

Water-Resilient Places

A Policy Framework for Surface Water Management and Blue-Green Infrastructure

February 2021

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18 January 2021

Scottish Government -
Water Industry and Flood Risk Management Teams

Introduction

Scottish Government has identified the need to improve how we manage surface water in Scotland. The Programme for Government: Protecting Scotland's Future - The Government's Programme for Scotland 2019-20¹ contains commitments to work together to increase Scotland's use of blue-green infrastructure for drainage and flood management and to review our approach to blue-green cities and bring forward proposals by the end of 2020.

This paper contributes to the review by considering what improvements we can make to surface water management in communities across Scotland by building on existing policy and by improving how we work together. The focus on placemaking² aims to increase the efficiency and effectiveness of funding and widen support for the statutory stakeholders.

The paper outlines how surface water is currently managed in Scotland, sets out a vision for the future and describes the components that should be brought together to form a coherent framework that will support delivery.

It concludes with recommendations for action to improve the delivery of surface water management and flood resilience in Scotland, to support the commitments in the Programme for Government and to help address the relevant recommendations in the Infrastructure Commission for Scotland's Key Findings Report³ – specifically those focused on climate adaptation, “infrastructure first” and improving regulatory coherence across water provision, flood management and resilience.

¹ PROTECTING SCOTLAND'S FUTURE - The Government's Programme for Scotland 2019-20

- p51: “*Scottish Water... will also take action in climate adaptation and pursue further partnerships with local authorities and others to adapt to increased intensity rainfall events by creating natural, blue/green infrastructure to manage surface water away from homes and businesses and help create great places to live.*”
- p91: “*We are also reviewing our approach to Blue-Green cities and will bring forward proposals by the end of this year.*”

² The placemaking approach as promoted by Scottish Government and supported across all sectors requires an integrated, collaborative and participative approach to decisions about services, land and buildings and is applicable to a place whether it is existing, changing or in the planning.

³ On 20 January 2020, the Infrastructure Commission for Scotland published its first report Phase 1 Key Findings: A Blueprint for Scotland. The report sets out eight overarching themes and 23 specific recommendations for Scottish Government to consider.

Taken together the recommendations aim to support the transition to water resilient places where communities can continue to thrive as climate change impacts play-out over the coming decades.

The recommendations focus on what is required to improve surface water management in Scotland. The next stage will be to prioritise them and describe how they will be taken forward. It is anticipated that this will be the subject of a future “delivery” paper. **Annex 3** Organises the 21 recommendations made in this document under five key messages and identifies primary and supporting recommendations for each one.

Background

Excellent progress has been made since the introduction of the Flood Risk Management (Scotland) Act 2009 in understanding the impact of flooding in Scotland, where our priorities lie and how we can work together to manage the impacts of floods on our communities.

We are now well into the second flood risk management planning cycle and are learning more about the size of the challenge ahead through better flood mapping, modelling and analysis. Organisations are gaining experience in bringing forward and implementing actions.

As the scale of the challenge becomes more apparent, we are discovering that the rate at which we can reasonably expect to implement actions is likely to be outstripped by the increase in exposure to flooding through climate change.

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.

To make certain Scotland’s places continue to thrive and remain attractive to people, businesses and investors, we must ensure they are water resilient and set-up for the climate challenges ahead. This will require a concerted effort across all sectors to ensure that new development is appropriately sited and designed and that existing buildings can transition to managing rainwater through blue green infrastructure instead of sewers reducing the pressure on our drainage systems⁴.

The three challenges that we must address through a cross-sector effort are:

1. Facing up to the climate emergency – both mitigation *and* adaptation;
2. Delivering great blue-green places to live (at all scales) that are adaptable to future conditions;
3. Tackling surface water flooding.

⁴ This is often referred to as “disconnection” or “retrofitting”. Scottish Water’s Surface Water policy states: “*For sustainability and to protect our customers from potential future sewer flooding, we will not normally accept any surface water connections into our combined sewer system.*”

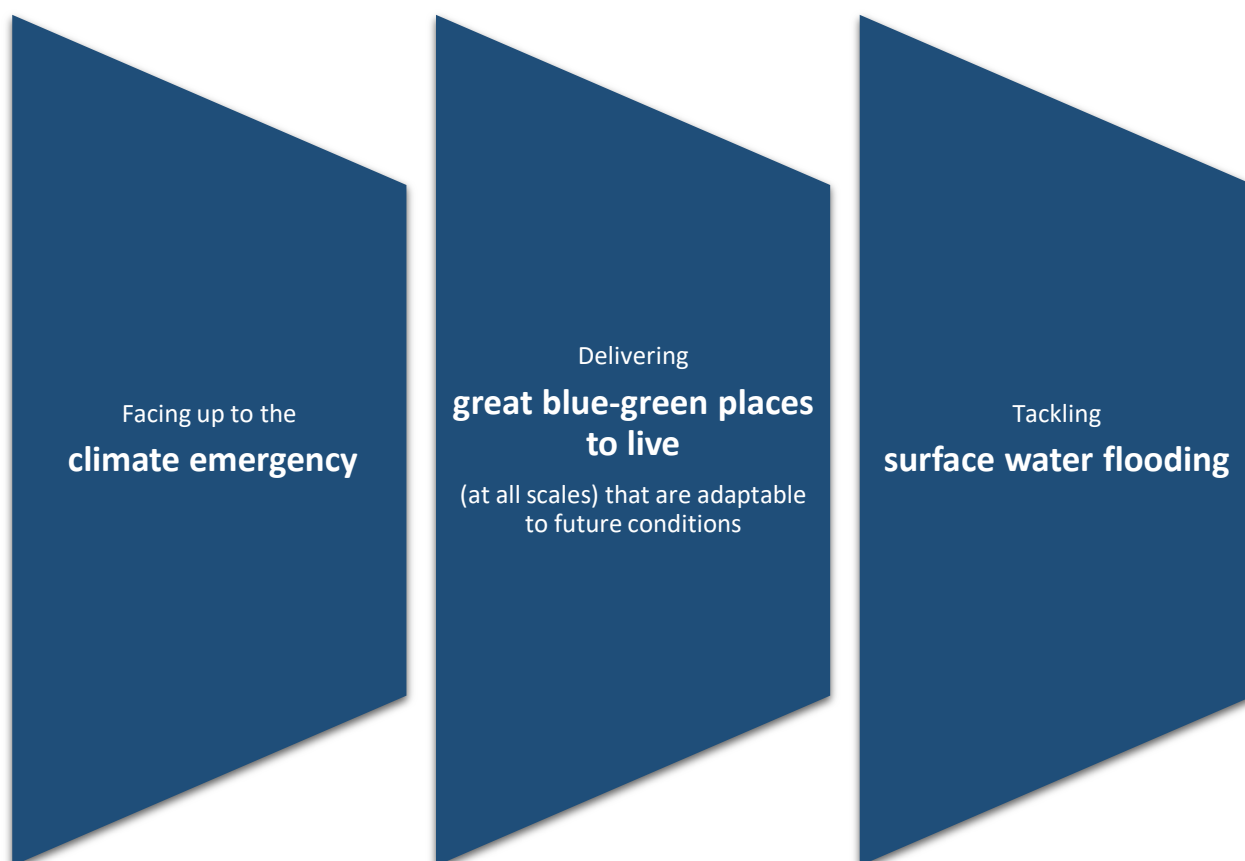


Figure 1 – The three challenges.

The reward for tackling these challenges together will be low-carbon, water-resilient places.

Creating water-resilient places where surface water flooding impacts are minimised will not be achieved by making minor adjustments to current processes. Significant changes to our approach are required.

Success will be achieved by bringing players together behind the common aim of creating great places and by following the Place Principle⁵ as adopted by the Scottish Government and COSLA . i.e. “...to help overcome organisational and sectoral boundaries, to encourage better collaboration and community involvement, and improve the impact of combined energy, resources and investment.”

By focusing on creating blue-green places that are sustainably drained and have low exposure to flooding impacts we can deliver multiple benefits for our communities,

⁵ The principle was developed by partners in the public and private sectors, the third sector and communities, to help them develop a clear vision for their place. It promotes a shared understanding of place, and the need to take a more collaborative approach to a place’s services and assets to achieve better outcomes for people and communities. The principle encourages and enables local flexibility to respond to issues and circumstances in different places.

contribute to the National Performance Framework⁶ and help deliver Scotland's ambition for a robust, resilient wellbeing economy post-COVID19⁷.

Attitudes in this topic area are changing with more sectors recognising that blue-green infrastructure can bring multiple benefits and meet a wider range of policy objectives including flood risk management, city regeneration, environmental improvement and enhanced wellbeing and health. Scottish Water's "no more in; what's in out." surface water policy stating that they will not normally accept any surface water connections into their combined sewer system also requires a shift in favour of blue-green interventions.

Public sector, private sector, third sector, community and individuals' activities all have the potential to help ensure that our places are low carbon and resilient to the impacts of climate change. By applying our knowledge of floods and drainage systems to the activities of all sectors we can design a future where increased rainfall, sea level rise and more frequent river flooding demand less of our attention, resources and time. **A water resilient society benefits everyone and therefore we all have a role to play in making sure it happens.**

Managing surface water in Scotland in 2020

In Scotland, the management of surface water, including flooding, is a significant and well known challenge⁸ for responsible authorities⁹. Surface water flooding by its nature is complex as it is often caused by a combination of factors. Resolving surface water flooding issues requires a coordinated effort across organisations and this can be difficult to achieve given the current policy and legislative framework. Activities and actions in this space are predominantly "issue-driven" with responsibility for resolving particular issues sitting with different organisations.

Optimal delivery is rarely achieved due to the small number of organisations that we depend on to carry out the specific (issue-driven) actions and the range of legislation, policy, practice, deadlines, competing priorities and resources at play in this space. This has been well recognised by responsible authorities for some time and is reflected in their enthusiasm for a reform to how we manage our surface water issues.¹⁰

Current responsibilities for managing surface water in Scotland are outlined in **Annex 1** and a list of the main relevant legislation and associated documents in **Annex 2**.

⁶ <https://nationalperformance.gov.scot/>

⁷ "Towards a Robust, Resilient Wellbeing Economy for Scotland: The Report of the Advisory Group on Economic Recovery" was published on 22 June 2020.

⁸ According to the second National Flood Risk Assessment carried out by SEPA in 2018 the number of properties exposed to surface water flooding will increase from 210 000 to 270 000 by 2080. (The 2080 figure is the current estimate of the number of properties at risk from the 1:200 year flood plus climate change).

⁹ Authorities responsible under relevant legislation are principally but not limited to: Scottish Government, SEPA, Scottish Water, local authorities and National Parks.

¹⁰ The Scottish Advisory and Implementation Forum for Flooding (SAIFF) in 2018 called for "...a transformation in the way we handle surface water..."

Responsible authorities generally understand and agree what solutions are required to address specific identified issues, but a nationally consistent approach is lacking and organisations can struggle to achieve multiple benefits or align priorities, resources and finances into truly joined-up services without taking a more outcome-based approach.

There are exceptions to this with some excellent examples of where organisations have come together to deliver joint outcomes including the Metropolitan Glasgow Strategic Drainage Partnership, the Edinburgh and Lothians Strategic Drainage Partnership and the Sustainable Growth Agreement between SEPA and Scottish Water. There are also the integrated catchment studies and surface water management plans that are being taken forward jointly by local authorities and Scottish Water as prioritised in our Flood Risk Management Plans¹¹.

Notably in 2020 the City of Edinburgh completed their Water Management Vision which focuses on integrating design for water and flooding with the urban landscape (blue-green infrastructure). This has been developed in direct response to the climate emergency and its aims include providing greener and more attractive places for people, improving biodiversity, reducing exposure to floods and improving environmental water quality. Edinburgh see this strategy as being at the heart of Edinburgh's future success.

Despite these positive examples, a fully unified approach to the management of surface water in Scotland encompassing existing-retrofit and new-build challenges is yet to be achieved.

This is not surprising considering:

- the number and dispersed nature of surface water management issues¹²;
- the range of factors that contribute to surface water flooding;
- the distributed responsibilities for surface water management;
- the diversity of actions that can contribute to surface water management; and
- the fact that many of the current problems and potential solutions are within areas that are already highly developed, making retrofit a complex and challenging issue.

Vision for the future

Improving how we manage surface water in Scotland requires a bold vision that engages the widest possible range of players and a framework to support delivery.

The draft vision set out below for discussion takes as its starting point that Scotland will thrive *because* it is water resilient. It aims to present a powerful ambition that everyone can get behind.

¹¹ Scotland has 14 Flood Risk Management Plans outlining a set of prioritised actions to reduce the impact of floods. They provide detail on the costs, benefits and delivery timetable for actions.

¹² Including, flooding, drainage, environmental water quality and the performance of combined sewer overflows (CSO) and their impact on receptors including bathing waters.

Draft vision for water resilient places

Scotland's blue-green towns and cities are thriving water-resilient places designed to adapt to increased rainfall, river flooding and sea-level rise. They attract people, businesses and investors because they are great places to be and because they are resilient to climate change.

They provide wide-ranging economic, social, environmental and well-being benefits to individuals, communities and the nation.¹³

The vision aims to:

- Present a positive image of our future towns/cities/places;
- Make the link between water resilience and thriving successful places;
- Identify that planning for drainage and flood risk management (through blue-green infrastructure) drives multiple-benefits for our communities;
- Engage a broad range of stakeholders to adapt their activities to contribute to our future water resilience.

Realising this vision will require a fundamental change to how we approach water management. By considering water first, we can move from battling to overcome its negative impacts, to capitalising on the positive contributions it can make to the realisation of our Hydro Nation ambition¹⁴.

Our journey towards blue-green places and water resilience will require a shift from the current position where a few organisations are tasked with “fixing” all our water issues to enable others to carry out their activities, to the position where the effective management of water is known to contribute to the success of all our activities and is supported by a broader range of players.

Understanding the direct link between an organisation's activities and water resilience will lead to more informed choices that have the potential to benefit those directly and indirectly affected by their decisions and actions.

This draft vision is supported by a framework that describes what needs to come together to make it happen. This includes five elements well known to flood risk management and drainage practitioners and a sixth that has come through very strongly in research for this paper and discussions with stakeholders and is clearly a very important factor to the success of surface water management in future. I.e. that **all decision makers contribute to water resilience.**

¹³ This draft vision has been shared with the Hydro Nation Forum, SCOTS Flooding group, MGSDP, ELSDP and other key stakeholders for discussion and review. Positive feedback has been received.

¹⁴ <https://www.gov.scot/policies/water/hydro-nation/>

A framework for the delivery of water resilient places

The framework in **Figure 2** below supports the vision and outlines what we need to bring together to ensure a coordinated, cross-sector and sustainable approach to managing surface water and drainage in our cities, towns and smaller settlements.

Combined with the vision, this framework will provide the policy focus to bring organisations together to increase the delivery of blue-green infrastructure and create water-resilient places.



Figure 2. The key elements – what we need to bring together to deliver water-resilient places.

Recommendations

The following are recommendations of what we should do to improve surface water management in Scotland. They are structured around the six key elements from Figure 2 above and are presented here in the context of:

- Facing up to the climate emergency;
- Delivering great blue-green places to live (at all scales) that are adaptable to future conditions;
- Tackling surface water flooding.



Our water resilience in Scotland will be improved by making it a core consideration for a broader range of decision makers. Many decisions are currently made without reference to flood risk management or drainage often resulting in an increase in the “total asset” requiring to be water resilient, more problems that need to be overcome or missed opportunities to make improvements in this space. Few decision-makers understand the impact they can have on their water resilience or on the water resilience of others. The transition to water resilient places would be helped if decision makers accounted for their activity in terms of how it contributed to tackling the climate emergency and how it impacted on flooding and drainage.

Recommendation 1.

A vision for blue-green cities for Scotland should be established.

Recommendation 2.

A strategy and route map should be set out supported by the key policy changes that are required to drive the transition to blue-green cities and water resilience.

Recommendation 3.

Scotland should channel support *towards* actions that contribute to creating great places that are resilient to future flooding and drainage challenges, and *away from* activities that add to our future flooding and drainage burden.

Recommendation 4.

We should take a placemaking approach to achieving blue-green cities and water resilience involving partners in the public and private sectors, the third sector, individuals and communities.¹⁵

Recommendation 5.

Relevant decision makers, including public bodies as part of their climate adaptation duties, should take account of flooding and drainage within their climate planning. (Public sector bodies are legally required to reduce greenhouse gas emissions and support Scotland's adaptation to a changing climate.)

¹⁵ The transition to blue-green places will require interventions at all scales.

Recommendation 6.

Climate impact assessments applying to public policies/activities should include assessing the impact of the proposed policy/activity on water resilience. I.e. Considering if the activity adds to flooding and drainage issues, helps manage flooding and drainage or has no effect on flooding and drainage.

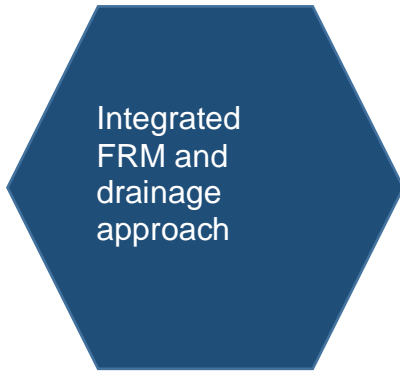
Recommendation 7.

A guidance and support package should be made available to policy makers and investment decision makers to give them the tools to maximise water resilience and success for their activities. This should include a tool to assess whether their activity has a negative, positive or neutral effect on our water resilience.

Recommendation 8.

The land-use planning process (development planning and development management) should, where appropriate, include a requirement for all sites/development proposals to be assessed and report on how they will contribute positively to the climate emergency¹⁶ and water resilience.

¹⁶ This should include climate mitigation *and* adaptation.



The Flood Risk Management (Scotland) Act 2009 established the framework for the integrated delivery of flood risk management. Progressing the joint delivery approach required by the Act has presented some strategic, tactical and operational challenges particularly around surface water management planning. Integrating drainage system requirements with surface water flood risk reduction across organisations and Scottish Government policy areas continues to challenge and requires improvement. An outcome-based approach where “who decides”, “who pays” and “who delivers” is established up-front is at the heart of this.

Recommendation 9.

Surface water flooding issues should be solution-focused and addressed by coordinating across organisations and implementing the best integrated sustainable solution. (Overcoming current legislative responsibilities and debates about ownership and on-going maintenance.)

Recommendation 10.

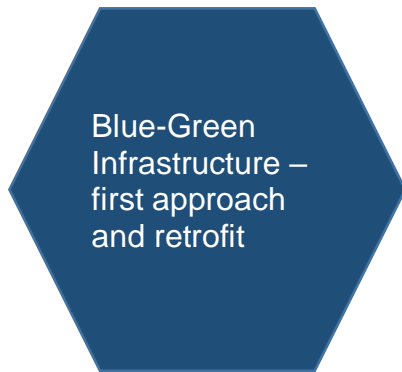
Working links between the flooding, water industry and climate policy teams in Scottish Government should be strengthened to improve coordination and encourage delivery of more and better blue-green actions.

Recommendation 11.

Guidance and support should be produced to allow flood risk management prioritisation to factor in the wider benefits of blue-green actions such that progress can be made across all sources of flooding. Current benefit/cost analysis techniques do not adequately account for “other” benefits and favour fluvial and coastal actions.

Recommendation 12.

How we measure our success in terms of reducing the impacts of flooding should be reviewed to encourage a wider range of actions. The current approach (Counting properties at risk and damages avoided) often favours fluvial and coastal protection schemes over surface water flooding management actions. This should include introducing new ways of accounting for the wider benefits that blue-green actions bring to health, wellbeing, economic prosperity and our natural environment.



Understanding blue-green and natural infrastructure and how this can be optimised to support sustainable flood risk management and drainage is fundamental to creating great places that are resilient to climate change. Our transition to water resilient places will require a multi-layered approach where sustainable drainage at the plot scale is supported by integrated regional blue-green infrastructure. Infrastructure needs to be there first to enable sustainable design and delivery at the plot scale and developed areas require mechanisms for disconnection and retrofit.

Recommendation 13.

Place-making (and masterplanning) should establish blue-green infrastructure needs from the outset where planning authorities' decisions are informed by a comprehensive water strategy¹⁷ where:

- The natural infrastructure is defined;
- Strategic flood risk and drainage assessments are carried out;
- A blue-green infrastructure plan is defined.

Recommendation 14.

The drainage of surface water from all new sites wherever practicable should be by blue-green infrastructure. Land for blue-green infrastructure should be a site pre-requisite and all designs should presume no rainwater connection to sewer.¹⁸

Recommendation 15.

It should be a priority for existing developed areas to remove as much surface water from sewers as possible through disconnection, retrofitting and diversion to blue green infrastructure. (Incentives and guidance should be put in place to support this).

¹⁷ The City of Edinburgh Council Water Management Strategy focuses on integrating design for water and flooding with the urban landscape (blue-green infrastructure). This has been developed in direct response to the climate emergency and aims to inform planning decisions and provide greener and more attractive places for people, improve biodiversity, reduce exposure to floods and improve environmental water quality.

¹⁸ Scottish Water's Surface Water policy states: "For sustainability and to protect our customers from potential future sewer flooding, we will not normally accept any surface water connections into our combined sewer system."



Unifying our approach to surface water management and guiding the many organisations involved in this complex space requires coordination of policy, standards, advice and support. A focal point for surface water management is required where surface water flooding, drainage and blue-green infrastructure can be considered in-the-round. Such a hub would ensure that all legislative requirements are met, set the strategic direction to optimise resources and outcomes and promote and safeguard best practice.

Recommendation 16.

Scottish Government should establish a strategic stakeholder group dedicated to promoting and supporting the transition towards blue-green places and water resilience.

Recommendation 17.

To support Recommendation 18 of the Infrastructure Commission for Scotland Key Findings Report¹⁹, Scottish Government should consider how to bring together the quality, standards and value for money elements of flood risk management, coastal erosion and drainage actions, including how they are determined and regulated.

¹⁹ **Infrastructure Commission for Scotland Key Findings Report**

Recommendation 18. Building on the existing plans and the Commission’s recommendation to incorporate natural infrastructure, the Scottish Government should by 2021 consider options for longer term implementation and regulatory coherence across water provision and flood management and resilience.

https://infrastructurecommission.scot/storage/280/Phase1_PartC.pdf

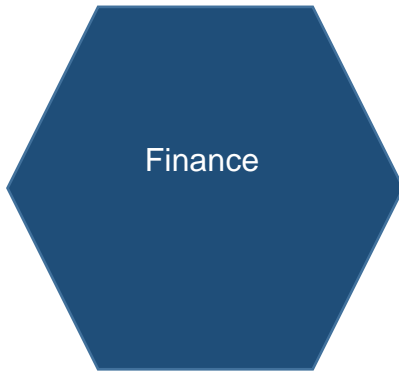


The Metropolitan Glasgow Strategic Partnership has successfully brought partners together behind their vision 'to transform how the city region thinks about and manages rainfall to end uncontrolled flooding and improve (environmental) water quality.' We are still learning from this approach but there are clear benefits that could be realised in other towns and cities across Scotland if this approach was adopted elsewhere. The recent establishment of the Edinburgh and Lothians Strategic Drainage Partnership shows growing interest in this sort of grouping.

Recommendation 18.

Larger towns and cities should be encouraged to establish drainage partnerships to lead a coordinated drive towards blue-green cities and water resilience. Membership of the drainage partnerships should include senior leaders of relevant organisations empowered to make cross-sector strategic commitments.²⁰

²⁰ There are currently two such partnerships in place. The Metropolitan Glasgow Strategic Drainage Partnership (established in 2002) and the Edinburgh and Lothians Strategic Partnership (established in 2019).



A financial framework is required to support the transition to blue-green cities and water resilience. This will need to identify the sources of funding and establish funding streams (e.g. from a hybrid of flood risk management funds, water charges and private finance.)

This will include understanding and managing established funding sources, seeking new sources of finance and establishing mechanisms to coordinate and direct funding to support the delivery of multiple benefits including optimal improvements to flooding, drainage and blue-green infrastructure. This would not only contribute to meeting our surface water management objectives but also green space, well-being and connectivity objectives for our towns, cities and smaller settlements.

Recommendation 19.

Scottish Government should consider how our transition to blue-green places will be funded and where new sources of sustainable finance from a wider range of beneficiaries can be accessed to support the vision.

Recommendation 20.

Funding of blue-green infrastructure and water resilience should come from a broader base of public and private contributors reflecting the wide-ranging benefits it provides.

Recommendation 21.

Public expenditure should always take into account how to make investments climate positive and water resilient positive.²¹

²¹ Ill-informed expenditure can inadvertently add to the “total asset” exposed to flooding and drainage issues.

Annex 1

Current Responsibilities for Surface Water Management in Scotland

Scottish Government

The Scottish Government is responsible for making national policy on planning and flood risk management including flood protection, natural flood management and flood warning. It is also responsible for drainage of motorway and major trunk roads, through its agency Transport Scotland.

The following organisations have duties and responsibilities to manage surface water and reduce the impacts of flooding:

Scottish Environment Protection Agency (SEPA)

SEPA is Scotland's national flood forecasting, flood warning authority and strategic flood risk management authority. SEPA produces Scotland's Flood Risk Management Strategies and works closely with other responsible organisations to ensure that a nationally consistent approach to flood risk management is adopted.

Scottish Water

Has the public drainage duty and is responsible for the drainage of rainwater run-off (surface water) from roofs, and any paved ground surface within the property boundary. Scottish Water can help protect homes from flooding caused by overflowing or blocked sewers.

Local Authorities

Local Authorities are responsible for the drainage of local roads and public highways and for providing flood protection and maintaining watercourses. This includes inspection, clearing and repair of watercourses to reduce flood risk and routine maintenance of road gullies on public roads and highways. Local authorities are responsible for producing Scotland's Local Flood Risk Management Plans and work in partnership with SEPA, Scottish Water and other responsible authorities to develop these.

Landowners

Landowners are responsible for the management of surface water on their land and must ensure that run-off from their curtilage does not cause flooding problems to their neighbours.

Individuals

Individuals are responsible for managing their own flood risk and protecting themselves, their family, property or business.

Annex 2

Legislation, Regulations and Guidance

There are multiple pieces of legislation, regulation and guidance relevant to water management including:

- Sewerage (Scotland) Act 1968 (as amended)
- Local Government Scotland Acts 1973 and 1994
- Control of Pollution Act 1974 (as amended)
- Roads (Scotland) Act 1984
- Environment Act 1995
- Town and Country Planning (Scotland) Act 1997
- Building (Scotland) Acts 2003, together with the relevant technical standards
- The Water Environment & Water Services (Scotland) Act 2003
- Planning (Scotland) Act 2019
- Sewers for Scotland (4th Edition) 2018
- Flood Risk Management (Scotland) Act 2009
- Water Environment (Controlled Activities) (Scotland) Regulations 2011
- The development planning and development management process
- The National Planning Framework (NPF) (currently NPF3 soon to be NPF4)
- Scottish Planning Policy (SPP)
- Planning Advice Notes on Flooding, Sustainable Urban Drainage Systems, Water and Drainage and Designing Streets
- SuDS for Roads 2010
- The SuDS Manual (C753) 2015
- Water Assessment and Drainage Assessment Guide 2016
- SUDS regulatory method - WAT-RM-08 (SUDSWP)
- <https://www.susdrain.org/>

Annex 3

Primary and supporting recommendations and key messages.

The following tables highlight the five primary recommendations and their supporting recommendations.

Please note supporting recommendations are presented in numerical order. I.e. not in order of priority.

Key message	Transition to blue-green cities
Primary recommendation	R1 A vision for blue-green cities for Scotland should be established.
Supporting recommendations	R2 A strategy and route map should be set out supported by the key policy changes that are required to drive the transition to blue-green cities and water resilience.
	R16 Scottish Government should establish a strategic stakeholder group dedicated to promoting and supporting the transition towards blue-green places and water resilience.
	R19 Scottish Government should consider how our transition to blue-green places will be funded and where new sources of sustainable finance from a wider range of beneficiaries can be accessed to support the vision.
	R20 Funding of blue-green infrastructure and water resilience should come from a broader base of public and private contributors reflecting the wide-ranging benefits it provides.

Key message	Supporting positive flooding and drainage actions and minimising harms
Primary recommendation	R3 Scotland should channel support towards actions that contribute to creating great places that are resilient to future flooding and drainage challenges, and away from activities that add to our future flooding and drainage burden.
Supporting recommendations	<p>R5 Relevant decision makers, including public bodies as part of their climate adaptation duties, should take account of flooding and drainage within their climate planning. (Public sector bodies are legally required to reduce greenhouse gas emissions and support Scotland's adaptation to a changing climate.)</p> <p>R6 Climate impact assessments applying to public policies/activities should include assessing the impact of the proposed policy/activity on water resilience. i.e. Considering if the activity adds to flooding and drainage issues, helps manage flooding and drainage or has no effect on flooding and drainage.</p> <p>R7 A guidance and support package should be made available to policy makers and investment decision makers to give them the tools to maximise water resilience and success for their activities. This should include a tool to assess whether their activity has a negative, positive or neutral effect on our water resilience.</p> <p>R8 The land-use planning process (development planning and development management) should include a requirement for all sites/development proposals to be assessed and report on how they will contribute positively to the climate emergency and water resilience.</p>

R21 Public expenditure should always take into account how to make investments climate positive and water resilient positive.

Key message	Taking a placemaking approach
Primary recommendation	R4 We should take a placemaking approach to achieving blue-green cities and water resilience involving partners in the public and private sectors, the third sector, individuals and communities.
Supporting recommendation	<p>R13 Place-making (and masterplanning) should establish blue-green infrastructure needs from the outset where planning authorities' decisions are informed by a comprehensive water strategy where:</p> <ul style="list-style-type: none"> • The natural infrastructure is defined; • Strategic flood risk and drainage assessments are carried out; • A blue-green structure plan is defined.

Key message	Improving coordination
Primary recommendation	R9 Surface water flooding issues should be solution-focused and addressed by coordinating across organisations and implementing the best integrated sustainable solution. (Overcoming current legislative responsibilities and debates about ownership and on-going maintenance.)
Supporting recommendations	<p>R10 Working links between the flooding, water industry and climate policy teams in Scottish Government should be strengthened to improve coordination and encourage delivery of more and better blue-green actions.</p> <p>R11 Guidance and support should be produced to allow flood risk management prioritisation to factor in the wider benefits of blue-green actions such that progress can be made across all sources of flooding. Current benefit/cost analysis techniques do not adequately account for “other” benefits and favour fluvial and coastal actions.</p> <p>R12 How we measure our success in terms of reducing the impacts of flooding should be reviewed to encourage a wider range of actions. The current approach (Counting properties at risk and damages avoided) often favours fluvial and coastal protection schemes over surface water flooding management actions. This should include introducing new ways of accounting for the wider benefits that blue-green actions bring to health, wellbeing, economic prosperity and our natural environment.</p> <p>R17 To support Recommendation 18 of the Infrastructure Commission for Scotland Key Findings Report, Scottish Government should consider how to bring together the quality, standards</p>

	<p>and value for money elements of flood risk management, coastal erosion and drainage actions, including how they are determined and regulated.</p>
	<p>R18 Larger towns and cities should be encouraged to establish drainage partnerships to lead a coordinated drive towards blue-green cities and water resilience. Membership of the drainage partnerships should include senior leaders of relevant organisations empowered to make cross-sector strategic commitments.</p>

Key message	Supporting "no more in - what's in out"
Primary recommendation	R14 The drainage of surface water from all new sites wherever practicable should be by blue-green infrastructure. Land for blue-green infrastructure should be a site pre-requisite and all designs should presume no rainwater connection to sewer.
Supporting recommendation	R15 It should be a priority for existing developed areas to remove as much surface water from sewers as possible through disconnection, retrofitting and diversion to blue green infrastructure. (Incentives and guidance should be put in place to support this).

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