



Strategic Environmental Assessment for Flood Risk Management Strategies

Scoping Report

November 2013

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SEA Scoping Report Cover Note

PART 1

To: SEA.gateway@scotland.gsi.gov.uk

or

SEA Gateway
Scottish Executive
Area 1 H (Bridge)
Victoria Quay
Edinburgh EH6 6QQ

PART 2

An SEA Scoping Report is attached for the plan, programme or strategy (PPS) entitled:

Flood Risk Management Strategies for Scotland

The Responsible Authority is:

Scottish Environment Protection Agency (SEPA)

PART 3

Please tick the appropriate box

- The PPS falls under the scope of Section 5(3) of the Act and requires an SEA under the Environmental Assessment (Scotland) Act 2005. ***or***
- The PPS falls under the scope of Section 5(4) of the Act and requires an SEA under the Environmental Assessment (Scotland) Act 2005. ***or***
- The PPS does not require an SEA under the Environmental Assessment (Scotland) Act 2005. However, we wish to carry out an SEA on a voluntary basis. We accept that, as this SEA is voluntary, the statutory 5 week timescale for views from the Consultation Authorities cannot be guaranteed.

PART 4

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PART 5

Signature

(electronic
signature
is acceptable)



Date

13/11/2013

Acronyms

JNCC	Joint Nature Conservation Committee
NPF	National Planning Framework
PAN	Planning Advice Note
PPS	Plan, programme or strategy
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPP	Scottish Planning Policy
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage System
UK BAP	UK Biodiversity Action Plan

1. Introduction

1.1. Background

This Strategic Environmental Assessment Scoping Report has been prepared in accordance with the Environmental Assessment (Scotland) Act 2005.

The purpose of this Scoping Report is to set out sufficient information on the Flood Risk Management Strategies for Scotland to enable the Consultation Authorities to form a view on the appropriateness of the scope, format, level of detail and the consultation period proposed for the Environmental Report.

We have carried out a screening exercise and determined that the Flood Risk Management Strategies are likely to have significant effects. A copy of the Screening Report can be found in Appendix 1.

The views of the Consultation Authorities are sought on the following questions:

1. Are there any plans, programmes, legislation or policy guidance of relevance to the Flood Risk Management Strategies that you consider should be added to the list in Appendix 2 and/or reflected in the summary in section 2.2?
2. Have we identified the most appropriate sources of data for the environmental baseline? If not, which other data sources should we consider?
3. Do you agree that we have correctly identified the key environmental problems relevant to the Flood Risk Management Strategies and their implications?
4. Do you agree that we have correctly scoped the likely significant environmental effects?
5. Do you agree that the SEA objectives and assessment will enable SEPA to make an appropriate strategic assessment?
6. Do you agree that the assessment matrix will present results in a way that enables Consultation Authorities, other stakeholders and the public to comment on environmental impacts?
7. Do you agree that the proposed consultation period and format enables early and effective engagement for SEA purposes?

2. Flood Risk Management Strategies and policy context

2.1. Flood Risk Management

The Flood Risk Management (Scotland) Act 2009 requires the production of Flood Risk Management Plans covering each of 14 Local Plan Districts (fig. 2.1). This is being delivered by a set of complementary plans for each Local Plan District: a Flood Risk Management Strategy produced by SEPA, and a Local Flood Risk Management Plan produced by a Lead Local Authority. It is the Flood Risk Management Strategies that are the subject of this Strategic Environmental Assessment.

The 14 Flood Risk Management Strategies, taken together, will comprise a national flood risk management plan for Scotland. They will focus on areas (Potentially Vulnerable Areas (fig. 2.1))¹ that SEPA has identified as containing significant flood risk. For each Potentially Vulnerable Area, the Flood Risk Management Strategies will identify the main flood hazards and impacts, set out objectives for reducing risk, and select the best combination of measures to meet the objectives, such as the appropriateness of an alleviation scheme or improving flood warning arrangements. The delivery of measures will be prioritised into one of three planning cycles (2015– 2021; 2021 – 2027; 2027 – 2033).

The Local Flood Risk Management Plans explain what actions will be taken, by whom and at what time, to deliver the relevant objectives within a six-year planning cycle.

Key facts about the Flood Risk Management Strategies are set out in table 2.1, and the policy context for the production of the Flood Risk Management Strategies is set out in figure 2.2. There is a hierarchy of planning, from the strategic (Flood Risk Management Strategies), implementation (Local Flood Risk Management Plans) to the development of individual measures. Additionally, objectives and measures for surface water management are being developed by Local Authorities in Surface Water Management Plans. Therefore, the environmental assessment (either SEA or Environmental Impact Assessment) may take place at a number of points in the planning hierarchy.

2.2. Broader Policy framework

The Environmental Assessment (Scotland) Act 2005 requires responsible authorities to identify the broader policy context and the environmental protection objectives relevant to the plan that is being assessed. The policy context for the development of the strategy is described in section 2.1 of this report; the following paragraphs set out the broader policy environment, in terms of relationships between the strategy and other plans, programmes or strategies. Greater detail on the policy context and the environmental protection objectives is provided in Appendix 2.

¹ SEPA (2011) The National Flood Risk Assessment.

http://www.sepa.org.uk/flooding/flood_risk_management/national_flood_risk_assessment.aspx

Cross border policy framework

Both the objectives and measures identified in the Flood Risk Management Strategies will be focussed on Scotland, but there may be minor cross border impacts in England. To keep the SEA proportionate, we propose to focus our assessment of impacts in England only on topics that are most likely to be significantly impacted; these are:

- Biodiversity, flora and fauna.
- Water.
- Climatic Factors.
- Landscape.

As measures to address flood risk will be located in Scotland, we do not anticipate any likely significant cross border impacts on the other SEA topics such as cultural heritage. However, if during the course of preparing the Flood Risk Management Strategies, other significant environmental impacts seem likely (e.g. an impact on people or properties at flood risk in the English part of the cross border river catchments, impacts on coastal processes, or impacts on cultural heritage) then we will expand our assessment accordingly.

Table 2.1: Key facts about the Flood Risk Management Strategies

Responsible Authority	Scottish Environment Protection Agency (SEPA)
Title	Flood Risk Management Strategies for Scotland
Purpose	To provide strategic direction for the sustainable management of flood risk
What prompted the Flood Risk Management Strategies	The Flood Risk Management (Scotland) Act 2009, which transposes the EU Directive (2007/60/EC) on the assessment and management of flood risks
Period covered	December 2015 to December 2033
Frequency of updates	Every 6 years
Area covered	Scotland, through 14 Local Plan Districts
Objectives of Flood Risk Management Strategies	The objective is to reduce overall flood risk in the most sustainable way
Contact	Helen Panter Flood Risk Management Act Programme Clearwater House, Heriot Watt Research Park Edinburgh, EH14 4AP 0131 449 8586 FloodActConsultation@sepa.org.uk

Biodiversity, flora and fauna

The international context sets the framework for the conservation, protection and sustainable use of biodiversity, flora and fauna, and there are also national and local priorities.

In relation to flood risk management, the broader policy framework includes the protection of habitats and species that could be adversely affected by flooding, and those that benefit from flooding. It includes the consideration of how enhancing, restoring and creating wetlands and other habitats can provide flood risk management benefits, using techniques known as Natural Flood Management. Furthermore, it includes protecting biodiversity, flora and fauna from negative impacts of flood risk management measures and looking for opportunities to deliver improvements.

Population and human health

Flooding can cause risk to life, injury, illness and stress, and impacts may be greater for more socially vulnerable groups. Planning policy seeks to reduce the exposure of people to flooding through policies and advice regarding new developments in flood risk areas. In terms of preparing for flooding, the Civil Contingencies Act 2004 forms the basis for emergency planning and preparedness in Scotland and the UK.

There are secondary issues relating to human health, such as the provision of open space and recreation/leisure opportunities, active travel, and also nuisance related to construction works.

Soil

In Scotland there is a significant body of policy providing some direct or indirect protection of soils, such as the Land Use Strategy. In terms of policy specifically developed for soil protection, the Scottish Soil Framework aims to instigate a process by which key stakeholders will work together to achieve better soil protection. There are a number of outcomes in the Framework that are specifically relevant to flood risk management.

The consideration of soils also encompasses geology, and there is a range of international, national and local designations which help to safeguard geodiversity.

Water

There are a number of existing plans and activities related to flood risk management, including:

- Actions taken to protect the coast under the Coast Protection Act 1949.
- Flood and erosion risk and management policies identified in shoreline management plans.
- Planning guidance on water and drainage which place the emphasis of meeting the needs of householders and encouraging the uptake of Sustainable Urban Drainage Systems (SUDS).
- The management of flood risk in England under the Flood Risk Regulations 2009, the Flood Risk (Cross Border) Regulations 2010, and the Flood and Water Management Act 2010.

As flooding can lead to the release of pollutants, the objectives of policies related to groundwater, bathing water quality, nitrates, and Integrated Pollution and Prevention Control sites are also important.

Other issues relating to water are extensive and driven largely by the EU Water Framework Directive and its transposition into law in the Water Environment and Water Services (Scotland) Act 2003 and the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003. The Water Framework Directive requires the prevention of deterioration of aquatic ecosystems, with the key objectives of achieve good status for all inland and coastal waters. River Basin Management Plans set out the plans for achieving these objectives.

Air

We do not envisage significant air quality impacts arising from the Flood Risk Management Strategies, and so propose to scope out air from this SEA (see section 4.2).

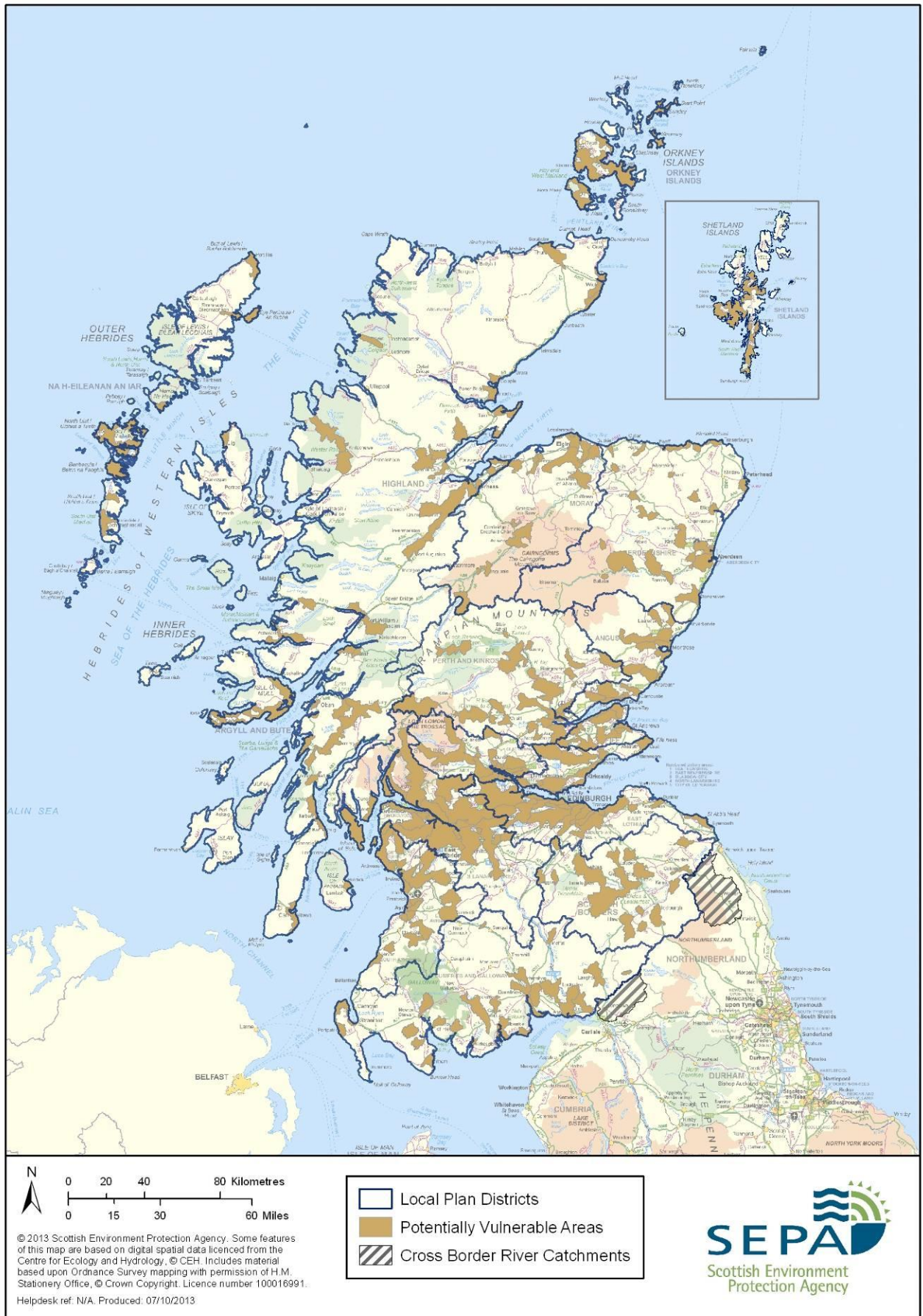


Figure 2.1: Potentially Vulnerable Areas, Local Plan Districts, and cross border river catchments

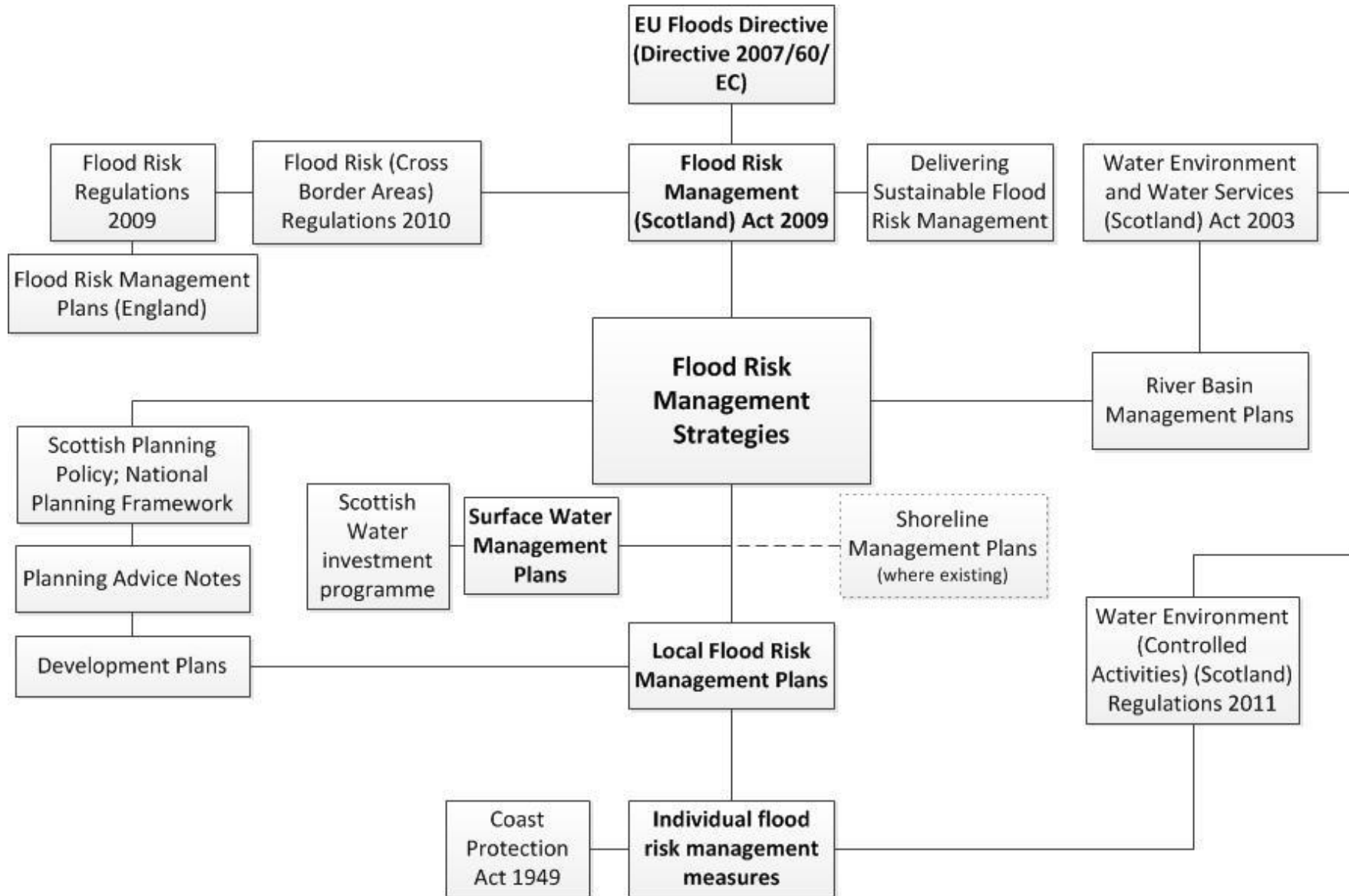


Figure 2.2: Policy context for the Flood Risk Management Strategies and relationship with other plans, programmes and strategies

Climatic factors

The Climate Change (Scotland) Act 2009 places duties on public bodies around adaptation to and mitigation of climate change. In relation to managing flood risk, this includes adapting to future changes in precipitation and sea level, and to reducing emissions (e.g. from construction and maintenance, land use change, water pumping).

At a UK level, greenhouse gas emission targets are specified under the Climate Change Act 2008.

Material assets

Scottish Government planning policy provides advice regarding new developments in flood risk areas, including policy on the location of particular types of development. In terms of preparing for flooding, the Civil Contingencies Act 2004 forms the basis for emergency planning and preparedness in Scotland and the UK.

Some Flood Risk Management measures, such as flood protection schemes, can use large amounts of materials and also create waste. The Scottish Government's Zero Waste plan aims to make the most efficient use of Scotland's resources.

Cultural heritage

Scotland's historic environment (including the marine environment) contributes to the Scottish Government's strategic objectives and to the National Performance Framework. The Scottish Historic Environment Policy sets out Scottish Ministers' policies for the historic environment, and summarises the statutory designations, including scheduled monuments and listed buildings, which provide various protection against damage (including damage from flooding).

Landscape

Landscape policies related to key areas of recognised values, for example, designated areas, national parks. The protection of wild land is also becoming increasingly important.

There is a broad approach to valuing natural and built landscape in policies in general. In Scotland, national planning policy on landscape and natural heritage is set out in Scottish Planning Policy (SPP), and is supported by Planning Advice Note (PAN) 60 Planning for Natural Heritage. In England, the National Planning Policy Framework sets out the need to protect and enhance landscape, particularly those areas with the highest status of protection.

Consultation question

1. Are there any plans, programmes, legislation or policy guidance of relevance to the Flood Risk Management Strategies that you consider should be added to the list in Appendix 2 and/or reflected in the summary in section 2.2?

3. Relevant aspects of current state of the environment

3.1. Environmental baseline

Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes a description of “the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme”, and “the environmental characteristics of areas likely to be significantly affected”.

In order to ensure that the SEA remains focussed and proportionate the sources of baseline data, identification of existing environmental issues and the proposed SEA objectives have been developed in tandem. This is to ensure that only data directly relevant to the Flood Risk Management Strategies are included in the SEA.

Baseline data will be required at two levels:

- National level data will be used to identify key trends and issues across Scotland as a whole. More detailed data at the Local Plan District level (and for river catchments that contain Potentially Vulnerable Areas) will also be utilised where available and appropriate.
- Targeted characterisation of cross-border issues will identify issues of a cross-border nature.

This information will set the environmental context and will be taken into account during the environmental assessment.

Considering the baseline at the national level will provide an indication of the key constraints and opportunities for Scotland as a whole. This level of detail will also enable any cumulative effects at the national as well as the Local Plan District level to be identified.

The key baseline information and the sources we intend to use are detailed in Table 3.1 below. It is anticipated that much of the baseline information will be presented in the form of maps, diagrams and graphs, with supporting text in the Environmental Report. Where appropriate, we will signpost to information in the Flood Risk Management Strategies and elsewhere to avoid duplication.

Table 3.1: Summary of proposed environmental baseline data sources

Baseline information to be collected ²	Data source
Biodiversity, fauna and flora	
SCOTLAND	
<p>Location and condition of designated sites</p> <p>Number / area of designated sites at risk of damage from flooding</p>	<ul style="list-style-type: none"> • Locations of designated sites (from SNH and JNCC, held by SEPA) including: <ul style="list-style-type: none"> - Special Protection Areas (SPAs) - Special Areas of Conservation (SACs) - Ramsar sites - National Nature Reserves - Sites of Special Scientific Interest (SSSIs) • Site objectives and condition from JNCC and SNH websites • SEPA Flood Risk Management Strategies (In Draft) - Appraisal Baseline
Trends in UK Biodiversity Action Plan (UK BAP) species / habitats	<ul style="list-style-type: none"> • Biodiversity indicators - www.snh.gov.uk/docs/B424899.pdf • Scottish Government 2011 statistics http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/TrendBAP • SEPA dataset on UK Biodiversity Action Plan (UK BAP) priority species of interest to SEPA • SNH Scotland Biodiversity Assessment 2010
Current ecosystem health and pressures	<ul style="list-style-type: none"> • Scotland's Environment Web www.environment.scotland.gov.uk: qualitative trends in ecosystem health of different habitats • SNH Scotland Biodiversity Assessment 2010
Habitat networks	<ul style="list-style-type: none"> • SNH woodland inventories: https://gateway.snh.gov.uk/natural-spaces/index.jsp • SNH Habitat Network maps for the Central Scotland Green Network http://www.snh.gov.uk/land-and-sea/managing-the-land/spatial-ecology/habitat-networks-and-csgn/
ENGLAND (Cross Border Area)	
Number and location of designated sites within the cross border river catchments (where measures in Scotland could alter hydrology in England)	<ul style="list-style-type: none"> • Datasets (from English Nature and JNCC) held internally by SEPA. Site objectives and condition – JNCC and Natural England websites
Population and human health	
SCOTLAND	
<p>People at flood risk – as indicated by number of residential properties at risk</p> <p>Social vulnerability of people at risk of flooding</p>	<ul style="list-style-type: none"> • SEPA Flood Risk Management Strategies (In Draft). Appraisal Baseline • Reports on social vulnerability of people to flooding: <ul style="list-style-type: none"> - Werritty et al. (2006). Social Impacts of flooding in Scotland - Houston et al. (2011). Pluvial (rain-related) flooding in

² Baseline data for the cross border area of England will focus on those topics most likely to be impacted by the Flood Risk Management Strategies. If additional impacts are identified during the preparation of the Flood Risk Management Strategies, the baseline and data sources will be expanded accordingly.

Baseline information to be collected ²	Data source
Summary information on flood warnings, such as numbers of customers registered to receive flood warning	<p>urban areas: the invisible hazard</p> <ul style="list-style-type: none"> - Lindley & O'Neill (2013) Flood Disadvantage in Scotland: Mapping the potential for losses in well-being • SEPA Floodline Direct database • Scottish Index of Multiple Deprivation www.scotland.gov.uk/Topics/Statistics/SIMD
Access to green space / recreation opportunities and impacts on human health	<ul style="list-style-type: none"> • Scotland's Green space map – dataset held internally by SEPA • Green space Scotland (2011) Green space Use and Attitude Survey 2011: www.greenspacescotland.org.uk/1greenspace-survey-2011.aspx; • Core paths: http://www.snh.gov.uk/enjoying-the-outdoors/where-to-go/routes-to-explore/local-path-networks/ • SNH Scottish Recreation Survey http://www.snh.gov.uk/land-and-sea/managing-recreation-and-access/increasing-participation/measuring-participation/
ENGLAND (Cross border area)	
Not likely to be significantly impacted	N/A
Soil and geodiversity	
SCOTLAND	
Agricultural land at risk of flooding	<ul style="list-style-type: none"> • SEPA Flood Risk Management Strategies (In Draft) - Appraisal Baseline • Agricultural land classification
Status and threats to soils and geodiversity	<ul style="list-style-type: none"> • State of Scotland's soil report (2011) www.sepa.org.uk/land/land_publications.aspx; • Scottish Soil Framework - www.scotland.gov.uk/Publications/2009/05/20145602/0 • Biodiversity and geodiversity considerations in SEA (SNH 2013) www.snh.gov.uk/docs/A1015717.pdf • Scotland's Environment web: www.environment.scotland.gov.uk descriptions of land use and management; soils; rocks and landforms
ENGLAND (Cross border area)	
Not likely to be significantly impacted	N/A
Water	
SCOTLAND	
Pressures and trends on the water environment	<ul style="list-style-type: none"> • Scotland's Environment Web www.environment.scotland.gov.uk: descriptions of: rivers and canals; lochs; estuaries; coastal waters • Nitrate vulnerable zones dataset (Scottish Government) held by SEPA • Location of diffuse pollution priority catchments (SEPA)
River Basin Management Planning status, trends and pressures in water bodies	<ul style="list-style-type: none"> • Scotland and Solway Tweed River Basin Management Plans (relevant data including waterbody classifications)

Baseline information to be collected ²	Data source
Sources and location of flood risk	<ul style="list-style-type: none"> SEPA Flood Hazard Maps (In draft) – links where appropriate to published maps
Status, trends and pressures on the coastal and marine environment	<ul style="list-style-type: none"> Scotland and Solway Tweed River Basin Management Plans (relevant data including waterbody classifications) Marine Protected Areas Search Locations (Marine Scotland) Coastal Bathing Waters Quality (SEPA)
ENGLAND (Cross border area)	
Pressures and trends on the water environment and on River Basin Management Planning	<ul style="list-style-type: none"> Solway Tweed River Basin Management Plans (relevant data including waterbody classifications) Nitrate vulnerable zones – Environment Agency
Climatic factors	
SCOTLAND	
Summary of future flooding under climate change scenarios	<ul style="list-style-type: none"> SEPA Flood Hazard Maps (In draft) – links where appropriate to published maps
Trends and projections in greenhouse gas emissions	<ul style="list-style-type: none"> Key Scottish Environment Statistics: greenhouse gas emissions by source; Scotland's carbon footprint UK Climate Projections; Scottish compendium – including high carbon soils
UK	
Trends and projections in greenhouse gas emissions	<ul style="list-style-type: none"> Department of Energy and Climate change – Greenhouse gas emissions and projections
Material assets	
SCOTLAND	
Number and type of infrastructure at risk of flooding	<ul style="list-style-type: none"> SEPA Flood Risk Management Strategies (In Draft) - Appraisal Baseline
Trends in resource efficiency	<ul style="list-style-type: none"> Scotland's Environment Web www.environment.scotland.gov.uk descriptions
ENGLAND (Cross border area)	
Not likely to be significantly impacted	N/A
Cultural heritage	
SCOTLAND	
Number of designated historic sites (Battlefields; Gardens & Designated Landscapes; Scheduled Monuments; UNESCO World Heritage Sites) at significant risk of flooding	<ul style="list-style-type: none"> SEPA Flood Risk Management Strategies (In Draft) - Appraisal Baseline
Trends and pressures on historic features and the wider built environment	<ul style="list-style-type: none"> Scotland Historic Environment Audit 2010 Scotland's Environment Web www.environment.scotland.gov.uk descriptions

Baseline information to be collected ²	Data source
ENGLAND (Cross border area)	
Not likely to be significantly impacted	N/A
Landscape	
SCOTLAND	
Trends and pressures on landscape and wildness	<ul style="list-style-type: none"> • Scotland's Environment Web: www.environment.scotland.gov.uk descriptions • SNH (2012) The variety of landscapes in Scotland - www.snh.gov.uk/about-scotlands-nature/scotlands-landscapes/landscapes-varieties/ • SNH (2002) Natural Heritage Zones: A National Assessment of Scotland's Landscapes - www.snh.gov.uk/docs/B464892.pdf • SNH datasets on Landscape, Open Space and Access, and wildness - https://gateway.snh.gov.uk/natural-spaces/index.jsp
Location and pressures on protected landscapes	<ul style="list-style-type: none"> • SNH datasets on locations of protected landscapes: <ul style="list-style-type: none"> - National Scenic Areas - National Parks - Local landscape designations
ENGLAND (Cross border area)	
Location and pressures on protected landscape	<ul style="list-style-type: none"> • North Northumberland Heritage Coast, and Northumberland National Park and Solway coast Area of Outstanding Natural Beauty: http://www.naturalengland.org.uk/ourwork/conservation/designations/default.aspx

3.2. Environmental problems

Environmental problems that affect the Flood Risk Management Strategies were identified through discussions with colleagues in SEPA and the Statutory Consultation Authorities, and an analysis of the baseline data. Relevant environmental problems are summarised at Table 3.2.

The environmental report also will present a summary of any environmental problems specific to each Local Plan District.

Table 3.2: Environmental problems relevant to the Flood Risk Management Strategies

SEA Topic	Relevant environmental problems and key issues	Implications for the Flood Risk Management Strategies
<p>Biodiversity, fauna and flora</p>	<p>Biodiversity, flora and fauna is at risk from:</p> <ul style="list-style-type: none"> • Threats to ecosystems and biodiversity • Declining UK BAP priority habitats and protected species • Upland biodiversity losses • Pressure on wetlands • Nutrient enrichment affecting river and coastal water quality <p>Flooding can impacts on habitats and species, both positively and negatively: some benefit from regular flooding, whereas others may be damaged by sediment or pollutants in flood water or by the actions of flood water.</p> <p>Measures to manage flood risk can have positive and negative impacts on habitats and species. Habitat creation or enhancement (for example as part of natural flood management or Sustainable Urban Drainage Systems (SUDS)) can benefit biodiversity, fauna and flora. Other measures (for example some engineering works) could negatively impact on habitats and species, although sensitively designed schemes can lessen impacts (through mitigation) and look to deliver benefits.</p>	<p>The Flood Risk Management Strategies should consider the contribution that can be made to preventing habitat loss and ecosystem deterioration and, where appropriate, enhancing biodiversity and ecological networks by:</p> <ul style="list-style-type: none"> - helping to protect designated sites from significant flood risk; - considering the best use of natural features in flood risk management measures; - promoting SUDS; - promoting approaches which integrate ecological considerations.
<p>Population and human health</p>	<p>Flooding has the potential to impact on risk to life, human health and wellbeing in a number of ways:</p> <ul style="list-style-type: none"> • Flooding has impacts in particular within densely populated urban areas as it has the potential to affect high numbers of individuals. • Impacts of flooding may be greater for some vulnerable or deprived groups <p>Impacts on health can include risk to life, the effects of exposure to water and contaminants, and immediate and longer term mental health impacts.</p> <p>In addition to reducing flood risk, measures to manage flood risk can have other impacts on people, both positive and negative, for example, measures may impact amenity, access to recreation, and green space.</p>	<p>The Flood Risk Management Strategies should contribute to reducing risk to life, to protecting human health and wellbeing from the impacts of flood risk.</p> <p>Measures should be targeted to areas where there is greatest risk and benefit, to bring about significant benefits to populations most at risk.</p> <p>Consideration should be given to impacts on amenity, access to recreation and access to green space, when selecting measures, aiming to deliver benefits where possible.</p>
<p>Soil</p>	<p>Soil is at risk from a number of threats including changing vegetation, erosion,</p>	<p>Consideration should be given to the contribution that measures could make to improving (or</p>

SEA Topic	Relevant environmental problems and key issues	Implications for the Flood Risk Management Strategies
	acidification, compaction and sealing by development. Flooding and flood prevention measures could impact on soil and geological factors, with associated impacts from erosion, disturbance and landslips.	preventing deterioration of) soil quality by: - considering the best use of natural features in flood risk management measures; - ensuring measures are appropriate for the geology and soil conditions on which they are proposed.
Water	<p>Flooding is a natural process but patterns of flooding can be altered and exacerbated by human influence (for example, changes to land use or hydromorphology such as modification of river channel).</p> <p>A further key pressure on the water environment is diffuse pollution. As flooding can lead to, or increase, the release of pollutants, measures to manage flood risk (particularly natural flood management measures and SUDS) can deliver benefits. Other benefits from flood risk management measures includes the can include changes to land use and improvements to hydromorphology (and therefore help with River Basin Management Planning).</p> <p>However, flood risk management measures can also have negative impacts, for example, some types of land use change or changes to river or coastal morphology</p>	<p>Proposed measures should, where relevant, seek to reduce the risk of flooding-related pollution to the water environment.</p> <p>Proposed measures should seek to restore or enhance the (rural and urban) landscapes natural ability to slow and store flood water.</p>
Climatic factors	<p>The main climate trends for Scotland are warmer and drier summers and warmer and wetter autumns and winters. However, convective storms, associated with surface water flooding, are likely to be more intense in summer months.</p> <p>Sea level rises and storm surges are also likely to lead to an increase in flood risk. The risk of flooding can be exacerbated by coastal squeeze.</p> <p>Flood risk management measures can impact on greenhouse gas emissions e.g.</p> <ul style="list-style-type: none"> - changes in land use associated with flood risk management measures can impact on climatic factors by protecting green networks and soil resources which act as carbon sinks - construction of new flood protection measures could use significant energy and material resources 	<p>When selecting measures, consideration should be given to:</p> <ul style="list-style-type: none"> - future changes in flood probability due to climate change; - future proofing measures (whether the measure can be adapted in the future); - enhancing, restoring, or creating habitats that help to slow and store water. <p>Consideration should also be given to mitigating climate change by:</p> <ul style="list-style-type: none"> - contributing to green networks and soil protection; - minimising use of energy.

SEA Topic	Relevant environmental problems and key issues	Implications for the Flood Risk Management Strategies
	<p>Measures can also help to adapt to changes in climate e.g.</p> <ul style="list-style-type: none"> - physical measures that can be adapted in future to deal with increased flood risk - natural flood management measures that can help to create space for water. 	
Material assets	<p>Flooding can cause significant damage to properties, utilities, transport, and community infrastructure. In rural areas, the disruption can be particularly severe where alternative infrastructure may be rare or absent.</p> <p>The process of construction may use significant material resources, and also generate waste including soil.</p>	<p>Measures should seek to protect infrastructure from significant flood risk.</p> <p>Consideration should be given to minimising the use of material resources and production of waste.</p>
Cultural heritage	<p>Cultural and historic environment assets and their settings are under pressure from a variety of influences. Some assets may be at significant flood risk.</p> <p>Measures to manage flood risk could impact on cultural heritage, for example, through disturbance or damage from engineering works. Changes to hydrological patterns can also impact on (both positively and negatively) wetland archaeology, by enhancing or adversely affecting wetlands.</p>	<p>Proposed measures should seek to protect cultural heritage from significant flood risk and from any negative impacts of management measures.</p>
Landscape	<p>Landscapes are dynamic places, shaped by natural process and human activity. Pressures on landscape include climate change, erosion and landslips, land use and development.</p> <p>Flood risk management measures could impact both positively and negatively on landscape. For example, impacts could arise from flood protection schemes, SUDS, or the cumulative impacts of changes to land use or land management.</p>	<p>Proposed measures should ensure that benefits and adverse impacts to landscape are given appropriate consideration during selection of measures.</p>

Consultation questions

2. Have we identified the most appropriate sources of data for the environmental baseline? If not, which other data sources should we consider?
3. Do you agree that we have correctly identified the key environmental problems relevant to the Flood Risk Management Strategies and their implications?

4. Scope and level of detail proposed for the SEA

4.1. Scope of the Flood Risk Management Strategies and Alternatives to be assessed

The 14 draft Flood Risk Management Strategies that will be released for consultation in December 2014 will set out plans for the management of flood risk in Scotland. The Flood Risk Management Strategies will focus on managing flood risk within the areas containing significant flood risk (Potentially Vulnerable Areas)³. They will set objectives to manage flood risk and identify the most sustainable combination of measures for meeting the objectives.

Measures may be structural or non-structural, falling into four categories:

- Measures that aim to avoid increasing flood risk (e.g. measures related to planning).
- Measures that protect from flooding by using natural flood management.
- Measure that protect from flooding by using more traditional engineering methods.
- Measures that prepare for flooding should it occur (e.g. flood warning, awareness raising, emergency response plans).

In line with Scottish Government guidance⁴, all reasonable and practicable efforts will be made to restore and enhance the landscape's natural ability to slow and store water. Appendix 3 lists the generic measures that will be considered, where appropriate, to meet each objective.

SEPA has developed an appraisal method to help select the most sustainable combination of measures. The key stages of the method are:

- Develop a long list of measures to meet each objective.
- Screen the long list to remove unfeasible options, leaving a short list of feasible measures.
- Carry out a detailed appraisal of the short list of measures, looking at the costs, benefits and adverse impacts on the economy, society and the environment.
- Selection of the preferred combination of measures, and prioritise delivery into one of three planning cycles.

³ SEPA (2011) The National Flood Risk Assessment

http://www.sepa.org.uk/flooding/flood_risk_management/national_flood_risk_assessment.aspx

⁴ Scottish Government (2011) Delivering Sustainable Flood Risk Management.

<http://www.scotland.gov.uk/Publications/2011/06/15150211/0>

During the public consultation on the draft Flood Risk Management Strategies, SEPA will seek views on the proposed flood risk management objectives and the shortlist of feasible measures (i.e. the consultation will take place prior to the selection of preferred measures). Accordingly, the SEA Environmental Report will assess the likely environmental impacts of the objectives and the shortlisted measures, and will be seeking public views on the results of the assessment.

Importantly, for the purposes of SEA, the shortlist will constitute both the 'plan' and the 'Reasonable Alternatives'⁵: each measure will be viewed as a "Reasonable Alternative" to achieving the objectives. The outcome of the SEA will be used to inform the wider appraisal, including economic and social aspects, of these measures⁶. Consulting at this stage in the planning process enables SEPA to provide an early and effective opportunity for engagement to ensure views are taken into account when the preferred measures are selected.

Measures may be implemented at different spatial scales: at a national level (e.g. measures relating to national planning policy), at a river catchment level (e.g. land management), or within a Potentially Vulnerable Area (e.g. flood protection scheme). Our SEA will focus on two scales – at the Local Plan District level to identify the impacts of each strategy, and at a national level, to identify the cumulative impacts. Accordingly, the environmental report will contain a national section and a section for each Local Plan District.

Table 4.1 outlines the contents of the Flood Risk Management Strategies and indicates which parts will be assessed by the SEA. Those parts which provide factual information, those that describe existing measures, and those that describe measures set out by other plans, programmes and strategies will not be assessed.

⁵ As required by Section 14(2) of the Environmental Assessment (Scotland) Act 2005

⁶ As required by Section 28(1) of the Flood Risk Management (Scotland) Act 2009

Table 4.1: Scope of the draft Flood Risk Management Strategies to be assessed

Content of draft Flood Risk Management Strategies	Will this be assessed in the SEA?
A summary of the approach to managing flood risk and the production of Flood Risk Management Strategies and plans	No, this provides factual information about the Flood Risk Management Strategies
Approach to setting objectives and selecting measures	No, this provides factual information about the strategic appraisal method
Links with other plans and policies	No, this is a statement of fact. Similar information will be included in the environmental report.
Local Plan District overview –information about main catchments and coastal areas, Potentially Vulnerable Areas, and administrative arrangements	No, this provides factual information about the Local Plan District
Catchment characterisation – descriptions of flood risk, and historical events, plus human and physical information on the catchment	No, this is a statement of fact. Information from the catchment characterisation will be used to help inform the SEA environmental baseline.
Existing actions to manage flood risk across the Local Plan District	No, we do not consider it is not appropriate for SEA to address measures that are already in place
The impact of climate change and future flood risk	No, this provide factual information about the impacts of climate change on future flood risk
Potential for Natural Flood Management within the catchments	No, this is the result of a screening exercise to look at broad areas for natural flood management and is used to inform the selection of measures
Interdependencies with River Basin Planning	No, this is a statement of fact. Similar information will be included in the environmental report
Characterisation and flood risk in a Potentially Vulnerable Area	No, this is provides factual information
Summary of local actions to manage flood risk outside of Potentially Vulnerable Areas – these will be detailed in Local Flood Risk Management Plans	No, we do not consider it is not appropriate for SEA to address measures that are already in place
Flood risk management objectives	Yes – we will assess the likely environmental impact of our objectives
Shortlist of measures (see below for exceptions)	Yes – we will assess the likely significant effects of the shortlist of measures. (See below for exceptions.)
Measures already subject to SEA or Environmental Impact Assessment: - Proposed flood protection schemes that have already undergone environmental assessment - Existing planning policies e.g. Scottish Planning Policy	No. These measures have already undergone environmental assessment
Measures where the assessment would be more meaningfully carried out in another plan: - Measures selected in surface water management plans - Scottish Water’s modelling work and national investment plan	No. Other plan making bodies will determine whether these measures fall within the scope of SEA and how these will be assessed.
Next steps	No, this is a statement of fact
Monitoring progress	No, this is a statement of fact. However, there will be links with any monitoring proposed as part of SEA.

4.2. Scope of the assessment

In accordance with Environmental Assessment (Scotland) Act 2005, SEPA has considered whether the environmental effects (positive and negative) of the Flood Risk Management Strategies are likely to be significant. A summary of our conclusions is given in Table 4.2.

Table 4.2: Scoping of SEA issues

SEA Topic	Potential effect of Flood Risk Management Strategies	Scope in?
Biodiversity, flora and fauna	The Flood Risk Management Strategies may have positive and negative impacts on biodiversity, habitats and species through changes to flood hazard, and through implementation of measures.	IN
Population and human health	Flood risk has implications for physical and mental health and well-being. The Flood Risk Management Strategies will address risk to human health from flooding and will therefore contribute to improving human health and wellbeing.	IN
Soil	The Flood Risk Management Strategies may have an impact on soil through land use changes, and through proposed construction activities.	IN
Water	The Flood Risk Management Strategies are expected to have a significant impact on the water environment principally through reducing flood risk. Measures could also impact on hydrological processes, hydromorphology, and ecology. Impacts could be short term (e.g. from construction) or longer term (e.g. from land use change).	IN
Air	The Flood Risk Management Strategies will not have significant effects on air quality, noise or odour.	OUT
Climatic factors	The Flood Risk Management Strategies aim to improve resilience to climate change. Measures could impact on net greenhouse emissions through land use change and through use of energy and resources in construction and maintenance of measures.	IN
Material assets	The Flood Risk Management Strategies will contribute to the protection of material assets; including the built environment, transport network and community facilities.	IN
Cultural heritage	The Flood Risk Management Strategies will seek to protect cultural heritage at significant flood risk. The Flood Risk Management Strategies should also give due regard to protecting cultural heritage from any adverse effects of implementing measures.	IN
Landscape	The measures contained in the Flood Risk Management Strategies may impact on landscape – the aim will be to ensure a best fit with the local landscape character.	IN

4.3. Assessment framework

One of the key outcomes of the Flood Risk Management (Scotland) Act 2009 is the sustainable management of flood risk. SEPA has designed a strategic appraisal method that considers economic, social and environmental impacts when selecting measures and therefore the assessment of likely significant environmental effects is integral to the decision-making process.

When developing a shortlist of measures for detailed appraisal, SEPA will reject those measures which are technically or financially unfeasible, those that could lead to serious damage to environmental designated sites and cultural heritage assets, and those that could lead to serious health and safety issues. This will leave a shortlist of measures, some or all of which could be selected for the final Strategy.

The proposed Flood Risk Management Strategy objectives and the shortlist of measures will be assessed against the SEA objectives and questions in table 4.3. SEPA will carry out an in-house assessment to examine the likely significant environmental impacts of the draft Flood Risk Management Strategies (specifically, the objectives and shortlist of measures). The assessment will be relatively strategic, with the aim of reporting likely impacts at the Local Plan District level (the scale at which the Flood Risk Management Strategies are set) and at the national level.

The assessment will start with a broad brush assessment, identifying the likely generic impacts of measures. Where the context of the measure (for example, the location, scale or connectivity) is important for determining the significance of the impact, the environmental assessment will be more specific.

The in-house strategic environmental assessment will be passed to consultants who have been contracted to carry out more detailed flood risk modelling and appraisal for the Flood Risk Management Strategies. Figure 4.1 illustrates how the SEA influences the appraisal and selection of measures. Using site-specific information to build on the SEA outputs, the consultants will appraise the individual measures with a focus on where additional detail will help with decision making. Note this detailed appraisal information will not be included in the SEA consultation

Following the consultation response on SEA, the feedback will be used to review and revise the generic and site-specific environmental impacts to inform the selection of measures. The consultation response will also enable SEPA to refine any mitigation of negative impacts.

A proposed assessment matrix (tables 4.4a, b) and classification (table 4.4c) can be seen below. The assessment will be summarised at two scales:

- Assessment of each Flood Risk Management Strategy: to assess the impacts of the measures being considered across the whole strategy area (Local Plan District) (table 4.4b). A summary of the impacts of the different groups of measures ('Avoid', 'Protect - Natural Flood Management', 'Protect – Engineering', 'Prepare') will also be assessed (table 4.4a).
- National assessment: to assess the cumulative impacts across all the Flood Risk Management Strategies (to be adapted from table 4.4b). If possible and informative, the impacts of the different groups of measures will also be assessed.

Table 4.3: Proposed SEA Objectives

SEA Topic	Proposed SEA objective	Proposed questions for use in assessment: Do the Flood Risk Management Strategies...
Biodiversity, fauna and flora	<i>Conserve and where appropriate enhance species, habitats and biodiversity, and habitat connectivity</i>	<ul style="list-style-type: none"> • Avoid adverse effects on, and improve protected species and habitats? • Avoid adverse effects on and improve wider biodiversity? • Support healthier ecosystems? • Help promote habitat connectivity?
Population and human health	<i>Protect human health, reduce health inequalities and promote healthy lifestyles</i>	<ul style="list-style-type: none"> • Improve the health and living environment of people and communities? • Improve opportunities for healthy lifestyles?
Soil	<i>Protect and where appropriate enhance the function and quality of the soil resource</i>	<ul style="list-style-type: none"> • Safeguard soil quality, quantity and function, including valuable soil resources such as agricultural land and carbon rich soils?
Water	<i>To prevent deterioration, protect and where appropriate enhance the water environment</i>	<ul style="list-style-type: none"> • Protect and enhance the overall water environment? • Avoid adverse impacts on the status of water bodies? • Reduce flood risk? • Avoid adverse effects on sensitive coastal areas and the marine environment?
Climatic factors	<i>Contribute to mitigation of and adaptation to climate change</i>	<ul style="list-style-type: none"> • Improve adaptability to the effects of climate change? • Contribute to reducing greenhouse gas emissions?
Material assets	<i>Contribute to protecting property and infrastructure Minimise waste and energy consumption and promote resource efficiency</i>	<ul style="list-style-type: none"> • Protect material assets e.g. infrastructure? • Promote resource efficiency, including energy, waste, water and minerals?
Cultural heritage	<i>Protect and where appropriate enhance the character, diversity and special qualities of cultural heritage and the historic environment</i>	<ul style="list-style-type: none"> • Protect the historic environment and its setting? • Enhance or restore historic features and their settings? • Improve the quality of the wider built environment?
Landscape	<i>Protect and where appropriate enhance the character, diversity and special qualities of landscapes.</i>	<ul style="list-style-type: none"> • Protect, enhance or restore landscape quality? • Avoid adverse impacts on protected landscapes?

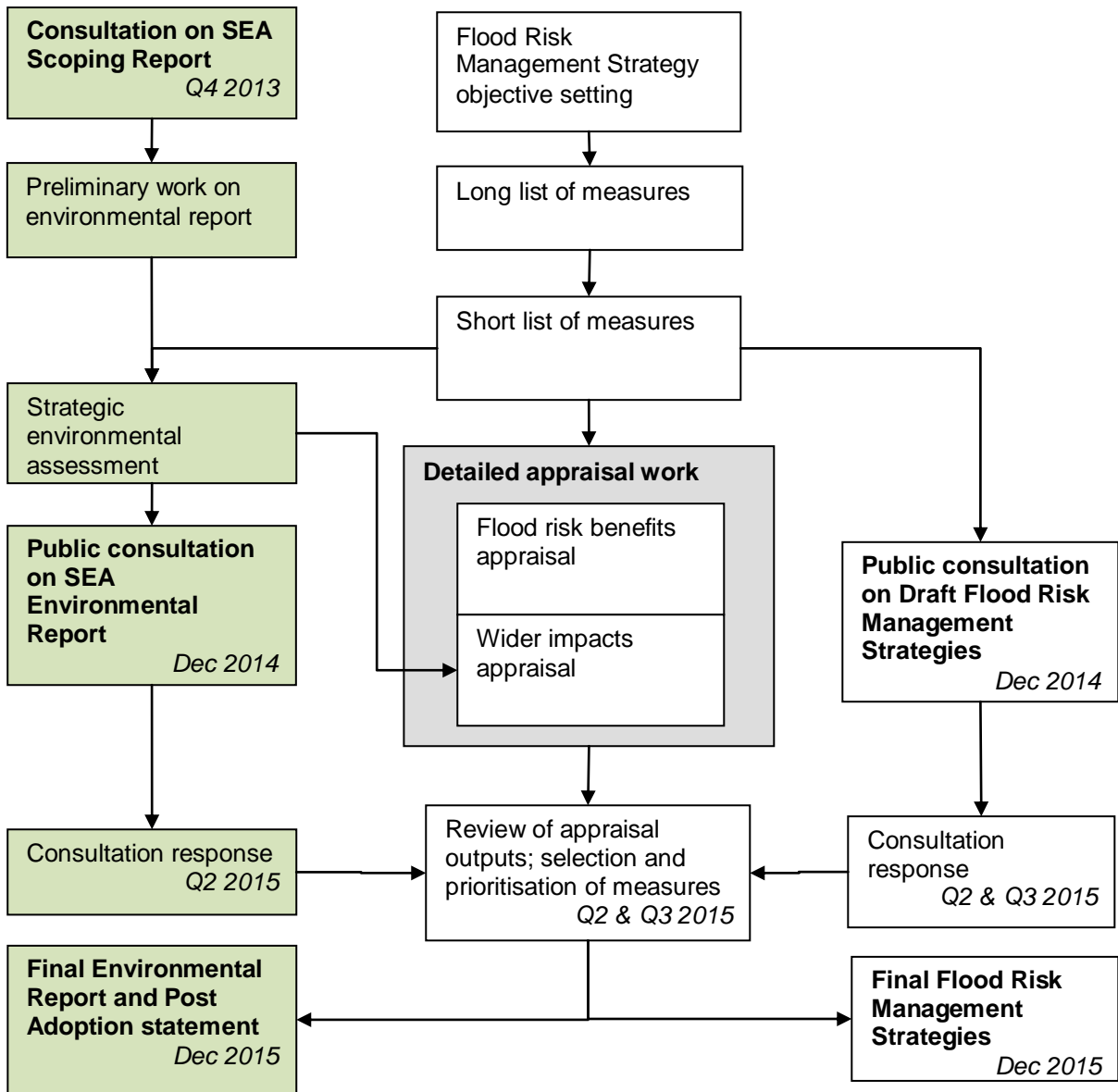


Figure 4.1: Key stages in the production of the SEA and Flood Risk Management Strategies

Table 4.4a: Illustration of summary table

Summary by group of measures	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	Reason/summary of significant impacts
Avoid	0	0	✓	✓	?	?	✓	<insert reason/ summary>
Protect: Natural Flood Management	0	x	✓✓	✓✓	0	0	✓✓	<insert reason/ summary>
Protect: Engineering	✓	x	✓✓	xx	✓	x	✓✓	<insert reason/ summary>
Prepare	0	0	✓	x	0	0	✓	<insert reason/ summary>

Table 4.4b: Illustration of assessment of measures

Measure e.g.	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	SEA Objective	Reason, with reference back to assessment questions where relevant
Avoid								
Relocation of receptor to area of lower flood risk	0	0	✓	✓	?	?	✓	Measure not likely to have significant environmental effects. Some positive effects on X, X and X because..... Uncertain effects on X and X as unable to assess this at this level of planning.
Protect: Natural Flood Management								
Floodplain reconnection	0	x	✓	✓	0	x	✓	<insert reason>
Creation/restoration of intertidal area	?	0	✓✓	✓✓	?	0	✓✓	Measure likely to have significant positive environmental effects on X, X and X because Uncertain effects on X and X as unable to assess this at this level of planning.
Protect: Engineering								
Flood storage online	0	✓/ x	✓/ x	x	0	x	✓	<insert reason>
Embankment	✓✓	x	✓✓	xx	✓✓	xx	✓✓	Measure likely to have significant positive and negative impacts on the environment. Positive effects on X, X and X. because.... But likely to have negative effects on X, X and X.
Prepare								
Awareness raising	0	0	✓	x	0	0	✓	<insert reason>

Table 4.4c: Assessment classification

Class	Symbol	Description
Significant positive	✓✓	A measure very likely to lead to an overall large improvement
Positive	✓	A measure very likely to lead to an overall moderate or small improvement
Neutral	0	A measure not likely to affect...
Negative	✗	A measure very likely to lead to an overall moderate or minor reduction
Significant negative	✗✗	A measure very likely to lead to overall severe reduction
Mixed	✓/✗	The effect of a measure is likely to be a combination of positive and negative effects, particularly where effects are considered on sub-issues, areas or criteria.
Uncertain	?	The effect of measure is not known, or is too unpredictable to assign a conclusive score. Further assessment may be made at more detailed level of planning.
Also note:		
Cumulative effects		A measure, when combined with other actions in the strategy or with other existing or planned actions, is very likely to lead to a positive or negative effect. Includes interactions, synergies and indirect effects.
Timescale		Whether the effects are likely to be short, medium or long term.

Consultation questions

4. Do you agree that we have correctly scoped the likely significant environmental effects?
5. Do you agree that the SEA objectives and assessment will enable SEPA to make an appropriate strategic assessment?
6. Do you agree that the assessment matrix will present results in a way that enables Consultation Authorities, other stakeholders and the public to comment on environmental impacts?

5. Consultation and next steps

5.1. Proposed consultation timescales and methods

The consultation on the environmental report will open to the public and consultation authorities on December 2014, and will last for 3 months. It will run alongside the consultations on the draft Flood Risk Management Strategies and the draft Local Flood Risk Management Plans. The consultation will be web-based, although printed information will be provided on request.

5.2. Milestones

The anticipated milestones in the SEA and Flood Risk Management planning processes are outlined in table 5.1.

Table 5.1: Anticipated milestones

Milestone	Date
Consultation on draft Flood Risk Management Strategies and SEA Environmental Report	December 2014
Consultation on supplemental part of draft Local Flood Risk Management Plans	December 2014
Consultation responses collated and considered	April – June 2015
Flood Risk Management measures selected and prioritised	April – October 2015
Flood Risk Management Strategies revised to take account of consultation responses and selected measures	April – October 2015
Consultation on draft implementation part of Local Flood Risk Management Plans	Mid 2015
Amend environmental report to take account of consultation responses and final Flood Risk Management Strategies	July – October 2015
Final Flood Risk Management Strategies published	December 2015
Final environmental report and post adoption statement published	December 2015
Local Flood Risk Management Plans published	June 2016

Consultation question

7. Do you agree that the proposed consultation period and format enables early and effective engagement for SEA purposes?

Appendix 1: Screening report

PART 1

To: SEA.gateway@scotland.gsi.gov.uk
or
SEA Gateway
Scottish Executive
Area 1 H (Bridge)
Victoria Quay
Edinburgh EH6 6QQ

PART 2

An SEA Screening Report is attached for the plan, programme or strategy (PPS) entitled:

Flood Risk Management Strategies for Scotland

The Responsible Authority is:

SEPA

COMPLETE PART 3 OR 4 OR 5

PART 3

Screening is required by the Environmental Assessment (Scotland) Act 2005. Our view is that:

- an SEA is required** because the PPS falls under the scope of Section 5(3) of the Act and is likely to have significant environmental effects *or*
- an SEA is required** because the PPS falls under the scope of Section 5(4) of the Act and is likely to have significant environmental effects *or*
- an SEA is not required** because the PPS is unlikely to have significant environmental effects

PART 4

- The PPS does not require an SEA under the Act. However, we wish to carry out an SEA on a voluntary basis. We accept that, because this SEA is voluntary, the statutory 28 day timescale for views from the Consultation Authorities cannot be guaranteed.

PART 5

- None of the above apply. We have prepared this screening report because:

.....
.....
.....

Our determinations regarding the likely significance of effects on the environment of Flood Risk Management Strategies for Scotland is set out in Table 1.

TABLE 1 – LIKELY SIGNIFICANCE OF EFFECTS ON THE ENVIRONMENT

TITLE OF PPS		
Flood Risk Management Strategies for Scotland		
RESPONSIBLE AUTHORITY		
SEPA		
Criteria for determining the likely significance of effects on the environment (1(a), 1(b) etc. refer to paragraphs in Schedule 2 of the Environmental Assessment (Scotland) Act 2005)	Likely to have significant environmental effects? YES/NO	Summary of significant environmental effects (negative and positive)
1(a) the degree to which the PPS sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources	YES	<p>Positive impacts - the Flood Risk Management Strategies establish a set of flood risk related activity.</p> <p>The Flood Risk Management Strategies will identify the main flood hazards and impacts, setting out objectives for reducing risk and the best combination of measures to achieve this, such as the appropriateness of an alleviation scheme or improving flood warning arrangements.</p>
1(b) the degree to which the PPS influences other PPS including those in a hierarchy	YES	Positive impacts - the Flood Risk Management Strategies set the context for Local Flood Risk Management Plans which will be prepared by local authorities.

1(c) the relevance of the PPS for the integration of environmental considerations in particular with a view to promoting sustainable development	YES	Positive impacts - the Flood Risk Management Strategies aim to promote sustainable development through the reduction of flood risk to people and property.
Criteria for determining the likely significance of effects on the environment (1(d) etc. refer to paragraphs in Schedule 2 of the Environmental Assessment (Scotland) Act 2005)	Likely to have significant environmental effects? YES/NO	Summary of significant environmental effects (negative and positive)
1(d) environmental problems relevant to the PPS	YES	The Flood Risk Management Strategies address flood risk. Their aim will be to have a significant positive impact through reducing flood risk and associated positive impacts on climatic factors, population and human health, and material assets.
1(e) the relevance of the PPS for the implementation of Community legislation on the environment (for example, PPS linked to waste management or water protection)	YES	<p>EU Floods Directive (Directive 2007/60/EC) sets the context for the Flood Risk Management Strategies.</p> <p>The Flood Risk Management Strategies are a requirement of the Flood Risk Management (Scotland) Act 2009.</p>
2 (a) the probability, duration, frequency and reversibility of the effects	YES	The Flood Risk Management Strategies aim to establish long-term, sustainable positive effects in relation to the impacts of flood risk in relation to climatic factors, population and human health and material assets.
2 (b) the cumulative nature of the effects	YES	There will be 14 Flood Risk Management Strategies covering Scotland. Some of the effects which result from these Strategies are likely to be cumulative, resulting in an overall positive effect on environmental issues across the country.

2 (c) transboundary nature of the effects (i.e. environmental effects on other EU Member States)	NO	The Flood Risk Management Strategies cover Scottish territory; minor effects may be evident in England.
2 (d) the risks to human health or the environment (for example, due to accidents)	YES	The Flood Risk Management Strategies seek to address the risk of flooding to people and property. Positive effects on human health and population are a key aim of the Flood Risk Management Strategies.
2 (e) the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)	YES	The Flood Risk Management Strategies will cover the whole of Scotland.
<p>2 (f) the value and vulnerability of the area likely to be affected due to-</p> <p>(i) special natural characteristics or cultural heritage;</p> <p>(ii) exceeded environmental quality standards or limit values; or</p> <p>(iii) intensive land-use.</p>	YES	<p>The Flood Risk Management Strategies aim to protect cultural heritage and designated environmental sites at significant flood risk and should therefore have a significant positive effect, in terms of flood risk reduction.</p> <p>Measures to manage flood risk could have both positive and negative impacts on areas identified in 2(f). For example, a flood protection wall might cause a significant negative impact on hydromorphology. However, a measure to manage run-off might contribute to meeting an environmental quality standard.</p>
2 (g) the effects on areas or landscapes which have a recognised national, Community or international protection status	NO	The Flood Risk Management Strategies are unlikely to have significant effects on such landscapes, although potential impacts will be assessed.

A summary of our considerations of the significant environmental effects of the Flood Risk Management Strategies is given below in Table 2.

TABLE 2 – SUMMARY OF ENVIRONMENTAL EFFECTS

The Flood Risk Management Strategies may result in environmental effects through the measures and associated construction and maintenance activity.

Effects are likely to include:

- Flood Risk Management Strategies will address risk to human health from flooding and will therefore have a positive effect on human health and wellbeing;
- Flood Risk Management Strategies may have a positive impact on soil function through land use change and reduced erosion and run off, although proposed construction activity could have negative impacts;
- Flood Risk Management Strategies should have largely positive effects through the management of flood risk and the emphasis on restoring and enhancing the landscapes natural ability to slow and store water. However, there could be negative effects on the hydromorphology through any proposed construction activity;
- Flood Risk Management Strategies will include aims and objectives that address both adaptation to and mitigation of climatic factors and will therefore have a positive effect on climatic factors;
- Flood Risk Management Strategies may have a positive effect on material assets through the protection of existing material assets from flooding including the built environment, transport network and community facilities;
- Flood Risk Management Strategies may have positive (e.g. decrease in flood risk) and negative (e.g. from construction activity) effects on cultural heritage and the historic environment.
- Flood Risk Management Strategies may have positive and negative impacts on local landscape character.

The Flood Risk Management Strategies are likely to have significant environmental effects and therefore SEPA as the Responsible Authority has determined that SEA of the Flood Risk Management Strategies is required.

Appendix 2: Environmental context

Table A2.1: Relationship with other PPS and environmental objectives

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Biodiversity, habitats and species		
<i>International</i>		
Convention on Wetlands of International Importance 1971 (amended 1982 and 1987)	Otherwise known as the Ramsar Convention, this provides a framework for national action and international co-operation for the conservation and sustainable utilization of wetlands and their resources. It recognises the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value, particularly as a key habitat for waterfowl. There is a Ramsar List of designated sites for management & conservation at an international level.	The Flood Risk Management Strategies should ensure that all Ramsar sites are protected from loss or damage as a result of flood management measures. In Scotland, all Ramsar sites are also Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) and so are protected by virtue of being a Natura site (see below). The Flood Risk Management Strategies also offer opportunities for creation or remediation of wetlands and these opportunities should be given suitable consideration.
UN Convention on Biological Diversity (1992)	Key objective of the Convention is to develop national strategies for the conservation and sustainable use of biological diversity, which should be integrated across other policy sectors. Key biological resources should be identified and protected. Monitoring of potentially damaging processes and activities should also be undertaken. Actions taken under the Convention include: - Publication of a Scottish Biodiversity Strategy - Establishment of a UK Biodiversity Action Plan (BAP) and Scottish BAPs to implement the Convention. - Establishment of Local BAPs to protect, enhance and promote local biodiversity.	The Flood Risk Management Strategies should look for opportunities to conserve, and where possible restore, biodiversity.
<i>European</i>		
Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ('Habitats Directive')	Builds on the Birds Directive (see below) by protecting natural habitats and other species of wild plants and animals. Together with the Birds Directive, it underpins a European network of protected areas known as Natura 2000: Special Protection Areas (SPAs, classified under the Birds Directive) and Special Areas of Conservation (SACs, classified under the Habitats Directive).	The Flood Risk Management Strategies should ensure that Natura 2000 sites are suitably protected from loss or damage. The Flood Risk Management Strategies are expected to require a Habitats Regulations Appraisal and, as such, may require an 'appropriate assessment' to ensure that they do not adversely affect SPAs and SACs.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Council Directive 79/409/EEC on the conservation of wild birds ('Birds Directive')	Protects all wild birds, their nests, eggs and habitats within the European Community. It gives EU member states the power and responsibility to classify Special Protection Areas (SPAs) to protect birds which are rare or vulnerable in Europe, as well as all migratory birds which are regular visitors.	The Flood Risk Management Strategies should ensure that Natura 2000 sites are protected from loss or damage. (See above)
The Pan-European Biological and Landscape Diversity Strategy (1995)	The Strategy aims to reverse the decline of landscape and biological diversity, by promoting innovation and proactive policy making. It supports preceding measures for protecting natural heritage, and aims to supplement these by further supporting a number of action themes relating to different environmental resources.	The Flood Risk Management Strategies should support the Strategy by considering the contribution that measures could make to protecting biodiversity and landscapes.
Our life insurance, our natural capital: an EU biodiversity strategy to 2020 (2011)	Aims to reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy. Includes targets and actions related to: <ul style="list-style-type: none"> - halting deterioration in Natura 2000 sites and measurable improvements in status - maintaining and enhancing ecosystems and services through green infrastructure, and restoring degraded ecosystems - combating invasive species - contributing to averting biodiversity loss The Scottish Government has published a 2020 Challenge for Scotland's Biodiversity (see below) in response to this EU Strategy.	The Flood Risk Management Strategies should support the aims and commitments of the Strategy by minimising impacts on biodiversity, and by considering the contribution that measures could make to maintaining and restoring ecosystems.
<i>United Kingdom</i>		
UK Post 2012 Biodiversity Framework	A UK agreement on a framework of priorities for the Convention of Biological Diversity. Biodiversity strategies for England and for Scotland (see below) set out greater detail.	The Flood Risk Management Strategies will have regard to this framework, by virtue of regard to the country level strategies (see below).
<i>England</i>		
The Wildlife and Countryside Act 1981 (as amended for England)	Provides the framework for protection of species other than European Protected Species. Sets out protection objectives for specified birds and wild animals.	The Flood Risk Management Strategies should have regard to the protection of species as per the Act.
The Natural Environment and Rural Communities Act 2006	All public bodies have a legal duty to 'have regard' for biodiversity in their decision-making processes.	The Flood Risk Management Strategies must have regard for biodiversity
The Conservation of Habitats and Species 2010	Implements the Habitats Directive in England and Wales on land and inshore waters (0-12 nautical miles).	The Flood Risk Management Strategies should ensure that Natura 2000 sites are protected from loss or damage.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011)	It sets out the strategic direction for biodiversity policy in England for the next decade on land (including rivers and lakes) and at sea. By 2020, it aims to put in place measures to maintain and enhance biodiversity, to achieve an overall improvement in the status of our wildlife and to have prevented further human-induced extinctions of known threatened species.	The Flood Risk Management Strategies should look for opportunities to conserve, and where possible enhance biodiversity. They should also look for opportunities to contribute to improvements in the status of wildlife.
<i>Scotland</i>		
The Wildlife and Countryside Act 1981 (as amended for Scotland)	Provides the framework for protection of species other than European Protected Species. Sets out protection objectives for specified birds and wild animals.	The Flood Risk Management Strategies should have regard to the protection of species as per the Act.
The Environment Act 1995	<p>Under this Act, SEPA has several broad, conservation-related duties:</p> <p>Section 32 duties – in particular, in formulating or considering any proposals relating to any of its functions, SEPA should “<i>have regard to the desirability of conserving and enhancing the natural heritage of Scotland</i>”, and “<i>to take into account any effect which the proposals would have on the natural heritage of Scotland</i>”</p> <p>Section 34 duties – SEPA has a duty “<i>generally to promote the conservation and enhancement of the natural beauty and amenity of inland and coastal waters and of land associated with such waters</i>”, and “<i>generally to promote the conservation of flora and fauna which are dependent on an aquatic environment</i>”.</p>	The Flood Risk Management Strategies should have regard to conservation of natural heritage, and should promote the conservation of natural heritage and biodiversity of inland and coastal waters.
The Conservation (Natural Habitats, &c) Regulations 1994 (as amended for Scotland)	These regulations relate to the designation of Natura sites, and provision of protection to various plant and animal species.	The Flood Risk Management Strategies should ensure that Natura 2000 sites are protected from loss or damage (see above).

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Nature Conservation (Scotland) Act 2004	This Act sets out the process for designating and protecting SSSIs. Public bodies have a statutory obligation to 'further the conservation of biodiversity'. Under the requirements of the Act, the Scottish Government has produced Scottish Biodiversity Strategy (below), to which all public bodies should pay regard.	The Flood Risk Management Strategies should take into account the protection of SSSIs. The Flood Risk Management Strategies should consider the contribution that can be made to conserving, and where possible restoring, biodiversity, and avoiding adverse impacts on sites, habitats and species of value as defined in the Scottish Biodiversity Strategy and associated priority lists (see below).
Scottish Biodiversity Strategy: 1. "Scotland's Biodiversity – It's in Your Hands. A strategy for the conservation and enhancement of biodiversity in Scotland" (2004) 2. 2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland (2013)	These two documents together comprise the Scottish Biodiversity Strategy. The 2020 Challenge document provides greater detail in some areas, responds to the new international targets, and updates some elements of the 2004 document. It sets out principles and approaches to protect biodiversity and how we can harness nature and its many processes and functions to improve our prosperity and welfare.	The Flood Risk Management Strategies should consider the contribution that measures could make to conserving, and where possible restoring, biodiversity. They should also recognise the contribution that biodiversity makes to health and quality of life.
Scottish Executive Scottish Forestry Strategy (2006)	This strategy is a framework for taking forestry forward through the first half of this century and beyond. Amongst other outcomes, it aims to contribute to a high quality, robust and adaptable environment. One of its targets is to increase Scotland's woodlands increase from 17.1% of land area to about 25%.	The Flood Risk Management Strategies should have regard for the objectives and targets set out in the strategy.
Population and human health		
<i>United Kingdom</i>		
Civil Contingencies Act 2004	The Act delivers a framework for civil protection in the United Kingdom. The act defines the responsibilities for responders to emergency which include (among others): - assess the risk of emergencies and use to inform contingency planning - put in place emergency plans - put in place arrangements to make information available to the public about civil protection matters and to maintain arrangements to warn, inform and advise the public in the event of an emergency	The Flood Risk Management Strategies should support the requirements of responders to fulfil their statutory duties

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
<i>Scotland</i>		
Land Reform (Scotland) Act 2003	Gives legal right of responsible access in Scotland. Promotes the development of core paths for walking, cycling and riding in Local Authority encouraging increased levels of physical activity	The Flood Risk Management Strategies should give consideration to providing recreational benefits and promoting core paths alongside Flood Risk Management measures.
Soil		
<i>European</i>		
EU Thematic Strategy for Soil Protection, including proposals for a Soil Framework Directive (2006)	The Soil Thematic Strategy is seeking to: <ul style="list-style-type: none"> - Establish common principles for the protection and sustainable use of soils; - Prevent threats to soils, and mitigate the affects of those threats; - Preserve soil functions within the context of sustainable use; and - Restore degraded and contaminated soils to approved levels of functionality. 	The provisions of the European Strategy should form a framework for soil protection and improvement that the Flood Risk Management Strategies should take into account.
<i>Scotland</i>		
Scottish Soil Framework (2009)	A high level national strategy intended to strengthen and improve the protection of soils in Scotland. It sets out a number of outcomes for soil protection including: <ul style="list-style-type: none"> - Protect and where appropriate, enhance soil organise matter stock - Reduce/remediate soil erosion - Maintain soil structure - Contribute to sustainable flood management - Reduce soil contamination - Reduce pressure on soils by using brownfield sites in preference to greenfield - Protect soils with significant historical and cultural features 	The Soil Framework could benefit the aims of sustainable flood risk management. Flood Risk Management Strategies should consider the contribution that measures (particularly any proposed land use change or physical measure) could make to deliver the outcomes of the soil framework,
Water		
<i>European</i>		
Water Framework Directive (2000/60/EC)	The Directive establishes a legal framework for the protection, improvement and sustainable use of surface waters, transitional waters, coastal waters and groundwater across Europe in order to: <ul style="list-style-type: none"> - Prevent deterioration and enhance status of aquatic ecosystems, including groundwater; - Promote sustainable water use; - Reduce pollution; and - Contribute to the mitigation of floods and droughts. Key objective is for all inland and coastal waters to achieve 'good ecological status' (or 'good ecological potential') by 2015. This is to be achieved through River Basin Management Plans.	The Flood Risk Management Strategies should, where possible, help to achieve the objectives and measures proposed in the River Basin Management Plans.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Bathing Water Directive 2006 (2006/7/EC)	The Directive aims to protect the public and the environment from faecal pollution at waters used for bathing by a large number of visitors. Achieves this by making information on bathing water available to the public, and by setting standards to be met by 2015.	The Flood Risk Management Strategies should consider the contribution that measures could make towards the attainment of bathing water quality standards.
Nitrates Directive (91/676/EC)	The Nitrates Directive has the objectives of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution. Key requirements are the designation of Nitrate Vulnerable Zones and the establishment of action programmes in relation to these zones.	The Flood Risk Management Strategies should take into account the contribution that measures could make towards reducing nitrate pollution.
Groundwater Directive (80/68/EEC)	The Groundwater Directive aims to prevent the pollution of groundwater by certain substances.	None – the Directive will be repealed in December 2013 under the Water Framework Directive.
Groundwater Daughter Directive (2006/118/EC)	Made under the Water Framework Directive, the Daughter Directive aims to prevent and limit inputs of pollutants to groundwater. It also provides further details on criteria for assessing good groundwater status and for the identification of significant and sustained upwards trends and the starting points for trend reversal.	The Flood Risk Management Strategies should, where possible, contribute to the protection of groundwater from point source and diffuse pollution that could be caused or exacerbated by flooding.
<i>United Kingdom</i>		
Pollution and Prevention and Control Act 1999 (Integrates Directive (96/61/EC))	Regulating industrial and commercial activities which may cause environmental pollution and to prevent and control any emissions that are capable of causing pollution.	The Flood Risk Management Strategies should take into account any significant flood risk from Integrated Pollution Prevention and Control sites.
Coast Protection Act 1949	The Act provides Local Authorities with permissive powers to undertake works to protect the coast against erosion and encroachment by the sea.	The Flood Risk Management Strategies should take account of existing and planned works under this Act.
Shoreline Management Plans	Shoreline Management Plans are non-statutory plans that aim to identify the best approach to managing risks from flooding and coastal erosion for individual areas and the wider coast. These plans have been produced for the entire coastline of England and Wales, and a handful for Scotland.	The Flood Risk Management Strategies should give due consideration to the risks and policies identified in these plans.
<i>England/ England and Wales</i>		
Flood Risk Regulations 2009	The Regulations transpose the EU Floods Directive and set out requirements for the flood risk assessments, flood hazard and risk mapping, and the production of flood risk management plans	The Flood Risk Management Strategies should have regard to any consequences on flood risk in the cross border area, as well as the objectives and actions identified in plans produced for England.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Flood and Water Management Act 2010	The Act required the production of local flood risk management strategies setting out roles and responsibilities and objectives and measures for managing local flood risk.	The Flood Risk Management Strategies should have regard to any consequences on flood risk in the cross border area, as well as the objectives and actions identified in strategies produced for England.
The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 and River Basin Management Plans	This Act implements the requirements of the Water Framework Directive in England and Wales. It defines the environmental standards and conditions to help assess risks to the ecological quality of the water environment and identify the scale of improvements needed to bring those waters not in good condition back to good health. Sets out arrangements for River Basin Management Planning.	The Flood Risk Management Strategies should, where possible, help to achieve the objectives and measures proposed in the Solway Tweed River Basin Management Plan.
Catchment Flood Management Plans	Catchment Flood Management Plans give an overview of the flood risk across each river catchment in England and Wales They recommend ways of managing those risks now and over the next 50-100 years.	The Flood Risk Management Strategies should, where relevant, have regard to the objectives and actions identified in these strategies.
River Till Restoration Strategy (2013)	The Strategy is a guide for protecting and improving the River Till.	The Flood Risk Management Strategies should have regard to the aims and actions proposed in the River Restoration Strategy.
<i>Scotland</i>		
Water Environment and Water Services (Scotland) Act 2003	This Act implements the requirements of the Water Framework Directive. It defines the environmental standards and conditions to help assess risks to the ecological quality of the water environment and identify the scale of improvements needed to bring those waters not in good condition back to good health. Sets out arrangements for River Basin Management Planning and Controlled Activities Regulations.	The Flood Risk Management Strategy should, where possible, help to achieve the objectives and measures proposed in the River Basin Management Plans.
Scotland River Basin Management Plan (2009) and Solway Tweed River Basin Management Plan (2009)	Sets out objectives and measures to improve the quality of waterbodies, and protect those already in good condition.	The Flood Risk Management Strategies should, where possible, help to achieve the objectives and measures proposed in the River Basin Management Plans.
Water Environment (Controlled Activities) (Scotland) Regulations 2011	A Controlled Activities Regulations authorisation is intended to control impacts on the water environment including mitigating the effects on other water users. Certain activities are permitted under the General Binding Rules; other activities require a Controlled Activities Regulations authorisation.	Measures proposed in the Flood Risk Management Strategies may require Controlled Activities Regulations authorisation, however, this would apply later on in the planning process.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
SEPA Groundwater Protection Policy for Scotland v3 (2009)	<p>This policy aims to provide a sustainable future for Scotland's groundwater resources by protecting legitimate uses of groundwater and providing a common SEPA framework to:</p> <ul style="list-style-type: none"> - Protect groundwater quality by minimising the risks posed by point and diffuse sources of pollution; - Maintain the groundwater resource by authorising abstractions and by influencing developments, which could affect groundwater quantity. 	<p>Flooding can release or exacerbate pollution – the Flood Risk Management Strategies should aim, where possible, to manage significant flood risk to groundwater from flooding related pollution.</p>
Pollution Prevention and Control (Scotland) Regulations 2000	<p>Regulating industrial and commercial activities which may cause environmental pollution and to prevent and control any emissions that are capable of causing pollution.</p>	<p>The Flood Risk Management Strategies should take into account any significant flood risk from Integrated Pollution Prevention and Control sites.</p>
Reservoirs (Scotland) Act 2011	<p>The Act will place a new regulatory duty upon SEPA to ensure reservoirs are monitored, inspected and maintained in accordance with the legislation to ensure their structural integrity. Currently this responsibility lies with local authorities.</p> <p>One part of SEPA's duties will be to assign a risk designation to all sites covered by the legislation, based on the potential adverse consequences of an uncontrolled release of water and the probability of such a release.</p>	<p>In future planning cycles, it is likely that reservoir inundation risk mapping and any associated planning will be brought together with Flood Risk Management planning.</p>
Catchment Management Plans	<p>Catchment Management Plans have been developed for the:</p> <ul style="list-style-type: none"> - River Annan (2003) - River Dee (2007) - River Nith (2006) - Loch Lomond (2003) - River Tweed (2010) - River Spey (2003) <p>Each individual plan has its own specific aims, but in general the plans aim to promote sustainable use of natural resources, to improve water quality and biodiversity.</p>	<p>The Flood Risk Management Strategies should have regard for the objectives and actions identified in the Catchment Management Plans.</p>
The Water Industry (Scotland) Act 2002 and Sewerage (Scotland) Act 1968	<p>This gives responsibilities to Scottish Water to manage the discharge of surface water that enters its drainage systems (by providing sewers and public Sustainable Urban Drainage Systems (SUDs)) and to maintain water supplies and drainage infrastructure.</p>	<p>The Flood Risk Management Strategies should have regard to Scottish Water's duties under this Act.</p>

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Quality and Standards	Quality and Standards (Q&S) are Ministerial Objectives set for Scottish Water to deliver improvements to drinking water quality, the environment and customer service. Q&S 3 covers 2006 – 2014; Q&S4 (2015 – 2020) is currently being prepared.	The Flood Risk Management Strategies should have regard to the objectives and actions proposed under Q&S.
Metropolitan Glasgow Strategic Drainage Partnership	The Metropolitan Glasgow Strategic Drainage Partnership aims to deliver flood risk reduction, river water quality improvements, habitat improvement, integrated investment planning, and to enable economic development in the Metropolitan Glasgow area.	The Flood Risk Management Strategies should seek to coordinate with and complement the plans of the Metropolitan Glasgow Strategic Drainage Partnership.
Marine (Scotland) Act 2010	The Act provides powers for Scottish Ministers to select and manage Marine Protected Areas for the protection and enhancement of marine biodiversity and for the preservation of marine historic assets of national importance. The Act also requires Scottish Ministers to prepare and adopt a National Marine Plan, and allows for a system of regional marine planning.	The Flood Risk Management Strategies should have regard to the protection of Marine Protected Areas and should have regard to the National Marine plan.
Air – scoped out of assessment		
Climatic factors		
<i>International</i>		
United Nations Framework Convention on Climate Change	Sets an overall framework for intergovernmental efforts to tackle climate change. Implementation of the convention is through “protocols,” which are legally binding.	Too high level to be relevant to the Flood Risk Management Strategies, since international policy is subsumed by national policy.
<i>European</i>		
EU Climate change agreement 2007	EU member states agreed to cut greenhouse gas emissions by 20 per cent by 2020.	The Flood Risk Management Strategies should contribute to climate change mitigation. The targets are subsumed by Scottish legislation (see below)
<i>United Kingdom</i>		
Climate Change Act 2008	The Act set a statutory target for the UK as a whole to reduce greenhouse gas emissions by at least 80 per cent by 2050 and provides a framework for shared action.	The Flood Risk Management Strategies should contribute to climate change mitigation. The targets are subsumed by Scottish legislation (see below)
<i>Scotland</i>		
Climate Change (Scotland) Act 2009	The Act sets targets to reduce Scotland's emissions of the basket of six Kyoto Protocol greenhouse gases by at least 42% by 2020 and 80% by 2050, compared to the 1990/1995 baseline. The Act also places duties on public	The Flood Risk Management Strategies should contribute to climate change mitigation and adaptation.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
	<p>bodies, when exercising their functions, they must act:</p> <ul style="list-style-type: none"> - in the way best calculated to contribute to delivery of the Act's emissions reduction targets; - in the way best calculated to deliver any statutory adaptation programme; and - in a way that it considers most sustainable. 	
Scotland's Climate Change Adaptation Framework (2009)	The framework plays a central role in building Scotland's resilience to the changing climate, by setting the strategic direction for Scottish Government actions and providing specific actions for different sectors (see below).	The Flood Risk Management Strategies will take climate change projections into account when assessing flood risk, setting objectives and selecting measures. Measures should, where possible, be adaptable in future to the effects of a changing climate.
Scottish Government Sector Action Plans for Water (2012)	<p>The Sector Action Plan for Water includes flooding-related actions for SEPA:</p> <ul style="list-style-type: none"> - Developing datasets to support flood risk management - Improved monitoring of flood risk - Investing in demonstration projects. - Study of impact of flows on sewerage network - Flood risk management plans - Floodline expansion 	The Flood Risk Management Strategies will take climate change projections into account when assessing flood risk, setting objectives and selecting measures. Measures should, where possible, be adaptable in future to the effects of a changing climate.
Material assets		
<i>United Kingdom</i>		
Civil Contingencies Act 2004	<p>The Act delivers a framework for civil protection in the United Kingdom. The Act defines the responsibilities for responders to emergency which include (among others):</p> <ul style="list-style-type: none"> - assess the risk of emergencies and use to inform contingency planning - put in place emergency plans - put in place arrangements to make information available to the public about civil protection matters and to maintain arrangements to warn, inform and advise the public in the event of an emergency 	The Flood Risk Management Strategies should support the requirements of responders to fulfil their statutory duties
<i>Scotland</i>		
Scottish Government's Infrastructure Investment Plan (2011)	The plan gives an overview of the Scottish Government's plans for infrastructure investment over the coming decades	The Flood Risk Management Strategies should take account of potential impacts (both positive and negative) of measures on existing and planned developments, and the contribution that any planned investment (e.g. into water infrastructure) might be able to make to managing flood risk.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Roads (Scotland) Act 1984	This Act empowers the roads authorities (for trunk roads) and local authorities (for other public roads), to carry out works to protect roads from flooding. The Act also empowers roads authorities to carry out various works to drain roads and to prevent surface water from flowing onto them.	The Flood Risk Management Strategies will identify areas that would benefit from Surface Water Management Plans. These management plans are likely to include a partnership approach to coordinating surface water management for roads, which should benefit the aims of both the Roads Act and the Flood Risk Management Strategies.
Scottish Government Zero Waste Plan (2010)	The Zero Waste plan aims to make the most efficient use of Scotland's resources. It involves developing a waste plan for all types of waste.	The Flood Risk Management Strategies should, where relevant, aim to minimise creation of waste.
Cultural heritage		
<i>International</i>		
UNESCO World heritage sites	World Heritage Site status is the highest accolade of recognition of an area of globally outstanding natural and/or cultural heritage. A site requires statutory protection and management. There are five sites in Scotland.	The Flood Risk Management Strategies aim to manage any significant flood risk at world heritage sites, and should aim to prevent damage to these sites from any flood risk management measures.
<i>United Kingdom</i>		
Ancient Monuments and Archaeological Areas Act 1979 (as amended by Historic Environment (Amendment) (Scotland) Act 2011)	Protects ancient monuments, including monuments on the foreshore and underwater. It is an offence to carry out, without the prior written consent of the Scottish Ministers (scheduled monument consent), any works which would have the effect of demolishing, destroying, damaging, removing, repairing, altering, adding to, flooding or covering up the monument.	The Flood Risk Management Strategies should have regard to protecting scheduled monuments from flood risk and to preventing damage from the implementation of flood risk management measures.
<i>Scotland</i>		
Scottish Historic Environment Policy (2011)	<p>One of the key outcomes of the policy framework for the historic environment is that the historic environment is cared for, protected and enhanced for the benefit of our own and future generations.</p> <p>Scottish Ministers' policies on the designation of sites and structures which are particularly important features of the historic environment.</p>	The Flood Risk Management Strategies should have regard to the protection of the historic environment.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
Planning (Listed Buildings and Conservations Areas) (Scotland) Act 1997 (as amended by Historic Environment (Amendment) (Scotland) Act 2011)	A system to protect and control changes to historic buildings. Any work which affects the character of a listed building or structure will require listed building consent.	The Flood Risk Management Strategies should have regard to the protection of listed buildings (where appropriate to do so at a strategic level of assessment).
Marine (Scotland) Act 2010	The Act enables Scottish Minister to designate part of a Marine Protected Area as a Historic Marine Protected Area. Scottish Ministers can make Marine Conservation Orders to support stated preservation objectives for Historic Marine Protected Areas.	The Flood Risk Management Strategies should have regard to the protection of Marine Protected Areas.
Landscape		
<i>International</i>		
UNESCO World heritage sites	World Heritage Site status is the highest accolade of recognition of an area of globally outstanding natural and/or cultural heritage. A site requires statutory protection and management. There is one Landscape World Heritage Site in Scotland – the islands of St Kilda.	SEPA's National Flood Risk Assessment has not identified St Kilda as an area of significant flood risk so it will not be affected by the Flood Risk Management Strategies.
<i>European</i>		
European Landscape Convention	The European Landscape Convention is a Council of Europe initiative that highlights the importance of all landscapes and encourages more attention to their care and planning. The UK signed up to the convention in 2006, and it now provides a framework for our work for Scotland's landscapes. Public authorities are encourage to adopt policies and measures at local, regional, national and international level for protecting, managing and planning landscapes.	The Flood Risk Management Strategies should have due consideration to protecting landscapes.
England and Wales		
National Parks and Access to the Countryside Act 1949.	This Act enables areas of England and Wales to be designated as National Parks (protected by law for future generations because of their natural beauty and for the opportunities they offer for open air recreation) and Areas of Outstanding Natural Beauty. An area of high scenic quality which has statutory protection in order to conserve and enhance the natural beauty of its landscape). Of potential relevance to the Flood Risk Management Strategies for Scotland are:	The Flood Risk Management Strategies should have regard to the purposes of National Parks ((1) To conserve and enhance their natural beauty, wildlife and cultural heritage; (2) To promote opportunities for the public understanding and enjoyment of these special qualities.) The Flood Risk Management Strategies should have regard to the purposes of the Solway Coast Area of Outstanding Natural Beauty.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
	<ul style="list-style-type: none"> - Northumberland National Park - Solway Coast Area of Outstanding Natural Beauty 	
The Countryside and Rights of Way Act 2000.	The Countryside and Rights of Way Act brought in new measures to further protect Areas of Outstanding Natural Beauty. All public bodies have a duty of regard for the purposes of Areas of Outstanding Natural Beauty when undertaking their work.	The Flood Risk Management Strategies should have regard to the purposes of the Solway Coast Area of Outstanding Natural Beauty and any management plan for the area.
<i>Scotland</i>		
National Parks (Scotland) Act 2000	<p>This Act enables the creation of National Parks, which aim to:</p> <ol style="list-style-type: none"> (1) to conserve and enhance the natural and cultural heritage of the area, (2) to promote sustainable use of the natural resources of the area, (3) to promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public, and (4) to promote sustainable economic and social development of the areas communities, and that in cases of conflict of these aims, the national park authority must give priority to aim (1). <p>There are two national parks in Scotland:</p> <ul style="list-style-type: none"> - Cairngorms National Park - Loch Lomond and the Trossachs National Park 	The Flood Risk Management Strategies should have regard to the purposes of the National Parks and the National Park Plans.
Ancient Monuments and Archaeological Areas Act 1979	Requires Ministers to compile and maintain a list of designated gardens and landscapes of national importance.	The Flood Risk Management Strategies should give due consideration to impacts on designated landscapes.
The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2008	Planning authorities must consult Scottish Ministers on 'development which may affect a historic garden or designed landscape'	The Flood Risk Management Strategies should give due consideration to impacts on designated landscapes.
Planning policy (Cross cutting)		
<i>Scotland</i>		
<p>Scottish Planning Policy (2010)</p> <p>SPP is currently under review with publication of the revised SPP due June 2014</p>	<p>Scottish Planning Policy (SPP) is the statement of the Scottish Government's policy on nationally important land use planning matters.</p> <p>It promotes planning decision making which:</p> <ul style="list-style-type: none"> - Contributes to the reduction in greenhouse gas emissions - supports achievement of zero waste 	<p>Any development associated with or likely to arise out of the Flood Risk Management Strategies should contribute to the aims of the SPP.</p> <p>The aims of the SPP should help achieve sustainable Flood Risk Management by ensuring developments are sited appropriately and that flood risk is taken into account in planning</p>

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
	<p>objectives</p> <ul style="list-style-type: none"> - protects and enhances cultural heritage - protects and enhances the natural environment, including biodiversity and landscape - maintains, enhances and promotes access to open space and recreation opportunities - takes into account the implications of development for water, air and soil quality - supports healthier living by improving the quality of the built environment, by increasing access to amenities, services and active travel opportunities and by addressing environmental problems affecting communities. <p>Of particular relevance are the following SPP policy topics:</p> <ul style="list-style-type: none"> - historic environment - landscape and natural heritage - flooding and drainage 	<p>decisions.</p> <p>The Flood Risk Management Strategies should contribute to delivery of SPP aims by</p> <ul style="list-style-type: none"> - setting objectives and measures related to land use planning - reducing risk to life and impacts on human health - by reducing overall flood risk - help to protect or improve recreational access /open space.
<p>National Planning Framework 2 (2009)</p> <p>NPF2 is currently under review with publication of NPF3 due June 2014</p>	<p>NPF2 is the Scottish Government's strategy for Scotland's long term spatial development.</p> <p>It focuses on priorities for the improvement of infrastructure to support long-term development, including transport infrastructure and strategic priorities for investment in energy and drainage infrastructure, and promotes the development of a strategic network of waste management installations.</p>	<p>The Flood Risk Management Strategies should aim to tie in with the long-term objectives of the National Planning Framework.</p> <p>The Flood Risk Management Strategies will identify areas at risk of flooding. Objectives and measures, such as avoiding an increase in flood risk and promoting the use of Strategic Flood Risk Assessment, should help to inform the development planning.</p>
<p>Planning Advice Notes (PANs)</p> <p>PAN 61, 69 and 79 are currently under review and will be replaced by one consolidated PAN – anticipated after the publication of the revised SPP in 2014</p>	<p>PANs provide advice and information on technical planning matters. Those most relevant include:</p> <ul style="list-style-type: none"> - PAN 61 Sustainable Urban Drainage Systems - PAN 69 Flooding - PAN 79 Water and Drainage - PAN 65 Planning and Open Space - PAN 60 Natural Heritage - PAN 2 / 2011 Planning and Archaeology - PAN 71 Conservation Area Management 	<p>Any development associated with or likely to arise out of the Flood Risk Management Strategies should align with the advice contained in the relevant PANs.</p> <p>The Flood Risk Management Strategies should contribute to delivery of PAN aims by</p> <ul style="list-style-type: none"> - setting objectives and measures related to land use planning - reducing risk to life and impacts on human health - by reducing overall flood risk - help to protect or improve recreational access /open space.

Name of PPS	Main requirements of PPS objective	How it affects, or is affected by the Flood Risk Management Strategies in terms of SEA issues referred to in Schedule 3 of the Act
<p>Scottish Government (2011) Land Use Strategy for Scotland</p>	<p>The Strategy sets out a long term vision of land use towards 2050, with principles to support the sustainable use of land. These include:</p> <ul style="list-style-type: none"> - Encouraging land use to deliver multiple benefits - Recognising value of land suited for a primary use (e.g. food production, flood management) in decision making - Decisions based on ecosystem functions and maintaining ecosystem services - Positive and sympathetic management of landscape change - Reducing greenhouse gas emissions associated with land use - Prioritising use of derelict and vacant land - Encourage provision of accessible green space 	<p>The Flood Risk Management Strategies should support the Land Use Strategy.</p>
<i>England</i>		
<p>National Planning Policy Framework (2012) and associated policy and guidance</p>	<p>The National Planning Policy Framework sets out planning policies for England which protect the environment and promote sustainable growth. It also sets out how they are expected to be applied and contains guidance for local planning authorities.</p>	<p>Any development associated with or likely to arise out of the Flood Risk Management Strategies and which impacts on English territory should align with the policy and advice contained in the National Planning Policy Framework and relevant associated policy and guidance.</p>

Appendix 3: Long list of measures to manage flood risk

Source: SEPA Flood Risk Management strategy appraisal method v0.1

Objective	Measure Category	Measure
Avoid	Relocation	Relocation of properties/infrastructure away from flood risk areas
	National Planning Policies	Scottish Planning Policy
		Planning Advice Notes
	Local Planning Policies	Specific policies/guidance in local development plans in addition to National Planning Policy Use of Strategic Flood Risk Assessment to inform local development plans
Protect: Natural Flood Management	Runoff	Woodland planting (conifer, native, broadleaf)
		Land Management, including; soil and bare earth improvements, changing agricultural field drainage.
		Creation of cross slope tree shelter belts
		Creation / restoration of non-floodplain wetlands
		Upland drain blocking
		Gully woodland planting
	River/floodplain restoration	Floodplain reconnection
		Afforestation of floodplains
		Creation of riparian woodland
		Placed large woody debris and boulders
		Reach restoration – (planform restoration)
		Creation of washlands
	Sediment management	Managing channel instabilities (sediment transport)
		Sediment traps
		Bank Restoration(e.g. riparian planting, green bank restoration)
	Wave attenuation	Multiple techniques, including: <ul style="list-style-type: none"> ▪ Beach recharge schemes ▪ Sand dune restoration ▪ Coastal vegetated shingle restoration ▪ Machair restoration ▪ Shingle re-profiling
Surge attenuation	Creation/ restoration of intertidal area including mudflats and saltmarsh, and regulated tidal exchange	
Protect: Engineering	Storage	Flood storage online
		Flood storage offline
	Conveyance	Increased conveyance through channel modification – deepening / widening / two-stage channel
		Relief/diversion channel / Bypass tunnel/culvert
		Realign channel
		Culvert
		Removal of hydraulic constrictions
		Bridges
	Control structures	Sluice gate / penstock / flap valve
		Weir
		Trash Screens
		Pumping Stations
	Coastal	Revetments
Groynes		
Breakwaters		

Objective	Measure Category	Measure
		Artificial reefs and detached breakwaters
		Gates and Tidal Barriers
	Direct Defences	Embankment
		Wall
		Adaptable Wall (can be added to)
		Demountable / temporary defences
	Sustainable Urban Drainage	Sustainable Urban Drainage measures
Prepare	Watercourse Maintenance	Routine and event specific watercourse maintenance
	Property level protection	Individual property protection
		Resilient property design (retrofit)
	Flood Forecasting & Warning	Flood Warning Schemes
	Self Help	Business Continuity Planning
		Flood Insurance
		Community Flood Action Groups
		Awareness Raising
Emergency Plans	Emergency Response Plans	