

# **Implementation of the Flood Risk Management (Scotland) Act 2009**

## **Report to the Scottish Parliament – 2020**

Laid before the Scottish Parliament by Scottish Ministers under Section 52 of the Flood Risk Management (Scotland) Act 2009.

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## Ministerial Foreword



This report to Parliament outlines the progress made throughout 2020 in implementing the Flood Risk Management (Scotland) Act 2009.

An unprecedented year, 2020 brought enormous challenges to daily life in Scotland and throughout the world and my thoughts remain with all those grieving the loss of a loved one to Covid-19.

As the disruption of EU Exit was felt and while the pandemic impacted all of us, the effects of climate change, and our need to adapt to the climate emergency, were all too evident. Many families, communities and businesses throughout Scotland while dealing with the pandemic, were also living with the aftermath of devastating flood events.

Significant floods affected homes and businesses in areas such as Newcastleton and Cardenden and the impact of climate change was felt on our national infrastructure. I want to take a moment to pay tribute to those that tragically lost their lives in the passenger train derailment near Stonehaven in August 2020 and send my heartfelt condolences to their families.

As the effects of the climate and ecological emergencies are felt the Scottish Government recognises the need to adapt to and mitigate climate change and we understand the role that flood risk management has to play in this. Our 2020-21 Programme for Government committed an additional £150 million over a five year period from 2021-22 to flood risk management actions, building on our 2016 commitment to provide £420 million over 10 years for this purpose.

We continue to support the crucial work undertaken by the Scottish Flood Forum which provides on the ground, practical support to communities affected by flooding.

Those within the flood risk management community were, in 2020, forced to communicate and co-ordinate their work in a very different way but partnership projects such as Dynamic Coast have continued to make great progress.

Key partners such as SEPA and local authorities have progressed actions outlined in the Flood Risk Management Strategies and Plans to completion, from the creation of flood warning schemes that increase community flood preparedness in areas such as Aberfoyle to the completion of the flood protection works in Port Glasgow. I want to pass my thanks to all our partners contributing to such important actions.

Continued development and delivery of key science, policies and actions in such a difficult year has exemplified the resilience of the industry and the professionals that operate within it. It is clear that monumental challenges will come alongside the climate crisis, and flood risk management actions will be key in adapting to this change, and to securing a just and fair transition to becoming a net-zero nation by 2045.

A handwritten signature in black ink, appearing to read 'Mairi McAllan'.

Mairi McAllan - Minister for Environment, Biodiversity and Land Reform

## **Introduction and Background**

Flooding is a natural occurrence which can have devastating consequences on individuals, businesses and communities across Scotland. We now understand there are around 284,000 homes, businesses and services across Scotland at risk of flooding from rivers, surface water and the sea. The risk of flooding to people, communities and buildings is amongst the most severe climate risks for Scotland and is the costliest hazard to businesses. A further 110,000 properties may be at risk due to climate change by the 2080's under a high emissions scenario.

Flood risk is a measure of the likelihood that a flood event will happen and of its potential adverse consequences. The long-term aim of the Scottish Government and its partners is to reduce this risk. While flooding is sometimes unavoidable, steps can be taken to reduce the likelihood of a flood event occurring, to minimise its impact and to help those affected by flood events.

A framework for coordination and cooperation at a national and local level was developed in the Flood Risk Management (Scotland) Act 2009 (hereby referred to as "the Act"), which clearly sets out the roles and responsibilities of the key agencies involved in flood risk management, notably the Scottish Environment Protection Agency (SEPA) and responsible authorities such as local authorities and Scottish Water.

This report outlines the progress of work being carried out within 2020 by Scottish Government, SEPA, Local Authorities, Scottish Water and the other responsible authorities through the implementation of the Act.

## **2020 Flood Events**

Within 2020, there were several significant flood events that highlighted the catastrophic impacts that can occur to properties, businesses and services.

Significant events included;

- February – Over 100 properties were flooded in the Scottish Borders, most notably Newcastleton, forcing residents from their homes
- July / August – Several storms flooding property and businesses throughout Scotland, with significant impacts in Fife, Perth and Aberdeenshire
- 11/12 August – Flash flooding throughout Scotland, the main impacts of which were:
  - The derailment of a passenger train in Carmont, near Stonehaven, in which there were three fatalities.
  - Over 190 properties flooded in Perth and Kinross
  - Extensive flooding in Stonehaven, Fife and the Falkirk area
  - Breach of the Union Canal, causing closure of the Edinburgh-Glasgow railway line
  - A carriageway of the A68 in Midlothian washed away.

## 1. Scottish Environment Protection Agency (SEPA) Progress

SEPA have wide-ranging responsibilities within flood risk management and have made several advances within key areas in 2020. Despite the impacts of the Covid-19 situation and the cyberattack on SEPA systems on 24 December 2020, SEPA has maintained its flood forecasting and warning service without any interruption, including the maintenance of its network of rain gauges and river water level monitoring stations.

### 1.1 National Flood Maps

SEPA continues to develop Scotland's flood mapping with ongoing advances in:

- Flood map method development
- Improved survey data
- Flood modelling improvements
- Map updates
- Improved access to data

A further update to the national flood maps was completed in November 2020. These reflect improvements in map quality in a number of locations across Scotland, mostly focussed on the river flood maps. SEPA also received the outputs of the North East Coastal study and has reviewed them in preparation for inclusion into their national coastal flood mapping.

In December, SEPA launched a new Beta version Flood Map Viewer. This Viewer is designed specifically for a public audience and provides a 'check your flood risk' service. In addition to a new format and easier access to flood risk information, the Viewer for the first time includes climate change flood maps that represent predicted flood risk in the 2080s based on a high emissions climate scenario. This information will support flood risk management and actions including land use planning.

The impact of SEPA's cyber attack is likely to inhibit map updates in 2021 although SEPA will still progress the commencement of a project to deliver new surface water flood maps for Scotland by 2023/24.

### 1.2 Flood Forecasting and Warning

There are 319 flood warning areas across Scotland, where vulnerable communities benefit from SEPA's local early warning service. Receiving a flood warning allows people to take action including moving cars, moving possessions upstairs or installing property level protection.

The Scottish Government has invested significantly in improving, and supporting the continued development of Scotland's flood warning service. This includes funding to help SEPA and the Met Office operate a [Scottish Flood Forecasting Service](#). This service ensures flood forecasting and warning information is made available to the public and emergency responders throughout Scotland. For example;

- A daily Flood Guidance Statement is issued to over 900 emergency responder contacts. This provides an understanding of current and forthcoming flood risk and locations, and advance notice of potential flooding to aid planning and coordination of appropriate emergency response

- SEPA's Floodline direct warning service sends notifications with regional Flood Alerts and local Flood Warnings to those signed up to the freely available service
- The [Flood Warning Development Framework \(2017-2021\)](#) sets out plans to enhance the coverage and delivery of flood warning, including 14 new flood warning schemes that have been strategically identified, and prioritised, as part of the first round of flood risk management strategies.

These services, and the new developments and improvements that underpin them, are critical elements of SEPA's role in warning and informing responders and the public of flood risk, and the need to take action to prepare for flooding.

Two new flood warning schemes were launched in November 2020: Eilean Siar coastal flood warning scheme (Western Isles), which directly covers over 1,000 homes and businesses affected by coastal flooding, and the Aberfoyle flood warning scheme (Stirlingshire), which warns against river flooding and benefits more than 650 properties. Both schemes were successfully activated during flood events in November and December 2020.

The forecasting and warning systems are in constant development to expand and improve the service. Developing a new public flood forecast product for Scotland is one of the commitments in SEPA's Flood Warning Development Framework 2017-2021. Recent research showed that many view flood alerts as too confusing and generic. To combat this, SEPA and the Met Office are to develop a new product in 2021 that will provide a public-friendly version of the daily Flood Guidance Statement. This will to promote preparedness and support decision making during flood events.

SEPA are also working on a Discovery Project to support future climate ready infrastructure by working with transport network operators to understand future capabilities.

### **1.3 Public / Community Engagement**

Public awareness, participation and community engagement are essential components of sustainable flood risk management. Public participation can raise awareness of flood risk, inform decisions that contribute to the successful implementation of actions and ensure that the public know what actions they can take themselves.

The Scottish Government, SEPA, local authorities and other partners support a number of initiatives that help to improve community engagement and increase community resilience.

In 2020, SEPA concluded a formal consultation on their draft One Planet Prosperity: Our Flooding Services Strategy. Responses were received from a range of partner and stakeholder organisations. SEPA have reviewed the responses and will prepare a consultation digest before updating the Strategy to reflect the comments received.

Whilst not specifically highlighted here, local authorities engage with communities through a variety of local initiatives, as well as direct engagement as part of delivering the actions set out in the Local Flood Risk Management Plans (LFRMP's). In 2021, SEPA and local authorities must carry out a consultation process to allow stakeholder and community input to next FRM Strategies and Plans.

## **1.4 Flood Risk Awareness Raising Initiatives**

Since 2011, SEPA has delivered live flooding information direct to the public through their [Floodline](#) service. Registered customers have increased to over 32,500 with nearly 3000 messages issued in 2020 – including 3 severe flood warnings.

Every year hundreds of thousands of people access SEPA information digitally and they continue to develop communications for specific weather situations.

As part of the Eilean Siar coastal flood warning service launch in November 2020, SEPA, alongside Comhairle nan Eilean Siar ran three “virtual” classrooms that reached 250 primary pupils in the area to promote the new service with the communities affected and raise awareness of coastal flood risk with young people.

In partnership with Scottish Flood Forum, SEPA continued to engage with flood risk communities such as Alyth, Blair Atholl and Menstrie to raise flood resilience and awareness through their RiverTrack community flood alerting project. RiverTrack is a local flood alerting tool that uses low cost sensors to send accurate information to members of the public about water levels at their local watercourse.

## **2. Scottish Government Progress**

Scottish Government has taken forward or updated several guidance documents and policies to help shape the way forward within flood risk management. Scottish Government have also funded and/or managed flood risk management projects which help to reduce flood risk and increase knowledge and science for the future.

Actions that affect one part of a river, coast or estuary can have consequences elsewhere. This means that flood management actions are most effective when they are planned and coordinated within catchments and along coasts in a way that is uninhibited by administrative boundaries.

Adopting a catchment approach to flood risk management within policy and guidance requires an appreciation of catchment and coastal processes, and an understanding of how best to manage the sources and pathways of flood water. This includes looking at how the magnitude and duration of a flood can be managed, e.g. by creating and restoring natural features of the landscape, including wetlands, woodlands, functional flood plains and dunes.

### **2.1 Flood Risk Management Funding**

Since 2008, the Scottish Government has made available funding of £42 million per year to enable Local Authorities to deliver appropriate flood protection measures.

In 2016 agreement was reached between Scottish Ministers and COSLA on a new strategic funding plan for flood protection schemes. The agreement guaranteed that the level of flooding capital grant within the local government settlement is set at a minimum of £42m per annum, for ten years.

It was agreed that from 2016/17 onwards, the flooding capital grant should be allocated on the basis of a hybrid model whereby 80% of the £42m grant is allocated to large scale projects and distributed according to the prioritisation of flood schemes set out in the 14 FRM Strategies published in December 2015. 20% is allocated to all 32 councils to contribute to the other elements contained in the FRM Strategies and Plans. This gives local authorities the certainty needed to deliver the actions set out in their Local Flood Risk Management Plans and will help to deliver 40 new flood protection schemes in the current 2016-22 FRM cycle.

In August 2020, the Programme for Government also committed an additional £150 million over the next five years, from 2021-22, to support flood risk management actions. The distribution of the additional £150 million and future funding arrangements are subject to discussion by the FRM Funding Sub-Group, who will provide recommendations to Ministers in 2021.

Scottish Government's Programme for Government 2020-21 also committed £12 million to coastal change adaptation, to be allocated over four years from 2022-23. These funds will be available for works to protect natural sea defences such as sand dunes systems and in 2021 options will be considered for the allocation of the funds.



## **2.2 Guidance and Policy**

### **2.2.1 Surface Water Management**

It is widely recognised that sustainable surface water management ensures that above and below ground sections of the drainage system can work in unison to deliver benefits for flood risk management, people, the water environment and biodiversity, while also making our urban areas more adaptable to future changes and more resilient to climate change.

Scottish Government has identified the need to improve how we manage surface water in Scotland and in 2020 has been considering policy improvements to reduce the burden on drainage systems, lessen the impact of floods and increase the uptake of blue-green actions.

“Water Resilient Places - A Policy Framework for Surface Water Management and Blue-Green Cities” is being developed to support the Programme for Government commitments to work together to increase Scotland’s use of blue-green infrastructure for drainage and flood management and to review the approach to blue-green cities; with publication in early 2021.

The policy framework is centred on place-making as a means of encouraging a wider range of stakeholders to adapt their actions to contribute to water resilience. The aim of the work is to support the transition to water resilient places where communities can continue to thrive as climate change impacts play out over the coming decades.

### **2.2.2 Flooding and Land Use Planning**

Consideration of flood risk within land use planning is essential and Scottish Planning Policy (SPP) recognises this by promoting a precautionary approach to managing flood risk. This approach should take into account all sources of flooding and the predicted effects of climate change, and should be used when preparing development plans and determining planning applications.

The Planning (Scotland) Act 2019 was approved in June 2019. A refresh of the National Planning Framework and Scottish Planning Policy is now under way and is to consider how planning can effectively reduce both current and future flood risk.

Scottish Government published a Position Statement on the National Planning Framework 4 (NPF4) in 2020 that outlined issues to be addressed within the framework. All views received in response to the Position Statement are being taken into account to inform the draft NPF4, which will be laid in parliament in 2021.

## **2.3 Flood Risk Management Conference and FRM Workshops**

The Scottish Government continues to fund an [annual conference](#), hosted by SNIFFER, to bring Scotland’s flood risk management community together. In 2020, this two-day, in-person conference had a key theme of managing flood risk in the context of the climate emergency and acted as a platform to exchange knowledge, share best practice and explore key issues experienced by flood risk practitioners.

Although face-to-face meetings were severely limited from March 2020 onwards, several Scottish organisations continued to organise and attend virtual knowledge

sharing events. Scottish Government funding allowed SNIFFER to run knowledge exchange workshops throughout the year, including a FRM Practitioners “Check-in”.

## 2.4 Research and Projects

- Dynamic Coast 2 – Scotland’s National Coastal Change Assessments – The Dynamic Coast projects seeks to plan and adapt in advance of greater impacts from climate change along the coast and improve our understanding of coastal processes. [www.dynamiccoast.com](http://www.dynamiccoast.com)
- EU Interreg North Sea Region Building with Nature project – Scottish Government, Tweed Forum and SEPA continued to engage with partners on the project, which aims to demonstrate how measures that work with natural processes can manage flood and coastal erosion risks whilst enhancing ecosystem services. [www.northsearegion.eu/building-with-nature](http://www.northsearegion.eu/building-with-nature)
- Eddleston Water Project – A project partnership led by the Tweed Forum and supported by organisations such as Scottish Government, that aims to reduce flood risk and restore the river for the benefit of the local community and wildlife. The project is also a long-term study of the implementation and effectiveness of Natural Flood Management (NFM) measures to reduce flood risk. In 2020, Tweed Forum were awarded the prestigious RSPB Nature of Scotland award for their contribution to targeted and strategic riparian woodland creation. [www.tweedforum.org/our-work/projects/the-eddleston-water-project](http://www.tweedforum.org/our-work/projects/the-eddleston-water-project)
- Integrating Natural Capital into Flood Risk Management Appraisal - A Scottish Government funded report which used the Eddleston Water as a case study and developed recommendations on its primary aim of identifying how multiple benefits in the form of natural capital and ecosystem services can be most effectively integrated into current and future decision-making processes for appraisal of flood risk management measures in Scotland. [www.northsearegion.eu/media/15157/integrating-natural-capital-into-flood-risk-management-appraisal-report-v3.pdf](http://www.northsearegion.eu/media/15157/integrating-natural-capital-into-flood-risk-management-appraisal-report-v3.pdf)
- Understanding the Social Impacts of Flooding – A CREW commissioned research project on behalf of the Scottish Government with an aim to better understand the long term impacts of flooding. The research included face-to-face interviews over three consecutive years with residents in Ballater and Garioch, who were severely affected by flooding in the winter of 2015/16. [www.crew.ac.uk/project/assessing-impacts-flooding-people-and-communities](http://www.crew.ac.uk/project/assessing-impacts-flooding-people-and-communities)
- Property Flood Resilience – A Baseline Study (Climate X Change) A research report providing an up-to-date baseline assessment of the potential for Property Flood Resilience (PFR) across Scotland. The findings will support the Scottish Government and its partners in the Property Flood Resilience Delivery Group deliver actions within the “Living with Flooding: action plan”, published in 2019. [www.era.ed.ac.uk/handle/1842/37192](http://www.era.ed.ac.uk/handle/1842/37192)
- SG Government Rural Payments [Agri-Environment Climate \(AEC\) Scheme](http://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/) - The Scheme compensates land managers for implementing measures on their land that can help increase flood water storage, and aims to promote land management practices that protect and enhance Scotland's environment, improve water quality, manage flood risk and mitigate and adapt to climate change. [www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/](http://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/)

### **3. Local Authority Progress**

#### **3.1 Flood Risk Management Planning**

Scotland is divided up into 14 [Local Plan Districts](#) (LPD), with a lead local authority assigned to each. For each LPD, a flood risk management strategy and a local flood risk management plan, covering the first six-year flood risk management cycle, were published in 2015 and 2016 respectively. In 2020, preparatory work has commenced for the Cycle Two Strategies and Plans (2022-28).

[Flood Risk Management Strategies](#), prepared by SEPA, set out a long-term vision for the overall reduction of flood risk and include a summary of objectives and measures for Potentially Vulnerable Areas.

[Local Flood Risk Management Plans](#) are developed by lead local authorities and take these objectives and set out what actions will be taken and how they will be funded.

#### **3.2 Progress on Actions in Cycle One**

Local authorities continue to progress the actions identified in the first cycle of flood risk management strategies and local flood risk management plans. These involve a number of actions including awareness raising, self-help, flood warning schemes and flood protection schemes.

During 2020, one of the impacts of the COVID-19 pandemic was that the construction industry shut down for a period. This caused delay to progress on some schemes but in general, the majority of schemes continue to make good progress.

Of the 42 flood protection schemes identified in the FRM Strategies, 1 was completed in 2020 (Bouverie Burn - Port Glasgow), taking the total to 7 completed (and 1 no longer required). 22 of the 41 schemes have been confirmed by their local authority and are either complete, in construction or are due to start in 2021.

The FRM Strategies and Plans identified 113 towns and cities that require Surface Water Management Plans (SWMP's) and over 100 actions that incorporated a natural flood management component. Authorities have continued to progress these studies and actions throughout 2020.

Local authorities also continued to develop potential actions for inclusion within the 2022-28 Flood Risk Management Plans, including the submission of potential flood protection schemes for the 2022-28 cycle (Cycle Two) to SEPA's prioritisation process.

## **4. Joint Responsible Authority Progress**

### **4.1 Background**

Flood risk management is the process of assessing, organising and implementing actions to deal with flood risk. Multiple organisations are involved in managing flood risk. It is therefore essential that an integrated approach, that balances national consistency and strategic decisions with local knowledge and accountability is adopted.

#### **4.1.1 Delivering Responsibilities Collectively**

Responsibilities for flood risk management are divided between different organisations. Strong partnerships, founded on common aspirations, are needed to deliver coordinated or joint actions, aligned investment planning and efficient use of resources. Finding new ways to share skills, expertise and services is important to delivering partnership working. A summary of key partnership groups contributing towards flood risk management in 2020 is outlined in Annex B.

### **4.2 Selecting and Implementing Sustainable Actions**

The main output of the flood risk management planning process is a set of sustainable actions being taken to reduce overall flood risk across Scotland. The Flood Risk Management Strategies and Local Flood Risk Management Plans incorporate a wide spectrum of actions, ranging from flood protection schemes to emergency flood plans to awareness raising activities.

Published in 2016, Scottish Government's [Options Appraisal Guidance](#) provides guidance for SEPA and the responsible authorities on the economic, social and environmental aspects of options appraisal for actions promoted under the Act. The requirement for an update to this guidance has been recognised and is planned for 2021, before the second FRM cycle.

This guidance ensures that options are identified and evaluated within a structured appraisal process, ensuring options are assessed in a consistent way, with alternative options considered and investment decisions justified. Sustainable solutions are likely to be a combination of actions.

#### **4.2.1 Appraisal and Prioritisation for Cycle Two**

In 2020, SEPA continued to progress plans for the development of the 2021 FRM Strategies for the second FRM Cycle. The Scottish Government and local authorities are working with SEPA to develop an appraisal and prioritisation method that includes the opportunities, ambitions, and challenges presented by the second cycle.

### **4.3 Strategic Drainage Partnerships - A Place-based Approach to Surface Water Management**

Our urban areas in particular face mounting challenges with surface water drainage and related flooding. Despite considerable capital investment, the continued densification of our towns and cities is adding to the pressure on drainage systems that are already at capacity and the "total asset" that needs to be flood resilient continues to increase. An integrated, place-based approach focused on blue-green infrastructure

has the potential to deliver multiple benefits for our communities to help overcome these challenges.

The long established Glasgow Strategic Drainage Partnership and Edinburgh and Lothians Strategic Drainage Partnership demonstrate the benefits of this approach. In Aberdeen, the Sustainable Growth Agreement brings together multiple stakeholder to drive innovation in managing rainwater and waste water, with the aim of significantly reducing flows to the combined sewer, increase resilience and contributing to place.

In 2020, the City of Edinburgh Council also published their Vision for Water Management as part of their climate adaptation planning. This supports a sustainable approach to river, coastal and storm water management across the city, placing resilience at the heart of the city's future success.

#### **4.4 Natural Flood Management (NFM)**

Natural Flood Management (NFM) measures reduce, slow or otherwise manage flood waters across catchments and along the coast; they include salt marsh creation, wetland restoration, floodplain reconnection, woodland planting, leaky dams. The Scottish Government, SEPA, local authorities and other partners continue to work together to deliver NFM in Scotland.

As highlighted in Chapter 2.4, alongside multiple partners such as Tweed Forum and SEPA, Scottish Government have this year continued to support the long running Eddleston Water research project, which is developing an evidence base to improve our understanding of NFM, including its specific impact on flood risk.

There are over 100 actions with an NFM component identified within the 2015-21 FRM Strategies and 2016-22 LFRMP's and SEPA have, in 2020, continued to support the responsible authorities in the delivery of these actions.

In addition to flood risk mitigation, NFM also frequently delivers other benefits. Opportunities to integrate NFM delivery with other drivers has been examined - as part of their actions, a number of local authorities have assessed River Basin Management Planning (RBMP) and NFM opportunities within their flood studies.

The NFM Network Scotland has also continued to gain membership in 2020. This online resource brings together practitioners, researchers and communities to share knowledge, best practice and experience of implementing NFM.

##### **4.4.1 CIRIA Natural Flood Management Guidance**

For natural flood management to have any significant impact, schemes need to be technically robust. However, there is a lack of suitable guidance covering on the ground delivery. To address this gap, CIRIA commissioned work in late 2019 to develop a good practice guidance for the delivery of NFM. This guidance will present case studies, develop a design philosophy, and design criteria to ensure the right outcomes are delivered. The guidance will also signpost how designing for multiple benefits can unlock different funding sources. SEPA are part funders of this work and are supporting its delivery. Completion of the guidance is expected late 2021.

## **4.5 Promoting Flood Resilient Properties**

### **4.5.1 Flood Re and Flood Resilience**

Flood Re is a flood reinsurance scheme that ensures that flood insurance remains affordable to those who need it. Flood Re helps to enable home insurance and associated premiums to remain affordable to residents in areas at risk of flooding.

Stakeholders from across Scotland have worked with the insurance industry to develop the scheme to ensure the voices of Scotland's communities at risk of flooding are heard. Flood Re was launched in 2016 and will be in place until 2039.

Those benefiting from Flood Re should become more aware of their flood risk and, if possible, take action to reduce their risk by making flood resilient property repairs and installing property level protection.

### **4.5.2 Property Flood Resilience Delivery Group (PFRDG) and Action Plan**

Property level protection and resilience measures are an essential and cost effective part of a sustainable and proactive approach to flood risk management. However, these measures are not being widely taken up in Scotland even though they can reduce flood risk and speed up the drying out and cleaning up processes post-flood.

The Scottish Government are part of the multi-stakeholder Property Flood Resilience Delivery Group (PFRDG), which was set up to discuss what support home and business owners might need to make their properties flood resilient. In 2020, the group has continued to remotely meet on a regular basis and deliver actions aligned to the key aims within the Living with Flooding: Action Plan (2019) such as building a better evidence base and influencing policy.

As outlined in Chapter 2.4, this has included the publication of a [research report](#) to investigate the uptake of Property Flood Resilience measures in Scotland. A further ClimateXChange led research study was commissioned in 2020 on understanding the barriers to uptake of PFR in Scotland, this study is due for completion in Spring 2021.

The Scottish Government continues to work with Defra and the devolved administrations to help residents and business owners take actions to protect their property.

## **5. Scottish Water Progress**

### **5.1 Background**

Great progress has been made since the introduction of the Act in 2009 in understanding the impact of surface water flooding in Scotland, where our priorities lie and how we can work together to manage the impacts of floods on our communities. We now understand that approximately 210,000 homes, businesses and services are at risk from surface water flooding and that this is estimated to increase to 270,000 by 2080 through climate change.

### **5.2 Integrated Catchment Studies**

Scottish Water is leading on a number of Integrated Catchment Studies in partnership with 20 local authorities across Scotland. These studies aim to create a detailed understanding of the above and below ground drainage systems – combined sewer networks, culverted and open watercourses and surface water sewers for example. They aim to understand the interactions of the drainage network and identify the sources and mechanisms of flooding in these urban areas. These studies were commissioned in two batches and are currently at varying stages of development.

In 2020, five of these studies have continued to progress through the Optioneering phase of work, which will identify the most sustainable solutions for managing flood risk in areas that have been identified as joint priority needs areas for Scottish Water and local authorities. Despite the impacts of the pandemic, the Optioneering phase of work remains on course to be completed during the first FRM cycle.

Ten studies have now completed the requirements of the actions within the current FRM strategies, with four of these completed in 2020. The final two studies have completed their model build and verification stages. These are currently undertaking a catchment flooding assessment which will identify the sources, mechanisms and impacts of flooding. These final studies will be completed in 2021. Dependent on the outcomes, some of these areas may continue to an Optioneering phase.

### **5.3 Section 16 Assessment of Flood Risk from the Sewer Systems**

Scottish Water is progressing on schedule with the programme to undertake modelling to assess flood risk from the sewers systems across 201 catchments by the end of the first FRM cycle. As of December 2020, 198 assessments were complete. All other Section 16 assessments are on programme for completion within the first FRM cycle. On completion, the outputs are provided to SEPA for use in their National Flood Risk Assessment (NFRA2) and the continued development of their surface water (pluvial) mapping. The outputs are also provided to the appropriate local authorities as part of their SWMP Process.

## **6. The Scottish Flood Forum Update**

The [Scottish Flood Forum](#) (SFF) is an independent Scottish Charity that supports individuals and communities at risk of flooding, including immediate support in the event of flooding as part of its flood recovery programme, flood resilience and awareness raising. Since 2019, SFF also coordinate the Property Flood Resilience Delivery Group. The Scottish Government has grant funded the SFF since 2009, with an increase in funding to £193,000 in 2020-21.

During a unique year, SFF have had to adapt their support approach, initially delivering support to communities virtually, and as the pandemic evolved blending their options of support to include telephone and email support, on-line surgeries and face to face meeting where restrictions allowed.

### **6.1 Flood Recovery, Resilience and Awareness Raising**

The SFF recovery programme provides an Integrated Recovery Framework in which both the community and local authorities work in partnership towards a common goal of rebuilding and reuniting the community. They have a unique person-centred approach to dealing with flood impacted communities at both the recovery stage in the immediate aftermath of a flood and as the communities prepare for future resilience. This tailored support helps build personal and community resilience in a way that enables individuals to plan, prepare, respond and recover from future events and “build back better”.

SFF supported over 70 community flood groups in 2020, directly and indirectly, at various stages of development across Scotland and supported the development of new groups in the Perth and Kinross and Fife council areas. SFF received over 200 enquiries from residents covering 26 of the 32 local authority areas in Scotland, where advice was provided on topics such as flood risk insurance, property level protection and dealing with the impacts of flood events.

Further detail on SFF’s community support is available in Annex A.

### **6.2 Community Flooding Volunteers**

The Scottish Government continues to financially support [The Conservation Volunteers Scotland](#) (TCVS) who bring a citizen science approach to local community groups to develop activities that help manage flood risk in their area. TCVS is working with SFF, Clackmannanshire Council and Stirling Council to deliver the Citizen Science Community Monitoring project. This project helps raise awareness of flood risk and get local communities involved in recording useful information about local burns.



## **Annex A – Scottish Flood Forum’s Community Support**

### Summary of Scottish Flood Forum actions in 2020

Communities in 26 of 32 local authorities received some level of support from the Scottish Flood Forum in 2020, those authorities were (listed by those receiving the highest level of support):

Perth & Kinross, Fife, Aberdeenshire, North Lanarkshire, Aberdeen, Edinburgh, Falkirk, Clackmannanshire, Stirling, East Dunbartonshire, Glasgow, East Lothian, Highland, Angus, Renfrewshire, Moray, Midlothian, Dumfries & Galloway, North Ayrshire, Scottish Borders, East Lothian, South Ayrshire, South Lanarkshire, West Dunbartonshire, Inverclyde, Argyll & Bute

### Small scale, localised flooding support

- >200 households supported

### Community Group support

- >70 community groups supported

### Recovery Programme

Due to the COVID-19 pandemic, this service could not be offered in its “usual” way due to restrictions and the health and safety of both clients and staff.

Alternative recovery surgeries and some community group sessions were still held, with the help of SFF’s Mobile Recovery Unit Van, Flo. These included:

- 8 surgeries throughout Scotland – including Cardenden, Kinross, Dunning Stonehaven, Perth and Tillicoultry
- 9 community group sessions with flood affected communities in Perth and Kinross.

## **Annex B – Partnership Groups in flood risk management**

- The Scottish Advisory and Information Forum for Flooding (SAIFF) – SAIFF comprises of a series of working groups known as Task and Finish Groups. These groups are convened to develop specific guidance or undertake analysis of technical issues. Membership comprises of policy and technical experts.
- Policy Management Group (PMG) - The PMG provides oversight and coordination across all working areas, its principal purpose is to give strategic oversight and to provide a co-ordination role in relation to the other SAIFF groups. This involves establishing Task and Finish Groups, monitoring their progress against their objectives, signing off completed work such as guidance documents. Membership consists of representatives from the Scottish Government, Scottish Water, the Society of Chief Officers of Transportation in Scotland, Heads of Planning Scotland, COSLA, SEPA, and the Chair of the Lead Local Authority Forum.
- Lead Local Authority Forum (LLAF) - The LLAF shares good practice, exchanges information and addresses common issues arising through the work of the Local Partnerships in Scotland. Membership includes Lead Local Authorities, Scottish Water, Scottish Government and SEPA.
- Society of Chief Officers of Transportation in Scotland (SCOTS) Flood Risk Group - The SCOTS group enables sharing of good practice, development of guidance, partnership working and dissemination of information relating to flood risk management in Scotland. Membership includes Local Authorities, Scottish Government, COSLA, Scottish Water, SEPA and Heads of Planning Scotland (HOPS).
- National Flood Management Advisory Group (NFMAG) – NFMAG brings together a number of key organisations to consider the progress that is being made to implement flood management protocols and strategies.

## **Annex C – Acknowledgements**

The Scottish Government would like to thank all those who have provided material to aid completion of this report.

The Scottish Government would also like to pay tribute to Paul Hendy, who sadly passed away in December 2020. Paul's tireless work with flood risk communities changed the lives of many and he will be sorely missed within the flood risk management community.



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