



## Agency Board Meeting 18 February 2020

Board Report Number: SEPA 06/20

### Our Flooding Strategy

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| <b>Summary:</b>                            | This paper introduces the draft SEPA Flooding Strategy and seeks Board approval to formally consult with partners and stakeholders.  |
| <b>Risks:</b>                              | Our Flooding Strategy has been subject to both internal and external consultation. SEPA staff have been engaged in the development of the Strategy while external partners and stakeholders have provided strong support for the direction the Strategy sets.  |
| <b>Resource and Staffing Implications:</b> | Reducing the impacts of flooding is one of SEPA's strategic outcomes. Individual projects and pieces of work will be resourced as appropriate.   |
| <b>Equalities:</b>                         | No equality impact assessments have been included with this paper. There are a broad range of equality considerations associated with climate change and flooding. Individual projects and pieces of work will have EIA's undertaken at the appropriate stage. |
| <b>Environmental and Carbon Impact:</b>    | There are limited direct environmental or carbon impacts from the production of this strategy. The strategy as a whole aims to reduce the impact of flooding.  |
| <b>Purpose and audience of the report:</b> | For approval.<br>Scottish Government, Public, Internal and Board.  |
| <b>Report Author:</b>                      | Mark McLaughlin, Principal Hydrologist and David Pirie, Executive Director.  |
| <b>Appendices:</b>                         | SEPA Flooding Strategy v1.0  |

## Our Flooding Strategy

### 1. Introduction

- 1.1 SEPA's Flooding Strategy will refocus our activities to ensure we directly respond to the climate emergency and work to ensure Scotland's people and places are resilient to flooding now and in future.
- 1.2 The Strategy has evolved from advice provided by AMT and the Board and through internal and external engagement. The submitted draft has received support from both sources and we seek Board approval to consult formally on it in March 2020.

### 2. Background

- 2.1 The Board has previously guided and advised the development of our Flooding Strategy from the establishment of its core themes to the production of early drafts.
- 2.2 We have engaged widely across 2019-20 so that our Flooding Strategy is informed by SEPA staff and from wide-ranging engagement with Local Authority partners and national stakeholders.
- 2.3 Partners and stakeholders have provided a very positive response and have outlined their support for the ambition, direction and themes the Strategy sets out. They have also identified a number of focal points that validate earlier development on internal feedback – the importance of 'place', the need for strong partnership working, clear communication and access to quality flood risk information.
- 2.4 In addition to the engagement activity so far, subject to approval from the Board, we would like to consult formally on the Strategy in March.
- 2.5 A communications plan sets out a timeline for activity in 2020 to support the launch of the Strategy. It is planned to publish the strategy in the summer.
- 2.6 The strategy will be subject to appropriate formatting prior to publication.

### 3. The Issues

- 3.1 The impacts of climate change present the greatest threat to Scotland, its people, communities and economy. If we do not act now with a view on long term resilience, Scotland's communities risk not being able to adapt to future risks or being resilient to flooding.
- 3.2 Our Flooding Strategy will refocus our work to ensure Scotland's people and places are resilient to flooding.

### 4. Recommendations

- 4.1 The final draft of the Strategy is appended for the Board's consideration. The Board is asked to:
- (a) Note the work on the Flooding Strategy and the extensive engagement to date
  - (b) Approve the tabled document for formal consultation
  - (c) Provide an early steer on the development of performance measures to monitor and evaluate delivery of the strategy.

**Mark McLaughlin, Principal Hydrologist**  
**David Pirie, Executive Director.**

**5 February 2020**

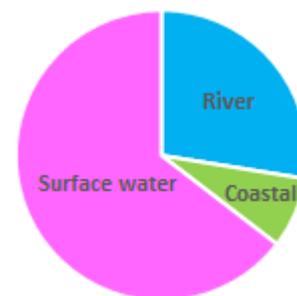
## Annex 1 – Flooding Strategy

**CEO foreword - to draft**

SEPA is changing today, creating a world-class EPA fit for the challenges of tomorrow. Our challenge is to ensure we apply our services in taking a strong role that enables Scotland to mitigate and adapt to future climate changes and be resilient to flooding across the 21<sup>st</sup> century and beyond.

**Why does SEPA need a Flooding Strategy?**

The climate is changing and we face a crisis. Nine of the ten warmest years in the UK have occurred since 2002 and seven of the ten wettest since 1998 (RMetS, 2018). The science on climate change is clear and flooding is likely to increase in the future, particularly due to rising sea levels, increased surface water and from rivers. To be ready for the future and adapted to the impacts of climate change, SEPA will act now and plan for a high emissions climate scenario.



Flooding is devastating for those affected – the potential loss of life, the emotional impact of losing possessions, the cost of moving out of homes and cleaning up afterwards. While property can be replaced after floods, the impact on people's health and wellbeing, and on the wider community, can be much longer-lasting. There are currently around 284,000 homes, businesses and services at medium to high risk of flooding in Scotland and, by the 2080s, this could increase by around 110,000 if little or no action is taken to tackle climate change.

Figure 1 Breakdown of flood sources for properties at flood risk in Scotland (NFRA, 2018)

The Flood Risk Management (Scotland) Act 2009 ensured Scotland moved to a proactive, plan-led approach to flood risk management. This was a significant change but the climate emergency means we need to go further to adapt.

Our One Planet Prosperity Flooding Services Strategy sets out how we will refocus our flooding services in response to the emergency. By doing so we will be ready to tackle the challenges of future flood risk.



Figure 2 Evolution and refocus of flood risk management to meet the climate challenge

**Sustainable Flood Risk Management**

Scottish Government's [Delivering Sustainable Flood Risk Management Guidance](#) provides statutory guidance and policy direction for our flood risk management work. Our Strategy transforms our policy direction and the challenge of adapting to a changing climate.

**Our flooding role**

Our role is to support communities to avoid flood risk where they can, adapt where they cannot and act when warned of flooding. We:

- Provide Scotland's flood forecasting & warning service
- Are the strategic flood risk management authority,
- Are a statutory consultee and key agency in the planning process and
- Regulate the safety of Scotland's reservoirs.

In delivering our services, our key aims are:

- Improving understanding of flooding,
- Developing and sharing quality information and data to all,
- Enabling the development of sustainable places for people to live and work in, and

Annex 1 – Flooding Strategy

- Working with partners and other agencies to enable sustainable social and economic development.

Our vision

**Scotland’s people and places are resilient to flooding**

To achieve our vision we will:



We know the future climate will be stormier, warmer and wetter but exactly how much warmer and wetter depends on how well we tackle climate change. Climate uncertainties influence flood risk and we are now moving to plan for a range of possible futures. We are good at planning for the future and we need to be ready for anything.

Successful, resilient places will have infrastructure that is adapted to the changing climate and where communities are able to collaborate with authorities to enhance their environment. By openly and powerfully sharing our quality information we will support positive, no-regret actions now so that communities can act without locking-in future generations to decisions that prevent adaptation.

We will work in partnership with communities to ensure they have information tailored to their local needs and the support required to act positively in response to the challenge of future flood risk.

We recognise that we cannot be successful working alone. Powerful existing and new partnerships will be essential to achieving our aim that Scotland’s people and places are resilient to flooding.

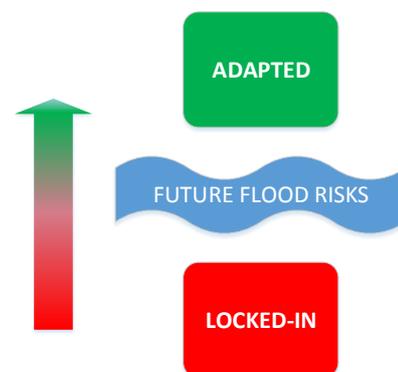


Figure 3 We will ensure we act now and avoid locking-in future generations to unadaptable measures

## Annex 1 – Flooding Strategy



Figure 3 SEPA's extensive influence supports working together towards a resilient Scotland

## What are we going to do?

### We will enable thriving places that are adaptable and resilient now and in the future.

We are a statutory consultee and key agency on land use planning. This is one of our most powerful levers to support sustainable place-making. We will work with other agencies to create a resilient Scotland that avoids development in flood risk areas. We will be strong and clear in our advice to support confident long-term investment in resilient places.

With increased flooding in future, existing communities must adapt to thrive. We will work with partners to understand the adaptation needs for our communities. Flooding adaptation plans will require a balanced approach where measures may include a combination of flood infrastructure, natural flood management, individual property resilience or the relocation of community assets. Operating in combination, a suite of adaptation measures will enable our communities to be successful in the face of future flood risks.

### We will ensure our urban, natural environment and flood plain assets are integral to flood resilience.

Our floodplains, coasts, lochs and wetlands are key features that help store water and reduce flood risk. Our [Water Supply and Wastewater Sector Plan](#) recognises that Scotland's blue-green infrastructure is hugely valuable, must be protected and restored where required. We will work with rural land managers, Scottish Water, Local Authorities and Marine Planners to integrate these features into the design of urban and rural landscapes and provide a range of benefits, including flood resilient places that are also resilient to coastal erosion and other extremes of heat and drought.

### We will ensure the most disadvantaged communities have a voice in informing flood risk management.

Climate change disproportionately affects those who are most disadvantaged. Our Strategy puts people at the heart of decision-making about their places. We will continue to embed the latest information on flood disadvantage to ensure investment is directed to where it is most needed in a fair and just way.

The National Flood Risk Assessment and Flood Risk Management Strategies embed the Scottish Government's Mapping Flood Disadvantage project outputs

Through our community engagement, we will have more conversations with communities on their flood resilience. We will provide great information to educators, businesses and communities to support public understanding of flood risk and what they can do to reduce it. We will support local communities to fully engage and influence flood risk management planning in their area.

### **We will warn and inform people so they are prepared for flooding.**

Flood forecasting and warning is our essential, frontline community service. It enables people to know when a flood might happen and allow them to act to minimise the impacts. Our [Flood Warning and Development Framework](#) sets out our commitments to develop our service. We will continue to work with partners, invest in developing our forecasting capability and seek innovative approaches to ensure our flood forecasting and warning service remains world-class.

### **We will strengthen existing partnerships and develop powerful new ways of working**

We have a strong, collaborative relationship with our Local Authority and Scottish Water partners. As we implement each new flood risk management strategy, we will continue to develop even closer partnerships. We will support a public sector transformation to meet the adaptation and mitigation challenges of climate change impacts on flood risk.

### **We will use our sector approach to build transformative partnerships.**

Our [sector plans](#) explicitly consider flood risk so that, in achieving full regulatory compliance, organisations are also developing their flood adaptation plans and ensure they are resilient to climate change.

We will engage with the **finance sector** to access alternative funding for flood risk management action. We will work closely with the **insurance** industry to explore future flood damage liability and the sector's role in funding actions to enhance property resilience. We will also improve data sharing between SEPA and the sector to strengthen local actions on flood resilience.

We will work with the finance sector to unlock green and alternative financing and investment for flood risk management such as community bonds.

### **We will provide high quality, trusted information that people use to make powerful decisions.**

Our data and information – river levels, flood maps, assessments and flood risk management strategies – underpin our vision of successful, flood resilient places and people. We will invest in the quality and range of our data and information to improve confidence in our understanding of future flood risk for a range of climate scenarios to 2100 and beyond. We will especially focus on a high emissions scenario to ensure we plan to adapt to a 4° increase in global temperature. In this way, we will help transform local decisions and integrated action to adapt across all sectors.

We will publish flood maps that indicate the flood hazard & risk due to high emissions climate change scenarios and use these to inform our advice and guidance to partners, stakeholders and the public.

Our data support and benefits Scotland and is valuable across sectors. We will ensure that our data and information will be open to all users. We will ensure it is accessible across all platforms to support efficient decisions by partners and confidently inform individual property and community resilience.

We will support increased operational use of our flood risk data in land use planning so that decisions are based on a consistent, high-quality evidence

## What does success look like by 2030?

We will know we are making progress towards flood resilient places and people when:

- Our sector approach and all available levers across land-use planning and urban development ensure that future flood risk is considered up front in every new development.
- Our evidence is open, trusted and easily shared with everyone.
- Insurance and finance sectors are engaged in encouraging resilient places.
- Scottish communities have a suite of adaptation measures in place enabling them to be successful in the face of future flood risks.
- Our flood maps show future flood risk to 2100 and beyond. Using an effective evaluation and monitoring programme we know we are on track to reduce overall flood risk now and for future generations.
- We understand the value, effectiveness and condition of Scotland's flood protection assets.
- New flood risk management measures are developed with responsible authorities and existing measures are improved in quality and resilience as required by flood risk management strategies.
- Communities understand their flood risk and know what to do about it, especially concerning emergency response.
- Our staff have the necessary skills in innovation, collaboration, communication and flood risk modelling, mapping, appraisal & assessment.
- We have radically improved surface water flood forecasting, flood mapping and have informed the development of blue-green cities.

In addition to delivering of the aims of this Strategy, we will continue to:

- Develop and deliver the Scottish Flood Forecasting and Warning Service with the Met Office
- Continue to maintain and deliver a resilient hydrometric network of gauging stations to support delivery of the flood warning service and other flood risk management actions
- Continue to update our Flood Maps
- Produce 6-yearly flood risk management strategies in collaboration with our partners
- Regulate and risk assess reservoir safety in Scotland

**References**

Royal Meteorological Society, State of the UK Climate 2017:  
<https://rmets.onlinelibrary.wiley.com/toc/10970088/2018/38/S2> (2018)

SEPA, National Flood Risk Assessment (2018)

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