

North Yorkshire County Council

Local Flood Risk Management Strategy

Strategic Environmental Assessment

Volume I - Environmental Report (Consultation Draft Version)

October 2014

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Non-Technical Summary

Purpose of the Local Flood Risk Management Strategy

Under the provisions of the Flood and Water Management Act (2010), North Yorkshire County Council, as a Lead Local Flood Authority (LLFA), is required to produce, apply and monitor a Local Flood Risk Management Strategy (LFRMS) in partnership with the seven district and borough councils of North Yorkshire (Harrogate, Selby, Hambleton, Ryedale, Richmondshire, Scarborough and Craven), together with the Environment Agency, internal drainage boards, water and sewerage companies and highways authorities. The LFRMS will set out how North Yorkshire County Council will manage flood risk from surface runoff, groundwater and ordinary watercourses. The LFRMS must be consistent with the National Flood and Coastal Erosion Risk Management Strategy – which is produced and monitored by the Environment Agency.

The North Yorkshire LFRMS will form a framework within which local communities, business and the public sector will work together to manage flood risk across the County.

What is a Strategic Environmental Assessment?

Strategic Environmental Assessment (SEA) is a tool to assess and improve the environmental performance of plans and strategies that are likely to have an environmental impact. The requirement to undertake SEA is set out under the provisions of the European Directive 2001/42/EC 'on the assessment of certain plans and programmes on the environment'¹. It tests policies and plans against a number of objectives and goes on to suggest changes to the plan and its policies to make them more environmentally benign and where possible, beneficial.

An earlier report (called a screening report) established that SEA would be required for the LFRMS. In addition, a Scoping Report, setting out the method by which the LFRMS would be assessed for likely significant environmental effects was consulted upon.

The SEA must consider the positive, negative, short-, medium- and long-term, temporary, cumulative and in-combination (synergistic) effects of implementation of the LFRMS.

Links to other Environmental Assessments

As well as this SEA, the North Yorkshire LFRMS must also be assessed to comply with other legislation. These further assessment requirements are: the requirement to undertake assessment under the Habitats Regulations, 2010 (which puts in place the requirement of the European Council's 'Habitats Directive'); and the need to ensure consistency with the EC Water Framework Directive.

Habitats Regulations Assessment – There are a number of European and internationally protected nature conservation sites within or near to (within 15km of the County boundary) North Yorkshire County. The competent authority (which in the case of the LFRMS is the County Council), needs to carry out a Habitats Regulations Assessment (HRA) to ensure that the

¹ DCLG, Scottish Executive, Welsh Assembly Government and Department for the Environment Northern Ireland, 2005. A Practical Guide to the Strategic Environmental Assessment Directive, DCLG (formerly ODPM), London [URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf].

LFRMS's objectives and actions do not negatively impact on, or cause damage to these sites. In cases where damage to sites cannot be completely eliminated, measures must be put in place to compensate for, or mitigate any damage or loss.

An initial 'assessment of likely significant effects' of the LFRMS on European and Internationally protected sites has been carried out as part of the HRA process. While most actions in the LFRMS were not considered to be likely to result in significant effects on protected sites, uncertainty remained for four actions. To address this, additional wording has been suggested for addition to the LFRMS.

Further information on the HRA and the full assessment can be found in Appendix 5 (Volume 3).

Water Framework Directive (WFD) Compliance Assessment – The overall aim of the Water Framework Directive is for all inland and coastal waters in the EU to be in 'good' condition by 2015. The LFRMS for North Yorkshire covers an area that lies within the River Basin District (RBD) of the Humber River (which covers the majority of the county) and partially within the North West River Basin District and the Northumbria River Basin District. Each River Basin Management Plan (RBMP) contains a series of objectives to enable good status for all water bodies within their jurisdiction to be achieved. The objectives and actions of the LFRMS for North Yorkshire must not negatively impact on the status of any water body, nor must they prevent a water body from reaching 'good' status. It is also recognised that the objectives and actions of the LFRMS may help deliver the objectives identified in each relevant RBMP.

The WFD compliance test involved completion of a three step process:

- **Step 1** – Review of the identified objectives of the Water Framework Directive against the SEA objectives and sub objectives. It was found that there were no clear conflicts with WFD objectives (although some areas of uncertainty were identified) and most objectives were found to have either a positive or neutral effect on WFD objectives.
- **Step 2**- Collection of baseline data on topics pertinent to WFD objectives.
- **Step 3**- Strategic assessment – Assessment of the LFRMS objectives and actions against the WFD compliant SEA Framework. It was found that 1 objective and 5 actions in the LFRMS reported uncertain effects, whilst all other objectives and actions reported either positive or neutral contributions. Mitigation was suggested where considered necessary.

Further information on the WFD Compliance Assessment and the full results of this assessment can be found in Appendix 6 (Volume 3).

The Environmental Report

The main focus of the SEA process is the production of an Environmental Report. This non-technical summary's main purpose is to summarise the findings of the Environmental Report to which it is attached. There are several key elements that are required to be addressed in the Environmental Report. These are discussed, in turn, below.

Other Relevant Plans, Programmes and Environmental Protection Objectives

Identification of international, national, regional and local plans, policies, programmes and environmental protection objectives (PPPs and EPOs) has helped to inform the focus of this SEA, particularly as it has helped in the identification of key issues to address and the creation of SEA objectives (see below). It also helps to ensure that the LFRMS is consistent with relevant

legislation and environmental policy objectives. For this SEA, a wide range of PPPs and EPOs have been identified and considered – the full list of this information is presented in Appendix 3 (Volume 2).

Baseline Environmental Conditions of North Yorkshire

Baseline environmental information and supporting data are needed in order to establish the present environmental situation in the LFRMS area and the likely evolution of environmental trends. In this way changes to the environment that may come about through implementing the LFRMS can be predicted and monitored. Baseline information has been collected on all environmental topics most relevant to the LFRMS. These topics are:

- Biodiversity, flora and fauna;
- Cultural heritage and landscape;
- Water and soil;
- Climatic factors;
- Additional environmental issues;
- Population and human health; and
- Material assets.

Section 3.3 of this report presents an overview of the baseline conditions of North Yorkshire and Section 3.4 identifies the key environmental issues facing the County – these have been drawn from a combined assessment of the Baseline and the PPPs and EPOs. In addition, Appendix 4 in Volume 2 contains the full baseline dataset for reference.

Identifying Key Environmental Issues for North Yorkshire

As stated above, the review of PPPs and EPOs, in addition to the baseline data has allowed identification of key environmental issues that the County is currently facing. The issues include constraints as well as environmental opportunities, where the LFRMS may be used to improve environmental value or quality in a certain area. Key issues and trends include:

- The plan area contains many nationally important wildlife sites and habitats; the natural environment is sometimes vulnerable to flooding, and sometimes presents an opportunity to deal with flooding;
- There are protected landscapes and important heritage assets in the plan area. Historic assets in particular may be vulnerable to flooding;
- Pollution problems exist in some watercourses, while soils may be lost during flooding episodes;
- Climate change will have a range of impacts, including increased flooding;
- The County has an ageing population;
- Critical transport infrastructure may be disrupted during times of flood.

The SEA Objectives

Identification of the key environmental issues for the County has helped to shape the SEA objectives, which are used in order to describe, analyse and compare the effects of implementing the Strategy. The objectives are set out in the table, below. More information on the environmental objectives and the full environmental assessment ‘framework’ (containing further

sub-objectives to the SEA objectives and indicators for predicting environmental effects) can be found in Section 3.5 of this report.

SEA Topic	SEA Objective
Population and human health	To minimise flood risk and to reduce the impact of flooding.
Biodiversity, flora and fauna	To protect and enhance biodiversity and geodiversity and improve habitat connectivity.
Water	To enhance or maintain water quality and improve efficiency of water use.
Material assets	To safeguard and use soil and land efficiently.
Cultural heritage and landscape	To conserve and where possible, enhance to historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.
Climatic Factors	To reduce the causes of climate change and to respond and adapt to the effects of climate change.
Population and human health	To protect and where possible, improve the wellbeing, health and safety of local communities.
Material assets	To conserve and protect important and essential material assets and infrastructure.

Testing the LFRMS against the SEA Objectives

A high level test of the LFRMS objectives against the SEA framework was carried out in order to highlight the potential synergies and incompatibilities that exist. It was found that that the objectives of the LFRMS have a positive relationship with many of the SEA objectives and in some cases this is a major and direct positive relationship. Several areas of uncertainty were identified at this strategic level in relation to LFRMS objective 1 as further detail regarding the role that local communities would take in relation to flood risk management would be required in order to establish the impact that this would have on biodiversity, water quality, soil and other environmental receptors. The results of this high level test of compatibility between the SEA objectives and LFRMS objectives are shown in the table below:

LFRMS Objective	SEA Objective							
	1	2	3	4	5	6	7	8
1. A greater role for communities in managing flood risk	++	?	?	?	?	++	+	+
2. Improved knowledge and understanding of flood risk and management responsibilities within NYCC and amongst partners, stakeholders, communities and the media.	++	+	+	+	+	++	+	+
3. Sustainable and appropriate development utilising sustainable drainage where ever possible	++	+	+	+	+	++	+	+
4. Improved knowledge of watercourse network and drainage infrastructure	++	+	+	+	+	++	+	+
5. Flood risk management measures that deliver social, economic and environmental benefits	++	+	+	+	+	++	++	+
6. Best use of all potential funding	++	+	+	+	+	++	++	+

opportunities to deliver flood risk management measures									
---	--	--	--	--	--	--	--	--	--

	Significance
++	The objective is predicted to have major positive effects on the baseline and the achievement of the SEA objective.
+	The objective is predicted to have minor positive effects on the baseline and the achievement of the SEA objective.
0	The objective will have a neutral effect ² on the baseline and the achievement of the SEA objective.
-	The objective is predicted to have minor negative effects on the baseline and the achievement of the SEA objective.
--	The objective is predicted to have major negative effects and the achievement of the SEA objective.
?	The effect of the objective on the baseline/SEA objective is uncertain.

A more detailed assessment of the significant environmental impacts of the implementation of the LFRMS actions was then carried out. An alternative ‘do nothing’ approach was also assessed in order to provide a comparison. The results of the assessment show that the implementation of the LFRMS actions range from major positive effects on the SA objectives to uncertain effects. In most cases the LFRMS actions perform well against the SEA objectives, especially when compared to the ‘do nothing’ scenario.

The results of the assessment are presented in full, in Section 5 and Appendix 1.

Mitigation Measures

After undertaking the assessment of the LFRMS actions against the SEA objectives, one mitigation measure was suggested as outlined below:

- It is suggested that a strategic action is added to the LFRMS action plan to ensure that flood management projects deliver both effective flood management and legal compliance with environmental regulations (WFD, HRA etc.). Suggested wording as follows: *“Develop the protocols and processes to ensure that projects progressed through LFRMS deliver sustainable development through regulatory compliance and taking opportunities to deliver environmental benefits”*.

Monitoring

Monitoring the significant environmental effects of implementing a plan is an important part of SEA. It is proposed that a series of indicators will be monitored on a six year reporting cycle. Where possible indicators will be linked to the existing baseline information (see Volume 2 of this

² A ‘neutral effect’ is defined as an effect where either no impact has occurred, or an effect where the positive and negative aspects of an action cancel each other out.

Environmental Report), however a full baseline for monitoring will be set out when indicators are finalised in the post adoption statement of this SEA.

Table 15 in Section 6.1 of this Environmental Report sets out the proposed monitoring indicators.

Conclusions

This Environmental Report has shown that the direct, indirect, secondary, cumulative and synergistic environmental effects of the implementation of the North Yorkshire Local Flood Risk Management Strategy are broadly positive. It is considered that the implementation of the LFRMS would result in more positive environmental impacts than the alternative 'do nothing scenario'.

There are a small number of uncertainties that have been identified in relation to the Strategy. Where considered necessary, mitigation has been suggested for these effects.

Therefore the key recommendation of this report is that the mitigation measure outlined be implemented.

Consultation and Next Steps

In order to establish a consensus over what the key messages of this report should be we have asked a series of consultation questions throughout the report. These questions are intended for guidance only; we would welcome any views on any aspect of this report. However we have reproduced the questions below, should you wish to use them.

Consultation Question 1: We have tried to include all the plans, policies and programmes and their Environmental Protection Objectives that you told us about during the scoping consultation. But are there any more that we should consider?

Consultation Question 2: Have we identified the correct 'key issues' for North Yorkshire?

Consultation Question 3: Are there any more issues that you would like us to address through the SA Framework?

Consultation Question 4: Do you agree with our assessments of likely significant effects?

Consultation Question 5: Do you agree with the suggested mitigation measures?

Consultation Question 6: Do you agree with our suggestions for monitoring?

The consultation on this SEA environmental report will take place between 15 October 2014 and 26 November 2014. Consultees should submit their responses to this SEA Environmental Report no later than 5 pm on 26 November 2014.

Responses can be sent by e-mail to:

Mwsustainability@northyorks.gov.uk (please include the words LFRMS SEA consultation in the title).

Alternatively you can write to

Environmental Policy, Natural Environment Team, Waste and Countryside Services, North Yorkshire County Council, County Hall, Northallerton, North Yorkshire, DL7 8AH.

For further information, please write or e-mail, or, alternatively you can contact the Environmental Policy Officer on 01609 532422.

1 Introduction

1.1 The Local Flood Risk Management Strategy

Under the provisions of the Flood and Water Management Act (2010), North Yorkshire County Council, as a Lead Local Flood Authority (LLFA), is required to produce a Local Flood Risk Management Strategy (LFRMS) in partnership with the seven district and borough councils of North Yorkshire (Harrogate, Selby, Hambleton, Ryedale, Richmondshire, Scarborough and Craven), together with the Environment Agency, internal drainage boards, water and sewerage companies and highways authorities. The LFRMS will set out how North Yorkshire County Council will manage flood risk from surface runoff, groundwater and ordinary watercourses. The LFRMS must be consistent with the National Flood and Coastal Erosion Risk Management Strategy – which is applied and monitored by the Environment Agency.

The Flood and Water Management Act requires the LFRMS to include:

- Who the flood risk management authorities are within the County. For North Yorkshire, these are: the Environment Agency; North Yorkshire County Council (the LLFA); the water companies (Yorkshire Water, United Utilities and Northumbrian Water); the highways authority (North Yorkshire County Council); district and borough councils; and internal drainage boards.
- What flood and coastal erosion risk management functions each risk management authority may exercise in relation to the area.
- What the objectives will be for managing local flood risk. They should be relevant to the local area and reflect the level of flood risk within a given area.
- The measures that are proposed to address the stated objectives.
- How and when the measures will be implemented.
- The costs and benefits of the measures and how they will be paid for.
- An assessment of local flood risk for the purposes of defining the strategy.
- How and when the strategy is to be reviewed.
- How the strategy contributes to the achievement of wider environmental objectives.

The timescale of the LFRMS is for it to be adopted in February 2015 and implemented from April 2015. A short term (0-3 years), medium term (3- 10 years) and long term (>10 years) timescale is set for implementation.

The LFRMS is divided into two parts, a Policy Framework document and a Strategic Action Plan. The Policy Framework addresses flood risk and:

- Explains the latest understanding of flood risk across the county;
- Signposts key documents which promote our understanding and support the management of flood risk;
- Provides a key source of information on flood risk management ;
- Outlines the legislative framework for managing risk;
- Specifies the responsibilities and functions of the Risk Management Authorities (RMA) operating in the administrative area;
- Identify objectives for co-ordinated flood risk management ;
- Forms a basis for securing and prioritising investment; and

- Explains how flood risk management contributes to achieving wider environmental objectives.

The Strategic Action Plan outlines the interventions that will be carried out in order to achieve the objectives outlined in the Policy Framework.

The LFRMS will also include the preparation of lower tier Operational Catchment Action Plans for each catchment within North Yorkshire and working with neighbouring Lead Local Flood Authorities where catchments cross into other authority areas. The timescale for completion of these catchment level plans is anticipated to be Autumn 2015.

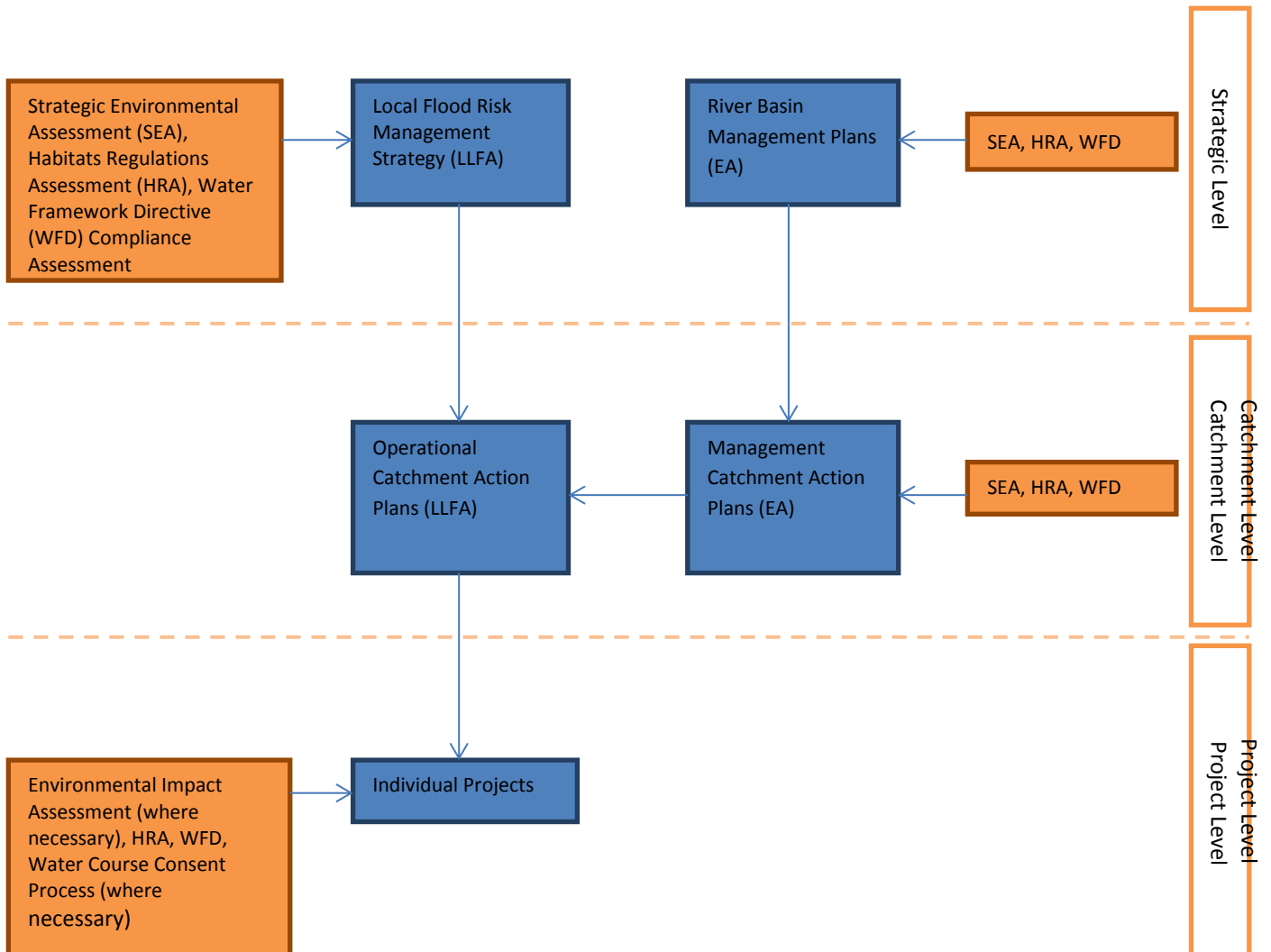
1.2 Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is a process of assessment of environmental effects which will help to inform the LFRMS. It aims to deliver more environmentally benign policies for the management of flood risk by scrutinising options for their potential environmental impacts. The SEA process is a statutory assessment which is required under the European Directive 2001/42/EC (the SEA Directive), which is transposed into UK law by the Environmental Assessment of Plans and Programmes Regulations (2004). The SEA process should be carried out in an iterative manner, with the aim of integrating environmental considerations into the production of the plan or programme.

As outlined above, the LFRMS will consist of several parts including the Policy Framework, Strategic Action Plan and catchment scale action plans. Although the objectives which are outlined in the LFRMS Policy Framework document have been considered at a high level for their compatibility with the SEA objectives, this assessment focuses on the actions listed within the LFRMS Strategic Action Plan as these will direct interventions and the preparation of lower tier catchment action plans.

As the catchment level action plans will be entirely consistent with the strategic level action plan and the Environment Agency (EA) Flood Risk Management Plan's, both of which are subject to a suite of environmental assessments including SEA (see Figure 1 for further information), it is not considered that a separate SEA will be required for the catchment scale action plans. Additionally, any projects occurring as a result of the catchment scale action plans that are considered likely to lead to significant environmental effects, will be subject to further environmental assessment at the project level. This is outlined in Figure 1 below.

Figure 1: Relationship between EA and LLFA flood management plans³



1.2.1 SEA Stages

The approach taken in this SEA is based on the guidance published by Office for the Deputy Prime Minister (now the Department for Communities and Local Government) in the Practical Guide to the SEA Directive⁴.

Table 1 shows key tasks derived from the Practical Guide to the Strategic Environmental Assessment Directive. The SEA Regulations apply to UK plans and programmes that meet certain criteria. The LFRMS meets the relevant criteria as it is a plan which is:

³ Orange text boxes identify the environmental assessments to which the identified plans/projects will be subjected.

⁴ DCLG, Scottish Executive, Welsh Assembly Government and Department for the Environment Northern Ireland, 2005. A Practical Guide to the Strategic Environmental Assessment Directive, DCLG (formerly ODPM), London [URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf].

-“...prepared by an authority for adoption, through a legislative procedure by Parliament or Government; and, in either case⁵;

-required by legislative, regulatory or administrative provisions⁶; and

-is prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use⁷; and

-sets the framework for future development consent of projects listed in Annex I or II to Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment...” (DCLG, 2005)^{8,9}.

Table 1: Summary of Strategic Environmental Assessment tasks as outlined by the Practical Guide to the SEA Directive (text in bold shows key consultation points).

Stage A: Setting the objectives and developing the baseline (Scoping).
A1: Identifying other relevant policies, plans and programmes and environmental protection objectives.
A2: Collecting environmental baseline information.
A3: Identifying the environmental issues and problems.
A4: Developing the SEA objectives.
A5: Consulting on the scope of the Strategic Environmental Assessment.
Stage B: Developing and refining options and assessing effects.
B1: Testing the plan objectives against the Strategic Environmental Assessment objectives.
B2: Develop and refine the strategic options for the plan or programme.
B3: Predict and appraise the significant effects of the options, including the alternatives.
B4: Evaluate the effects of the plan, including the alternatives.
B5: Consider ways of mitigating adverse effects and maximising beneficial impacts.
B6: Propose measures to monitor the environmental effects of implementing the plan.
Stage C: Preparing the Environmental Report.
C1: Preparing the Environmental Report.
Stage D: Publication and submission of the Plan and the SEA Report.
D1: Consulting on the draft plan and the Environmental Report.
D2: Assessing significant changes and making decisions ¹⁰ .
D3: Making decisions and providing information.
Stage E: Monitoring the significant effects of implementing the Plan.
E1: Developing aims and methods for monitoring the Plan.
E2: Responding to adverse effects of the Plan ¹¹ .

⁵ The Environmental Assessment of Plans and Programmes Regulations 2004, Regulation 2 – (1) – b.

⁶ The Environmental Assessment of Plans and Programmes Regulations 2004, Regulation 2 – (1) – c.

⁷ The Environmental Assessment of Plans and Programmes Regulations 2004, Regulation 5 – (2) – a.

⁸ The Environmental Assessment of Plans and Programmes Regulations 2004, Regulation 5 – (2) – b.

⁹ CLG, Scottish Executive, Welsh Assembly Government and Department for the Environment Northern Ireland, 2005. A Practical Guide to the Strategic Environmental Assessment Directive, DCLG (formerly ODPM), London [URL:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf].

¹⁰ This incorporates two tasks mentioned in the Practical Guide: ‘assessing significant changes’ and ‘making decisions and providing information’.

1.3 Scoping Report and Consultation

The SEA Scoping Report was prepared and consulted upon with the three statutory consultees (Natural England, English Heritage and the Environment Agency) in addition to a number of key stakeholders (listed in Appendix 1) from 19th July, 2013 to 23rd August, 2013. The Scoping Report involved tasks A1 to A5 as outlined in Table 1, above.

A list of consultees who responded to the consultation, their comments and the response of the SEA team are included in Appendix 2. Each of the comments received was reviewed, a response drafted and appropriate changes were made to the relevant section(s) of the Scoping Report for inclusion in this Environmental Report. The Plans, Policies, Programmes and Environmental Protection Objectives section and Baseline have been updated to the present day and are included in Volume 2 of this report. Following this, the key environmental issues have also been updated and are included in Section 3 of this report.

1.4 Environmental Report

The publication of this SEA Environmental Report fulfils the requirements of stages B, C and D1 of the SEA process, as shown in Table 1. It reports on the likely significant environmental effects of implementation of the LFRMS and alternatives to the strategy are also assessed.

The structure of this Environmental Report also broadly follows the steps set out in Table 1 and in the Government's guidance set out in the Practical Guide to the SEA Directive¹². Section 2 of this report defines the study area of this assessment. Section 3 details the SEA environmental objectives, baseline and context. Section 4 presents the comparison of the main strategic alternatives and their environmental effects. It also includes identification of the preferred option and explanation of why this has been chosen.

Section 5 details the environmental effects of the LFRMS objectives and actions and proposes mitigation measures for these effects. Uncertainties and risks are also highlighted within this section.

Conclusions and recommendations are set out in Section 6. Section 6 then presents the consultation questions relevant to this report and instructions for commenting on the findings of the SEA.

Additional information to this report is contained in a number of appendices to this main report and in additional volumes.

Appendix 1 in this report contains detailed assessment tables showing the compatibility of the LFRMS actions with the SEA objectives.

Appendix 2 contains the consultation comments received from stakeholders on the information and methodology presented within the Scoping Report.

¹¹ The Practical Guide includes a step on responding to adverse effects under Stage E. Remedial action is required under Article 10 of the SEA Directive.

¹² DCLG, Scottish Executive, Welsh Assembly Government and Department for the Environment Northern Ireland, 2005. A Practical Guide to the Strategic Environmental Assessment Directive, DCLG (formerly ODPM), London[URL:https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf].

A second volume to this report contains Appendix 3 and Appendix 4. Appendix 3 contains the list of Plans, Policies, Programmes and Environmental Protection Objectives (PPPs) of relevance to the SEA of the LFRMS. This list has been updated based on consultation feedback on the Scoping Report and also includes any updated and new PPPs that have been released since the consultation on the Scoping Report.

Appendix 4 in Volume 2 contains the baseline information for North Yorkshire, which has also been updated since the Scoping Report publication (along with the PPPs).

Two supporting assessments to the SEA of the LFRMS have also been carried out. These supporting assessments are Water Framework Directive Assessment and Habitats Regulations Assessment, both of which are described in the earlier Scoping Report. The results of these assessments are presented in Appendices 5 and 6 in Volume 3.

All of the information contained in this report should be considered 'draft' information at this stage. The consultation on this report is open to anyone with an interest in its content, and the opinions of consultees on any aspect of the report are welcome. Once comments have been received they will be given due consideration and used to help finalise the Environmental Report.

To help focus your comments on the most critical parts of this report, a series of consultation questions are listed throughout the report and in the final section (Section 6). However, you should not restrict your comments to those questions, and you should feel free to comment more broadly.

2. The Study Area

The study area of this Strategic Environmental Assessment is the area within which the Local Flood Risk Management Strategy operates.

The Local Flood Risk Management Strategy area comprises the county of North Yorkshire, including the large part of the North York Moors and Yorkshire Dales national parks (NYMNP and YDNP, respectively). The total size of the area is 8,053 square kilometres. The spatial extent of the county is shown in Figure 2 below.

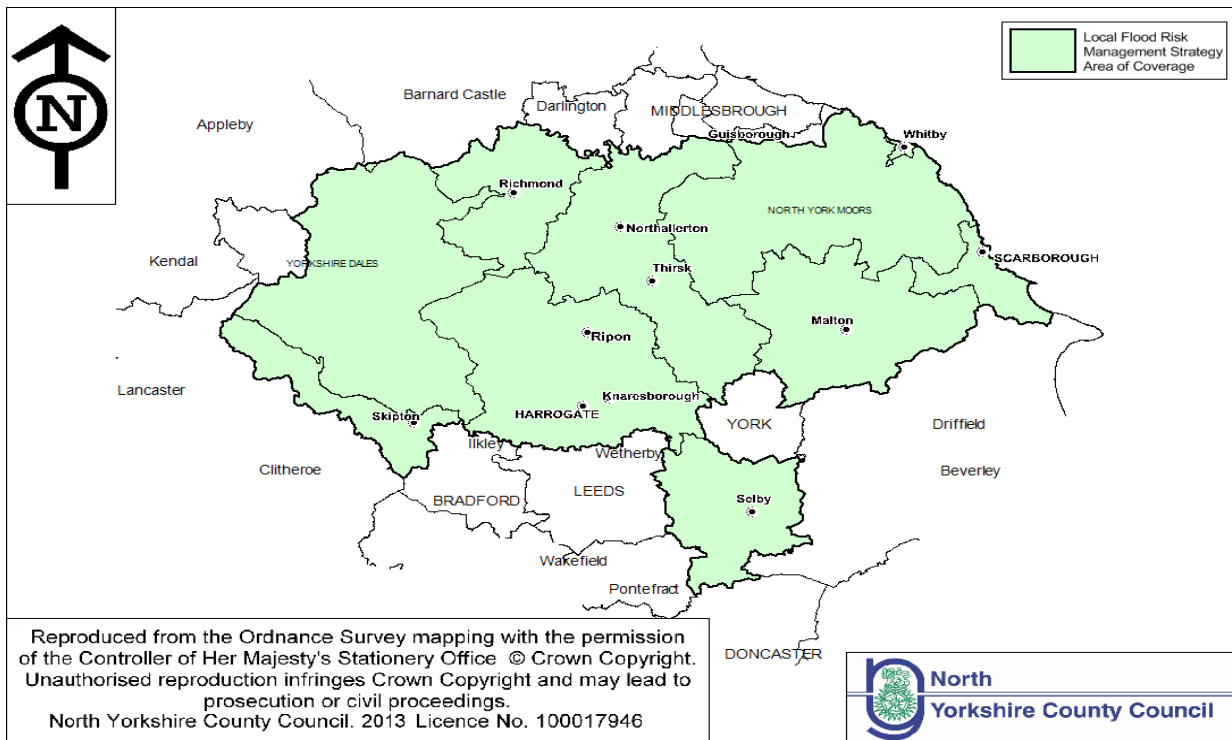


Figure 2: The Study Area of the LFRMS SEA

Several major rivers run through the plan area, including the Swale, Ure, Nidd, Ouse, Derwent and Esk, and the several rivers mark county boundaries, such as the Tees and Aire. A network of tributaries feeds these main rivers. There are also large areas of bedrock (solid permeable) and superficial (permeable unconsolidated) aquifers in the County, including areas of principal (bedrock) designation, meaning they can provide a high level of water storage.

Fluvial, surface water and groundwater flooding are all significant sources of flood risk in the County.

3 Strategic Environmental Assessment Objectives, Baseline and Context

3.1 Plans, Policies, Programmes and Environmental Objectives

To fulfil requirement (e) in Annex I of the SEA Directive¹³, any PPPs considered to be relevant to the LFRMS should be reviewed to identify their main purpose, any environmental objectives and targets they may contain, and how the LFRMS SEA will ensure that these objectives are taken into account in the preparation of the strategy.

Requirements of the SEA Directive:

The Environmental Report shall include information on the “relationship [of the plan or programme] with other relevant plans and programmes” (Annex I (a)).

As part of the scoping stage of this SEA, which was carried out in July, 2013, a review was undertaken of the most relevant plans, policies, programmes and environmental protection objectives and their applicability to the LFRMS and the SEA. Following consultation this section detailing the PPPs has been updated so that it is current and reflects consultees' views. The full, updated review of PPPs can be found in Volume 2 (Appendix 3) of this Environmental Report. Table 2 below lists the PPPs that have been analysed as part of this SEA process.

¹³ Annex 1(e) of the SEA Directive requires information on “the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation”. In this assessment we have also considered regional and local objectives.

Table 2: Relevant international, European and national plans, policies, programmes and environmental objectives.

International & European	Bern Convention on the Conservation of European Wildlife & Natural Habitats (1979)	Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979, amended 1985, 1988)	EU Birds Directive (2009)	RAMSAR Convention on Wetlands of International Importance (1971)	UN Convention on Biological Diversity (1992)	EU Directive on the Conservation of Natural Habitats of Wild Flora & Fauna (1992)	EU Biodiversity Strategy to 2020 (2011)	Proposal for a Directive Establishing a Framework for the Protection of Soil (2006)	EU Nitrates Directive (1991)	EU Directive on the Protection of Groundwater (2006)	EU Urban Waste Water Directive (1991)	EU Water Bathing Directive (2006)	EU Floods Directive (2007)	
	EU Water Framework Directive (2000)	Marine Strategy Framework Directive (2008)	Kyoto Climate Change Protocol (2005)	UN Framework Convention on Climate Change Copenhagen Accord (2010)	EU Sixth Environmental Action Programme (2002)	European Strategic Environmental Assessment Directive (2001)	EU Environmental Impact Assessment Directive (2014)	Aarhus Convention (1998)	EU Convention on the Protection of Archaeological Heritage (1972)	UNESCO World Heritage Convention (1972)	EU Landscape Convention (Florence Convention) (2004)	EU Sustainable Development Strategy (2006)	Rio+20 'Future we Want' (2012)	
National	The Wetland Vision for England (Environment Agency, 2008)	The UK Post-2010 Biodiversity Framework (Defra, 2012)	England Biodiversity Strategy Climate Change Adaptation Principles (Defra, 2008)	Natural Environment & Rural Communities Act (2006)	UKNEA National Ecosystem Assessment (2011)	Conservation of Habitats & Species Regulations (2010)	Wildlife & Countryside Act (1981)	Biodiversity 2020 (Defra, 2011)	The Natural Choice – Securing the Value of Nature (Defra, 2011)	Salmon and Freshwater Fisheries Act (1975)	Safeguarding our Soils (Defra, 2011)	National Adaptation Programme (Defra, on-going)	Mainstreaming Sustainable Development (Defra, 2011)	
	Groundwater Protection: Policy & Practice (Environment Agency, 2012)	Flood & Water Management Act (2010)	Marine & Coastal Access Act (2009)	Water White Paper – Water for Life (2011)	National Flood & Coastal Erosion Risk Management Strategy for England (EA, 2011)	Future Water, The Government's Water Strategy for England (HM Government & Defra 2008)	Guidance for Risk Management Authorities - Flood and Coastal Risk Management (Defra, 2011)	The Flood Risk Regulations (2009)	HM Government UK Marine Policy Statement (2011)	Water Environment Regulations (2003)	Climate Change Risk Assessment (Defra, 2012)	Technical Guidance to the National Planning Policy Framework (DCLG, 2012)	Localism Act (2011)	
	Geological Conservation Review (JNCC, 1977 onwards)	Red Tape Challenge – Environment Theme Proposals (Defra, 2012)	Ancient Monuments and Archaeological Areas Act (1979)	White Paper: Heritage Protection for the 21 st Century (DCMS, 2007)	National Planning Policy Framework (DCLG, 2012)	UK Government's Statement on the Historic Environment for England (2010)	Securing the Future – UK Government sustainable development strategy (2005)	The Carbon Plan (DECC, 2011)	Agricultural Land Classification (Natural England, 2012)	Climate Change Act (2008)	Climate Change and the Historic Environment (English Heritage, 2008)	Protocol for the maintenance of flood and coastal risk management assets (EA, 2011)		
Regional/Sub-Regional	Regional Biodiversity Strategy for Yorkshire and Humber (YHBF, 2009)	Yorkshire and Humber Biodiversity Delivery Plan (YHBF, undated)	Water Resources Management Plan 2010-2035 (Yorkshire Water, Northumbrian Water and United Utilities)	Preliminary Flood Risk Assessment for North Yorkshire (NYCC, 2011)	Catchment Abstraction Management Strategies (EA, various dates)	Catchment Flood Management Plans (EA, various dates)	Humber and Northumbria River Basin Management Plans (EA, 2009)	River Tyne to Flamborough Head Shoreline Management Plan (North East Coastal Authorities Group, 2007)	Climate Change Plan for Yorkshire and Humber 2009-2014 (Y&H CCP, 2009)	North Yorkshire & Cleveland Heritage Coast management Plan (NY & Cleveland Coastal Forum, 2007)	National Character Area Profiles (natural England, 2012)	Leeds City Region Green Infrastructure Strategy (LCR LEP, 2010)	North Yorkshire and York Local Nature Partnership Strategy (2014)	Historic Environment Strategy for Yorkshire and the Humber Region (Y&H HEF, 2008)
Local	Local Biodiversity Action Plans	Strategic Flood Risk Assessments (various dates)	Ouse Flood Risk Management Strategy (EA, 2010)	Adapting to Climate Change in the North York Moors National Park, NYMNP, 2011)	Fountains Abbey and Studley Royal World Heritage Site Management Plan 2009 – 2014 (National Trust and EH, 2009)	Delivering on Climate Change (NYCC Climate Change Strategy, 2009)	National Park Management Plans	AONB Management Plans	Local Development Frameworks/Local Plans	Local Draft Geodiversity Action Plan (2006)	Landscape Character Appraisals/Assessments (various dates)	Yorkshire Dales Local Plan (2006)	North York Moors Core Strategy and Development Policies (2008)	

3.2 Key Messages from the PPPs Review

Here, a list of key messages that have been drawn from the PPP review are presented. These messages, along with the environmental baseline of the Strategic Environmental Assessment, have played a part in helping define the environmental objectives.

Table 3: Key messages from the PPPs review and the sources of those messages

Key messages that the Local Flood Risk Management Strategy should seek to address	Main sources
<ul style="list-style-type: none"> • Protect and enhance areas of biodiversity, including sites of importance for nature conservation designated at a European, national and local level and protected species. Avoid fragmentation of priority habitats and seek to enhance the permeability of land cover for species movement at a landscape scale. • Recognise and enhance the natural capital provided by natural, semi-natural and managed habitats and ecosystems to maintain flows of ecosystem services. 	<p>EU Habitats Directive, EU Birds Directive, Ramsar Convention, UN Convention on Biological Diversity, Bern Convention on the conservation of European Wildlife and Natural Habitats, Bonn Convention on the Conservation of Migratory Species and Wild Animals, EU Sixth Environmental Action Plan, European Sustainable Development Strategy, Rio + 20 'Future we Want', Wetland Vision for England, Natural Environment and Rural Communities Act 2006, National Ecosystem Assessment, Conservation of Habitats and Species Regulations 2010, Wildlife and Countryside Act 1981, The Natural Choice: Securing the Value of Nature, Biodiversity 2020, England Biodiversity Strategy, Climate Change Adaptation Principles, NPPF, Mainstreaming Sustainable Development – the Government's Vision and What this Means in Practice, UK Post-2010 Biodiversity Framework, Yorkshire and Humber Regional Biodiversity Strategy, Yorkshire and Humber Biodiversity Delivery Plan, district/borough BAPs, local development frameworks/local plans, North York Moors Management Plan.</p>
<ul style="list-style-type: none"> • Identify and address the impact of flooding on new and existing development and also the impact this development can have on exacerbating the risk of flooding elsewhere. • Ensure that implemented flood risk measures do not cause deterioration of habitats and/or chemical and ecological quality of water bodies and seek to improve these through flood risk measures where possible. 	<p>EU Floods Directive, EU Water Framework Directive, National Flood and Coastal Erosion Risk Management Strategy, Protocol for the maintenance of flood and coastal risk management assets, Guidance for risk management authorities on sustainable development in relation to their flood and coastal erosion risk management functions, The Flood Risk Regulations 2009, Flood and Water Management Act 2010, Water Environment Regulations 2003, Water Resources Management Plan, Preliminary Flood Risk Assessment for North Yorkshire, River Tyne to Flamborough Head Shoreline Management Plan, Ouse Flood Risk Management Strategy, Catchment Flood Management Plans, River Basin Management Plans, Strategic Flood Risk Assessments, local development frameworks/local</p>

	plans, North York Moors Management Plan.
<ul style="list-style-type: none"> Protect and enhance historic and archaeological features of the County. 	<p>EU Convention for the Protection of the Archaeological Heritage of Europe (Granada Convention, Valetta Convention), UNESCO World Heritage Site Convention, European Landscape Convention (Florence Convention), Heritage Protection for the 21st Century, Climate Change and the Historic Environment, Ancient Monuments and Archaeological Areas Act 1979, NPPF, PPS5 Practical Guide, Statement on the Historic Environment for England, Historic Environment Strategy for Yorkshire and the Humber, North Yorkshire and Cleveland Heritage Coast, local development frameworks/local plans, North York Moors Management Plan, Fountains Abbey and Studley Royal World Heritage Site Management Plan.</p>
<ul style="list-style-type: none"> Conserve and improve local environmental quality, townscapes and landscapes, including national parks, AONBs and the Heritage Coast. 	<p>EU Landscape Convention, Natural Environment and Rural Communities Act 2006, English National Parks and the Broads, NPPF, AONB Management Plans, National Character Area Profiles, Leeds City Region Green Infrastructure Strategy, Your Dales Rock, A Strategy for the North Yorkshire Countryside, River Tyne to Flamborough Head Shoreline Management Plan, North Yorkshire and Cleveland Heritage Coast Management Plan, regional and local landscape character assessments/appraisals, local development frameworks/local plans, North York Moors Management Plan.</p>
<ul style="list-style-type: none"> Reduce the contribution to climate change and ensure that people, the built and natural environments can adapt to the changing climate and are protected from its effects, including the increased risk of flooding. 	<p>Kyoto Climate Change Protocol, UN Framework Convention on Climate Change Copenhagen Accord, EU Sixth Environmental Action Programme, EU Floods Directive, EU Water Framework Directive, European Sustainable Development Strategy, Wetland Vision for England, The Carbon Plan, NPPF, Climate Change Act 2008, The Natural Choice: Securing the Value of Nature, Mainstreaming Sustainable Development – the Government’s Vision and What this Means in Practice, England Biodiversity Strategy Climate Change Adaptation Principles, Climate Change Risk Assessment, National Flood and Coastal Erosion Risk Management Strategy, Protocol for the maintenance of flood and coastal risk management assets, Future Water, Guidance for risk management authorities on sustainable development in relation to their flood and coastal erosion risk management functions, Flood Risk Regulations, Flood and Water management Act,</p>

	National Adaptation Programme, regional and local climate change management and action plans, regional carbon and energy plans, Water Resource Management Plan, local development frameworks/local plans, North York Moors Management Plan.
<ul style="list-style-type: none"> Enhance waterways and wetlands and recognise the impact that flood and water management works and pollution may have on the chemical, geomorphological, hydromorphological and ultimately, ecological status of waterways and wetlands. 	Ramsar Convention, European Nitrates Directive, EU Groundwater Directive, EU Urban Waste Water Directive, EU Water Framework Directive, EU SEA Directive, Groundwater Protection: Policy and Practice, Wetland Vision for England, Water White paper, Water Environment Regulations, Catchment Abstraction Management Plans, catchment flood management plans, river basin management plans, local development frameworks/local plans.
<ul style="list-style-type: none"> Ensure flood risk management proposals do not result in unacceptable water or soil pollution. 	Proposal for a Directive establishing a framework for the protection of soil (2006/0086), EU Nitrates Directive (91/676/EEC), EU Groundwater Directive (2006/118/EC), EU Urban Waste Water Directive (91/271/EEC), EU Bathing Water Directive (2006/7/EC), Marine Strategy Framework Directive (2008/56/EC), EU Water Framework Directive (2000/60/EC), NPPF, Groundwater Protection: Policy and Practice, catchment abstraction management strategies, river basin management plans, local development frameworks/local plans.
<ul style="list-style-type: none"> Promote the use of renewable energy/low carbon energy. 	Kyoto Climate Change Protocol, UN Framework Convention on Climate Change Copenhagen Accord, EU Sustainable Development Strategy, NPPF, The Carbon Plan, regional/local climate change action plans, local development frameworks/local plans, North York Moors Management Plan.
<ul style="list-style-type: none"> Protect and enhance geological diversity. 	NPPF, Geological Conservation Review, Geodiversity Action Plan, landscape character assessments, local plans/local development frameworks.
<ul style="list-style-type: none"> Ensure environmental limits are not breached. 	Rio + 20 'Future we Want', European Sustainable Development Strategy, Safeguarding our Soils, Water White Paper, Groundwater Protection (GP3), UK Marine Policy Statement, Climate Change Act, catchment abstraction management plans, national/regional/local sustainable development strategies, regional/local climate change plans and strategies.
<ul style="list-style-type: none"> Recognise the importance of 	NPPF, Proposal for a Directive establishing a

protecting the best and most versatile agricultural land and fertile soils.	framework for the protection of soil, Safeguarding our Soils, Agricultural Land Classification: protecting the best and most versatile agricultural land.
<ul style="list-style-type: none"> • Protect open space for community benefit. 	NPPF, Leeds City Region Green Infrastructure Strategy, Natural Choice: Securing the Value of Nature.

Consultation Question 1: We have tried to include all the plans, policies and programmes and their Environmental Protection Objectives that you told us about during the scoping consultation. But are there any more that we should consider?

3.3. The Environmental Baseline and Key Issues

One of the key requirements of the Strategic Environmental Assessment is to predict and monitor the effects of implementing a plan, programme or strategy. In order to do this effectively it is necessary to have an understanding of the baseline environmental conditions of the County. The 'baseline' is a set of data relating to the specific conditions of a given geographical area. This forms an important starting point for ascertaining the current and likely future state of North Yorkshire County as well as helping to identify the environmental issues that the SEA will try to address.

Requirements of the SEA Directive:

The Environmental Report shall include information on "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' and 'any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC". (Annex I (b), (c) and (d)).

The Baseline information collated in relation to the County was originally presented in the SEA Scoping Report (July 2013). In light of consultation comments made, and to provide an up-to-date baseline, this information has been updated and is presented in full in Volume 2 (Appendix 4).

The baseline is also summarised below.

3.3.1 Biodiversity, Flora and Fauna

The area contains important protected sites for biodiversity. A significant proportion of the land in North Yorkshire is protected at European level under the Habitats Directive as a Special Area of Conservation (SAC) and/or under the Birds Directive as a Special Protection Area (SPA) for its nature conservation importance. A total of 102,100 hectares of land are designated as SAC and a total of 89,920 hectares are SPA.

At the national level, many parts of North Yorkshire are protected as Sites of Special Scientific Interest. These represent some of the country's best wildlife and geological sites. There are a total of 109,800 hectares of SSSIs within North Yorkshire, as shown in Figure 3. Of the total area, 18.95% of SSSIs are in favourable condition and 79.23% are in an unfavourable recovering condition.

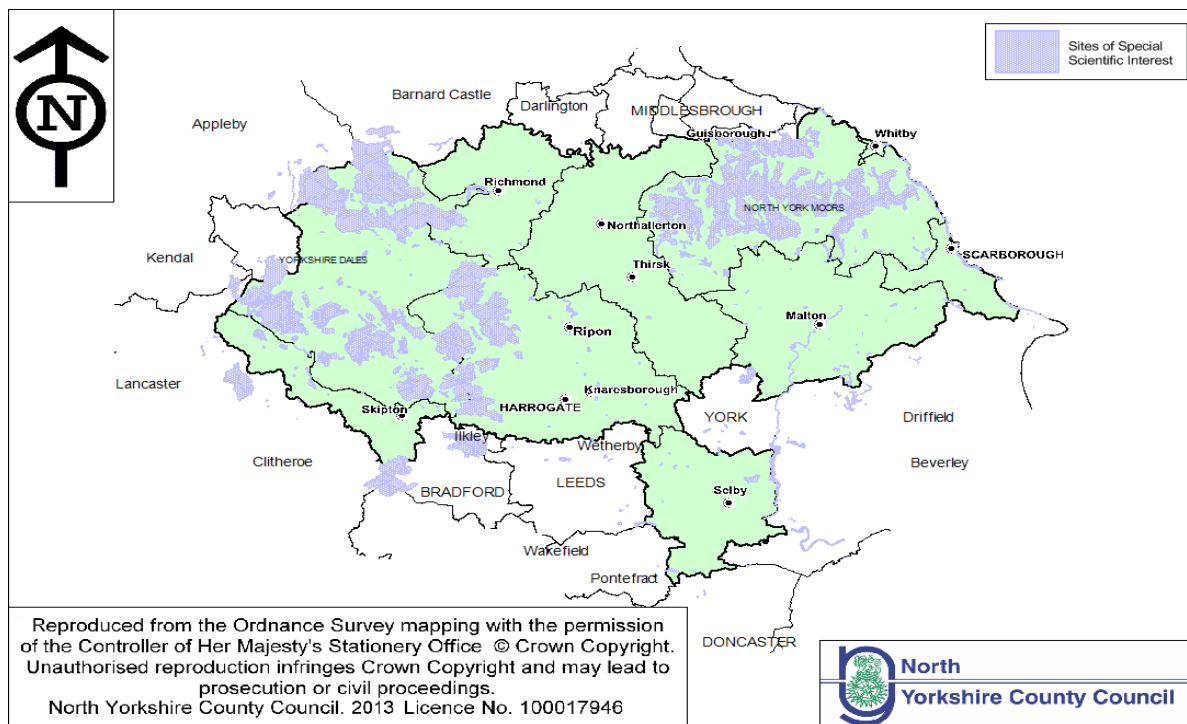


Figure 3: Sites of Special Scientific Interest

Outside of protected sites priority habitats and agri-environment schemes on farms support important wildlife. In England, the England Biodiversity Strategy sets a target to achieve no net loss of priority habitat and to increase their overall extent by at least 200,000 hectares by 2020. The distribution of UK BAP priority habitats in North Yorkshire can be seen on the MAGIC website, which is managed by Natural England and can be found at: <http://magic.defra.gov.uk/MagicMap.aspx>.

Figure 4 shows that there is a large proportion of land within North Yorkshire that is under an Environmental Stewardship scheme (68.4%), which includes: Entry Level Stewardship; Organic Entry Level Stewardship; and Higher Level Stewardship. Within North Yorkshire there are 3,734 schemes in place. The Common Agricultural Policy will be reformed post-2013, and we are currently in a period of transition between two Rural Development Programmes (one of which finished at the end of 2013, the other of which will begin in 2015) which means there is currently uncertainty surrounding how this may affect Environmental Stewardship schemes in the UK.

Protected sites, land in environmental management and priority habitats can all play a role in regulating the water cycle.

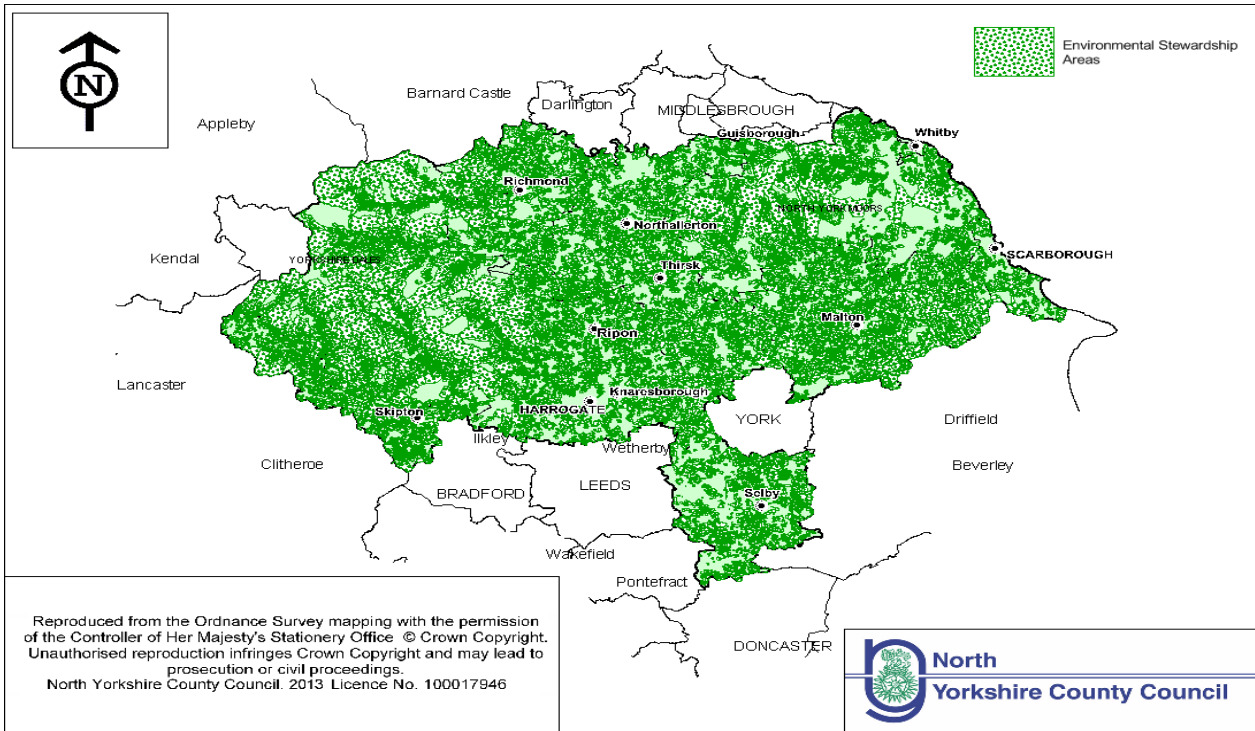


Figure 4: Environmental Stewardship Areas

Invasive species are non-native species which may cause harm to ecosystems. There are currently 30 species listed as high impact on the UKTAG list (compiled in January, 2014), of which 16 are listed as present inside North Yorkshire County (in May 2013), or within 10km of the county's boundary, and are found within freshwater habitats, or close to them. Invasive species may be a problem associated with managing water bodies.

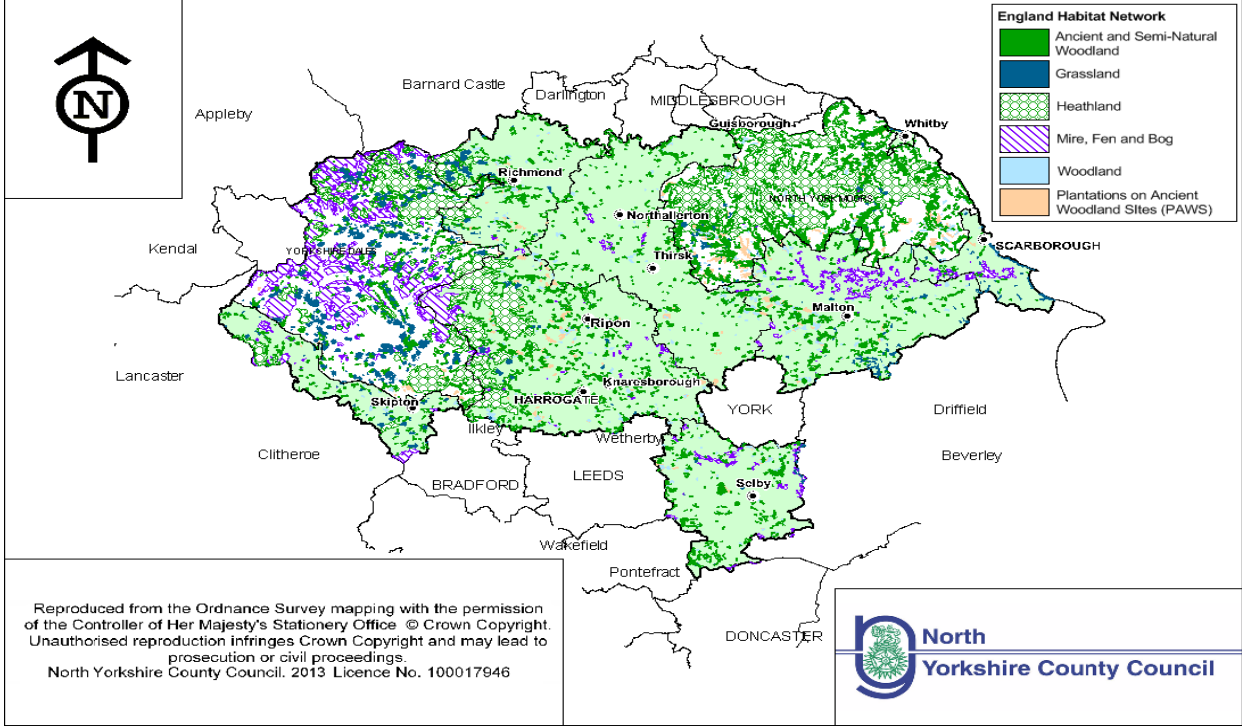


Figure 5: The England Habitat Network

Habitat networks are becoming increasingly important, particularly as the predicted effects of climate change include the increasing fragmentation of habitats. The England Habitat Network attempts to identify areas of functional connectivity of ecosystems across landscapes. Figure 5 shows the England Habitat Network in North Yorkshire.

3.3.2 Cultural Heritage and Landscape

There is a wealth of built and cultural heritage within North Yorkshire, ranging from castles and abbeys to ancient field systems, bridges and historic parks, as well as numerous important historic buildings and townscapes.

Within the county there are around 14,000 listed buildings. There are also a total of 1,736 Scheduled Monuments in North Yorkshire, as well as many thousands more archaeological sites and features. Many Heritage assets are defined as being ‘at risk’, as illustrated by Table 4.

Table 4: Heritage Assets at Risk

	Listed Buildings	Scheduled Monuments	Conservation Areas	Registered Parks and Gardens	Registered Battlefields
North Yorkshire	53	311	2	6	1

There are many other non-designated historic assets which are recorded on the Historic Environment Record. Around 45,000 assets in North Yorkshire are identified on the Historic Environment Record. There are particular concentrations of non-designated assets in areas such as the Vale of Pickering.

Heritage may be vulnerable to flooding where it lies in areas at risk.

The county has a rich and varied landscape, which falls within a number of National Character Areas. Each of the National Character Areas has been assessed in terms of their current condition: the North York Moors and Cleveland Hills, the Yorkshire Wolds and the Bowland Fells are ‘enhancing’, whilst the Tees Lowlands, Vale of Mowbray and Vale of York are classed as ‘neglected’. The rest of the plan area is either ‘maintained’ or ‘diverging’.

There are also important protected landscapes, including two national parks, within the LFRMS area, as shown in Figure 6.

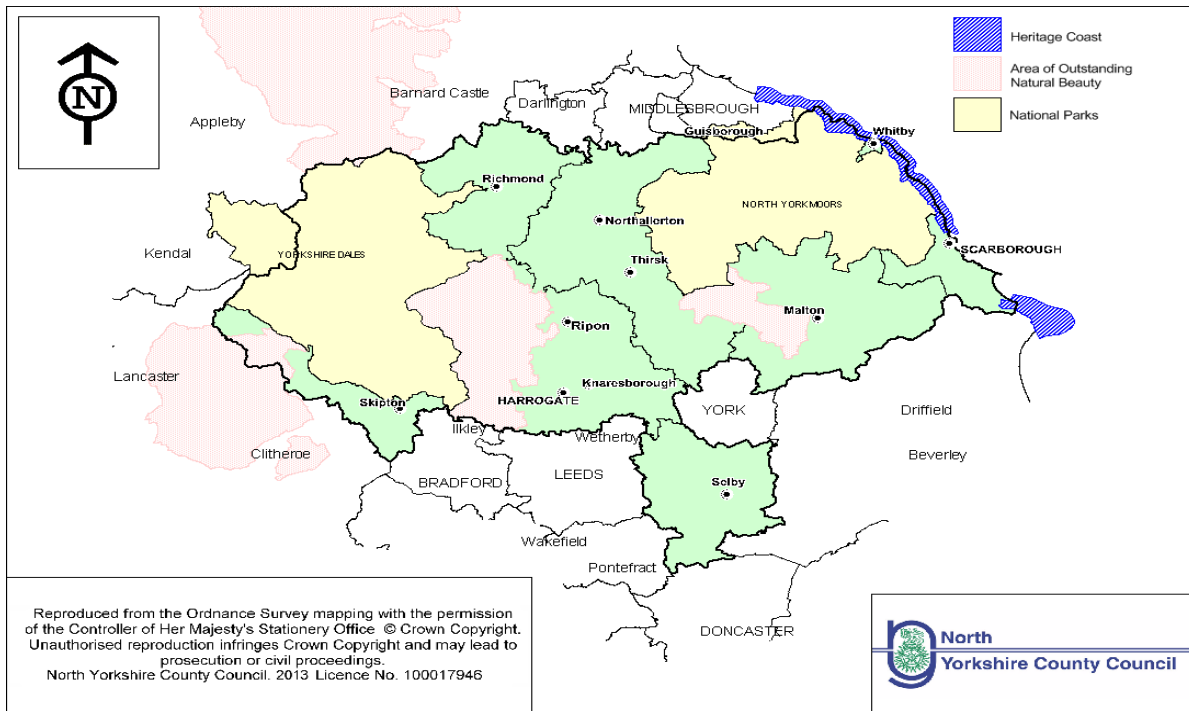


Figure 6: Protected Landscapes

3.3.3 Water and Soil

The quality and quantity of ground water resources is an important issue. Under the Water Framework Directive, good chemical and ecological status in inland and coastal waters must be achieved by 2015. North Yorkshire County falls within 10 catchments. Table 5 below shows the current overall (ecological and chemical) performance of water bodies in each of these catchments.

Table 5: Status of water bodies in catchments falling within or partly within North Yorkshire (2012)

Catchment	% of water bodies with 'good' status	% of water bodies with 'moderate' status	% of water bodies with 'poor' status
Aire and Calder	10.85	78.29	10.85
Derwent (Humber)	8.05	64.37	22.99
Esk and Coast	35.48	41.94	16013
Hull and East Riding	14.49	71.01	5.80
Swale, Ure, Nidd and Upper Ouse	21.86	51.56	16.41
Tees	36.84	41.29	18.42
Wharfe and Lower Ouse	22	66	10
Don	9.38	62.50	26.04
Lune	61.82	30.90	5.45
Ribble	28.43	62.74	6.86

Across North Yorkshire there are a variety of reasons why water bodies are failing to achieve good status. These include diffuse pollution from agriculture (e.g. the Esk and Coast, Swale, Ure,

Nidd and Upper Ouse, Wharfe and Lower Ouse and Tees), point source discharges from industry or sewage (e.g. Esk and Coast, Swale, Ure, Nidd and Upper Ouse, Aire and Calder and Tees), water industry storm discharges (e.g. Aire and Calder, Swale, Ure, Nidd and Upper Ouse) and physical modification to watercourses for reasons such as flood protection (e.g. Tees and Derwent).

Flooding affects many parts of the County, and there are key problems associated with surface water flooding, groundwater flooding, and flooding from rivers and the sea. Figure 7 shows the extent of flood zone 2 and 3 in the county, which show areas with a low to medium risk of flooding from rivers and the sea (flood zone 2), and high risk areas (flood zone 3).

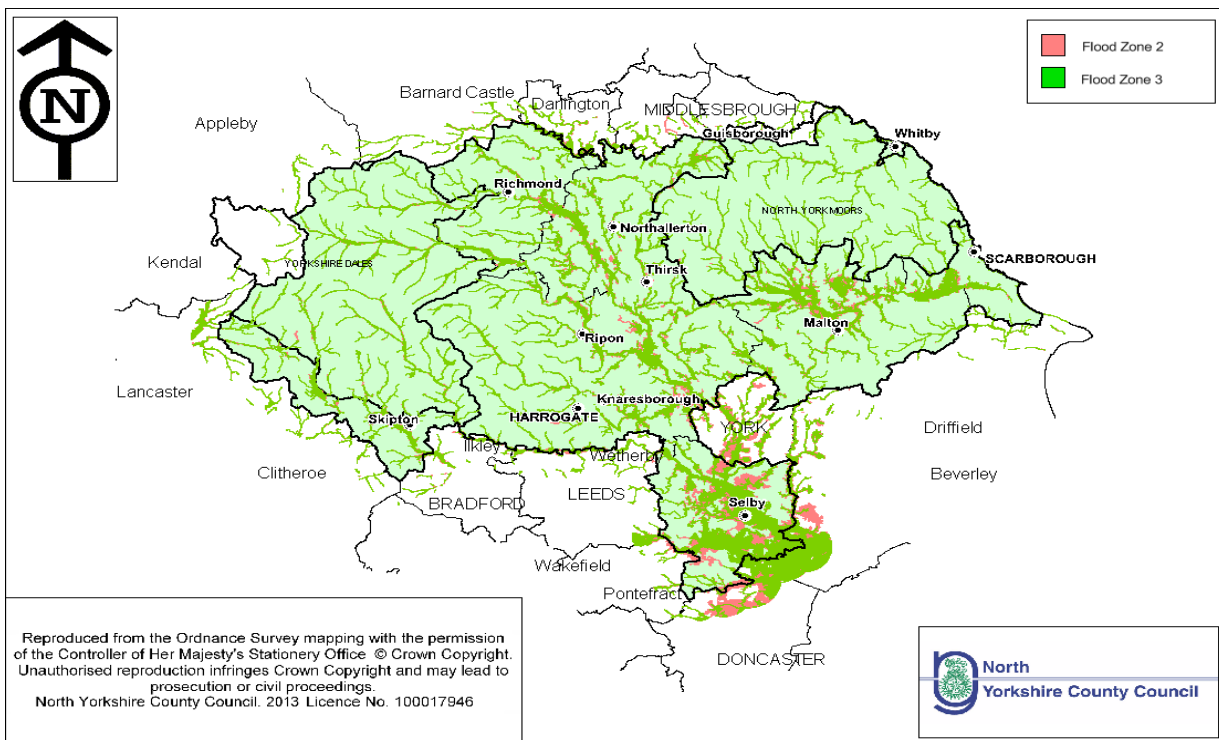


Figure 7: Extent of floodplains indicated by zones 2 and 3

Much of the county is made up of high quality farmland, though there are significant areas of poorer soils, particularly in uplands. Parts of the county are subject to issues such as soil erosion and compaction, which can increase flood risk in certain areas.

3.3.4 Climatic Factors

The most up to date projection of future changes to the climate for the UK are contained in the UK Climate Projections 2009 (UKCP09). The projections consider low, medium and high emissions scenarios to provide a range of projections for the 2020s, 2050s and 2080s in relation to summer temperature, summer rainfall, winter temperature and winter rainfall. In broad terms temperatures are expected to rise during both winter and summer, while less rainfall is expected to fall during the summer and more is expected during the winter.

Greenhouse gas emissions vary across the county with more urbanised districts tending to produce less CO₂ emissions per head. However, taken as a whole, North Yorkshire generates more carbon per head than England as a whole.

Land use can act as a net source of carbon dioxide, but in some areas, the way land is managed can soak up CO₂. Data from the Department of Energy and Climate Change show that land use in North Yorkshire is a net generator of carbon, but there is high variance, with one area, Richmondshire, acting as a net carbon sink for land use emissions.

3.3.5 Additional Environmental Issues

Tranquillity has been mapped for England by the Campaign to Protect Rural England (CPRE). The mapping shows relative levels of higher or lower tranquillity. The mapping is based upon factors which are considered to either contribute to or detract from tranquillity including remote and wild landscapes, streams and rivers and native trees (contributing factors) and urban development, people, power lines and traffic noise (detracting factors). Much of the county outside of towns and away from major roads, compared to surrounding more urban areas, is relatively tranquil. The most tranquil parts of the county are the most upland areas of the North York Moors National Park, the Yorkshire Dales National Park and the Nidderdale AONB.

Many Sites of Special Scientific Interest are designated because of their geological interest. Locally important geological sites may be called either Regionally Important Geological Sites or (using the more recent term) Local Geological Sites. Within North Yorkshire, there are 21,765 hectares of geological SSSIs, the majority of which are located within the Yorkshire Dales National Park (87%). Of the total area of SSSI, 34.3% are in 'favourable' condition, 61.7% are in 'unfavourable recovering' condition, 3.17% are in 'unfavourable no change' condition and 0.79% are 'declining'.

3.3.6 Population and Human Health

The population of the county was 598,400 in 2011. This is a 5% rise from the 2001 population of North Yorkshire, which was 569,660. Population change is not evenly spread across the county and Table 6, below, shows that recently the population of some parts of the county has been increasing whilst in some more rural areas it has been decreasing.

Table 6: Population Change in North Yorkshire

	2008	2009	2010	2011	% change
Craven	55,700	55,500	55,400	55,400	-0.5%
Hambleton	86,900	87,300	87,600	89,100	+2.5%
Harrogate	156,100	157,900	158,700	157,900	+1.2%
Richmondshire	51,400	52,800	53,000	52,000	+1.2%
Ryedale	53,300	53,600	53,600	51,800	-2.8%
Scarborough	108,500	108,500	108,600	108,800	+0.3%
Selby	81,600	82,200	82,900	83,400	+2.2%

Life expectancy at birth in the county is higher than the regional and national averages, as set out in Table 7 below. This varies across North Yorkshire and is higher in Craven, Hambleton and Ryedale than in those districts and boroughs with more urban areas.

Table 7: Life Expectancy at Birth

	Male	Female
North Yorkshire	79.7	83.5
Craven	80.2	84.2
Hambleton	81	84.2
Harrogate	79.6	83.8
Richmondshire	78.6	82.9
Ryedale	80.3	83.9
Scarborough	78.3	82.2
Selby	79.9	83.4
Yorkshire & Humber	77.7	81.8
England	78.6	82.6

With the exception of Scarborough borough, rates of mortality relating to coronary heart disease in all parts of North Yorkshire were lower than the regional average for the period 2005 to 2010. The provision of spaces for recreation plays an important role in keeping people active and healthy. As well as rights of way there are numerous open spaces and parks throughout the county.

Indices of deprivation measure a range of factors which can contribute to or detract from the quality of life of an area including employment, crime, access to services and health. Each local authority area in the country is ranked according to its overall level of deprivation – the lower the figure the higher the level of deprivation. Although most parts of the plan area are amongst the least deprived areas, within the rural parts of the county a key factor in deprivation is related to difficulty of access to services. Scarborough is ranked at 83 in the Indices of Deprivation, while Harrogate is ranked at 283.

297,500 people are in employment and 14,800 are currently unemployed in North Yorkshire. The County consistently has lower rates of unemployment than the Yorkshire and Humber Region and Great Britain, although there are variances between different parts of the county. Scarborough and Selby, although below the regional and national averages, have tended to have higher unemployment rates than other parts of the county.

3.3.7 Material Assets.

The county contains a number of strategic transport routes. The A1M is the main road route, crossing the centre of the county in a north-south direction. There are a number of A-roads linking the main settlements within North Yorkshire and linking the county with towns and cities beyond its boundaries.

York is a major hub in the rail network and the main east coast rail line passes through here and proceeds northwards through the county towards Darlington. There are also some branch lines linking settlements within North Yorkshire including the York to Scarborough line, the Leeds to Harrogate line, the Thirsk / Northallerton to Teesside line and the Esk Valley line.

The county is defined by a large number of agriculture, forestry and fishing Local Business Units¹⁴, with a total number of 5,735 recorded in the county in 2012/13.

3.4 Key Environmental Issues for North Yorkshire

Reviewing the PPPs and the baseline information and its likely evolution without the LFRMS highlights a number of environmental issues facing the County, as set out in Table 8. These issues are relevant to production of the LFRMS and are considered as part of the SEA process in the form of objectives, sub-objectives and indicators in the Environmental Assessment Framework.

Requirements of the SEA Directive:

The Environmental Report shall include information on “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’ and ‘any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC”. (Annex I (b), (c) and (d)).

Table 8: The environmental baseline key issues for the North Yorkshire Local Flood Risk Management Strategy

SEA Topic	Key Environmental Issues
Biodiversity, flora and fauna	<ul style="list-style-type: none"> • There are large numbers of nationally designated wildlife sites and significant areas of internationally designated wildlife sites in the county. • Outside of these areas there are large numbers and a wide distribution of locally important Sites of Importance for Nature Conservation, UK BAP priority habitats and Local Nature Reserves. • Much of the farmland in North Yorkshire is covered by some form of agri-environment scheme. • Despite the above characteristics of the county, many habitats in North Yorkshire are fragmented and isolated, and many are also at risk from flooding. Certain species, such as the Great Crested Grebe and other nesting water birds (including ducks and swans), wading birds (such as the Redshank), the common lizard, adder and tansy beetle are more vulnerable to flood events than other species. • Invasive species are an increasing threat to native wildlife. • Native species are also at risk from increased flooding. • Green infrastructure delivers an important role in flood alleviation. Upland habitats, such as blanket bog and heathland, as well as woodlands and grasslands all help in this ‘regulatory role’. However, as managed landscapes they are vulnerable to changes to land management that may lessen their contribution. • Green infrastructure and green space provides a number of functions, including

¹⁴ Local Business Units are defined by Defra as individual sites (i.e. factories, shops, farms) based on the IDBR Local Unit dataset. Further information can be found at: <http://www.ons.gov.uk/ons/about-ons/who-we-are/services/idbr/about-the-idbr/index.html>.

	<p>flood resilience. In addition, the LFRMS may enhance green infrastructure through land management practices. Key ecosystem services in the county include: regulating water flow and quality; regulating soil erosion and quality; provision of biomass energy and timber; water availability; food provision; climate regulation; regulation of coastal erosion; and cultural services such as the provision of a sense of history and recreational opportunities.</p> <ul style="list-style-type: none"> • Some species and habitats may also benefit from increased flooding.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Cultural Heritage and Landscape</p>	<ul style="list-style-type: none"> • The landscape of the county is varied, with parts which are relatively low lying, although variation in geology, soils, topography and historical factors have helped create a range of distinctive and valued landscapes. Some of these features could potentially be at risk from erosion due to increased rate of flow in rivers and streams and also from the 'land take' requirements of flood management/mitigation works themselves. • The North York Moors National Park and the Yorkshire Dales National Park make up a large part of the county and a significant portion of the county lies within Areas of Outstanding Natural Beauty or Heritage Coasts. • The green belt and designated landscape areas of the county provide vital green space and limit development which aids flood resilience. • North Yorkshire is rich in historic assets. • There are a large number of Listed Buildings. • Historic assets and Listed Buildings may be at risk from damage due to flooding and also from flood management/mitigation works. • The LFRMS will need to consider the settings of these assets as well as the protection of the assets themselves. • Whilst most designated assets in the area are not 'at risk', more than a third of the designated historic assets identified as being at risk in the region are in the county.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Water and soil</p>	<ul style="list-style-type: none"> • Long stretches of river catchments can be found in the county, all of which ultimately drain to the Humber Estuary, with the exception of the Esk and Tees. • Significant floodplains form around large parts of these rivers, becoming more significant as they travel south and east. • River Basin Management Plans set demanding targets for water quality across many water bodies; there are still significant numbers of water bodies at poor or bad status. The LFRMS may help RBMPs to meet their targets in cases where flood risk management enhances the status of water bodies. Conversely, some flood management works on water bodies may detract from the ambitions of the RBMPs. • Important groundwater resources are protected by Groundwater Source Protection Zones and significant areas are at risk from nitrates. • Flooding is already a problem in lower lying areas. However, climate change is likely to increase the risk of surface water and river flooding. Much of the county is made up of high quality farmland, though there are significant areas of poorer soils, particularly in uplands. • Poor land management and soil quality may increase the risk of flooding within certain areas. • Parts of the county are subject to issues such as soil erosion and compaction, which can increase flood risk in certain areas. • Areas of high soil carbon exist in the North York Moors and the Pennine uplands representing an important 'sink' for gases that cause climate change.

Climatic factors	<ul style="list-style-type: none"> ➤ Harrogate has the highest total emissions of CO₂, followed by Selby, although across the county total emissions are falling. ➤ Per capita emissions are falling, but remain highest in the more rural parts of the county. ➤ Climate change is likely to have a range impacts on North Yorkshire including increased flooding, damage to infrastructure and effects on food production. ➤ The LFRMS should be aware of the synergistic and/or cumulative effects that flood management works and other development may have on water levels and flow rates elsewhere in a catchment.
Population and human health	<ul style="list-style-type: none"> • There are many sparsely populated parishes and most settlements are relatively small. • The largest settlements are Selby, Harrogate and Scarborough, each with populations over 50,000. Most people, however, live outside of rural settlements. • Population of the county as a whole is increasing and is expected to continue to rise, but at a lower rate than the region as a whole • North Yorkshire as a whole has a higher proportion of older people than the region and nationally. In the future older people will form a larger proportion of the population. • Most districts receive a net inflow of new residents, though there is a net outflow in Craven; Harrogate and Richmondshire receive the most new residents. • Life expectancy is increasing in all districts in North Yorkshire, but there are significant geographical variations in both male and female life expectancy within the county; Scarborough is the only district with lower male and female life expectancy than England as a whole. • Scarborough has the highest rates of mortality from cancer and circulatory diseases. • Health and wellbeing may be affected by the negative health effects that flood events, and in particular, repeated flood events, can induce. • The county provides many opportunities for recreation and leisure including the North York Moors National Park, the Yorkshire Dales National Park and an extensive network of rights of way. • The natural environment and heritage are key attractions for recreation. • Since the economic downturn unemployment has risen across the county, though small declines in the jobless rate have been recorded in several districts more recently. • There is, however, a higher rate of economically active people in the county than for the region and England. • In Yorkshire as a whole, more than 1 in 10 people feel that they are underemployed. • There are a large number of agricultural businesses within the County, many of which could be at risk of reduced profits and insolvency due to the potential impact of flooding.
Material assets	<ul style="list-style-type: none"> • The most significant transport corridors run north to south and include the A1, A19 and East Coast mainline. • There are no airports and relatively few stretches of canal in the County. However three airports lie within close range of the County, and there are major seaports nearby on the Tees and Humber. • Critical infrastructure, vital to the county's economy, wellbeing and vitality may be at risk from flooding. • The County is largely rural, and contains large areas of farmland that are used for food production.

Additional environmental	<ul style="list-style-type: none"> • The county has a wealth of geological interest. • Strategies and measures outlined in the LFRMS should take account of geodiversity, tranquillity and the marine and coastal environment and exploit the potential beneficial impacts that it may have on these features. • Wherever possible, plans and projects should work with natural processes, particularly on the coast.
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Consultation Question 2. Have we identified the correct 'key issues' for North Yorkshire?

3.5 The Environmental Objectives and Framework

The development of the SEA framework, which contains a number of environmental objectives, sub-objectives and indicators, was the main output of the scoping stage (Stage A) of this Strategic Environmental Assessment.

The purpose of the SEA objectives is to ensure that all relevant environmental issues are taken into account in an integrated and balanced way and allow decision-makers to evaluate the impacts of strategies in a coherent manner.

Environmental Objectives have been derived from review of the key environmental issues (see Table 3 above), which in turn have come about through analysis of PPPs and the baseline. In addition to this, following consultation of the SEA Scoping Report and Framework, the environmental objectives, sub-objectives and judgement indicators have been further revised, while care has been taken to ensure that the topics identified for consideration by the SEA Directive have been fully considered¹⁵. These topics, for ease of recognition, are listed in the first column of the Framework.

Readers will note the absence of the SEA topic 'air'. This topic was screened out at the scoping stage as no significant environmental effects on air resulting from the LFRMS are considered likely.

The Strategic Environmental Assessment Framework is presented in Table 9, below.

¹⁵ Annex 1 of the SEA Directive “The information to be provided under Article 5(1), subject to Article 5(2) and (3), is the following:..... (f) the likely significant effects (1) on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;.....” Article 5 pertains to the Environmental Report.

Table 9: Strategic Environmental Assessment Framework

SEA			
Population and Human Health	<p>1. To minimise flood risk and to reduce the impact of flooding.</p>	<p>-To raise awareness amongst public and businesses of the potential for flooding and its likely effects.</p> <p>-To promote opportunities for sustainable flood alleviation, working with natural processes and systems where possible.</p> <p>-To reduce the number of people and properties at risk of flooding.</p>	<p>1. Proportion of households in at-risk areas that have been made aware of flood risk (NYCC).</p> <p>2. Proportion of businesses in at risk areas that have been made aware of flood risk (NYCC).</p>

¹⁶ Judgement indicators refer to potential sources of information that the assessors will take into consideration when making judgements. These are separate to the monitoring indicators which are set out in Table 15.

SEA			
Biodiversity, Fauna and Flora	<p>2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.</p>	<ul style="list-style-type: none"> -To use natural systems and processes in order to enhance habitat networks (including connectivity) and biodiversity, including national and local targets for priority species and habitats. -To protect and where possible, enhance designated nature conservation sites and protected species. -To protect and enhance riparian, wetland and floodplain habitats -To avoid damage to designated, regional and local geological assets. -To recognise and seek to enhance the natural environment to deliver ecosystem services 	<ol style="list-style-type: none"> 1. Total area of SSSI in favourable and unfavourable recovering condition (Natural England). 2. Area of UK BAP Priority Habitat created as part of flood management (Natural England and NYCC). 3. Proportion of Local Sites where positive conservation management is being, or has been implemented (NYCC). 4. Number of County Matters developments and schemes employing sustainable drainage which deliver ecological and amenity benefits (NYCC).

SEA			
Water	<p>3. To enhance or maintain water quality and improve efficiency of water use.</p>	<p>-To ensure that Water Framework Directive status objectives for surface and groundwater are not compromised by maintaining or improving upon the quantitative, ecological and chemical status of water bodies.</p> <p>-To ensure that Water Framework Directive standards for protected areas are complied with.</p> <p>-To reduce pollution of surface waters and groundwater.</p> <p>.</p>	<p>1. Number of water bodies reported with a deterioration in status in River Basin Management Plans (Environment Agency).</p> <p>2. Percentage of water bodies achieving GES (Good Ecological Status) or GEP (Good Ecological Potential) in River Basin Management Plans (Environment Agency).</p> <p>3. Percentage of surface water bodies achieving good chemical status in River Basin Management Plans (Environment Agency).</p> <p>4. Groundwater bodies achieving good quantitative status? Reported in River Basin Management Plans (Environment Agency).</p> <p>5. Number of occurrences where the LFRMS objectives/measures impact on Natura 2000 sites. Reported in HRA (NYCC).</p>
Material Assets	<p>4. To safeguard and use soil and land efficiently.</p>	<p>-To conserve and enhance soil resources and quality.</p> <p>-To promote good land management practices That increase flood resilience</p>	<p>1. Farms in agri-environment schemes (Defra)</p> <p>2. Land use on commercial agricultural holdings (June Survey) (area of permanent grassland and woodland) (Defra)</p> <p>3. Number of flood management schemes reporting loss of Best and Most Versatile land in EIAs (NYCC)</p>

SEA			
Cultural Heritage and Landscape	<p>5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.</p>	<p>-To ensure that the landscape character of North Yorkshire (including the national parks, AONBs and heritage coast) is conserved and where possible, enhanced.</p> <p>-To protect and where possible, enhance elements, including setting, which contribute to the significance of:</p> <ul style="list-style-type: none"> • World Heritage Sites • Scheduled Monuments • Archaeological Features • Listed buildings • Historic parks and gardens • Historic battlefields • Conservation Areas <p>-To minimise the harm which flooding causes to the significance of heritage assets.</p>	<p>1. Buildings, scheduled monuments, conservation areas, registered parks and gardens, registered battlefields 'at risk' as defined by the Heritage at Risk Register (English Heritage).</p> <p>2. Number of Heritage Assets on the 'at risk' register where flooding is cited as a reason for that site being at risk.</p> <p>3. Number of planning conditions related to visual amenity for flood risk management works (NYCC).</p> <p>4. Number of planning conditions related to visual amenity for flood risk management works located in the green belt/designated landscapes/conservation areas (NYCC).</p>

SEA			
Climatic Factors	6. To reduce the causes of climate change and to respond and adapt to the effects of climate change.	<p>-To ensure that flood risk management and mitigation strategies in the LFRMS take into account the effects of climate change.</p> <p>-To ensure that the LFRMS includes climate adaptation measures when taking into account future flood risk.</p> <p>-Ensure 'sustainable adaptation'¹⁷ is taken into account when planning flood risk management and mitigation strategies, particularly on the coast, where adaptation should include natural coastal processes, wherever possible and in-line with SMP policies.</p>	<ol style="list-style-type: none"> 1. Emissions of CO₂ per capita by Local Authority (excluding LULUCF¹⁸) (DECC). 2. Land use change CO₂ emissions per capita by Local Authority (DECC)¹⁹. 3. UKCP climate change scenarios ²⁰(UKCP). 4. Mapped extent of Flood Zones under Climate Change as reported in available NY Strategic Flood Risk Assessment (NYCC).

¹⁷ Sustainable Adaptation has been defined by Natural England. According to Natural England 'It is important that any adaptation action is sustainable. This means that any response by society should not actually add to climate change, cause detrimental impacts or limit the ability or other parts of the natural environment society or business to carry out adaptation elsewhere' (Natural England, undated. Sustainable Adaptation [URL: naturalengland.org.uk/ourwork/climateandenergy/climatechange/adaptation/sustainable.aspx].

¹⁸ LULUCF relates to emissions from Land Use, Land Use Change and Forestry.

¹⁹ There is a time lag between publication of the DECC carbon statistics at local authority level and the present year, such that 2010 figures were published in 2012.

²⁰ Changes to precipitation and temperature to be recorded in line with latest available data.

SEA			
Population and Human Health	<p>7. To protect and where possible, improve the wellbeing, health and safety of local communities.</p>	<ul style="list-style-type: none"> -To improve health and wellbeing of local communities. -To maintain and where possible, increase access to the public rights of way network and the wider countryside. -To provide opportunities for people to access the natural environment. -To ensure the safety and security of local people through flood management and reduction of flood risk. -To ensure that water pollution does not pose unacceptable risks to health. -To enable the community to contribute to and have influence in decision making on flood risk management and mitigation. 	<ol style="list-style-type: none"> 1. Total area benefitting from flood defences (Environment Agency) 2. Total number of properties with reduced flood risk with implementation of the LFRMS (NYCC). 3. Number of consultation responses to LFRMS and SEA (NYCC). 4. Number of Communities with active resilience plans, and flood groups (NYCC). 5. Hits on FRM information webpages (NYCC).

SEA			
Material Assets	8. To conserve and protect important and essential material assets and infrastructure.	<p>-To reduce the risk to main transport routes from the risk of flooding.</p> <p>-To reduce the risk to critical infrastructure from the risks of flooding.</p> <p>-To encourage the use of sustainable methods of flood risk management.</p> <p>-To promote the efficient use of resources when carrying out flood management works.</p>	<p>1. Number of SUDS applications received by SUDS approval body after 2014 (NYCC).</p> <p>2. Number of Flood Risk Assessments Received by Local Planning Authorities for:</p> <ul style="list-style-type: none"> - Road and Rail infrastructure -Energy infrastructure -Waste management infrastructure -Telecommunications (NYCC / further survey) <p>3. Number of Flood Risk Assessments / Flood Evacuation Plans for sewage treatment works / infrastructure (NYCC / further survey)</p>

Consultation question 3: Are there any more issues that you would like us to address through the SA Framework?

4 Reasonable Alternatives

The SEA Directive requires that the likely significant effects of implementing the LFRMS including reasonable alternatives to it are identified, described and evaluated. This section of the Environmental Report discusses the alternatives that have been considered in this assessment.

Requirements of the SEA Directive

Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated.

The Environmental Report must include 'an outline of the reasons for selecting the alternatives dealt with.'

4.1 Consideration of the Main Strategic Alternatives to the LFRMS Objectives and Actions

To generate realistic options, the Practical Guide to the Strategic Environmental Assessment Directive²¹ suggests that the Environmental Report should determine the alternatives and effects that it will assess and what level of detail to present. These alternatives will then be tested against the SEA objectives for synergies and inconsistencies, using the baseline as a comparator. The baseline data and information for the LFRMS (see Volume 2) provides this information.

In the scoping report for this SEA a number of strategic alternatives were presented and consulted upon:

- Reliance on statutory guidance (business as usual);
- A 'do nothing' approach; and
- Assessment of the implementation of the LFRMS objectives and measures.

During the writing of this report further consideration of these alternatives has been undertaken. This has concluded that, in the context of Local Flood Risk Management, it would be difficult to define a 'business as usual' approach. This is because:

- The statutory environment has evolved considerably in recent years, and, since the advent of the Local Flood and Water Management Act, the application of a Local Flood Risk management Strategy has been fundamental to the objectives of local flood management, so it is difficult to present a realistic scenario where business as usual could mean anything other than implement the requirements of the Local Flood and Water Management Act;
- Not implementing the Local Flood and Water Management Act would mean that the Lead Local Flood Authority would be in contravention of the Act.

²¹ DCLG, Scottish Executive, Welsh Assembly Government and Department for the Environment Northern Ireland, 2005.

Because of this, we do not consider ‘Reliance on Statutory Guidance (business as usual) to be a reasonable alternative to implementing the Local Flood Risk Management Strategy and we have, therefore, not given it any further consideration in this report.

A ‘do nothing’ approach could also be discounted as an unreasonable alternative as to do nothing would also be to contravene the Local Flood and Water Management Act. However, it is useful to provide a comparator assessment of how the baseline to the SEA would evolve in the absence of a Local Flood Risk Management Strategy to calibrate the environment effects of implementing the LFRMS. It may also be possible to *not* implement individual strategic actions, or to develop bespoke alternative approaches, if the negative effects of those actions are considered to be significantly worse than doing nothing.

We have applied this assessment at the level of strategic actions to show how the actions compare to the do nothing scenario. We have not considered the do nothing scenario at the strategic objectives level as it was considered that the broad nature of the objectives would make it difficult to clearly differentiate between the environmental effects of implementing the LFRMS strategic objectives and the do nothing scenario.

Table 10, below gives more detail on each of the alternative scenarios investigated.

Table 10: Alternative scenarios considered in this SEA

Alternative	Scenario Explanation
Assessment of the implementation of the LFRMS objectives and measures	This scenario involves strategic consideration of the 6 high level objectives of the LFRMS and a more detailed assessment of 17 strategic ‘actions’.
A ‘do nothing’ approach	Under this scenario it is assumed that no action would be taken to implement the individual actions of the LFRMS. The do nothing approach could thus be considered as an approach where individual actions are potentially omitted from the LFRMS.

4.2 The Preferred Alternative

The assessments of LFRMS strategic actions against the SEA objectives compared to the assessments of the identified strategic alternative of ‘do nothing’ reveals that, in broad terms, the implementation of the LFRMS would result in more positive environmental impacts than the ‘do nothing scenario’.

The sections that follow document the findings of the assessment process, including how environmental effects are likely to occur and the potential mitigation that could be applied.

5. Testing the Local Flood Risk Management Strategy against the SEA Objectives

The environmental effects of implementing the objectives and actions of the LFRMS are evaluated here in order to fulfil requirements of Article 5.1 and Annex I (f) of the SEA Directive²².

Requirements of the SEA Directive:

“... an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated” (Article 5.1).

5.1 Compatibility of LFRMS Objectives and SEA Objectives

The LFRMS Policy Framework sets a strategic framework for managing flood risk across North Yorkshire and sets out six objectives to help secure effective flood risk management in North Yorkshire. These objectives are supported by an action plan which sets out the practical measures that will be delivered in order to implement the strategy. Due to the strategic nature of the LFRMS objectives, the purpose of this assessment is to present a high level test of the LFRMS objectives against the SEA framework in order to highlight the potential synergies and incompatibilities that exist. The action plan captures the tasks and activities that will be implemented in order to meet the objectives and these actions are considered in more detail in Section 5.2 below.

The six LFRMS objectives are as follows:

1. A greater role for communities in managing flood risk
2. Improved knowledge and understanding of flood risk and management responsibilities within NYCC and amongst partners, stakeholders, communities and the media
3. Sustainable and appropriate development utilising sustainable drainage where ever possible
4. Improved knowledge of watercourse network and drainage infrastructure
5. Flood risk management measures that deliver social, economic and environmental benefits
6. Best use of all potential funding opportunities to deliver flood risk management measures

Table 11: Assessment of LFRMS Objectives against SEA Objectives

	SEA Objective							
LFRMS Objective	1	2	3	4	5	6	7	8

²² Annex I (f) of the SEA Directive requires that the likely significant effects (including secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects) on the environment (covering issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape and the interrelationship between these factors) are provided in the Environmental Report.

1. A greater role for communities in managing flood risk	++	?	?	?	?	++	+	+
2. Improved knowledge and understanding of flood risk and management responsibilities within NYCC and amongst partners, stakeholders, communities and the media.	++	+	+	+	+	++	+	+
3. Sustainable and appropriate development utilising sustainable drainage where ever possible	++	+	+	+	+	++	+	+
4. Improved knowledge of watercourse network and drainage infrastructure	++	+	+	+	+	++	+	+
5. Flood risk management measures that deliver social, economic and environmental benefits	++	+	+	+	+	++	++	+
6. Best use of all potential funding opportunities to deliver flood risk management measures	++	+	+	+	+	++	++	+

	Significance
++	The objective is predicted to have major positive effects on the baseline and the achievement of the SEA objective.
+	The objective is predicted to have minor positive effects on the baseline and the achievement of the SEA objective.
0	The objective will have a neutral effect ²³ on the baseline and the achievement of the SEA objective.
-	The objective is predicted to have minor negative effects on the baseline and the achievement of the SEA objective.
--	The objective is predicted to have major negative effects and the achievement of the SEA objective.
?	The effect of the objective on the baseline/SEA objective is uncertain.

It is clear from the assessment presented in Table 11, that the objectives of the LFRMS are considered to have a potentially positive relationship with many of the SEA objectives. In some cases this is a major and direct positive relationship. All of the LFRMS objectives seek to

²³ A 'neutral effect' is defined as an effect where either no impact has occurred, or an effect where the positive and negative aspects of an action cancel each other out.

minimise flood risk and to reduce the impact of flooding resulting in a predicted major positive effect on the achievement of SEA objective 1. Better flood risk management is an effective method of adapting to the effects of climate change and minimising the flood risk to communities therefore improving their wellbeing, health and safety. For this reason a number of the LFRMS objectives are assessed as having a potential major positive effect on the achievement of SEA objectives 6 and 7 also. A number of the LFRMS objectives focus on improving knowledge and understanding and securing funding in order to implement flood management measures. These objectives have the potential to lead to positive indirect effects on several of the SEA objectives as they will enable the delivery of flood risk management interventions which may in turn result in environmental benefits. There are several areas of uncertainty that have been identified at this strategic level in relation to LFRMS objective 1 as further detail regarding the role that local communities would take in relation to flood risk management would be required in order to establish the impact that this would have on biodiversity, water quality, soil and other environmental receptors.

5.2 Testing the Action Plan

Here, the LFRMS Action Plan is assessed for likely significant effects on the environment through a compatibility test with the SEA objectives.

Each LFRMS action is considered in turn, and measures of significance derived from consideration against SEA objectives, sub objectives and indicators (using the SEA Framework in Section 3) have been assigned for each LFRMS action. The results are recorded in appraisal matrices (see Appendix 1 for the full matrices) and are summarised below.

Effects have been considered for three timescales: short term (0-3 years from strategy adoption), medium term (3-10 years from strategy adoption) and long term (over 10 years after strategy adoption). Direct and indirect effects have been considered in the appraisal of each action and have helped inform the measure of significance assigned. Cumulative and synergistic effects with other objectives are also considered and summarised at the end of each matrix.

The significance of predicted environmental effects is recorded using the following criteria:

Table 12: Significance Criteria Used in the Strategic Environmental Assessment

Score	Significance
++	The action is predicted to have major positive effects on the baseline and the achievement of the SEA objective.
+	The action is predicted to have minor positive effects on the baseline and the achievement of the SEA objective.
0	The action will have a neutral effect ²⁴ on the baseline and the achievement of the SEA objective.
-	The action is predicted to have minor negative effects on the baseline and the achievement of the SEA objective.
--	The action is predicted to have major negative effects and the achievement of the SEA objective.
?	The impact of the action on the baseline/SEA objective is uncertain.

²⁴ A 'neutral effect' is defined as an effect where either no impact has occurred, or an effect where the positive and negative aspects of an action cancel each other out.

5.3 The Environmental Effects of the Action Plan

While the detailed appraisal matrices are contained in Appendix 1, the appraisal of each action, alongside the ‘do nothing’ alternative, is summarised below.

Action 1: Collate and analyse data on predicted and actual surface water flooding based on most recent EA modelling data.

Scenario	SEA Objective								
	1	2	3	4	5	6	7	8	
Implement the LFRMS	Short term	+	0	0	0	0	+	+	+
	Medium term	+	0	0	0	0	+	+	+
	Long term	+	0	0	0	0	+	+	+
Do nothing (i.e. no local analysis of surface water flooding at a strategic level)	Short term	-	0	0	0	0	-	-	-
	Medium term	-	0	0	0	0	-	-	-
	Long term	-	0	0	0	0	--	-	-

Summary of significant effects

This LFRMS action performs broadly positively against half of the SEA objectives, while it has no relationship with the others. This is because the analysis of predicted and actual surface water flooding based on the most recent modelling data, will improve knowledge, understanding and prediction of surface water flooding thereby improving the adaptive capacity of communities to climate change and reducing the impact of flooding. This in turn will lead to positive benefits on the wellbeing and health and safety of communities and will help to protect/ minimise impact upon essential infrastructure during surface water flooding events.

Under a scenario of ‘do nothing’ significant negative effects are expected under a number of objectives. This is because no strategic analysis would be carried out on surface water modelling data, though it is still likely that, as the Environment Agency data would still exist at a national level, development and flood risk management measures that come on stream will still utilise this data on a site by site basis (e.g. through the Flood Risk Assessment requirement for planning applications). In particular, without strategic analysis, surface water management interventions would not be based on the latest available information, increasing the prospect of flooding occurring and affecting human and infrastructure receptors. Lack of information may also reduce the adaptive capacity of communities to climate change, a situation that would get worse over time.

Action 2: Develop standards, guidance and processes required to implement Schedule 3 of FWMA (SuDS and SABs)

Scenario	SEA Objective								
	1	2	3	4	5	6	7	8	
Implement the LFRMS	Short term	+	+	+	+	+	+	+	+
	Medium term	++	++	++	+	+	++	+	++
	Long term	++	++	++	+	+	++	+	++
Do nothing (i.e. do not develop the standards, guidance and processes required to implement Schedule 3 of FWMA)	Short term	-	0	-	-	0	-	-	-
	Medium term	--	0	-	-	0	--	-	-
	Long term	--	0	--	-	0	--	-	--

Summary of significant effects

Universally positive effects are associated with this LFRMS action as it enables the implementation of Schedule 3 of the FWMA which aims to increase the use of SuDS by establishing standards, guidance and processes. The predicted positive effects reflect the multi-functional nature of SuDS with benefits ranging from flood protection to climate adaptation, water quality improvement and benefits for wildlife.

Under a scenario of 'do nothing' significant negative effects are expected under a number of objectives. This is because this scenario would rely on the current planning system/guidance in relation to SuDS which is proving insufficient to mitigate increasing flood risk from surface runoff as highlighted in the Pitt Review. It is estimated that drainage that can loosely be described as sustainable is currently being built in 40% of new developments under existing planning policies however a lack of consistent standards and coherent arrangements for the adoption and maintenance of SuDS, means that in some cases the lack of maintenance has increased the risk of flooding²⁵. It is clear that the 'do nothing' scenario will not aid the minimisation of flood risk (in some cases it will lead to an increase in flood risk), the improvement of water quality or adaptation to climate change. As projections have predicted that flood damage from surface runoff may increase between 60-220% over the next 50 years²⁶, it is anticipated that negative impacts may worsen in the medium to long term as flood risk increases and the effects of climate change become more apparent. The continued reliance on the current planning system/guidance in relation to SuDS is not considered likely to result in negative effects on biodiversity, cultural heritage and landscape although it is also not anticipated to lead to significant enhancements to these receptors and therefore a neutral result has been recorded here.

Action 3: Provide input to local plans and respond to requests for input on planning consultations

²⁵ Defra (2011) Implementation of the Sustainable Drainage Provisions in Schedule 3 to the Flood and Water Management Act (2010) Annex F: Impact Assessment. Defra, London.

²⁶ Ibid.

Scenario	SEA Objective								
		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0	+/0	+/0	+/0
	Medium term	++	0	0	0	0	+	+	+
	Long term	++	0	0	0	0	+	+	+
Do nothing (i.e. no additional input to local plans or planning consultations)	Short term	0/-	0	0	0	0	0/-	0	0
	Medium term	0/-	0	0	0	0	0/-	0	0
	Long term	0/-	0	0	0	0	0/-	0	0

Summary of significant effects

The implementation of this LFRMS action is predicted to result in positive impacts in relation to SEA objectives 1,6,7 and 8 as providing input to local plans and responding to planning consultations will ensure that flooding and flood risk are taken into consideration in relation to new developments/changes in land use. Consideration of flooding at the planning stage is anticipated to reduce the impact of flooding and to minimise flood risk to communities, businesses and critical infrastructure. This is anticipated to become more effective in the medium and long term as plans become adopted and the resulting developments from planning consultations are built/in operation.

Under a scenario of 'do nothing' it is considered that effects would be broadly neutral. This is because other processes/assessments would still be in place in order to ensure that flooding is considered in the planning process such as strategic flood risk assessment in the case of local plans and site specific flood risk assessment in the case of planning applications. The Environment Agency would also continue to carry out their consultation role as a statutory body. It is considered that minor negative effects may occur in relation to SEA objectives 1 and 6 as specialist and site-specific flood knowledge/assessment may not be passed on to the Council's planning team.

Action 4: Develop and implement a prioritised programme of flood alleviation projects

Scenario	SEA Objective								
		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	+/?	+	+	+/?	+	+	+
	Medium term	++	+/?	++	++	+/?	++	++	++
	Long term	++	+/?	++	++	+/?	++	++	++
Do nothing (i.e. do not develop and implement further flood alleviation projects)	Short term	-	-/+	-	-	-	-	-	-
	Medium term	--	-/+	-	-	-	-	-	-
	Long term	--	-/+	--	--	--	--	--	--

Summary of significant effects

The implementation of a prioritised scheme of flood alleviation projects is anticipated to have a major positive impact upon SEA objectives 1,3,4,6,7 and 8 as it would lead to a decrease in flood risk and the impact of flooding, resulting in positive impacts on water and soil quality, wellbeing and safety of local communities, the conservation and protection of material assets and infrastructure and adaptation to climate change. Although the implementation of flood alleviation schemes may lead to positive impacts for biodiversity, cultural heritage and landscape also, depending on the method of flood alleviation utilised (i.e. if hard engineering options are implemented) negative impacts may result. Therefore a result of uncertainty is recorded alongside positive effects for these objectives until further information regarding the nature of flood alleviation works is available.

The 'do nothing scenario' is likely to result in negative consequences as more land floods. For biodiversity there will be both negative (washed away habitats, pollution episodes etc.) and positive (more standing water presenting feeding opportunities for some species) effects. The negative effects are likely to intensify in the long term as the effects of climate change become more evident.

Action 5: Develop and maintain a Prioritisation Tool as a fair and equitable method of allocating limited budgets and resources for investigations and works

Scenario	SEA Objective								
	1	2	3	4	5	6	7	8	
Implement the LFRMS	Short term	+	0	0	0	0	+	+	+
	Medium term	++	0	0	0	0	++	++	++
	Long term	++	0	0	0	0	++	++	++
Do nothing (i.e. do not develop a prioritisation tool in order to allocate budgets and resources)	Short term	-	0	0	0	0	-	-	-
	Medium term	-	0	0	0	0	-	-	-
	Long term	-	0	0	0	0	-	-	-

Summary of significant effects

Although the prioritisation of budgets and resources for investigations and works is not considered of relevance to the achievement of several SEA objectives, it undoubtedly helps target resources at those areas and communities most vulnerable to flooding and at vulnerable infrastructure / material assets. This will improve the health and wellbeing of affected communities/business owners and can broadly be seen to be positive in terms of adaptation to climate change.

The 'do nothing' scenario has the potential to lead to less rational and fair distribution of budgets and resources for flood interventions which would therefore not necessarily target the most vulnerable areas/communities. This may lead to negative effects as key receptors for flooding, including vulnerable communities and critical infrastructure are left without the required interventions.

Action 6: Develop a protocol and process for the recording and monitoring of assets implicated in significant local flood risk

Scenario	SEA Objective								
		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0/+	0/+	0/+	0/+
	Medium term	++	0	0	0	+	+	+	+
	Long term	++	0	0	0	+	+	+	+
Do nothing (i.e. do not develop a protocol and process for the recording and monitoring of assets implicated in significant local flood risk)	Short term	0/-	0	0	0	0/-	0/-	0/-	0/-
	Medium term	0/-	0	0	0	0/-	0/-	0/-	0/-
	Long term	0/-	0	0	0	0/-	0/-	0/-	0/-

Summary of significant effects

The implementation of this action is likely to have a positive impact upon the achievement of SEA objectives 1,5, 6,7,and 8 as effective recording and monitoring of assets implicated in significant local flood risk will enable NYCC to better manage/adapt to flood risk in the future and to decrease the impacts of flood events when they do occur through the prioritisation of investigations, funding and assistance to the areas at the most significant risk. This will result in a minor positive impact upon the wellbeing and health and safety of communities and the protection of townscapes/heritage assets and critical infrastructure/material assets.

The ‘do nothing scenario’ is likely to result in a neutral or minor negative impact in relation to the SEA objectives. This is because inefficiency/inaccuracy in the recording and monitoring process that may occur in the absence of a clear protocol/process may make it more difficult to identify and prioritise the areas/ assets in greatest need.

Action 7: Create Operational Catchment Plans – providing a high level assessment of flood risk and risk management actions/measures for each catchment within NYCC authority area

Action 8: Work with neighbouring LLFAs to create/provide input to Operational Catchment Plans for those catchments which cross into other authority areas – providing a high level assessment of flood risk and risk management actions as appropriate

Assumptions: This assessment assumes that the catchment plans are consistent with the strategic level LFRMS.

Scenario	SEA Objective								
	1	2	3	4	5	6	7	8	
Implement the LFRMS	Short term	0/+	0	0	0	0	0/+	0/+	0/+
	Medium term	++	+/?	0/+	0/+	+/?	+	+	+
	Long term	++	+/?	0/+	0/+	+/?	+	+	+
Do nothing (i.e. do not prepare Operational Catchment Plans)	Short term	0	0	0	0	0	0	0	0
	Medium term	-	0	0	0	0	-	-	-
	Long term	-	0	0	0	0	-	-	-

Summary of significant effects

The implementation of this action is likely to have a positive impact upon the achievement of SEA objectives 1,6,7,and 8 as the creation of Operational Catchment Plans will enable the identification and implementation of the most appropriate and effective flood reduction actions/measures for each catchment. Assessment of flood risk by catchment will also aid prioritisation of the areas that are most at risk and therefore where funding/resources could most effectively be used. Effects have been recorded as neutral/minor positive in the short term for these objectives as the timescale for completion of these plans is 2015 and any positive effects associated with their production will occur after this time. It is considered that minor positive impacts may also occur in relation to objectives 2,3,4 and 5 in the medium to long term. These are generally indirect effects associated with a reduction in flooding. Uncertainty has been recorded in relation to objectives 2 and 5 as depending on the methods of flood risk reduction proposed in the catchment scale plans (i.e should hard engineered flood alleviation options be proposed), negative impacts may result. Therefore a result of uncertainty is recorded alongside positive effects for these objectives until further information regarding the nature of flood alleviation works is available.

The 'do nothing' scenario would rely on the strategic level LFRMS actions and Environment Agency plans and would not involve the creation of catchment scale assessments and action plans by the LLFA. Minor negative impacts may occur in relation to objectives 1,6,7 and 8 in the medium and long term as although interventions would still take place (led by strategic level plans), if these are not tailored to the needs/risks of each catchment, it is possible that the most appropriate and effective methods of flood alleviation and use of funding and resources will not be realised.

Action 9: Provide support and updates to the Local Resilience Forum Response Plans

Scenario	SEA Objective	SEA Objective							
		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0	+	+	+
	Medium term	++	0	0	0	0	+	++	++
	Long term	++	0	0	0	0	+	++	++
Do nothing (do not provide support and updates to the Local Resilience Forum Response Plans)	Short term	-	0	0	0	0	-	-	-
	Medium term	-	0	0	0	0	-	-	-
	Long term	-	0	0	0	0	--	-	-

Summary of significant effects

This LFRMS action performs positively against half of the SEA objectives, while it has a neutral relationship with the others. This is because providing support and updates to the Local Resilience Forum Response Plans is expected to aid effective planning for emergency flood situations allowing the impacts of flooding to communities and critical infrastructure to be minimised during and after flood events.

Under the 'do nothing' scenario, North Yorkshire County Council would not support or contribute towards the Local Resilience Forum Response Plans. This would lead to a breakdown in coordination and information sharing between North Yorkshire County Council and key partners and may hinder the emergency response in the event of a flood. This is predicted to result in negative impacts in relation to SEA objectives 1, 6, 7 and 8. Cumulatively a major negative impact could occur should other partners of the North Yorkshire Local Resilience Forum also decide not to support or contribute towards the Response Plans.

Action 10: Develop a Flood Risk Management Toolkit of practical measures that can be used to support local communities to manage flood risk

Action 11: Develop a programme of rollout of the Flood Risk Management Toolkit to communities across the authority area

Scenario	SEA Objective	SEA Objective							
		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	?/0	?/0	?/0	0	+	++	+
	Medium term	+	?/0	?/0	?/0	0	+	++	+
	Long term	++	?/0	?/0	?/0	0	+	++	+
Do nothing (i.e. do not develop a flood risk management toolkit)	Short term	-	0	0	0	0	-	-	-
	Medium term	-	0	0	0	0	-	-	-
	Long term	-	0	0	0	0	-	-	-

Summary of significant effects

Developing a flood risk management toolkit and rolling it out will allow communities to take control of some of the measures they employ to deal with flooding. This is likely to have very positive effects on communities vulnerable to flooding, and will improve levels of public safety. It will also have moderately positive effects on the resilience of important infrastructure. There is some small scale uncertainty over whether there may be biodiversity, water quality soil and land benefits, which will depend on the sort of guidance in the toolkit and whether it includes advice on green infrastructure for example.

Doing nothing will generally see the situation at a community level deteriorate for SA objectives 1, 6 and 8 as although there may be alternative approaches to communicating to communities, a toolkit represents a pro-active means of reaching out to community representatives and giving them the tools to understand and act upon flooding. Although implementing the toolkit would bring some major positive effects, the negative effects of doing the reverse may be offset to a degree by other actions in the LFRMS or initiatives such as the Environment Agency's Flood Warning service.

Action 12: Support schools and other educational facilities to increase public awareness of flood anticipation, preparation and resilience

		SEA Objective							
Scenario		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0	+	+	0
	Medium term	+	0	0	0	0	+	+	0
	Long term	++	0	0	0	0	++	+	0
Do nothing (i.e. do not raise awareness through schools)	Short term	0	0	0	0	0	0	0	0
	Medium term	0	0	0	0	0	0	0	0
	Long term	-	0	0	0	0	-	-	0

Summary of significant effects

Supporting schools to increase public awareness of flooding issues is likely to bring benefits in relation to reducing the impacts of flooding, adapting to climate change and increases in safety and wellbeing. This is because increasing awareness of flooding in children is likely to be a good strategy to get messages across to parents, and will also teach young people a valuable awareness of dealing with flooding that will only become more important as climate change takes effect.

In the main, a do nothing approach will not have significant effects (though there is a lost opportunity for raising the profile of flooding) as other awareness raising activity exists both in this strategy and at a national level. However, in the longer term two factors mean doing nothing has some longer term negative effects. These factors are: the fact that it will be important to ensure young people are aware of the impacts and dangers of flooding; and the future impacts of climate

change on flooding, which is likely to mean that the next generation will potentially have more exposure to the causes of flooding than present generations.

Action 13: Improve and maintain the LLFA Flood Risk Management web pages with the NYCC website – with relevant information and links to partner organisations

		SEA Objective							
Scenario		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0	+	+	+
	Medium term	+	0	0	0	0	+	+	+
	Long term	+	0	0	0	0	+	+	+
Do nothing (i.e. do not maintain a website)	Short term	0	0	0	0	0	0	0	0
	Medium term	0	0	0	0	0	0	0	0
	Long term	-	0	0	0	0	-	-	-

Summary of significant effects

Improving and maintaining the LLFA website is likely to help raise awareness of flooding and how to respond to it, with benefits for maximising flood risk, adapting to climate change, improving safety and wellbeing and protecting important infrastructure.

Doing nothing is likely to have relatively insignificant negative effects in the near term as other sources of information will also be available, including through this strategy. But as climate change effects on flooding become more significant, the importance of a LLFA website may become increasingly significant so negative effects without a website may become clearer for objectives 1, 6, 7 and 8.

Action 14: Develop a monitoring and warning system for ground water flood risk in key appropriate sites across the county

		SEA Objective							
Scenario		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	++	0	+	0	0	+	+	+
	Medium term	++	0	+	0	0	+	+	+
	Long term	++	0	+	0	0	+	+	+
Do nothing (i.e. do not develop a monitoring and warning system)	Short term	-	0	-	0	0	0	-	-
	Medium term	-	0	-	0	0	0	-	-
	Long term	--	0	-	0	0	-	-	-

Summary of significant effects

Developing a monitoring and warning system for groundwater flooding is expected to make a significant positive contribution to minimising flood risk and will also help enhance water quality as it will help ensure early warning to industrial facilities that may present a pollution risk. It will also help communities become resistant to an effect of climate change, improve safety and help protect important infrastructure.

As there is no national groundwater flood warning system, and strategic mapping is not detailed, it is expected that not doing anything about this problem is likely to work against the objective and, as development continues to occur and climate change takes effect problems with this type of flooding will get worse. It will also work against the objective for enhancing water quality as industrial facilities will be vulnerable to flooding. Safety and wellbeing will continue to decline at low level, while infrastructure will remain vulnerable. While vulnerable receptors may see little change as a result of climate change in the near term (at least compared to the levels of flooding experienced today), in the longer term climate change is likely to worsen groundwater flooding and thus the resilience of communities will reduce.

Action 15: Develop clear protocols and processes for the assessment and investigation of flooding incidents

Action 16: Embed the protocols and processes for the assessment and investigation of flooding incidents within the authority

		SEA Objective							
Scenario		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	0	0	0	0	0	0	0	0
	Medium term	+	0	0	0	0	0	+	+
	Long term	+	0	0	0	0	0	+	+
Do nothing (i.e. do not develop protocols)	Short term	0	0	0	0	0	0	0	0
	Medium term	--	0	0	0	0	0	--	--
	Long term	--	0	0	0	0	0	--	--

Summary of significant effects

Although in the short-term clear protocols won't have much of an effect on SEA objectives, in the longer term flood risk, safety and wellbeing and protection of infrastructure are all likely to benefit as this will enable more targeted and accurate flood risk management interventions.

Under the do nothing scenario, the same SEA objectives show insignificant short term effects, but in the medium to long term the lack of clear protocols would invalidate much of the work of the LLFA, and therefore very negative effects on those objectives would ensue. As effective procedural arrangements underpin future climate change resilience measures, longer term negative effects are observed under this objective too.

Action 17: Develop data capture protocols and processes for capture and strategic analysis of flood incident data – including gather of information from other RMAs where appropriate

		SEA Objective							
Scenario		1	2	3	4	5	6	7	8
Implement the LFRMS	Short term	+	0	0	0	0	+	+	+
	Medium term	+	+	+	+	+	+	+	+
	Long term	+	+	+	+	+	+	+	+
Do nothing (i.e. do not develop data capture protocols)	Short term	0	0	0	0	0	0	0	0
	Medium term	-	-	-	-	-	-	-	-
	Long term	--	--	--	--	--	--	--	--

Summary of significant effects Developing data capture protocols for strategic analysis of flooding data is an important component of prioritising intervention and identifying vulnerability so has positive effects on flood risk vulnerability / reduction, adapting to climate change, protecting health and wellbeing and protecting infrastructure.

Although few effects would be noted in the short term, without strategic analysis poor decision making would ensue, with cumulative negative effects on the long term strategy for managing flooding. In addition to affecting the human environment this could have knock on effects on other SEA objectives, as flood risk to natural environment and cultural environment assets is likely to increase as a result of poor planning and climate change.

Consultation Question 4: Do you agree with our assessments of likely significant effects?

5.4 Secondary, Cumulative and Synergistic Effects

Secondary, cumulative and synergistic effects are recorded in the matrices in Appendix 1 for each action. Significant cumulative effects of the Strategy as a whole, as considered against SEA objectives, are summarised in Table 13, below.

Table 13: Cumulative Effects of the LFRMS as a whole

SEA Objective	Significant cumulative effects of the Strategy as a whole
1. To minimise flood risk and to reduce the impact of flooding.	Significant positive cumulative effect (15 of 17 actions record positive or greater effects). Of the two actions that do not record positive effects, effects are considered neutral or neutral to positive.
2. To protect and	The effects on biodiversity are generally neutral. Some uncertainty is

enhance biodiversity and geodiversity and improve habitat connectivity.	noted due to it not being known what types of flood management measure might eventually be used (actions 4, 7 and 8) and what type of guidance will be issued in toolkits (Action10/11). Over time this could result in several projects that have a cumulative effect on biodiversity, though this is far from certain. <u>To avoid doubt, mitigation such as the suggested: “Develop the protocols and processes to ensure that projects progressed through LFRMS deliver sustainable development through regulatory compliance and taking opportunities to deliver environmental benefits” action would mitigate for this.</u> It would also be appropriate to explore the sensitivity of biodiversity assets at a lower spatial scale (e.g. where operational catchment plans are developed).
3. To enhance or maintain water quality and improve efficiency of water use.	The effects on water are predominantly neutral, but with some positive effects. While objectives 10 and 11 report some uncertainty, this is due to a possible lost opportunity to promote more natural forms of flood management. As such, there are only neutral to positive cumulative effects noted.
4. To safeguard and use soil and land efficiently.	The effects on soils/land are predominantly neutral, but with some positive effects. While objectives 10 and 11 report some uncertainty, this is due to a possible lost opportunity to promote more positive management to address flooding. As such, there are only neutral to positive cumulative effects noted.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	Most effects are neutral, with a small number of positive effects. Actions 4, 7 and 8 note some positive to uncertain effects as the historic environment becomes less prone to flood events, though the setting of historic assets may suffer through the creation of flood defences. In some areas with a higher density of sensitive assets, or a particularly sensitive character the mitigation suggested for objective 2 is also likely to be applicable here, however it would be appropriate to explore the sensitivity of landscape and the historic environment at a lower spatial scale (e.g. where operational catchment plans are developed).
6. To reduce the causes of climate change and to respond and adapt to the effects of climate change.	Effects are generally positive, with some actions recording neutral effects. There is no requirement for mitigation.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	Effects are generally positive, with a few objectives recording neutral to positive scores. The cumulative effect of the strategy in relation to health and wellbeing is therefore positive.
8. To conserve and protect important and essential material assets and infrastructure.	Effects are generally positive to very positive, with a few objectives recording neutral or neutral to positive scores. The cumulative effect of the strategy in relation to material assets and infrastructure is therefore positive.

5.5 Proposed Mitigation Measures

While the LFRMS mostly performs well against the SEA objectives, there are a limited number of uncertain effects recorded. These are outlined below along with any mitigation measures that are considered necessary.

Table 14: Uncertain Effects and Suggested Mitigation (where required)

Observed Uncertain Effect	Proposed Mitigation (if needed)
Objective 1: Uncertainty with SEA objectives 2,3,4 and 5.	There are several areas of uncertainty that were identified at the strategic level in relation to LFRMS objective 1 as further detail regarding the role that local communities would take in relation to flood risk management would be required in order to establish the impact that this would have on biodiversity, water quality, soil and other environmental receptors. As this is a strategic objective which is reflected in the strategic actions (at which point further information regarding specific interventions would be sought), it is not considered that any mitigation is required.
Action 4: uncertainty with SEA objectives 2 (biodiversity) and 5 (landscape/cultural heritage)	<p>Uncertainty relates to the possibility that a prioritised flood alleviation programme might lead to support for hard engineered solutions for flooding and that such solutions may be in sensitive locations.</p> <p>Suggested Mitigation: It is suggested that a strategic action is added to the LFRMS action plan to ensure that flood management projects deliver both effective flood management and legal compliance with environmental regulations (WFD, HRA etc.). Suggested wording as follows:</p> <p><i>“Develop the protocols and processes to ensure that projects progressed through LFRMS deliver sustainable development through regulatory compliance and taking opportunities to deliver environmental benefits”.</i></p>
Actions 7 and 8: Uncertainty with SEA objective 2 (biodiversity) and 5 (landscape/cultural heritage)	<p>Uncertainty relates to the possibility that the catchment scale action plans may lead to support for certain flood alleviation measures such as hard engineered solutions and that such solutions may be in sensitive locations.</p> <p>Suggested Mitigation: It is suggested that a strategic action is added to the LFRMS action plan to ensure that flood management projects deliver both effective flood management and legal compliance with environmental regulations (WFD, HRA etc.). Suggested wording as follows:</p> <p><i>“Develop the protocols and processes to ensure that projects progressed through LFRMS deliver sustainable development through regulatory compliance and taking opportunities to deliver environmental benefits”.</i></p>
Actions 10 and 11: uncertainty with	The majority of uncertainty noted here arises not

<p>SEA objective 2 (biodiversity), 3 (water) and 4 (soil and land)</p>	<p>from any negative association with biodiversity or water quality, where neutral effects are likely. Rather it is the lack of an indication that a positive contribution to the objectives can be made. Indeed there seems to be ample opportunity that a community toolkit could make a significant contribution to the WFD, for instance through promotion of SUDS and natural flood management at a community level, however no indication is given by the action that this will be the case. As no negative effect is observed there is no requirement for mitigation for this.</p> <p>Additionally, the Habitats Regulations (HRA) Likely Significant Effects Assessment undertaken as part of this SEA highlights some uncertainty regarding effects on Natura 2000 sites should the toolkit encourage communities to make physical interventions in order to reduce the risk/impact of flooding. The HRA advises that as a precautionary measure, appropriate regulatory procedures should be referred to in the Flood Risk Management Toolkit in order to ensure that any works instigated through the toolkits do not lead to significant impacts upon Natura 2000 sites.</p>
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It is considered that where the suggested mitigation is implemented the LFRMS should perform positively, or at least have a neutral effect, when considered against the SEA objectives.

Consultation question 5: Do you agree with the suggested mitigation measures?

5.6 Uncertainties and Risks

The SEA gives a considered assessment of environmental effects against 8 SEA objectives and a number of sub objectives and indicators. The primary tool used to arrive at predicted environmental effects has been professional judgement.

While professional judgement is often the best available tool, other judgement tools such as modelling or network analysis techniques may offer a higher degree of accuracy and may even allow quantification of results (making tests of robustness, such as sensitivity analysis possible). Because of the high level nature of the LFRMS objectives and actions, it was felt that such techniques would be difficult to apply in this assessment.

A further limitation also related to the strategic nature of the SEA process. In assessing this high level strategy the assessment has attempted to predict broad effects on the baseline, which contains numerous environmental and human receptors. It does not make detailed predictions in

relation to specific receptors. It is therefore not a substitute for project level environmental assessment, particularly Environmental Impact Assessment (EIA).

While the SEA has focussed on the objectives and actions presented in the LFRMS Action Plan at this time, it is noted that the action plan is a living document which will be regularly updated and amended to reflect progress and the changing nature of flood risk priorities. In line with SEA guidance, where minor modifications to the plan are proposed in future these will be “*considered in the context of the plan or programme which is being modified and of the likelihood of their having significant environmental effects*”²⁷. Where it is considered that significant environmental effects are likely to occur, SEA will be carried out.

²⁷ European Commission (2003) Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the environment. Commission of the European Communities, Brussels. Available at: http://ec.europa.eu/environment/eia/pdf/030923_sea_guidance.pdf.

6. Conclusions and Recommendations

This Environmental Report has shown that the direct, indirect, secondary, cumulative and synergistic environmental effects of implementing the North Yorkshire Local Flood Risk Management Strategy are broadly positive. It is considered that the implementation of the LFRMS would result in more positive environmental impacts than the alternative 'do nothing scenario'.

There are a number of uncertainties associated with the Strategy. Wherever possible, mitigation has been suggested for these effects.

Therefore the key recommendation of this report is that the mitigation measures outlined in section 5 are implemented.

6.1 Monitoring Suggestions

Monitoring the significant environmental effects of implementing a plan is an important part of Strategic Environmental Assessment. Article 10 of the SEA Directive states:

“Member states shall monitor the significant environmental effects of the implementation of plans and programmes in order, inter alia, to identify at an early stage unforeseen adverse effects, and to be able to undertake appropriate remedial action”.

The Government's 'Practical Guide to the SEA Directive' builds on this and gives guidance on what should be monitored, stating that monitoring must be clearly linked to the SEA process and that it should consider both the adverse and beneficial effects of a plan as a whole. Importantly, it is not necessary to measure everything, rather 'monitoring needs to be focused on significant environmental effects'. Key areas for monitoring include those:

-“That indicate a likely breach of international, national or local legislation, recognised guidelines or standards;

-that may give rise to irreversible damage, with a view to identifying trends before such damage is caused;

-where there was uncertainty over possible adverse effects, and where monitoring would enable mitigation measures to be taken”.

It is proposed that a series of indicators will be monitored on a six year reporting cycle where possible. Where possible indicators are linked to the existing baseline information (see Volume 2 of this Environmental Report), however a full baseline for monitoring will be set out when indicators are finalised in the post adoption statement of this SEA. Table 15 sets out the proposed indicators.

Table 15: Proposed indicators for monitoring the environmental effects associated with the implementation of the LFRMS

SEA Theme	Proposed Indicator	Purpose / Source of information
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Population and human health	-Properties and dwellings at risk of flooding in North Yorkshire	Shows level of vulnerability to homes and workplaces. Source: Preliminary Flood Risk Assessment
Biodiversity, fauna and flora	-Number of flood risk management consents consultations receiving ecological input	Shows the extent to which ecological advice in relation to flood management works is being sought (related to the mitigation proposed by this SEA). Source: North Yorkshire County Council
	-Number of Operational Catchment Plans where screening / Appropriate Assessment / IROPI tests have been completed under Habitats Directive.	Shows the level of regulatory compliance in relation to a European Directive for subsidiary elements of the Plan. Source: North Yorkshire County Council
Water	- Percentage of projects that would not compromise Water Framework Directive (WFD) objectives (established through WFD compliance assessments). ²⁸	Shows whether it would be possible for any deviation from water body status objectives to be attributed to the LFRMS. Source: North Yorkshire County Council
Material assets	-Number of flood records held by LLFA related to highways flooding	Monitors changing trends in the vulnerability of infrastructure and thus the success or otherwise of implementing the LFRMS on the SEA baseline. Source: North Yorkshire County Council
	-Coverage of Strategic Flood Risk Assessments by Local Planning Authority.	Shows the extent to which flooding is considered in relation to future development, and thus the extent that the

²⁸ Where a project is WFD compliant (as demonstrated by a WFD compliance assessment) it is reasonable to assume that no negative effects have occurred to the achievement of WFD status objectives of the waterbody as a result of the project. In a small number of cases, exemptions for a deterioration in status caused as a result of physical modification to a water body will be allowed under Article 4.7 of the Water Framework Directive (such as for reasons of overriding public interest). Any exemptions would be taken in to consideration by assessors whilst monitoring this indicator.

		SEA baseline in relation to the vulnerability of material assets is likely to change. Source: North Yorkshire County Council / District Councils
Cultural heritage and landscape	-Buildings, scheduled monuments, conservation areas, registered parks and gardens, registered battlefields 'at risk' as defined by the Heritage at Risk Register.	Shows how the baseline of the SEA in relation to heritage at risk is evolving. Helps clarify uncertainty over the effects of flood management measures identified in SEA. Source: English Heritage
	Landscape Change (indicator based on Countryside Quality Counts / Integrated Indicator identified in Natural England's CQuEL project – not yet finalised)	Shows strategic level direction of change in landscape character. Helps clarify uncertainty over the effects of flood management measures identified in SEA. Source: Natural England
Climatic factors	Delineation of climate change effects in Strategic Flood Risk Assessments	Indicator to show the extent to which climate change is being considered in relation to development. This will help show how the SEA baseline is evolving in relation to climate vulnerability. Source: North Yorkshire County Council / District Councils.

Consultation Question 6: Do you agree with our suggestions for monitoring?

7. Consultation on the Environmental Report

7.1 List of Consultation Questions and How to Comment

This draft environmental report helps highlight the significant environmental effects and proposed mitigation measures for the Local Flood Risk Management Strategy. However, the environment is complex and you may feel that we have not given due consideration to some environmental effects, or given undue consideration to others.

In order to establish a consensus over what the key messages of this report should be, we have asked a series of consultation questions throughout the report. These questions are intended for guidance only; we would welcome any views on any aspect of this report. However we have reproduced the questions below, should you wish to use them.

Consultation Question 1: We have tried to include all the plans, policies and programmes and their Environmental Protection Objectives that you told us about during the scoping consultation. But are there any more that we should consider?

Consultation Question 2: Have we identified the correct 'key issues' for North Yorkshire?

Consultation Question 3: Are there any more issues that you would like us to address through the SA Framework?

Consultation Question 4: Do you agree with our assessments of likely significant effects?

Consultation Question 5: Do you agree with the suggested mitigation measures?

Consultation Question 6: Do you agree with our suggestions for monitoring?

The consultation on this SEA Environmental Report will take place between 15 October 2014 and 26 November 2014. Consultees should submit their responses to this SEA Environmental Report no later than 5 pm on 26 November 2015

Responses can be made by e-mail to:

Mwsustainability@northyorks.gov.uk (please include the words LFRMS SEA consultation in the title).

Alternatively you can write to

Environmental Policy, Natural Environment Team, Waste and Countryside Services, North Yorkshire County Council, County Hall, Northallerton, North Yorkshire, DL7 8AH.

For further information, please write or e-mail, or, alternatively you can contact the Environmental Policy Officer on 01609 532422.

Appendix 1 Assessment of LFRMS Action Plan

LFRMS Action	1. Collate and analyse data on predicted and actual surface water flooding based on most recent EA modelling data.							
SEA Objectives	Impact / timescale			Type of effect				Analysis
	S ²⁹	M	L	P ₃₀	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	+	+		✓		✓	While this action does not involve direct physical interventions to minimise flood risk and impact, it is considered that improving knowledge, understanding and prediction of flooding, will increase preparedness for flooding events and therefore reduce the impact of flooding.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment,	0	0	0					No significant effects are observed on this objective.

²⁹ S, M, L stand for 'short term', 'medium term' and 'long term' respectively. In this report, short term is considered to be 3 years, medium term 10 years and long term 25 years.

³⁰ P, T, D, I stand for 'permanent', 'temporary', 'direct' and 'indirect'.

cultural heritage and the aesthetic qualities of landscapes and townscapes.								
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓		✓	Collating and analysing data on surface water flooding will improve knowledge, understanding and prediction of future surface water flooding events therefore enabling the County to better adapt to the flooding element of climate change in the future.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+		✓		✓	Collating and analysing information regarding predicted and actual surface water flooding will increase understanding and may improve prediction/warnings relating to surface water flooding. This may lead to an indirect positive impact upon wellbeing, health and safety of communities.
8. To conserve and protect important and essential material assets and infrastructure.	+	+	+		✓		✓	Collating and analysing information regarding predicted and actual surface water flooding will increase understanding and may improve prediction/warnings and therefore preparedness for surface water flooding events. This may help to protect/ minimise impact upon essential infrastructure during surface water flooding events.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objective 1, 6, 7 and 8 where a by-product of collation and analysis of information is improving prediction and preparedness for flood events leading to a reduction in the impact of flooding, adaptation to the effects of climate change, improvement in health and wellbeing and protection of material assets/essential infrastructure.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive.</p>							
LFRMS Action	2. Develop standards, guidance and processes required to implement Schedule 3 of FWMA (SuDS and SABs)							

SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++	✓			✓	This action will enable the implementation of Schedule 3 of the FWMA which aims to increase the use of SuDS in new developments by establishing standards, guidance and processes. SuDS manage runoff volumes and flowrates leading to a reduction in surface water flooding. It is therefore considered that enabling the implementation of Schedule 3 will have a positive impact in terms of minimising flood risk and this will increase in the medium and long term as the SABs become established and the SuDS that are adopted under the new regime are constructed/implemented.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	+	++	++	✓			✓	SuDS mimic natural systems and therefore improve water quality and have a knock-on effect to supporting biodiversity. Many SUDS schemes incorporate stages that can be biodiversity assets in themselves, such as green roofs, swales and wetlands.
3. To enhance or maintain water quality and improve efficiency of water use.	+	++	++	✓			✓	Evidence from ongoing monitoring at Lamb Drove in Cambridgeshire suggests that the SuDS 'treatment train' results in reductions in concentrations of hydrocarbons, metals and suspended soils in water resulting in a positive impact on water quality ³¹ . It is anticipated that this positive impact will increase in the medium and long term as the SABs become established and the SuDS that are adopted under the new regime are constructed/implemented.
4. To safeguard and use soil and land efficiently.	+	+	+	✓			✓	SuDS are likely to improve soil quality and efficiency of land use as they allow sustainable drainage of land – meaning that areas previously prone to ponding or flooding are more likely to be useful for other

³¹ Defra (2011) Implementation of the Sustainable Drainage Provisions in Schedule 3 to the Flood and Water Management Act (2010) Annex F: Impact Assessment. Defra, London.

								purposes.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	+	+	+	✓			✓	SuDS are sympathetic to the aesthetic qualities of landscapes, townscapes and the historic environment, meaning that their use will usually not detract from these features and in many cases will enhance the setting of buildings e.g. through the introduction of well managed green spaces/water features.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	++	++	✓			✓	A principle of the National Standards for sustainable drainage (that SAB's will uphold) is to ensure that the design of SuDS take account of the likely impact of climate change. Good quality green space particularly in urban areas can have an important positive impact on climate change adaptation e.g. flood alleviation, moderation of the urban heat island. Additionally SuDS are generally less resource and energy intensive than other flood alleviation methods, meaning that climate change mitigation is also partially addressed by this action. Some SuDS schemes will also absorb carbon dioxide, leading to a small reduction in the causes of climate change. It is anticipated that this positive impact will increase in the medium and long term as the SABs become established and the SuDS that are adopted under the new regime are constructed/implemented.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+	✓			✓	Surveys have shown that well designed and managed green spaces such as those that constitute some forms of SuDS can have a positive impact on physical and mental health ³² , levels of physical activity and sense of community. The flood alleviation function of SuDS may also reduce stress and anxiety induced by flood risk or flood events further improving health and wellbeing.
8. To conserve and protect important and essential material assets and	+	++	++	✓			✓	Maintaining drainage systems will lessen the impact of flooding on material assets and infrastructure. This effect will increase as more locations incorporate SUDS.

³² Ibid.

infrastructure.									
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to all SEA objectives, The development of standards, guidance and processes enables the implementation of Schedule 3, which in turn aims to increase the use of SuDS which will indirectly protect the subjects covered by the SEA objectives.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding (including the Flood and Water Management Act), emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this policy against the SEA objectives as a whole is positive.</p>								
LF RMS Action	3. Provide input to local plans and respond to requests for input on planning consultations								
SEA Objective	Impact / timescale			Type of effect				Analysis	
	S	M	L	P	T	D	I		
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++	✓	✓	✓		Providing input to local plans and responding to planning consultations will ensure that flooding and flood risk are taken into consideration in relation to new developments/changes in land use. Consideration of flooding at the planning stage is anticipated to reduce the impact of flooding and to minimise flood risk to communities. This is anticipated to become more effective in the medium and long term as plans become adopted and the resulting developments from planning consultations are built/in operation.	
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.	
3. To enhance or maintain water quality and improve	0	0	0					No significant effects are observed on this objective.	

efficiency of water use.								
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0					No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	0/+	+	+	✓	✓		✓	Providing input to local plans and responding to planning consultations will ensure that flooding and flood risk are taken into consideration at the planning stage in relation to new developments/changes in land use. This is anticipated to have a positive impact in terms of adaptation to the effects of climate change. This is anticipated to become more effective in the medium and long term as plans become adopted and the resulting developments from planning consultations are built/in operation.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	0/+	+	+	✓	✓		✓	Providing input to local plans and responding to planning consultations will ensure that flooding and flood risk are taken into consideration at the planning stage in relation to new developments/changes in land use. This will ensure that new developments are sited in suitable locations therefore minimising the risk to communities and contributing towards their wellbeing, health and safety. This is anticipated to become more effective in the medium and long term as plans become adopted and the resulting developments from planning consultations are built/in operation.
8. To conserve and protect important and essential material assets and infrastructure.	0/+	+	+	✓	✓		✓	Providing input to local plans and responding to planning consultations will ensure that flooding and flood risk are taken into consideration at the planning stage in relation to new developments/changes in land use. This will ensure that new developments (including essential infrastructure) are sited in suitable locations therefore minimising the

									risk from flooding. This is anticipated to become more effective in the medium and long term as plans become adopted and the resulting developments from planning consultations are built/in operation.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 6, 7 and 8. For these objectives, while it is not the intention of the LFRMS action to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of the implementation of the action.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive.</p>								
LFRMS Action	4. Develop and implement a prioritised programme of flood alleviation projects								
SEA Objective	Impact / timescale			Type of effect				Analysis	
	S	M	L	P	T	D	I		
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++	✓	✓	✓		<p>The implementation of flood alleviation schemes will both minimise flood risk and reduce the impact of flooding and will therefore have a major positive impact upon this objective.</p> <p>This is likely to be more effective in the medium to long term as more schemes move from the development to implementation stage.</p>	
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	+/?	+/?	+/?	✓	✓		✓	<p>The implementation of flood alleviation projects would lead to a reduced flood risk in the benefitting areas which may result in a positive effect on biodiversity and geodiversity by maintaining access to sites and protecting habitats as a consequence of areas of land being made resilient to flooding, and creating new habitats through features like flood storage and SUDS. However, depending on the method of flood risk reduction (i.e. where hard engineering options are implemented), this could also have negative consequences for biodiversity and</p>	

								geodiversity). Therefore, the result is uncertain until methods of flood risk reduction are set out.
3. To enhance or maintain water quality and improve efficiency of water use.	+	++	++	✓	✓		✓	A reduction in flood risk through the implementation of flood alleviation projects is likely to have a positive effect on water quality by reducing the chances of sediment pollution or chemical pollution as a result of agricultural runoff carrying chemicals from fertilisers etc. into watercourses.
4. To safeguard and use soil and land efficiently.	+	++	++	✓	✓		✓	Flood alleviation schemes may include measures that manage runoff from agricultural land which would have significant benefits for soil quality (minimise the likelihood of soil erosion from surface water runoff).
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	+/?	+/?	+/?	✓	✓		✓	This LFRMS objective is likely to have a positive impact on the historic environment and townscapes by reducing the likelihood of flood events negatively impacting upon designated and undesignated historic assets such as listed buildings. However, hard engineering features implemented to reduce flood risk may also detract from the aesthetic quality of historic assets, landscapes and townscapes. Therefore, the result in uncertain until methods of flood risk reduction are set out.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	++	++	✓	✓	✓		This LFRMS objective is consistent with climate change adaptation. These impacts may be permanent or temporary, depending on the method of flood risk reduction. This objective will not reduce the causes of climate change.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	++	++	✓	✓	✓		A reduction of flood risk due to the implementation of flood alleviation schemes may decrease levels of anticipation, stress and injury associated with flood events and therefore contribute strongly to wellbeing and health.
8. To conserve and protect important and essential material assets and infrastructure.	+	++	++	✓	✓	✓		A reduction of flood risk due to the implementation of flood alleviation schemes is likely to result in significant flood protection to material assets and infrastructure.

Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 2, 3, 4 and 5. For all these objectives, while it is not the intention of the LFRMS action to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation. For objectives 2 and 5, if certain flood management options are pursued (e.g. hard engineered flood defences), then there may be downstream effects on biodiversity or aesthetic effects on cultural heritage/landscape.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive</p>							
LFRMS Action	5. Develop and maintain a Prioritisation Tool as a fair and equitable method of allocating limited budgets and resources for investigations and works							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++		✓	✓		Developing a tool that will enable the effective prioritisation of need is likely to result in the reduction of flood risk and the impact of flooding in areas of greatest flood risk and greatest need. This is likely to be more effective in the medium to long term as more schemes move from the development to implementation stage.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.

4. To safeguard and use soil and land efficiently.	0	0	0				No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0				No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	++	++		✓	✓	Prioritising flood risk investigations and works based on the greatest need across the County is likely to result in effective adaptation to climate change (in terms of increasing flood risk) where it is most needed, meaning that this LFRMS objective will have a positive benefit on the adaptation aspect of this SEA objective. However, the reduction of causes of climate change aspect will be unaffected.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	++	++		✓	✓	Developing a tool that enables the prioritisation of flood risk investigations and works based on those communities with the greatest need is likely to improve the wellbeing, health and safety of those communities most vulnerable to flooding.
8. To conserve and protect important and essential material assets and infrastructure.	+	++	++		✓	✓	It is likely that important and essential material assets will benefit very positively from investigations and works based on a prioritised basis as critical infrastructure will be taken into account in the ranking of greatest need.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 6 and 8. For these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is</p>						

	broadly positive.							
LF RMS Action	6. Develop a protocol and process for the recording and monitoring of assets implicated in significant local flood risk							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++		✓		✓	Effective recording and monitoring of assets implicated in significant local flood risk will enable NYCC to better manage/adapt to flood risk in the future and to decrease the impacts of flood events when they do occur through the prioritisation of investigations, funding and assistance to the areas at the most significant risk.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0/+	+	+		✓		✓	Effective recording and monitoring of assets implicated in significant local flood risk will enable NYCC to better manage/adapt to flood risk in the future and to decrease the impacts of flood events when they do occur through the prioritisation of investigations, funding and assistance to the areas at the most significant risk. This may lead to positive impacts for townscapes and particularly for cultural heritage assets that are at risk.

6. To reduce the causes of climate change and to adapt to the effects of climate change.	0/+	+	+		✓		✓	Effective recording and monitoring of assets implicated in significant local flood risk will improve knowledge and aid in flood relief efforts therefore enabling the County to better adapt to (the flooding aspect of) climate change in the future.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	0/+	+	+		✓		✓	Effective recording and monitoring of assets implicated in significant local flood risk will enable relevant stakeholders to better plan for future flood events therefore decreasing the levels of anticipation and stress associated with flood events experienced by at risk communities.
8. To conserve and protect important and essential material assets and infrastructure.	0/+	+	+		✓		✓	Recording and monitoring of assets implicated in significant local flood risk will allow stakeholders to become more prepared for and resilient to flooding and is likely to result in increased flood protection to material assets and infrastructure.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 5, 6, 7 and 8. For these objectives, while it is not the intention of the LFRMS action to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of the implementation of the action.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive.</p>							
LFRMS Action	<p>7. Create Operational Catchment Plans – providing a high level assessment of flood risk and risk management actions/measures for each catchment within NYCC authority area</p> <p>8. Work with neighbouring LLFAs to create/provide input to Operational Catchment Plans for those catchments which cross into other authority areas – providing a high level assessment of flood risk and risk management actions as appropriate</p> <p>Assumptions: This assessment assumes that the catchment plans are consistent with the strategic level LFRMS.</p>							

SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	0/+	++	++	✓	✓	✓		The creation of Operational Catchment Plans including an assessment of flood risk and catchment specific actions/ measures to reduce flood risk is likely to have a strong positive impact upon this objective in the medium to long term. Assessment of flood risk and mitigation measures at a catchment scale will enable the relevant bodies to plan more effectively for flood events and also to prioritise which areas are most at risk and therefore where funding/resources could most effectively be used. Effects have been recorded as neutral/minor positive in the short term as the timescale for completion of these plans is 2015 and any positive effects associated with their production are likely to occur after this time.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	+/?	+/?	✓	✓		✓	It is anticipated that some positive impacts will occur in relation to this objective in the medium to long term, through the creation of catchment specific plans. The implementation of catchment specific actions/measures would lead to a reduced flood risk in the benefitting areas which may result in a positive effect on biodiversity and geodiversity by maintaining access to sites and protecting habitats as a consequence of areas of land being made resilient to flooding, and creating new habitats through features like flood storage and SUDS. However, depending on the method of flood risk reduction proposed in the catchment scale plans (i.e should hard engineered flood alleviation options be proposed), this could also have negative consequences for biodiversity and geodiversity. Therefore, an uncertain result has also been recorded until methods of flood risk reduction are set out. A neutral effect has been recorded in relation to this objective in the short term as although it is anticipated that the catchment specific plans will have been created within the next 3 years, it is considered unlikely that a significant number of interventions will have been implemented and that significant biodiversity effects will have been realised.

3. To enhance or maintain water quality and improve efficiency of water use.	0	0/+	0/+	✓	✓		✓	Certain actions/measures that may be included within catchment plans such as the implementation of SuDs are likely to have a positive impact upon water quality. Other actions/measures such as data collection/analysis, monitoring and recording flood incidents etc. are considered to have a neutral impact upon this objective. A neutral effect has been recorded in relation to this objective in the short term as although it is anticipated that the catchment specific plans will have been created within the next 3 years, it is considered unlikely that a significant number of interventions will have been implemented and that significant effects upon this objective will have been realised.
4. To safeguard and use soil and land efficiently.	0	0/+	0/+	✓	✓		✓	Certain actions/measure that may be included within catchment plans such as measures to reduce surface water flooding are likely to have a positive impact upon soil and land use. Other actions/measures such as data collection/analysis, monitoring and recording flood incidents etc. are considered to have a neutral impact upon this objective. A neutral effect has been recorded in relation to this objective in the short term as although it is anticipated that the catchment specific plans will have been created within the next 3 years, it is considered unlikely that a significant number of interventions will have been implemented and that significant effects upon this objective will have been realised.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	+/?	+/?	✓	✓		✓	It is anticipated that some positive impacts will occur in relation to this objective in the medium to long term. Catchment specific plans aim to reduce the likelihood/ minimise the impact of flood events which may negatively impact upon designated and undesignated historic assets such as listed buildings. However, depending on the method of flood risk reduction proposed in the catchment scale plans (i.e. should hard engineered flood alleviation options be proposed), this could also have negative consequences for historic assets, landscapes and townscapes as interventions may detract from their aesthetic quality. Therefore, an uncertain result has also been recorded until methods of flood risk reduction are set out. A neutral effect has been recorded in relation to this objective in the short term as although it is anticipated that the catchment specific plans will have been created within the next 3 years, it is considered unlikely that a significant number of interventions will have been implemented and that significant effects upon this objective

								will have been realised.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	0/+	+	+	✓	✓		✓	The creation of catchment scale plans is anticipated to have a positive impact on this objective as it will enable the relevant bodies to plan more effectively for flood events and also to prioritise areas that are most at risk and identify catchment specific measures that would ensure that the most appropriate and efficient interventions are implemented. This will contribute towards enabling the County to better adapt to (the flooding aspect of) climate change in the future.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	0/+	+	+	✓	✓	✓		This action is anticipated to have a minor positive impact on this objective as it will ensure that the most appropriate and efficient interventions are implemented and improve knowledge/prediction/preparedness of flooding at the local scale. This will decrease the levels of anticipation and stress associated with flood events therefore improving the health and wellbeing situation.
8. To conserve and protect important and essential material assets and infrastructure.	0/+	+	+	✓	✓		✓	This creation of catchment plans is anticipated to have a minor positive impact on this objective as it will ensure that the most appropriate and efficient interventions are implemented and improve knowledge/prediction/preparedness of flooding at the local scale. There are, therefore, benefits to minimising flood risk to key infrastructure that accrue through this action.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 2,3,4,5,6 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation (particularly CFMP's and RBMP's).</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive.</p>							
LFRMS Action	9. Provide support and updates to the Local Resilience Forum Response Plans							

SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	++	++		✓		✓	Supporting the North Yorkshire Resilience Forum to plan effectively for emergency flood situations will allow the impacts of flooding to be minimised during flood events, having a positive impact on this objective. This is likely to have more effect in the medium to long term as the NYLRF becomes more effective over time.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0					No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓		✓	Emergency planning for flood situations will allow adaptation to climate change effects from flooding to be more effective.
7. To protect and where possible, improve the	+	++	++		✓		✓	Enabling planning and resilience for flood events is likely to decrease levels of anticipation, stress and injury associated with flooding

wellbeing, health and safety of local communities.								incidents therefore improving the wellbeing of involved communities.
8. To conserve and protect important and essential material assets and infrastructure.	+	++	++		✓		✓	Planning and therefore increasing resilience to flood events is likely to result in flood protection to material assets and infrastructure.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 6, 7 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> The cumulative impact of this LFRMS objective against the SEA objectives as a whole is broadly positive.</p>							
LFRMS Action	<p>10. Develop a Flood Risk Management Toolkit of practical measures that can be used to support local communities to manage flood risk</p> <p>11. Develop a programme of rollout of the Flood Risk Management Toolkit to communities across the authority area</p> <p>Assumptions: it is assumed that these actions will be implemented within 3 years of strategy adoption.</p>							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	

1. To minimise flood risk and to reduce the impact of flooding.	++	++	++		✓	✓		A toolkit would allow communities to take flood risk management into their own hands. At the very least such a toolkit would increase preparedness to flooding. However, there may be potential to go further by providing guidance on practical measures to reduce not just the effect but the incidence of flooding. In any case the impact on the objective is very clearly positive.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	?/0	?/0	?/0		✓		✓	<p>Community preparedness for flooding resulting through a toolkit would have relatively insignificant effects on biodiversity and geodiversity. However, if the toolkit fully explored the scope of what communities can do to manage flooding, including retention or creation of green infrastructure and SUDS, there might well be some local benefits to biodiversity. However, at this stage of the LFRMS it is uncertain that this would occur.</p> <p>In addition, the Habitats Regulations Assessment Likely Significant Effects Report completed as part of this SEA highlights some uncertainty regarding effects on Natura 2000 sites, as should the toolkit encourage communities to make physical interventions such as changes to land management techniques in order to reduce flooding, the effects of such interventions would need to be considered to ensure that no significant impacts upon Natura 2000 sites would result.</p>
3. To enhance or maintain water quality and improve efficiency of water use.	?/0	?/0	?/0		✓		✓	Community preparedness for flooding resulting through a toolkit would have insignificant effects on water quality if it sought to increase the preparedness of communities to flooding. However, if the toolkit fully explored the scope of what communities can do to manage flooding, including retention or creation of green infrastructure and SUDS, or design guidance for the flood resistance of permitted development and planning applications there might well be some benefits to water quality. However, at this stage of the LFRMS it is uncertain that this would occur.
4. To safeguard and use soil and land efficiently.	?/0	?/0	?/0		✓		✓	As with several other options, a de minimus approach to a toolkit would have insignificant effects. However, communities could be empowered to work with landowners or manage their own land better to reduce runoff during flood events. It is not certain that this would be the case

								however.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscape.	0	0	0					Although, theoretically work undertaken prompted by the toolkit might have some indirect benefits to historic assets, and perhaps even some direct benefits to historic buildings and parks and gardens, it is more likely that such assets would either make their own arrangements for flood management measures or would receive negligible benefit from the toolkit.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓	✓		A toolkit is likely to increase the 'adaptive capacity' ³³ of communities by prompting communities to take measures to address flood risk. There is no guarantee that this would be sustainable adaptation however,
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	++	++	++		✓		✓	Increasing flood resilience is likely to bring strong benefits to safety and wellbeing.
8. To conserve and protect important and essential material assets and infrastructure.	+	+	+		✓	✓		A toolkit is likely to benefit community managed facilities by making them more resilient to flood events. It may also provide information on what to do where infrastructure that communities rely on becomes disabled by flooding. While this is not certain, the overall effect on this objective is positive.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 2, 3 and 4. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action, national flooding, emergency planning</p>							

³³ The capacity to adapt to the changing circumstances presented by climate change. For a fuller description of adaptive capacity see Wilson, R., Holm, C., Bull, R., Macgregor, N. A., Van Dijk, N., Darch, G. & Neale, A. 2013. Assessing the Potential Consequences of Climate Change for England's Landscapes: Humberhead Levels; Natural England Research Report Number 050. [URL: <http://publications.naturalengland.org.uk/publication/4760457999024128>]

	and climate adaptation policy and legislation.							
	<u>Cumulative effects</u> : When taken together with other actions cumulative effects are broadly positive. There may also be positive cumulative effects with other plans – e.g. RBMPs, if a holistic approach to developing a toolkit is progressed.							
LF RMS Action	12. Support schools and other educational facilities to increase public awareness of flood anticipation, preparation and resilience							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	+	++	✓		✓	✓	While the initial effects on public attitudes to flood preparedness from this action may be quite modest, over time awareness could become embedded. It is also often noted that promoting ideas to schools is a good way of reaching parents.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of	0	0	0					No significant effects are observed on this objective.

landscapes and townscapes.								
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	++	✓		✓	✓	Increasing public awareness through schools and educational facilities is likely to encourage people to think about and act upon their resilience to flooding and thus a key effect of climate change. It could embed thinking about flood resilience in the longer term.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+	✓		✓	✓	Increasing public awareness through schools and educational facilities is likely to encourage people to think about and act upon their resilience to flooding. This in turn is likely to increase feelings of safety and wellbeing as more and more people will begin to feel that they have some control over flooding. Though for a few, increased awareness of flooding might cause increased stress.
8. To conserve and protect important and essential material assets and infrastructure.	0	0	0					No significant effects are observed on this objective.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 6 and 7. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> When taken together with other actions cumulative effects are broadly positive.</p>							
LFRMS Action	13. Improve and maintain the LLFA Flood Risk Management web pages with the NYCC website – with relevant information and links to partner organisations							
SEA Objective	Impact / timescale	Type of effect		Analysis				

	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	+	+		✓		✓	This will help raise awareness of key flooding issues and enable future action in relation to flood prevention and resilience.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0					No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓		✓	Information provision is likely to be an important part of the response to climate change. While the website will be an important part of this, a website is a passive form of communication and other media may play a lesser or greater role.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+		✓		✓	Information provision through the website is likely to have a modest beneficial effect on people's feelings of control over their wellbeing and safety.

8. To conserve and protect important and essential material assets and infrastructure.	+	+	+		✓		✓	The website is likely to be a useful tool to engage managers and possibly users of vulnerable infrastructure.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 6, 7 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> When taken together with other actions cumulative effects are broadly positive.</p>							
LFRMS Action	<p style="text-align: center;">14. Develop a monitoring and warning system for ground water flood risk in key appropriate sites across the county</p> <p>Assumptions: it is assumed that this action will be implemented within 3 years of strategy adoption.</p>							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	++	++	++		✓		✓	This will help raise awareness of groundwater flooding and reduce the number of people and properties at risk. Assuming this is set up in the short term the effects will be very positive throughout the timescales assessed.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.

3. To enhance or maintain water quality and improve efficiency of water use.	+	+	+		✓		✓	For some sites, particularly industrial sites or other sites where polluting substances are held, a monitoring and warning system would reduce the risk of accidental ingress of pollutants to water during flood events.
4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0					No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓		✓	Because groundwater flooding is likely to become more common as a result of climate change ³⁴ this is likely to help individuals and businesses become more prepared for climate change.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+		✓		✓	Risk to people will be reduced through this action, which will improve safety and security from flood risk and ultimately improve wellbeing,
8. To conserve and protect important and essential material assets and infrastructure.	+	+	+		✓		✓	This action will play a role in helping to protect transport and critical infrastructure.
Secondary, Cumulative and Synergistic Effects	<u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 3, 6, 7 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.							

³⁴ See British Geological Survey, 2010. Science Briefing: Groundwater Flooding [URL: <https://www.bgs.ac.uk/downloads/start.cfm?id=1824>]

	<p><u>Synergistic effects:</u> There are positive synergies between this action and national flooding, emergency planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> When taken together with other actions cumulative effects are broadly positive. There may also be positive cumulative effects with other plans, particularly development plans.</p>							
LF RMS Action	<p>15. Develop clear protocols and processes for the assessment and investigation of flooding incidents</p> <p>16. Embed the protocols and processes for the assessment and investigation of flooding incidents within the authority</p> <p>Assumptions: it is assumed that these actions will be implemented within 3 years of strategy adoption.</p>							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	0	+	+	✓			✓	Clear protocols will help the efficient investigation of flood risk and ensure high and consistent standards are maintained. While in the short term these ‘after the event’ investigations won’t have much impact on minimising flood risk, as time goes on they allow more targeted and accurate flood risk management interventions.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	0	0					No significant effects are observed on this objective.
3. To enhance or maintain water quality and improve efficiency of water use.	0	0	0					No significant effects are observed on this objective.

4. To safeguard and use soil and land efficiently.	0	0	0					No significant effects are observed on this objective.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of landscapes and townscapes.	0	0	0					No significant effects are observed on this objective.
6. To reduce the causes of climate change and to adapt to the effects of climate change.	0	0	0					No significant effects are observed on this objective.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	0	+	+	✓			✓	Clear protocols will help the efficient investigation of flood risk and ensure high and consistent standards are maintained. While in the short term these 'after the event' investigations won't have much impact on minimising flood risk, and thus safety and wellbeing, as time goes on they allow more targeted and accurate flood risk management interventions, which will improve the health and wellbeing situation.
8. To conserve and protect important and essential material assets and infrastructure.	0	+	+	✓			✓	Clear protocols will help the efficient investigation of flood risk and ensure high and consistent standards are maintained. While in the short term these 'after the event' investigations won't have much impact on minimising flood risk to important infrastructure, as time goes on they allow more targeted and accurate flood risk management interventions, which will improve the resilience of transport and critical infrastructure.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 7 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and flood risk, emergency planning and climate adaptation policy and legislation.</p>							

	<u>Cumulative effects</u> : When taken together with other actions cumulative effects are broadly positive.							
LF RMS Action	17. Develop data capture protocols and processes for capture and strategic analysis of flood incident data – including gather of information from other RMAs where appropriate							
SEA Objective	Impact / timescale			Type of effect				Analysis
	S	M	L	P	T	D	I	
1. To minimise flood risk and to reduce the impact of flooding.	+	+	+		✓		✓	The process of gathering information for strategic analysis of flooding is an important component of prioritising interventions and identifying the vulnerability of key receptors to flooding. There are, therefore, benefits to minimising flood risk from this action.
2. To protect and enhance biodiversity and geodiversity and improve habitat connectivity.	0	+	+		✓		✓	Strategic analysis of flooding data is likely to benefit biodiversity, which may present part of the solution through provision of ecosystem services, or may receive protection from flooding in other circumstances.
3. To enhance or maintain water quality and improve efficiency of water use.	0	+	+		✓		✓	Strategic analysis of flooding data is likely to benefit water quality as unanticipated flood events and subsequent ingress of pollutants will become less frequent.
4. To safeguard and use soil and land efficiently.	0	+	+		✓		✓	Strategic analysis of flooding data is likely to benefit soil and land resources as strategic analysis is likely to highlight the important role that good management of land plays in avoiding flooding.
5. To conserve and where possible, enhance the historic environment, cultural heritage and the aesthetic qualities of	0	+	+		✓		✓	Strategic analysis of flooding data is likely to benefit the historic, cultural and aesthetic landscape as the natural flow of rivers may be recognised with landscape benefits and cultural attractions are likely to receive greater protection.

landscapes and townscapes.								
6. To reduce the causes of climate change and to adapt to the effects of climate change.	+	+	+		✓		✓	Data capture and strategic analysis will be an important component of the response to climate change and should help to anticipate where the key impacts from climate change will fall. Depending on the methodologies employed and the application of the data, the positive effects of this action could be increased.
7. To protect and where possible, improve the wellbeing, health and safety of local communities.	+	+	+		✓		✓	The process of gathering information for strategic analysis of flooding is an important component of prioritising interventions and identifying the vulnerability of key receptors to flooding. There are, therefore, benefits to minimising flood risk, and this improving safety and wellbeing from this action.
8. To conserve and protect important and essential material assets and infrastructure.	+	+	+		✓		✓	The process of gathering information for strategic analysis of flooding is an important component of prioritising interventions and identifying the vulnerability of key receptors to flooding. There are, therefore, benefits to minimising flood risk to key infrastructure that accrue through this action.
Secondary, Cumulative and Synergistic Effects	<p><u>Secondary effects:</u> Indirect effects are taken to be equivalent to secondary effects. In this assessment they relate to SEA objectives 1, 6, 7 and 8. For all these objectives, while it is not the intention of the LFRMS objective to directly protect the subjects covered by the SEA objectives, they are supported as a by-product of objective implementation.</p> <p><u>Synergistic effects:</u> There are positive synergies between this action and flood risk, planning and climate adaptation policy and legislation.</p> <p><u>Cumulative effects:</u> When taken together with other actions cumulative effects are broadly positive. There may also be positive cumulative effects with other plans, particularly development plans.</p>							

Appendix 2 Results of Scoping Consultation

Questions specific to the Strategic Environmental Assessment Scoping Report were produced for feedback. In addition, consultees had the option to submit general comments by other means. The statutory consultee comments are detailed within the tables and the comments from other organisations and members of the public are coded in order to protect individuals' identities. The responses are detailed below, and the question to which they refer or section of the report towards which the comment is directed are also detailed. A questions key is provided at the bottom of this appendix, for reference.

Respondent	Question no. or section of the report to which the comment refers	Comments	NYCC Response
SEA1	4	It is unclear which of the main sources within Table 3.2 have led to the key messages. Has greater emphasis been given to local PPPs?	All of the sources listed within the 'main sources' column support the key message(s) that they are associated with. The same degree of emphasis has been placed on international, European, national and local PPPs.
SEA1	5	I was unable to see within the PPPs and key messages if the current Environment Agency's plans to withdraw from maintenance of the river network has been considered.	Comments noted. The protocol for the maintenance of flood and coastal risk management assets (by the Environment Agency) has now been added to the PPPs.
		Furthermore, the impact of climate change on the future of food production is identified in Table 4.1 but unclear within the PPPs?	The key issues identified in Table 4.1 have arisen from the environmental baseline conditions currently found across the county. These data show that climate change could affect food production in North Yorkshire.
SEA1	6	Within table 4.1, I feel there are a number of information gaps that would further improve clarity and understanding of the key messages:	N/A
SEA1	6	<ul style="list-style-type: none"> • <i>Much of the farmland in North Yorkshire is covered by some form of agri-environment scheme.</i> Although this is a good current baseline (and CAP change is acknowledged in the appendices). That fact is linked to an NYCC indicator (Table 5.1 obj. 2) and current proposals by Natural England are to reduce the area 	The objectives, sub-objectives and indicators currently proposed will allow assessment of the LFRMS and alternative strategies. Monitoring

		covered by Agri-Environment Land Management Schemes (c. 70% to 35%). How will this affect NYCC monitoring and reporting of this change and impact upon flooding programs?	indicators for surveying the implemented strategy over time will be proposed in the Environmental Report.
SEA1	6	<ul style="list-style-type: none"> Despite the above characteristics of the county, many habitats in North Yorkshire are fragmented and isolated, and many are also at risk from flooding. Certain species, such as the Great Crested Grebe and other nesting water birds (including ducks and swans), wading birds (such as the Redshank), the common lizard, adder and tansy beetle are more vulnerable to flood events than other species. We welcome the acknowledgement of loss of species from flooding land. Experience of recent flooding events has seen prolonged flooding of agricultural land and has damaged flora and fauna species and agri-environmental scheme options. 	Thank you, comments noted.
SEA1	6	<ul style="list-style-type: none"> Woodland and forest provide a valuable function for flood alleviation, in addition to other benefits such as carbon sequestration and provision of biodiversity. Care is needed when considering the benefits of forestry, as flooding incidents have occurred as a result of blockages from forestry. Forestry has also contributed to flooding when clear-felled. 	Comments noted. This statement has been updated with inclusion of the issues surrounding forest management.
SEA1	6	<ul style="list-style-type: none"> Significant floodplains form around large parts of these rivers, becoming more significant as they travel east. I presume this is from the Dales into the Vale of York, but the issues also become significant as it travels South as the river network connects with others. 	Comments noted - this statement has now been updated to include southern parts of the county.
SEA1	6	<ul style="list-style-type: none"> Much of the county is made up of high quality farmland, though there are significant areas of poorer soils, particularly in uplands. Agricultural activity and poor soil quality may increase the risk of flooding within certain areas. We request that further details be provided about the link of poor soils and the uplands, and poor quality soil and flooding risk. This is a very sweeping statement and without further context could be misinterpreted. <u>Please can feedback be provided?</u> 	Comments noted - this statement has now been updated.
SEA1	6	<ul style="list-style-type: none"> In addition, parts of the county are subject to issues such as soil erosion and compaction, which can increase flood risk in certain areas. Can details be also provided for why this bullet point is separate and its link to other farmland areas? It is linked within the appendices. 	This bullet point is simply to highlight that soil erosion and compaction can add to flood risk and is not specifically linked to agricultural practices/farmland. 'In addition' has been removed from the beginning of this sentence to avoid confusion.
SEA1	6	<ul style="list-style-type: none"> Per capita emissions are falling, but remain highest in the more rural parts of the county. Can details be provided for what context this is set in? Is this just methane? 	These data are from Defra/DECC and for CO ₂ emissions only. Data are provided by local authority area, and tend to be higher in rural

			areas. The data are compiled from the National Atmospheric Emissions Inventory and other sources such as local energy consumption data. Emissions are allocated on an 'end user' basis (for consumption of energy/or production of emissions). Production of goods, however, are assigned to where production takes place.
SEA1	6	<ul style="list-style-type: none"> Climate change is likely to have a range impacts on North Yorkshire including increased flooding, damage to infrastructure and effects on food production. We fully agree that this is a major issue for the region and rural economy. 	Comments noted.
SEA1	6	<ul style="list-style-type: none"> There are a large number of agricultural businesses within the County, many of which could be at risk of insolvency due to the potential impact of flooding. Although extremely worrying for many, we welcome the inclusion of this statement and the importance of protecting agricultural land from flooding. 	Comments noted.
SEA1	6	<ul style="list-style-type: none"> The County is largely rural, and contains large areas of farmland that are used for food production. Again a very important point. It may also be worth linking farming and the tourism sector? 	Comments noted. This report focusses on the environmental impacts of flood risk management. The issues that have been drawn out from the baseline and PPPs seek to clarify the main environmental considerations and issues for the county.
SEA1	6	As mentioned before, I was unable to see within Table 4.1 key environmental messages the current Environment Agencies plans to withdraw from river maintenances and the river network (allowing IDBs to take on works?).	Comments noted. The protocol for the maintenance of flood and coastal risk management assets (by the Environment Agency) has now been added to the PPPs.
SEA1	7	Within table 5.1, there are a number of information gaps that would further improve clarity and understanding:	N/A
SEA1	7	<ul style="list-style-type: none"> Obj. 4 Indicator 2 - Number of agriculture, forestry and fishing Local Business Units (Defra). Is this up or down? 	No trend has yet been established for this indicator.
SEA1	7	<ul style="list-style-type: none"> Obj. 5 Indicator 2 and 3 - Number of planning conditions related to visual amenity for flood risk management works (NYCC). Number of planning conditions related to visual amenity for flood risk management works located in the green belt/designated landscapes/conservation areas (NYCC). Again, are conditions to be increased or reduced, and what impact will these conditions have 	No trend has yet been established for this indicator.

		upon flood programs?	
		<p>Section 2.4 of the Appendices states that “Within the county there are around 14,000 listed buildings. Of these listed buildings, 53 are on English Heritage’s ‘at risk’ register; although more are on local ‘at risk’ registers. The main reasons for buildings being at risk are being in remote and inaccessible locations, being replaced by modern agricultural buildings and through lack of repair”. I fear that this is a very complex issue in relation to current planning rules, availability of funds for investment and the need for farming to operate modern farming techniques. I would welcome further discussion on this point.</p>	<p>Thank you for your comments on this issue. The aim of the baseline data and information that are supplied in this appendix is to give an indication of the main environmental issues currently facing the county. The baseline is a purely factual account and this particular point seeks to highlight why some listed buildings across the county are currently at risk. This information allows us to identify where effects from the flood risk management strategy might occur.</p>
SEA1	7	<p>Although clearly identified as important environmental issues (page 23), food production and agricultural business insolvency does not appear to be covered within the SEA framework (Table 5.1). Can details be given or their inclusion made as appropriated.</p>	<p>The environmental issues identified from the baseline are a compilation of all issues across the county - some of which are related to flooding, others aren't. The indicators then devised aim to take account of the potential impact that the LFRMS and flooding may have on environmental conditions across the county. It is noted that flood events and food production are related, and this has been included in the list of sub-objectives in the SEA framework. Agricultural business units are measured as an indicator under environmental objective number 8.</p>
SEA1	General comment	<p>As a separate note, I very much liked the summary of “Civil emergencies – flooding” contact, and will encourage other to use such a clear format of communication - http://www.northyorks.gov.uk/index.aspx?articleid=2789.</p>	<p>Thank you, comments noted.</p>
SEA2	General comment	<p>Our overall comment is that the Scoping Report is very comprehensive and essentially follows the format of the Scoping Report for the Minerals and Waste Plan, the objectives are appropriate and include all the things we would be looking for subject</p>	<p>Thank you, comments noted.</p>

		to the comments listed below.	
SEA2	5	Table 3.2 - The right hand column doesn't mention National Park Management Plans. The North York Moors Management Plan (2012) should be referred to against the issues of protecting and enhancing biodiversity, addressing flooding, protecting and enhancing the historic environment, conserving and improving landscapes, reduce contribution to climate change, promote use of renewable energy and protect geological diversity.	Comments noted. The NYM Management Plan has been added to the sources of the issues suggested.
SEA2	8	In the SEA objectives specific reference to National Parks and AONBs should be included in a sub-objective under objective 5, either within the list of designated sites/features or as a separate objective along the lines of 'protect and enhance the special qualities, including the setting, of National Parks and AONBs'.	Comments noted - a sub-objective under objective 5 has been added to cover this issue.
SEA2	General comment	The table at 1.4 needs to include the NYM LBAP as well as the local authority BAPs, although it is mentioned later on Page 43.	Comments noted - the North York Moors LBAP has now been added to the list of local authority BAPs.
SEA2	General comment	Under trees and woodland (Page 41) Planted Ancient Woodland Sites (PAWS) should also be highlighted as the NYM and wider North Yorkshire have a high concentration of this important resource.	Comments noted - PAWS have now been added to this section of the baseline.
SEA2	General comment	Under agri-environment on page 43 it might also be mentioned that National parks can offer other locally specific agri-environment grants and agreements.	Comments noted - this has now been added to this section on agri-environment schemes.
English Heritage	General comment	In terms of the historic environment, we consider that the Scoping Report has identified the majority of plans and programmes which are likely to be of relevance to the development of the Strategy, that it has put forward a suitable set of Objectives and Indicators, and that it has established an appropriate Baseline against which to assess the Plan's proposals. Overall, therefore, we believe that it provides the basis for the development of an appropriate framework for assessing the likely significant effects which the Local Flood Risk Management Strategy might have upon the historic environment of the City.	Comments noted, thank you.
English Heritage	Table 3.1	This Section should also make reference to the Fountains Abbey/Studley Royal World Heritage Site Management Plan.	The Fountains Abbey/Studley Royal World Heritage Site Management Plan has now been added to the PPPs.
English Heritage	Table 5.1, Cultural Heritage, third Proposed Sub-Objective, page 28	The third Proposed Sub-Objective is already adequately covered by the provision of the second Sub-Objective and, as a result, could be deleted.	Comments noted, this sub-objective has now been removed.
English Heritage	Table 5.1, Cultural	Whilst there are some heritage assets that would benefit from reducing the impact of flooding, others,	Comments noted, this SEA sub-objective has

	Heritage, third Proposed Sub-Objective, page 28	such as waterlogged deposits may be harmed by measures that reduce flooding. In one settlement, for example, whilst the flood defences would have protected the buildings in the Conservation Area from the harmful effects of flooding, the sheet piling associated with these defences, potentially, could have provided a barrier between the river and archaeological remains with the result that there was concern that this would lead to the desiccation and eventual destruction of the remains. Therefore, it might be preferable to amend the proposed SEA Objective along the following lines: - "To minimise the harm which flooding causes to the significance of heritage assets".	now been changed.
English Heritage	Table 5.1, Cultural Heritage, third Proposed Sub-Objective, page 28	None of the proposed Indicators seem likely to actually monitor what effect the strategy of the Plan is having upon the heritage assets of North Yorkshire. It is suggested that these are replaced by:- "Number of heritage assets whose significance is threatened or harmed through flooding that have been protected by flood defence measures"; "Number of heritage assets whose significance has been harmed by or enhanced through flood defence measures".	Comments noted, an additional indicator 'Number of heritage assets on the 'at risk' register where flooding is cited as a reason for that site being at risk' has now been added.
SEA4	General comment	AONBs are mentioned in the sections I would expect and so I don't have any further comments to make.	Comments noted, thank you.
Natural England	1	Yes (agreement with the approach taken towards the SEA).	Thank you.
Natural England	2	Appendix III, stage 4 of HRA should refer to 'procedures where adverse effect on integrity of international site remains'.	Comments noted, this has now been changed.
Natural England	2	Stage 1, task A, Natural England agrees that HRA of the LFRMS is likely to be required.	Comments noted, thank you.
Natural England	2	Task B, it appears that all sites have been identified. Task C, we will check the conservation objectives and threats at a later stage in the development of the FRMS.	Comments noted.
Natural England	3	No comment to make.	Comments noted.
Natural England	4	Yes, although reference should be made to Annex A below. NCA profiles should be listed under 'landscape' rather than 'additional environmental issues'.	Comments noted, the NCAs have now been listed under landscape.
Natural England	5	It would be useful to number the key messages, for ease of reference.	Comments noted, the key messages have now been numbered.
Natural England	6	Yes, although refer to Annex A below. We would advise separating cultural heritage (includes historical assets) from landscape (National Parks, AONBs, Heritage Coasts, National Character Areas etc.).	Comments noted. It is felt that the aims of preservation and enhancement of the historic environment and landscape can be covered in one objective.
Natural England	7	Table 4.1: Biodiversity, flora and fauna: risk of increased flooding to native species, can you give some examples of species and habitats that are at threat/ benefit from increased flooding.	Comments noted. Types of habitat at risk from flooding and native species at risk from flooding have now been added to this list.

Natural England	7	Cultural heritage and landscape (as above we would advise separating these topics.) we would advise naming the AONBs and Heritage Coasts (as well as the National Parks).	Comments noted, AONBs and heritage coasts have now been referred to within the sub-objectives.
Natural England	7	Additional environmental issues: Coastal geological SSSIs are not 'at risk' from erosion, Natural England accepts that coastal SSSIs will be changed by natural coastal processes, allowing new features to be exposed/ created.	Comments noted, this statement has now been removed.
Natural England	7	Add a bullet point: Wherever possible the FRMS should work with natural processes, particularly on the coast.	Comments noted, this statement has now been added.
Natural England	8	Table 5.1, climatic factors: 'sustainable adaptation' should include adapting to natural coastal processes wherever possible, in line with SMP policies.	Comments noted, this has now been added.
Natural England	9	See the comment for Q8.	Comments noted.
Natural England	10	Please give a clearer explanation of 'reliance on statutory guidance (business as usual)' would this include alternatives identified as a result of consultation with statutory agencies?	Comments noted. The Environmental Report now gives a definition of the 'business as usual' alternative.
SEA6	1	SEA is a well-recognised systematic process for undertaking an environmental assessment of proposed policies, plans or programmes to ensure that any environmental issues are addressed and are wholly integral to the project at the earliest possible stage of decision making. The SEA is a statutory requirement under the European Directive 2001/42/EC (The SEA Directive), and is transposed into UK law by the Environmental Assessment of Plans and Programmes Regulations (2004). The Scoping Report should fulfil the requirements of the first stage of the SEA process. The general approach to the SEA sets out the environmental context and SEA objectives by which the LFRMS will be appraised. NYCPRE concur that the general approach to the SEA is in line with the Practical Guide to the SEA Directive published by the Office of the Deputy Prime Minister (now the Department for Communities and Local Government).	Comments noted, thank you.
SEA6	2	There is a requirement under UK law for a Habitat Regulations Assessment to be undertaken on the LFRMS. North Yorkshire County Council has indicated its intention to undertake the SEA and the Habitats Regulations Assessment simultaneously as the two can inform each other. The SEA will seek to improve the environmental performance of the Strategy and reduce or mitigate any detrimental environmental effects. The Habitats Regulations Assessment will test the effects of the Strategy on the integrity of European Nature Conservation Sites. The scoping report sets out the methodology for undertaking the Habitats Regulations Assessment, and details which nature conservation sites will be considered in the Assessment, explaining the ways in which they may be sensitive to changes in the environment. (A later report will establish whether the LFRMS is likely to have a significant effect on	Comments noted, thank you.

		European sites and whether or not it is possible to reduce impacts on those sites to non-significant levels). European sites include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). In the UK, through paragraph 118 of the National Planning Policy Framework (NPPF), Ramsar sites are afforded the same protection as SPAs, although they have international importance rather than just European. The NPPF also states that potential SPAs (pSPAs) and potential SACs (pSACs) should be given the same protection as European sites. NYCPRE acknowledge that the LFRMS is not a planning document, however, welcome the fact that North Yorkshire County Council recognise within the scoping report that potential sites and Ramsar sites are afforded the same level of protection as designated European Sites within the NPPF which reflects wider Government policy.	
SEA6	2	NYCPRE agrees the methodology for the Habitats Regulations Assessment and acknowledges that the Source-Pathway-Receptor approach is an established principle of assessment which should state whether significant effects will occur or are likely. NYCPRE are in full agreement with North Yorkshire County Council that the list of SPA, SAC and Ramsar sites within North Yorkshire are in accord with those listed on the Joint Nature Conservation Council (JNCC) website.	Comments noted, thank you.
SEA6	2	However, it has been brought to the attention of NYCPRE that the JNCC are currently investigating extending the existing SPA to beyond Flamborough Head and Bempton Cliffs to the south of Filey to reflect the fact that the internationally recognised important breeding birds have increased in number and extended beyond the original colonies. This may be something that the LFRMS may wish to include and the need for an appropriate assessment under the Habitats Regulations Assessment be investigated.	Comments noted. The extension to the boundary to Flamborough head (Flamborough and Filey Coast is now a pSPA) has now been included within the Habitats Regulations Assessment.
SEA6	3	The European Water Framework Directive (2000/60/EC) became part of UK law in December 2003 as part of the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (WFD). The primary purpose of the WFD is for the achievement of good chemical status, good ecological status and good ecological potential to be reached in all natural water bodies, all artificial water bodies and heavily modified water bodies by 2015. In order to help achieve these aims the Environment Agency identified 11 River Basin Districts across England and Wales so that the water environment could be managed appropriately. North Yorkshire lies within the River Basin District (RBD) of the Humber River Basin, the North West River Basin and the Northumbria River Basin. A River Basin Management Plan was created for each area in order to outline a series of mitigation measures so that each RBD could reach the required status in all of its water bodies.	Comments noted.
SEA6	3	North Yorkshire County Council has indicated its	Comments noted, thank

		<p>intention to undertake a WFD Assessment and the SEA simultaneously to ensure that the LFRMS is delivering WFD objectives. As the LFRMS is to be a strategic plan, the WFD assessment will need to be undertaken in a suitable way to highlight any tensions at the strategic level of the LFRMS. The LFRMS will set out strategic objectives and actions for managing flood risk, it will also guide the development of more detailed catchment and community action plans. NYCPRÉ believe, therefore, that the four key reasons described by North Yorkshire County Council as to why there is a need for considering the WFD in the assessment of the LFRMS are accurate and justified. The WFD assessment methodology is compliant with the Environment Agency Guidance. NYCPRÉ would welcome the opportunity to comment further on the specific detail on the effect of the measures outlined in table WFD2, in particular, those described as 'uncertainties' between the WFD objectives and the SEA sub-objectives when the next round of consultation takes place.</p>	<p>you. CPRE will be consulted in due course on the Environmental Report and WFD assessment for the LFRMS.</p>
SEA6	4	<p>NYCPRÉ are in agreement with North Yorkshire County Council that the review of PPPs is in accordance with Annex 1(a) and Annex 1(e) of the SEA Directive, with the caveat that significant PPP documents which may be developed and adopted in the future should also be reviewed at the earliest opportunity, therefore the baseline of the SEA will need to be continually updated, (for example and amongst others the Local Plan for York, the Local Plan for Craven and Ryedale Local Plan).</p>	<p>Comments noted, thank you. The list of PPPs will be updated as more documents of relevance to the LFRMS and SEA are published.</p>
SEA6	4	<p>NYCPRÉ would also recommend that North Yorkshire County Council review European Guidance concerning maritime coastal planning. The EU have recently published a draft proposal which will, once transposed to English law, require all coastal authorities to produce Integrated Coastal Zone Management Plans (also paragraph 105 of the NPPF), therefore the LFRMS should be developed in a way that will incorporate and support any such future plans.</p>	<p>Comments noted. The proposed legislation has now been included within the PPPs review.</p>
SEA6	5	<p>The key messages from the PPP review all support the Government's principal policies in favour of sustainable development, therefore NYCPRÉ broadly accepts them. NYCPRÉ, however, have noticed that 'Heritage Coast' appears to be missing from the 4th key message: 'Conserve and improve local environmental quality, townscapes and landscapes, including national parks and AONBs'. Although the Flamborough Head Heritage Coast is primarily within the East Riding of Yorkshire, it abuts the boundary between North Yorkshire and the East Riding of Yorkshire. It is noted that North Yorkshire County Council have included a 15km buffer around the boundaries of sites of SPA and SAC in order to take account of special settings and cross-district boundaries etc. Given that Heritage Coasts are awarded the same level of protection as those sites under the Birds and Habitats Directives and National designations (Sites of Special Scientific Interest,</p>	<p>Comments noted. The Heritage Coast is now included within the key messages.</p>

		Areas of Outstanding Natural Beauty, etc.) within the NPPF (paragraph 14) NYCPRE feel it may be relevant to include the Heritage Coast within this key message in order to help define the environmental objectives of the LFRMS.	
SEA6	6	It is critical to any SEA that there is an understanding of baseline environmental conditions across the study area, in this case the county of North Yorkshire. The SEA Directive defines a number of environmental topics that should be investigated as baseline information. NYCPRE would support these and agree with North Yorkshire County Council that in this case, the topic of air, is unlikely to be impacted by strategies put forward in the LFRMS so can be scoped out at this stage.	Comments noted, thank you.
SEA6	6	It is acknowledged that the baseline that has been identified against the relevant SEA topics highlights themes relevant to the LFRMS as a factual account, rather than at this stage considering ways in which to address them. It is with this in mind that NYCPRE would like to contribute factual information regarding events that have occurred/are occurring throughout the county of North Yorkshire towards the baseline information, which go beyond the Environment Agency flood zone maps to provide more localised information. NYCPRE members across the county are concerned that the cumulative effects of high intensity rain fall events and prolonged rainfall, which has been occurring on a more frequent basis over the past few years, are contributing to flood events which are rendering properties, businesses and agricultural fields unusable and unliveable. Particular concerns have been raised concerning the Gypsy Race in Ryedale. The Gypsy Race is located in the Great Wold Valley (the majority of which is described as having a 1:100 year flood event risk area by the Environment Agency). The Gypsy Race can be characterised in two zones: the Gypsy Stream, which flows from Wharram to Wold Newton, and the permanent river from springs or risers at Wold Newton which flows to the North Sea at Bridlington (within the East Riding of Yorkshire). The level of the underlying water table largely determines the level of flood risk in both zones; however, the part of the valley between Wharram and Foxholes (designated as an Area of High Landscape Value) is at a higher risk of flood events due to the resurgent springs and surface water run-off from the steeper valley sides. The protracted rainfall and extreme weather patterns of the past two winters have resulted in localised flooding within villages and in fields along the course of the Gypsy Race (indeed Burton Flemming, albeit within the East Riding of Yorkshire, which was that badly affected by flooding it gained much media attention and a subsequent Royal visit to meet the flood victims and assess the damage). The Parish Councils in the villages of Weaverthorpe and the Luttons have taken it upon themselves to clear the Gypsy Race within the villages for which they are responsible in the hope of reducing the threat of	Comments noted, thank you. Although the SEA takes into account (at a strategic level), the impact of flooding on people, property and business, it is outside the scope of the SEA to take into account specific locations experiencing increased flooding. The Local Flood Risk Management Strategy itself will prioritise actions to take place along certain watercourses, or bodies, depending on a number of factors. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors

		<p>flooding. Although the Parish Councils can clear the culverts under property accesses, those under the highway, gulleys and grips (both within and between the villages) are the responsibility of the Highways Authority and remain a particular local concern. NYCPRE members are reporting that the course of the river bed is changing due to the amount of silt which is being allowed to build up. Villagers are also concerned that there have been several examples of recent developments within the villages which are experiencing flooding where there has been a history of flooded basements or localised surface flooding which causes the question to be asked as to whether the Local Planning Authorities are enforcing base floor levels appropriate to the flood risk within the area.</p>	
SEA6	6	<p>Similar concerns regarding surface water flooding are apparent in the villages of Sand Hutton and Claxton, adjacent to the A64 main highway and also in Brawby, Old Malton and Norton. NYCPRE members are concerned by the speed at which the surface water runs down the lanes (once the drains are full) and into the centre of the villages. The flood defences at Old Malton caused the water in the Costa Beck to build up and flood so badly at the Low Marishes that farmers had nowhere to house livestock and a number were lost to the weather conditions. Although NYCPRE recognise that 2012/3 has been categorised as a 1:100 year event, it is also recognised that the water table and land was so permeated from previous rainfall events that this only escalated the problem and without reducing the water table somehow concerns are raised that this may occur in the winter of 2013/14 again, should the weather patterns continue, as the problem will not have been addressed.</p>	<p>Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.</p>
SEA6	6	<p>The centre of the village of Scrayingham, situated less than 500m from the River Derwent, is currently contaminated with raw sewage which has been picked up and dispersed by the flood waters. There is particular concern with regard to human and animal health and safety but also the fact that this area is designated as a SAC. Although the landowner and Yorkshire Water are currently working together to alleviate this problem, there are concerns that such flooding events in the future could cause this to occur again due to the number of unconsented discharge channels directly into the Beck.</p>	<p>Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.</p>
SEA6	6	<p>Within the District of York and Selby NYCPRE members have reported that whole villages have been cut off as a direct result of flooding and that these events are becoming more frequent and taking an increasing period of time to remove the flood waters. It has been suggested that the River Ouse could be intercepted further upstream, before entering York and only let through barriers once there is sufficient capacity within the city to attempt to alleviate some flooding. Selby is particularly vulnerable to flooding as many of the major waterways in the County pass through it including the</p>	<p>Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.</p>

		Rivers Foss, Ouse, (tidal to Naburn) Wharfe and Aire Canal. Just downstream of Selby the Rivers Derwent and Trent join to form the River Humber.	
SEA6	6	In the Harrogate District, it has been well documented that Fountains Abbey has suffered more damage as a result of recent flooding events than has occurred over the past 100 years. NYCPRE members are concerned that historic ancient monuments and listed properties are increasingly at risk from flood events and would wish to see more protection put in place for these sites.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	Within the same District, the village of Roecliffe has suffered more severely with flooding from the rivers Ure and Tutt that enter Boroughbridge. Waters went over the Environment Agency Flood Line earlier this year (2013) at Roecliffe flooding several properties. Roecliffe is dependent upon a pump to stop the dwellings on Bar Lane from flooding. The risk of the pumps breaking down is a constant anxiety for the residents living locally. New large scale industrial buildings and increased concreted areas on Bar Lane has added to the existing flood problems in this location. Moor Monkton has also suffered worsened effects of flooding in the past year and much of the low lying farmland in that area remains without crops in the fields. Baldersby and areas close to the River Swale are much the same with crops of Winter Barley being seeded and then washed away leaving no crops on the land. Whixley has suffered recent flooding problems primarily from surface water runoff from the fields surrounding the village; historically a farmyard stored the waters from the runoff from the land above. The situation altered when the farm was sold and the farmyard and buildings were subsequently developed. Although the farmyard does not flood any more, the result is that the waters make their way down the roads to the lower levels of the village, thus flooding properties with no history of flooding. The Environment Agency has recognised that vast areas of the districts land suffers from surface water runoff which causes the flooding of many roads and properties.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	Fluvial runoff from undefended rivers is also causing problems within the district and the best value agricultural lands are suffering from crops being washed away and the crops rotting in water saturated land. The water tables are high and the ground has, in recent time, become saturated. Standing water is unable to enter the drains due to the height of the river levels as a result of prolonged rainfall.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	It has been noted by NYCPRE members in the Harrogate district, that flood defences on the River Laver have helped with flooding in Ripon and that the flood defence works within the City has lessened the risk to the most historically vulnerable properties.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	Similar concerns are raised by NYCPRE members in the north of the county (Swaledale and Wensleydale). Recently, a vast amount of agricultural	Comments noted. We have communicated these concerns

		land has flooded regularly, which has allowed for the slow release of flood waters and thus prevented greater damage on lower lying land, although in one sense this appears to be beneficial, it is actually some of the best agricultural land in the area and therefore ruinous for livelihoods. It is believed that the main rivers in the area have been built up with silt and debris from past flooding events. It has been suggested that if these were cleared out more regularly, some of the better agricultural land may not be quite as flooded so regularly. It is acknowledged that floodwaters would potentially reach the districts of York and Selby much more quickly; however, the NYC PRE members would again suggest that in order to alleviate this problem, water could be held in an area before it gets to the city and more densely populated areas and then released as the capacity becomes available.	regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	NYC PRE members in the Craven district have reported that flood defences are currently being constructed in Skipton, however, concerns are raised that given the intensity and frequency of recent extreme weather conditions, water being 'held' further upstream may cause problems elsewhere. It is also reported that due to the recent weather conditions, the Aire flood plain has been inundated more frequently and for longer periods than historically and that the village of Carleton has been regularly cut off.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	In the north of the district of Craven, the River Ribble frequently floods at Rathmell Bottoms resulting in road closures. The same river also frequently bursts its banks along the valley running from Settle to Long Preston which consequently leads to large areas of agricultural land being submerged by flood waters for extended periods. This area of flooding also includes a Site of Special Scientific Interest called the Long Preston Deep. Craven members of NYC PRE have also reported that two local Becks in the same area (the Kell Well and Bend Gate Sykes) have been the subject of unauthorised culverting by local developers which has led to increased flooding at Hellifield village where the Becks join the River Ribble.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	The catchment area of the Eastburn Beck (in the southern part of Craven district) is large and the 'Beck' responds rapidly to rainfall events. The extreme weather events in the years 2004, 2007 and 2012/13 caused large scale flooding in the villages as well as huge increases in its flow. A special study of its impact was made when there were floods downstream from Keighley to Leeds (it is believed this was in the Pitt Review 2009). Innovative measures were taken in Glusburn where the flooding was primarily as a result of surface water racing down the 'corridors' created in the contours of roads and tracks. Waters were redirected via square holes cut into the stone of the bridge to take the surface water rushing down the road as well as the Beck water. Concrete kerbs with holes replaced the normal	Comments noted. We have communicated these concerns and the best practice cited regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.

		kerbs and eventually a wide pipe was installed under a central village grazing field leading to a large holding tank under the village school's playing field. The effect of this on the flooding downstream in Sutton was dramatic as their Beck water had been augmented by Glusburn's run-off.	
SEA6	6	NYCPRE members in the Craven area have also reported a deepening in the river bed at Sedgewith Beck of up to four foot six inches which is believed to have occurred in the past decade and is presumed to be evidence of global warming.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	The River Wiske (Swale catchment) in the Hambleton district breaks its banks near Appleton Wiske on an annual basis. Similarly Brompton Beck often breaks its banks in the vicinity of Brompton and Northallerton. The Environment Agency construct relief schemes based on a cost-benefit basis, however, it would perhaps be prudent to invest in some more permanent schemes in known places. Extreme weather conditions similar to those experienced recently only add to the annual problem flooding causes in these areas and make it worse. Flood banks along the River Swale as it passes through Hambleton are effective for the villages in the area, however, add to problems of capacity at York.	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	The members of NYCPRE who live within the coastal district of North Yorkshire have reported that when there are heavy rainfall events, the streams run off the moors into the rivers and out in to the North Sea. Should these events coincide with a high tide and as is often the case, a high wind blowing from the sea, big erosion problems can occur. There is some concern amongst members that Whitby often gets overlooked and that Robin Hoods Bay and Sandsend are covered by studies and consultation on coastal erosion. (See consultation response to question 4 above and question 7 below regarding Maritime Coastal Planning Bill.)	Comments noted. We have communicated these concerns regarding the nature of flooding and flood risk at this specific location to the LFRMS authors.
SEA6	6	It is hoped that these localised accounts of flood problems will strengthen the County Council's evidence baseline when undertaking the SEA in order to more accurately predict and monitor the effects of implementing the LFRMS.	Thank you for bringing these issues to the council's attention. As stated in response to the above comments, this information will be passed to the strategy team to be taken into account when prioritising actions as part of the LFRMS.
SEA6	7	Under the final heading 'additional environmental issues' within table 4.1 – the environmental baseline key issues for the North Yorkshire Local Flood Risk Management Strategy, reference is made 'to strategies and measures outlined in the LFRMS taking account of Geodiversity, tranquillity and the marine and coastal environment.' The Technical Guidance to the NPPF (DCLG, 2012) states that climate change is having an effect on global sea	Comments noted. This legislation is now included with the PPPs.

		<p>levels (paragraph 11). Table 4 of the Guidance, states that by 2055, land north of Flamborough Head will experience a 7mm per year net sea level rise relative to 1990. This rise in sea level will change the frequency of occurrence of high water levels relative to today's sea levels. There may also be secondary impacts such as changes in wave heights due to increased water depths as well as possible changes in the frequency, duration and severity of storm events. This alongside other problems associated with climate change, for example, prolonged and heavy precipitation in autumn/winter periods, has not been fully addressed in terms of coastal erosion – an element that the LFRMS must be consistent with in terms of the National Flood and Coastal Erosion Risk Management Strategy, monitored by the Environment Agency. NYCPRE suggests that a review of current coastal erosion legislation and that of the draft EU Maritime Coastal Planning Bill (as stated in answer to consultation question 4 above) may help steer the LFRMS in detailing how it proposes to manage flood risk from surface runoff, groundwater and ordinary watercourses which affect the coastal strip.</p>	
SEA6	7	<p>Incidentally, it appears that the annotation on Figure 5.5 shows colour codes for a 1 in 200 year event yet, the title at the bottom refers to a 1 in 30 year event, as does figure 5.6. There is concern that this may cause confusion to members of the public reading the scoping report.</p>	<p>Comments noted. Thank you for bringing this to our attention. The captions have now been updated to reflect the data presented in these figures.</p>
SEA6	8	<p>The primary outcome of the scoping stage of the SEA is the development of the SEA framework and the environmental objectives, sub-objectives and indicators. This framework is then used to assess the implementation of the LFRMS. The SEA objectives should ensure that all relevant environmental issues are taken into account in an integrated and appropriate way to enable decision makers to evaluate the impacts of strategies. Annex I (f) of the SEA Directive identifies topics as key determinants when establishing which environmental objectives should be considered as part of the environmental assessment framework. It is acknowledged that these objectives have been tailored to local circumstances using information gathered from the analysis of the PPPs. It is noted that the objectives developed as part of the SEA are significantly different to the objectives of the LFRMS as they serve a different purpose. It is also noted that the draft indicators may change as a result of this current stage of consultation. NYCPRE agree with the SEA objectives and sub-objectives as developed by North Yorkshire County Council.</p>	<p>Comments noted, thank you.</p>
SEA6	9	<p>The SEA Directive requires that information is provided on the likely significant effects on a number of environmental topics. Therefore North Yorkshire County Council will need to predict and appraise the significant effects of the options. The SEA Directive makes reference to criteria for determining what</p>	<p>Comments noted, thank you. CPRE will be contacted at further stages of the SEA process.</p>

		<p>significant effects might be in relation to deciding whether plans or programmes require SEA. NYCPRE agree with North Yorkshire County Council that these provide a useful indication of the issues to consider when establishing significance. NYCPRE welcomes the fact that the County Council will determine individually on a case by case basis where an impact of a plan becomes significant when required. Annex 1 of the SEA Directive requires the assessment of effects to include secondary, cumulative and synergistic effects, NYCPRE look forward to being able to comment on the findings of the assessment of the options during a future consultation stage.</p>	
SEA6	10	<p>The scoping report represents Stage A of the SEA process. Following this consultation, a finalised framework will be used to assess the objectives and measures generated by the LFRMS which will represent Stage b of the SEA process. The outcome of Stage B will be the Environmental Report. A fundamental component of the SEA process is the assessment of alternative policies and strategies. This should enable the environmental implications of more than one approach to the Strategy to be considered against each other and the best and most appropriate outcome to be undertaken. Article 5.1 of the SEA Directive states that the Environmental Report should state the reasons for selecting the alternatives dealt with. NYCPRE agree that the approach to alternatives is appropriate and is in line with the SEA Directive and the Practical Guide to the SEA Directive. An SEA will be undertaken on each alternative which should help to inform the final shape of the selected objectives. It is hoped that should the objectives change, or baseline data be updated as a result of this consultation, that the alternatives will be applied to each new objective as updated.</p>	<p>Comments noted, thank you. The assessments carried out as part of the SEA will include the final set of objectives and updated baseline information, based on this consultation as well as consideration of alternatives.</p>
SEA6	10	<p>In conclusion, North Yorkshire CPRE members believe that the scoping report for the North Yorkshire County Council LFRMS SEA is in general accordance with the SEA Directive, WFD and the Habitat Regulations. It is hoped that the information provided by members throughout the consultation will be integrated as required into the LFRMS and the SEA in order to be fully representative of the issues face by North Yorkshire.</p>	<p>Comments noted, thank you.</p>
SEA6	10	<p>North Yorkshire CPRE look forward to the opportunity to comment on future consultations of the Environmental Report once the actual SEA has been undertaken and objectives and indicators agreed.</p>	<p>Comments noted, thank you. CPRE North Yorkshire will be updated on the SEA as it is carried out.</p>
Environment Agency	General comment	<p>Thank you for our chance to comment. It's great to see SEA consultation at the appropriate time within the development of the LFRMS. It's also really refreshing to see WFD addressed within the SEA. Comments from our WFD specialists are as follows:</p>	<p>Comments noted, thank you.</p>
Environment Agency	General comment	<p>The introductory sections are very clear regarding the interaction between the LFRMS and WFD; however, the scoping table (WF2) appears somewhat confused in a number of places. Specifically:</p>	<p>Comments noted, thank you.</p>

Environment Agency	WFD Assessment appendix	1.c. "Reduce the number of people and properties at risk of flooding" is currently shaded blue to signify no impact on WFD objectives. However, any new flood alleviation work has the potential to negatively impact upon WFD objectives, therefore this line should be shaded orange and further assessment conducted.	Comments noted. This assessment has now been altered in line with these comments.
Environment Agency	WFD Assessment appendix	2.c. "Protect and enhance riparian, wetland and floodplain habitats" is likely to contribute favourably to WFD objectives and therefore should be shaded green in the table.	Comments noted. This assessment has now been altered in line with these comments.
Environment Agency	WFD Assessment appendix	2.e. "Recognise and enhance the natural capital to maintain the flow of ecosystem services" needs rewording as the objective is unclear.	Comments noted. This has now been reworded for clarity.
Environment Agency	WFD Assessment appendix	4.b. "Conserve and enhance soil resources and quality" is again likely to positively contribute towards WFD objectives therefore this should be shaded green.	Comments noted. This assessment has now been altered in line with these comments.
Environment Agency	WFD Assessment appendix	5a: "Ensure that the landscape character of North Yorkshire is conserved and where possible, enhanced". This should also be green as it probably includes things like removal of non-native invasive species, retaining of the natural functioning of rivers in the landscape.	Comments noted. This assessment has now been altered in line with these comments.
Environment Agency	WFD Assessment appendix	5.a-d. Whilst the need to conserve and enhance archaeological assets and landscape character, it should be accepted that the potential for conflict between these objectives and those of WFD may exist, and that the aims of such schemes to protect archaeological assets may run contrary to those of WFD unless carefully designed. In light of this, the section should be shaded orange in the table to highlight the potential conflict.	Comments noted, this assessment has now been altered in line with these comments.
Environment Agency	2	We're encouraged by the inclusion of Figure 2.2 and the discussion in section 2 about the development of the SEA and LFRMS side by side, to inform the actions from the LFRMS. This is an approach we would support and would like to encourage others to incorporate. [Named individual] – Local Strategies Advisor for Yorkshire is likely to be in touch to discuss opportunities to share the approach you have taken, including the screening exercise to help other LLFAs who are starting this process.	Comments noted, thank you.
Environment Agency	3	Whilst the PPP review is extensive, as is the baseline environmental data it would be recommended to focus on drawing out the links/synergies with a small number of the very relevant plans and data e.g. the RBMP and WFD baseline data and/or strategies relating the Green infrastructure of Open Spaces etc. to help support the LFRMS and the delivery of the LFRMS to make the links to the wider environment. This should link with the SEA objectives and indicators as set out in Table 5.1.	Comments noted. The key messages from the baseline data and PPPs have been updated to ensure that they draw out opportunities / synergies of the LFRMS with other PPPs.
Environment Agency	7	The sub-objectives and suggested indicators in table 5.1 do appear to be relevant to and influenced by the business of management of Flood Risk, with the exception of the indicators for Climate Change, which numbers 1 to 4 don't feel that relevant or influenced by the way FCRM business is conducted.	Comments noted. Mapped extent of Flood Zones under Climate Change as reported in available NY Strategic Flood Risk Assessment (NYCC) is included as a

			direct indicator. Other indicators are included as contextual indicators.
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Questions Key:

Consultation Question Number	Consultation Question in Scoping Report
1	Do you agree with the general approach we are taking towards SEA?
2	Do you think the supporting assessments being carried out are sufficient for this sustainability appraisal?
3	Do you agree with our review of plans, policies, programmes and initiatives (PPPs)? Are there any PPPs that we have not considered?
4	Do you agree with the key messages from the PPP review?
5	Do you think that we have gathered baseline information appropriate to the county?
6	Have we identified appropriate environmental issues? Are there any other environmental issues we should consider?
7	Do you agree with the environmental objectives and sub objectives? Can you think of any further indicators we should add to the SEA Framework?
8	Is there anything else we should consider when we assess options in the LFRMS?
9	Is the approach we are taking to the consideration of alternative options appropriate?
10	Do you have any other comments on the scoping report?

Contact us

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If you would like this information in another language or format such as Braille, large print or audio, please ask us.

Tel: 01609 532917

اگر آپ کو معلومات کسی دیگر زبان یا دیگر شکل میں درکار ہوں تو برائے مہربانی ہم سے پوچھیے۔

如欲索取以另一語文印製或另一格式製作的資料，請與我們聯絡。

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Aby otrzymać te informacje w innym języku lub formacie, np. w alfabecie brajla, w wersji dużym drukiem lub audio, prosimy się z nami skontaktować.

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