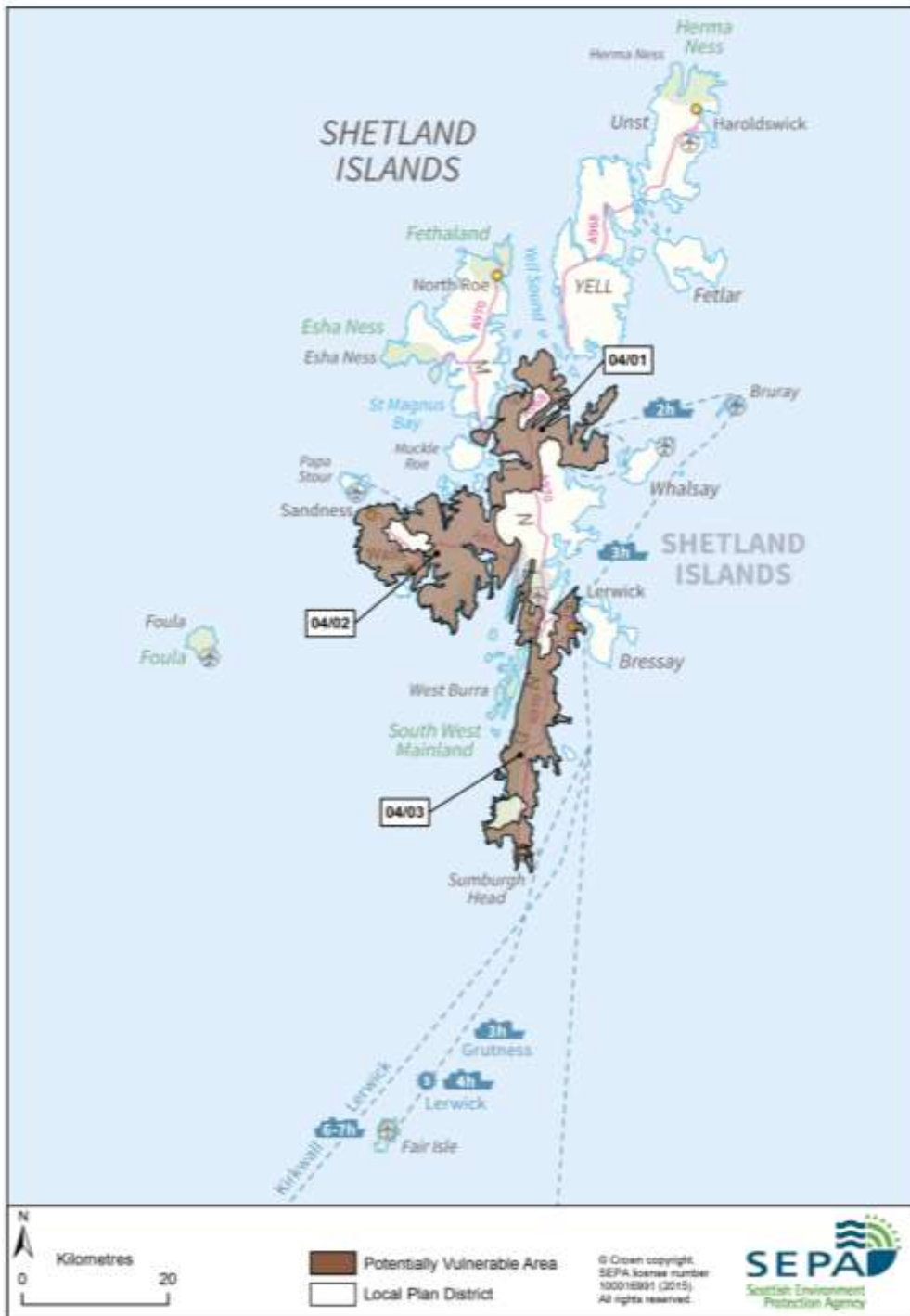


Figure 1: The Shetland LPD catchment group
 Reproduced from Shetland Flood Risk Management Strategy, SEPA (December 2015)

PVA	Flood protection scheme/works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action group	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
04/01 Shetland Mainland North				G														
04/02 Shetland Mainland West				G														
04/03 Shetland Mainland South				G		A	G											
PVA-wide Actions										G			G	G	G		G	G

Figure 2: Progress of actions to manage flood risk in the Shetland LPD Catchment

The summary of the assessment of progress is shown using the traffic light system, where each item is marked as Red, Amber or Green (RAG) and where:

- **GREEN** – Action has been delivered is on programme and within budget;
- **AMBER** – Action is behind programme and/or over budget, but the key dates are still anticipated to be met.
- **RED** – Action is behind programme and/or over budget, with key dates unlikely to be met and/or the outputs unlikely to achieve what was anticipated by the LFRMP.

Progress with LPD-wide Actions

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

This section sets out an assessment of the progress towards implementing actions that apply across the whole of the Shetland LPD over all years of the six-year Plan, which is presented in Figure 3 overleaf.

Shetland Local Flood Risk Management Plan 2016-2022: Interim Report

Action	Status	Description	Start	End	Progress	Future Actions
Flood Forecasting (4000020009)	G	The Potentially Vulnerable Areas are within the 'Shetland' flood alert area.	2015	2022	SEPA continues to improve the Scottish Flood Forecasting Service with the Met Office, with daily Flood Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. It will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding. The development and wider roll-out of this service is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.	N/A
Self Help (4000020011)	G	Everyone is responsible for protecting themselves and their property from flooding. Property and business owners can take simple steps to reduce damage and disruption to their homes and businesses should flooding happen. This includes preparing a flood plan and flood kit, installing property level protection, signing up to Floodline and the Resilient Communities Initiative, and ensuring that properties and businesses are insured against flood damage.	2015	2022	Where premises are subject to historical flooding the owners are aware of their responsibilities and that flood damage can be reduced by suitable provision and maintenance of drainage and flood protection infrastructure, including property level protection. General information is made available as part of existing Shetland Islands Council awareness raising activities. There are no existing specific Council budgets for funding self help works.	Review of SIC web-based information to ensure clear advice and easy to find advice is available to the public
Awareness Raising (4000020013)	G	From 2016 SEPA will engage with the community through local participation in national initiatives, including partnership working with Neighbourhood Watch Scotland. In addition, SEPA will engage with local authorities and community resilience groups where possible. Local authorities will be undertaking additional awareness raising activities. Further details	2015	2022	SEPA continued to raise awareness of flood risk through campaigning, developing education and engagement tools, creating new partnerships and improving the flood warning and forecasting service. Many of SEPA's awareness raising activities will continue. The focus will be on promoting flood warning and forecasting service,	N/A

Shetland Local Flood Risk Management Plan 2016-2022: Final Report

		<p>will be set out in the Local FRM Plan.</p> <p>Shetland Islands Council will seek to improve communication with the public over flood risk, including how risks can be avoided or mitigated, how warnings of potential flooding events are given and how the council can raise public understanding of actions they can take to protect themselves.</p>			<p>innovation, education and engagement with partners, customers and the public.</p> <p>Scottish Water will support SEPA and responsible authorities with their awareness raising activities as required and provide targeted communications for Scottish Water sewer flooding programme activities. Scottish Water will raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies.</p>	<p>Review of SIC web-based information to ensure clear advice and easy to find advice is available to the public</p> <p>Scottish Water are continuing to support SEPA and Local Authorities in their awareness raising activities. General awareness raising is carried out through the Scottish Water website and national advertising campaigns to increase public awareness of the implications of their actions on sewer flooding. For site specific capital projects and local studies, targeted public engagement is being carried out at a local level.</p>
Maintenance (4000020007)	G	<p>Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They produce schedules of clearance and repair works and make these available for public inspection.</p> <p>Scottish Water undertake risk based inspection and repair on the public sewer network.</p> <p>Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk.</p>	2015	2022	In progress	<p>Shetland Islands Council carry out inspections to watercourses as detailed in Schedule 18, published on the SIC LFRMP page</p> <p>Scottish Water will continue to undertake risk based inspection and repair of the public sewer system.</p>
Emergency Response (4000020014)	G	<p>Providing an emergency response to flooding is the responsibility of many organisations, including local authorities, the emergency services and SEPA.</p> <p>Effective management of an emergency response relies on emergency plans that are prepared under the Civil Contingencies Act 2004 by Category 1 and 2 Responders. The emergency response by these organisations is co-ordinated through regional and local resilience partnerships. This response may be supported by the work of Scottish Water and voluntary organisations.</p>	2015	2022	The Shetland Islands Council have a Major Emergency Plan which is a generic contingency plan to enable the Council's response to a major emergency.	Continue to develop closer working arrangements between SIC Planning Engineer and SIC Emergency Planning Officer regarding flood risk during severe weather.
Planning policy (4000010001)	G	Scottish Planning Policy and accompanying Planning Advice Notes set out Scottish Ministers' priorities for the operation of the planning system and for the development and use of land. In terms of flood risk	2015	2022	Production of the Shetland Local Development Plan and specifically the "Call for Sites" process included a multi-stage consultation with public and other stakeholders.	As part of the Local Development Plan development, the "Call for Sites" process was run and the submitted sites and other areas proposed for development were assessed for potential flood risk and drainage impacts as part of the

	<p>management, the policy supports a catchment-scale approach to sustainable flood risk management and aims to build the resilience of our cities and towns, encourage sustainable land management in our rural areas, and to address the long-term vulnerability of parts of our coasts and islands. Under this approach, new development in areas with medium to high likelihood of flooding should be avoided.</p> <p>For further information on the application of national planning policies see Annex 4 of the LFRMP.</p> <p>Applications for developments have requirements to address flooding and drainage in a suitable way, and a local Supplementary Guidance document gives advice. Applications which fall under the 5m contour (for coastal flood risk) or within the 1 in 200 year flood risk areas on SEPA's flood maps (for surface water and river flood risks) are required to provide more detail to confirm the flood risks have been considered and dealt with.</p> <p>SEPA has a statutory role in relation to the provision of flood risk advice to planning authorities. This role is expressed in Section 72 of the FRM Act, 2009. SEPA also has a duty to co-operate with planning authorities in the preparation of development plans. When consulted in relation to planning applications for development or site allocations in development plans, and where the planning authority considers there may be a risk of flooding, SEPA will provide advice. The advice provided by SEPA will be with respect to the risk of flooding and on the basis of the relevant information it holds which is suitable for planning purposes. It will also be in line with the principles and duties set out in the FRM Act.</p> <p>Further information about how SEPA engage in the planning system, including guidance on flood risk and planning is available on SEPA website http://www.sepa.org.uk/environment/land/planning/</p>		<p>There are consultations with Council and Non-Council stakeholders as part of consideration of planning applications.</p> <p>SEPA's land use planning activities will be co-ordinated with the activities of other Responsible Authorities as required.</p> <p>SEPA continues to exercise its planning functions with a view to reducing overall flood risk. We effectively contribute to the delivery of sustainable flood risk management and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.</p>	<p>Strategic Flood Risk Assessment. Work was also carried out to review policies and guidance on flood risk and drainage and updates and amendments considered.</p> <p>Ultimately the LDP2 process was not able to produce a completed plan in the time available, and the future LDP will be carried out under the new NPF4 process. The flood risk work already carried out will be taken forward into the new NPF4 process, with additional work carried out as needed where NPF4 requirements differ in detail or priority. The new LDP will also take account of the Local Flood Risk Management Plan to be published in December as Cycle 2.</p> <p>Throughout the LDP and LFRMP processes, trigger levels and technical requirements will continue to be refined as more accurate information, policy and guidance on risks are produced and published by SIC, SEPA, Scottish Water and the Scottish Government.</p>
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Figure 3: Progress of LPD-wide actions to manage flood risk in the Shetland LPD Catchment

Progress with PVA-specific Actions

This section sets out an assessment of the progress towards implementing actions that are specific to each of the 3 PVA as shown in Figure 2. Assessments of the progress of actions within each PVA are presented.

Additional information on flooding within each Potentially Vulnerable Area is available within the Shetland Flood Risk Management Strategy, available on the SEPA website here -

<http://apps.sepa.org.uk/FRMStrategies/>

The background information sets the scene for the planned actions to manage flooding that have been prioritised for delivery between 2016 and 2022. The Potentially Vulnerable Area level action tables set out the flood management objective that was to be achieved, provide a description of the action, identify who will be responsible for the delivery and implementation and a timetable of when the actions will be undertaken.

The Local Plan District wide actions noted in Section 4 apply to all Potentially Vulnerable Areas.

This information is provided for each of the 3 Potentially Vulnerable within the Shetland Local Plan District. Each Potentially Vulnerable Area has a separate sub-section with each sub-section following the same format.

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

There are no specific actions identified for 'property level protection scheme' and 'site protection plans' actions. Current PVA specific actions are intended to form a better understanding of flood risk to buildings in the current LFRMP cycle and that may lead to consideration of property level protection schemes or site protection plans in the future.

Shetland Mainland North (Potentially Vulnerable Area 04/01)

Local Plan District	Local authority	Main catchment
Shetland	Shetland Islands Council	Shetland Mainland North



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Summary of Progress for Shetland Mainland North

This Potentially Vulnerable Area is located in the north of Mainland Shetland (shown left). It is approximately 150km².

There are several communities including Voe, Mossbank, Brae and Vidlin located in this Potentially Vulnerable Area. The A968 and A970, Scatsta Airport and the Sullom Voe Oil Terminal are also located in this area. There are fewer than 10 residential and non-residential properties at risk of flooding. The Annual Average Damages are £47,000 with the majority caused by coastal flooding.

Further information can be found in the Shetland LFRMP under PVA 04/01 at the following link.

<http://www.shetland.gov.uk/planning/lfrmp.asp>

An aerial survey has been carried out find accurate ground levels in the coastal areas of Vidlin, to assess the true level of flood risk to properties there.

Overview of actions to manage flooding in Shetland Mainland North

PVA	Flood protection scheme/works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action group	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
04/01 Shetland Mainland North				G						G			G	G	G		G	G

Summary of progress of PVA specific actions to manage flood risk in Shetland Mainland North (PVA 04/01)

Action	Status	Description	Delivery Lead	Start Date	End Date	Progress	Future Actions
Vidlin Flood Protection Study (4001010005)	G	<p>Flood modelling in the Vidlin area suggests that properties and infrastructure may be at risk of coastal flooding, but there is uncertainty about the accuracy of the base level information used in that assessment.</p> <p>As a first step the SIC will carry out surveying of areas where property may be at risk, to better understand the actual level of risk.</p> <p>If an improved understanding does confirm a significant flood risk to property or infrastructure, the study should progress to identify the most sustainable range of actions to address this.</p>	SIC	2017	2018	<p>Survey of coastal areas of Vidlin by aerial drone to find accurate ground levels and then to assess true level of flood risk to coastal properties.</p> <p>Survey was flown and level data processed. An assessment has been carried out to compare building levels to existing and future flood levels and to prioritise follow on actions.</p>	<p>Work to consider options for further actions in the next FRMP cycle has been completed.</p> <p>An action to develop outline design proposals for works on the vidlin road causeway will be a proposed action in the next LFRMP cycle, with timescales depend on funding.</p> <p>The next LFRMP will contain an action to prepare a "Coastal Adaption Plan", to consider the longer term SIC strategy to sea level rise in this area.</p>

Shetland Mainland West (Potentially Vulnerable Area 04/02)

Local Plan District	Local authority	Main catchment
Shetland	Shetland Islands Council	Shetland Mainland West



Summary of Progress for Shetland Mainland West

This Potentially Vulnerable Area is located in the west of Mainland Shetland (shown left). It is approximately 220km².

There are several communities including Sandness, Walls, Easter Skeld, and Aith. The A971 road runs through the Potentially Vulnerable Area providing the main access route.

There are approximately 10 residential and fewer than 10 non-residential properties at risk of flooding. The Annual Average Damages are £88,000, with the majority caused by coastal flooding.

Further information can be found in the Shetland LFRMP under PVA 04/02 at the following link.

<http://www.shetland.gov.uk/planning/lfrmp.asp>

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An aerial survey has been carried out find accurate ground levels in the coastal areas of Walls, to assess the true level of flood risk to properties there.

Overview of actions to manage flooding in Shetland Mainland West

PVA	Flood protection scheme/works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action group	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
04/02 Shetland Mainland West				G						G			G	G	G		G	G

Summary of progress of PVA specific actions to manage flood risk in Shetland Mainland West (PVA 04/02)

Action	Status	Description	Delivery Lead	Start Date	End Date	Progress	Future Actions
Walls Flood Protection Study (4002010005)	G	<p>Flood modelling in the Walls area suggests that properties and infrastructure may be at risk of coastal flooding, but there is uncertainty about the accuracy of the base level information used in that assessment.</p> <p>As a first step the SIC will carry out surveying of areas where property may be at risk, to better understand the actual level of risk.</p> <p>If an improved understanding does confirm a significant flood risk to property or infrastructure, the study should progress to identify the most sustainable range of actions to address this.</p>	SIC	2018	2019	<p>Survey of coastal areas of Walls by aerial drone to find accurate ground levels and then to assess true level of flood risk to coastal properties.</p> <p>Survey was flown and level data processed. An assessment has been carried out to compare building levels to existing and future flood levels.</p>	<p>Work to consider options for further actions in the next FRMP cycle has been completed.</p> <p>Effective localised protection options appear limited in the area. An action for a long term community adaption plan is proposed in the next LFRMP cycle, together with a specific focus on shorter term options for the road causeway.</p> <p>The next LFRMP will contain an action to prepare a "Coastal Adaption Plan", to consider the longer term SIC strategy to sea level rise in this area.</p>

Shetland Mainland South (Potentially Vulnerable Area 04/03)

Local Plan District	Local authority	Main catchment
Shetland	Shetland Islands Council	Shetland Mainland South



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Summary of Progress for Shetland Mainland South

This Potentially Vulnerable Area is located in central and south Mainland Shetland. It is approximately 150km² (shown left).

There are several towns and villages in this Potentially Vulnerable Area, including Lerwick and settlements at Sumburgh, Scalloway and Sandwick. Sumburgh Airport and the main A970 road that links Lerwick to the airport are also within the area.

There are fewer than 10 residential and approximately 10 non-residential properties at risk of flooding. The Annual Average Damages are £43,000 with the majority caused by river and surface water flooding.

Further information can be found in the Shetland LFRMP under PVA 04/03 at the following link.

<http://www.shetland.gov.uk/planning/lfrmp.asp>

Initial discussions and information gathering has started on the Surface Water management Plan for Lerwick and Scalloway, with the main body of work scheduled for next year.

Work on the Scottish Water sewer assessments for Lerwick and Scalloway has been completed

Overview of actions to manage flooding in Shetland Mainland South

PVA	Flood protection scheme/works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan/study	Strategic mapping and modelling	Maintain flood protection scheme	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action group	Self help	Awareness raising	Maintenance	Site protection plans	Emergency plans/response	Planning policies
04/03 Shetland Mainland South				G		A	G			G			G	G	G		G	G

Summary of progress of PVA specific actions to manage flood risk in Shetland Mainland South (PVA 04/03)

Action	Status	Description	Delivery Lead	Start Date	End Date	Progress	Future Actions
Cunningsburgh Flood Protection Study (4003010005)	G	<p>Flood modelling in the Walls area suggests that properties and infrastructure may be at risk of coastal flooding, but there is uncertainty about the accuracy of the base level information used in that assessment.</p> <p>As a first step the SIC will carry out surveying of areas where property may be at risk, to better understand the actual level of risk.</p> <p>If an improved understanding does confirm a significant flood risk to property or infrastructure, the study should progress to identify the most sustainable range of actions to address this.</p>	SIC	2019	2020	The existing information and land surveys held by SIC Roads were collected and reviewed. Drainage products available commercially were investigated and an outline design option prepared as a potential works scheme.	<p>Information on the “North Brig” area has been reviewed and an preferred outline design selected.</p> <p>Development of this into a detailed design and then construction works is proposed as an action in the next cycle LFRMP, dependant on capital funding being approved.</p>

<p>Surface Water Plan/Study covering Lerwick and Scalloway (4003050018)</p>	<p>A</p>	<p>Existing flood risks are known from historical incidents, particularly on the South Burn of Gremista in Lerwick and at the Burn Beach outfall in Scalloway.</p> <p>The study will consider interactions with surface water, the drainage systems and the sea. Additional data and information will be procured or surveys commissioned to generate data to inform the study, establish the levels of risk and, if appropriate, progress to identify the most sustainable range of actions to address or mitigate the flood risks at specific locations.</p>	<p>SIC</p>	<p>2017</p>	<p>2020</p>	<p>Further information from SIC and Scottish Water on surface water run off and sewers has been used to updated the flood modelling for the South Burn of Gremista catchment.</p> <p>When the current LFRMP was published it was expected that there would be a new power station site and that redevelopment of the old site would be the main opportunity for carrying out flood risk reduction works. Currently it does not appear that there will be significant changes to the power station site on the line of the existing culvert, and so that approach has not been taken further.</p> <p>A survey of coastal areas of Scalloway has been carried out by aerial drone to find accurate ground levels and then to assess true level of flood risk to coastal properties.</p> <p>This information and newly available national LIDAR data was used to inform initial options presented in the Scalloway Place Plan, and flood risk assessment of sites and development areas as part of the SIC LDP for the area.</p>	<p>There have been initial discussions with LPA on collaboration on other possible surface water flooding mitigation works and continued work in that area will be part of an action in the new LFRMP.</p> <p>Potential division of design and construction interests, responsibilities and costs is likely to require agreement between many parties and different funding streams, which may not be easy to combine.</p> <p>The Scalloway Local Place Plan outlines desired works to improve access along the village seafront. This does not include coastal protection works, but the approach and scale of works chosen would influence what further protection works might be needed or possible.</p> <p>Works in the Burn Beach car park area also would have some crossover with potential overflow culvert works that could be considered there as a partial flood mitigation measure.</p> <p>The Nature Garden outlined in the Local Place Plan also has possible potential to incorporate natural flood prevention measures upstream of the developed area of Scalloway, where there could be water features providing storage and slow release of burn overflows, helping to reduce the “peaks” of flow volumes.</p> <p>Future LFRMP actions would look to coordinate with other Local Place Plan works and funding to try and maximise the benefits for the available funding. More specific information is not available at this time, and so some flexibility is</p>
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							likely to be needed to respond to outside funding pressures. The next LFRMP will contain an action to prepare a "Coastal Adaption Plan", to consider the longer term SIC strategy to sea level rise on the Lerwick and Scalloway developed coastlines.
Strategic mapping and modelling Lerwick DOA/Maa Ness DOA (4000020019)	G	Scottish Water will undertake modelling of the Lerwick sewer catchment.	SW	2017	2018	Completed	Provides information to feed into ongoing SWMP and LDP work
Strategic mapping and modelling Lerwick DOA/Maa Ness DOA (4000020019)	G	Scottish Water will undertake modelling of the Maa Ness sewer catchment.	SW	2018	2019	Completed	Provides information to feed into ongoing SWMP and LDP work

Other actions

This section sets out details of additional significant actions undertaken in the LPD by the Shetland Islands Council to contribute to the implementation of the current actions in the plan and the achievement of the objectives in the plan.

The Plan presents the actions to manage flood risk in Shetland Local Plan District. These actions are at a LPD-wide scale or are targeted at a specific PVA. In addition to the actions in this Plan, the Shetland Islands Council is undertaking other activities to manage flood risk with the main examples being:

Section 18 & 59: Works of Clearance and Repair

Based on an assessment of the condition of a body of water, local authorities must prepare a schedule of clearance and repair works that would substantially reduce the risk of flooding of land. This is commonly referred to as a Schedule 18, which is made available for public inspection. Under s.59 of the Act, the Shetland Islands Council must carry out the works in the Schedule 18 if it considers that this will contribute to the implementation of actions in the Plan, but that these works will not affect the implementation of actions in this Plan. Details of how to access Schedule 18s for the Shetland Local Plan District are included in Annex 4 of the Plan.

Actions include maintenance and repairs to bridges, culverts and drains and there is an ongoing programme of works which all contribute towards helping manage flood risk. Past works which have been carried out include works on structures on the Twart Burn, North Burn, Trondavoe Burn, and Burns of Brigadale amongst others.

The Shetland Islands Council's schedule of clearance and repair under Section 18 of the Flood Risk Management (Scotland) Act 2009 is available [here](#).

Section 56: General Power to manage flood risk

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

River Basin management Planning (RBMP)

[SEPA RBMP portal](#)

[RBMP for the Scotland river basin district – summary document](#)

[Shetland and Orkney supplementary document](#)

Shetland Local Development Plan

As part of the Local Development Plan development, the “Call for Sites” process was run and the submitted sites and other areas proposed for development were assessed for potential flood risk and drainage impacts as part of the Strategic Flood Risk Assessment. Work was also carried out to review policies and guidance on flood risk and drainage and updates and amendments considered.

Ultimately the LDP2 process was not able to produce a completed plan in the time available, and the future LDP will be carried out under the new NPF4 process.

The flood risk work already carried out will be taken forward into the new NPF4 process, with additional work carried out as needed where NPF4 requirements differ in detail or priority.

The new LDP will also take account of the Local Flood Risk Management Plan to be published in December for Cycle 2 of the FRMP national process.

Throughout the LDP and LFRMP processes, trigger levels and technical requirements will continue to be refined as more accurate information, policy and guidance on risks are produced and published by SIC, SEPA, Scottish Water and the Scottish Government.

Coastal Adaptation Plans

A Coastal Adaptation Plan is a new type of LFRMP action that will be included as proposed actions for some Target Areas in the next cycle of the Shetland LFRMP.

This follows recent work from SEPA on both climate change projections and their effects of sea level rise over the long term, and also other work by a new SEPA coastal flooding team, carrying out better modelling of coastal flood risk from inshore waves and water depths on a national scale.

There has also been more detailed output on erosion risks to areas of soft coast from the Dynamic Coast project, as well as a new stream of work to project those historic erosion rates forward taking into account

sea level rises and projected changes in storm and wave intensity.

There will be initial Scottish Government guidance on the form and scale of Coastal Adaption Plans published before the end of 2022, with further guidance and input from the SEPA coastal flooding team to follow.

It would seem likely that the plans will set out the effects of projected sea level rise over the long term, helping to focus local decision making on what actions may be worth considering, and the level of protection and effective lifetime that they could produce.

The plans are likely to begin by setting out the broad picture of projected climate changes and their effects from current data, and then over time are likely to be further developed and updated with more specific strategies and actions at various stages of physical sea level rise over the rest of the century, with ever more solid connections to other SIC plans, policies and projects also being formed as the physical impacts of climate change grow in perceived and physical impact.

List of Acronyms and Abbreviations

FRM	Flood Risk Management
ICS	Integrated Catchment Study
LFRMP	Local Flood Risk Management Plan
LDP	local Development Plan
LPD	Local Plan District
NFM	Natural Flood Management
PVA	Potentially Vulnerable Area
Q&S	Quality & Standards (Scottish Water)
SEPA	Scottish Environment Protection Agency
SR10/15	Spending Review periods for 2010-2015 and 2016-2021 for Scottish Water capital maintenance expenditure
SIC	Shetland Islands Council
SWMP	Surface Water Management Planning

Appendix 1: Flood risk management responsibilities in Scotland and the legal requirement for the publication of this Interim Report

Flood risk management in Scotland

The Scottish Ministers, SEPA and responsible authorities must exercise their flood risk related functions with a view to reducing overall flood risk (reference Section 1(1) of the Flood Risk Management (Scotland) Act 2009).

Through the preparation of a national flood risk assessment and setting of objectives to reduce the level of flood risk by SEPA, which is published in Flood Risk Management Strategy, and the publication of Local Flood Risk Management Plan's by 'lead' local authorities, which detail how and when the actions agreed to meet these objectives are to be done, SEPA and all responsible authorities must act to manage flood risk in a sustainable way.

[Flood Risk Management Strategy for Shetland](https://www2.sepa.org.uk/frmstrategies/shetland.html)

<https://www2.sepa.org.uk/frmstrategies/shetland.html>

[Local Flood Risk Management Plan for Shetland](https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5)

<https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5>

Legal requirement

This document sets out the conclusions of the review of the Local Flood Risk Management Plan (LFRMP) for the Shetland Local Plan District (LPD) as required by Section 37 of the Flood Risk Management (Scotland) Act 2009 (the "Act").

37 Local flood risk management plans: interim report

(1) Not earlier than 2 years and not later than 3 years after a local flood risk management plan is finalised, the lead authority must —

- (a) review the plan, and
- (b) publish a report on the conclusions of the review including information on the progress that has been made towards implementing the measures identified in the implementation part of the plan.

(2) The lead authority must make copies of the report available for public inspection.

The Shetland LFRMP, which includes the ‘implementation part of the plan’, was published in June 2016. The Interim Report is therefore to be published between July 2018 and June 2019. The Interim Report will provide a summary of the LFRMP actions (‘measures’) and the proposed delivery timescales.

The information on progress will include:

- an assessment of the progress towards implementing each of the actions;
- reasons for any actions where delivery is not as planned; and
- a description of arrangements planned to deliver the remaining actions and to address delayed actions.

The Interim Report is published by the ‘lead authority’ as defined by Section 34(9) of the Act in partnership with SEPA and the ‘responsible authorities’, as defined by Section 5 of the Act, will be in the LPD. The approval of the Interim Report will be in accordance with the agreed governance arrangements in the LPD.

The responsible authorities for the Shetland LPD are:

- Shetland Islands Council (lead authority)
- Scottish Water.

The lead authority must also publish a Final Report on the LFRMP under Section 38 of the Act between July 2021 and June 2022 (not earlier than 5 years and not later than 6 years from the publication of the plan).

The Final Report will provide an assessment of current actions and a summary of current actions not implemented, with reasons for their non-implementation. The Final Report will also include a description of any other measures implemented, which the lead authority considers have contributed to the achievement of the objectives summarised in the LFRMP.

Publication

The published Interim Report for the Shetland LFRMP will be made available for public inspection, as per Section 37(2) of the Act, via the LFRMP page on the Shetland Islands Council website at

<https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5>

Links to the published Interim Report for the Shetland LFRMP will also be provided from Scottish Government, SEPA and other responsible authority websites.

A hard (paper) copy of the published Interim Report for the Shetland LFRMP is also available for public inspection on weekdays between 9am and 5pm at the following location:

**Shetland Islands Council,
Planning Service
8 North Ness Business Park
Lerwick
Shetland
ZE1 0LZ**

Detailed arrangements for publication of the Interim Report for Shetland LFRMP are in Appendix 2.

Appendix 2: Publication details

Flood Risk Management (Scotland) Act 2009

Publication of Final Report for the Shetland Local Flood Risk Management Plan – Summary of Proposed Communications Activities

The following communications activities will be used to publicise and make the final report available:

- Upon finalising the Final Report for the Shetland LFRMP, Sections 37(2), 53 and 54 of the Flood Act also specifically require Shetland Islands Council, as the lead authority, to
 - Publish an Final Report on the Shetland LFRMP;
 - Make copies of the Final Report available for public inspection free of charge and at all reasonable times;
- The Final Report for the Shetland LFRMP will be published in a hard copy format and a pdf version will also be made available on the Council’s website at <https://www.shetland.gov.uk/coastal-marine-planning/flooding-drainage-coastal-protection/5>
- Hard copies of the Final Report for the Shetland LFRMP will be held and made available upon request within the Council’s Lerwick office, where the Flood Risk Management Team can explain aspects of progress if needed
- A letter (with a pdf version on digital media) will be sent to SEPA and the Scottish Ministers.
- Community councils will be emailed advising them of the publication of the Final Report.
- On or before the publication date [to be advised], public notices will be placed in the *Edinburgh Gazette* and *Shetland Times* fulfilling our duties to publicise the Interim Report in accordance with Sections 37, 53 and 54 of the 2009 Act.
- Announcements will be posted on social media (the Shetland Islands Council Twitter account). SEPA, and Scottish Water are also invited to advertise the publication of the Final Report on their websites and via social media.