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North East Lincolnshire's Local Flood Risk Management Strategy

Strategic Environmental Assessment Report

Prepared by LUC
July 2014

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Client: North East Lincolnshire Council

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1 Introduction

- 1.1 North East Lincolnshire Council has commissioned LUC to undertake Strategic Environmental Assessment (SEA) of its emerging Local Flood Risk Management Strategy (LFRMS). The SEA process is concerned with assessing the potential environmental effects that may arise from the implementation of the LFRMS. This report ('the Environmental Report') presents the SEA of the final draft of North East Lincolnshire's Local Flood Risk Management Strategy (July 2014) and it should be read in conjunction with that document.

The Study Area

- 1.2 North East Lincolnshire District covers an area of 192km² and is located on the east coast of England, between North Lincolnshire District to the north-west, West Lindsey to the west and East Lindsey to the south. The north-eastern boundary of the District is formed by the Humber Estuary.
- 1.3 North East Lincolnshire is home to approximately 160,000 people, most of who live in the coastal towns of Grimsby, Cleethorpes and Immingham, with the remainder in the more rural areas of the south and west. Outside of the main urban areas and the nearby service settlements the District has a distinctly rural character, comprised mainly of small villages and hamlets.
- 1.4 Much of the coastal areas of the District lie within flood zones 2 and 3 (areas of medium and high flood risk respectively). In the eastern coastal area of North East Lincolnshire (which includes Grimsby, Cleethorpes and Immingham), the main source of flood risk is a combination of large waves and high water levels in the Humber Estuary.
- 1.5 **Figure 1.1** below shows the location of North East Lincolnshire District.

Figure 1.1 Location of North East Lincolnshire District



North East Lincolnshire's Local Flood Risk Management Strategy

- 1.6 The Flood and Water Management Act 2010 ('the Act') gave local authorities a new role to manage local flood risk in their area. The Act requires Lead Local Flood Authorities (LLFAs), which includes the North East Lincolnshire District, to produce a Local Flood Risk Management Strategy. These strategies must be consistent with the National Flood and Coastal Erosion Risk Management Strategy, which was produced by the Environment Agency in 2011. North East Lincolnshire's LFRMS should set out a vision for the management of flood risk in the District and, although the Flood and Water Management Act specifies some of the key elements that must be included in the LFRMS, it should be locally specific and should reflect key local issues, also enabling communities to be more involved in decision-making about flood risk management.
- 1.7 Local flood risk is defined in the Flood and Water Management Act as flood risk from:
- Surface runoff.
 - Groundwater.
 - Ordinary watercourses (those that do not form part of a 'main river'¹).
- 1.8 The Flood and Water Management Act requires LFRMSs to specify:
- The risk management authorities within the authority's area (in North East Lincolnshire these are the Environment Agency, the LLFA (North East Lincolnshire Council), the water company (Anglian Water) and the Highways Authority (again, North East Lincolnshire Council).
 - The flood and coastal erosion risk management functions that may be exercised by those authorities in relation to the area.
 - The assessment of local flood risk for the purpose of the strategy.
 - The objectives for managing local flood risk (including any objectives included in the authority's flood risk management plan prepared in accordance with the Flood Risk Regulations 2009).
 - The measures proposed to achieve those objectives.
 - How and when the measures are expected to be implemented.
 - The costs and benefits of those measures, and how they are to be paid for.
 - How and when the strategy is to be reviewed.
 - How the strategy contributes to the achievement of wider environmental objectives.
- 1.9 North East Lincolnshire Council must consult risk management authorities (as listed above) that may be affected by the strategy as well as the general public about its LFRMS.
- 1.10 Section 4 of the final draft LFRMS (July 2014) sets out eight overarching objectives for the management of local flood risk in North East Lincolnshire, with more specific measures set out under each objective that will be implemented in order to achieve the headline objective. A glossary of technical terms relating to flood risk management can be found in Section 9 of the LFRMS.

Strategic Environmental Assessment

- 1.11 Strategic Environmental Assessment (SEA) is a statutory assessment process, required under the Environmental Assessment of Plans and Programmes Regulations (the SEA Regulations). The SEA Regulations transpose the European SEA Directive into UK law. The SEA Directive and Regulations require a Strategic Environmental Assessment to be carried out for UK plans and programmes which are likely to have significant effects (either positive or negative) on the environment.

¹ Main rivers are defined as watercourses marked as such on a main river map. Generally main rivers are larger streams or rivers, but can be smaller watercourses.

- 1.12 The SEA process should be undertaken iteratively (that is, in relation to each version of the plan as it is progressed), and involves predicting the likely significant environmental effects of implementing the plan. The aim is that environmental considerations can be taken into account and integrated into the production of the plan in order to improve its overall environmental and sustainability performance.
- 1.13 Guidance on the production of LFRMSs² refers to the need for them to be subject to SEA, stating that *"the Local Flood Risk Management Strategy is likely to require statutory SEA, but this requirement is something the Lead Local Flood Authority must consider"*. North East Lincolnshire Council considers that its emerging LFRMS does require SEA and has commissioned LUC to undertake the process on its behalf.

Compliance with the SEA Regulations

- 1.14 This report has been prepared in accordance with the SEA Regulations. The reporting requirements of the SEA Regulations are set out in **Table 1.1** below, which also indicates where in this SEA Report the relevant requirement has been met.

Table 1.1 Requirements of the SEA Regulations and where these have been addressed in this SEA Report

SEA Regulation Requirements	Where Covered
An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	Chapter 3 and Appendix 2.
The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	Chapter 3 and Appendix 3.
The environmental characteristics of areas likely to be significantly affected;	Chapter 3 and Appendix 3.
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 Council Directive 79/409/EEC on the conservation of wild birds(a) and the Habitats Directive;	Chapter 3 and Appendix 3.
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;	Chapter 3 and Appendix 2.
The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, 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 issues.	Chapter 5
The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	Chapter 5

² Local Government Association (2011) Framework to Assist the Development of the Local Strategy for Flood Risk Management.

SEA Regulation Requirements	Where Covered
An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Chapter 2
a description of measures envisaged concerning monitoring in accordance with Regulation 17;	Chapter 6
a non-technical summary of the information provided under the above headings	A non-technical summary has been produced to accompany this report.

Structure of the SEA Report

1.15 This chapter (**Chapter 1**) has described the background to the production of North East Lincolnshire's LFRMS and the requirement to undertake SEA. The remainder of the report is structured into the following sections:

- **Chapter 2** describes the approach that is being taken to the SEA of the LFRMS and outlines the tasks involved.
- **Chapter 3** presents the updated review of plans policies and programmes, baseline information and key sustainability issues for North East Lincolnshire.
- **Chapter 4** presents the SEA framework that is being used for the SEA of the LFRMS.
- **Chapter 5** summarises the findings of the SEA of the LFRMS.
- **Chapter 6** details the approach that will be taken to monitoring the effects of the LFRMS as it is implemented.
- **Chapter 7** summarises the conclusions of the SEA and describes the next steps to be undertaken.

1.16 The information in the main body of the report is supported by a number of appendices:

- **Appendix 1** lists the consultation comments received in relation to the SEA Scoping Report and the SEA Report for the Draft version of the LFRMS and describes how each one has been addressed.
- **Appendix 2** presents the full review of plans, policies and programmes of relevance to the SEA. This has been updated since it was originally presented in the SEA Scoping Report, in light of the consultation comments received.
- **Appendix 3** presents the baseline information for North East Lincolnshire, which has also been updated since the Scoping stage.
- **Appendix 4** includes the detailed SEA matrices for the final LFRMS.

2 Methodology

- 2.1 The approach that is being taken to the SEA of North East Lincolnshire's LFRMS is based on current best practice and the following guidance:
- A Practical Guide to the SEA Directive, (September 2005) Office of the Deputy Prime Minister, Scottish Executive, Welsh Assembly Government, Department of the Environment for Northern Ireland.

SEA Stages and Work Undertaken

- 2.2 **Table 2.1** below sets out the main stages of SEA. Each stage is then discussed in more detail in the subsequent sections.

Table 2.1 Stages in the SEA Process

SEA Stages
SEA Stage A: setting the context and objectives, establishing the baseline and deciding on the Scope
A1: Identifying other relevant plans, programmes and sustainability objectives
A2: Collecting baseline information
A3: Identifying sustainability issues and problems
A4: Developing the SEA Framework
A5: Consulting on the Scope of the SEA
SEA Stage B: Develop options, taking account of assessed effects
B1: Testing the project objectives against the SEA Framework
B2: Developing the options
B3: Predicting the effects of the LFRMS
B4: Evaluating the effects of the LFRMS
B5: Considering ways of mitigating adverse effects and maximising beneficial effects
B6: Proposing measures to monitor the significant effects of implementing the LFRMS
SEA Stage C: Preparing the SEA Report
C1: Preparing the SEA Report
SEA Stage D: Consulting on the Project and the SEA Report
D1: Public participation on the draft project and SEA report
D2: Assessing significant changes
SEA Stage E: Monitoring the significant effects of implementing the LFRMS
E1: Finalising aims and methods for monitoring
E2: Responding to adverse effects

Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope

- 2.3 An SEA Scoping report was prepared and consulted upon with the three statutory consultees (Natural England, the Environment Agency and English Heritage) between September and October 2013. While not statutory consultees, Anglian Water and North East Lindsey Drainage Board were also included in the consultation because, due to the nature of the LFRMS, they were considered to be in a good position to comment on the scope of the SEA.
- 2.4 The SEA Scoping stage involved the following main tasks:

- Identification and review of other relevant policies, plans and programmes, strategies and initiatives which may influence the LFRMS.
- Characterisation of North East Lincolnshire (i.e. describing the economic, social and environmental character of the District).
- Development of a framework of SEA objectives against which the LFRMS measures and any reasonable alternatives would be assessed.
- Identification of the key environmental and sustainability issues of relevance to the LFRMS.

2.5 A list of the comments received from the consultees at the Scoping stage, along with a description of how each one has been addressed, is provided in **Appendix 1** of this SEA Report. As a result of some of the comments received, some parts of the Scoping Report were revised and updated. The amended baseline information and review of plans, policies and programmes are summarised in **Chapter 3** and are presented in full in **Appendices 2 and 3** respectively. The updated key environmental and sustainability issues are also presented in **Chapter 3**.

Stage B: Developing and refining alternatives and assessing effects

- 2.6 North East Lincolnshire Council produced a draft version of the LFRMS which was subject to SEA by LUC in January 2014. No 'reasonable alternatives' to the measures included in the draft LFRMS were identified by the Council for the purposes of SEA. The SEA report was published alongside the Draft LFRMS during the consultation period and included a small number of recommendations for minor changes that could be made to the LFRMS in order to improve its sustainability effects, as well as identifying some areas where uncertainty about likely effects existed.
- 2.7 The final version of the LFRMS has now been produced and the SEA report has been updated to reflect the changes that have been made to the objectives and measures since the draft version as well as the comments received during the consultation on the SEA.
- 2.8 A relatively small number of changes have been made to the LFRMS since the draft version. The eight overarching objectives remain unchanged and although a small number of the measures have been re-worded or their order changed, these amendments are minor and do not result in significant changes to the LFRMS or the actions that are likely to result from its implementation.
- 2.9 The SEA for the Draft LFRMS highlighted a number of uncertain minor positive effects in relation to LFRMS objectives 3 and 4, with the uncertainty existing because of a lack of information about the exact nature of actions that might result from the measures. In the final version of the LFRMS, additional information has been added to section 6 of the strategy (Sustainable Development and the Environment), which has removed some of that uncertainty. Appendix D in the final LFRMS shows how the uncertainties identified in the SEA have been addressed through amendments to the LFRMS.

Stage C: Preparing the SEA Report

- 2.10 This report is the output of Stage C.

Stage D: Consulting on the LFRMS and the SEA Report

- 2.11 A consultation on the Draft LFRMS took place between January and February 2014, with the document being made available to the statutory environmental bodies as well as a range of other consultees and the general public. An earlier iteration of this SEA Report was published alongside the Draft LFRMS during the consultation.
- 2.12 Comments received were taken into account as the LFRMS was finalised. The comments relating specifically to the SEA have also been taken into account and addressed where relevant as the

SEA Report has been updated to reflect the final version of the LFRMS. **Appendix 1** sets out the comments received and how each has been responded to.

Stage E: Monitoring the significant effects of implementing the LFRMS

- 2.13 Proposals for monitoring the significant effects of implementing the North East Lincolnshire LFRMS are set out in **Chapter 6** of this report.

Difficulties encountered and data limitations

- 2.14 The LFRMS is intended to be a relatively high level document, which meant that during the SEA it was at times difficult to reach a judgement regarding the likely effect of a particular measure in the LFRMS on one or more of the SEA objectives. The sort of detailed information regarding exactly what particular actions would involve, which would enable more certainty in the SA judgements, is not set out in the LFRMS due to the nature of the document. As such, there is uncertainty attached to some of the potential effects (as described in **Chapter 5**).

3 Review of Plans, Policies and Programmes and Baseline Information

Review of Plans, Policies and Programmes

- 3.1 Annex 1(a) of the SEA Directive requires "an outline of the...relationship with other relevant plans or programmes". The LFRMS is not prepared in isolation, and is influenced by other plans, policies and programmes and by broader sustainability objectives.
- 3.2 As part of the scoping stage of the SEA in September 2013, a review was undertaken of other relevant plans, policies and programmes in relation to their objectives, targets, and indicators and their implications for the LFRMS and the SEA.
- 3.3 In light of the consultation comments received in relation to the Scoping Report, the policy review has now been amended and a small number of additional plans, policies and programmes have been added. The full updated review is presented in **Appendix 2** and the international, national, regional and local policies, plans and programmes considered in the review are listed in **Table 3.1** below.

Table 3.1 Plans, Policies and Programmes of Relevance to the SEA of North East Lincolnshire's FRMS

Plan, Policy or Programme
International
The Floods Directive (2007) <i>Directive 2007/60/EC</i>
Water Framework Directive (2000) <i>Directive 2000/60/EC</i>
Groundwater Directive (2006) <i>Directive 2006/118/EC</i>
National
National Planning Policy Framework (2012)
Technical Guidance to the National Planning Policy Framework (2012)
Flood and Water Management Act (2010)
The Flood Risk Regulations (2009)
National Strategy for Flood and Coastal Erosion Risk Management (2011) <i>Defra and the Environment Agency</i>
Future Water, The Government's Water Strategy for England (2008) <i>Defra</i>
The Water Act (2003)
The Wildlife and Countryside Act (1981)
Guidance for risk management authorities on sustainable development in relation to their flood and coastal erosion risk management functions (2011) <i>Defra</i>
Water for People and the Environment; Water Resources Strategy for England and Wales (2009) <i>Environment Agency</i>
Directing the Flow: Priorities for Future Water Policy (2002) <i>Defra</i>
Sustainable Drainage Systems (SUDS) (2002) <i>Environment Agency</i>
Underground, Under Threat: The state of groundwater in England and Wales (2010) <i>Environment Agency</i>
Working with the Grain of Nature: A Biodiversity Strategy for England (2011) <i>Defra</i>
Environment Act (1995)
Conservation of Habitats and Species Regulations (2010)
Safeguarding our Soils, A Strategy for England (2009) <i>Defra</i>
Contaminated Land (England) Regulations (2006)
Adapting to Climate Change in England. A Framework for Action (2008) <i>Defra</i>
Climate Change UK Programme: Tomorrow's Climate Today's Challenge (2006) <i>Defra</i>
Securing the Future: Delivering the Sustainable Development Strategy (2005) <i>Defra</i>

Plan, Policy or Programme
Natural Environment White Paper - The Natural Choice: Securing the Value of Nature (2012) Defra
The Historic Environment: A Force for Our Future (2001) <i>Department for Culture, Media and Sport</i>
Water for Life (2011) <i>Defra</i>
Sub-National and Local
North East Lincolnshire's emerging Local Plan <i>North East Lincolnshire Council</i>
Lincolnshire Biodiversity Action Plan (Third Edition 2012) <i>Lincolnshire Biodiversity Partnership</i>
North East Lincolnshire Health Profile (2012) <i>Department of Health</i>
Approach to Carbon and Climate Change in North East Lincolnshire Council (DRAFT, December 2012) <i>North East Lincolnshire Council</i>
Strategic Flood Risk Assessment (2010) <i>North and North East Lincolnshire Councils</i>
Flamborough Head to Gibraltar Point Shoreline Management Plan (2010) <i>The Humber Estuary Coastal Authorities Group</i>
North East Lincolnshire Sustainable Community Strategy (June 2010) <i>North East Lincolnshire Strategic Partnership</i>
Grimsby and Ancholme Catchment Flood Management Plan (2009) <i>Environment Agency</i>
Water for Life and Livelihoods: River Basin Management Plan for Humber River Basin District (2009) <i>Environment Agency</i>
North East Lincolnshire Preliminary Flood Risk Assessment (2009) <i>North East Lincolnshire Council</i>
The Humber Flood Risk Management Strategy (2008) <i>Environment Agency</i>
Water Abstraction: Getting the Balance Right - The Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy (2006) <i>Environment Agency</i>

Summary of Review of Plans, Policies and Programmes

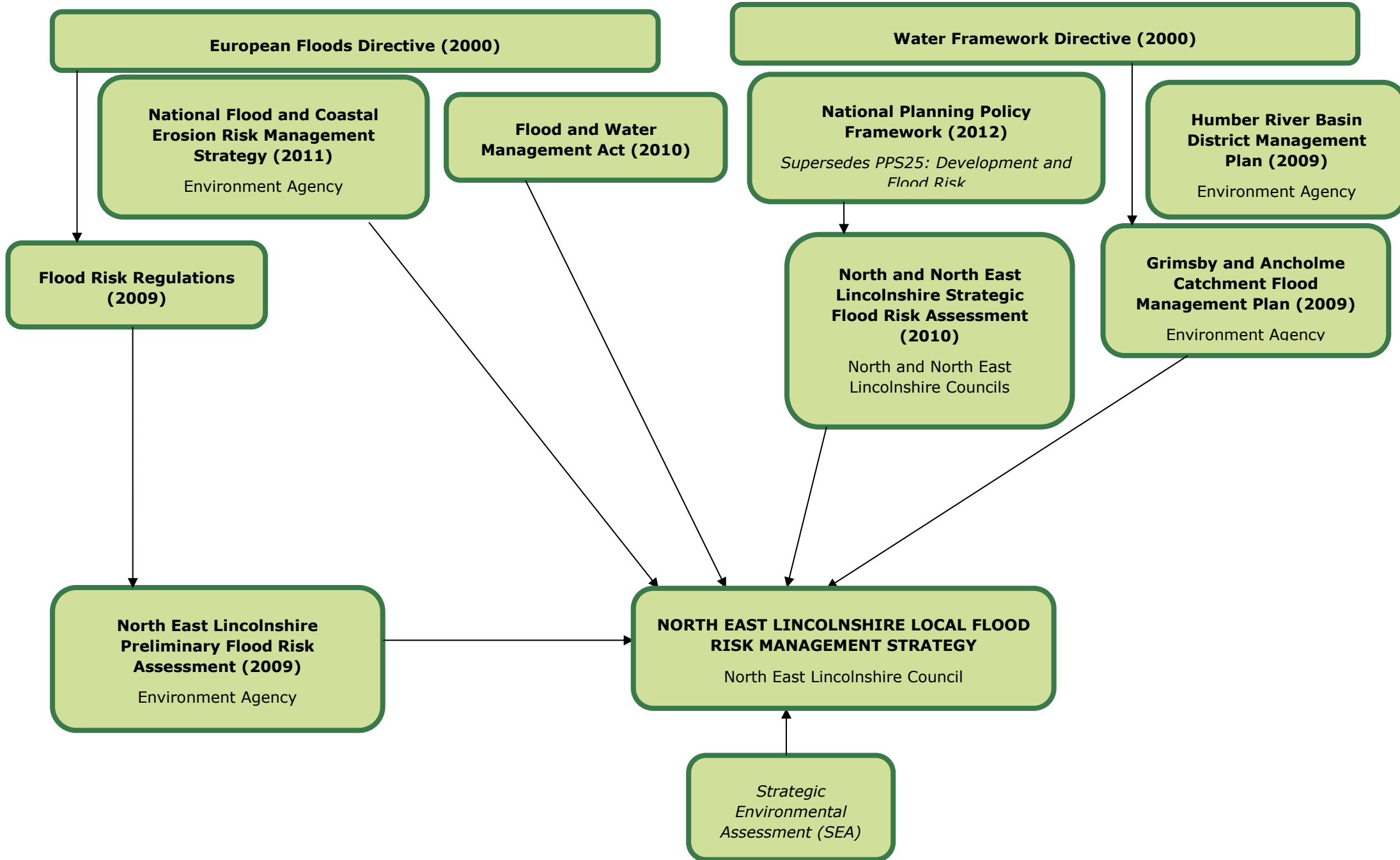
- 3.4 Many of the policies, programmes, plans, strategies and initiatives that have been reviewed are indirectly relevant to the LFRMS, for example those that relate to the protection of natural assets including biodiversity and soils. Those that are most directly relevant are summarised below.
- **The EU Floods Directive 2007/60/EC** (2007) requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and co-ordinated measures to reduce this flood risk.
 - **The Water Framework Directive 2000/60/EC** (2000) provides a framework committing EU member states to the protection of inland surface waters, transitional waters, coastal waters and groundwater. There is a requirement to co-ordinate the delivery of the WFD and the Floods Directive (see above), and the Environment Agency is responsible for this in England and Wales.
 - **Flood and Water Management Act** (2010) – This Act sets out the statutory requirement for Lead Local Flood Authorities (LLFAs) such as the North East Lincolnshire Council to produce a strategy for managing local flood risk. It is therefore the legal basis for the production of North East Lincolnshire's LFRMS.
 - **National Flood and Coastal Erosion Risk Management Strategy** (2011) – The Flood and Water Management Act requires all LFRMSs to be in conformity with this Strategy, which encourages more effective risk management by enabling people, communities, business, infrastructure operators and the public sector to work together to achieve better understanding of the risks of flooding both, nationally and locally, so that investment in risk management can be prioritised more effectively. As such, North East Lincolnshire's FRMS must have regard to the contents of the Strategy.
 - **National Planning Policy Framework** (2012) – The NPPF has replaced the suite of planning policy statements and planning policy guidance, including Planning Policy Statement 25 which previously presented national policy in relation to Development and Flood Risk. The NPPF sets out the considerations that local planning authorities need to take account of in order to avoid new development increasing flood risk. The measures included in the emerging FRMS will

need to have regard to this national level policy. The information provided in the NPPF is supplemented by the Technical Guidance to the National Planning Policy Framework (2012) which provides additional guidance to local planning authorities to ensure the effective implementation of the planning policy set out in the NPPF on development in areas at risk of flooding. The technical guidance retains key elements of PPS25.

- **North and North East Lincolnshire Strategic Flood Risk Assessment (2010)** – This document establishes the extent of flood risk in North and North East Lincolnshire Districts from rivers, groundwater, surface water and the sea and defines the geographical extent of the various flood risk zones. It is therefore an important part of the evidence base for the production of the LFRMS and the SEA.
- **Flamborough Head to Gibraltar Point Shoreline Management Plan (2010)** - This document addresses shoreline management along the entire coastline of North East Lincolnshire, most of which falls into policy unit L 'East Immingham to Cleethorpes'. In that area, the SMP pursues a policy of hold the line, meaning that the defences will be held in their current position and their function will be maintained. The policy set out in the SMP will provide some of the context for the development of the measures to be included in the LFRMS.
- **North East Lincolnshire's new Local Plan** – The emerging new Local Plan will provide the overarching approach to future development within North East Lincolnshire, and any proposals within the LFRMS must have regard to the policies within it. However, as the new Local Plan is at a very early stage (options for the Plan are currently being developed), it is not yet clear to what extent the LFRMS will be able to be influenced by the Local Plan. The Local Plan should also be influenced by the measures included in the LFRMS.

3.5 **Figure 3.1** overleaf illustrates the relationships between North East Lincolnshire's emerging LFRMS and other plans and policies relating to flood and water management at the international, national and local levels.

Figure 3.1: Relationships between the LFRMS and selected other Plans, Policies and Programmes



Baseline Information

- 3.6 Baseline information provides the context for assessing the potential environmental effects and sustainability of measures in the emerging LFRMS and it provides the basis for identifying trends, predicting the likely effects of the LFRMS and monitoring its outcomes.
- 3.7 Annex 1(f) of the SEA Directive requires data to be gathered on biodiversity, population, human health, flora, fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the inter-relationship between the above factors. However, the SEA only needs to report on those topics where significant effects are likely to arise. If there is little or no relationship between the plan and the topic, then the need for assessment can be 'scoped out' for that topic.
- 3.8 The baseline information collated in relation to North East Lincolnshire was originally presented in the SEA Scoping Report (September 2013). In light of the consultation comments received in relation to the Scoping Report, a small number of amendments have been made to the baseline information and the updated version is presented in **Appendix 3**.

Key Environmental and Sustainability Issues

- 3.9 Reviewing the relevant plans, policies and programmes and considering the baseline character of North East Lincolnshire highlights a number of environmental and sustainability issues facing the District, as set out in **Table 3.2** below. These issues are relevant to the production of the LFRMS and have been considered throughout the SEA process, in particular having helped to inform the SEA objectives that were set out in the Scoping Report (see **Chapter 4**).
- 3.10 Schedule 2 of the SEA Regulations requires that information is provided on:
- 3.11 *"the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan."*
- 3.12 In order to meet this requirement, **Table 3.2** therefore also describes how the key issues are likely to develop over time in the absence of the LFRMS.

Table 3.2 Key Environmental and Sustainability Issues and Likely Evolution without the LFRMS

Key Environmental and Sustainability Issues	Likely Evolution without the LFRMS
High risk of flooding in the east of the District in particular and the risk of coastal flooding which is likely to increase with climate change. There is a need to ensure the ongoing economic viability of the town centres, which need to be resilient to flood risk and to capitalise on the strength of the Immingham and Grimsby ports to deliver more economic benefits to local communities, whilst ensuring flood risks are appropriately managed.	Without the implementation of the LFRMS, a number of other plans and strategies relating to flood risk management would still apply and would address this issue to some extent, including relevant policies in the emerging North East Lincolnshire Local Plan (the first iteration of the Local Plan is yet to be published, therefore there is some uncertainty about what relevant policies may be included). However, without the implementation of the LFRMS the issue would be less well-addressed as the overarching purpose of the objectives and measures set out in the LFRMS is to manage local flood risk and the associated threat to economic assets.
The risk of water pollution associated with flooding events to watercourses that are already struggling to meet EU Water Framework Directive standards.	Water pollution issues are addressed to some extent through the LFRMS as it will reduce risk of pollution that can be associated with flooding events (e.g. as a result of soil erosion

Key Environmental and Sustainability Issues	Likely Evolution without the LFRMS
	<p>or runoff washing pollutants into water courses). Therefore, without the implementation of the LFRMS the issue would be less well-addressed although policies associated with water quality are likely to be included in the emerging North East Lincolnshire Local Plan and those would still apply in the absence of the LFRMS.</p>
<p>Health inequalities across the authority. Potential impacts of flooding, and the perceived risk of flooding, on the health and wellbeing of the local population particularly the most vulnerable.</p>	<p>Health issues are addressed to some extent through the LFRMS as it will reduce risk of adverse impacts on physical and mental health that can be associated with flooding events (e.g. the associated stress). Therefore, without the implementation of the LFRMS the issue would be less well-addressed and while policies relating to health and well-being are likely to be included in the emerging North East Lincolnshire Local Plan, and those would still apply in the absence of the LFRMS, they are unlikely to specifically address the health impacts of flooding.</p>
<p>Extensive range of community services and facilities, transport infrastructure and other built development, and the need to protect it from future flooding events. Ongoing population growth and the resulting pressure for new housing and associated development, which both need to be protected from flood risk, and also to avoid contributing to increased flood risk.</p>	<p>Without the implementation of the LFRMS, a number of other plans and strategies relating to flood risk management would still apply and would address this issue to some extent, including relevant policies in the emerging North East Lincolnshire Local Plan (the first iteration of the Local Plan is yet to be published, therefore there is some uncertainty about what relevant policies may be included). However, without the implementation of the LFRMS the issue would be less well-addressed as the overarching purpose of the objectives and measures set out in the LFRMS is to manage local flood risk and the associated threat to infrastructure and residential properties.</p>
<p>The need to protect and enhance the District's biodiversity assets, including the internationally designated Humber Estuary.</p>	<p>The protection of biodiversity is addressed to some extent through the LFRMS as it will reduce risk of adverse impacts on habitats and species that can be associated with flooding events (including both direct effects and indirect effects such as the potential impacts of water pollution on aquatic species). Therefore, without the implementation of the LFRMS the issue would be less well-addressed and while policies relating to biodiversity are likely to be included in the emerging North East Lincolnshire Local Plan, and those would still apply in the absence of the LFRMS, they are unlikely to specifically address the impacts of flooding on biodiversity.</p>
<p>The need to protect and enhance the landscape (particularly the Lincolnshire Wolds AONB and its setting), townscape and seascape of the District. The need to conserve and enhance areas of</p>	<p>Policies in the emerging North East Lincolnshire Local Plan are likely to address the protection of the landscape, townscape and seascape of North East Lincolnshire although the first iteration of the Local Plan is yet to be</p>

Key Environmental and Sustainability Issues	Likely Evolution without the LFRMS
open space, avoiding settlement coalescence.	published, therefore there is some uncertainty about what relevant policies may be included. The protection of the landscape is not one of the overarching aims of the LFRMS, therefore without the implementation of the LFRMS this issue is likely to be addressed to some extent although this will depend largely on the emerging Local Plan.
Potential risk of heritage assets being damaged by flooding, including some that are already in poor condition.	The protection of heritage assets is addressed to some extent through the LFRMS as it will reduce risk of adverse impacts on listed buildings and other features that can be associated with flooding events. Therefore, without the implementation of the LFRMS the issue would be less well-addressed and while policies relating to the historic environment are likely to be included in the emerging North East Lincolnshire Local Plan, and those would still apply in the absence of the LFRMS, they are unlikely to specifically address the impacts of flooding on heritage assets.
Ongoing population growth and the resulting pressure for new housing and associated development, which both need to be protected from flood risk, and also to avoid contributing to increased flood risk.	One of the overarching aims of the LFRMS is to manage local flood risk, including that associated with the growth proposed through plans such as the emerging Local Plan. Therefore, without the implementation of the LFRMS, this issue would be less well-addressed. The emerging Local Plan is likely to include policies associated with ensuring that the new development it proposes does not result in increased flood risk but this is uncertain until draft policies are published.

4 SEA Framework

- 4.1 The SEA framework was prepared and consulted upon as part of the Scoping stage of the SEA, drawing on the review of relevant plans and programmes, baseline information and key environmental and sustainability issues described in **Chapter 3** of this SEA Report.
- 4.2 There are eight SEA objectives in total, as listed in **Table 4.1** below. As described in **Chapter 3**, Schedule 2 of the SEA Regulations provides a list of specific environmental topics that must be addressed, and so when drawing up the SEA objectives care was taken to ensure that those environmental topics were covered. **Table 4.1** shows which of the SEA environmental topics are addressed by each SEA objective. The table shows that each SEA environmental issue has been considered in the assessment of the LFRMS although one of the SEA topics, 'air', was scoped out of the assessment due to the fact that the type of measures to be included in the LFRMS are not considered likely to have an impact on air quality, as they relate to flood risk management and will not result in emissions to air that could affect air quality.

Table 4.1 SEA Framework for North Lincolnshire's LFRMS and the associated SEA environmental topics

SEA Objectives	
1) To minimise the risk of flooding to residential properties and community and economic assets.	Material assets
2) To maintain and enhance soil and water quality.	Soil, water
3) To protect and enhance human health and wellbeing.	Population and human health
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	Material assets
5) To protect and enhance biodiversity.	Biodiversity, flora and fauna
6) To protect and enhance the landscape, townscape, seascape and open space.	Landscape
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	Material assets, cultural heritage
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	Air, climatic factors

Use of the SEA Framework

- 4.3 Within the assessment of the potential environmental effects of North East Lincolnshire's LFRMS, symbols have been used against each SEA objective to show whether an effect is likely to be significant, positive or negative, or uncertain, as shown in **Table 4.2** below.

Table 4.2 Key to SEA scores

Symbol	Effect
++	Significant positive effect
+	Minor positive effect
0	Negligible effect
-	Minor negative effect
--	Significant negative effect
?	Uncertain effect

- 4.4 The likely effects of the LFRMS need to be determined and their significance assessed, which inevitably requires a series of judgments to be made. This assessment has attempted to differentiate between the most significant effects and other more minor effects through the use of the symbols shown above. The dividing line in making a decision about the significance of an effect is often quite small. Where either ++ or -- has been used to distinguish significant effects from more minor effects (+ or -) this is because the effect of the measure on the SEA objective in question is considered to be of such magnitude that it will have a noticeable and measurable effect taking into account other factors that may influence the achievement of that objective. In the context of the LFRMS, where LFRMS measures relate directly to the achievement of an SEA objective, the likely effect on that objective is considered to be significant.

5 SEA Findings

- 5.1 SEA matrices have been prepared to present the detailed assessment of each of the objectives (and the associated measures) in the final version of North East Lincolnshire's LFRMS against each of the eight SEA objectives. The SEA matrices can be found in **Appendix 4. Table 5.1** below presents a summary of the scores for each SEA objective, and the potential environmental effects of the LFRMS objectives are then summarised below by SEA objective.
- 5.2 In general, the LFRMS objectives have been found to have mostly positive effects on the environment, due to the LFRMS being a proactive strategy to reduce and manage flooding within North East Lincolnshire. Potentially significant positive effects have been identified in relation to three of the SEA objectives:
- **SEA objective 1:** To minimise the risk of flooding to residential properties and community and economic assets.
 - **SEA objective 4:** To minimise the potential impact of flooding on existing and future critical infrastructure.
 - **SEA objective 8:** To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.
- 5.3 No negative effects (either minor or significant) from the measures in the LFRMS have been identified in relation to any of the SEA objectives. Some LFRMS objectives are unlikely to have any effects on particular SEA objectives as they relate more to improving knowledge and understanding of flood risk rather than actual works or actions that could have an effect on the ground (and could therefore affect issues such as biodiversity, soil and water quality).
- 5.4 Therefore, when taken as a whole, the synergistic and cumulative effects of all the LFRMS objectives and measures combined are considered to be overall positive for the environment, due to the likely outcome of implementing the LFRMS being a reduction in flooding and associated risk to communities and the natural and built environment within North East Lincolnshire.

Table 5.1: Summary of SEA scores for the North East Lincolnshire LFRMS

LFRMS Objectives	SEA Objective 1: residential properties and community and economic assets	SEA Objective 2: soil and water quality	SEA Objective 3: human health and wellbeing	SEA Objective 4: critical infrastructure	SEA Objective 5: biodiversity	SEA Objective 6: landscape and open space	SEA Objective 7: built environment and cultural heritage	SEA Objective 8: adapt to climate change
1: All stakeholders (including members of the public) will have an improved understanding of their responsibilities for flood risk management	+	+	+	+?	+	0	+	+
2: Improve our understanding of local flood risk	+	+	+	+	+	0	+	+
3: Reduce the risks to those most vulnerable to local flooding	++	+	+	++	+	?	+?	+?
4: Increase the amount of flood risk management work undertaken, ensuring there is a contribution to wider social, economic and environmental outcomes and sustainable development.	++	+	+	+	+	?	+	0
5: Create a strong collaborative approach across stakeholders to address risks from all sources of flooding.	+	+	+	+	+	0	+	0
6: Ensure that local communities are prepared to manage the risks of flooding.	+	0	+	0	0	0	+	0
7: Ensure that new development does not increase local flood risk and contributes to a reduction where possible.	+	+	+	+	+	+	+	++
8: Ensure effective emergency flood response plans are in place.	+	0	+	0	0	0	0	0

SEA objective 1: To minimise the risk of flooding to residential properties and community and economic assets

- 5.5 All of the LFRMS objectives and the associated measures are likely to have either minor or significant positive effects on this SEA objective, as the measures have all been designed with the aim of reducing overall flood risk in North East Lincolnshire, including the risk to residential properties and community and economic assets. In particular, the measures associated with LFRMS objective 3 are likely to have a significant positive effect as they will directly help to manage flood risk by developing an action plan (M3.2) and identifying potential funding sources (M3.3) which will increase the likelihood of the action plan being successfully implemented. Supporting residents in obtaining flood insurance (M3.1) could mean that in the event of a flood more residents are compensated for their material and financial losses. While this would not reduce the likelihood of a flood event occurring, the scale of the risk posed by flooding in terms of its effects would be reduced. A significant positive effect is also likely in relation to the measures associated with LFRMS objective 4 (increase the amount of flood risk management work undertaken, ensuring there is a contribution to wider social, economic and environmental outcomes and sustainable development). This is because encouraging and informing local people about how best to protect their properties (which is one of the measures associated with this objective) is likely to directly result in residents being at reduced risk from the impacts of flooding.
- 5.6 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 2: To maintain and enhance soil and water quality

- 5.7 No significant effects from any of the LFRMS objectives and measures, either positive or negative, have been identified in relation to this SEA objective. Neither of LFRMS objectives 6 (ensure that local communities are prepared to manage the risks of flooding) or 8 (ensure effective emergency flood response plans are in place) are expected to have an effect on soil and water quality, This is because they either aim to reduce the severity of impacts on local communities in the event of flooding, or they focus on the actions to be taken after a flooding event has already occurred, rather than preventing flooding (that could otherwise affect soil and water quality) from occurring.
- 5.8 All of the other LFRMS objectives are expected to have a minor indirect positive effect on maintaining and enhancing soil and water quality. The measures associated with those LFRMS objectives are expected to combine to reduce the overall risk of flooding occurring, and therefore are expected to indirectly reduce the chance of soil and/or water quality in the District being adversely affected (e.g. as a result of soil erosion or run-off washing sediments and/or chemical fertilisers into watercourses).
- 5.9 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 3: To protect and enhance human health and wellbeing

- 5.10 All of the LFRMS objectives are expected to have a minor positive effect on this SEA objective. In most cases, the likely positive effects will be indirect because the measures will combine to reduce the overall risk of flooding in the District, thereby reducing the potential for people's physical and mental health to be adversely affected. The impacts of flooding on health can be either direct physical impacts or effects on mental health e.g. as a result of stress, which can be associated with either the risk of flooding occurring or the aftermath of a flood event.
- 5.11 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 4: To minimise the potential impact of flooding on existing and future critical infrastructure

- 5.12 Most of the LFRMS objectives will have positive effects (either minor or significant) on this SEA objective, although two of the LFRMS objectives (6: ensure that local communities are prepared to manage the risks of flooding and 8: ensure effective emergency flood response plans are in

place) are not expected to have an effect. The measures associated with LFRMS objective 6 aim to reduce the severity of impacts on local communities in the event of flooding, rather than reducing the likelihood of flood events (which can affect critical infrastructure) occurring. The focus of the measures is on helping communities take action themselves to protect their homes and businesses, rather than on protecting critical infrastructure within the District at a larger scale. The measures associated with LFRMS objective 8 focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents (which could potentially affect critical infrastructure) from taking place.

- 5.13 All of the other LFRMS objectives are likely to have a positive effect on this objective as the measures will combine to reduce overall flood risk in the District, including that facing existing and future critical infrastructure. In most cases the positive effect is expected to be minor as it would be indirect; however a significant positive effect is likely in relation to LFRMS objective 3: reduce the risks to those most vulnerable to flooding. This is because those measures are likely to combine directly to reduce the risk of flooding (including to critical infrastructure) as they will directly help to deliver flood risk management work by developing an action plan (M3.2) and identifying potential funding sources for schemes (M3.3), which will increase the likelihood of the action plan being successfully implemented.
- 5.14 There is some uncertainty attached to the potential minor positive effect from LFRMS objective 1 (all stakeholders will have an improved understanding of their responsibilities for flood risk management). Section 2 of the LFRMS describes the roles of stakeholders, including water and sewerage companies (responsible for managing the risk of flooding from public sewer systems) and the Highways Agency (responsible for dealing with surface water run-off from roads). If those particular stakeholders' understanding of their responsibilities in relation to flood risk management is improved through the measures associated with this objective, particularly positive effects in relation to the protection of critical infrastructure are likely, although this is not yet certain.
- 5.15 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 5: To protect and enhance biodiversity

- 5.16 As with SEA objectives 2 and 4 above, LFRMS objectives 6 and 8 are not expected to have a direct effect on this SEA objective as they relate to actions to be taken when flooding (which can affect biodiversity) has already occurred, rather than aiming to reduce the likelihood of flooding occurring in the first place.
- 5.17 All of the other LFRMS objectives are likely to have a minor positive effect on biodiversity as they will combine to reduce overall flood risk in the District, and therefore will reduce the chance of adverse impacts on biodiversity, which can include both direct impacts from the inundation of habitats with flood water, and indirect impacts such as aquatic species being affected by water pollution resulting from a flood event.
- 5.18 A Habitats Regulations Assessment (HRA) has been undertaken by North East Lincolnshire Council in relation to the LFRMS in order to identify any likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in and around North East Lincolnshire. The HRA has concluded that none of the objectives or associated measures in the LFRMS are likely to result in significant effects on European sites,
- 5.19 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 6: To protect and enhance the landscape, townscape, seascape and open space

- 5.20 Most of the LFRMS objectives and measures will not have an effect on this SEA objective as they will not result in physical works or actions that could affect the landscape, townscape or seascape of the District. However, LFRMS 7 could have a minor positive effect as some types of sustainable drainage measures, such as the use of wetlands and flood attenuation areas, could have indirect positive effects on the appearance of the landscape.

- 5.21 Uncertain effects have been identified in relation to two of the LFRMS objectives. The measures associated with LFRMS objective 3 (reduce the risks to those most vulnerable to local flooding) will support the delivery of flood risk management works, including by developing an action plan of specific works and identifying funding sources, which would increase the certainty of schemes going ahead. Depending on the nature of those schemes, there could potentially be impacts on local landscape, townscape or seascape character; however the potential effects are uncertain without more information about the nature and the location of any schemes.
- 5.22 Most of the measures associated with LFRMS objective 4 (increase the amount of flood risk management work undertaken, ensuring there is a contribution to wider social, economic and environmental outcomes and sustainable development) will not affect the landscape, townscape, seascape or open space within North East Lincolnshire, as they relate to community engagement and improving levels of public understanding. However, it is possible that supporting campaigns by other authorities that aim to reduce flood risk could affect this SEA objective, depending on the nature of the campaigns/works that are being supported and encouraged which is uncertain at this stage.
- 5.23 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 7: To maintain and/or enhance the quality and character of the built environment and cultural heritage assets

- 5.24 Most of the LFRMS objectives and measures will have a minor positive effect on this objective as they will combine to reduce the overall risk of flooding occurring, which could otherwise have adverse effects on the built environment (including cultural heritage assets) as a result of built assets such as listed buildings being damaged by flooding.
- 5.25 However, there is some uncertainty attached to the potential minor positive effects from LFRMS objective 3 as the measures associated with that objective (reduce the risks to those most vulnerable to local flooding) are likely to result in direct physical works which, depending on their nature and location (for example in relation to heritage features such as listed buildings), could affect the quality and character of the built environment, including the setting of heritage features.
- 5.26 The measures associated with LFRMS objective 8 are not expected to affect the achievement of this SEA objective as they relate to actions to be taken after a flood event has occurred, rather than reducing the likelihood of flooding (which could affect the built environment) occurring in the first place.
- 5.27 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

SEA objective 8: To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere

- 5.28 The measures associated with LFRMS objective 7 (ensure that new development does not increase local flood risk and contributes to a reduction where possible) are likely to have a significant positive effect on this SEA objective as the overarching purpose of those measures is to ensure that new development avoids having negative effects on flood risk and to ensure that positive effects result where possible, for example by requiring developers to use more sustainable drainage techniques on site such as wetlands and attenuation areas rather than the traditional below ground piped systems.
- 5.29 LFRMS objective 2 is likely to have a minor positive effect on this SEA objective because improving the evidence base available to the Council in relation to flood risk will help to inform appropriate decision-making regarding the siting of new development. Similarly, LFRMS objective 1 (all stakeholders will have an improved understanding of their responsibilities for flood risk management) is likely to have a minor positive effect because the measures associated with that LFRMS objective will improve stakeholder understanding of flood risk which could reduce the chances of inappropriately sited development proposals coming forward, and may increase the

likelihood of such proposals being considered appropriately in light of the potential impacts on flood risk.

- 5.30 Potential but uncertain minor positive effects have been identified in relation to one other LFRMS objectives. The measures associated with LFRMS objective 3 (reduce the risks to those most vulnerable to local flooding) are not expected to have a direct effect on this SEA objective; however depending on the nature of the flood mitigation schemes for which funding sources will be investigated, there may be a minor positive effect, i.e. if these schemes were to involve reducing the potential flood risk associated with new developments.
- 5.31 No negative effects from the LFRMS objectives and measures, either minor or significant, have been identified in relation to this SEA objective.

Recommendations and Mitigation

- 5.32 No negative effects, either minor or significant, have been identified in relation to any of the LFRMS measures that will require mitigation. This is because the LFRMS is a document which is intended to have positive effects on the environment and itself aims to mitigate potential adverse environmental impacts from flooding.
- 5.33 While a number of the potential positive effects identified are uncertain, this is inevitable without more information regarding the detail of the measures in the LFRMS e.g. exactly what type of campaigns by other authorities for reducing flood risk will be supported by North East Lincolnshire. It is considered that one of the measures associated with LFRMS objective 4 (M4.1) may provide some overall mitigation of the potential for any physical works or actions resulting from the LFRMS to have negative environmental effects, as it requires works that are undertaken to be carried out in a way that protects and enhances the environment.
- 5.34 The uncertainties attached to the potential effects of LFRMS objective 1 (all stakeholders (including members of the public) will have an improved understanding of their responsibilities for flood risk management) on SEA objective 4 could be removed if the objective or measures were to make specific reference to stakeholders associated with the protection of critical infrastructure (e.g. the Highways Agency).
- 5.35 No other recommendations for strengthening the protection or improving the environmental effects of the LFRMS are suggested.
- 5.36 The previous iteration of the SEA report, for the Draft LFRMS, identified uncertainty in relation to three of the LFRMS objective 4 for SEA objectives 2, 5 and 7. A number of minor amendments have now been made to the measures associated with LFRMS objective 4 in the final LFRMS which strengthen the environmental protection provided. In particular, reference is made to Section 6 of the LFRMS 'Sustainable Development and the Environment' which has been expanded considerably to describe in more detail how the Strategy will contribute to sustainable development. This has enabled the uncertainty attached to those objectives to be removed.

6 Monitoring

- 6.1 The SEA Directive requires that "*member states shall monitor the significant environmental effects of the implementation of plans or programmes... in order, inter alia, to identify at an early stage, unforeseen adverse effects, and be able to undertake appropriate remedial action*" (Article 10.1) and that the environmental report should provide information on "a description of the measures envisaged concerning monitoring" (Annex 1 (i)). Monitoring proposals should be designed to provide information that can be used to highlight specific issues and significant effects, and which could help decision-making.
- 6.2 As discussed in **Chapter 5**, many of the effects of the LFRMS are uncertain at this stage and it is not possible to draw detailed conclusions regarding the likely effects of each measure on each SEA objective. Therefore, it is recommended that monitoring of environmental effects due to implementation of the LFRMS is undertaken in relation to **all of the SEA objectives**, in order to ensure that all potential effects are monitored.
- 6.3 To achieve efficiencies and to ensure that the environmental effects of implementing any of the LFRMS measures are monitored, SEA monitoring of the LFRMS should be conducted as part of the overall approach to monitoring achievement of the LFRMS measures. The Council is required to monitor the LFRMS and it will be reviewed within two years of its publication.
- 6.4 In addition, it is recommended that monitoring of the environmental effects of the LFRMS is also tied into the overall approach to monitoring the sustainability effects of other plans and strategies developed by North East Lincolnshire Council (in particular the emerging new Local Plan), as some of the indicators proposed for monitoring the effects of that Plan will be relevant to the LFRMS. However, it is noted that the Local Plan is unlikely to be adopted (and therefore subject to monitoring) prior to the first review of the LFRMS in two years' time. Monitoring Reports are already produced by the Council, although the process for producing future reports is currently being reviewed, in light of the changes to local planning authorities' monitoring obligations that were introduced in the NPPF. Therefore, it is recommended that monitoring of the potential environmental effects of the LFRMS be combined with the revised monitoring process that the Council will be carrying out in future, if possible.
- 6.5 **Table 6.1** below sets out a number of suggested indicators for monitoring the potential environmental effects of implementing the LFRMS, where relevant drawing on indicators that may also be used for monitoring the effects of the Local Plan when it is adopted. Note that the indicators proposed are included as suggestions at this stage, as it is recognised that many datasets may not be available for monitoring some of the environmental effects of the LFRMS, and that the indicators included may change as the Council's revised process for producing monitoring reports is implemented.
- 6.6 In addition, the data used for monitoring in many cases will be provided by outside bodies. Information collected by other organisations (e.g. the Environment Agency) can also be used as a source of indicators.

Table 6.1: Proposed indicators for monitoring the potential significant and uncertain environmental effects of North East Lincolnshire's LFRMS

SEA objectives	Suggested indicators for monitoring effects of LFRMS
1. To minimise the risk of flooding to residential properties and community and economic assets.	<p>Number of residential properties affected by flooding in the District annually.</p> <p>Number of community and economic assets affected by flooding in the District annually.</p>

SEA objectives	Suggested indicators for monitoring effects of LFRMS
2. To maintain and enhance soil and water quality.	<p>Number of surface water bodies in the District achieving 'good' ecological status.</p> <p>Number of serious soil erosion incidents annually caused by flood events.</p>
3. To protect and enhance human health and wellbeing.	<p>Number of deaths/injuries resulting from flooding in North East Lincolnshire annually.</p> <p>Number of healthcare facilities affected by flood incidents annually.</p>
4. To minimise the potential impact of flooding on existing and future critical infrastructure.	<p>Number of incidents of road or railway line closures due to flooding annually.</p> <p>Number of planning permissions granted annually for new critical infrastructure assets within flood zones 2 and 3.</p>
5. To protect and enhance biodiversity.	<p>Gains and losses of nature conservation sites (including in areas of deficiency).</p> <p>Percentage of SSSIs classed as being in favourable condition.</p> <p>Enhancements to areas of BAP habitats or those used by BAP species.</p>
6. To protect and enhance the landscape, townscape, seascape and open space.	<p>Gains and losses of open spaces (e.g. flood storage areas)</p>
7. To maintain and/or enhance the historic significance of the built environment and cultural heritage assets.	<p>Number of heritage assets in North East Lincolnshire affected by flooding annually.</p>
8. To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	<p>No of developments approved annually which incorporate sustainable urban drainage systems (SUDs).</p> <p>Number of planning applications approved annually subject to sustained Environment Agency objections on flood risk grounds.</p>

7 Conclusion and Next Steps

- 7.1 None of the measures in the LFRMS are likely to have negative effects, either minor or significant, on any of the SEA objectives. This is because of the nature of the LFRMS, which has an underlying aim of environmental protection through flood risk management, meaning that the effects of the strategy are largely positive. Where uncertain effects have been identified, mitigation should be provided by the LFRMS objective which specifically aims to bring about environmental enhancements.
- 7.2 Likely significant positive effects have been identified in relation to the following SEA objectives:
- SEA objective 1: To minimise the risk of flooding to residential properties and community and economic assets.
 - SEA objective 4: To minimise the potential impact of flooding on existing and future critical infrastructure.
 - SEA objective 8: To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.
- 7.3 All of these significant positive effects are associated with the measures designed to achieve LFRMS objectives 3 (reduce the risks to those most vulnerable to local flooding), 4 (increase the amount of flood risk management work undertaken, ensuring there is a contribution to wider social, economic and environmental outcomes and sustainable development) and 7 (ensure that new development does not increase local flood risk and contributes to a reduction where possible). The measures associated with these objectives are more likely to have significant positive effects either because they involve direct actions to manage flood risk in the District or because they seek to directly address one of the above SEA objectives.

Next Steps

- 7.4 This SEA Report will be published alongside the LFRMS once it has been formally approved by the Council's cabinet and adopted as a Council strategy.

LUC
July 2014

Appendix 1

Consultation Responses in Relation to the SEA Scoping Report and SEA Report for the Draft LFMRS

Table 1: Comments from Consultees on the SEA Scoping Report for North East Lincolnshire’s Local Flood Risk Management Strategy

Note that the baseline information, review of relevant plans, policies and programmes and key sustainability issues (originally presented in the September 2013 SEA Scoping Report) have been revised and updated in light of the comments received from Natural England, as set out in the table below. No comments were received from the other consultees. The revised versions of the policy review and baseline information are presented in **Appendices 2 and 3** of this SEA Report respectively. Note that the ‘section’ column in the table below refers to the Scoping September 2013 Report.

Consultee	Section	Comment	Response in SEA Report
Natural England	3.5	The Wildlife and Countryside Act 1981 (as amended) should be included in the national list (includes lists of protected species etc.).	Noted. This Act has been added into the updated version of the policy review set out in this SEA report - see Table 3.1 and Appendix 2 .
Natural England	3.6	Flamborough Head to Gibraltar Point Shoreline Management Plan. There is a final version of this SMP now, available from East Riding of Yorkshire Council.	Noted. The reference to the SMP has been amended in the updated version of the policy review set out in this SEA report - see Table 3.1 and Appendix 2 .
Natural England	4.9	Refers to mitigation areas for effects from development on the Humber Estuary European site. Mitigation areas should be identified in this plan as well as the North East Lincolnshire Local Plan, they may be useful in providing flood storage.	Noted. This comment refers to the LFRMS itself rather than the SEA. As noted by NE, reference is already included in the baseline information for the SEA to mitigation areas.
Natural England	4.24 (Table 5.1)	The effects of sea level rise will be a very important consideration in this flood risk management plan.	Noted. Issues associated with sea level rise are being taken into account by North East Lincolnshire Council as it develops the LFRMS and are reflected in the SEA (for example being referred to in

Consultee	Section	Comment	Response in SEA Report
			the baseline information section).
Natural England	4.49	National Character Areas (replace natural areas etc.) - there are NCA profiles available on the Natural England website.	Noted. This has been reflected in the updated baseline information (see footnote in Appendix 3 of this report).
Natural England	General Comments	Habitat Regulations Assessment: this should be developed in parallel to the SEA and should be a separate document.	Noted. The LFRMS is being subject to HRA by North East Lincolnshire Council and the findings of that assessment are being reported separately. The findings will be drawn on to inform the SEA when they become available.
Natural England		Natural England advise that wherever possible the actions that arise out of the strategy should promote working with natural processes, through adaptation etc.	Noted.

Table 2: Comments from Consultees on the SEA Report for the Draft version of North East Lincolnshire’s Local Flood Risk Management Strategy

Consultee	Comment	Response in SEA Report
Natural England	<p>SEA objective indicators: Natural England suggests alternative indicators:</p> <p>SEA objective 5: to protect and enhance biodiversity</p> <ol style="list-style-type: none"> 1) Area of SSSI damaged or destroyed. 2) Area of SSSI in favourable condition. 3) Enhancements to areas of BAP habitats or those used by BAP species. <p>SEA objective 6: to protect and enhance landscape, townscape, seascape and open space.</p> <ol style="list-style-type: none"> 1) Gains and losses of open space (e.g. flood storage areas) 2) Improvements to the appearance of seascape and townscape (e.g. by the appropriate improvement of flood defence structures) 	<p>Noted. Some of these suggested indicators are already included within the proposed monitoring framework in Section 8 of this report. Those that are considered appropriate have been added in; however ‘improvements to the appearance of seascape and townscape’ has not been included as this is subjective and cannot be quantitatively measured.</p>

Appendix 2

Updated Review of Relevant Plans, Policies and Programmes

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
International		
The Floods Directive (2007) <i>Directive 2007/60/EC</i>	Requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and co-ordinated measures to reduce this flood risk.	Directly relevant to the LFRMS as it provides the European policy framework for dealing with flood risk, which has been transposed into UK law through the Flood Risk Regulations 2009 (see below).
Water Framework Directive (2000) <i>Directive 2000/60/EC</i>	<p>The Water Framework Directive (WFD) provides a framework committing EU member states to the protection of inland surface waters, transitional waters, coastal waters and groundwater.</p> <p>The WFD is built on four main pillars:</p> <ol style="list-style-type: none"> 1. Co-ordinated action to achieve 'good status' for all EU waters, including surface and groundwater, by 2015. 2. Setting up a water-management system based on natural river basin districts, crossing regional and national boundaries. 3. Integrated water management, bringing different water management issues into one framework. 4. Active involvement of interested parties and consultation of the public. <p>It covers groundwater and all surface waters including rivers, lakes, coastal waters and 'transitional waters', such as estuaries that connect fresh and saltwater. It sets a less ambitious objective – 'good potential' – for artificial and 'heavily modified' bodies of water such as canals and reservoirs, or industrial ports.</p> <p>There is a requirement to co-ordinate the delivery of the WFD and the Floods Directive (see above), and the Environment Agency is responsible for this in England and Wales. The WFD and the Floods Directive both use river basin districts as the unit of management. There are 11 river basin districts that are partly or fully in England and Wales, and North East Lincolnshire lies within the Humber River Basin District.</p>	To meet the requirements of the WFD and improve water quality and quantity within rivers, estuaries, coasts and aquifers, River Basin Management Plans have been prepared for all river basin districts by the Environment Agency, in consultation with relevant organisations and individuals. They present the main issues facing the water environment and the actions required to deal with them. The Humber River Basin Management Plan therefore comprises an important part of the evidence base for the LFRMS and the SEA.
Groundwater Directive (2006) <i>Directive 2006/118/EC</i>	The Groundwater Directive establishes a regime which sets underground water quality standards and introduces	Legislation that can affect water quality (including groundwater quality) is of relevance to the LFRMS

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	measures to prevent or limit inputs of pollutants into groundwater. In the UK, the Groundwater Directive is implemented through the Environmental Permitting (England and Wales) (Amendment) Regulations 2012.	because of the links that can exist between flood events and water pollution.
National		
National Planning Policy Framework (2012)	<p>The National Planning Policy Framework (NPPF) has replaced the suite of national planning policy statements and planning policy guidance notes, bringing them into one slimmed down document.</p> <p>The NPPF is based around the presumption in favour of sustainable development. Sustainable development, for the planning system, is defined as:</p> <ul style="list-style-type: none"> • Planning for prosperity – using the planning system to build a strong, responsive and competitive economy. • Planning for people – using the planning system to promote strong, vibrant and healthy communities. • Planning for places – using the planning system to protect and enhance the natural, built and historic environment. <p>The presumption in favour of sustainable development requires a positive planning system to help facilitate economic growth. The NPPF requires that significant weight is placed on securing economic growth.</p> <p>The NPPF contains several key changes from the suite of policy guidance notes and statements that it has replaced:</p> <ul style="list-style-type: none"> • The local development framework has been replaced with the local plan, which will contain both policies and site allocations. • The long term protection of employment land or floor space is discouraged. • The sequential test for offices is removed. • Permission should be granted for housing where a 5 year supply (plus 20% contingency) is not in place – though this would be still subject to other policies and parts of the NPPF. 	The NPPF has replaced PPS25: Development and Flood Risk, and now provides the national policy framework in relation to planning in areas of high flood risk. The presumption in favour of sustainable development and the requirement for local planning authorities to plan positively to help facilitate economic growth could potentially lead to increased tension between the demand for land for development and the aim to ensure that inappropriate development does not occur in areas of high flood risk.

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<ul style="list-style-type: none"> Local communities will be able to designate local green space. <p>The NPPF introduces neighbourhood planning, neighbourhood development orders and community right to build schemes.</p>	
Technical Guidance to the National Planning Policy Framework (2012)	<p>This document provides additional guidance on flood risk and minerals policy and expands on what is set out in the NPPF, stating that: <i>'inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.'</i></p>	<p>This document provides detailed technical guidance in relation to national planning policy on flood risk; therefore is directly relevant to the LFRMS.</p>
Flood and Water Management Act (2010)	<p>Addresses water management, including the management of flood risk. Requires that a lead local flood authority must develop, maintain, apply and monitor a strategy for local flood risk management in its area (the LFRMS).</p> <p>The strategy must specify:</p> <ul style="list-style-type: none"> (a) the risk management authorities in the authority's area, (b) the flood and coastal erosion risk management functions that may be exercised by those authorities in relation to the area, (c) the objectives for managing local flood risk (including any objectives included in the authority's flood risk management plan prepared in accordance with the Flood Risk Regulations 2009), (d) the measures proposed to achieve those objectives, (e) how and when the measures are expected to be implemented, (f) the costs and benefits of those measures, and how they are to be paid for, (g) the assessment of local flood risk for the purpose of the strategy, (h) how and when the strategy is to be reviewed, and (i) how the strategy contributes to the achievement of wider environmental objectives. 	<p>The Act provides the legislative requirement for the production of LFRMSs by all Lead Local Flood Authorities, including North East Lincolnshire Council.</p>
The Flood Risk Regulations (2009)	These Regulations implement the EU Floods Directive. They	The Flood Risk regulations are directly relevant to the

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<p>require the Environment Agency to assess, map and manage flood risk from main rivers, the sea and reservoirs and 'Lead Local Flood Authorities' such as North East Lincolnshire, to do the same for all other flood risks.</p>	<p>production of the LFRMS because it places duties on local authorities such as North East Lincolnshire to prepare flood risk assessments, flood risk maps and flood risk management plans that will set the context for and inform the LFRMS. Currently North East Lincolnshire has no Indicative Flood Risk Areas so flood risk maps and management plans are not required by the Flood Risk Regulations.</p>
<p>National Strategy for Flood and Coastal Erosion Risk Management (2011) <i>Defra and the Environment Agency</i></p>	<p>The strategy builds on existing approaches to flood and coastal risk management and promotes the use of a wide range of measures to manage risk.</p> <p>The strategy encourages more effective risk management by enabling people, communities, business, infrastructure operators and the public sector to work together to:</p> <ul style="list-style-type: none"> • ensure a clear understanding of the risks of flooding and coastal erosion, nationally and locally, so that investment in risk management can be prioritised more effectively; • set out clear and consistent plans for risk management so that communities and businesses can make informed decisions about the management of the remaining risk; • manage flood and coastal erosion risks in an appropriate way, taking account of the needs of communities and the environment; • ensure that emergency plans and responses to flood incidents are effective and that communities are able to respond effectively to flood forecasts, warnings and advice; • help communities to recover more quickly and effectively after incidents. 	<p>The LFRMS should contribute to achieving the objectives of the National Strategy. The LFRMS will balance local priorities and apply the principles of the strategy to suit North East Lincolnshire.</p>
<p>Future Water, The Government's Water Strategy for England (2008) <i>Defra</i></p>	<p>Future Water sets out how the Government wants the water sector to look by 2030, and some of the steps that will need to be taken to get there. Themes addressed include water supply, water demand, water quality, surface drainage, flooding and climate change. The vision for 2030 in relation to flooding is:</p> <ul style="list-style-type: none"> • Flood and coastal erosion risk management which 	<p>Flood risk management is one of the themes addressed by the Strategy, and the LFRMS will contribute to the delivery of the 2030 vision by implementing flood risk management within North East Lincolnshire.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<p>contributes to sustainable development, combining the delivery of social and environmental benefits with the protection of economic assets.</p> <ul style="list-style-type: none"> • An understanding of the future risks of river and coastal flooding fully embedded into the spatial planning system, including planning for new settlements and other new developments. • Consistent and holistic management of urban flood risk, with strategic planning, partnerships of responsible bodies and clear understanding of various flood risk responsibilities. • Public understanding of the risks we face and the actions we can take to help manage flood and coastal erosion risk. • Community resilience to flooding from improved development planning, emergency planning and response, and resilience of homes, buildings, services and utilities. 	
The Water Act (2003)	<p>Supersedes the Water Resources Act 1991, which controls the abstraction and impounding of water. The 2003 Act aims to improve protection of the environment through providing a simplified process of licensing for abstraction and impounding of water. All abstractors now have responsibility not to let their abstraction cause damage to others, and any damaging licences can be amended or revoked without compensation after 2012. Unused licences may be revoked without compensation. Water companies and the public sector have a new duty to promote water conservation.</p>	<p>As abstraction and impounding of water has a direct influence on water levels, it is closely linked to the issue of flood risk management.</p>
The Wildlife and Countryside Act (1981)	<p>The Wildlife and Countryside Act 1981 consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) in Great Britain.</p> <p>The Act makes it an offence to intentionally kill, injure or take any bird/wild animal (listed on Schedule 5), and prohibits interference with places used for shelter, nesting or</p>	<p>The potential impacts of the LFRMS and any specific measures included within it on biodiversity will need to be taken into account through the SEA and possibly through a separate HRA, depending on the nature of the measures coming forward in the LFRMS.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<p>protection, or intentionally disturbing animals occupying such places.</p> <p>The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants.</p> <p>The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) – these sites are identified for their flora, fauna, geological or physiographical features – by the country conservation bodies, for example Natural England.</p>	
<p>Guidance for risk management authorities on sustainable development in relation to their flood and coastal erosion risk management functions (2011) <i>Defra</i></p>	<p>Section 27 of the Flood and Water Management Act 2010 requires lead local flood authorities to aim to make a contribution towards the achievement of sustainable development when exercising their flood and coastal erosion risk management functions. It also requires the Secretary of State to issue guidance on how those authorities are to discharge this duty and explain the meaning of sustainable development in this context – this document does that.</p>	<p>The guidance applies to Lead Local Flood Authorities. It provides background context about the application of sustainable development principles when discharging their duties to manage flood risk (as North East Lincolnshire council is doing through the production of the LFRMS).</p>
<p>Water for People and the Environment; Water Resources Strategy for England and Wales (2009) <i>Environment Agency</i></p>	<p>Sets out the approach to water resources management throughout England and Wales to 2050 and beyond to ensure that there will be enough water for people and the environment.</p>	<p>Flood risk management measures are closely linked to wider water resources management issues.</p>
<p>Directing the Flow: Priorities for Future Water Policy (2002) <i>Defra</i></p>	<p>Sets out the priorities for government policy on water in England over the longer term. Its scope is primarily our use of freshwater and the inland water environment but it also covers estuaries and many aspects of our coastal water.</p>	<p>Flood risk management measures are closely linked to wider water resources management issues.</p>
<p>Sustainable Drainage Systems (SuDS) (2002) <i>Environment Agency</i></p>	<p>Describes sustainable drainage techniques for reducing the impact of surface water discharge. Techniques described in the document are:</p> <p><u>Source control and prevention techniques:</u></p> <ul style="list-style-type: none"> • Green roofs • Permeable Pavements • Rainwater Harvesting • Infiltration Trenches 	<p>Sustainable Urban Drainage Systems (SuDS) as identified in the policy can have a positive effect on flooding in urban areas such Grimsby, Cleethorpes and Immingham. The use of SuDS is likely to be addressed through the measures in North East Lincolnshire’s LFRMS.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<ul style="list-style-type: none"> • Infiltration Basins <u>Permeable Conveyance Systems:</u> <ul style="list-style-type: none"> • Filter (or French) Drains • Swales <u>Passive Treatment Systems:</u> <ul style="list-style-type: none"> • Filter Strips • Detention Basins • Retention Ponds • Wetlands 	
Underground, Under Threat: The state of groundwater in England and Wales (2010) <i>Environment Agency</i>	Describes the importance of groundwater quality and the current state of groundwater in England and Wales. Two main threats to groundwater resources are identified: demand (making sure groundwater levels do not fluctuate too much), and pollution (groundwater is vulnerable to contamination and difficult to clean if contamination occurs).	Flooding can affect groundwater quality; therefore the management of flood risk can be seen as beneficial in terms of achieving higher groundwater quality.
Working with the Grain of Nature: A Biodiversity Strategy for England (2011) <i>Defra</i>	<p>This strategy sets out a series of actions that will be undertaken by the Government and partners to make biodiversity a fundamental consideration in public policy, including:</p> <ul style="list-style-type: none"> • Adopting a whole catchment approach to land use and water management, focusing efforts where environmental risks are greatest and actions are most likely to result in significant benefits. • Recognising that there is a need in urban areas to make biodiversity a part of the development process. • Funding of biodiversity should aim to improve techniques for the valuation of biodiversity in the development process and identify gaps in funding regimes. • Encouraging businesses to be concerned with issues related to biodiversity. 	The potential impacts of the LFRMS and any specific measures included within it on biodiversity will need to be taken into account through the SEA and possibly through a separate HRA, depending on the nature of the measures coming forward in the LFRMS.
Environment Act (1995)	Established The Environment Agency as a body to protect and enhance the environment. The Agency exercises a general supervision over all matters relating to flood defence.	The Environment Agency exercises a general supervision over all matters relating to flood defence in England and Wales.

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
Conservation of Habitats and Species Regulations (2010)	The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.	The Regulations require HRA to be carried out in relation to certain plans, which may include North East Lincolnshire's LFRMS depending on the measures to be included within it and the presence of European sites in or within close proximity of the Borough.
Safeguarding our Soils, A Strategy for England (2009) <i>Defra</i>	Sets out the Government's strategy for improving soil quality in England and safeguard the ability of soils to provide essential services.	Flooding can have implications for soil quality, for example by causing soil erosion, and soil pollution.
Contaminated Land (England) Regulations (2006)	Sets out provisions relating to the identification and remediation of contaminated land under Part 2A of the Environmental Protection Act 1990.	Flooding in areas of contaminated land can have a particular effect on water quality.
Adapting to Climate Change in England. A Framework for Action (2008) <i>Defra</i>	Sets out what the Government has already done and what it will be doing to help the country adapt to anticipated climate changes. The framework encourages action to be taken at the appropriate level, and states that many of the actions that need to be taken early but have a long-term impact are delivered at the local and regional levels.	The LFRMS will contribute to the local level actions intended to help areas such as North East Lincolnshire adapt to climate change by addressing local flood risk management.
Climate Change UK Programme: Tomorrow's Climate Today's Challenge (2006) <i>Defra</i>	The Climate Change Programme sets out the Government's commitments at both the international and national levels to meet the challenge of climate change. It also sets out the approach to strengthening the role that individuals can play. It proposes revised guidance on implementing flood and coastal erosion risk management measures, to ensure that adaptability to climate change becomes an integral part of all flood and coastal erosion management decisions.	Government action to mitigate the causes of climate change will impact on the level of future flood risk that is likely to affect all areas, including North East Lincolnshire, and which the LFRMS is required to address.
Securing the Future: Delivering the Sustainable Development Strategy (2005) <i>Defra</i>	Establishes a broad set of actions and priorities to support the achievement of Sustainable Development Establishes five statements of principle: <ul style="list-style-type: none"> • Developing within environmental limits • Promoting a strong healthy and just society • Achieve sustainable economic growth • Promote good governance • Use sound science responsibly 	Much of the content is aspirational rather than comprising specific sets of proposals; however the LFRMS will play a role in contributing to sustainable development within North East Lincolnshire so should take account of the broader principles of sustainable development.

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	Identifies four priorities for emerging policy: <ul style="list-style-type: none"> • Sustainable consumption and production • Climate change • Natural resources and protection • Sustainable communities 	
Natural Environment White Paper - The Natural Choice: Securing the Value of Nature (2012) <i>Defra</i>	This document outlines the Government's vision for the natural environment over the next 50 years, and sets out practical actions to deliver that ambition. It also takes forward recommendations contained in ' <i>Making Space for Nature</i> ', an independent review of England's wildlife sites and ecological network. The White Paper identifies the essential 'regulating' services provided by the natural environment, including flood hazard reduction, and describes how the natural environment can be managed to maximise the delivery of that service.	As biodiversity, flora and fauna are included within the SEA topics, the SEA of the LFRMS will be required to consider the likely effects of measures proposed in the LFRMS on the natural environment. In addition, the White Paper could help to inform the development of appropriate measures to be included in the LFRMS.
The Historic Environment: A Force for Our Future (2001) <i>Department for Culture, Media and Sport</i>	This statement was published to conclude a long running review of policy in the area of England's historic environment. Looks at a range of policy instruments that can be used to achieve wider objectives for conserving and enhancing the historic environment, including funding, legislation, policy guidance, delivery mechanisms, reprioritisation and partnership working.	As cultural is one of the SEA topics, the SEA of the LFRMS will be required to consider the likely effects of measures proposed in the LFRMS on the historic environment.
Water for Life (2011) <i>Defra</i>	This White Paper is the government's response to pressures on water resources. Key commitments within the Paper include: <ul style="list-style-type: none"> • Reform of the abstraction regime. • Improving water quality. • Consideration of national infrastructure projects. • Taking a strategic approach to wastewater and drainage. • Ensuring an affordable water supply. • Using water wisely. • Producing a new strategic policy paper to help deliver the White Paper's priorities. 	The White Paper sets out actions for the water environment that may link with measures included in the LFRMS, such as supporting catchment pilots throughout the country alongside the Environment Agency.
Sub-National and Local		
North East Lincolnshire's emerging	The Local Plan will set out the key elements of the vision for	The Local Plan will comprise the local planning policy

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
Local Plan <i>North East Lincolnshire Council</i>	the District and is likely to include policies addressing issues such as climate change and water management. The first iteration of the Local Plan has not yet been published.	framework within which the LFRMS will be implemented.
Lincolnshire Biodiversity Action Plan (Third Edition 2012) <i>Lincolnshire Biodiversity Partnership</i>	<p>The Action Plan sets out the following vision statement: “Lincolnshire and its neighbouring seas are much richer in biodiversity.”</p> <p>This will be achieved through the following aims:</p> <ul style="list-style-type: none"> • Conserve and enhance Lincolnshire’s biodiversity; recreating habitats on a landscape scale and developing networks of interlinked natural areas – a ‘living landscape’ of which wildlife is an integral part, not confined to specially protected sites. • Ensure that biodiversity is recognised as an essential element of life in the historic county of Lincolnshire: including its contributions to health and wellbeing; the economy, recreation and tourism; and provision of ecosystem services (such as flood protection, retention of water resources, carbon storage and crop pollination). • Ensure biodiversity conservation is sustainable; the benefits are felt by society, the economy and the environment. • Provide and gather biodiversity information to monitor progress and enable individuals and organisations to make decisions based on sound evidence. 	Measures to be included in the LFRMS could potentially affect biodiversity, either positively or negatively, for example by altering water levels and therefore affecting habitats.
North East Lincolnshire Health Profile (2012) Department of Health	This profile gives a picture of health in the area. It is designed to help local government and health services understand their community’s needs, so that they can work to improve people’s health and reduce health inequalities. It identifies health inequalities geographically.	Flood risk can have a significant impact on health and wellbeing, and the Health Profile provides important evidence and context for the SEA.
Approach to Carbon and Climate Change in North East Lincolnshire Council (DRAFT, December 2012) <i>North East Lincolnshire Council</i>	This document has been developed to take into account the public bodies’ duties imposed under the Climate Change Act (2008). It is designed to build on systems already in place within North East Lincolnshire Council that measure and report the Council’s emissions and reduction efforts. The approach is built around the various roles that North East	The issues of climate change and flood risk are intrinsically linked, and this document provides important evidence for the SEA.

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<p>Lincolnshire Council plays – as a strategic enabler, community leader, service provider and as a manager of assets – on carbon and climate change, and is built around the main themes of:</p> <ul style="list-style-type: none"> • Carbon Management and energy efficiency • Business Resilience in a changing climate • Supporting growth in renewables and energy security • Enabling the creation of a low carbon economy 	
<p>Strategic Flood Risk Assessment (2010) <i>North and North East Lincolnshire Councils</i></p>	<p>The SFRA was originally published in 2006 but has been updated to reflect the replacement of PPG25 with PPS25. The SFRA sets out the policy context and then assesses flood risk within North east Lincolnshire. It also provides guidance on the use of SuDS and discusses the implications of the Flood and Water Management Act.</p>	<p>The SFRA provides important evidence and context for the production of the LFRMS and the associated SEA.</p>
<p>Flamborough Head to Gibraltar Point Shoreline Management Plan (2010) <i>The Humber Estuary Coastal Authorities Group</i></p>	<p>The Environment Agency describes a Shoreline Management Plan (SMP) as a large-scale assessment of the risks associated with coastal processes which helps reduce these risks to people and the developed, historic and natural environments. Coastal processes include tidal patterns, wave height, wave direction and the movement of beach and seabed materials. This SMP covers the entire coastline of North East Lincolnshire, most of which falls into policy unit L 'East Immingham to Cleethorpes'. In that area, the SMP pursues a policy of hold the line, meaning that the defences will be held in their current position and their function will be maintained.</p>	<p>Provides important evidence about the likely impacts of sea level rise to inform the LFRMS and the SEA. The policies in the SMP will provide context for the development of the measures to be included in the LFRMS.</p>
<p>North East Lincolnshire Sustainable Community Strategy (2010) North East Lincolnshire Strategic Partnership</p>	<p>The Strategic Partnership's aim is "to develop and establish, with the community, both a sustainable vision for North East Lincolnshire and the means to achieve it." This document outlines the key areas of focus aimed at improving the economic, social and environmental well-being of its area in a way that contributes to long term sustainable development. The Vision of the Strategy is: <i>"To create the conditions where investment shapes ambition and where aspiration is reflected in the improved quality of life and place that makes us all proud to live, work and</i></p>	<p>The LFRMS and the SEA should take into account and contribute to the priorities of the Strategy. Reducing flood risk will be a key part of developing more sustainable communities, improving health and safety and the local economy.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<p>welcome visitors to North East Lincolnshire".</p> <p>A number of priorities are then identified, which are:</p> <ul style="list-style-type: none"> • Sustaining work and business • Supporting children and families • Reducing health inequality • Making communities safer 	
<p>Grimsby and Ancholme Catchment Flood Management Plan (2009) <i>Environment Agency</i></p>	<p>The Catchment Flood Management Plan seeks to understand the scale and extent of flood risk and how it is currently managed in the catchment. It then considers future flood risk management measures, in the context of the increasing risk from climatic changes.</p> <p>In the catchment, flood risk from rivers is currently managed through a combination of engineering measures such as widening and straightening rivers and the use of flood storage reservoirs, as well as other activities such as maintaining sewers and flood defences.</p> <p>In the Immingham, Grimsby and Buck Beck area, the CFMP proposes a policy approach that is suitable for areas of low, moderate or high flood risk where flood risk is already being managed effectively but where further actions may be needed to keep pace with climate change. It states that: "This policy will tend to be applied where the risks are currently deemed to be appropriately-managed, but where the risk of flooding is expected to significantly rise in the future. In this case we would need to do more in the future to contain what would otherwise be increasing risk. Taking further action to reduce risk will require further appraisal to assess whether there are socially and environmentally sustainable, technically viable and economically justified options."</p>	<p>This document outlines the wider context for managing flood risk in the Grimsby and Ancholme catchment area and sets out possible areas for action that could be used in North East Lincolnshire.</p>
<p>Water for Life and Livelihoods: River Basin Management Plan for Humber River Basin District (2009) <i>Environment Agency</i></p>	<p>The plan aims to manage the pressures facing the water environment within the Humber river basin district. The key issues addressed in the management plan are:</p> <ul style="list-style-type: none"> • point source pollution from water industry sewage works; • diffuse pollution from agricultural activities; • diffuse pollution from urban sources; 	<p>The River Basin Management Plan provides important evidence and context for the production of the LFRMS and the associated SEA.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	<ul style="list-style-type: none"> • physical modification of water bodies; and • disused mines, point and /or diffuse pollution source. <p>The plan sets out actions for different sectors and organisations, including those for local government and urban and transport.</p> <p>For local government, the plan seeks to produce guidance for local planning authorities and to ensure that spatial planning documents take account of the objectives of the Humber River Basin Management Plan.</p>	
<p>North East Lincolnshire Preliminary Flood Risk Assessment (2009) <i>North East Lincolnshire Council</i></p>	<p>The Preliminary Flood Risk Assessment (PFRA) is a high level screening exercise that compiles information on significant local flood risk (any flood risk that does not originate from main rivers, the sea or large reservoirs) from past and future floods, based on readily available and derivable information.</p> <p>The PFRA also includes the identification of flood risk areas for use in Flood Risk Maps and Flood Risk Management Plans, which are requirements of the 2009 Flood Risk Regulations alongside the PFRA. Currently North East Lincolnshire has no Indicative Flood Risk Areas so flood risk maps and management plans are not required by the Flood Risk Regulations.</p>	<p>The PFRA is a key document of relevance to the LFRMS, setting out important evidence relating to current levels of flood risk in North East Lincolnshire and how it can be managed.</p>
<p>Environment Agency (2008) The Humber Flood Risk Management Strategy</p>	<p>The overall aim of the Flood Risk Management Strategy is to manage the risk of flooding around the Humber Estuary in ways that are sustainable for the people who live there, the economy and the environment.</p> <p>The detailed objectives are to:</p> <ul style="list-style-type: none"> • maintain and, where possible, enhance public safety, health and security • respond to natural processes and to avoid contamination and erosion • protect and, where appropriate, provide opportunities for economic development and employment • protect existing transport infrastructure • protect and, where appropriate, enhance biodiversity • protect the historic environment • protect and, where appropriate, enhance landscape, 	<p>The Local Plan should consider flooding issues when locating allocated sites, and include policies that prevent an increase in flood risk. The SA Framework should include an SA objective that relates to flooding.</p>

Plan, project or programme	Brief overview and key objectives	Implications for the North East Lincolnshire LFRMS and the SEA (including any potential conflicts)
	amenity and recreational features	
Water Abstraction: Getting the Balance Right - The Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy (2006) <i>Environment Agency</i>	This strategy sets out how the Environment Agency will manage this resource in the Grimsby, Ancholme and Louth area to ensure there is water available for abstraction while protecting the needs of the natural environment. The majority of the District falls within Water Resource Management Unit 4, which is classed as over-abstracted.	The CAMS contributes to the evidence base for the preparation of the LFRMS and the SEA. The LFRMS will address the issues highlighted in the CAMS as part of an overall strategy to manage water resources in the District.

Appendix 3

Updated Baseline Information

Baseline Information for North East Lincolnshire

The SEA Directive requires the consideration of likely significant effects on the environment, including on 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 these factors. This list of issues is often referred to as the 'SEA topics'.

The sections below set out the baseline information and any local trends that can be identified from a range of data sources in relation to each of the above topics. At the end of each section, the ways in which North East Lincolnshire's LFRMS could potentially affect each topic are summarised. Note that some topics (such as population and human health and flora and fauna) have been grouped together as there is a significant amount of crossover between these topics in terms of the relevant data and the key environmental issues.

Population and Human Health

Population

In the 2011 Census, North East Lincolnshire had an estimated population of 159,616³, with the majority of people living in the towns of Grimsby and Cleethorpes. The remainder live in the smaller town of Immingham and in surrounding rural villages⁴.

The area's population is predominantly White British (95.4%) and 93.7% of residents were born in England (93.7%).

The 2013 Strategic Housing Market Assessment⁵ considers the likely population increase in the District, taking into account a range of potential scenarios. According to the Assessment, a population increase of up to 26,200 people could occur by 2030. Projections also indicate that the proportion of people aged 65 and over will increase at a faster rate between 2006 and 2031 in North East Lincolnshire than the rest of the country, with the number of people aged 60 and above projected to increase by 52%, and the number of people aged 85 and above projected to increase by 126% during the same period⁶. This increase in population will lead to increased demand for housing and services within the District.

The north of the District, around Immingham, contains a high proportion of people aged between one and 17 years, indicating that there are high numbers of young families in that area⁷. Around Cleethorpes, the population includes a higher proportion of older people.

Health

According to the 2012 Health Profile for the local authority area, the health of people in North East Lincolnshire is generally worse than the English average⁸. Health inequality is a big issue, as life expectancy is 11.1 years lower for men and 8.8 years lower for women in the most deprived areas of the District compared to the least deprived areas. When compared to the national averages, healthy eating is an area of concern, with 22.5% of adults 'healthy eating' between 2006 and 2008 (in comparison with 28.7% nationally).

North East Lincolnshire's growing population is indicative of the pressure for development that exists within the District, in particular for housing. The relatively young population in some areas means that demand for affordable housing in particular is high. As well as demand for development, which can affect flood risk as a result of changes to surface permeability, population increases could place increasing strain on the sewage system which could exacerbate the risk of surface water flooding in the future. The LFRMS will affect the health and wellbeing of the local

³ <http://www.ons.gov.uk/ons/rel/census/2011-census/key-statistics-for-local-authorities-in-england-and-wales/index.html?translation-component=&calling-id=77-6175-4&currLang=English&format=normal>

⁴ North East Lincolnshire and the Primary Care Trust (2012) Joint Strategic Needs Assessment

⁵ North East Lincolnshire Strategic Housing Market Assessment 2013

⁶ North East Lincolnshire Council (2009) A Good Place to Grow Older - Strategy for Later Life

⁷ North East Lincolnshire Council (2013) Strategic Housing Market Assessment

⁸ DoH (2012) North East Lincolnshire Health Profile

population by influencing the extent that people in North East Lincolnshire perceive themselves to be at risk of flooding, which can have a detrimental effect on mental health and wellbeing, particularly those who may find it difficult to react quickly to flood risk events, such as the elderly, the infirm and the less mobile. In addition, the LFRMS and the measures included within it will affect the extent to which health-related services and facilities (such as health centres and open space used for recreation) are at risk from flooding.

Biodiversity (including flora and fauna)

Environment, Biodiversity and Natural Resources

North East Lincolnshire is bounded to the north east by the Humber Estuary, which is the second largest coastal plain estuary in the UK (after the Severn Estuary)⁹. The estuary is of international and national importance for biodiversity, being designated as a Special Area of Conservation (SAC), a Special Protection Area (SPA), a Ramsar site and a Site of Special Scientific Interest (SSSI). Aside from the Humber Estuary there are no other European designated sites within the District. The parts of the estuary SSSI that fall within North East Lincolnshire are predominantly in 'unfavourable recovering' condition, with some areas in 'favourable' condition¹⁰. Approximately one-third of the estuary is exposed as mud or sand flats at low tide, and it regularly supports internationally important numbers of waterfowl in winter and nationally important breeding populations in summer¹¹.

North East Lincolnshire Council has been working in partnership with Natural England and other organisations to develop mitigation measures to prevent development adversely affecting the estuary. Once agreed, this collaborative work will lead to the production and adoption of a Delivery Plan, with the mechanisms included in the Delivery Plan being outlined in the North East Lincolnshire and North Lincolnshire Local Plans. Mitigation areas will be identified in the local planning documents.

Along with Hull (on the estuary's northern shore), the industrial area around Grimsby, Immingham, and Cleethorpes on the south bank of the Humber is one of the main areas of high population and industry adjacent to the estuary. The impact of human activity such as the construction, operation and maintenance of ports, pipelines and other infrastructure is a key vulnerability of the estuary¹².

In addition to the designations at the Humber Estuary, there are four Local Nature Reserves within North East Lincolnshire – Bradley and Dixon Woods and Weelsby Woods Park, both to the south of Grimsby, Cleethorpes Country Park to the south of Cleethorpes, and Cleethorpes Sands on the coast¹³.

Depending on the measures to be included in the LFRMS, biodiversity could be affected as a result of construction activities potentially causing disturbance to habitats and species, or through changing land uses, changing water levels or habitat creation and enhancement. The Council will need to give consideration to the potential for the LFRMS to have likely significant effects on any European sites.

Soil

Soil types are a major component of the Agricultural Land Classification (ALC) system which defines the agricultural potential of land and is used in land use planning. The ALC system classifies land into five grades, with the best and most versatile land defined as Grades 1, 2 and 3a¹⁴. The majority of agricultural land in North East Lincolnshire is classified as Grade 3 agricultural land, with some areas of higher quality (Grade 2) in the southern part of the District (within the Lincolnshire Wolds). The agricultural land in North East Lincolnshire is therefore considered to be relatively flexible, productive and efficient and able to deliver future crops for food and non-food uses. However, it is also noted that ground conditions (in particular the clay

⁹ <http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030170>

¹⁰ <http://www.sssi.naturalengland.org.uk/Special/sssi/reportAction.cfm?report=sdrt13&category=S&reference=2000480>

¹¹ <http://jncc.defra.gov.uk/pdf/RIS/UK11031.pdf>

¹² <http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0030170.pdf>

¹³ http://www.lnr.naturalengland.org.uk/special/lnr/lnr_results.asp?C=26

¹⁴ <http://adlib.everysite.co.uk/resources/000/095/416/TIN049.pdf>

content of local soils) have resulted in difficulties with drainage, and can limit the effectiveness of SuDS.

North East Lincolnshire Council's draft 2012 Strategic Housing Land Availability Assessment shows that the authority has been successfully achieving its target of 55% of new dwellings being built on previously developed land over recent years, with the proportion peaking at 71% for the years 2008 and 2009. However, for the year 2012 the proportion dipped below the 55% target for the first time since 2005, with a total of 47% of new homes being built on brownfield sites¹⁵. The figure is expected to continue to decline in the future.

Contaminated land in the District has historically been focussed in the eastern coastal area, around Grimsby and Immingham in particular. This reflects the distribution of industrial areas in North East Lincolnshire. There are also a number of contaminated sites scattered throughout the rest of the District.

Flooding can cause soil erosion and soil pollution, which can affect soil quality and structure. Soils can act as a 'sponge' absorbing flood waters and in so doing preventing flooding elsewhere. Flooding in areas of contaminated land could affect water quality. Increased hard-standing, including the paving over of gardens to enable off-road car parking, could increase rates of run-off and localised flood risk. Similarly, open space that is intensively used for recreation can experience compacted soils leading a reduced 'sponge' effect and increased run-off. North East Lincolnshire's LFRMS could include measures to address these issues.

Water

Flood Risk

The risk of flooding within the Borough has been determined through the production of a Strategic Flood Risk Assessment (SFRA) for North and North East Lincolnshire Districts, which identifies areas of potential flood risk.

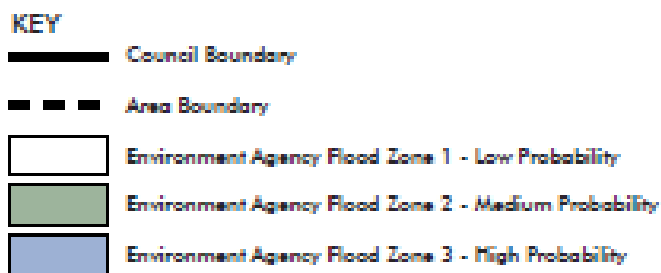
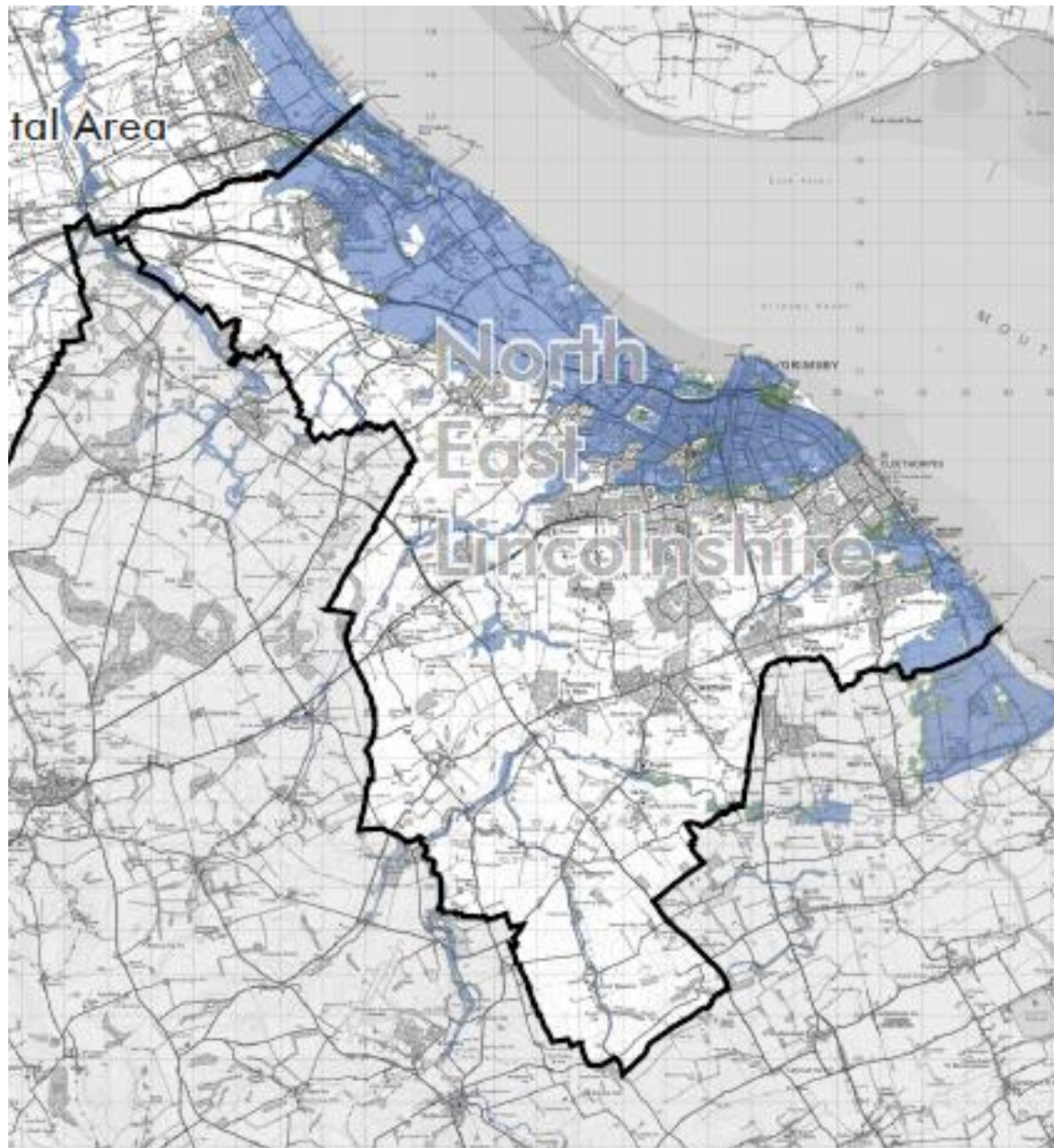
Figure 4.2 below (taken from the SFRA¹⁶) illustrates the extent of flood zones 1, 2 and 3 in and around North East Lincolnshire. The Environment Agency defines the flood zones as follows:

- Flood Zone 1: This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%).
- Flood Zone 2: This zone comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
- Flood Zone 3: This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

¹⁵ North East Lincolnshire Council (2012) Draft North East Lincolnshire Strategic Housing Land Availability Assessment

¹⁶ Available on North East Lincolnshire Council's website at: <http://www.nelincs.gov.uk/council/planning-policy/evidence-base/sub-regional-documents/sfra/>

Figure 1: Location of Flood Zones 1, 2 and 3 in and around North East Lincolnshire



Source: North and North East Lincolnshire Strategic Flood Risk Assessment (2010)

It can be seen that the main areas of higher flood risk are in the east of the District, along the coastline. The SFRA found that in the eastern coastal area of North East Lincolnshire (which includes Grimsby, Cleethorpes and Immingham), the main source of flood risk is a combination of large waves and high water levels in the Humber Estuary.

The likelihood of coastal flooding events occurring, such as the North Sea tidal surge that occurred in 1953 and caused extensive damage to Cleethorpes, is predicted to increase as a result of rising sea levels and increased storminess associated with climate change¹⁷.

Coastal defences along the North East Lincolnshire coastline are provided and maintained by different organisations in different areas. In the north of the District (between Immingham and Grimsby) there is a concrete sea wall, which is the responsibility of the Environment Agency. From Grimsby Dock to Cleethorpes promenade is another concrete sea wall, which is also maintained by the Environment Agency. Associated British Ports is responsible for the sea walls around their land at Immingham and Grimsby Docks. Protection at the docks is currently provided by concrete sheet piled walls, concrete revetment walls and lock gates to control levels within the docks; however there has been concern about the standard of these defences¹⁸. In response to these concerns, work has recently begun on the first phase of a £20 million flood alleviation scheme in Grimsby, which involves constructing a large concrete wave wall at Grimsby Docks. Work on further phases of the scheme is scheduled to take place in 2014 and 2015. The aim of the work is to reduce the flood risk facing thousands of properties from the Humber Estuary. Associated British Ports and North East Lincolnshire Council have contributed towards the cost of the scheme.

At the North and Central Promenades of Cleethorpes there is a concrete sea wall, with timber groynes controlling the sand levels of the beaches – these assets are maintained by North East Lincolnshire Council. To the south of Cleethorpes, Humberston Fitties is protected by a rock filled gabion sea/coastal defence wall in front of the Environment Agency flood defence embankment. The section between the Humberston Fitties and the Cleethorpes Leisure Centre is protected by a sea defence embankment which is the responsibility of the Environment Agency¹⁹.

The risk of sewer flooding in Cleethorpes is relatively low following substantial sewer upgrading works in the 1990s. However, a number of areas of Grimsby are under threat from sewer flooding, including the lower lying areas of the Willows and Wybers Wood estates to the north west of the town, Runswick Road, Wentworth Road, Willingham Street, Welholme Avenue and Ainslie Street. The risk of flooding from groundwater is generally highest in the lower lying coastal areas from Immingham to Humberston²⁰.

There was severe flooding in North East Lincolnshire in June 2007, causing internal flooding at more than 630 properties and the flooding of the combined sewer system, which caused contamination of properties and a public health risk. The highway network was also severely disrupted²¹. The extent of past flooding events is illustrated on Figure 4.3. It can be seen that the majority have occurred in the south and east of the District.

¹⁷ North East Lincolnshire Council (2009) North East Lincolnshire Preliminary Flood Risk Assessment

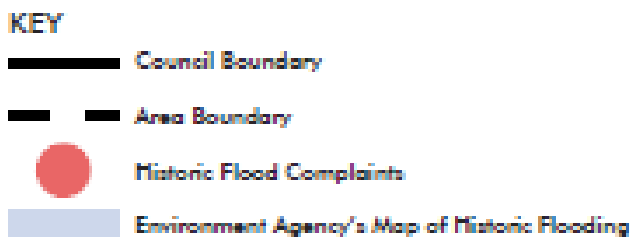
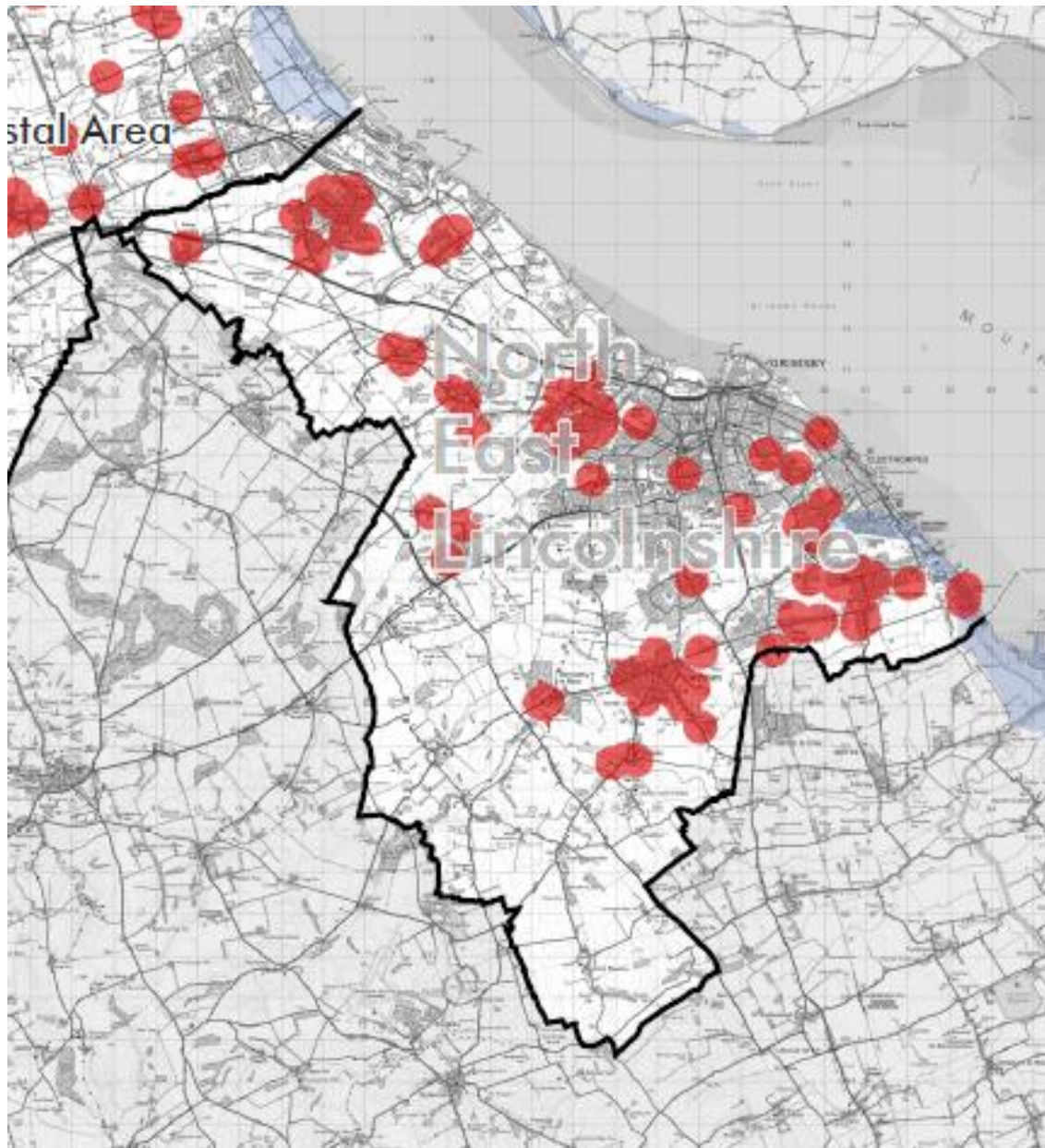
¹⁸ North East Lincolnshire Council (2009) North East Lincolnshire Preliminary Flood Risk Assessment

¹⁹ North East Lincolnshire Council (2009) North East Lincolnshire Preliminary Flood Risk Assessment

²⁰ North East Lincolnshire Council (2009) North East Lincolnshire Preliminary Flood Risk Assessment

²¹ North East Lincolnshire Council (2009) North East Lincolnshire Preliminary Flood Risk Assessment

Figure 2: Locations of Past Flood Events in North East Lincolnshire



Source: North and North East Lincolnshire Strategic Flood Risk Assessment (2010)

Water Quality

The objectives of the Water Framework Directive (WFD) are to prevent the deterioration of water bodies and to improve them such that they meet the required status for that given water body (rivers, lakes, estuaries, coastal and groundwaters). The main river that flows through the District is the River Freshney. According to the Environment Agency, the ecological water quality

of the River Freshney is classed as 'poor potential', with the predicted quality in 2015 improving to 'moderate potential'²².

Measures included in North East Lincolnshire's LFRMS will be designed for the primary purpose of managing local flood risk in the District. Water quality can be affected by flooding incidents; therefore the management of flood risk can influence water quality. The promotion of sustainable drainage systems (SuDS) through the LFRMS will help to improve the quality of surface water discharging from development sites.

Climatic Factors

Total CO₂ emissions per capita in North East Lincolnshire are higher than regional and national averages. This is mainly due to industrial activities at the ports of Grimsby and Immingham. In 2010, total emissions from industry and commercial sources were 6.8ktCO₂ per capita (this compares to regional and national averages of 4.5ktCO₂ and 3.3ktCO₂ respectively)²³. Domestic carbon emissions in North East Lincolnshire are similar to regional and national averages.

Grimsby is regarded as an important port for the delivery of off-shore wind farms due to its location as the closest Humber port to the North Sea. An Enterprise Zone has been created at the Port of Grimsby East (as part of a wider Humber Enterprise Zone), to attract renewable energy industry to Grimsby.

Work undertaken at the regional level²⁴ found that the Yorkshire and Humber region as a whole has the potential to install approximately 5,500 MW of renewable energy generation capacity (around 3,600 MW of renewable electricity plus around 1,900 MW of renewable heat) and to generate around 16,100 GWh of renewable energy annually by 2025. These figures do not include offshore wind and marine renewables. This would represent nearly a fivefold increase from existing capacity. Most of the potential renewable energy resource (46%) comes from commercial wind energy, with a further 34% of the potential being from biomass.

As of 2011, North East Lincolnshire District did not have any installed commercial wind capacity, although the District was found to have the potential for 235MW capacity²⁵. However, the District's modern waste infrastructure contributes to the region's energy from waste capacity.

Although there was an increase in the number of approved and live planning applications for renewable energy installations in the year 2011/12, the extent of installed capacity did not increase. Successful applications that year included permission for a half megawatt onshore wind installation and a pipeline to supply 30MW of power and steam to local industries from a Combined Heat and Power (CHP) plant. Applications to renew two existing consents for bio-fuel plants were also received²⁶.

North East Lincolnshire Council's Carbon and Climate Change Approach document describes the Council's responsibilities in relation to dealing with concerns about carbon emissions and climate change and ensuring that communities are resilient to the impacts. The Council has become a signatory to the Local Government Association (LGA) 'Climate Local' initiative which aims to drive and support Council action on climate change. Key considerations for the Council include saving on energy bills, generating income from renewable energy, attracting new jobs and investment in 'green' industries, reducing flood risk and managing the impacts of extreme weather, such as drought, tackling fuel poverty and protecting the District's natural environment.

Localised flooding could affect renewable energy schemes. In addition, climate change is likely to have a direct effect on local flood risk as a result of increased precipitation and more frequent extreme weather events. The LFRMS, drawing on evidence such as the North East Lincolnshire Strategic Flood Risk Assessment, will help the District to adapt to and mitigate these impacts by developing a strategy for dealing with the increasing flood risk.

²² <http://maps.environment-agency.gov.uk/wiyby>

²³ <http://www.nelincsdta.net/IAS/dataviews/tabular?viewId=317&geoId=4&subsetId=>

²⁴ Aecom (2011) Low Carbon and Renewable Energy Capacity in Yorkshire and Humber: Final R

²⁵ Aecom (2011) Low Carbon and Renewable Energy Capacity in Yorkshire and Humber: Final Report

²⁶ North East Lincolnshire Monitoring Report 2011/12

Material Assets

There is no definition within the SEA Directive with regards to what is covered by 'material assets'. In the context of this SEA of the LFRMS this topic has been taken to include tangible assets which may be affected by flooding including residential properties, employment sites, community facilities (including education facilities), waste management facilities and transport infrastructure.

Housing

In 2011, the average household size in North East Lincolnshire was 2.3 persons per household, and the average house price (May 2012) was £120,236²⁷.

The 2013 Strategic Housing Market Assessment (SHMA) projects growth of 5,490 households (290 per annum) between 2011 and 2028 (under the latest demographic trend based projection). The employment growth projection in the SHMA for 2011-2030 is 1,300 new jobs (70 per annum), and assuming the addition of these 1,300 new jobs, the projected growth in households during the same period would be 9,375 households (495 per annum). These projections have clear implications for the need to deliver an appropriate quantity and range of new homes to accommodate the growing population. This is particularly important in light of the fact that housing delivery in recent years has not taken place at the required rate, and it is important that the existing situation of under-delivery does not continue.

The net affordable housing need is 586 dwellings per annum for each of next five years, in order to address the existing waiting list backlog, and to meet future affordable housing needs. In 2011, only 170 affordable dwelling units were developed in the area²⁸. The Strategic Housing Market Assessment states that all areas of North East Lincolnshire have a shortfall of affordable housing, but that the urban area (around Grimsby and Cleethorpes) is identified as having a particularly high level of need for affordable housing²⁹.

The SHMA found that since the economic downturn, development trends have shown a preference for family sized housing. This is reflected in data about household structures which shows 'relatively healthy' growth in family households. As well as continuing to cater for this market, demand from an increasing number of single person households and from a generally ageing population will also need to be met.

Since 2001, the most significant growth in new housing in North East Lincolnshire has been in detached dwellings and flats – both have increased by 10%. This trend differs to regional and national trends, where flats have seen the greatest increase in volume through new development, by a considerable proportion³⁰.

Long-term housing vacancy is an important issue facing North East Lincolnshire. Council tax data from January 2013 showed that there were 1,201 homes in the District which were long-term vacant (e.g. for more than six months)³¹. In terms of housing type, North East Lincolnshire has more terraced houses than the regional and national averages, and has a lower than average proportion of flats and detached houses (this is particularly the case in Grimsby and Immingham).

The condition of the District's housing stock is a concern, with around 42% of homes in the private rented sector being classed as 'non-decent'. People at highest risk of living in a non-decent house are young people, old people, disabled people and people on benefits. 32% of private sector dwellings were classed as non-decent, in comparison with a national average of 29%³².

There is no accurate information available about the size of the Gypsy and Traveller population in North East Lincolnshire, although it has been estimated that there are at least 250 in North and North East Lincolnshire Districts combined. The 2008 Gypsy and Traveller Accommodation Needs Assessment (which covered both North and North East Lincolnshire Districts and which will be

²⁷ North East Lincolnshire Council (2013) Strategic Housing Market Assessment

²⁸ <http://www.nelincdata.net/IAS/dataviews/tabular?viewId=341&geoId=4&subsetId=>

²⁹ North East Lincolnshire Council (2013) Strategic Housing Market Assessment

³⁰ North East Lincolnshire Strategic Housing Market Assessment 2013

³¹ North East Lincolnshire Council (2013) Strategic Housing Market Assessment

³² North East Lincolnshire Council (2013) Strategic Housing Market Assessment

superseded by a forthcoming local and more up-to-date assessment) found that there were no socially rented sites in the study area although there were four authorised private sites which provided a total of around 57 pitches, 37 of which were residential and 20 of which were for transit purposes. No unauthorised developments were found within the study area.

Town Centre Facilities

The main urban areas of North East Lincolnshire are Grimsby, Cleethorpes and Immingham, with a number of smaller service settlements being located in the 'arc' around those towns. Plans are currently in place to carry out significant improvements to Grimsby town centre, including to the shopping centre and transport hub. This could result in around 150,000m² of new development over a 15 year period³³. Improvements to the transport system are being funded from the Council and the Government's Local Sustainable Transport Fund.

The emerging draft Retail, Leisure and Three Centres Study³⁴ reports that Grimsby town centre (the Top Town area which comprises the main shopping areas around Victoria Street and the Freshney Place Shopping Centre) is relatively viable in comparison to other centres in terms of convenience retail, comparison retail and vacant units. However, it reports that the number of vacant units has increased from 33 to 41 since 2003, and the number of comparison retail units has decreased from 174 to 149, which is likely to be due to the current economic climate.

Cleethorpes is a popular residential location as well as a tourist town. It is well-connected by rail, and includes numerous caravan parks and other tourist accommodation. Recent survey work has found the town centre to be relatively viable, with fairly low vacancy levels³⁵. However, as in Grimsby, the number of retail units has declined over the last decade, although at the same time there has been an increase in service outlets such as bookmakers in the town.

At Immingham, there is currently a high amount of vacant retail floor space, although this reflects the ongoing regeneration plans for the town centre which include substantial demolition and remodelling in order to accommodate a Tesco store³⁶.

Transport Infrastructure

The key roads in North East Lincolnshire are the A180, which comes off the M180 and leads into Grimsby from the north west, and the A46 which leads into Grimsby from Lincoln in the west. The A16 leads out of the District to the south, towards Louth and Boston.

North East Lincolnshire is well connected by rail, with connections from Doncaster and Sheffield. Grimsby Town railway station is served by TransPennine Express trains between Cleethorpes and Manchester Airport, the Cleethorpes to Barton-On-Humber local stopping service and East Midlands Trains services to Lincoln and Newark.

The District's ports are of national significance, with the ports of Immingham and Grimsby handling the largest tonnage of freight of any UK port.

The LFRMS aims to reduce local flood risk in North East Lincolnshire, and thereby the risk facing material assets such as residential properties, employment sites, community facilities, waste management facilities and transport infrastructure that can be damaged or made inoperable by flooding. Measures included in the LFRMS may also have implications for the location and design of forthcoming developments.

Cultural Heritage (including architectural and archaeological heritage)

There are 223 listed buildings within North East Lincolnshire - 12 Grade I listed buildings, 13 Grade II* listed buildings, 198 Grade II listed buildings and one Registered Park and Garden at People's Park, Grimsby³⁷. In addition, the area has 11 Scheduled Monuments that include medieval settlements, barrows, churchyard crosses, and Humberston Abbey. There are 16

³³ Bridget Baker Consulting Ltd (2013) Hotel Study for North East Lincolnshire

³⁴ GVA (June 2013) Draft Retail, Leisure and Three Centres Study

³⁵ GVA (June 2013) Draft Retail, Leisure and Three Centres Study

³⁶ GVA (June 2013) Draft Retail, Leisure and Three Centres Study

³⁷ <http://www.english-heritage.org.uk/>

Conservation Areas within North East Lincolnshire³⁸ including a number in Grimsby such as the central area of the town and the District's largest Conservation Area of over 79ha at Wellow. There is also one of over 18ha covering the central seafront area in Cleethorpes.

Ten of these heritage assets on English Heritage's Heritage at Risk Register. They include two vacant Grade II* listed buildings (the Grimsby Ice Factory and the Church of Saint Margaret), two Scheduled Monuments (a Civil War earthwork fort and a Premonstratensian priory chapel), as well as six Conservation Areas³⁹.

North East Lincolnshire lies primarily within the Northern Marshes Character Area, as defined by the Historic Landscape Characterisation Project for Lincolnshire⁴⁰. The assessment for that character area notes that the historic settlement pattern around Grimsby has been distorted by the growth of the surrounding villages into extended suburbs of Grimsby. The Medieval settlement pattern throughout the area is, however, well-preserved.

Cultural heritage assets such as listed buildings can be damaged through flooding; therefore the LFRMS will provide protection through the measures designed to reduce flood risk. Any measures in the LFRMS that involve construction could potentially affect the setting of such assets.

Landscape

There are three Landscape Character Areas within North East Lincolnshire that are derived from the National Character Areas⁴¹ identified by the Countryside Commission in 1998⁴². The LCAs are the Humber Estuary, Lincolnshire Coast & Marshes, and Lincolnshire Wolds. The 2010 Landscape Character Assessment for North East Lincolnshire also identifies seven Local Landscape Types. These Landscape Types are: Industrial Landscape and Flat Open Farmland in the Humber Estuary; Open Farmland; Wooded Open Farmland; Flat Open Farmland; and Sloping Farmland in the Lincolnshire Coast & Marshes; and High Farmland in the Lincolnshire Wolds.

The Lincolnshire Wolds have been designated as an Area of Outstanding Natural Beauty (AONB)⁴³. The AONB covers the southern part of North East Lincolnshire, as well as East and West Lindsey Districts. The AONB partnership is currently preparing a Management Plan for 2013-2018. The Management Plan has not yet been adopted, but the draft version (2011) identifies continued intensification of farming and telecommunication developments as some of the main threats to the landscape of the AONB⁴⁴. The intensification of farming is also identified as a key pressure on the landscape of North East Lincolnshire, as identified in the 2010 Landscape Character Assessment⁴⁵.

A key issue for planning in North East Lincolnshire has been the need to retain the individual identity of settlements and to prevent coalescence. Strategic Gaps were identified in the 2003 Local Plan, which aimed to prevent coalescence of the Grimsby/Cleethorpes urban area with Humberston, Waltham and New Waltham to the south and Bradley, Laceby and Healing to the west.

Measures proposed in the North East Lincolnshire LFRMS could affect the local landscape/townscape character if they involve construction, changes in land use or changing water levels.

³⁸ <http://www.nelincs.gov.uk/business/planning-and-development/investigating-and-exploring-the-past/conservation-areas-article-4-directions/>

³⁹ [http://risk.english-heritage.org.uk/register.aspx?rs=1&rt=0&pn=1&st=a&ua=North+East+Lincolnshire+\(UA\)&ctype=all&crit=](http://risk.english-heritage.org.uk/register.aspx?rs=1&rt=0&pn=1&st=a&ua=North+East+Lincolnshire+(UA)&ctype=all&crit=)

⁴⁰ English Heritage and Lincolnshire County Council (2011) The Historic Character of The County of Lincolnshire: Report.

⁴¹ National Character Areas replaced Natural Areas. There are NCA profiles available at: <http://www.naturalengland.org.uk/publications/nca/default.aspx>

⁴² North East Lincolnshire Council (2010) Final Landscape Character Assessment

⁴³ <http://www.lincswolds.org.uk/>

⁴⁴ Lincolnshire Wolds AONB Partnership (2011) Consultation Draft – Lincolnshire Wolds AONB Management Plan 2012 – 2017

⁴⁵ North East Lincolnshire Council (2010) Final Landscape Character Assessment

Appendix 4

SEA Matrices for the Final LFRMS

LFRMS Objective 1: All stakeholders (including members of the public) will have an improved understanding of their responsibilities for flood risk management

Measures associated with this LFRMS objective:

- M1.1 Section 2 describes the roles of all the stakeholders to inform people on those best to talk to about particular flooding issues. If there is still doubt North East Lincolnshire Council as the LLFA can be contacted to establish who is responsible.
- M1.2 We will actively engage with communities to provide them with further information about the responsibilities of stakeholders, particularly for the riparian owners and those who own structures, who are not always aware of how important their role in local flood risk management can be.
- M1.3 The council website will be expanded to provide access to contact details for the authorities in the borough and general flooding advice.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	Although measures associated with this LFRMS objective will not result in physical works that would minimise the risk of flooding, they should contribute to an indirect positive effect on flood risk (including that facing residential properties and community and economic assets) by improving the level of understanding of flood risk amongst all stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. In particular, measures M1.2 and M1.3 could result in improved levels of knowledge amongst the public about appropriate actions to take in the event of flooding (depending on the information to be presented on the improved web pages), which could reduce the extent of damage to community and economic assets.
2) To maintain and enhance soil and water quality.	+	The measures associated with this LFRMS objective may contribute to an overall reduction in flood risk by improving the level of understanding of flood risk amongst all stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. As such, the measures associated with this LFRMS objective should have an indirect positive effect on the protection of soil and water quality by reducing the likelihood of adverse impacts occurring from flooding events (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). None of the measures will result directly in physical works that could have an impact on soil or water quality.
3) To protect and enhance human health and wellbeing.	+	The measures associated with this LFRMS objective may contribute to an overall reduction in flood risk by improving the level of understanding of flood risk amongst all stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. As such, the LFRMS objective should have an indirect positive effect on the health and wellbeing of local people by reducing the likelihood of adverse impacts occurring from flooding events. This could include both the potential physical and mental effects of flooding to residential properties, and the effects of healthcare facilities such as doctor's surgeries being flooded. None of the measures will result directly in physical works or actions that could otherwise have an impact on health or wellbeing (e.g. in relation to noise).
4) To minimise the potential impact of flooding on existing	+?	Although the measures associated with this LFRMS objective are unlikely to lead to physical works that would minimise the risk of flooding to critical infrastructure within the District (e.g. the transport network, utilities,

SEA Objectives	SEA Score	Justification
and future critical infrastructure.		healthcare facilities), the measures should combine to contribute to an indirect positive effect on this objective by improving the level of understanding of flood risk amongst stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. In this way, the measures associated with this LFRMS objective should help to protect critical infrastructure by reducing the likelihood of adverse impacts occurring from flooding events. Section 2 of the LFRMS describes the roles of stakeholders, including water and sewerage companies (responsible for managing the risk of flooding from public sewer systems) and the Highways Agency (responsible for dealing with surface water run-off from roads). If those particular stakeholders' understanding of their responsibilities in relation to flood risk management is improved through the measures associated with this objective, particularly positive effects in relation to the protection of critical infrastructure are likely; however it is not currently certain which stakeholders this would relate to. Therefore, there is currently some uncertainty associated with the minor positive effect.
5) To protect and enhance biodiversity.	+	The measures associated with this LFRMS objective may contribute to an overall reduction in flood risk by improving the level of understanding of flood risk amongst all stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. As such, the measures associated with this LFRMS objective should have an indirect positive effect on the protection of habitats and species from the potential adverse impacts of flood events (both direct impacts such as inundation with flood waters, and indirect impacts such as the effects of water pollution caused by flooding that can affect biodiversity). None of the measures associated with this objective will result directly in physical works or actions that could otherwise have an adverse impact on designated or undesignated biodiversity features. A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	0	The measures associated with this LFRMS objective are not considered likely to have an effect on this SEA objective as they will not result in any physical works or development that could affect the landscape, townscape, seascape or open space; rather they relate to community engagement and improving levels of understanding about flood risk management responsibilities amongst stakeholders.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	The measures associated with this LFRMS objective may contribute to an overall reduction in flood risk by improving the level of understanding of flood risk amongst all stakeholders, and thereby increasing the likelihood of those stakeholders fulfilling their responsibilities in relation to flood risk management. As such, the measures associated with this LFRMS objective should help to reduce the number of both designated and undesignated heritage assets within North East Lincolnshire that are at risk from flooding (as well as protecting the wider built environment), thereby having an indirect positive effect on this objective. None of the measures will result directly in physical works or actions that could have an adverse impact on the setting of historic assets or the wider built environment.
8) To adapt development to the impacts of climate change, ensuring that new	+	Although the measures associated with this LFRMS objective are not likely to have a direct effect on determining the location of new development in relation to high flood risk areas, there may be an indirect positive effect as improving stakeholder understanding of flood risk could reduce the chances of inappropriately sited development

SEA Objectives	SEA Score	Justification
development does not contribute to increased risk of flooding for existing property and people elsewhere.		proposals coming forward, and may increase the likelihood of such proposals being considered appropriately in light of the potential impacts on flood risk.

LFRRMS Objective 2: Improve our understanding of local flood risk

Measures associated with this LFRMS objective:

- M2.1 Carrying out investigations into flooding under Section 19 of the FWMA 2010 (known as Section 19 investigations). During and soon after a flood event the council will collect data to understand the cause of the flooding. The investigation will be published and will identify the risk management authority (see section 2) with the powers to exercise their functions in response to the flood.
- M2.2 A register/database of any flooding reported is currently kept which will be added to with any future flooding. This will help to build up a picture of areas affected and the causes to enable more catchment based solutions. All risk management authorities will be asked to contribute to this.
- M2.3 Section 21 of the FWMA 2010 requires the council to keep a register of the structures and features that can have a significant effect on flood risk in the borough. This will include all assets not just those owned and operated by the council. The register will have a record of who owns the structure and its state of repair. This will help to identify who is responsible for carrying out any repairs and during a flood event this will enable quick identification of who is responsible for the operation of the asset.
- M2.4 The council will use the most up to date information on flood risk in the borough in order to make decisions and mitigate risks. This information includes the suite of flood risk maps provided by the Environment Agency and investigations and additional mapping and modelling undertaken by the council.
- M2.5 The council will carry out a programme of investigating and modelling the areas most at risk of flooding.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	Although the measures associated with this LFRMS objective are unlikely to result in physical works that would minimise the risk of flooding, they should combine to contribute to an indirect positive effect on overall flood risk (including that facing residential properties and community and economic assets) as they will combine to improve the evidence base available to the Council for decision making and managing flood risk in the most appropriate and effective ways. In particular, modelling the areas at most risk of flooding (measure M2.5) will help to ensure that efforts to protect properties (including residential properties and community and economic assets) can be focussed in the areas of greatest need.
2) To maintain and enhance soil and water quality.	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base available to the Council to inform appropriate decision making in relation to flood risk management), the measures associated with this LFRMS objective should help to protect water quality by reducing the likelihood of adverse impacts arising from flood events (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). None of the measures associated with this LFRMS objective will result directly in physical works or actions that could otherwise have an adverse impact on soil or water quality in the District.
3) To protect and enhance human health and wellbeing.	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base available to the Council to inform appropriate decision making in relation to flood risk management), the measures associated with this LFRMS objective should help to protect the health and wellbeing of local people from the potential adverse impacts of flood events. This could include both the potential physical and mental effects of flooding to residential properties, and the effects of healthcare facilities such as doctor's surgeries being flooded. None of

SEA Objectives	SEA Score	Justification
		the measures associated with this LFRMS objective will result directly in physical works or actions that could otherwise have an adverse impact on health or wellbeing in the District (e.g. as a result of noise).
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	+	Although the measures associated with this LFRMS objective are unlikely to lead to physical works that would directly minimise the risk of flooding to critical infrastructure within the District (e.g. the transport network, utilities, healthcare facilities), the measures should contribute to an indirect positive effect on flood risk by improving the evidence base available to the Council for decision making and managing flood risk in the most appropriate and effective ways. In particular, modelling the areas at most risk of flooding (measure M2.5) will help to ensure that efforts to protect the District (including its critical infrastructure) from flooding can be focussed in the areas of greatest need.
5) To protect and enhance biodiversity.	+	By combining to contribute to an overall reduction in flood risk (by improving the evidence base available to the Council to inform appropriate decision making in relation to flood risk management), the measures associated with this LFRMS objective should help to protect biodiversity from the potential adverse impacts of flood events (including both direct impacts such as inundation with flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity). None of the measures associated with this LFRMS objective will result directly in physical works or actions that could otherwise have an adverse impact on designated or undesignated biodiversity features in the District. A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	0	The measures associated with this LFRMS objective are not considered likely to have an effect on this SEA objective as they will not result in any physical works or development that could affect the landscape, townscape, seascape or open space; rather they relate to improving the evidence base that is available to inform the Council's decisions relating to flood risk management.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	The measures associated with this LFRMS objective may contribute to an overall reduction in flood risk by improving the evidence base available to the Council to inform appropriate decision making in relation to flood risk management. As such, the measures associated with this LFRMS objective should help to reduce the number of both designated and undesignated heritage assets within North East Lincolnshire that are at risk from flooding (as well as protecting the wider built environment), thereby having an indirect positive effect on this objective. In addition, positive effects on the quality of the built environment may result from measure M2.3 which relates to the Council keeping a register of the structures and features that can have a significant effect on flood risk, including a record of who owns the structure and its state of repair – this will help to identify who is responsible for carrying out any repairs, thereby making those repairs (which may have an indirect positive effect on enhancing the quality of the built environment) more likely to take place. None of the measures associated with this LFRMS objective will result directly in physical works or actions that could have an adverse impact on the setting of historic assets or the wider built environment.
8) To adapt development to the impacts of climate change,	+	Improving the evidence base available to the Council in relation to flood risk will have a positive effect on this SEA objective by helping to inform appropriate decision-making regarding the siting of new development. In

SEA Objectives	SEA Score	Justification
ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.		particular, maintaining a database of flood incidents and modelling areas most at risk of flooding (measure M2.2) will improve the evidence base regarding historical incidences of flooding, which can be used to inform future decision making, and may be taken into consideration when assessing potential new development sites.

LFRRMS Objective 3: Reduce the risks to those most vulnerable to local flooding

Measures associated with this LFRMS objective:

- M3.1 Support residents in obtaining flood insurance under the government’s new scheme due to be implemented in 2015.
- M3.2 Develop an action plan of flood risk management works, including building physical defences and maintenance, to be undertaken. A method will be developed to ensure that works are prioritised for where they are needed most. The actions will comply with the advice and guidance in section 6 of this strategy.
- M3.3 A wide range of funding sources will be considered to contribute to flood mitigation schemes.
- M3.4 The council will continue to carry out monthly inspections at all known local flood risk locations with additional inspections carried out on receipt of severe weather warnings. Appropriate actions can then be instigated.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	++	The measures associated with this LFRMS objective are likely to combine to directly reduce the risk of flooding (including to residential properties and community and economic assets) as they will directly help to deliver flood risk management work by developing an action plan (M3.2) and identifying potential funding sources (M3.3). Supporting North East Lincolnshire’s residents in obtaining flood insurance (M3.1) will not affect the risk that residential properties face from flooding, but in the event of flooding could mean that residents are compensated for their material and financial losses, thereby lessening some of the impacts of flooding on residents. As such, a significant positive effect is expected on this SEA objective.
2) To maintain and enhance soil and water quality.	+	By combining to contribute to an overall reduction in flood risk (by supporting the delivery of flood risk management works), the measures associated with this LFRMS objective should help to protect water quality by reducing the likelihood of adverse impacts that can otherwise arise from flood events (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). A minor positive effect on this SEA objective is therefore likely.
3) To protect and enhance human health and wellbeing.	+	By combining to contribute to an overall reduction in flood risk (by supporting the delivery of flood risk management works), the measures associated with this LFRMS objective should help to protect the health and well-being of local people from the potential adverse impacts of flood events. This could include both the potential physical and mental effects of flooding to residential properties, and the effects of healthcare facilities such as doctor’s surgeries being flooded. In addition, supporting residents in obtaining flood insurance (M3.1) may have a further positive effect as people may be more likely to be insured against flooding, which could reduce the impact of stress associated with both the threat and occurrence of flood events.
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	++	The measures associated with this LFRMS objective are likely to combine to directly reduce the risk of flooding (including to critical infrastructure) as they will directly help to deliver flood risk management work by developing an action plan (M3.2) and identifying potential funding sources for schemes (M3.3). As such, a significant positive effect is expected on this SEA objective.
5) To protect and enhance biodiversity.	+	By combining to contribute to an overall reduction in flood risk (by supporting the delivery of flood risk management works), the measures associated with this LFRMS objective should help to protect biodiversity from

SEA Objectives	SEA Score	Justification
		the potential adverse impacts of flood events (including both direct impacts such as inundation from flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity). A minor positive effect on this SEA objective is therefore likely. It is also possible that measures to be included in the action plan to be developed may affect biodiversity; however this cannot be determined without more detail about the actions proposed. A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	?	The measures associated with this LFRMS objective will support the delivery of flood risk management works, including by developing an action plan of specific works (M3.2) and identifying funding sources that would increase the certainty of schemes going ahead (M3.3). Depending on the nature of those schemes, there could potentially be impacts on local landscape, townscape or seascape character. For example, some of the actions proposed in the latest version of the action plan involve repairing and improving flood risk management infrastructure such as sea walls and groynes. However, the potential effects are uncertain without more information about the exact nature of such proposals.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+?	By combining to contribute to an overall reduction in flood risk (by supporting the delivery of flood risk management works), the measures associated with this LFRMS objective should help to reduce the risk that both designated and undesignated heritage assets within North East Lincolnshire (as well as the wider built environment) face from flooding, thereby having a positive effect on this SEA objective. However, there is currently some uncertainty attached to the potential positive effect as the measures are likely to result in direct physical works which, depending on their nature and location (for example in relation to heritage features such as listed buildings), could affect the quality and character of the built environment, including the setting of heritage features.
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	+?	The measures associated with this LFRMS objective are not expected to have a direct effect on this SEA objective; however depending on the nature of the flood mitigation schemes for which funding sources will be investigated, there may be a minor positive effect, i.e. if these schemes were to involve reducing the potential flood risk associated with new developments.

LFRRMS Objective 4: Increase the amount of flood risk management work undertaken, ensuring there is a contribution to wider social, economic and environmental outcomes and sustainable development.

- Measures associated with this LFRMS objective: M4.1 Support the campaigns of other authorities in reducing flood risk. All campaigns would have to be compliant with the environmental requirements outlined in Section 6 of this strategy.
- M4.2 Any projects, plans or policies which result as actions from this strategy will be undertaken in a manner that is compliant with Section 6 of this strategy including protecting species and enhancing biodiversity. Where necessary, under the Habitats Regulations, they will need to be screened and if a likely significant effect on a European site cannot be ruled out an Appropriate Assessment will be undertaken. Measures to avoid, mitigate or compensate for any adverse effects will be carried out as identified within the Appropriate Assessment.
- M4.3 Work with other flood risk management authorities to coordinate works across the borough so that resources can be shared and overall costs can be reduced. This will be adaptive and evolve in response to real life events and new technical information. This will allow a greater amount of work to be undertaken.
- M4.4 We will actively engage with local communities to inform them about how they can implement their own measures to protect their property. The advice and measures will comply with the advice and guidance in section 6 of this strategy.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	++	The measures associated with this LFRMS objective are likely to combine to reduce the overall risk of flooding in the District, including that facing residential properties and community and economic assets – working with other authorities in relation to flood risk management (M4.3) is likely to mean that schemes are more economically viable and more successful as a result of a co-ordinated approach. Measure M4.4 will have a particularly positive effect on this objective as encouraging and informing local people about how to protect their properties is likely to result in residents being at reduced risk from the impacts of flooding. An overall significant positive effect on this objective is therefore likely.
2) To maintain and enhance soil and water quality.	+	By combining to contribute to an overall reduction in flood risk (by educating communities (M4.4) and working in a co-ordinated way with other authorities (M4.3)), the measures associated with this LFRMS objective should have an indirect positive effect on the protection of water quality by reducing the likelihood of adverse impacts that can otherwise occur from flooding events (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). It is also noted that flood risk management works will be undertaken in a way that enhances the environment – it is possible that this could involve bringing about improvements to soil and water quality, although this is not yet known. It is also possible that supporting campaigns by other authorities that aim to reduce flood risk (M4.1) could affect soil and water quality, depending on the nature of the campaigns/works that are being supported and encouraged, especially as it is specified that these campaigns would need to be compliant with the environmental requirements set out in the strategy. An overall minor positive effect is therefore likely.
3) To protect and enhance human health and wellbeing.	+	By combining to contribute to an overall reduction in flood risk (by educating communities (M4.4) and working in a co-ordinated way with other authorities and campaigns (M4.1)), the measures associated with this LFRMS objective should have an indirect positive effect on protecting the health and well-being of local people from the potential adverse impacts of flood events. This could include both the potential physical and mental effects of

SEA Objectives	SEA Score	Justification
		flooding to residential properties, and the effects of healthcare facilities such as doctor's surgeries being flooded.
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	+	The measures associated with this LFRMS objective are likely to combine to reduce the overall risk of flooding in the District, including that facing critical infrastructure – working with other authorities in relation to flood risk management (M4.3) is likely to mean that schemes are more economically viable and more successful as a result of a co-ordinated approach. An overall minor positive effect on this objective is therefore likely.
5) To protect and enhance biodiversity.	+	By combining to contribute to an overall reduction in flood risk (by educating communities (M4.4) and working in a co-ordinated way with other authorities and campaigns (M4.1)), the measures associated with this LFRMS objective should have an indirect positive effect on biodiversity by reducing the likelihood of adverse impacts that can otherwise occur from flooding events (including both direct impacts such as inundation from flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity). It is also noted that flood risk management works will be undertaken in a way that protects and enhances the environment – it is possible that this could involve bringing about improvements to biodiversity, although this is not yet known. It is also possible that supporting campaigns by other authorities that aim to reduce flood risk (M4.1) could affect biodiversity, depending on the nature of the campaigns/works that are being supported and encouraged, especially as it is specified that these campaigns would need to be compliant with the environmental requirements set out in the strategy. An overall minor positive effect is therefore likely. A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	?	Although most of the measures associated with this LFRMS objective will not affect the landscape, townscape, seascape or open space within North East Lincolnshire, as they relate to community engagement and improving levels of public understanding, it is possible that supporting campaigns by other authorities that aim to reduce flood risk (M4.1) could affect this SEA objective, depending on the nature of the campaigns/works that are being supported and encouraged. However, this is uncertain at this stage.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	By combining to contribute to an overall reduction in flood risk (by educating communities (M4.4) and working in a co-ordinated way with other authorities and campaigns (M4.3)), the measures associated with this LFRMS objective should have an indirect positive effect on protecting the built environment, including heritage features, from the potential impacts of flooding events. It is also noted that flood risk management works will be undertaken in a way that protects and enhances the environment – it is possible that this could involve bringing about improvements to the built environment (including cultural heritage), although this is not yet known. In addition, it is possible that supporting campaigns by other authorities that aim to reduce flood risk (M4.1) could affect the built environment, depending on the nature of the campaigns/works that are being supported and encouraged especially as it is specified that these campaigns would need to be compliant with the environmental requirements set out in the strategy. An overall minor positive effect is therefore likely, with some uncertainty attached.
8) To adapt development to the impacts of climate change,	0	The measures associated with this LFRMS objective relate to supporting and encouraging flood risk management works, but are not expected to have a direct effect on the location of new development or its design in relation

SEA Objectives	SEA Score	Justification
ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.		to adapting to the impacts of climate change.

LFRMS Objective 5: Create a strong collaborative approach across stakeholders to address risks from all sources of flooding.

Measures associated with this LFRMS objective:

- M5.1 Continued attendance of the Local Flood Risk Management Group by all risk management authorities where all flood risk issues can be discussed including recent flooding, mitigation works and effects of new development on flood risk.
- M5.2 Work with other relevant authorities where there are links with drainage infrastructure and maintenance activities to take account of all sources of flood risk when implementing flood mitigation measures.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	Although the measures associated with this LFRMS objective will not involve direct physical works to manage the risk of flooding in the District, the measures should combine to have an indirect positive effect on reducing overall flood risk (including that potentially affecting residential properties and community and economic assets) as they will help to ensure that stakeholders take a collaborative approach to flood risk management. Working with the Local Flood Risk Management Group (M5.1) and other authorities and co-working with authorities such as the Environment Agency, Anglian Water and local Drainage Boards (M5.2) allows for information sharing and, because flooding is a cross-boundary issue, collaborative working between these authorities should increase the chances of successful flood risk management measures being developed and implemented within North East Lincolnshire.
2) To maintain and enhance soil and water quality.	+	By contributing to an overall reduction in flood risk (by improving partnership working with other authorities and stakeholders and thereby increasing the likelihood of flood mitigation schemes being successfully implemented), the measures associated with this LFRMS objective should have an indirect positive effect on the protection of soil and water quality by reducing the likelihood of adverse impacts that can otherwise occur from flooding events (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). The measures will not result directly in physical works that could otherwise potentially have an adverse impact on soil or water quality.
3) To protect and enhance human health and wellbeing.	+	By contributing to an overall reduction in flood risk (by improving partnership working with other authorities and stakeholders and thereby increasing the likelihood of flood mitigation schemes being successfully implemented), the measures associated with this LFRMS objective should have an indirect positive effect on protecting the health and wellbeing of local people from the potential adverse impacts of flood events. This could include both the potential physical and mental effects of flooding to residential properties, and the effects of healthcare facilities such as doctor's surgeries being flooded. The measures will not result directly in physical works that could otherwise potentially have an adverse impact on health and wellbeing (e.g. as a result of noise).
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	+	Although the measures associated with this LFRMS objective will not involve direct physical works to manage the risk of flooding in the District, the measures should combine to have an indirect positive effect on reducing overall flood risk (including that potentially affecting critical infrastructure) as they will help to ensure that stakeholders take a collaborative approach to flood risk management. Working with the Local Flood Risk Management Group (M5.1) and other authorities and co-working with authorities such as the Environment Agency, Anglian Water and local Drainage Boards (M5.2) allows for information sharing and, because flooding is

SEA Objectives	SEA Score	Justification
		a cross-boundary issue, collaborative working between these authorities should increase the chances of successful flood risk management measures being developed and implemented within North East Lincolnshire.
5) To protect and enhance biodiversity.	+	By contributing to an overall reduction in flood risk (by improving partnership working with other authorities and stakeholders and thereby increasing the likelihood of flood mitigation schemes being successfully implemented), the measures associated with this LFRMS objective should have an indirect positive effect on the protection of biodiversity by reducing the likelihood of adverse impacts that can otherwise occur from flooding events (including both direct impacts such as inundation from flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity). A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	0	The measures associated with this LFRMS objective are not considered likely to have an effect on this SEA objective as they will not result in any physical works or development that could affect the landscape, townscape, seascape or open space; rather they relate to increasing collaborative working between stakeholders in relation to flood risk management.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	By contributing to an overall reduction in flood risk (by improving partnership working with other authorities and stakeholders and thereby increasing the likelihood of flood mitigation schemes being successfully implemented), the measures associated with this LFRMS objective should have an indirect positive effect on protecting the built environment (including both designated and undesignated heritage assets) within North East Lincolnshire from the potential impacts of flooding.
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	0	The measures associated with this LFRMS objective relate to increasing collaborative working in relation to flood risk management and are not expected to have a direct effect on the location of new development or its design in relation to adapting to the impacts of climate change.

LFRMS Objective 6: Ensure that local communities are prepared to manage the risks of flooding.

Measures associated with this LFRMS objective:

- M6.1 We will actively engage with communities to inform them of what their risk is and how they can take measures to protect themselves including property level protection measures. This will be prioritised to those communities who have recently flooded or who are at greatest risk. This advice will comply with the advice and guidance in Section 6 of this strategy,
- M6.2 The council will produce guidance on the use of sand bags during a flood event to provide clarity to residents and businesses.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	The measures associated with this LFRMS objective are expected to have a positive effect on this objective as although they will not involve the Council undertaking direct physical works to manage the risk of flooding, they will involve engaging with communities to inform them about measures that they can take themselves to reduce the risk that their properties face from flooding. The measures will combine to improve local people’s awareness and understanding of what they can do to manage flood risk and they are therefore more likely to make use of measures such as the use of sand bags to protect their homes in the event of a flood, thereby minimising the likely impacts of the flood. Prioritising engagement with the communities at most risk from flooding (M6.1) will help to ensure that knowledge is imparted to those in most need, increasing the potential benefits of the measures.
2) To maintain and enhance soil and water quality.	0	The measures associated with this LFRMS objective aim to reduce the severity of impacts on local communities in the event of flooding, rather than relating to the management of flood events occurring. Therefore, the measures are not expected to have a direct effect on the potential risks to soil and water quality posed by flooding.
3) To protect and enhance human health and wellbeing.	+	Although the measures associated with this LFRMS objective will not involve the Council undertaking direct physical works to manage the risk of flooding (which can affect health and well-being) the measures should combine to help local people take effective action themselves to protect their homes and businesses from the impacts of flooding (for example through the correct use of sand bags). This is expected to have a minor positive effect on health and well-being as the potential health-related impacts of flooding, both physical and mental (e.g. in relation to stress), are likely to be less severe.
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	0	The measures associated with this LFRMS objective aim to reduce the severity of impacts on local communities in the event of flooding, rather than relating to the management of flood events (which can affect critical infrastructure) occurring. The focus of the measures is on helping communities take action themselves to protect their homes and businesses, rather than on protecting critical infrastructure within the District at a larger scale; therefore a negligible effect on this objective is likely.
5) To protect and enhance biodiversity.	0	The measures associated with this LFRMS objective aim to reduce the severity of impacts on local communities in the event of flooding, rather than relating to the management of flood events occurring. Therefore, the measures are not expected to have a direct effect on the potential risks to biodiversity posed by flooding. A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites

SEA Objectives	SEA Score	Justification
		(SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	0	The measures associated with this LFRMS objective are not considered likely to have a direct effect on this SEA objective as they will not result in physical works or development that could affect the landscape, townscape, seascape or open space; rather they relate to community engagement and improving levels of public preparedness to respond to flood events. While the use of sandbags (M6.2) could be seen as potentially affecting the townscape on a short-term basis, given that this would occur in a time of flooding when the townscape is already likely to be significantly altered, and would be a temporary measure only, an overall negligible effect is likely.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	The measures associated with this LFRMS objective are not considered likely to have a direct effect on this SEA objective on a large-scale as they will not result in physical works or development that could affect the wider built environment or the setting of heritage assets; rather the measures relate to community engagement and improving levels of public preparedness to respond to flood events. However, there could be smaller-scale minor positive effects as people are expected to be better prepared to manage the impacts of a flood event on their properties which form part of the wider built environment, e.g. through the appropriate use of sandbags to avoid the building being inundated and damaged by floodwater (M6.2). Positive effects will be particularly likely where listed properties are better protected. Overall, a minor positive effect on this objective is therefore likely.
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	0	The measures associated with this LFRMS objective relate to informing communities about actions that they can take to protect their properties in the event of a flood, and are not expected to have a direct effect on the location of new development or its design in relation to adapting to the impacts of climate change.

LFRRMS Objective 7: Ensure that new development does not increase local flood risk and contributes to a reduction where possible.

Measures associated with this LFRMS objective:

- M7.1 Ensure that new development is appropriately located and safe with residual flood risks mitigated whilst taking climate change into account. New development should not increase flood risk elsewhere and should contribute to a reduction in the risk where possible. For example, this can include: reducing flows to foul and surface water sewers or providing floodplain compensatory storage.
- M7.2 The council is due to become the SuDS Approving Body (SAB) when Schedule 3 of the FWMA 2010 is enacted – the date for this is unknown at the time of publication for this strategy. Development which meets the criteria for SAB approval will be assessed for compliance with the National Standards.
- M7.3 For those developments which do not meet the criteria for needing SAB approval the council’s Drainage and Coastal Defence team will continue to provide consultations to ensure that drainage arrangements follow the principles that are set out in the National Standards.
- M7.4 The council will use its ordinary watercourse consenting powers under Section 23 of the Land Drainage Act 1991 to ensure that works proposed on these watercourses do not increase flood risk. The council will also be pro-active with enforcement of unconsented works where this is deemed necessary.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive effect on reducing flood risk in the District overall, including that facing residential properties, community and economic assets.
2) To maintain and enhance soil and water quality.	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive effect on flood risk in the District overall, and will in turn reduce the potential for soil and water quality to be adversely affected by flooding (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses).
3) To protect and enhance human health and wellbeing.	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive effect on reducing flood risk in the District overall and will therefore have an indirect positive effect on protecting the health and wellbeing of local people from the potential adverse impacts of flood events. This could include both the potential physical and mental effects of flooding to residential properties, and the effects of healthcare facilities such as doctor’s surgeries being flooded.
4) To minimise the potential impact of flooding on existing and future critical	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive

SEA Objectives	SEA Score	Justification
infrastructure.		effect on reducing flood risk in the District overall, including that facing critical infrastructure.
5) To protect and enhance biodiversity.	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive effect on flood risk in the District overall, and will in turn reduce the potential for biodiversity to be adversely affected by flooding (including both direct impacts such as inundation from flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity). A Habitats Regulations Assessment has been undertaken by North East Lincolnshire Council in relation to the LFRMS, and it has been concluded that there are no likely significant effects on the integrity of European sites (SACs, SPAs and Ramsar sites) in relation to this objective and the associated measures.
6) To protect and enhance the landscape, townscape, seascape and open space.	+	Most of the measures associated with this LFRMS objective are not considered likely to have an effect on this SEA objective as they will not result in any physical works or development that could affect the landscape, townscape, seascape or open space; rather they relate to the design and location of new development in relation to impacts on flood risk. However, certain sustainable drainage techniques (e.g. the use of wetlands and attenuation areas) could have an indirect positive effect on the appearance of the landscape.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	+	The measures associated with this LFRMS objective will combine to ensure that new development does not increase local flood risk and contributes to a reduction in flood risk where possible (e.g. by being appropriately located (M7.1) and incorporating sustainable drainage techniques (M7.2 and M7.3)). This should have a positive effect on flood risk in the District overall, and will in turn reduce the potential for the built environment, including heritage features such as listed buildings, to be adversely affected by flooding (e.g. as a result of soil erosion or run-off washing chemical fertilisers into watercourses). In addition, some sustainable drainage techniques that may be used on site such as wetlands and attenuation areas may have indirect benefits on the appearance of the development. A minor positive effect on this objective is therefore likely.
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	++	A significant positive effect on this SEA objective is likely as the measures associated with this LFRMS objective are specifically designed to ensure that new development does not increase flood risk elsewhere and should contribute to a reduction in the risk where possible. When the Council becomes a Sustainable Drainage Approving Body (SAB) new development will incorporate more safeguards against increasing flood risk as all new construction work with drainage implications will be required to seek approval from the SAB and developers will have to use more sustainable drainage techniques on site. In addition, a measure is included specifically requiring new development to be appropriately located with residual flood risks mitigated (M7.1).

LFRMS Objective 8: Ensure effective emergency flood response plans are in place.

Measures associated with this LFRMS objective:

- M8.1 Maintain and update the Multi Agency Flood Plan in line with new information on flood risk and lessons learned from flood events in our borough and other areas.
- M8.2 Finalise the Local Extreme Flood Event plan (LEFE) which outlines the council’s response to localised flood events which do not trigger a response from the Multi Agency Flood Plan.
- M8.3 Engage with local communities to ensure that they are familiar with both plans and the role that they can play in responding to flooding. This will include promoting the use of Flood Wardens in communities at risk of flooding.
- M8.4 Support the production of community emergency plans by providing information held on local flood risks.

SEA Objectives	SEA Score	Justification
1) To minimise the risk of flooding to residential properties and community and economic assets.	+	While the measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents from taking place, the measures would still have a positive effect on this SEA objective by reducing the impacts of flood events on residential properties and community and economic assets, and therefore the level of risk associated with flooding. In particular, promoting the use of flood wardens within communities (M8.3) will have a positive effect by ensuring that people are aware of what they should be doing in the event of a flood to minimise its impacts on their homes and businesses.
2) To maintain and enhance soil and water quality.	0	The measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents (which can affect water quality e.g. as a result of soil erosion or run-off washing sediments and/or chemical fertilisers into watercourses) from taking place. Therefore, the measures are not expected to have a direct effect on soil and water quality.
3) To protect and enhance human health and wellbeing.	+	While the measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents from taking place, the measures would still have a positive effect on this SEA objective by reducing the impacts of flood events in relation to people’s health and wellbeing (e.g. stress-related impacts), and therefore the level of risk associated with flooding.
4) To minimise the potential impact of flooding on existing and future critical infrastructure.	0	The measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents (which could potentially affect critical infrastructure) from taking place. Therefore, the measures are not expected to have a direct effect on critical infrastructure.
5) To protect and enhance biodiversity.	0	The measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents (which can affect biodiversity through both direct impacts such as inundation from flood waters and indirect impacts such as water pollution caused by flooding that can affect biodiversity) from taking place. Therefore, the measures are not expected to have a direct effect on biodiversity.
6) To protect and enhance the	0	The measures associated with this LFRMS objective are not considered likely to have a direct effect on this SEA

SEA Objectives	SEA Score	Justification
landscape, townscape, seascape and open space.		objective as they will not result in any physical works or development; rather they relate to actions in response to flooding events.
7) To maintain and/or enhance the quality and character of the built environment and cultural heritage assets.	0	The measures associated with this LFRMS objective focus on the actions to be taken after a flooding event has already occurred, rather than preventing flood incidents (which could potentially affect the built environment, including heritage features) from taking place. Therefore, the measures are not expected to have a direct effect on this SEA objective.
8) To adapt development to the impacts of climate change, ensuring that new development does not contribute to increased risk of flooding for existing property and people elsewhere.	0	The measures associated with this LFRMS objective relate to responding effectively to flood events that have already taken place, and are not expected to have a direct effect on the location of new development or its design in relation to adapting to the impacts of climate change.