Staffordshire Local Flood Risk Management Strategy

Draft Strategic Environmental Assessment

February 2023

Non-Technical Summary

This non-technical summary accompanies the Environmental Report which sets out the findings of the Strategic Environmental Assessment of the Staffordshire Local Flood Risk Management Strategy (hereafter referred to as 'the LFRMS').

The European Union Strategic Environmental Assessment Directive is implemented into the United Kingdom legislation through the Strategic Environmental Assessment Regulations (2004).

Strategic Environmental Assessment

Strategic Environmental Assessment is undertaken to identify significant environmental effects that plans, programmes and strategies may have on the existing environment, and therefore increase the consideration of environmental issues in the plan making process.

The output of a Strategic Environmental Assessment is an Environmental Report which sets out the findings of the Strategic Environmental Assessment. The likely significant environmental effects of the LFRMS are discussed, and recommendations are made in relation to ways in which to reduce likely adverse effects on the environment or enhance beneficial effects. The report includes proposals for relevant environmental indicators to monitor the effects of the implementation of the LFRMS.

Baseline and Context Review

This Environmental Report contains a review of the environmental baseline of Staffordshire. Baseline information on the current and likely future state of the environment has been obtained in order to enable the effects of the LFRMS to be adequately evaluated.

A review of related plans and strategies relevant to flood risk management and the development of the LFRMS has been undertaken. This includes, but is not limited to, the National Planning Policy Framework 2021, Water Framework Directive, The Pitt Review and the Flood and Water Management Act. A discussion of environmental protection objectives relevant to the LFRMS is also included.

Summary of Significant Environmental Effects and Mitigation and Enhancement Opportunities

Biodiversity:

The LFRMS takes a sustainable approach to flood risk management in order to deliver wider environmental benefits and improvements under the Water Framework Directive. The approach will be sensitive to habitats and wildlife.

Flood defence structures will be carefully considered and where possible Natural Flood Management (NFM) will be applied.

Flood risk management schemes will be encouraged to enhance designated and undesignated habitats.

Cultural Heritage:

Heritage assets can be at risk from increased flooding which may damage the fabric of the asset or its setting, or they may be at risk during any flood alleviation works. These impacts will be dependent on the specific location, the type of flood risk management actions being undertaken and the sensitivity of the resources.

Given that cultural heritage assets will remain an important feature of Staffordshire, flood risk management defences should seek to protect heritage assets of importance, where they are at risk of flooding, and should be sensitive to the location in which they are undertaken.

Human Health:

The LFRMS seeks to deliver wider social benefits through enhancements that assist the health and wellbeing of communities, by increasing public knowledge of flood risk so better informed decisions can be made for the preparation and duration of flood events. Recreation and public access to waterside environments could improve through the promotion of blue corridors and green infrastructure. Improved flood risk management is also likely to have long term financial benefits for local communities as the population will be better protected and will have an improved ability to recover from flood events.

There is a need to place more emphasis on enhancing the environment in the most deprived areas and simultaneously protecting people and places from flooding.

Material Assets:

The LFRMS is likely to have predominantly positive impacts on material assets. Improved understanding of flood risk should increase resilience and aid faster recovery from flood events. the LFRMS also includes measures to avoid an increase in flood risk as a result of new development.

New developments will be managed in order to ensure no new flood risk is created and reduce flood risk where possible.

Soil:

The LFRMS makes no specific reference to protecting soils and increasing resilience to soil degradation of the best agricultural land. However, it promotes better management of surface water through sustainable solutions which should have a positive impact in this regard. The promotion of Sustainable Drainage Systems to reduce flood risk will have a positive impact on water quality through managing diffuse pollution from urban runoff.

Sustainable agricultural land management and long-term protection measures to reduce soil degradation should be more actively promoted in order to protect the soils of the best agricultural land. This could deliver multiple benefits and reduce diffuse pollution.

Landscape:

The LFRMS should have a positive impact in terms of enhancing the natural beauty and amenity of inland waters and should support wider landscape benefits through promoting blue corridors and green infrastructure.

Any flood risk management measures employed should be sympathetic to local landscape character and be designed to be sensitive to any designated landscape resources.

Water:

The LFRMS includes measures to prevent additional flow from new development entering existing drainage systems and watercourses. It should have a positive impact on the human environment by reducing flood risk through engaging stakeholders in the flood management aspects of resilience to climate change.

Monitoring

The Strategic Environmental Assessment Regulations requires that the significant environmental effects of the LFRMS should be monitored once it has been adopted. Monitoring outlined in this Report, is proposed to determine whether changes to the LFRMS may be required to account for future unexpected events.

Staffordshire County Council has developed an Action Plan in Part 2 of the LFRMS, which will be reviewed every 12 months by Staffordshire County Council Officers, who will publish an annual statement setting out how the LFRMS is being implemented.

1. Introduction

The Staffordshire Flood Risk Management Strategy

Staffordshire County Council has produced a Local Flood Risk Management Strategy (LFRMS) under The Flood and Water Management Act (2010). The purpose of the LFRMS is to guide the management of local flood risk across the county, reflecting local circumstances such as the level of risk and potential impacts of flooding.

The LFRMS reflects that it is not possible to stop all flooding; however, in accordance with the National Strategy for Flood and Coastal Erosion Risk Management (FCERM) it includes the following:

- Clarification of which authority is responsible for what in relation to the prevention and management of flooding;
- Detail on the measures that will be undertaken to manage flood risk;
- Clarification on how work is prioritised;
- Measures that communities can undertake to improve flood resilience, as it is not possible to stop all flooding, and;
- Consideration on funding flood risk and investment planning.

The Strategic Environmental Assessment (SEA) process, culminating in the preparation of an Environmental Report, will inform the preferred long-term strategy through its identification of the likely significant effects of the implementation of the LFRMS on relevant environmental receptors.

1.2. This Report

Staffordshire County Council has carried out a Strategic Environmental Assessment (SEA) of the LFRMS. The Strategic Environmental Assessment (SEA) is undertaken to identify significant effects that plans, programmes and strategies may have on the existing environment, and therefore increase the consideration of environmental issues in the decision-making process.

This report sets out the framework for undertaking the Strategic Environmental Assessment (SEA) of the LFRMS together with the scope of the assessment, evidence base and review of relevant plans, programmes and policies to inform the assessment. It includes a discussion of the likely significant effects of the implementation of the LFRMS and recommendations are made in relation to ways in which to reduce likely adverse effects on the environment or

enhance beneficial effects. The report includes proposals for relevant environmental indicators to monitor the effects of the implementation of the LFRMS.

This report will be subject to consultation with Staffordshire County Council, the Environment Agency, Natural England and Historic England

2. Strategic Environmental Assessment

Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is required by European and by English law. It involves the systematic identification and evaluation of the environmental impacts of a strategic action (e.g. a plan or programme). In 2001, the EU legislated for Strategic Environmental Assessment (SEA) with the adoption of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the 'Strategic Environmental Assessment (SEA) Directive'). The aim of the Strategic Environmental Assessment (SEA) Directive is "to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development".

The Directive was transposed by the Environmental Assessment of Plans and Programmes Regulations 2004 (the 'Strategic Environmental Assessment (SEA) Regulations'), which came into force on 21st July 2004. The Strategic Environmental Assessment (SEA) Regulations apply (with some specific exceptions) to plans and programmes subject to preparation and/or adoption by a national, regional or local authority or those prepared by an authority for adoption through a legislative procedure by Parliament or Government and are required by legislative, regulatory or administrative provisions.

Strategic Environmental Assessment (SEA) involves the systematic identification and evaluation of the potential environmental impacts of high level decision-making (e.g. a plan, programme or strategy). By addressing strategic level issues, the Strategic Environmental Assessment (SEA) aids the selection of the preferred options, directs individual projects towards the most appropriate solutions or locations and helps to ensure that resulting schemes comply with environmental best practice. The Strategic Environmental Assessment (SEA) process also facilitates a

transparent audit trail of how the LFRMS has been revised to take into account the Strategic Environmental Assessment (SEA).

In law, the potential environmental effects of a plan or programme must be considered before its adoption. Consideration should be made with regards to both the positive and negative impacts of options on wildlife and habitats, populations and health, soil, water, air, climate factors, landscape, cultural heritage and the interrelationships between these receptors.

Flood risk management strategies clearly set a framework for future development and have much in common with the kind of plans and programmes for which the Strategic Environmental Assessment (SEA) Directive is designed. As a result, it is recommended that plan-making authorities assess policies using the approach described in the Strategic Environmental Assessment (SEA) Directive. Completion of a Strategic Environmental Assessment (SEA) is a requirement of the SEA Directive for a flood risk management strategy, so the methodology for undertaking this assessment will follow Communities and Local Government's (CLG) Guidance on Strategic Environmental Assessment (SEA)1, in accordance with the SEA Directive.

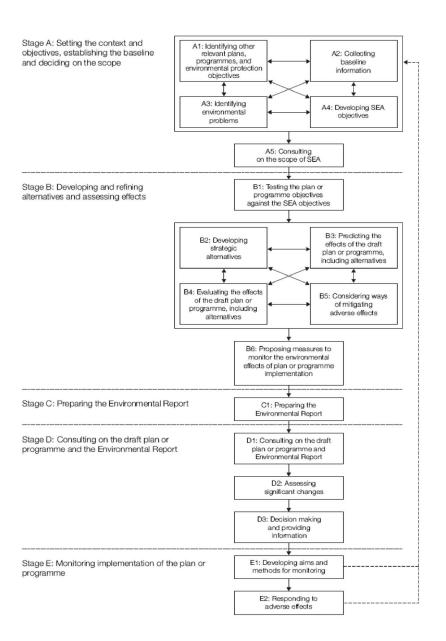
Stages in the Strategic Environmental Assessment Process

The Strategic Environmental Assessment (SEA) process is conducted in five stages:

- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope;
- Stage B: Developing and refining alternatives and assessing effects;
- Stage C: Preparing the Environmental Report;
- Stage D: Consulting on the draft plan or programme and the Environmental Report; and
- Stage E: Monitoring the significant effects of implementing the plan or programme on the environment.

The recommended stages of the Strategic Environmental Assessment (SEA) process are shown in Figure 2.1 below.

Figure 2.1 Relationship between Strategic Environmental Assessment (SEA) stages.



Compliance with the Strategic Environmental Assessment Regulations

The Strategic Environmental Assessment (SEA) Regulations require the inclusion of specific information in order to demonstrate how the aims of the Strategic Environmental Assessment (SEA) Directive have been achieved.

The Table 2.1 below sets out the required content of the Environmental Report, as defined in Regulation 12(3) of the Strategic Environmental Assessment (SEA) Regulations, and details how these have been met in the Strategic Environmental Assessment (SEA) process to date, including the contents of this report.

Table 2.1 Required content as defined in the Strategic Environmental Assessment Regulations (Regulation 12(3))

Requirement	Where Covered		
(a) An outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes	Section 3, Section 4 Appendix A of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015		
(b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme	Section 5 Appendix B of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015		

(c) The environmental characteristics of areas likely to be significantly affected	Section 5 Appendix B of the Shropshire and Staffordshire Local	
	Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015	
(d) Any existing environmental problems which are	Section 5	
relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC	Appendix B of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015	
(e) 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	Appendix B of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015	
(f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors (g) The measures envisaged to prevent, reduce and as fully as	Section 7	

possible offset any significant adverse effects on the environment of implementing the plan or programme	
(h) 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	Section 2
(i) A description of the measures envisaged concerning monitoring in accordance with Article 10	Section 8
(j) A non-technical summary of the information provided under the above headings	Non-Technical Summary

2.4 Scope of the Strategic Environmental Assessment

The Strategic Environmental Assessment (SEA) Regulations require the assessment of the likely significant environmental effects of the plan or programme on issues such as:

- Air;
- Biodiversity (including flora and fauna);
- Climate;
- Cultural Heritage;
- Human Health;

- Landscape;
- Material Assets;
- Population;
- Soil;
- Water, and;
- The interrelationship between the above factors.

This Strategic Environmental Assessment (SEA) Report follows on from a detailed process for SEA of the previous Shropshire and Staffordshire Local Flood Risk Management Strategy undertaken through scoping stage in 2013 and a final SEA report in 2015. It is considered that this detailed work forms an adequate basis for assessment of the 2023 Staffordshire LFRMS, and that a review of the previous SEA against new LFRMS objectives meets the present need.

Related Plans and Programmes

Consideration of the context in which the LFRMS is being prepared involves two steps. Firstly, related Plans and Programmes considered relevant to the LFRMS must be identified. Secondly, these must be reviewed with the aim of establishing their implications for the LFRMS and for Strategic Environmental Assessment (SEA) (e.g. the opportunities they create or the constraints they present).

For practical reasons the identification of plans and programmes cannot result in an exhaustive or definitive list. The number of plans and programmes has been limited to the plans that are most relevant to the topic area and the implementation of the LFRMS to provide an overview of the objectives and targets that are most likely to influence the development of the LFRMS. Appendix A: Full Policy Context Review provides details of the full policy context review.

Environmental Baseline

Collection of baseline information forms an essential part of the Strategic Environmental Assessment (SEA) process. It is important to obtain sufficient baseline information on the current and likely future state of the environment in order to enable the plan's effects to be adequately predicted and evaluated. Where possible data should be collected which is able to show either a spatial or temporal trend.

Identifying Environmental Issues

The ultimate purpose of the Scoping stage of Strategic Environmental Assessment (SEA) is to identify environmental receptors that are likely to be significantly affected by the LFRMS and the Strategic Environmental

Assessment (SEA) Directive outlines aspects of the environment that must be considered. However, if there are unlikely to be any significant effects upon a particular receptor it is possible to scope it out of the assessment.

One of the issues identified in the Strategic Environmental Assessment (SEA) Directive is climatic factors and this is taken to refer to potential effects of the implementation of the LFRMS on the climate. Given that flood risk is driven by the climate rather than having an effect on the climate, it is considered that this topic is not relevant to the issues relating to the LFRMS and can therefore be scoped out of the assessment. The potential effects of climate change such as extreme weather and flooding will of course be addressed under the appropriate topic headings, such as material assets and water.

The following Strategic Environmental Assessment (SEA) topics were considered unlikely to be significantly affected by the previous LFRMS and were therefore scoped out of the assessment:

- Air The implementation of the LFRMS will not have an effect on air quality; and
- Population Although there is the potential for some individuals to be affected by the implementation of the LFRMS it is unlikely that the wider population will be significantly affected. Effects relating to topic areas that are linked to population, such as flood risk and material assets, are assessed in detail and presented in this Environmental Report.

There are no new objectives in the 2023 LFRMS that mean these factors should now be scoped in.

Strategic Environmental Assessment Framework

The output of the Scoping process is a Strategic Environmental Assessment (SEA) Framework comprising the identified environmental issues and potential indicators to measure the effects of the implementation of the LFRMS on the environmental receptors. The Framework provides a means by which the environmental effects of the LFRMS can be assessed and has been derived from the key environmental issues identified for the area and the key environmental objectives identified in the policy review. The Strategic Environmental Assessment (SEA) Framework is detailed in the Methodology section of this report in Table 6.1.

This report is structured as follows:

- the LFRMS Objectives;
- Context Review: Other relevant plans and programmes;
- Baseline Review (summary only, the complete baseline review is as per Appendix B of the 2015 Report);
- Methodology;
- Environmental Assessment (including mitigation and enhancement recommended measures to ameliorate adverse impacts or enhance beneficial impacts);
- Monitoring recommended on-going monitoring of significant effects; and
- Consultation and next steps.

3. the LFRMS Objectives

The following high level objectives within the LFRMS set out the approach to managing flood risk within Staffordshire:

- 1. Improve our understanding of flood risk and be prepared for flood events
- 2. Manage flood risk and new development in a sustainable manner

- 3. Seek and secure funding for flood alleviation schemes and work with partners
- 4. Work with others to ensure communities are more aware, informed, and resilient to flooding
- 5. Promote effective management of drainage and flood defence assets

Appendix A of the LFRMS is an action plan which provides detail of the measures proposed to deliver the high level strategy objectives listed above.

4. Context Review: Related Plans and Programmes

Overview

A review of plans and strategies relevant to flood risk management and the development of the LFRMS including plans that:

- Refer to flood protection or flood defence;
- Relate to access to rivers and other water bodies;
- Involve the development of land or settlements within the LFRMS area;
- Involve the protection of the natural environment within the LFRMS area;
- Relate to regeneration, development or urban renaissance initiatives along the river corridor; and
- Contain a significant constraint or opportunity to our Strategy, such as proposed regeneration developments in the floodplain.

A full list of all the plans that have been reviewed is provided in Appendix A: Full Policy Context Review of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for

Staffordshire, Environmental Report, January 2015 which also shows how these have been taken into account during the development of the previous LFRMS. A summary of the key findings is presented below in Sections 4.2 and 4.3.

Flood Risk Management Context

Staffordshire county experienced at least 15 significant flood events since 2000 with 9 of these storm events occurring between 2018 and 2022. In February 2020 during Storm Dennis, 281 properties were formally recorded to have flooded internally. SCC have been proactive in responding to flood risk through better planning in new development through Suds, but also in delivering flood alleviation schemes to reduce the flood risk to those properties that have suffered from flooding.

The government commissioned an independent review following summer 2007 chaired by Sir Michael Pitt. The report published in 2008, highlighted the gaps with respect to responsibility for local sources of flooding and contains 92 proposals. The Flood and Water Management Act 2010, enacted by Government in response to the recommendations of The Pitt Review, designated unitary and county councils as Lead Local Flood Authorities (LLFAs) with new responsibilities for leading and co-ordinating the management of local flood risk; namely the flood risk arising from surface water runoff, groundwater and ordinary watercourses. This includes a statutory duty to develop, maintain, apply and monitor a strategy for the management of local flood risk.

In the spirit of the Flood and Water management Act 2010, we will work closely with numerous professional partners and communities to deliver actions contained within the Action plan accompanying the LFRMS.

Planning and Environmental Context

A number of environmental plans and strategies will be drawn on through the delivery of local flood risk management to ensure consistency with and achievement of wider environmental objectives. Such plans and strategies include the Staffordshire Biodiversity Action Plan, Biodiversity Opportunity Mapping, and area-based strategies such as the Meres and Mosses Natural Improvement Area, Central River Initiative, Churnet Valley Living Landscapes Project, Tame Valley Wetlands Partnership Scheme, Cannock Chase Area of Outstanding Natural Beauty (AONB) Management Plan, and Basement and Catchment Management Plans. These have formed a key part in developing the objectives and measures for managing local flood risk over the coming years as part of the Local Flood Risk Management Strategy (LFRMS).

National Planning Policy Framework (NPPF) sets out how planning should contribute to sustainable development. Development plan policies should take account of environmental issues such as potential impact of the environment on proposed developments by avoiding new development in areas at risk of flooding, and as far as possible, by accommodating natural hazards and the impacts of climate change.

Water Framework Directive (WFD) (2000/60/EC) promotes an integral and coordinated approach to water management at the river basin scale. The framework also encourages protection of soil and biodiversity and aims to improve the chemical and ecological status of inland waters.

Staffordshire County Council Preliminary Flood Risk Assessment (PFRA) (2011) did not identify any new indicative flood risk areas in Staffordshire where the consequences are deemed to be worthy of reporting to the European Commission. However, the PFRA did identify that part of Staffordshire is within the West Midlands Flood Risk Area, which the LFRMS makes reference to.

Severn River Basin Management Plan (2009) describes the river basin district and the pressures that the water environment faces, a small area of Staffordshire drains into this river basin. It focuses on the protection, improvement and sustainable use of the water environment and the actions required to address the pressures. It sets out possible improvements by 2015 and the differences these actions will make to the local environment.

Humber River Basin District River Basin Management Plan (2009) describes the river basin district and the pressures that the water environment faces, a large proportion of Staffordshire drains into this river basin via the River Trent. The coal-mining industry in this catchment from the past has led to issues with contamination and rising mine waters. It focuses on the protection, improvement and sustainable use of the water environment and the actions required to address the pressures. It sets out possible improvements by 2015 and the differences these actions will make to the local environment.

The European Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna provides legal protection for habitats and species of European importance (Natura 2000 sites). The Conservation of Habitats and Species Regulations 2010 (usually referred to as the 2010 Habitats Regulations) implement the Directive into national legislation.

Article 6(3) of the Habitats Directive1 requires that any plan or project, which is not directly connected with or necessary to the management of a European site, but would be likely to have a significant effect on such a site, either individually or in combination with other plans or projects, shall be subject to an 'appropriate assessment' of its implications for the European site in view of the site's conservation objectives. In the light of the conclusions of that assessment, and subject to the provisions of Article 6(4) of the Habitats Directive, the competent authority (i.e. in this context the plan-making body) shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, having obtained the opinion of the general public. Article 6(4) provides that if, in spite of a negative assessment of the implications for the site, and in the absence of alternative solutions, the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected.

The Habitats Regulations Assessment refers to the assessment of the potential impacts of a development plan on one or more European Sites

(collectively termed 'Natura 2000' [N2K] sites). Natura 2000 is a Europe- wide network of sites of international importance for nature conservation established under the European Council Directive 'on the conservation of natural habitats and of wild fauna and flora' (92/43/EEC; 'Habitats Directive').

The process to identify the likely impacts of a policy or proposal upon a Natura 2000 site, either alone or in combination with other plans and projects, and consider whether the impacts are likely to be significant or uncertainty exists. Straightforward counter-acting measures can be recommended for incorporation into policy wordings and then sites re-screened.

An HRA screening document (February 2023) has been appended to the LFRMS

The full list in Appendix A: Full Policy Context Review of the Shropshire and Staffordshire Local Flood Risk Management Strategy Part 3: Strategic Environmental Assessment for Staffordshire, Environmental Report, January 2015 provides an overview of the plans and documents relevant to the LFRMS during its development and discusses the environmental protection objectives set an international and national level which are relevant to the LFRMS.

5. Baseline Review

Introduction

The Strategic Environmental Assessment (SEA) was initially informed by a review of the environmental baseline of Staffordshire.

Collection of baseline information forms an essential part of the Strategic Environmental Assessment (SEA) process. It is paramount to obtain sufficient baseline information on the current and likely future state of the environment in order to enable the plan's effects to be adequately predicted and evaluated. Collected data should show either a spatial or temporal trend where possible to enable more informed judgements of the current situation in terms of sustainability baseline of certain areas relative to others.

Biodiversity

There are several designated sites within the study area that could be affected by the results of the LFRMS. Staffordshire contains 65 Sites of Special Scientific Interest (SSSIs) covering a total of 8,687 ha. Sites of Special Scientific Interest (SSSIs) are designated for either their biological or geological interest.

Additionally, there are 43 Local Nature Reserves (LNRs) covering an area of 925 ha (note: most LNRs are also covered by another designation), 1,750 ha of Sites of Biological Importance (SBIs) 894 in total and 218 ha of Biodiversity Alert Sites (BASs) 476 in total. There are records of 95 protected species in Staffordshire, together with 536 species of principal importance for the conservation of biodiversity (NERC act). The Staffordshire Ecological Record (SER) also indicates 21 habitat types of principal importance, covering 7771 ha. All figures are sourced from Staffordshire Environmental Record dating from November 2013. While there may have been modest changes in

the data since then, it is not considered necessary to undertake a full data search for the purposes of this report. The State of Staffordshire's Nature report, Staffordshire Wildlife Trust, 2016, also provides further information. It is worth noting that one species – Water Vole has become all but extinct in the county since 2013, and another - White-clawed Crayfish, is now restricted to very few headwater streams. In addition, there are many water-borne invasive species, such as demon shrimp, that provide new threats to aquatic and water-dependant habitats and species.

Cultural Heritage

Staffordshire has a rich heritage asset. Within Staffordshire there are:

- 77 Grade I Listed Buildings;
- 351 Grade II* Listed Buildings;
- 4647 Grade II Listed Buildings;
- 15 Registered Parks & Gardens;
- 2 Battlefields Blore Heath and Hopton Heath;
- 276 Scheduled Monuments; and
- 161 Conservation Areas.

There are also many undesignated heritage assets located throughout Staffordshire, which are recorded on the Historic Environment Record (HER). Furthermore several District Councils maintain lists of locally important buildings and structures, which while not afforded statutory protection, are a material consideration within the planning process.

Human Health (exact figures to be confirmed prior to publication)

The health of people in Staffordshire is mixed compared with the England average. Life expectancy for both men and women is similar to the England average. However, life expectancy is 8.0 years lower for men and 6.2 years lower for women in the most deprived areas of Staffordshire than in the least deprived areas.

Priorities in Staffordshire include improving quality of parenting, reducing harm from alcohol and supporting the frail elderly.

Material Assets

Staffordshire has the largest population of all the shire counties in the West Midlands.

Staffordshire is well connected to the national and international road and rail network, and over the last 10 years, the condition of the highway network has improved significantly.

Soil (exact figures to be confirmed prior to publication)

Staffordshire's land use is categorised as 81% agriculture, 11% urban, 8% heathland, woodland, forest, reservoirs, mineral workings and amenity land .

Agriculture is the dominant land use in Staffordshire occupying 81% of the county:

- Permanent pasture is the dominant agricultural land use accounting for 47% of the total;
- Dairy farming is the main enterprise of all full time farms; and
- Arable crops account for 31% of the total .

Landscape

There is one Area of Outstanding Natural Beauty (AONB) within Staffordshire, Cannock Chase, which lies just north of Cannock and to the south and west of Rugeley. It is the second smallest Area of Outstanding Natural Beauty (AONB) in the country and is potentially one of the most threatened of the protected landscapes due to the number

of nearby conurbations and its converted mineral deposits. Also, a section of the Peak District National Park falls inside the Staffordshire county boundary.

Water

The river network in Staffordshire is mostly part of the catchment of the River Trent, although the very northwest area of the County drains into the River Mersey and the southwest into the River Severn. As such Staffordshire falls into three Environment Agency River Basin Districts of the Humber, Severn and Northwest (covering 82.7%, 11.9% and 5.3% of the County area respectively).

Key Environmental Issues

Following a review of the environmental baseline for Staffordshire, a number of key environmental issues for each of the topics have been established. These are discussed on a topic by topic basis within Appendix B: Full Baseline Review and Table 6.1 of this report summarises these within the context of the Strategic Environmental Assessment (SEA) Framework.

6. Methodology

Introduction

The Strategic Environmental Assessment (SEA) follows the structure of the Scoping Report and identifies the environmental issues and potential indicators to measure the effects of the implementation of the LFRMS on the environmental receptors.

The aim of this was to screen the high level objectives of the LFRMS for those that are likely to have a significant effect. The assessment was a qualitative exercise based on professional judgement taking into account the information gathered in the Scoping Report and other available background information.

General Approach

Given the high level nature of the LFRMS, the assessment has sought to focus on the likely changes and impacts resulting from the LFRMS but has not attempted to quantify them. Consideration has been given as to whether the

impacts are likely to be either significantly positive or negative. Whilst it is not possible to determine the significance of an impact, an indication of the characteristics of significant impacts can be provided:

- Impacts that are likely to result in an adverse effect on the integrity of features of national or international value or will demonstrably increase the extent or improve the value of such features;
- Impacts that are likely to conflict with environmental legal objectives, targets or duties, and;
- Impacts that are likely to result in a demonstrable change in the health and/or social or economic well-being of communities.

The Strategic Environmental Assessment (SEA) Framework is outlined below in Table 6.1. This sets out the key environmental issues for each topic area, the Strategic Environmental Assessment (SEA) objectives against which the assessment has been undertaken and potential indicators. The Strategic Environmental Assessment (SEA) objectives form the assessment criteria used in this Environment Report and focus the assessment on key environmental outcomes.

Table 6.1 Strategic Environmental Assessment (SEA) Framework: Key Environmental Issues and Potential Indicators

Strategic Environmental Assessment (SEA) Topic Biodiversity Key Environmental Issue

Staffordshire's SACs which are at risk of flooding, such as Pasturefields Salt Marsh and the European sites such as designated Ramsar sites and SSSIs, would benefit from strategies which offer opportunities to maintain and improve their condition (in full consultation with Natural England). The key sites identified in the Staffordshire PFRA which are at risk of future flooding from surface water would need careful management;

Several SSSIs rely on maintenance of an appropriate hydrological regime, such as Mottey Meadows SAC, Doley Common SSSI and Doxey and Tillington Marshes SSSI

Biodiversity should be protected and enhanced, both within and outside of designated sites which cover only a small percentage of the Staffordshire land area;

Staffordshire contains habitats that support a variety of species and communities. Some habitats are likely to be more resilient to flooding than others whereas other habitats, and their component species, are likely to be vulnerable to the effects of flooding, and;

Overall, biodiversity on designated sites should be protected and enhanced.

Strategic Environmental Assessment (SEA) Objectives

To ensure compliance with natural environment statutory obligations

To conserve, and where possible enhance, protected and important habitats and species.

Potential Indicator

Condition and extent of designated sites (including Special Areas of Conservation, Special Protection Areas, RAMSAR sites and Sites of Special Scientific Interest)

Cultural Heritage	flooding, which may result in harm to or loss of the their significance. This may be as a result of direct heri	To conserve and enhance the historic environment, heritage assets and their setting.	Number/area of designated heritage assets at risk of flooding; and
	Proposed flood risk management measures and measures to improve resilience have the potential to impact on the significance of heritage assets, including the contribution made by their setting; and		Proportion of conservation areas at risk from flooding
	Securing the sustainable reuse of heritage assets, including those identified as at risk, may be hindered by their location in high flood risk areas.		
Human Health	Flooding can result in effects on both physical and psychological health, which could exacerbate	To improve and enhance the health and wellbeing of communities	Number of dwellings at risk of flooding;
неакп	existing health issues. Repeated flooding can be a particular issue in relation to psychological health and well-being; and		Number of people at risk of flooding (number of dwellings multiplied by 2.34); and
	There is a risk of flooding to residential properties and critical services located in the West Midlands Flood Risk Area (within the South Staffordshire District and Lichfield District councils) and other areas at risk of flooding as identified with the Staffordshire PFRA.		Number of critical services at risk of flooding (including schools, hospitals, nursing / care / retirement homes, and emergency services)
Material Assets	Flooding has, in the past, caused locally significant consequences to communities in Staffordshire.	To conserve and protect important material assets and infrastructure	Number of non residential properties / assets at risk of
	There are important transport links within the county, which are at risk of flooding.		flooding; Length of road at risk of flooding; and
			Length of rail at risk of flooding.
Soil	Agriculture plays an important role in the local economy of Staffordshire. However, areas classified as nitrate valuable zones are vulnerable to	To conserve and protect the best and most	Changes in agricultural land classification

	increased nitrate pollution, from the use of fertilisers in agriculture, in the event of flooding.	productive agricultural land	
Landscape	The location of future development will be influenced by flood risk and therefore some landscapes will be more likely to be affected than others.	To protect, conserve and enhance the landscape	Change to extent/character of landscape types
	Cannock Chase AONB is one of the most threatened of the protected landscapes in the country due to the number of nearby conurbations and its coveted mineral deposits. It is also at risk of flooding from surface water.		
Water	There are over 25,000 people living in residential properties at risk from flooding in Staffordshire,	To protect and improve the water environment, for the benefit of the human and / or natural environment	Number of properties at risk of flooding;
	including properties within the West Midlands Flood Risk Area.		Area of agricultural land at risk of flooding;
	Although the likelihood of reservoir failure is very small there is the potential for the consequence of the failure to be large.		Area at risk of present day 1:200 year flooding event;
	All water bodies in the county must reach good ecological status by 2027. Currently, only a small number do which is primarily as a result of point source discharges from water industry sewage works. Diffuse pollution form agriculture is also an issue which could be exacerbated through flood events.		Ecological status of water bodies; and
			Changes to land use.
	Impacts upon surface water and groundwater may arise as a consequence of future flooding and		

7. Environmental Assessment

potentially as a result of flood risk mitigation.

7.1. Introduction

The high-level objectives of the LFRMS, described in Section 3 of this report are the subject of this assessment. An assessment of the objectives has been undertaken which indicates that the LFRMS is likely to have effects that are predominantly neutral or positive in nature.

Mitigation and enhancement measures are also provided in this section of the report. Mitigation is defined as "measures envisaged to prevent, reduce and as fully possible offset any significant adverse effects on the environment" (Directive 2001/42/EC). The assessment process has identified opportunities to enhance the positive and mitigate the negative significant environmental effects of actions proposed in the LFRMS.

7.2. Biodiversity

7.2.1 Does the LFRMS Comply with Natural Environment Statutory Obligations?

Objective 2 of the LFRMS aims to manage local flood risk and new development in a sustainable manner. The Water Framework Directive (WFD) includes specific objectives to improve ecological status (or potential) of all surface water bodies and to achieve compliance with any objectives for favourable condition for 'protected areas' by 2015.

Actions in the LFRMS include adopting appropriate planning practices so land allocations and new developments do not impact any further on flood risk and where possible have a positive impact.

Mitigation and Enhancement

The opportunity exists to work with natural processes when delivering flood defences, which would help deliver policy objectives for the natural environment such as habitat enhancements or improved ecological connectivity. This should be achieved via the delivery of wider environmental objectives included within the LFRMS.

Any measures introduced should aim to protect and enhance important habitats and species, maintain healthy functioning ecosystems and, where possible, create habitat.

7.2.2 Does the LFRMS conserve, and where possible enhance, protected and important habitats and species?

Staffordshire contains a range of habitats that support a variety of species and communities. Some habitats are likely to be more resilient to flooding than others whereas other habitats, and their component species, are possibly vulnerable to the effects of flooding.

The baseline review (2015) found that some of Staffordshire's habitats are at risk of flooding including a total of 49.4% of Sites of Special Scientific Interest (SSSIs) within the county; therefore key sites identified in the Staffordshire Preliminary Flood Risk Assessment (PFRA) require careful management to achieve the aims of the Biodiversity Action Plan (BAP). Some of these habitats flood as part of their natural cycle. the LFRMS does aim to ensure that flood risk management schemes take account of their impact on protected environments, including both the habitat and species components.

Some designated sites may rely on the presence of flood defence structures to maintain them in a favourable status. In these cases, without careful consideration, flood risk management could result in losses of biodiversity through habitat fragmentation, or could adversely impact protected species and species of principal importance; there could be conflicts with the maintenance and improvement of biodiversity. By prioritising solutions that work with natural processes and achieving Water Framework Directive (WFD) objectives, the LFRMS will help to mitigate these effects.

Mitigation and Enhancement

The opportunity exists to protect both designated and undesignated habitats and contribute to improving them or maintaining them in a favourable condition. Flood risk management schemes should take account of their impact on both designated and undesignated habitats and on species.

As discussed previously care should be taken to prevent inappropriate flood defences that would impact upon habitats that require flooding. In addition to this flood defence structures which protect designated sites should be carefully managed to prevent habitat fragmentation. Excess water could be diverted into habitats that naturally flood as part of their cycle, such as the Stone Meadows. Any measures which aim to improve the biodiversity features of designated sites within Staffordshire would need to be fully consulted with Natural England.

Use of 'check, clean, dry' for biosecurity on all equipment and promotion of this through contracts. This will be very important where natural flood management requires interventions further into headwaters.

A desk-based ecological assessment, including a data search from Staffordshire Ecological Record (data also held at SCC) should inform all new schemes and projects. This will indicate whether on the ground survey and mitigation work is needed.

7.3. Cultural Heritage

7.3.1 Cultural Heritage?

Cultural heritage assets will remain an important economic, social and environmental feature of Staffordshire in the future. Some heritage assets are likely to be at risk of flooding, which has the potential to compromise their inherent value (sometimes called their 'significance'). Any proposed flood alleviation measures might also impact adversely on the historic environment. It should also be noted that some heritage assets may be located within watercourses, and these may be a contributory factor to flood events.

Flood risk alleviation measures should also be appropriate to the location in which they are being undertaken and the sensitivity of any cultural heritage assets.

Mitigation and Enhancement

The LFRMS does not make any specific reference to protecting and conserving the historic environment, though potential historic environment interest should be flagged on the Asset Register and trigger early consultation with the relevant organisation. Significant impacts on cultural heritage could result from flood risk management measures, which could be beneficial if they aim to conserve and enhance the cultural heritage assets. In some cases, mitigation may be required where proposals impact upon both designated and undesignated, above and below ground archaeological remains. Impacts will be dependent on the specific location, the type of flood risk management actions being undertaken and the sensitivity of the resources.

7.4. Human Health

7.4.1 Does the LFRMS Improve and Enhance the Health and Wellbeing of Communities?

Whilst the health and levels of deprivation of people in Staffordshire are likely to continue to differ from the national average (see Section 3 of Appendix B), flooding can still result in effects on both physical and psychological health, which could exacerbate existing health issues. In particular, repeated flooding can be an issue in relation to psychological health and well-being.

the LFRMS seeks to deliver wider environmental and social benefits, and so there should be opportunities to provide enhancements that benefit the health and wellbeing of communities. Objective 3 of the LFRMS aims to support communities to understand flood risk and become more resilient to flooding so the affected communities can make informed decisions on how to protect themselves. The intention of Objective 6 is for emergency responders, partner organisations and communities to be better prepared for flood events in order to improve response time and the actions of people so they remain safe in the event of flooding and make intelligent choices. If this is achieved it will have a significant positive impact on the health and wellbeing of communities during flood events.

As a result of the LFRMS, significant positive effects on human health are anticipated. Improved flood risk management, is likely to have long term financial benefits as the population will be better protected and will have an improved ability to recover from flood events. the LFRMS aims to promote self-help for property protection to promote local community resilience to flooding emergencies, by providing appropriate support and information to educate responses.

Mitigation and Enhancement

The LFRMS aims, where possible, to improve health, wellbeing and the standard of living in communities. Where blue corridors and multi-functional green spaces are promoted, recreation and safe public access to waterside environments and open spaces should be a key consideration.

Whilst improved flood risk management is likely to have long term financial benefits on the population, analysis should be undertaken on proposed measures to ensure the most appropriate are chosen to enhance the health,

wellbeing and standard of living of communities in conjunction with the West Midlands Strategic Health Authority and other stakeholders.

There should be emphasis on working to enhance the environment in the most deprived areas, at the same time as protecting people and places from flooding. As reported within the Environmental Report of the Strategic Environmental Assessment (SEA) for the National Flood and Coastal Erosion Risk Management, flood impacts on deprived communities are likely to greater, as they are less likely to be insured, more likely to be in poorer health and less able to finance repairs.

7.5. Material Assets

7.5.1 Does the LFRMS Conserve and Protect Important Material Assets and Infrastructure?

Flooding has, in the past, caused significant consequences to local communities in Staffordshire. There are important transport links within the county and as 16% of the county's workforce live outside the county; the potential of flooding can have negative economic impacts. There are also considerable heritage assets within the county, some of which are likely to be at risk of flooding.

Objective 1 of the LFRMS promotes understanding of flood risk from all sources and aims to provide better records for historic flooding through investigating the cause of flood events. This objective should increase resilience and aid faster recovery from flood events. the LFRMS aims to promote local community resilience to flooding and self-help for property protection and to encourage maintenance of privately owned flood defence structures.

Objective 2 aims to promote effective management of drainage and flood defence systems. This will be achieved by using the permissive land drainage powers to manage the watercourse network and to approve systems including sustainable drainage in order to promote the need for no increase in surface water flow from sites.

Objective 4 of the LFRMS aims to manage local flood risk and new development in a sustainable manner so no new flood risk is created. This objective will also create opportunities to reduce local flood risk via early engagement with developers.

Mitigation and Enhancement

the LFRMS actively seeks to keep inappropriate new development away from the floodplain in order to control flood risk therefore no mitigation is recommended. The heritage assets in Staffordshire are an irreplaceable resource and should be recognised as such in the LFRMS.

7.6. Soil

7.6.1 Does the LFRMS Conserve and Protect the Best and Most Productive Agricultural Land?

Agriculture is a dominant land use within Staffordshire as it comprises 81% of land use (**exact figure to be confirmed prior to publication**) and is an important feature of the local economy (see Appendix B). At a national level, soils in England have suffered from degradation through unsustainable soil management, drainage and erosion by wind and rain. This situation is likely to be exacerbated through climate change where hotter conditions could make soils more susceptible to wind erosion, coupled with intense rainfall incidents that could wash soil away.

To conserve the best and most productive agricultural land should not conflict with other objectives including the aim to deliver a wider environmental objective of conserving and improving biodiversity and enhancing the natural environment. Sustainable farming practices can go hand in hand with a sustainable environment, for example maintenance of ditches and water course can benefit both agriculture and wildlife, setting aside field margins adjacent to the water course can reduce the amount of soil lost during intense rainfall events and reduce the input of diffuse pollutants. Better management of surface runoff will have a positive impact on resilience to soil degradation of the best and most versatile agricultural land.

Mitigation and Enhancement

The protection of topsoil is of particular importance due to the impacts of heavy rain in 2012, 2013 and 2014. The Staffordshire Local Flood Risk Guiding Principles aim to work with landowners to increase awareness of flood risk and promote resilience by making risk and benefits more meaningful to people. Erosion control and re-vegetation to minimise soil loss and reduce sedimentation to protect water quality should be encouraged.

7.6.2 Does the LFRMS Reduce the Risk to Waters from Diffuse Pollution?

The LFRMS integrates the aims of the Water Framework Directive (WFD) to reduce levels of pollution and hazardous substances in surface water and ground water, and Staffordshire Local Flood Risk Management Strategy (LFRMS) objectives include 'maintain and improve quality of waterbodies.' the LFRMS seeks to establish a Sustainable Drainage Systems (SuDS) approval body to establish a robust Sustainable Drainage Systems inspection system. The use of Sustainable Drainage Systems will have a positive impact on water quality by offering opportunities to manage diffuse pollution from urban runoff.

Mitigation and Enhancement

There is no mitigation recommended as the LFRMS promotes the Water Framework Directive (WFD) targets to reduce water pollution.

7.7. Landscape

7.7.1 Does the LFRMS Protect and Conserve Landscape?

Staffordshire contains a variety of landscape types as detailed in Staffordshire's 'Planning for Landscape Change,' these landscapes could be eroded over time if significant development takes place within the county. The location of new development will be influenced by flood risk and therefore some landscapes will be under more pressure than others.

Significant impacts on landscape could also result from flood risk management measures. These will be dependent on the location, the type of actions being undertaken and the sensitivity of the resources.

The LFRMS should have a positive impact in terms of enhancing the natural beauty and amenity of inland waters if it achieves the wider environmental objectives of its objective 2: Manage flood risk and new development in a sustainable manner

Mitigation and Enhancement

Flood risk management actions should be sympathetic to the location in which they are being undertaken and the sensitivity of any landscape resources.

Existing sensitive landscape should be protected, and the amenity and natural beauty of inland waters enhanced.

Flood risk management actions should ensure high quality design also delivers enhancements/improvements to landscapes where character and/or quality is eroded or in decline'

7.8. Water

7.8.1 Does the LFRMS Contribute to the Protection and Improvement of the Water Environment, for the Benefit of the Human and/or Natural Environment?

The LFRMS aims to take a sustainable approach to flood risk management and incorporates Water Framework Directive (WFD) targets. The protection of the water environment is encouraged through reducing water consumption with promotion of water cycle management and raising awareness of future water demand via councilled initiatives, this should minimise the adverse effects of any measures and enhance the benefits to the water environment.

The promotion of Sustainable Drainage Systems (SuDS) through the SuDS Handbook and the creation of the Staffordshire Climate Change Action Plan (2022) are all measures that will help provide benefits for the human and natural environment. The LFRMS objective in relation to conserving and improving biodiversity and enhancing the natural environment promotes activities which will improve urban landscapes in terms of amenity and biodiversity.

Mitigation and Enhancement

Staffordshire has several reservoirs for water storage. Although the likelihood of reservoir failure is very small there is also the potential for the consequence of the failure to be large. Local authorities are responsible for developing reservoir flood plans and as recommended by the Pitt Review, the Environment Agency produces reservoir flood maps for large reservoirs (over 25,000 cubic meters of water). The Lead Local Flood Authority (LLFA) should take the opportunity afforded by the LFRMS to ensure that these flood plans and maps are considered, new development prevented in these areas due to the potential risks and actions taken by relevant authorities to ensure that reservoirs, including smaller reservoirs, are safe.

The LFRMS should aim to protect, improve and sustainably manage the use of the water environment for the benefit of the human and natural environment. The Environment Agency has in the past noted the possibility of morphological impacts in respect of previous flood defence and drainage schemes. For example, the supply and transport of sediment can be affected by the introduction of hard structures and the introduction of barriers designed to control flow. Where measures introduced as a result of the LFRMS are able to work with natural processes, these should aim to deliver physical (hydromorphology) improvements to the functioning of the water body.

Opportunities to restore/rehabilitate water courses should be taken through day to day opportunities and actions, for example during planning approvals, or through maintenance programmes.

Additionally, opportunities for targeted new woodland creation to help mitigate water flow issues, whilst simultaneously contributing to biodiversity enhancement, should be encouraged.

7.9. Cumulative Effects

This section presents the likely cumulative and synergistic effects on the environment of the interaction between the LFRMS and other relevant plans, strategies and legislation. As the relationship to the Water Framework Directive (WFD) is discussed in the assessment this section only identifies additional cumulative effects:

The LFRMS should have a positive impact in terms of the Staffordshire's ability to adapt to climate change. Staffordshire's Climate Change =Action Plan (2022) will increase awareness on future flood risk. By promoting resilience, the LFRMS both supports and enhances the national strategies and policies such as The UK Climate Change Programme (2006) and National Planning Policy Framework (NPPF) (2021) which aim to increase climate change adaptation;

The LFRMS should increase resilience and aid faster recovery from flood events which will be of benefit to local communities. This supports sustainable economic development policies such as the UK Government Sustainable Development Strategy (2005) by minimising disruption and the impact on local communities, and;

The inclusion of blue corridors and improved linkage to green infrastructure assists the LFRMS in promoting the health of communities. This supports and enhances national policy such as the National Planning Policy Framework

(NPPF) which aims to increase access to high quality open spaces and opportunities for recreation to improve the health and well-being of local communities.

8. Monitoring

8.1. Introduction

Once the LFRMS has been adopted, Article 17 of the Strategic Environmental Assessment (SEA) Directive requires that its significant environmental effects should be monitored. Monitoring is proposed to determine whether changes to the LFRMS are required to account for unexpected events.

Staffordshire County Council have developed an Action Plan to accompany the LFRMS, that will be used to monitor and update the delivery timescales and costs of these measures and to prioritise schemes as required and as resources or funding availability allows. Progress will be reported to the public yearly.

8.2. Proposed Indicators

The indicators listed on a topic by topic basis in Table 6.1 of this report are proposed to monitor the effects of the LFRMS.

It should be noted that there are other influences on environmental outcomes, so it will not be possible for a direct relationship to be identified between the proposed indicators and the LFRMS. Nevertheless, as reported within the Strategic Environmental Assessment (SEA) Report11 for the National Flood and Coastal Erosion Risk Management (FCERM) Strategy (2011) "it is reasonable to monitor environmental outcomes to determine whether changes to the LFRMS are required to further reduce conflicts or make a greater contribution to achievement of environmental objectives".

It is recommended that the LFRMS Action Plan includes the monitoring framework of this report. It should review the proposed environmental indicators in this report and their associated targets as part of the yearly reviews.

9. Consultation and Next Steps

9.1. Consultation

The Strategic Environmental Assessment (SEA) Directive requires that the public, together with certain environmental bodies: "ensure that the consultation bodies and the public consultees are given an effective opportunity to express their opinion on the relevant document" (Article 13 (3)).

This Environmental Report will be made available online and sent to the statutory Strategic Environmental Assessment (SEA) consultees (Natural England, Environment Agency and English Heritage) for comment as part of the consultation on the LFRMS.

9.2. Next Steps

This Environmental Report is intended to inform stakeholder consultation. When the statutory consultation period is complete, the comments received will be considered and will inform the environmental assessment of the LFRMS and the preparation of the final Environmental Report.