Staffordshire County Council

Shropshire and Staffordshire Local Flood Risk Management Strategy

Strategic Environmental Assessment for Staffordshire

Environmental Report, December 2015

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Non-Technical Summary

Please note that this Strategic Environment Assessment was produced in accordance with the Local Flood Risk Management Strategy published in 2015. A revised Strategic Environment Assessment will be published with the revision planned currently for 2024/25

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 Strategy').

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 Strategy 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 Strategy.

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 Strategy to be adequately evaluated.

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

Summary of Significant Environmental Effects and Mitigation and Enhancement Opportunities

Biodiversity:

The Strategy 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 processes 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 Strategy 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 Strategy 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 Strategy 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 Strategy 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 Strategy 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 Strategy 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 Strategy should be monitored once it has been adopted. Monitoring outlined in this Environmental Report, is proposed to determine whether changes to The Strategy may be required to account for future unexpected events.

Staffordshire County Council has developed an Action Plan in Part 2 of the Strategy, which will be reviewed every 12 months by the Staffordshire and Shropshire Service Delivery Group, which will publish an annual statement setting out how the Strategy is being implemented.

1. Introduction

The Staffordshire Flood Risk Management Strategy

Please note that this Strategic Environment Assessment was produced in accordance with the Local Flood Risk Management Strategy published in 2015. A revised Strategic Environment Assessment will be published with the revision planned currently for 2024/25

Staffordshire County Council has produced a Local Flood Risk Management Strategy (LFRMS) (hereafter referred to as 'The Strategy') under The Flood and Water Management Act (2010). The purpose of The Strategy 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 Strategy 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:

- Information on local flood risk in Staffordshire, highlighting where problems have already occurred, or where areas fall in risk categories;
- 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.

Selected Historical Flooding Events in Staffordshire:

- Oct/Nov 2000 – Central North West and South East band of county (combination of flood sources),
- August 2004 – Central North West and South East band of county (combination of flood sources),
- June/July 2007 – Whole county (interaction of all forms due to excess rainfall).
- October 2010 – Centred on North West corner of county (combination of heavy rainfall and trash screen blockage)

- June to November 2012 – Prolonged period of wet weather resulting in numerous local flooding issues across Staffordshire.

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 Strategy on relevant environmental receptors.

This Environmental Report

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 Strategy 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 Strategy 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 Strategy.

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 Strategy 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 inter-relationships 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

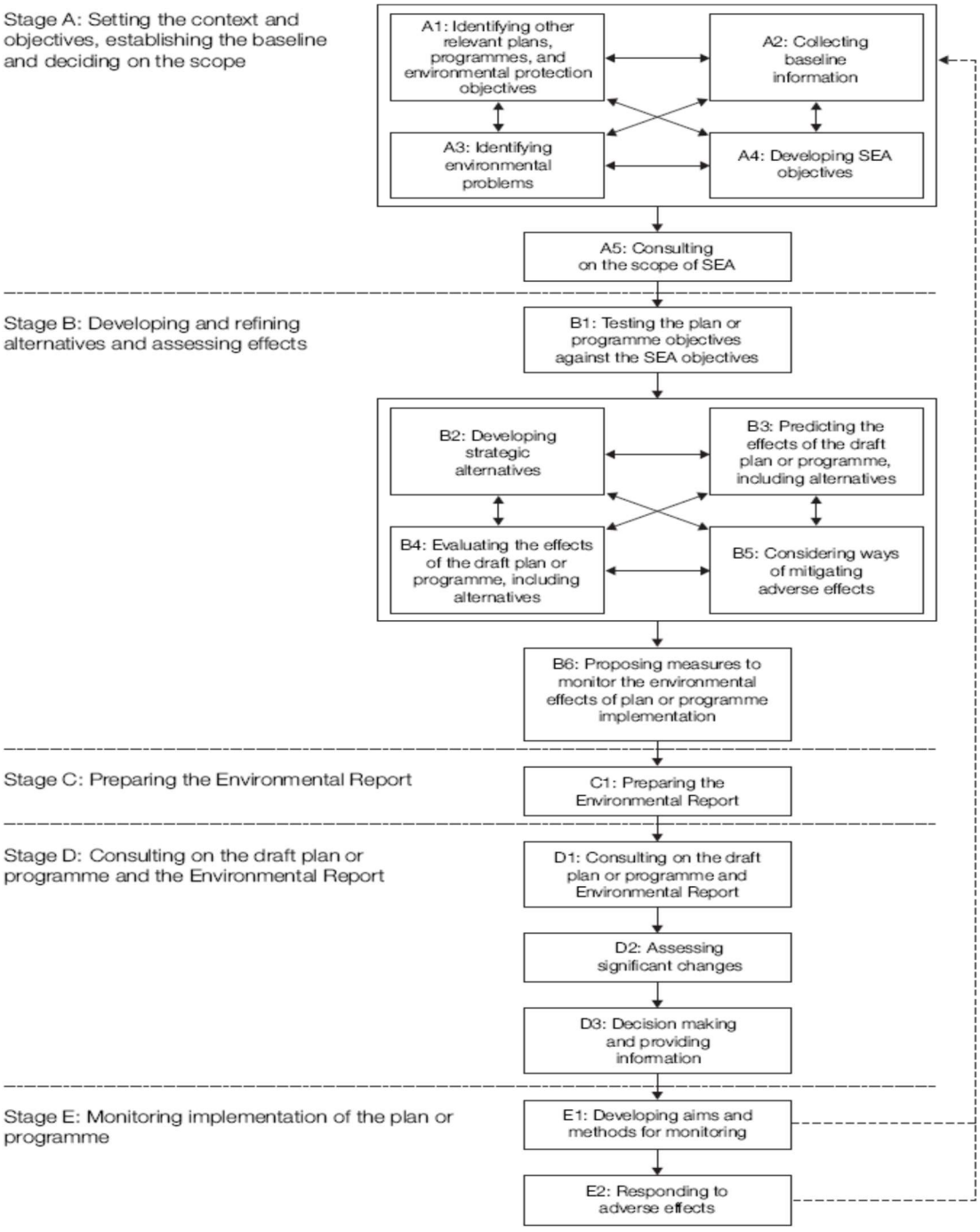
The Strategic Environmental Assessment (SEA) process is conducted in five stages[1]:

- 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.

1 ODPM now CLG (2006) A practical guide to the Strategic Environmental Assessment Directive, Available: http://www.communities.gov.uk/publications/planningandbuilding/practicalguidesea

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 and Appendix A
(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 and Appendix B
(c) The environmental characteristics of areas likely to be significantly affected	Section 5 and Appendix B
(d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC	Section 5 and Appendix B
(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	Section 5 and Appendix B
(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	Section 7
(g) 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	Section 7
(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 Alternatives considered by Shropshire Council (SC) and Staffordshire County Council (SCC) as Lead Local Flood Authorities (LLFA) included not preparing a Local Flood Risk Management Strategy (LFRMS) or preparing an individual Local Flood Risk Management Strategy (LFRMS) for each county. The former was not a viable option since the Lead Local Flood Authorities are required to prepare a Local Flood Risk Management Strategy (LFRMS). The latter was rejected in favour of a shared-

	service approach because of the synergies this would bring. The Local Flood Risk Management Strategy (LFRMS) is primarily a procedural strategy that has correspondingly limited direct environmental effects. Therefore it is considered that the significant environmental effects of having an individual Local Flood Risk Management Strategy (LFRMS) for each county would be no different to those assessed for a joint strategy.
(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

A Post Adoption Statement will be produced once the LFRMS and this SEA report have been published (see section 9.2)

Scope of the Strategic Environmental Assessment

Stage A of the Strategic Environmental Assessment (SEA) was undertaken in May 2013 and the findings documented in the Scoping Report. It involved establishing the context within which The Strategy is being prepared including identifying key issues and reviewing relevant plans, programmes and strategies. The Scoping Report was submitted to Staffordshire County Council, Environment Agency, Natural England and Historic England for comment before being finalised. Comments received and the responses to them are listed in Appendix C.

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.

The Strategic Environmental Assessment (SEA) Scoping Report includes a chapter on each of the relevant topics, taking into consideration those that have been scoped out. In order to successfully integrate differing issues and competing objectives it identifies the range of issues and interests that exist through a review of relevant plans and programmes and collection of relevant baseline data.

Related Plans and Programmes

Consideration of the context in which The Strategy is being prepared involves two steps. Firstly, related Plans and Programmes considered relevant to The Strategy must be identified. Secondly, these must be reviewed with the aim of establishing their implications for The Strategy and 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 Strategy to provide an overview of the objectives and targets that are most likely to influence the development of The Strategy. **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 Strategy 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 Strategy 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 Strategy 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 are considered unlikely to be significantly affected by The Strategy and have therefore been scoped out of the assessment:

- Air – The implementation of The Strategy 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 Strategy 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.

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 Strategy on the environmental receptors. The Framework provides a means by which the environmental effects of The Strategy 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 Environmental Report can be read in conjunction with the Scoping Report[2], which sets the context within which the assessment has been undertaken. However, the relevant portions of the Scoping Report baseline and context review have been reproduced herein and updated where necessary. The remainder of this report is structured as follows:

- The Strategy Objectives;
- Context Review: Other relevant plans and programmes;
- Baseline Review (summary only, the complete baseline review is in Appendix B);
- Methodology;

2 URS, Staffordshire Flood Risk Management Strategy SEA Scoping Report, May 2013

- 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 Strategy Objectives

Introduction

Part 1 of the Strategy proposes actions to manage flood risk within Staffordshire. Its objectives reflect the requirements of the Flood and Water Management Act (2010) and the National Flood and Coastal Erosion Risk Management (FCERM) Strategy (2011).

Objectives

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

1. **Develop a strategic understanding of flood risk from all sources**
2. **Promote effective management of drainage and flood defence systems**
3. **Support communities to understand flood risk and become more resilient to flooding**
4. **Manage local flood risk and new development in a sustainable manner**
5. **Achieve results through partnership and collaboration**
6. **Be better prepared for flood events**
7. **Secure and manage funding for flood risk management in a challenging financial climate**

Section 10 of The Strategy provides detail of the measures proposed to deliver the high level strategy objectives listed above.

The Sustainable Drainage Systems (SuDS) Handbook has been incorporated into the Strategy. The SuDS Handbook contributes to the delivery of Policy 4 in Staffordshire Council's Role as Lead Local Flood Authority in the Consideration of Proposals for Sustainable Development. The council will seek to deliver SuDS as part of new development in its roles as statutory consultee for major planning applications and non-statutory consultee for non-major planning applications.

4. Context Review: Related Plans and Programmes

Overview

A review of plans and strategies relevant to flood risk management and the development of The Strategy 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 Strategy area;
- Involve the protection of the natural environment within The Strategy 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** which also shows how these have been taken into account during the development of The Strategy. A summary of the key findings is presented below in Sections 4.2 and 4.3.

Flood Risk Management Context

During the summer of 2007 many people, properties and infrastructure across Staffordshire County Council were affected by flooding from local sources (primarily surface water). Since then Staffordshire County Council has been pro-active in responding to flood risk, responding to key issues identified during the event and addressing the potential impact of new development by advocating the implementation of SuDS.

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, and recognising the current economic climate, Shropshire Council and Staffordshire County Council have entered into a collaborative working agreement with regard to fulfilling their duties as Lead Local Flood Authorities (LLFAs). This Local Flood Risk Management Strategy (LFRMS) offers the first opportunity for us to formalise

our longer term vision and shape individual priorities that deliver the greatest benefit to the people, property and environment of Shropshire and Staffordshire.

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 Strategy makes reference to.

Severn River Basin Management Plan (2009)[3] 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

[3] Note that at the time of writing the expected 2015 update had not been published.

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 (June 2015)[4] has been appended to the LFRMS

The full list in **Appendix A: Full Policy Context Review** provides an overview of the plans and documents relevant to The Strategy during its development and discusses the environmental protection objectives set an international and national level which are relevant to The Strategy.

[4] Shropshire and Staffordshire Local Flood Risk Management Strategy Habitat Regulations Assessment Screening Report June 2015 DRAFT – Version 1

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.

Further details on the baseline for each of the topics listed below is provided in **Appendix B: Full Baseline Review**.

Biodiversity

There are several designated sites within the study area that could be affected by the results of The Strategy. 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 the SER dating from November 2013

Cultural Heritage

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

- 78 Grade I Listed Buildings;
- 341 Grade II* Listed Buildings;
- 4617 Grade II Listed Buildings;
- 20 Registered Parks & Gardens;
- 2 Battlefields – Blore Heath and Hopton Heath[5];
- 279 Scheduled Monuments; and

5 http://list.english-heritage.org.uk/results.aspx

- 166 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

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[6].

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

Staffordshire's land use is categorised as 81% agriculture, 11% urban, 8% heathland, woodland, forest, reservoirs, mineral workings and amenity land[7].

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[8].

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

6 http://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/staffordshirelocaltransportplan2011-strategyplan.pdf
7 http://www.sbap.org.uk/staffordshire/index.php
8 http://www.sbap.org.uk/staffordshire/index.php

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 Strategy on the environmental receptors.

The aim of this was to screen the high level objectives of The Strategy 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 Strategy, the assessment has sought to focus on the likely changes and impacts resulting from The Strategy 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, and the Strategic Environmental Assessment (SEA) objectives against which the assessment has been undertaken. 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 SEA Objectives

Strategic Environmental Assessment (SEA) Topic	Key Environmental Issue	Strategic Environmental Assessment (SEA) Objectives
Biodiversity	• 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	• To ensure compliance with natural environment

Strategic Environmental Assessment (SEA) Topic	Key Environmental Issue	Strategic Environmental Assessment (SEA) Objectives
	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.	statutory obligations. • To conserve, and where possible enhance, protected and important habitats and species.
Cultural Heritage	• A range of heritage assets are likely to be at risk of flooding, which may result in harm to or loss of their significance. This may be as a result of direct flood damage as well as inappropriate remedial works; • 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 • Securing the sustainable reuse of heritage assets, including those identified as at risk, may be	• To conserve and enhance the historic environment, heritage assets and their setting.

Strategic Environmental Assessment (SEA) Topic	Key Environmental Issue	Strategic Environmental Assessment (SEA) Objectives
	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 existing health issues. Repeated flooding can be a particular issue in relation to psychological health and well-being; 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.	• To improve and enhance the health and wellbeing of communities
Material Assets	• Flooding has, in the past, caused locally significant consequences to communities in Staffordshire. • There are important transport links within the county, which are at risk of flooding.	• To conserve and protect important material assets and infrastructure
Soil	• Agriculture plays an important role in the local economy of Staffordshire. However, areas classified as nitrate valuable zones are vulnerable to increased nitrate 'pollution', from the use of fertilisers in agriculture, in the event of flooding.	• To conserve and protect the best and most 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. • 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.	• To protect, conserve and enhance the landscape
Water	• There are over 25,000 people living in residential properties at	• To protect and improve the

Strategic Environmental Assessment (SEA) Topic	Key Environmental Issue	Strategic Environmental Assessment (SEA) Objectives
	risk from flooding in Staffordshire, including properties within the West Midlands Flood Risk Area. • Although the likelihood of reservoir failure is very small there is the potential for the consequence of the failure to be large. • 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. • Impacts upon surface water and groundwater may arise as a consequence of future flooding and potentially as a result of flood risk mitigation.	water environment, for the benefit of the human and / or natural environment

7. Environmental Assessment

Introduction

The high level objectives of The Strategy, described in Section 3 of this report and the Local Flood Risk Guiding Principles within Staffordshire's Part 2: Policies and Procedures document is the subject of this assessment. An assessment of the objectives has been undertaken which indicates that The Strategy and guiding principles are likely to have effects that are predominantly neutral or positive in nature. As there are overlaps between the likely impacts of The Strategy objectives, the impacts of The Strategy as a whole are reported on to avoid repetition.

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 Strategy.

Biodiversity

Does the Strategy Comply with Natural Environment Statutory Obligations?

Objective 4 of The Strategy aims to manage local flood risk and new development in a sustainable manner by integrating flood risk management solutions alongside social and environmental benefits to enhance the natural environment. 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.

Guiding principles 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.

The HRA screening document[9] concluded that the Shropshire and Staffordshire Local Flood Risk Management Strategy is not likely to have any significant negative effects on any European sites, alone or in combination with other plans or projects. Given this conclusion, should the recommended amendment be made, there would be no requirement to progress to the next stage of the Habitats Regulations Assessment.

[9] Shropshire and Staffordshire Local Flood Risk Management Strategy Habitat Regulations Assessment Screening Report June 2015 DRAFT – Version 1

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 Strategy.

Any measures introduced should aim to protect and enhance important habitats and species, maintain healthy functioning ecosystems and, where possible, create Biodiversity Action Plan (BAP) habitat. The location and design of SuDS should also be informed by surrounding habitats and land-uses, as SuDS can contribute to green infrastructure and provision of features of value for wildlife to help species breed, feed and move through the landscape.

Does the Strategy 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 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 Strategy 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 Strategy 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.

As discussed previously care should be taken to prevent inappropriate flood defences that would impact upon habitats that require flooding, and SuDS

should also be informed by surrounding habitats and land-uses, so that they contribute to green infrastructure and provision of features of value for wildlife. 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 in Staffordshire. Any measures which aim to improve the biodiversity features of designated sites within Staffordshire would need to be fully consulted with Natural England.

Cultural Heritage

Does the Strategy Conserve, and where Possible Enhance, Protected and Important Habitats and Species?

Cultural heritage assets are likely to 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.

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

Mitigation and Enhancement

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 proposed schemes impact upon both designated and undesignated heritage assets of national importance, 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.

Human Health

Does the Strategy 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 Strategy 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 Strategy 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 Strategy, 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 Strategy 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 Strategy 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 any 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[10].

Material Assets

Does the Strategy 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

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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 Strategy promotes understanding of flood risk from different sources and interactions, and aims to provide better records for historic flooding through investigating the cause of flood events. Flooding information will be risk based, with areas shown to be at locally significant risk analysed in more detail as part of a prioritised programme. This information will form the evidence base to help focus local resources and funding.

Objective 2 aim to raise awareness of the responsibilities for both man-made and natural drainage systems. This will be achieved by a series of measures including publicity information, engaging directly with those who are responsible, designation of features, consenting works and, where appropriate, using permissive land drainage powers to manage the ordinary watercourse network.

Objective 4 of The Strategy aims to manage flood risk and drainage associated with new development in a sustainable manner so no new flood risk is created, and are taken through early engagement with developers.

Mitigation and Enhancement

The Strategy actively seeks to keep inappropriate new development away from the floodplain in order to control flood risk therefore no mitigation is recommended.

Soil

Does the Strategy 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 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[11].

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

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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. As LLFA Staffordshire County Council should 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.

Does the Strategy Reduce the Risk to Waters from Diffuse Pollution?

The Strategy 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 Strategy 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 Strategy promotes the Water Framework Directive (WFD) targets to reduce water pollution.

Landscape

Does the Strategy 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 Strategy should have a positive impact in terms of enhancing the natural beauty and amenity of inland waters if it achieves the wider environmental objectives as demonstrated in the Developing Urban Blue Corridors. The aim of promoting these spaces is to deliver multi-functional spaces which deliver amenity, flood risk management and environmental benefits.

Mitigation and Enhancement

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

In promoting blue corridors and green infrastructure, existing sensitive landscape should be protected and the amenity and natural beauty of inland waters enhanced.

Water

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

The Strategy 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 council-led initiatives, this should minimise the adverse effects of any measures and enhance the benefits to the water environment. For example SuDS can be used to manage pollution to water bodies from surface water runoff and are therefore a sustainable approach to WFD.

The SuDS Handbook and the Staffordshire Climate Change Adaptation Action Plan will help provide benefits for the human and natural environment. The Strategy 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

The Strategy 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[12]. Where measures introduced as a result of The Strategy are able to work with natural processes, these should aim to deliver physical (hydromorphology) improvements to the functioning of the water body.

The Strategy aims to promote the use of SuDS to reduce flood risk and the impact on the existing drainage systems and watercourses. It also aims to improve water quality through these measures. The use of SuDS and green infrastructure will have a positive impact on water quality by offering

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opportunities to contribute to managing diffuse pollution from urban runoff as they aim to 'green the grey'.

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. The Environment Agency and Forestry Commission, together with the Woodland Trust, have developed a Midlands 'Woodland for Water' opportunity mapping exercise[13], to prioritise those areas where woodland creation would most benefit water flow and quality. The project aims to deliver some planting schemes in Staffordshire at Milwich and Handsacre, whilst also investigating future potential planting areas such as on the Scotch Brook and around Tittesworth Reservoir.

Cumulative Effects

This section presents the likely cumulative and synergistic effects on the environment of the interaction between The Strategy 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 Strategy should have a positive impact in terms of the Staffordshire's ability to adapt to climate change. The creation of Staffordshire's Climate Change Adaptation Action Plan will increase awareness on future flood risk. By promoting resilience, The Strategy both supports and enhances the national strategies and policies such as The UK Climate Change Programme (2006) and National Planning Policy Framework (NPPF) (2012) which aim to increase climate change adaptation;

- Collaboration with Shropshire Council enables functional flood defence choices to be made as both counties experience related flood issues that could lead to synergies and/or efficiencies but could also lead to adverse effects if their defence choices impact upon one another;

- The Strategy 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 Strategy in promoting the health of communities. This supports and enhances national policy such as the National Planning Policy Framework (NPPF) which aims to increase

[13] http://www.forestry.gov.uk/website/forestresearch.nsf/ByUnique/INFD-97XGXX

access to high quality open spaces and opportunities for recreation to improve the health and well-being of local communities.

8. Monitoring

Introduction

Once The Strategy 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 Strategy are required to account for unexpected events.

Staffordshire County Council has developed an Action Plan in Part 2 of the Strategy, which will be reviewed every 12 months by the Staffordshire and Shropshire Service Delivery Group, which will publish an annual statement setting out how the Strategy is being implemented.

Proposed Monitoring

Table 8.1 derived from the earlier Table 6.1 shows the proposed monitoring of the effects of The Strategy.

Table 8.1 Proposed Monitoring

Strategic Environmental Assessment (SEA) Topic	Strategic Environmental Assessment (SEA) Objectives	Proposed Monitoring
Biodiversity	To ensure compliance with natural environment statutory obligations. To conserve, and where possible enhance, protected and important habitats and species.	We will undertake a yearly review of the strategy and we will report back to ensure ongoing compliance , we will liaise with Natural England and act upon any issues which relate to the Strategy
Cultural Heritage	To conserve and enhance the historic environment, heritage assets and their setting.	We will undertake a yearly review of the strategy and we will report back to ensure ongoing compliance. We will liaise with Historic England and act upon any issues which relate to the Strategy
Human Health	To improve and enhance the health and wellbeing of communities	We will undertake a yearly review of the strategy and we will report back on any changes in flood risk and the potential effects negative and positive this will have upon human health.
Material Assets	To conserve and protect important material assets and infrastructure	As elements of the strategy are acted upon we will report back on any changes in flood risk and the potential effects negative and positive this will have upon material assets.

Strategic Environmental Assessment (SEA) Topic	Strategic Environmental Assessment (SEA) Objectives	Proposed Monitoring
Soil	To conserve and protect the best and most productive agricultural land	Every year we will review and report upon, whether any of the actions associated with the Strategy have led to any changes (positive and negative) with regard to the best and most productive agricultural land or any significant changes in landuse.
Landscape	To protect, conserve and enhance the landscape	We will undertake a yearly review of the strategy and its potential effect upon landscape. We will report and act upon any issues if they relate to the Strategy
Water	To protect and improve the water environment, for the benefit of the human and / or natural environment	Every year we will review and report upon whether any of the actions associated with the Strategy have led to any changes (positive and negative) with regard to the water environment.

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 Strategy. Nevertheless, as reported within the Strategic Environmental Assessment (SEA) Report[14] 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 Strategy are required to further reduce conflicts or make a greater contribution to achievement of environmental objectives".

The Post Adoption Statement will provide more details of the monitoring which can be done as a part of the LFRMS.

It is recommended that the impact of the implementation of the Local Flood Risk Management Strategy Action Plan on the SEA objectives is reviewed every 12 months.

14 Environment Agency (2011) Strategic Environmental Assessment Report for the National Flood and Coastal Erosion Risk Management Strategy

9. Consultation and Next Steps

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 has been 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 Strategy.

All parts of the Strategy were open for public consultation for 6 months, during which time all town and parish councils were contacted, as were all County Councillors and members of the relevant Flood Forum contact lists. The Strategy had a press release, along with a mention on local radio stations.

Around 50 comments were received and these have been reviewed and were taken into account as appropriate when the documents were finalised. No major changes to the principles in the Strategy were proposed during the consultation.

Work has also been undertaken since the consultation to streamline the documents, make the action plan easier to implement and monitor and update the Flood Risk Assessment to help inform future priorities.

Next Steps

The SEA regulations require a number of steps to be taken to adopt the plan or strategy, in this case the LFRMS. Regulation 16 (of the SEA legislation) details the post-adoption procedures for the SEA and requires that as soon as possible after adoption of the strategy for which the SEA has been undertaken, that the planning authority must make a copy of the strategy publically available alongside a copy of the SEA and an SEA adoption statement.

The SEA adoption statement must explain:

• How environmental and sustainability considerations have been integrated into the Strategy.

• How the Environmental Report has been taken into account during preparation of the strategy

• How options expressed by the public and consultation bodies during consultation on the strategy and the Environmental Report have been taken into account.

• Reason for choosing the Strategy as adopted ahead of any alternatives

• Measures taken to monitor the significant environmental and sustainability effects of the implementation of the strategy.

The production and publication of a Post Adoption Statement will therefore follow on from the publication of the final version of the LFRMS parts 1, 2 and 3.

10. Glossary of Terms

Key Term	Definition
Baseline	Starting point establishes both the present and future state of the environment.
Biodiversity	Biological diversity, number and abundance of species present.
Cumulative effect	Cumulative effects are the incremental effects of an action when added to other past, present, and reasonably foreseeable future actions.
Defra	Department of Environment, Food and Rural Affairs – Government Department established in 2001 with responsibilities including flood defence and wildlife conservation.
EC Directive	Legislation issued by the European Union that is binding on Member States in terms of the result to be achieved, but leaves choice as to methods.
Environmental assessment	A tool for integrating environmental considerations into decision-making by ensuring that significant environmental effects of the decision are taken into account. In the Strategic Environmental Assessment (SEA) Directive, an environmental assessment means 'the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision making and the provision of information on the decision', in accordance with the Directive's requirements.
Environmental Impact Assessment (EIA)	The specified process for undertaking the environmental appraisal when a proposed scheme is covered by the Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999 or other Regulations implementing EC Directive 85/337, and the amending EC Directive 97/11.
Environmental appraisal	The process whereby the environmental effects of a proposal are identified measured and assessed to determine their significance.
Environmental Report	Document required by the Strategic Environmental Assessment (SEA) Directive as part of an environmental assessment, which identifies, describes and evaluates the likely significant effects on the environment of implementing a strategy and its alternatives.
Flood defence	A structure (or system of structures) to reduce flooding from rivers or the sea
Floodplain	Any area of land over which water flows or would flow if there were no flood defences. It can also be a place where water is stored during a flood event.

Flood risk	The level of flood risk is the frequency or likelihood of the flood events together with their consequences (such as loss, damage, harm, distress and disruption).
FRMS	Flood Risk Management System
Groundwater	Water occurring below ground in natural formations (typically rocks, gravels and sands)
Habitats Directive	The Habitats Directive is an EU directive in relation to wildlife and nature conservation, which aims to protect habitats and species which are considered to be of European interest.
LFRMS	Local Flood Risk Management Strategy
NPPF	National Planning Policy Framework
PPS	Planning Policy Statement
SAC	Special Areas of Conservation
Strategic Environmental Assessment (SEA)	Strategic Environmental Assessment
SuDS	Sustainable Drainage Systems

Appendix A – Full Policy Context Review

Plan	Key Messages	Relevant Strategic Environmental Assessment (SEA) Directive Topics
International		
Convention on Biological Diversity (1992)[15]	Set the target to achieve by 2010 a significant reduction of the current rate of biodiversity loss. The Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets, forms the overarching framework on biodiversity.	**Biodiversity**
The Habitats Directive (92/43/EEC)[16]	Requires the protection of species and habitats of EU nature conservation designation. The Directive requires that development can only be allowed where it does not impact on important sites that protect habitats otherwise compensation measures must be put in place.	**Biodiversity**
Birds Directive 2009/147/EC (codified version of 79/409/EEC)[17]	Provides for the protection of all naturally occurring wild bird species and their habitats, with particular protection of rare species. The Directive requires that measures are taken to preserve, maintain or re-establish a diversity of habitats for all the birds listed in Article I.	**Biodiversity**
The European Landscape Convention 2000 (signed 2006)[18]	Promotes various actions at the landscape scale ranging from strict conservation through protection, management and improvement to actual creation.	**Landscape**
Air Quality Framework Directive (96/62/EC)[19] and Air Quality Regulations[20]	The Directive of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe entered into force on 11 June 2008. This merged most existing legislation in to a single directive and sets limits for concentrations of pollutants in outdoor air. The Air Quality Standards Regulations	**Air, Human Health, Biodiversity**

15 For further information visit: http://www.cbd.int/default.shtml

16 Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna accessible via: http://ec.europa.eu/environment/nature/nature_conservation/eu_nature_legislation/habitats_directive/index_en.htm

17 Council Directive 2009/147/EC on the conservation of wild birds (codified version of 79/409/EEC)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:020:0007:0025:EN:PDF

18 http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape/default_en.asp

19 Framework Directive 92/62/EC on ambient air quality assessment and management accessible via: http://ec.europa.eu/environment/air/ambient.htm#1

20 Regulations transposing the Air Quality Framework directive are at: http://www.defra.gov.uk/environment/airquality/regulations.htm

	(2010) transpose into English law the requirements of Directives 2008/50/EC and 2004/107/EC on ambient air quality.	
The Water Framework Directive (2000/60/EC)[21]	Promotes an integral and coordinated approach to water management at the river basin scale. Also encourages protection of soil and biodiversity. Its aims are to: Prevent deterioration of aquatic ecosystems and associated wetlands; Promote the sustainable use of water; Reduce pollution of water; and introduce a co-ordinated approach to water management based on the concept of river basin planning.	**Biodiversity, Soil, Water**
EU Thematic Strategy for Soil (2006)[22]	Promotes the protection and sustainable use of soil.	**Soil**
The Kyoto Protocol (1997)[23]	Sets legally binding measures to achieve the objectives of the United Nations Framework Convention on Climate Change (UNFCC)	**Climatic Factors**
EU Thematic Strategy on the prevention and recycling of Waste (2005)[24]	Overall aim of Europe becoming a recycling society that seeks to avoid waste and uses waste as a resource.	**Climatic Factors, Human Health, Soil**
The Waste framework Directive (1975), Hazardous Waste Directive (1991) IPPC Directive (1996) and Landfill Directive (1999)[25]	Aims to ensure that all necessary measures have been taken to ensure that waste is recovered or disposed of without causing harm to human health or the environment	**Human Health, Soil**
The Convention for the Protection for the Architectural Heritage of Europe (The Granada Convention)[26]	The main purpose of the Convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation and is designed to foster practical co-operation among the Parties. It establishes the principles of "European co-ordination of conservation policies" including consultations regarding the thrust of the policies to be implemented.	**Cultural Heritage**
The European Convention on the Protection of Archaeological Heritage (The Valetta Convention)[27]	The revised Convention updates the provisions of a previous Convention (ETS No. 66) adopted by the Council of Europe in 1969.	**Cultural Heritage**

21 Directive 2000/60/EC of the European Parliament and the Council establishing a framework for the Community action in the field of water policy accessible via: http://ec.europa.eu/environment/water/water-framework/index_en.html

22 Http://ec.europa.eu/environment/soil/index.htm

23 http://unfccc.int/kyoto_protocol/items/2830.php

24 European Commission Thematic Strategy on the prevention and recycling of waste accessible via: hhttp://ec.europa.eu/environment/waste/strategy.htm

25 Access to these directives is via: http://ec.europa.eu/environment/waste/legislation/a.htm

26 http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=121&CM=1&CL=ENG

27 http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=1&CL=ENG

	The new text makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage. The Convention sets guidelines for the funding of excavation and research work and publication of research findings. It also deals with public access, in particular to archaeological sites, and educational actions to be undertaken to develop public awareness of the value of the archaeological heritage.	
National		
National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England[28]	Sets out a statutory framework that will help communities, the public sector and other organisations to work together to manage flood and coastal erosion risk	**Water**
The Wildlife & Countryside Act (1981) as amended (most notably by the Countryside and Rights of Way (CRoW) Act[29] (2000))	Principal instrument for the protection of Sites of Special Scientific Interest and endangered wildlife within the UK. The CRoW Act aims for increased public access to the countryside and strengthens protection for wildlife.	**Biodiversity**
UK Biodiversity Action Plan (1994)[30]	UK Response to the Convention on Biological Diversity. Sets out national and local biodiversity action plans. The aims of The Strategy are to ensure that: Construction, planning, development and regeneration have minimal adverse impacts on biodiversity and enhance it where possible; Biodiversity conservation is integral to sustainable urban communities, both on the built environment, and in parks and green spaces; and biodiversity conservation is integral to measures to improve the quality of people's lives.	**Biodiversity**

28 http://www.environment-agency.gov.uk/research/policy/130073.aspx

29 http://www.jncc.gov.uk/page-1377

30 http://www.ukbap.org.uk/

Biodiversity 2020: A Strategy for England's wildlife and ecosystem services (2002)[31]	Ensures biodiversity considerations become embedded in all the main sectors of economic activity, public and private. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea.	**Biodiversity**
The Government White Paper: Heritage Protection for the 21st Century (2007)32	To put the historic environment at the heart of the planning system.	**Cultural Heritage, Landscape**
Rural White Paper (2000) Our Countryside: The Future – A fair deal for Rural England33	Deals with the importance of understanding, evaluating and protecting countryside character and diversity.	**Landscape**
The Historic Environment: A Force for Our Future (2001)[34]	The full potential of the historic environment should be realised and it should be accessible to all.	**Cultural Heritage, Material Assets**
Safeguarding Our Soils: A Strategy for England (2009)[35]	Improve the quality of England's soils. The vision is that by 2030, all England's soils will be managed sustainably and degradation threats tackled successfully.	**Soil**
Water Act 2003[36]	Encourage more efficient use of water resources	**Water**
Soil Strategy for England (2009)[37]	Improve the quality of England's soils.	**Soil**
Flood and Water Management Act (2010)[38]	Will help to manage extreme weather events such as flooding and drought.	**Water**
The UK Climate Change Programme (2006)[39]	A suite of new and established measures were predicted to reduce UK carbon emissions to 15-18% below 1990 levels by 2010. Also promotes anticipatory adaptation.	**Biodiversity, Climatic Factors, Landscape, Population**

31 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf

32 http://www.culture.gov.uk/Reference_library/Consultations/2007_current_consultations/hpr_whitepaper07.htm

33 http://www.defra.gov.uk/rural/ruralwp/whitepaper/default.htm

34 http://www.culture.gov.uk/Reference_library/Publications/archive_2001/his_force_future.htm

35https://www.gov.uk/government/publications/safeguarding-our-soils-a-strategy-for-england

36 http://www.opsi.gov.uk/ACTS/acts2003/20030037.htm

37 http://www.defra.gov.uk/environment/land/soil/sap/index.htm

38 http://www.legislation.gov.uk/ukpga/2010/29/contents

39 http://www.defra.gov.uk/environment/climatechange/uk/index.htm

	The Climate Change Act legislates for climate change mitigation and adaption. It sets the requirements for the Climate Change Risk Assessment, the National Adaptation Programme and the Adaptation Reporting Power.	
Making Space for Water Taking forward a new Government strategy for flood & coastal erosion risk management (2004)[40]	Advocates a holistic approach to flooding, addressing all types of flooding together	**Climatic Factors**
Waste Strategy for England (2007)[41]	Promotes best practicable environmental option (BPEO), the waste hierarchy and the proximity principle. The strategy sets out an overall objective for England to achieve less waste, more material recovery, energy from waste and much less landfill.	**Population, Soil**
Directive 99/31/EC, Landfill Regulations (2002) and Amendment (2005)[42]	Sets a series of substantial targets for the reduction of biodegradable municipal waste gong to landfill	**Population, Soil**
Securing the Future: UK Government Sustainable Development Strategy (2005)[43]	This replaced an earlier strategy published in 1999 and aims to enable people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations	**All**
Natural Environment and Rural Communities Act (2006)[44]	Promote and enhance biodiversity. The Act stresses that biodiversity conservation should not be viewed solely as an environmental issue, but a core component of sustainable development, which underpins economic development and prosperity and offers a range of quality of life benefits across a range of local authority service areas.	**Biodiversity**
National Planning Policy Framework (2012)[45]	Sets out how planning should contribute to sustainable development. The Government is committed to protecting and enhancing the quality of the natural and historic environment, in both rural and urban areas. A high level of protection should be given to most valued townscapes, heritage assets and landscapes, wildlife habitats and natural resources. Those with national and international designations should receive the highest level of protection.	**All**

40 http://www.defra.gov.uk/environ/fcd/policy/strategy/htm

41 http://ww.defra.gov.uk/environment/waste/strategy/index.htm

42 Council Directive 99/31/EC on the landfill of waste and the landfill (England and Wales) Regulations 2002 and Amendment Regulations 2005 accessible via: http://www.opsi.gov.uk/SI/si2002/20021559.htm

43 http://www.sustainable-development.gov.uk/publications/uk-strategy/index.htm

44 http://www.legislation.gov.uk/ukpga/2006/16/contents

45 http://www.communities.go.uk/planningandbuilding/planningsystem/planningpolicy/planningpolicyframework/

	Development plan policies should take account of environmental issues such as the 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.	
	Proactive strategies should be adopted to mitigate and adapt to climate change, taking full account of flood risk and water supply and demand considerations.	**Biodiversity, Climatic Factors, Landscape**
	The planning system should contribute to and enhance the natural and local environment by: • recognising the wider benefits of ecosystem services; and • minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.	**Biodiversity**
	Heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance.	**Cultural Heritage, Material Assets**
	Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.	**Biodiversity, Human Health, Landscape, Soil**
	The planning system should contribute to and enhance the natural and local environment by: • preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and • remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.	**Soil, Water**
	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. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change.	**Landscape, Material Assets, Water**

Planning (Listed Buildings and Conservation Areas) Act 1990	Highlights the special controls to be considered with respect to buildings and areas of special architectural or historic interest.	**Cultural Heritage**
Ancient Monuments and Archaeological Areas Act (1979)	Highlights the special controls to be considered with respect to ancient monuments; and the need to make provision for the investigation, preservation and recording of matters of archaeological or historic interest.	**Cultural Heritage**
County/Local		
Regional Spatial Strategy for the West Midlands (2008)[46]	Sets out the long term spatial planning framework for the region. The Plan is a key tool to help achieve more sustainable development, protect the environment and combat climate change. It provides a spatial context within which Local Development Frameworks and Local Transport Plans need to be prepared, as well as other regional and sub-regional strategies and programmes that have a bearing on land use activities. These include the regional economic and housing strategies as well as strategies and programmes that address air quality, biodiversity, climate change, education, energy, community safety, environment, health and sustainable development. In addition, policies in this Plan carry weight in decisions made on planning applications and appeals for development. The RSS was revoked May 2013.	All
Staffordshire and Stoke-on-Trent Structure Plan[47]	This sets the strategic planning policies to guide decisions about development in Staffordshire. Revoked May 2013.	All
Staffordshire and Stoke-on-Trent Minerals Local Plan with 'saved' policies beyond 28 September 2007[48]	The Adopted Minerals Local Plan sets out the mineral planning policies to guide decisions about mineral development in Staffordshire. A new emerging minerals local plan will set out the vision, objective and spatial strategy for future mineral related development within Staffordshire over the next 15 years, to ensure consistency with the NPPF.	All

46 http://www.wmra.gov.uk/documents/RSS%20Full%20Doc%20Jan%2008.pdf?bcsi_scan_AB11CAA0E2721250=0&bcsi_scan_filename=RSS%20Full%20Doc%20Jan%2008.pdf

47 http://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/structureplan/structurePlan.aspx

48 http://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/mineralslocalplan/mineralsLocalPlan.aspx

Staffordshire and Stoke-on-Trent Joint Waste Local Plan 2010-2026[49]	This was adopted on 22nd March 2013 and sets the vision, objectives and spatial strategy to guide decisions about development of waste management facilities up to 2026.	All
District and Borough Council Local Plans	Staffordshire County has two tiers of Local Government which, in addition to the County Council also comprises eight District/Borough Councils: • Newcastle-under-Lyme Borough; • Tamworth Borough; • South Staffordshire District; • Cannock Chase District; • Lichfield District; • Stafford Borough; • Staffordshire Moorlands District; and • East Staffordshire District The current development plan for these borough and district councils includes either their adopted local plans or adopted Core Strategies. The Council use these plans to make decisions about planning applications, as well as to set the longer-term vision for future development. The new local plans being developed, when adopted, will contain the vision and strategic objectives for the districts and boroughs as well as the core policies for the next 20 years.	All
Planning for Landscape Change Supplementary Planning Guidance	This guidance is for planning officers in the Staffordshire and Stoke-on-Trent Structure Plan area, and for developers and others who need to be informed about policy and practice for the conservation, enhancement and regeneration of the rural landscapes of the Plan area. It may also prove to be of value in a wider context, in terms of land use and land management. This was adopted on 10 May 2001 as Supplementary Planning Guidance to the Staffordshire and Stoke-on-Trent Structure Plan 1996-2011.	Landscape, Cultural Heritage, Soil

49 http://www.staffordshire.gov.uk/environment/planning/policy/thedevelopmentplan/wastelocalplan/wasteLocalPlan.aspx

Staffordshire Biodiversity Action Plan[50]	The Staffordshire Biodiversity Action Plan (SBAP) has been in place since 1998 in order to co-ordinate conservation efforts in delivering the UK BAP targets at a more local level. This sets out strategies for conservation projects and provides ecological objectives and targets. It has led to the protection, enhancement and creation of many threatened habitats and provided a framework for effectively monitoring species recovery. The Ecosystem Action Plans (EAPs) which have been developed work at a landscape level, or ecosystems approach. They aim to benefit ecological networks, habitats and species and allow for greater resilience to climate change. They focus conservation efforts on the areas within the county that will result in the greatest benefit for ecological networks, habitats and species. By integrating biodiversity objectives with other environmental, social and economic needs, the SBAP aims to provide a sustainable living and working environment that benefits both people and nature. The following EAPs have been developed: Cannock Chase Heaths; Central Farmland; Central Heaths & Woods; Churnet Woodlands; Limestone; Meres & Mosses; Moorland; Needwood Woods & Parklands; River Gravels; Southern Heaths; Southern Parklands; Species-rich Farmland; Urban; Wooded Quarter; and Rivers, Canals & Streams.	Biodiversity, Landscape, Soil, Water, Climate Change
Cannock Chase AONB Management Plan 2009-2014[51]	The Area of Outstanding Natural Beauty (AONB) Management Plan is a statutory document which sets out the importance of Cannock Chase and how the area should be managed with regard to landscape, visitors, education and awareness and quality. The plan is now agreed. An Appropriate Assessment has been undertaken for the plan which concluded that there could potentially be positive effects upon the biodiversity of the area.	All
Staffordshire Preliminary Flood Risk assessment (PFRA) (March 2011)[52]	PFRAs have been produced to fulfill statutory requirements in the Flood Risk Regulations 2009, which implement the requirements of the European Floods Directive. PFRAs have been produced by lead local flood authorities (LLFAs) in England and Wales. The Staffordshire PFRA includes a: • summary of information on significant historic floods; and a • summary of information on future flood risks.	Human Health, Material Assets, Water

50 http://www.sbap.org.uk/

51 http://www.cannock-chase.co.uk/AONBMP.pdf

52 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

Appendix B – Full Baseline Review

1. Biodiversity

Policy context

The Habitats Directive[53] seeks to protect habitats and species of European importance and requires Member States to take measures to maintain or restore natural habitats and species at a favourable conservation status. At the national level, the Wildlife and Countryside Act (1981) (as amended)[54] provides for the protection of Sites of Special Scientific Interest (SSSIs) and protects listed species. Under the provisions of the Natural Environment and Rural Communities (NERC) Act (2006)[55] every public authority must, in exercising its functions, have regard to the purpose of conserving biodiversity. Within the Natural Environment and Rural Communities (NERC) Act conservation of biodiversity encompasses the restoration and enhancement of species populations and habitats, in addition to protection.

The National Planning Policy Framework (NPPF) (2012)[56] states that impacts from development on biodiversity should be minimised and net gains in biodiversity should be provided where possible. Coherent ecological networks that are more resilient to current and future pressures should be established. The NPPF refers to 'priority habitats and species' as listed in Section 41 of the Natural Environment and Rural Communities Act.

The Staffordshire Biodiversity Action Plan (SBAP)[57] has been in place since 1998. It sets out strategies for conservation projects and has led to the protection, enhancement and creation of many threatened habitats. Ecosystem Action Plans (EAPs) have been developed for Staffordshire to work at a landscape level, or ecosystems approach. They focus conservation efforts on the areas within Staffordshire that will result in the greatest benefit for ecological networks, habitats and species. By integrating biodiversity objectives with other environmental, social and economic needs, the SBAP aims to provide a sustainable living and working environment that benefits both people and nature.

Environmental Protection Objectives

The following objectives have been identified as relevant to this sustainability topic from a review of international, EU and national objectives:

Bern Convention on the Conservation of European Wildlife and Natural Habitats, 1979[58]:

53 Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna accessible via: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/

54 http://www.jncc.gov.uk/page-1377

55 http://www.legislation.gov.uk/ukpga/2006/16/contents

56 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

57 http://www.sbap.org.uk/

58 http://conventions.coe.int/Treaty/en/Treaties/Word/104.doc

- To protect endangered species and their habitats.

Ramsar Convention on Wetlands (1971)[59]

- To maintain the ecological character of Wetlands of International Importance and to plan for the 'wise use,' or sustainable use of all the wetlands within the member countries.

Countryside and Rights of Way Act 2000 (CRoW)[60]

- To make new provision for public access to the countryside. It amends the law relating to public rights of way, increased measures for the management and protection for Sites of Special Scientific Interest (SSSIs) and strengthens wildlife enforcement legislation, and provides for better management of Areas of Outstanding Natural Beauty (AONBs).

The Natural Environment White Paper (NEWP)[61]:

- To create a green economy in which economic growth and the health of our natural resources sustain and enhance each other and markets, business and Government better reflect the value of nature.

Natural Environment and Rural Communities Act 2006[62]

- To ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations.

Wild Birds Directive 2009/147/EC[63]:

- To protect all naturally occurring wild bird species and their habitats, with particular protection of rare species.

Bonn Convention on the Conservation of Migratory Species of Wild Animals, 1979[64]:

- To protect threatened animals that migrate across national boundaries and/or the high seas.

Habitats Directive 92/43/EEC, 1992[65]:

- To protect important natural habitat (listed in Annex I, amended in Directive 97/62/EC) and species (listed in Annex II), using measures to maintain or restore their "favourable conservation status", principally through the designation of Special Protection Areas and Special Areas

59 http://www.ramsar.org/cda/en/ramsar-about-mission/main/ramsar/1-36-53_4000_0__
60 http://www.legislation.gov.uk/ukpga/2000/37/contents
61 Defra (2012) The Natural Choice: securing the value of nature (Natural Environment White Ppaer) http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf
62 http://www.legislation.gov.uk/ukpga/2006/16/pdfs/ukpga_20060016_en.pdf
63 Council Directive 2009/147/EC on the conservation of wild birds (codified version of 79/409/EEC)
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:020:0007:0025:EN:PDF
64 http://www.cms.int/documents/convtxt/cms_convtxt.htm
65Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna accessible via: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/

of Conservation, but also (through land-use and development policies) by management of the landscape features of importance to wildlife outside SPAs and SACs; and

- To safeguard species needing strict protection (Annex IV). This Directive is transposed into UK law through the Conservation (Natural Habitats &c.) Regulations, 1994.

The EU Sixth Environmental Action Plan 2002[66]:

- Focuses attention on four priority areas for action: Tackling climate change; nature and biodiversity; environment and health; and natural resources and waste.

A 7th Environmental Action Plan is currently being developed. The Commission proposes to include nine priority objectives, which will include three thematic priority objectives intended to protect nature and strengthen ecological resilience, boost sustainable resource-efficient low-carbon growth and effectively address environment-related threats to health.

The Wildlife and Countryside Act 1981[67] (as amended by the Countryside Rights of Way Act 2000[68]):

- Part I is concerned with the protection of wildlife;
- Part II relates to the countryside and national parks (and the designation of protected areas);
- Part III covers public rights of way; and
- Part IV deals with miscellaneous provisions of the Act.

Baseline Review

There are several designated sites within Staffordshire that could be affected by the results of The Strategy. The Staffordshire Preliminary Flood Risk Assessment (PFRA)[69] reports that the Environment Agency has provided the following list of key sites to be at risk of flooding from surface water:

Ramsar sites:

- Midland Meres and Mosses Phase 1 has a total area of 6.2% at risk of surface water flooding; and
- Midland Meres and Mosses Phase 2 has a total area of 1.4% at risk of surface water flooding.

Special Areas of Conservation (SAC):

66 http://ec.europa.eu/environment/newprg/intro.htm

67 http://www.legislation.gov.uk/ukpga/1981/69/pdfs/ukpga_19810069_en.pdf

68 http://www.legislation.gov.uk/ukpga/2000/37/contents

69 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

- Cannock Extension Canal;
- Mottey Meadows;
- West Midlands Mosses;
- Cannock Chase;
- River Mease;
- South Pennines Moors;
- Pasturefields Salt Marsh, and;
- Peak District Dales.

Special Protection Areas (SPAs):

- Peak District Moor (South Pennine Moors Phase 1).

Sites of Special Scientific Interest (SSSIs):

- A total of 49.4% of the area classified as Sites of Special Scientific Interest (SSSIs) within the county of Staffordshire is at risk of surface water flooding.

Table 1-1 lists the designated Special Areas of Conservation (SAC) within Staffordshire which could be affected by The Strategy, the reasons for designation and their existing condition.

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
Cannock Chase	Designated Special Area of Conservation (SAC)	Annex I habitats that are a primary reason for selection of this site • European dry heaths. The area of lowland heathland at Cannock Chase is the most extensive in the Midlands, although there have been losses due to fragmentation and scrub/woodland encroachment. The character of the vegetation is intermediate between the upland or northern heaths of England and Wales and those of southern counties. Dry heathland communities belong to NVC types H8 *Calluna vulgaris – Ulex gallii* and H9 *Calluna vulgaris – Deschampsia flexuosa* heaths. Within the heathland species of northern latitudes occur, such as cowberry *Vaccinium vitis-idaea* and crowberry *Empetrum nigrum*. Cannock Chase has the main British population of the hybrid bilberry *Vaccinium intermedium*, a plant of restricted occurrence. There are important populations of butterflies and beetles, as well as European

70 http://www.jncc.gov.uk/ProtectedSites/

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
		nightjar *Caprimulgus europaeus* and five species of bats. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • North Atlantic wet heaths with *Erica tetralix*
Cannock Extension Canal	Designated Special Area of Conservation (SAC)	Annex II species that are a primary reason for selection of this site • Floating water-plantain *Luronium natan.* Cannock Extension Canal in central England is an example of anthropogenic, lowland habitat supporting floating water-plantain *Luronium natans* at the eastern limit of the plant's natural distribution in England. A very large population of the species occurs in the Canal, which has a diverse aquatic flora and rich dragonfly fauna, indicative of good water quality. The low volume of boat traffic on this terminal branch of the Wyrley and Essington Canal has allowed open-water plants, including floating water-plantain, to flourish, while depressing the growth of emergents.
Mottey Meadows	Designated Special Area of Conservation (SAC)	Annex I habitats that are a primary reason for selection of this site • Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*). Mottey Meadows represents lowland hay meadows in the English Midlands, and holds a relatively large area of the habitat (approximately 40 ha). The site contains grassland with limited influence of agricultural intensification and so demonstrates good conservation of structure and function. There are transitions to other dry and wet grassland types. The site is important for a range of rare meadow species, including fritillary *Fritillaria meleagris* at its most northerly native locality.
Pasturefields Salt Marsh	Designated Special Area of Conservation (SAC)	Annex I habitats that are a primary reason for selection of this site • Pasturefields Salt Marsh in the West Midlands is the only known remaining example in the UK of a natural salt spring with inland saltmarsh vegetation. The vegetation consists of red fescue *Festuca rubra*, with common saltmarsh-grass *Puccinellia maritima*, lesser sea-spurrey *Spergularia marina*, saltmarsh rush *Juncus gerardii* and sea arrowgrass *Triglochin maritimum* in the most saline situations.
Peak District Dales	Designated Special Area of Conservation (SAC)	Annex I habitats that are a primary reason for selection of this site • Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*). Peak District Dales is one of the most extensive surviving areas in England of CG2 *Festuca ovina – Avenula pratensis* grassland. Grasslands at this site range from hard-grazed short turf through to

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
		tall herb-rich vegetation, with transitions through to calcareous scrub and *Tilio-Acerion* forests – a diversity of structural types unparalleled in the UK. There is also a great physical diversity due to rock outcrops, cliffs, screes and a variety of slope gradients and aspects. In contrast to examples of *Festuca – Avenula* grassland on chalk to the south, these grasslands are less at risk from the threat of invasion by upright brome *Bromopsis erecta* and tor-grass *Brachypodium pinnatum*, which are at the edge of their range here and have limited vigour. The relatively cold oceanic nature of the climate means that there is enrichment with northern floristic elements, such as limestone bedstraw *Galium sterneri* and globeflower *Trollius europaeus*. • Tilio-Acerion forests of slopes, screes and ravines. Representing the north-central part of its UK range, this site in the English Midlands contains a large area of *Tilio-Acerion*, dominated by ash *Fraxinus excelsior*. Locally, sycamore *Acer pseudoplatanus* is abundant. The Dales provide good examples of woodland-scrub-grassland transitions, with associated rich invertebrate populations and plant communities. Among the uncommon plants present in the woods are mezereon *Daphne mezereum* and green hellebore *Helleborus viridis*, as well as whitebeams *Sorbus* spp. on the crags. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • European dry heaths • Calaminarian grasslands of the *Violetalia calaminariae* • Alkaline fens • Calcareous and calcshist screes of the mountain to alpine levels (*Thlaspietea rotundifolii)* • Calcareous rocky slopes with chasmophytic vegetation Annex II species that are a primary reason for selection of this site • White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes.* The River Dove represents white-clawed crayfish *Austropotamobius pallipes* in a high-quality, upland limestone river in the north-east of the species' UK range. Annex II species present as a qualifying feature, but not a primary reason for site selection • Brook lamprey *Lampetra planeri* • Bullhead *Cottus gobio*

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
River Mease	Designated Special Area of Conservation (SAC)	Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site • Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. Annex II species that are a primary reason for selection of this site • Spined loach *Cobitis taenia*. The River Mease is a good example of a riverine population of spined loach Cobitis taenia. It is a small tributary of the River Trent and has retained a reasonable degree of channel diversity compared to other similar rivers containing spined loach populations. It has extensive beds of submerged plants along much of its length which, together with its relatively sandy sediments (as opposed to cohesive mud) provides good habitat opportunities for the species. • Bullhead *Cottus gobio.* The Mease is an example of bullhead *Cottus gobio* populations in the rivers of central England. Bed sediments are generally not as coarse as other sites selected for the species, reflecting the nature of many rivers in this geographical area, but are suitable in patches due to the rivers retained sinuosity. The patchy cover from submerged macrophytes is also important for the species. Annex II species present as a qualifying feature, but not a primary reason for site selection • White-clawed (or Atlantic stream) clayfish *Austropotamobius pallipes* • Otter *Lutra lutra* The River Mease is required to achieve 'favourable conservation status' by 2028 in line with the Habitats Directive, and 'good' chemical, biological and physical status by 2015 in line with the WFD[71]
West Midlands Mosses	Designated Special Area of Conservation (SAC)	Annex I habitats that are a primary reason for selection of this site • Natural dystrophic lakes and ponds. West Midlands Mosses contains three pools, one at Clarepool Moss and two at Abbots Moss, that are examples of dystrophic lakes and ponds in the lowlands of England and Wales, where this habitat type is rare. The lake at Clarepool Moss is unusual as a dystrophic type on account of its relatively base-rich character, which is reflected in the presence of a diverse fauna and flora. The two at Abbots Moss are more typical, base-poor examples. The dystrophic lakes and ponds at this site are associated with Schwingmoor development, a characteristic of this habitat type

71 http://www.lichfielddc.gov.uk/info/856/local_plan/1014/evidence_base item 44 'Evidence Base relating to Rivers'

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
		in the West Midlands. Schwingmoor is an advancing floating raft of bog-moss *Sphagnum*, often containing NVC type M3 *Eriophorum angustifolium* bog pool community, which grows from the edge of the pool and can completely cover over the pool; the site has also been selected for this Annex I feature. • Transition mires and quaking bogs. West Midlands Mosses represents Schwingmoor vegetation. Floating rafts of *Sphagnum*-dominated vegetation have developed over semi-liquid substrates within basins. In the UK this type of *Sphagnum*-dominated vegetation with a scatter of sedges *Carex* species and cranberry *Vaccinium oxycoccos* is confined to this part of England and mid-Wales.
Midland Meres and Mosses Phase 1	Designated Ramsar Site	The site comprises a diverse range of habitats from open water to raised bog. Supports a number of rare species of plants associated with wetlands including five nationally scarce species together with an assemblage of rare wetland invertebrates (three endangered insects and five other British Red Data Book species of invertebrates).
Midland Meres and Mosses Phase 2	Designated Ramsar Site	The site comprises a diverse range of habitats from open water to raised bog. Supports a number of rare species of plants associated with wetlands, including the nationally scarce cowbane Cicuta virosa and, elongated sedge Carex elongata. Also present are the nationally scarce bryophytes Dicranum affine and Sphagnum pulchrum. Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth Glyphipteryx lathamella, the caddisfly Hagenella clathrata and the sawfly Trichiosoma vitellinae.
Allimore Green Common	Designated SSSI 100% meeting PSA target 100% area unfavourable recovering	A small but unusually species-rich piece of unimproved lowland grassland. Acidic marshy grassland on poorly drained boulder clay with an outstanding flora including many uncommon and locally rare plants. It supports an assemblage of notable microlepidoptera. The major area is a mosaic of vigorous plants such as purple moor-grass Molinia caerulea, soft rush Juncus effusus, hard rush J. inflexus, meadowsweet Filipendula ulmaria, brown sedge Carex disticha and meadow thistle Cirsium dissectum, within a mixture of common pasture grasses. Drier patches where the soil has a higher lime content, show marked floristic differences with fairy flax Linum catharticum, common milkwort Polygala vulgaris, and quaking-grass Briza media. At the

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
		northern end there is a gradation to wet neutral grassland dominated by rough meadow-grass Poa trivialis and creeping buttercup Ranunculus repens. Some 140 species of flowering plants are present including such uncommon species as fragrant orchid Gymnadenia conopsea, grass of parnassus Parnassia palustris, bluntflowered rush Juncus subnodulosus, bog pimpernel Anagallis tenella, marsh helleborine Epipactis palustris and slender spike-rush Eleocharis uniglumis. The two last named are not known to occur elsewhere in the county.
Aqualate Mere	Designated SSSI 72.48% meeting PSA target 27.26% area favourable 45.22% area unfavourable recovering 27.52% area unfavourable no change	Aqualate Mere is the largest of the meres with the most extensive reedswamp community. The mere and its surrounds form a complex of open water, fen, grassland and woodland unrivalled in Staffordshire for the variety of natural features of special scientific interest. The esker formation on the north side of the mere is of national geomorphological importance in its own right. The large area and juxtaposition of semi natural habitats supports an outstanding assemblage of beetles, moths and sawflies. The site has nationally important numbers of breeding herons Ardea cinerea and passage shoveler Anas clypeata and is regionally significant for breeding waders.
Loynton Moss	Designated SSSI 100% area meeting PSA target 100% area unfavourable recovering	Loynton Moss is a largely wooded basin mire on the site of a former mere occupying a glacial kettle hole. There is a range of successional woodland and scrub communities and mixed tall fen on nutrient-rich peat, a situation unique in Staffordshire. These wetland habitats are nationally rare and have been greatly reduced in extent by conflicting land uses. More than half of the original Moss was drained and cultivated in 1970. What remains is in a state of transition, however it supports a rich flora and fauna including several wetland plants and insects of very restricted distribution in the county. There is an outstanding assemblage of moths and butterflies.
Mottey Meadows	Designated SSSI 100% area meeting PSA target 100% area favourable	The site is important because of its large size, variety of grassland community types and presence of rare species. Furthermore it contains an extensive example of an alluvial flood meadow. Alluvial flood meadows occur in river valleys of southern and central England and are now much reduced in extent. At Mottey Meadows they occupy the greater part of the site and overlie free-draining soils subject to winter flooding. The sward is typically rich in species, including mosses, and many grasses such as meadow foxtail Alopecurus pratensis, sweet vernal Anthoxanthum odoratum, and tall fescue Festuca arundinacea. Characteristic herbs are great burnet Sanguisorba officinalis, pepper saxifrage Silaum silaus, meadowsweet Filipendula ulmaria, saw-wort Serratula tinctoria and devilÕs bit scabious

Table 1-1: Condition of Example Designated Areas that could be affected by The Strategy[70]

Site	Condition/Status	Designated for
		Succisa pratensis. Unusually, a few woodland plants also occur such as wood anemone Anemone nemorosa and goldilocks Ranunculus auricomus.

There are 65 Sites of Special Scientific Interest (SSSIs) in Staffordshire, covering a total of 8,687 ha[72]. Sites of Special Scientific Interest (SSSIs) are designated for either their biological or geological interest. Local Sites are sites of substantive nature conservation value or geological interest. In Staffordshire, Local Sites consist of Local Wildlife Sites (LWS), formerly known as County Wildlife Sites, and Regionally Important Geological Sites (RIGS).

In addition to the designated sites discussed above, Staffordshire also contains many habitats identified in the UK Biodiversity Action Plan, as outlined below[73]:

Woodlands

- **Wood Pasture and Parkland:** important for veteran trees, invertebrates and bats. Found mainly on old estates.
- **Native Woodland:** includes both ancient and recent woodland, and those of planted or semi-natural origin.
- **Lowland Mixed Deciduous Woodland**: includes woodland growing on the full range of soil conditions, from very acidic to base-rich.
- **Wet Woodland:** restricted distribution, likely to be adjacent to waterbodies or part of a mosaic of wetland habitats. May support otter or rare invertebrates.

Farmland, grassland and heathland

- **Ancient/Diverse Hedgerows:** a mix of native plants which provide habitat for a rich diversity of species.
- **Arable Field Margins:** strips around field edges managed to provide benefits for wildlife. This can provide important food sources for birds and invertebrates.
- **Lowland Acid Grassland**: associated with sandy soils like those on the Bridgnorth Sandstone Formation. Important for rare plants and invertebrates. Sensitive to nutrient changes.
- **Lowland Calcareous Grassland**: a key habitat, associated with areas of chalk and limestone geology such as in the Weaver Hills. Flower-rich,

72 publications.naturalengland.org.uk/file/4003593

73 http://www.sbap.org.uk/index.php

important for invertebrates (particularly butterflies). Sensitive to nutrient changes.

- **Lowland Heathland:** of restricted distribution, important for reptiles and invertebrates found on Cannock Chase Site of Special Scientific Interest (SSSI).
- **Lowland Wet Grassland:** areas of wet unimproved grassland occurring within major inland river floodplains.
- **Unimproved Neutral Grassland:** present in the form of meadows and pastures that occur on soils that are neither markedly acid nor basic, and have not been subject to any significant degree of agricultural intensification.

Wetlands

- **Ponds, Lakes and Canals**: rich in plants and invertebrates. Likely to be breeding sites for amphibians. Sensitive to changes in hydrology and nutrient status.
- **Reedbeds**: restricted distribution. Important for birds, may support water voles or rare plants. Sensitive to changes in hydrology.
- **Rivers and Streams:** provide important wildlife corridors. Likely to support water vole, otter, and a variety of invertebrates.
- **Inland Saltmarsh**: a rare habitat type located away from coasts. Natural salt spring with inland saltmarsh vegetation.
- **Mosses**: important botanical communities adapted to grow in hostile environments which support rich invertebrate fauna.

The following EAPs have been developed in conjunction with the Staffordshire Biodiversity Action Plan (SBAP), to prioritise conservation management at a landscape level and contribute to local, regional and national conservation targets:

- Cannock Chase Heaths;
- Churnet Woodlands;
- Farmland;
- Heathland;
- Limestone;
- Meres and Mosses;
- Moorland;

- Needwood Woods and Parkland;
- Southern Woodpastures;
- Species Rich Farmland;
- Urban;
- Wooded Quarter; and
- Woodland/heathland potential

Likely Future Conditions
It is assumed that the number of international and national designated sites in the county is unlikely to alter substantially in the foreseeable future. The Staffordshire Biodiversity Action Plan (SBAP) sets out strategies for conservation projects which are likely to lead to the protection, enhancement and creation of many threatened habitats and species within Staffordshire which could improve the condition of biodiversity sites.

Key Environmental Issues
The key environmental issues identified are:

- Staffordshire's SACs which are at risk of flooding, such as Pasturefields Salt Marsh and the European sites such as designated Ramsar sites and Sites of Special Scientific Interest (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 Preliminary Flood Risk Assessment (PFRA) which are at risk of future flooding from surface water would need careful management;
- 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. Consultation with Natural England, Staffordshire Ecological Record and Staffordshire County Council Environmental Advice Team should facilitate the identification of mechanisms to ensure that biodiversity is taken into account, within and outwith designated sites.

2. Cultural Heritage

Policy Context

At the national level, the Government White Paper: Heritage Protection for the 21st Century (2007)[74] seeks to put the historic environment at the heart of the planning system. The NPPF recognises that heritage assets are an irreplaceable resource and should be conserved and enhanced in a manner appropriate to their significance, in order that they can be enjoyed for their contribution to the quality of life of current and future generations. The NPPF defines significance as *"the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting".*

Environmental Protection Objectives

European Landscape Convention (2000)[75]:

- Commits the UK to "recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity".

The Convention for the Protection for the Architectural Heritage of Europe (The Granada Convention)[76]

- Reinforces and promotes policies for the conservation and enhancement of Europe's heritage.

The European Convention on the Protection of Archaeological Heritage (The Valetta Convention)[77]

- Makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage.

Ancient Monuments and Archaeological Areas Act (1979)[78]:

- Provides for nationally important archaeological sites to be statutorily protected as "scheduled ancient monuments" (now Scheduled Monuments).

Planning (Listed Buildings and Conservation Areas) Act (1990)[79]:

74 https://www.gov.uk/government/publications/heritage-protection-for-the-21st-century-white-paper

75 http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm

76 http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=121&CM=1&CL=ENG

77 http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=143&CM=1&CL=ENG

78 http://www.legislation.gov.uk/ukpga/1979/46

79 http://www.legislation.gov.uk/ukpga/1990/9/contents

- Provides specific protection for buildings and areas of special architectural or historic interest.

Baseline Review
Part of the ancient Kingdom of Mercia, Staffordshire has a rich base of heritage assets. Within Staffordshire there are[80]:

- 78 Grade I Listed Buildings;
- 341 Grade II* Listed Buildings;
- 4617 Grade II Listed Buildings;
- 20 Registered Parks & Gardens;
- 2 Battlefields – Blore Heath and Hopton Heath81;
- 279 Scheduled Monuments; and
- 166 Conservation Areas.

However, many of these assets are considered to be 'at risk'[82]. The main risk to the scheduled monuments is through inappropriate management such as arable ploughing. There are also issues related to deterioration, animal burrowing, overgrown vegetation and visitor erosion. A full list of heritage assets at risk is detailed in Appendix B.

The Staffordshire Preliminary Flood Risk Assessment (PFRA)[83], reports that the Environment Agency has provided the following list of key sites at risk of flooding from surface water:

Registered Parks and Gardens

- Patshull Hall has a total area of 7.8% at risk of surface water flooding.

Likely Future Conditions
There are unlikely to be substantial changes to the historic and cultural heritage environment given its importance and value in Staffordshire. Cultural heritage assets are likely to continue to be conserved and, overall, cultural heritage assets are likely to remain an important economic, social and environmental feature of Staffordshire.

Key Environmental Issues
The key environmental issues identified are:

80 http://hc.english-heritage.org.uk/content/pub/2012/hc-2012-west-midlands.pdf
81 http://list.english-heritage.org.uk/results.aspx
82 http://www.english-heritage.org.uk/publications/har-2011-registers/acc-wm-HAR-register-2011.pdf
83 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

- A range of heritage assets are likely to be at risk of flooding, which may result in harm to or loss of their significance. This may be as a result of direct flood damage as well as inappropriate remedial works;
- 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
- Securing the sustainable reuse of heritage assets, including those identified as at risk, may be hindered by their location in high flood risk areas

3. Human Health

Policy Context

At the national level, the UK Government Sustainable Development Strategy (2005)[84] aims to enable people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The NPPF recognises that access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.

The Staffordshire PFRA assesses surface water flooding and identifies any flood risk areas of national significance and of local significance within Staffordshire. This fulfils the statutory requirements in the Flood Risk Regulations 2009 and includes a summary of information on significant historic floods in Staffordshire, as well as a summary of information on future flood risks. The West Midlands Flood Risk Area is an area where there is a significant risk of flooding from local sources, such as surface water, ground water and ordinary watercourses. Some of this flood risk area falls within the county of Staffordshire in the southern edges of South Staffordshire District and Lichfield District councils. The Preliminary Flood Risk Assessment (PFRA) reports that there are a number of human health consequences, within the county of Staffordshire, from flooding in this Flood Risk Area, which includes risk of flooding to 221 residential properties, 517 people and 1 critical service.

The Health Protection Agency has published health advice following floods[85] which outlines that the main threats to health during and immediately after a flood are drowning and injuries caused by accidents in flowing water. In addition to this, mental health and wellbeing can be affected after the flood event.

Baseline Review

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. Over the last 10 years, all-cause mortality rates have fallen. Early death rates from cancer and from heart disease and stroke have also fallen.

19.5% of children in Year 6 are classified as obese. Staffordshire's estimated levels of adult 'healthy eating' and obesity are worse than the England average. Rates of road injuries and deaths, smoking related deaths and hospital stays for alcohol related harm are better than the England average.

Deprivation is lower than average in Staffordshire when compared to the England average, however, approximately 23,100 children live in poverty.

84 https://www.gov.uk/government/publications/securing-the-future-delivering-uk-sustainable-development-strategy

85 http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947339369

Priorities in Staffordshire include reducing alcohol related harm, increasing healthier choices and reducing levels of obesity. Supporting the aging population, in particular reducing the number of falls and excess winter deaths, is of high priority[86].

Likely Future Conditions

The health and levels of deprivation of people in Staffordshire are likely to continue to deviate slightly from the national average in line with the current baseline described in section 7.2.

Key Environmental Issues

The key environmental issues identified are:

- Flooding can result in effects on both physical and psychological health, which could exacerbate existing health issues. Repeated flooding can be a particular issue in relation to psychological health and well-being; 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 Preliminary Flood Risk Assessment (PFRA).

86 www.apho.org.uk/resource/view.aspx?RID=127047

4. Material Assets

Policy Context

At the national level, Securing the Future: UK Government Sustainable Development Strategy (2005)[87] seeks to enable people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The NPPF sets out how planning should contribute to sustainable development. And states that a high level of protection should be given to most valued townscapes and landscapes; those with national and international designations should receive the highest level of protection. It also recognises that heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance and that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. Where development is necessary, it should be made safe without increasing flood risk elsewhere. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property. They should also manage any residual risk, taking account of the impacts of climate change.

At the regional level, the Staffordshire Preliminary Flood Risk Assessment (PFRA) (2011) identifies that flooding can, and has, caused locally significant consequences to local communities in Staffordshire.

Baseline Review

Staffordshire has the largest population of all the shire counties in the West Midlands[88]. It influences travel to work patterns in areas outside of Staffordshire, with 16% of the county's workforce living outside of the county.

The county is well connected to the road and rail network and over the last 10 years[89], the condition of the highway network in Staffordshire has improved significantly. Staffordshire transport routes include:

- M6 going north-south;
- M54 going east-west to Telford;
- West Coast Mainline which runs north-south providing connections to London, Birmingham, Manchester and Liverpool;
- 22 rail stations; and
- Five international airports within a two-hour road journey[90].

Using the criteria of greater than 20 properties flooded and more than one commercial property or one or more critical infrastructure flooded or more than

87 https://www.gov.uk/government/publications/securing-the-future-delivering-uk-sustainable-development-strategy

88 http://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/staffordshirelocaltransportplan2011-strategyplan.pdf

89 ttp://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/staffordshirelocaltransportplan2011-strategyplan.pdf

90 http://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/staffordshirelocaltransportplan2011-strategyplan.pdf

one transport route closed for six hours or more, the Staffordshire PFRA[91] reports on four recent flood events in Staffordshire noted as having significant harmful consequences and a more recent example of 2012 is also listed below:

- Autumn 2000: this flood led to a total of 70 properties becoming flooded in the county and resulted in a number of commercial properties being flooded along with a school (externally). The A51, A5 and Stoke on Trent-Derby railway line were also closed as a result of the flooding;
- August 2004: this flood led to a total of 70 properties becoming flooded, a shop and a school. The A34 at Stone was also closed;
- June/July 2007: this flood led to a total of 500 properties becoming affected as well as a number of commercial properties (including livestock), sheltered accommodation and a residential home becoming flooded. The A34, A4091, A50 and A51 were also closed as a result; and
- October 2010: this flood led to more than 25 properties being flooded, a public house and the B5044 and U2067 were closed.
- Summer 2012; widespread localised flooding was experienced across the County resulting in flooded properties and closed major transport routes. Communities which were particularly affected include Huntington and Lower Tean. In Stafford Sandon Road was closed where it crosses the Sandyford Brook and at Meaford the A34 was closed on two separate occasions[92].

Likely Future Conditions
Flooding has caused significant disruption to transport links within Staffordshire in the last ten years which has led to road and railway closures. Without intervention, it is likely that this potential for disruption will continue.

Problems of congestion on roads are likely to persist in Staffordshire in the future as the county's population is projected to increase by 13% by 2031[93]. This could potentially be an issue during periods of flooding, when it could become essential for portable flood defences to be transported to areas of need as soon as possible.

Key Environmental Issues
The key environmental issues identified are:

- Flooding has, in the past, caused locally significant consequences to communities in Staffordshire; and
- There are important transport links within the county, which are at risk of flooding.

91 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf
92 Local Flood Auhtority subsequent to publishing of the PFRA
93 http://www.staffordshire.gov.uk/transport/transportplanning/localtransportplan/staffordshirelocaltransportplan2011-strategyplan.pdf

5. Soil

Policy Context

At the international level, the Water Framework Directive (2000/60/EC)[94] encourages the protection of soil. Similarly, the EU Thematic Strategy for Soil (2006)[95] promotes the protection and sustainable use of soil.

At the national level, the Safeguarding our Soils, A Strategy for England (2009)[96] seeks to improve the quality of England's soils. The NPPF recognises that both new and existing development should not contribute to, be put at unacceptable risk from, or be adversely affected by unacceptable levels of soil pollution or land instability; despoiled, degraded, derelict, contaminated and unstable land should be remediated and mitigated where appropriate.

Environmental Protection Objectives

The European Soil Thematic Strategy (2006)[97] has the following objectives:

- Establish common principles for the protection and sustainable use of soils;
- Prevent threats to soils, and mitigate the effects of those threats;
- Preserve soil functions within the context of sustainable use, and;
- Restore degraded and contaminated soils to approved levels of functionality.

Safeguarding our Soils, A Strategy for England (2009) has the overall vision *"By 2030, all England's soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations."*

Part IIA of the Environmental Protection Act (1990)[98] requires Local Authorities to identify contaminated land in their area.

Baseline Review

Staffordshire's land use is categorised as 81% agriculture, 11% urban, 8% heathland, woodland, forest, reservoirs, mineral workings and amenity land[99].

Agriculture

94 Directive 2000/60/EC of the European Parliament and the Council establishing a framework for the Community action in the field of water policy accessible via: http://ec.europa.eu/environment/water/water-framework/

95 Http://ec.europa.eu/environment/soil/index.htm

96 https://www.gov.uk/government/publications/safeguarding-our-soils-a-strategy-for-england

97 Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Thematic Strategy for Soil Protection [SEC(2006)620] [SEC(2006)1165] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006DC0231:EN:NOT

98 http://www.legislation.gov.uk/ukpga/1990/43/contents

99 http://www.sbap.org.uk/staffordshire/index.php

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 on 55% of all full time farms; and
- Arable crops account for 31% of the total[100].

Topsoil

Loss of topsoil was experienced in a number of locations, following the heavy rain experienced in 2012. As topsoil is a valuable but limited resource it merits conservation where possible.

Likely Future Conditions

Agriculture will continue to be a dominant land use and economic enterprise in Staffordshire, although it is likely that there will be a slight decrease in agricultural land with future housing development planned for Staffordshire.

Key Environmental Issues

The key environmental issues identified are:

- Agriculture plays an important role in the local economy of Staffordshire.
- Loss of topsoil during intense spells of rainfall.
- Staffordshire benefits from large areas of agricultural land and green open space with the potential, where appropriate, to offer opportunities for flood storage and the delivery of wider environmental benefits." This is not to say that agricultural land is available for this purpose, but that it can be considered, in partnership with landowners, as a possible solution where appropriate.

100 http://www.sbap.org.uk/staffordshire/index.php

6. Landscape

Policy Context

At the international level, the European Landscape Convention (2000)[101] promotes various actions at the landscape scale ranging from strict conservation through protection, management and improvement to actual creation. It promotes the concept that all landscapes are important to the quality of life of people everywhere, not just those landscapes that have protection through formal designation.

At the national level, the Government White Paper: *Heritage Protection for the 21st Century (2007)*[102] seeks to put the historic environment at the heart of the planning system. The NPPF (2012)[103] sets out how planning should contribute to sustainable development and commits to protect and enhance the quality of the natural and historic environment, in both rural and urban areas. A high level of protection should be given to most valued landscapes and those with national and international designations should receive the highest level of protection.

The Supplementary Planning Guidance 'Planning for Landscape Change' provides guidance for the conservation and enhancement of the rural landscapes of the county. It is also useful in terms of the wider context of land use and land management. This document is currently under review, so any proposals will need to be informed through reference to Planning for Landscape Change or any successor Landscape Character Assessment and Guidance documents.

A development strategy identifying the level of development expected to take place in the eight District and Borough Councils which make up Staffordshire is provided by their adopted Local Plans or Core Strategies. New Local Plans are being developed which, when adopted, will contain the vision and strategic objectives for the districts and boroughs as well as the core policies for the next 20 years.

The Cannock Chase Area of Outstanding Natural Beauty (AONB) Management Plan 2014-2019[104] aims to influence and guide organisations and individuals on a wide range of topics. It sets out the importance of Cannock Chase and how the area should be managed with regard to landscape, visitors, education and awareness and quality. An Appropriate Assessment has been undertaken for the plan, which concluded that there could potentially be positive effects upon the biodiversity of the area.

Environmental Protection Objectives

European Landscape Convention (2000)[105]:

101 http://www.coe.int/t/dg4/cultureheritage/heritage/Landscape/default_en.asp

102 https://www.gov.uk/government/publications/heritage-protection-for-the-21st-century-white-paper

103 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

104 http://www.cannock-chase.co.uk/assets/downloads/74646AONBmanagementplan2014-19_2.pdf

105 http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm

- Commits the UK to "recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity".

Planning (Listed Buildings and Conservation Areas) Act (1990)[106]:

- Provides specific protection for buildings and areas of special architectural or historic interest.

Countryside and Rights of Way Act (2000)[107]:

- Create a framework for public access to the countryside;
- Provides greater protection to Sites of Special Scientific Interest (SSSIs) and new arrangements for the management of Areas of Outstanding Natural Beauty (AONBs);
- Provides for the possibility of Conservation Area Boards for Areas of Outstanding Natural Beauty (AONBs);
- Management Plans receive a statutory status;
- Section 85 requires public bodies to have regard to the purposes of designations of Areas of Outstanding Natural Beauty (AONBs).

Green Infrastructure – an integrated approach to land use (2013)[108]

- Recommends that Green Infrastructure (GI) is included as a core requirement to local authorities policy documents and shows a range of successful strategic GI work and projects;
- GI can deliver environmental, social, economic and health benefits, and assist in climate-change adaptation.

Baseline Review

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, as illustrated in the map of the Spatial Elements of Cannock Chase District[109]. 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 coveted mineral deposits[110].

The Staffordshire 'Planning for Landscape Change' identifies twenty-two separate landscape types and six landscape sub types within the county, made

106 http://www.legislation.gov.uk/ukpga/1990/9/pdfs/ukpga_19900009_en.pdf

107 http://www.jncc.gov.uk/page-1377

108 http://www.landscapeinstitute.org/PDF/Contribute/2013GreenInfrastructureLIPositionStatement_002.pdf

109 http://cannockchase-consult.limehouse.co.uk/portal/core_strategy_issues_and_options/core_strategy_io?pointId=chapter_122

110 http://www.naturalengland.org.uk/ourwork/conservation/designations/aonb/cannock.aspx

up of individual landscape description units with a similar pattern of geology, topography, land use and settlements. Their names reflect their characteristic land cover. Staffordshire 'Planning for Landscape Change' maps the different character landscape types within the county and reveals that Staffordshire contains a diverse mosaic of landscape types[111]. Staffordshire's 'Historic Landscape Characterisation'[112] highlights sensitivity of some areas in terms of landscape character.

Likely Future Conditions

The extent of the Area of Outstanding Natural Beauty (AONB) is unlikely to alter substantially in the foreseeable future. The landscape types identified in the Staffordshire 'Planning for Landscape Change' could be eroded over time if significant development takes place within the county. This could either be in the form of strategic development in a few locations or piecemeal development across the county which results in a cumulative effect on landscape characteristics.

Key Environmental Issues

The key environmental issues identified are:

- The location of future development will be influenced by flood risk and therefore some landscapes will be more likely to be affected than others; and
- Cannock Chase Area of Outstanding Natural Beauty (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

111 http://www.eaststaffsbc.gov.uk/Services/Staffordshire%20Landscape%20Character%20Assessment%20SPG/Maps%20and%20Plans%20(Appendix%201).pdf

112 http://www.staffordbc.gov.uk/historic-landscape-characterisation-assessment

7. Water

Policy Context

At the international level, the Water Framework Directive (2000/60/EC)[113] promotes an integrated and coordinated approach to water management at the river basin scale.

At the national level, the Flood and Water Management Act (2010)[114] will help to manage the impacts of extreme weather events such as flooding and drought, and is implemented by the Environment Agency's National Flood and Coastal Erosion Risk Management (FCERM) Strategy[115]. The NPPF[116] recognises that 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.

The Staffordshire Trent Valley Catchment Abstraction Management Strategy (July 2007)[117] is a six-year plan which sets out the licensing strategy for the catchment in order to manage water resources sustainably. The Strategy contributes to achieving environmental objectives under the Water Framework Directive (WFD). The River Trent Catchment Flood Management Plan (CFMP)[118] recommends a long term approach to managing the risk of fluvial flooding to people, property and the environment for the next 50 to 100 years.

The Staffordshire Preliminary Flood Risk Assessment (PFRA) (March 2011)[119] includes a summary of information on significant historic floods and a summary of information on future flood risks in the County. In some cases a Surface Water Management Plan (SWMP) is required, which is a detailed investigation into local sources of flood risk such as small watercourses, piped drainage systems and overland flow routes. The information gathered during the SWMP process helps plan work, apply for funding, and update flood risk maps. A number of SWMPs have been produced in Staffordshire for Lichfield City, Tamworth Town, Cannock Town, Stafford Town and Penkridge village. A SWMP has also been completed for Kidsgrove which includes a small part of Cheshire East in the Church Lawton area.

Environmental Protection Objectives

Urban Wastewater Treatment Directive 1991[120]:

- The Directive aims to protect the environment from the adverse effects of wastewater discharges;

113 Directive 2000/60/EC of the European Parliament and the Council establishing a framework for the Community action in the field of water policy accessible via: http://ec.europa.eu/environment/water/water-framework/

114 http://www.legislation.gov.uk/ukpga/2010/29/contents

115 http://www.environment-agency.gov.uk/research/policy/130073.aspx

116 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

117 http://www.environment-agency.gov.uk/static/documents/GEMI0507BMGJ-E-E.pdf

118 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/gemi1109brdz-e-e.pdf

119 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

120 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1991L0271:20081211:EN:PDF

- All urban waste water must undergo secondary treatment or equivalent, in particular for all discharges from agglomerations of more than 15,000 population equivalent (i.e. with a 5-day BOD of 60g of oxygen per day) and all discharges to freshwater and estuaries from agglomerations between 2,000 and 10,000 population equivalent.

Groundwater (England and Wales) Regulations 2009[121]:

- Seeks to prevent or limit the input of pollutants in to groundwater.

Water Framework Directive 2000[122]:

- Aims to improve water quality and promote the sustainable use of all UK waterbodies, including coastal waters, estuaries and all inland waterbodies;
- It requires all UK river basins to reach "good status" by 2015, through demanding environmental objectives, including chemical, biological and physical targets;
- Three types of UK water quality standards are being developed (a formal classification instrument should be completed in late 2007): Priority substances (and Priority Hazardous Substances); Specific Pollutants; and Physico-chemical pollutants.

Waterways for Tomorrow 2000[123]:

- DEFRA's aims for the inland waterways are to see an improving quality of infrastructure; a better experience for users through more co-operation between navigation authorities; and increased opportunities for all through sustainable development.

Baseline Review

Flood Risk

As reported in the Staffordshire Preliminary Flood Risk Assessment (PFRA)[124], the river network in the county 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.

Several water courses run through Staffordshire including:

- River Trent;
- River Tame;

121 http://www.legislation.gov.uk/uksi/2009/2902/pdfs/uksi_20092902_en.pdf

122 Directive 2000/60/EC of the European Parliament and the Council establishing a framework for the Community action in the field of water policy accessible via: http://ec.europa.eu/environment/water/water-framework/index_en.html

123 http://archive.defra.gov.uk/rural/documents/countryside/waterways/waterways-for-tomorrow.pdf

124 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

- River Dove;
- River Tean;
- River Churnet;
- River Sow;
- River Penk;
- Scotch Brook;
- Doley Brook;
- Church Eaton Brook;
- Sandyford Brook;
- Meece Brook;
- Rising Brook;
- Kingston Brook;
- River Meece; and
- Lonco Brook.

There are over 25,000 people living in properties at risk from flooding in Staffordshire[125]. The majority of the properties at risk are residential. There are also large areas of Staffordshire which are within floodplains, including 18,700 hectares which is covered by the Staffordshire Washlands where the main recent project was Farming Floodplains for the Future[126].

Flood Events

The Preliminary Flood Risk Assessment (PFRA)[127] reports that there has been a total of 1,663 records of historic flooding collected across the Staffordshire County Council's administrative area.

As discussed under the baseline section for Material Assets, the scale and consequences of past flooding are summarised in the Staffordshire Preliminary Flood Risk Assessment (PFRA)[128], identifying four flood risk events with locally adverse consequences over the ten years from 2000-2010 (all of which meet a defined local criteria). The flooding in 2007 caused the most impact with all rivers in Staffordshire affected. A wetter than average May and June, extremely high rainfall totals and the intensity of rain caused extensive surface water flooding and rapid increases in river flows at many locations. Flooding has also

125 http://www.staffordshireprepared.gov.uk/Home/Advice/Flood-Alerts.aspx

126 http://www.wildlifetrusts.org/living-landscape/schemes/staffordshire-washlands

127 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

128 http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/flho1211bvro-e-e.pdf

occurred a number of times since in Staffordshire, most recently in January 2013 and December, November, July and June 2012.

As stated under the Policy Context section of Human Health, some of the West Midlands Flood Risk Area is located within the county of Staffordshire in the southern edges of South Staffordshire District and Lichfield District councils. The Preliminary Flood Risk Assessment (PFRA) reports that there are a number of consequences within the county of Staffordshire, from flooding in this Flood Risk Area, which includes risk of flooding to 221 residential properties, 517 people, 1 critical service and 15 non-residential properties.

Reservoirs

Sir Michael Pitt's Review of the summer 2007 floods[129] identified clear gaps in the way that flood risk is managed, particularly in relation to surface water and groundwater flooding and on the need for a more risk-based approach to reservoir safety.[130]

Local authorities are responsible for developing reservoir flood plans and the Environment Agency produce reservoir flood maps for large reservoirs (over 25,000 cubic meters of water), as recommended by the Pitt Review. The maps show the largest area that might be flooded if a reservoir were to fail and release the water it holds[131].

Reservoirs in the UK have an extremely good safety record and reservoir flooding is very unlikely to happen. Although the likelihood of failure is very small the consequence of the failure of some dams can be large. As a result, after failures in the 1800s and in 1925, reservoir safety legislation was developed. Current legislation is the Reservoirs Act 1975, which ensures that all dams with a capacity greater than 25,000m³ are inspected and examined frequently. All dams subject to the Act will be very carefully inspected by an Inspecting Engineer at least once every 10 years, and examined by a Supervising Engineer at least once a year. It is best practice for owners of dams, certainly in public ownership or used for water supply and where the consequence of failure is high, to provide members of their staff who would visit the dam, usually at least 3 times per week to look for signs of distress.[132]

Staffordshire contains several reservoirs for water storage, as outlined in Table 7-1.

Table 7-1: Reservoirs in Staffordshire

Reservoir	Location

129 The Pitt Review, (2008), Learning Lessons from the 2007 floods

130 http://www.groundwateruk.org/Flood-and-Water-Management-Act.aspx [accessed 29.04.13]

131 www.environment-agency.gov.uk/homeandleisure/floods/124783.aspx [accessed 18.07.12]

132 The Pitt Review, (2008), Learning Lessons from the 2007 floods

Rugeley Amenity Lake	Near Rugeley
Mill Green Lake	Near Cannock Chase
Blithfield Reservoir	Near Rugeley
Holly Bush Lake	Near Burton upon Trent
Brookleys Lake	Near Uttoxeter
Stowe Pool	Near Lichfield
Little Aston Pool	Near Walsall
Chasewater Reservoir	Brownhills
Swinfen Lake	Near Lichfield
Canwell Estate Reservoir	Near Tamworth
Minster Pool	Near Lichfield
Bathpool Park Lake	Kidsgrove
Betley Hall Pool	Near Crewe
Belvide Reservoir	Near Wolverhampton
Dimmingsdale Pool	Wolverhampton
Patshull Church Pool	Near Wolverhampton
Chillington Pool	Near Wolverhampton
Gailey Upper Pool	Near Cannock
Gailey Lower Pool	Near Cannock
Lodgerail Pool	Near Stafford
Himley Hall Pool	Near Dudley
Park Pool, Weston	Near Telford
Springslade Pool	Near Cannock
Calf Heath Reservoir	Near Cannock
Patshull Great Pool	Near Wolverhampton
Bromley Pool	Near Market Drayton
Gap Pool, Ranton	Near Stafford
Trentham Gardens Lake	Near Stoke on Trent
Black Lake	Near Stone
Tixall Park Pool	Near Stafford
Tittesworth Reservoir	Near Leek
Knypersley Reservoir	Near Stoke on Trent
Rudyard Lake	Near Leek
Stanley Pool	Near Leek

Overall Ecological Status

The Staffordshire Trent Valley Catchment Abstraction Management Strategy (CAMS) area spans most of Staffordshire, but also a small part of Shropshire and parts of Wolverhampton and Walsall. This area includes the River Trent and there are also a number of tributaries in the upper reaches of the River Trent which flow through the highly urban catchment of Stoke-on-Trent.

As reported in the Humber River Basin Management Plan (RBMP)[133] there are 46 river water bodies and five lakes in the Staffordshire Trent Valley catchment area, of which 19 are artificial or heavily modified. These must meet good ecological status, or ecological potential by 2027. Of these:

- Only 4% (43km) of rivers currently achieve a good or better ecological status/potential; and
- 24 per cent of rivers assessed for biology are at good or better biological status, with 30 per cent at poor biological status, and 11 per cent at bad status.

Point source discharges from water industry sewage works are key reasons for failures in the Staffordshire Trent Valley catchment area. Physical modification as a result of urbanisation, water storage and supply and flood protection, along with diffuse pollution form agriculture are also important in determining the status of the rivers and lakes. The River Trent downstream of Strongford sewage treatment works was designated in 2004 as a Sensitive Area under the Urban Wastewater Treatment Directive. This is a legacy from the coal-mining industry, particularly around Stoke-on-Trent and Cannock, which has led to issues with contamination and rising minewaters, both of which need to be carefully managed to minimise the impact on water quality.

Water quality has improved over the last twenty years, due to improvements to sewage treatments works and storm discharges to the River Trent in Stoke-on-Trent and associated tributaries.

Water Pollution Incidents

In the West Midlands region in 2009, there were 34 major or significant water pollution incidents, a third or which originated from agricultural premises[134].

Likely Future Conditions

Flood risk in Staffordshire is likely to continue to be an issue in some locations and there is the potential for increased flood risk over time as a result of climate change and increased incidences of extreme weather events. Flooding is likely to have consequential impacts upon groundwater and surface water and potential exists for ecosystem impacts due to land use change (e.g. as a result of nitrogen release).

Alongside consideration of the Severn RBMP[135] and the North West RBMP[136], key actions set out in the Humber RBMP[133]for the Staffordshire Trent Valley catchment include targeting pollution prevention campaigns around industrial areas, improving sewage treatment works at a number of locations and carrying out investigations to determine the impact of abstractions in limiting the achievement of good ecological potential. The Water Framework Directive

133 https://www.gov.uk/government/publications/river-basin-management-plan-humber-district

134 http://www.environment-agency.gov.uk/static/documents/Research/MIDS_SOE_West_Water.pdf

135 https://www.gov.uk/government/publications/river-basin-management-plan-severn-river-basin-district

136 https://www.gov.uk/government/publications/north-west-district-river-basin-management-plan

requires that all water bodies meet good ecological status, or good ecological potential, by 2027 and therefore it could be assumed that the ecological status of the water bodies in Staffordshire will improve over time in order to meet this requirement.

Key Environmental Issues
The key environmental issues identified are:

- There are over 25,000 people living in residential properties at risk from flooding in Staffordshire, including properties within the West Midlands Flood Risk Area;
- Although the likelihood of reservoir failure is very small there is the potential for the consequence of the failure to be large;
- 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 which increase diffuse pollution; and
- Impacts upon surface water and groundwater may arise as a consequence of future flooding and potentially as a result of flood risk mitigation.

The following Table details the Heritage Assets considered to be 'at risk' by English Heritage in 2011[137].

Name	Designation	Condition
Rugeley Town Centre	Conservation Area	At risk
Talbot Street/Lichfield Street	Conservation Area	At risk
Sinai Park, Burton on Trent	Listed Building Grade II*	Very bad
Gates and gatepiers at Hoar Cross Hall, Maker Lane, Hoar Cross, Yoxall	Listed Building Grade II*	Fair
Earthworks centring on 320yds north west of the Junction Inn, Efflinch	Scheduled Monument	Unknown
Enclosures and cursus 300yds south east of Efflinch, Barton-under-Needwood	Scheduled Monument	Unknown
Remains of barrow cemetery 350yds south west of Tucklesholme Farm	Scheduled Monument	Unknown
Timber circle, hengi-form monument and part of pit alignment at Catholme	Scheduled Monument	Unknown
Sinai Park moated site, Branston	Scheduled Monument	Unknown
Enclosure 350yds north of Tivey's House, Tatenhill	Scheduled Monument	Unknown
Bowl barrow 330m east of Weaver Farm, Wootton	Scheduled Monument	Generally unsatisfactory with major localised problems
Circular enclosures 100yds south west of Bonthorn, Wychnor	Scheduled Monument	Unknown
Circular enclosures centring 300yds west of Wychnor Junction, Wychnor	Scheduled Monument	Unknown
Pit alignments running north east and south west centring 320yds north of Wychnor Bridge, Wychnor	Scheduled Monument	Unknown
Two large circular enclosures centring 150m south east of Baggaley's Wood, Wychnor	Scheduled Monument	Unknown
Clarence Street/Anglesey Road, Burton upon Trent	Conservation Area	Very bad
George Street, Burton	Conservation Area	Very bad
Walls and gatepiers to Colton House, Bellamour Way, Colton	Listed Building Grade II*	Poor
Angel Croft Hotel, front railings and gates, Beacon Street, Lichfield	Listed Building Grade II*	Poor
Church Tower north of Church of St John, St John's Hill, Shenstone	Listed Building Grade II*	Very bad
Causewayed enclosure, Alrewas and Fradley	Scheduled Monument	Unknown
Settlement sites and enclosures 500yds north east of Sittles Farm, Alrewas and Fradley	Scheduled Monument	Unknown
Site of round barrow near River Tame, Alrewas and Fradley	Scheduled Monument	Unknown
Air photographic site south west of Elford, Fisherwick	Scheduled Monument	Unknown

137 http://www.english-heritage.org.uk/publications/har-2011-registers/acc-wm-HAR-register-2011.pdf

Manor house, Hamstall Ridware	Scheduled Monument	Extensive significant problems
Fazeley and Bonehill	Conservation Area	Very bad
Model farm complex south west of Betley Old Hall, Main Street, Betley	Listed Building Grade II*	Very bad
Heighley Castle, Heighley Lane, Madeley	Listed Building Grade II	Very bad
Gatehouse, walls and bollards to Maer Hall, Maer	Listed Building Grade II*	Poor
Hales Roman Villa, Loggerheads	Scheduled Monument	Unknown
Butterton, Newcastle under Lyme	Conservation Area	Very bad
Stable Court at Four Ashes Hall, Four Ashes, Enville	Listed Building Grade II*	Very bad
The Conservatory, Hilton Park, Hilton	Listed Building Grade I	Very bad
Roman fort west of Eaton House, Brewood	Scheduled Monument	Unknown
Roman villa 300yds north west of Engleton Hall, Brewood	Scheduled Monument	Generally unsatisfactory with major localised problems
Site of Pennocrucium, east of Stretton Bridge, Brewood	Scheduled Monument	Unknown
Two Roman camps near Greensforge, Kinver	Scheduled Monument	Unknown
Camp north east of Stretton Mill, Lapley Stretton and Wheaton Aston	Scheduled Monument	Unknown
Roman camp, Kinvaston, Penkridge	Scheduled Monument	Unknown
Two Roman camps north of Water Eaton, Penkridge	Scheduled Monument	Unknown
Roman camps 600yds WSW of Swindon iron works, Swindon	Scheduled Monument	Unknown
Penkridge	Conservation Area	Very bad
Wombourne	Conservation Area	Very bad
Remains of Creswell Chapel, Creswell	Listed Building Grade II	Poor
Trentham Tower, Sandon Park, Sandon, Sandon and Burston	Listed Building Grade II*	Fair
Remains of Trentham Hall, the Grand Entrance and Orangery, Park Drive, Trentham Gardens, Swynnerton	Listed Building Grade II*	Poor
Circular earthwork 400yds east of Bishton Hall, Colwich	Scheduled Monument	Unknown
Moated site in Reynold's Orchard, Eccleshall	Scheduled Monument	Generally unsatisfactory with major localised problems
Norbury Manor moated site, eight fishponds and connecting channels, Norbury	Scheduled Monument	Extensive significant problems
Bowl barrow north of Hargreaves Wood, Swynnerton	Scheduled Monument	Unknown
St George's Hospital	Conservation Area	Very bad
Stone	Conservation Area	Poor
Trentham	Conservation Area	Very bad
Walk Mill	Conservation Area	Very bad
Biddulph Old Hall, Biddulph	Scheduled Monument	Poor
Prospect Tower and attached wing, Knypersley, Biddulph	Listed Building Grade II*	Poor
Alton Towers and attached garden walls and gatehouse, Alton Park, Farley	Listed Building Grade II*	Poor
Sharpecliffe Hall, Ipstones	Listed Building Grade II*	Poor

The Gazebo west of Whitehough, Ipstones	Listed Building Grade II*	Fair
Paynsley Hall moated site and outer enclosure, Draycott in the Moors	Scheduled Monument	Generally unsatisfactory with major localised problems
Dieu-la-Cres Abbey (remains of), Leek	Scheduled Monument	Extensive significant problems
Alton and Farley	Conservation Area	Poor
Cheadle	Conservation Area	Very bad
Leek	Conservation Area	Very bad
Deanery Wall, Lower Gungate, Tamworth	Listed Building Grade II	Poor

Appendix C – Consultation Comments

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
English Heritage	1.	6.2 pg.15	No World Heritage Sites within Staffordshire – why is the World Heritage Convention listed?	Removed in Environmental Report
	2.		European Landscape Convention should be considered in the Cultural Heritage section.	Noted – included in Appendix B section 2.2
	3.	6.1	As a headline point, we consider that it might also be useful to underline that the: Conservation and enhancement of the historic environment is integral to delivering sustainable development	Noted – NPPF wording incorporated in Appendix B section 2.2
	4.	Appendix A	In Annex A (page 42) we recommend the third sentence *[NPPF text]* (high level of protection) also refers to 'heritage assets'.	Noted – wording updated in Appendix A
	5.	Baseline	Inclusion of: • Information held on county based Historic Environment Record. This could be interrogated in various ways, as for example, heritage assets located in particular areas or river catchments, and or heritage assets associated with rivers and other water- dependent habitats or water –level management regimes (e.g. historic bridges, weirs, mills); • Locally listed heritage assets; • The character of the wider historic landscape and townscape and other valued historic landscapes; • Areas of archaeological importance and the potential for unrecorded archaeology. This may include palaeo-environmental deposits that are particularly associated with deeply alleviated river valleys.	Possibly too detailed for level/scope of plan
	6.		Mapping data where possible will aid the assessment process by identifying assets which may be at most risk from flooding and or potentially impacted by proposed measures to help manage flood risk or improve resilience. Staffordshire Landscape Character Assessment useful information for assessing landscape scale land management measures: http://www.staffordbc.gov.uk/landscape-character-assessment County wide programme of extensive urban surveys of 23 historic settlements: http://www.staffordshire.gov.uk/environment/eLand/planners-	The FRMS is concerned with general principles of flood risk management and does not address site specific measures. The Strategic Environmental Assessment (SEA)

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			developers/HistoricEnvironment/Extensive-Urban-Survey/Staffordshire-Extensive-Urban-Survey-Project.aspx Historic Environment Character Assessments produced by each District in support of the Local Plan: http://www.lichfielddc.gov.uk/info/856/local_plan/1014/evidence_base/10	cannot predict the indirect effects on landscape that may arise as a result of implementation so the identification of at risk assets would not be appropriate.
	7.	Baseline	Rework future baseline reviews so description of heritage assets relates more closely to the local context of The Strategy and flood risk areas. Useful element of this is the cross-reference to the Preliminary Flood Risk Assessment and the identified key site at risk of flooding. Locally specific context needs to be expanded on across the baseline review.	The FRMS is concerned with general principles of flood risk management and does not address site specific measures.
	8. .		Identify the risk status associated with flood risk and or whether flood risk might exacerbate the problem.	Unfortunately it is not practical to identify the risk on an asset by asset basis.
	9.		The identified issues could be expanded on to reflect similar considerations addressed under the biodiversity topic as well as some changes in the terminology to accord with the NPPF. We offer a number of suggestions as follows: - Most heritage assets are vulnerable to flooding and in Staffordshire a range of heritage assets are likely to be at risk of flooding, which may result in harm to or loss of their significance. This may be as a result of direct flood damage as well as inappropriate remedial works (*); - 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 -Securing the sustainable reuse of heritage assets, including those identified as at risk, may be hindered by their location in high flood risk areas.	Noted - NPPF wording incorporated see Appendix B section 2.5
	10.	Table 12.2	Recommended changes to the wording of the first proposed indicator to reflect national guidance: '*Conserve and enhance the historic environment, heritage assets and their settings*'	Noted – NPPF wording incorporated in the

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
				environmental report see Table 6.1
	11.		Suggested more detailed sub-objectives: • *Will the measures reduce the number of heritage assets at risk of flooding?* • *Will the measures harm the significance of designation and non-designated heritage assets, including their setting?* • *Will the measures help secure the sustainable reuse of a heritage asset and or improve its maintenance?* • *Will the measures lead to changes in groundwater levels or chemistry which could harm the significance of archaeological remains, including palaeo-environmental deposits?* • *Will the measures conserve and enhance the significance of heritage assets including the character and distinctiveness of historical townscapes and places?* • *Will the measures increase public awareness and understanding of appropriate responses for heritage assets affected by flooding and the design and implementation of other measures aimed at risk management or improving resilience?* *Will the measures provide opportunities for improved access, understanding and enjoyment of the historic environment?*	These sub-objectives are too detailed for level/scope of plan
	12.		Remove the second indicator on cultural heritage – suggested replacements: • 'Proportion of conservation areas at risk from flooding' • 'Number of flood risk management measures securing enhancements in the significance of heritage assets including their settings' • 'Number of designated and non-designated heritage assets harmed by flood risk management measures, including impacts on their settings.'	Second indicator removed and a suggested replacement used in the Environmental Report see Table 6.1
	13.		Following on from our comments on the Cultural Heritage topic, we have a number of suggestions on this section given their interrelationship. • Policy context: why is the Heritage Protection White Paper mentioned? As part of sustainable development, the NPPF also commits to protecting and enhancing the historic environment. This is relevant to the landscape topic as under the European Landscape Convention landscape covers all areas (rural and urban) and recognises its cultural and natural dimensions. A high level of protection also extends to townscapes in terms of locally designated conservation areas.	The Heritage Protection White Paper is mentioned because historic assets are considered to contribute to the landscape character

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			• Baseline Review: As already indicated in addition to the Staffordshire Landscape Character Assessment there is the accompanying Historic Landscape Characterisation. This provides greater detail on the historic evolution of the landscape and its present day historic character. • Key environmental issues: Does the catchment based approach present both issues and opportunities in that land management options in support of reducing flood risk might harm or indeed help restore landscape character?	Components of the Shropshire Landscape Assessment have been referenced in this section Noted and this point has been brought out in the ecology section as a potential enhancement opportunity for habitat restoration
Environment Agency	14.	11.3	Reference to the extent, condition and existing programme of flood defences i.e. the number of major schemes in existence, the number of properties protected by them.	Too detailed for level/scope of plan
	15.	Possibly table 12.2	Analysis of the lifetime of these defences, current/recent improvements and how they will be replaced/upgraded in the future/ what the alternatives are – this info could be incorporated into table 12.2	Too detailed for level of plan
Natural England	16.	5. Biodiversity	Habitats Regulations Assessment: Flood Risk Management Strategy is a plan; it should therefore be subject to HRA. The Strategic Environmental Assessment (SEA) should be able to draw upon the findings of the HRA to add further depth to its assessment.	Scoping HRA has been undertaken by Staffordshire County Council for both Staffordshire and Shropshire
	17.	5.1 & 5.2	Add the Convention on Wetlands (1971 – Ramsar Convention) and the Countryside and Rights of Way Act 2000 (the CRoW Act). As a matter of policy Ramsar sites are treated the same as SAC and SPA in the UK. With regard to biodiversity, the CRoW Act increases measures for the management and protection for Sites of Special Scientific Interest (SSSIs) and strengthens wildlife enforcement legislation.	Incorporated Appendix B Section 1.2
	18.	5.3	Baseline review: lists designated nature conservation sites within 'the study area' – however study area is not defined within the Strategic Environmental Assessment (SEA).	Study area will be defined in FRMS and Environmental Report.

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			Strategic Environmental Assessment (SEA) should consider potential impacts on sites outside the study area.	This is not feasible given the FRMS content.
	19.	Table 5-1.	Include information on the site's vulnerabilities whether they are considered to be vulnerable to hydrological changes e.g. flooding.	Limitations of available data– too detailed for level/scope of plan
	20.		Baseline SSSI information is brief – recommend Strategic Environmental Assessment (SEA) report provides information on the reasons for the designation of SSSIs, their condition and their vulnerabilities, particularly if they are vulnerable to flooding. Strategic Environmental Assessment (SEA) should include a full assessment of the direct and indirect effects of the plan on the features of special interest within SSSIs and should identify any mitigation measures that are required to avoid, minimise or reduce any adverse significant effects.	Included see Appendix B Table 1.1 This is not feasible given the FRMS content.
	21.		Strategic Environmental Assessment (SEA) should include an assessment of the likely impacts on the wildlife and geodiversity interests of Local Sites. Local Sites may be identified by local wildlife trust, geoconservation group or local forums established for the purposes of identifying and selecting local sites and are of county importance for wildlife or geodiversity.	This is too detail for level / scope of plan
	22.		'Priority habitats and species' – the NPPF refers to priority habitats and species. Priority habitats and species are listed in Section 41 of the Natural Environment and Rural Communities Act 2006 and covered by Species or Habitat Action Plans within the UK BAP. The Strategic Environmental Assessment (SEA) should thoroughly assess the impact of the FRMS on priority habitats and species.	This will be modified to match the relevant Act in the Environmental Report Reference to priority habitats and species included.
	23.	Pg. 15.	Regionally Important Geological Sites – RIGS – outdated generally been replaced by 'Local Geological Sites' – advise you check with the Local Authority or Local Sites body before making this change.	Staffordshire Ecological Record use the term RIGS Geoconservation Staffordshire uses LoGS

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	24.	Pg.11	Typing error: Sentence starts as 'lists the designated...'	Changed
	25.	5.4	Conclusions on the likely future condition of biodiversity assets was presented, drawing upon information on the current condition of sites and species, their vulnerabilities and identified pressures. As it stands, the section focuses on the number of sites, which, as stated, is unlikely to change.	Noted –changed Environmental Report Appendix B Section 1.4
	26.		*"Staffordshire's SAC, such as Pasturefields Salt Marsh, would benefit from strategies which offer opportunities to maintain and improve their condition (in full consultation with Natural England)"*, we suggest that it should be possible to identify which European sites are vulnerable to hydrological change, particularly flooding, and also lacking a management strategy. This tailoring would give focus to the Strategic Environmental Assessment (SEA) and the FRMS itself. We recommend reference to European sites rather than just SAC's, therefore encompassing the Ramsar sites in the study area.	Changed Appendix B Section 1.5
	27.		The second key issue moves from considering habitats to sites. As priority habitats can be found outside of designated sites, it may be worth separating these issues. Under the part of the second key issue that relates to habitats, *"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 ... "*, it is not clear whether the vulnerability of habitat types has been or will be explored.	The FRMS is concerned with general principles of flood risk management and does not address site specific issues. Therefore whilst this point is accepted, the assessment cannot address the issue.
	28.		Third key issue *"biodiversity on both designated and non-designated sites should be protected and enhanced"* is rather generic, and we advise further consideration of ways to tailor the issue to reflect the purpose of the Strategic Environmental Assessment (SEA). We welcome the recognition of the need to enhance biodiversity.	Addressed in the Environmental Report
	29.	Landscape	Recommend the use of Landscape Character Assessment (drawing upon Staffordshire's 'Planning for Landscape Change') to inform the Strategic Environmental Assessment (SEA).	Incorporated into the Environmental Report
	30.	12.	Recommend re-visiting the potential indicators on biodiversity, in line with our comments above. Wider biodiversity issues need to be considered, in addition to designated sites.	Noted but as explained in the responses above this is not appropriate to the level of detail in the FRMS.

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			We recommend the inclusion of additional indicators to further evaluate impacts of the FRMS on soils, including on the best and most versatile agricultural land, which is considered to be a key issue.	
South Staffordshire Council	31.		Scoping report identifies that part of the West Midlands Flood Risk Area lies on the southern edges of South Staffordshire District and that there may be a risk of flooding to residential properties in these locations. It is not however clear from the scoping report of the specific locations where there is a risk. For example, we are aware that parts of Perton can have issues with surface flooding following heavy rain, and therefore it is considered appropriate that addressing this should form part of The Strategy. The Council has also carried out a district wide Strategic Flood Risk Assessment ((FYI – a refresh of this will be commissioned in the coming months), a Water Cycle Study, and a Surface Water Management Plan for Penkridge, which will provide key evidence for the District.	The FRMS is concerned with general principles of flood risk management and does not address site specific issues. Therefore this is too detailed for level/scope of report.
	32.		Specific consideration should be given to those areas identified in Flood Zones 3a and 3b in our Strategic Flood Risk Assessment	As above - too detailed for level/scope of plan
Staffordshire County Council	33.	5.1	Biodiversity chapter covers most issues but omits consideration of Local Wildlife Sites (LWS) (though these are briefly mentioned in s.5.3). These sites are selected using a set of criteria and a selection system compliant with Defra Local Wildlife Sites guidance. LWS in Staffordshire are classified as Sites of Biological Importance (SBI) – of County importance and Biodiversity Alert Sites (BAS) of District/Parish importance. Geological sites are now known as Local Geological / Geomorphological Sites (LoGS) and are of County importance. Due to the limited extent and distribution of statutory sites such as SSSIs, LWS are considered as being of fundamental importance for the conservation of biodiversity, as is acknowledged in the NPPF s.117 and described in the Lawton Report Making Space for Nature. Information regarding local wildlife sites is held by Staffordshire Ecological Record and can be obtained from the Principal Ecologist. Flood risk management has potential to affect species of principal importance for biodiversity (NERC Act 2006) and this should be acknowledged with perhaps a list of key species such as otter, water vole, white clawed crayfish, brown trout, eel and a suite of invertebrates associated with aquatic habitats.	As above - too detailed for level/scope of plan Incorporated into potential indicators
	34.	5.2	Omits reference to the Natural Environment White Paper which sets national objectives for biodiversity in particular relating to the development, maintenance and enhancement of ecological networks. The objectives of the Staffordshire Biodiversity Action Plan are also relevant for the County.	Included in Environmental Report Appendix B Section 1.2

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	35.	5.3	It should be noted that surface water flooding may not be a significant risk for some of the internationally important sites. In addition to Strategic Environmental Assessment (SEA), under the 92/43/EEC Habitats Directive and Conservation of Habitats and Species Regulations 2010 a Habitats Regulations Assessment (HRA) is required, of plans, regarding impacts on sites of international importance – Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites. Guidance is attached. This section of the report goes a small way towards commencing this process but does not indicate which sites are actually threatened by surface water flooding or could be significantly affected by The Strategy. For some surface water flooding is highly unlikely or not a significant issue, for others, such as Pasturefields Saltmarsh, it could threaten site integrity.	Amended key environmental issues to recognise risk of flooding. Does not apply to all internationally important sites
	36.	5.3.2	Reference to the "Mid-vale ridge". Is this a Staffordshire feature – I am not aware of it. An appropriate example might be soils related to the Bridgnorth Sandstone Formation. Lowland calcareous grassland – Staffordshire examples are in the Weaver Hills, better to refer to this area rather than areas outside of the County. Lowland heathland – reference really should be made to Cannock Chase the most important heathland area in the Midlands.	Error noted Noted – changed accordingly Noted – changed accordingly
	37.	5.3.3	Reference to EAPs should make it clear that these are related to the Staffordshire BAP, not the UK BAP. There is an error in the list: Limestone should be separated from Churnet Valley – these are two distinct areas.	Addressed Appendix B Section 1.3
	38.	5.4	Section should refer to the Natural Environment White Paper government objectives and to those of emerging Local Plans which all refer to enhancing ecological networks and creating Green Infrastructure. The issue of site condition could also be covered. Data on habitat condition for SSSIs can be found on the Natural England website; information for Local Sites can be obtained from David Cadman at Staffordshire Wildlife Trust.	The FRMS is concerned with general principles of flood risk management and does not address site specific issues. Therefore this is too detailed for level/scope of report.
	39.	5.5	Section could add that there is potential to combine habitat, enhancement creation and management with flood alleviation as demonstrated by the innovative Defra funded Farming Floodplains for the Future project in the Sow and Penk catchments which has led to further	As above - too detailed for level/scope of plan

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			Environment Agency projects elsewhere. Potential positive links between biodiversity objectives and flood risk management could be identified through discussion with the Staffordshire Biodiversity Partnership.	
	40.	11.3.1	The Rivers Tame, Dove, Tean and Churnet are not on the list of example water courses as they are high profile. The text following the list of water courses refers to the "floodplain biodiversity project". There is not a project of this name. You refer I believe to the Staffordshire Washlands area where the main recent project was Farming Floodplains for the Future (2007-2010). There are other active landscape scale partnerships related to river valleys in the County, in general biodiversity is one aim but there are others, such as landscape quality, recreation, economic development and flood alleviation. These include the Churnet Valley Living Landscapes Project, the Central Rivers Initiative and the Trent Rivers Trust (formerly OnTrent).	Noted and added within Appendix B of the Environmental Report. Referring to the Staffordshire Washlands which is a floodplain biodiversity project. Updated Appendix B Section 7.3
	41.	12. Draft Strategic Environmental Assessment (SEA) Framework	Biodiversity: could add to Strategic Environmental Assessment (SEA) objectives: Combine flood risk management with biodiversity enhancements where possible Could add to Indicators: Condition and extent of Local Wildlife Sites, extent of BAP habitats The Policy Context review requires some revision; The Natural Environment White paper – Making Space for Nature should be referenced. The WM Regional Strategy has been revoked as has the Structure Plan.	Too detailed for level/scope of plan Current Strategic Environmental Assessment (SEA) objectives are in line with the national strategy – LWS too detailed for level of report
	42.	6.2	Typo should read: 'Reinforces and promotes policies for the…'	Typo changed
	43.	6.2	Local Authorities may choose to 'locally list' heritage assets where these assets are not considered to be worthy of statutory designation but still have significance for the local historic environment. While such locally listed heritage assets do not have statutory protection they are a material consideration in the planning process. Not all Local Authorities within Staffordshire maintain a list of locally important heritage assets.	Too detailed for level/scope of plan

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	44.	6.3	As well as designated heritage assets, the Historic Environment Record (HER) holds information for undesignated heritage assets for the county. While not statutorily protected such assets have the potential to store important information concerning our past. It should also be recognised that the HER is a dynamic and constantly evolving dataset and that there is always the potential for the presence of previously unknown archaeological remains which are of national significance on any site. It is important therefore that where flood alleviation schemes are proposed, early consultation is undertaken with the relevant local authority, the County Council HER and English Heritage to discuss potential impacts to the historic environment and where required, appropriate mitigation.	Too detailed for level/scope of plan FRMS – may include provisions for this consultation
	45.	10.1	At the national level, the Government White Paper: Heritage Protection for the 21st Century (2007)49 seeks to put the historic environment at the heart of the planning system. The NPPF (2012) sets out how planning should contribute to sustainable development and commits to protect and enhance the quality of the natural and historic environment, in both rural and urban areas, *and recognise the intrinsic character and beauty of the countryside.* A high level of protection should be given to most valued landscapes and those with national and international designations should receive the highest level of protection.	Not relevant to this strategy which is not a spatial plan.
	46.	10.2	Environmental Protection Objectives *Landscape Institute's Position Statement 'Green Infrastructure – an integrated approach to land use' (2013) recommends that Green Infrastructure (GI) is included as a core requirement to local authorities policy documents and shows a range of successful strategic GI work and projects. GI can deliver environmental, social, economic and health benefits, and assist in climate-change adaptation. GI is supported in the Natural Environment White Paper (2011).*	Green Infrastructure importance incorporated in the Group LFRMS and Environmental Report
	47.	Table 12-2:	Strategic Environmental Assessment (SEA) Key Environmental Issues and Potential Indicators; Landscape – Strategic Environmental Assessment (SEA) Objectives; to protect, conserve and enhance the landscape	NPPF wording incorporated in the environmental report
	48.	5.3.1	Incorrect details: Lowland Wood Pasture and Parkland is now referred to as *Wood Pasture and Parkland* in the UK BAP habitat descriptions.	Noted –changed in the environmental report

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
			The definition of Native Woodland is incorrect and doesn't capture the BAP priority habitat, which is *Lowland Mixed Deciduous Woodland*. Many are ancient woodlands, but they may have different NVC classifications. The definition used by the Forestry Commission in their recent draft publication "Managing Ancient and Native Woodland" is:- *Native Woodland* *Woodland where at least 80% of the canopy comprises species that are suited to the site and are within their natural range, taking into account both history and uncertainties over future climate. Native woodland includes both ancient and recent woodland, and those of planted or semi-natural origin. It includes ASNW, OSNW, RPNW and those PAWS which have already been restored to over 80% native broadleaves.*	
Staffordshire County Council (Senior Planning Officer)	49.		The document gives no indication of what the Local Flood Risk Management Strategy attempts to do (beyond the clues in the title). I would have expected at least an outline indication of the main objectives of the plan and the range of actions that it might contain. This would help greatly in assessing the adequacy of other parts of the scoping report, and might also have helped to guide the author when considering the range of environmental effects that might arise from The Strategy.	The purpose and objectives are provided in this environmental report
	50.	5.3	I am concerned about the assumption that the study only needs to concern itself with sites that are within Staffordshire and liable to flooding. Surely The Strategy might affect any sites that are downstream of the county, and might affect sites that are not prone to flooding but sensitive to drying out if floods are controlled. Such impacts may eventually be scoped out when details of the options are known, but they cannot be assumed not to occur.	Scoped out of report for practical purposes.
	51.	5.4	Likely future condition seems based more on hope than any current trends. I would have expected an attempt to identify pressures and reflect any changes that have occurred recently	Noted
	52.	5.5	Second bullet. It is not clear whether the assessment of vulnerability to flooding properly assesses whether the site is likely to be adversely affected by such flooding, or whether they are tolerant, or even dependent on it. It should be possible to make some kind of assessment of this in order to make meaningful statements about those sites most at risk.	Aware of the limitations – too detailed for level of report
	53.	6.4	Again, the likely future condition seems a bit simplistic. I would have expected a bit more discussion of pressures, especially those that may be linked to the theme	Noted - limitations of the report

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	54.	7.3	This is meaningless as it stands. Was it meant to say: "deviate only slightly", implying that conditions were likely to remain close to average, or was it meant to imply that there likely to be a small but consistent variation in one direction? Greater clarity is required, together with evidence to underpin the statement.	Addressed – Appendix B section 3.3
	55.	7.4	Second bullet. It would be helpful to give us a clue where the "other areas at risk of flooding" might be. Overall, the issue seems to say little more than that there is a risk of flooding in flood risk areas, which is largely what we would expect.	Addressed – Appendix B section 3.4
	56.	8.1	3rd Para. Interesting choice to quote the Structure Plan which was due to be (and now has been) withdrawn. I would prefer to see reference to the NPPF and associated technical guidance	Addressed and deleted structure plan. NPPF is referenced
	57.	8.2	2nd Para. Whilst Staffordshire is undoubtedly well connected on the national road and rail network, I would question whether the concept of an international road or rail network was applicable to the UK. I am also not quite sure what aspect of the condition of the highway network has improved significantly over the last 10 years. More clarity needed.	Noted that international phrased in the wrong context. 'Staffordshire Local Transport Plan 2011' states the condition of Staffordshire's highways network has improved in the last 10 years
	58.	8.3	"Likely future conditions" is too vague again. Surely there are reasonably well quantified predictions of the likely trend in disruption caused by flooding. Surely problems of congestion have also be modelled and key bottleneck can be identified (how else are highway improvements, so we can have a good idea about whether flooding and congestion might impact on the ability to deploy portable flood defences.	This issue is beyond the scope of this report
	59.	9.3.1	Second bullet. As written, this statement is plainly untrue. Presumably the author meant to say that dairy farming is the most common enterprise amongst full time farms. Even this assessment is not particularly helpful as it fails to address the pattern of distribution of different forms of agriculture throughout the county, and how this might relate to the vulnerability of soils to the impacts of flooding. A few extra sentences would help greatly.	Dairy farming point – noted and amended in Appendix B section 5.3. Data limitations – sourced from the Staffordshire BAP agriculture

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	60.	9.4	I would have expected some attempt to assess whether the loss of topsoil – subsequently identified as a "Key Environmental Issue" – was likely to be change over time. I would have expected that climate change models would suggest this to be the case.	It is only possible to identify key issues from the available information. There was no such indication in the sources consulted.
	61.	10.3	Cannock Chase may have mineral deposits but there is no realistic possibility of any significant expansion of working in the foreseeable future.	Sourced from Natural England
	62.	10.5	I would be very surprised if Cannock Chase was really at risk from surface water flooding. Big hills of gravel rarely are. Even if areas around the edges of Cannock Chase are likely to experience flooding, I would not expect that this would be a significant threat to the landscape or biodiversity value.	Removed
	63.	11.4	1st Para. I would have expected some attempt to quantify the degree to which flood risk was likely to increase over the plan period. Surely there must be a model that the plan is based around. Failing this, the simple approach that the Environment Agency have endorsed in the past would be to assume that areas that are now Flood Zone 3a will experience a risk equivalent to Floods Zone 3b in 25 years' time.	The scoping report attempts to identify the key issues of relevance to the plan or programme. It is not necessary to produce quantified predictions of flood risk to do this. The issue is anyway not relevant to the purpose of the FRMS itself.
	64.	11.4	2nd Para. I am not convinced that it is justified to assume that the ecological status of water bodies in Staffordshire will improve over time simply because of the requirements of the Water Framework Directive. I would expect some attempt to show evidence of a trend in water quality, or at least a pattern of investment to overcome specific problems, otherwise it is just wishful thinking	Disagree – the WFD is part of the statutory framework of environmental protection.
	65.	12	Biodiversity: Potential indicator focuses entirely on designated sites. Need to look at impacts on biodiversity on a more general scale	Too detailed for level/scope of report

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	66.	12	Cultural Heritage etc.: First indicator tied to impact of flooding.	Noted- English Heritage made further suggestions (above)
	67.	12	Cultural Heritage etc.: Second indicator poorly defined.	Noted - English Heritage made further suggestions (above)
	68.	12	Human Health: Indicators are inappropriate as they are all about the risk of flooding (see general note above). Notwithstanding this: Second indicator adds nothing if it will always be 2.34 times the value of the first indicator. Third indicator is inadequately defined – what does "at risk" mean?	Noted – feel relevant as its local FRMS 'from flooding' added to indicators in the environmental report
	69.	12	Material Assets: All about flooding again	Point accepted
	70.	12	Soil: Indicator seems very specific, and does not fully encompass the pressures on soils in Staffordshire.	Valid indicator from the Environment Agency
	71.	12	Landscape: Very poor indicator – not defined or obviously measurable	Landscape is not a measureable asset and it is accepted that therefore the indicator is not ideal.
	72.	12	Water: All about flooding again First indicator very similar to one proposed for Human Health, but what is "At Risk"? Second and third indicators likely to remain static Fourth indicator could be useful Fifth indicator poorly defined and not obviously measurable	Noted 'from flooding' will be added in the environmental report
	73.	5.3	Not sure what is meant by e.g. "has a total area of 6.2% at risk of surface water flooding"	Taken from the Staffordshire PFRA – it means that Midland Meres and Mosses Phase 1 has a total area of 6.2% at risk of surface water flooding

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
				as provided from the Environment Agency.
	74.	5.3	49.9% of the area classified as SSSIs is at risk of surface water flooding but does this mean anything useful. Many sites will depend on regular flooding; others may be more adversely affected, so the figure is unhelpful unless more detail can be added.	Taken from the Staffordshire PFRA – classified as a key site
	75.	6.3	Last bullet: Not clear what is meant by: " … has a total area of 7.8% at risk of surface water flooding."	Taken from the Staffordshire PFRA – Patshull Hall (a registered park) has a total area of 7.8% at risk of surface water flooding
	76.	8.2	Text refers to: "four recent flood events in Staffordshire noted as having significant harmful effects". "Recent" is not defined, and the bullet points below list five events, relying on a footnote to explain why the last was not included in the original count. Clearer phrasing would help.	Noted –updated in the environmental report
	77.	10.1	2nd Para. Much of the text appears to fit better under "Heritage"	Government White Paper: *Heritage Protection for the 21st Century* - included in the cultural heritage section however applicable to landscape also.
	78.	5.3	Table 5.1, Row 1. Sentence appears incomplete: "Within the heathland, ..." etc.	Taken from the Joint Nature Conservation Committee
	79.	5.3	Table 5.1, Row 2. "natan" should read "natans".	Noted –changed in the Environmental Report
	80.	5.3	Table 5.1, Row 1. "rande" should read "range"	Noted - changed in the Environmental Report

Consultee	Ref	Page/ Para of Scoping report	Comment	Action
	81.	9.3.1	I note that a new numbering system has been introduced at this point.	Changed in environmental report
	82.	11.1	1st Para. Do you really mean “integral”, or should it read “integrated”?	Changed to ‘integrated’
	83.	11.1	2nd Para. The Act will help to manage the impacts of extreme weather events. We cannot yet manage the weather!	Noted and changed
	84.	Table 11.1	Various names on the list of reservoirs appear to be incomplete (trimmed to 18 characters) e.g. : Rugeley Cooling To Mill Green Balanci Rugeley Amenity La Some of the names, especially the last six or seven on the list, appear to be incomplete, missing the title “lake” or “reservoir” as appropriate. “Rugeley Ash Lagoon” appears twice.	Information provided by the EA and tables updated in environmental report